"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-12-2015				6	ARK.			
7-29-2016				JOB NO.		BB0610	1	262
				(2) WHITE RIVER STR. & APPRS. (F)				

WHITE RIVER
STR. & APPRS. (F)

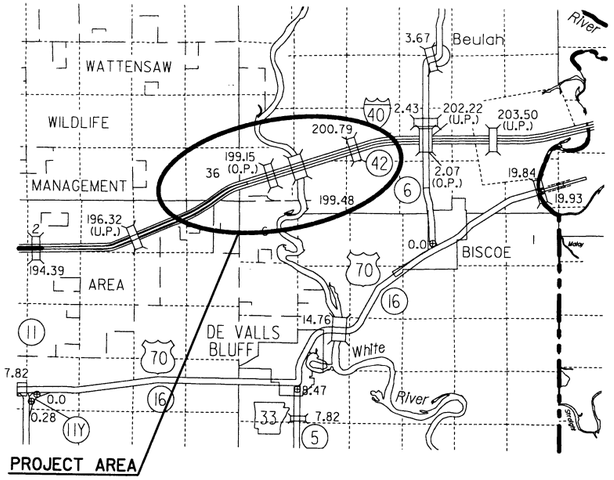
PRAIRIE COUNTY

ROUTE 40 SECTION 42

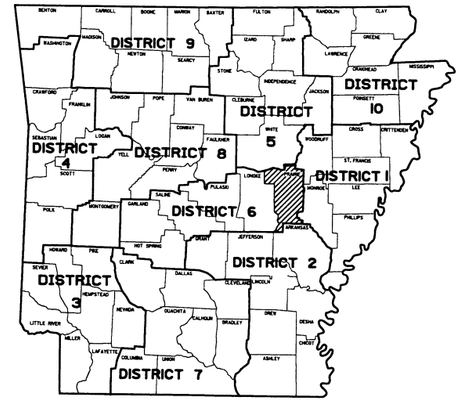
FEDERAL AID PROJ. NHPP-40-4(81) 200

JOB BB0610

NOT TO SCALE



VICINITY MAP



ARK. HWY. DIST. NO. 6

DESIGN TRAFFIC DATA

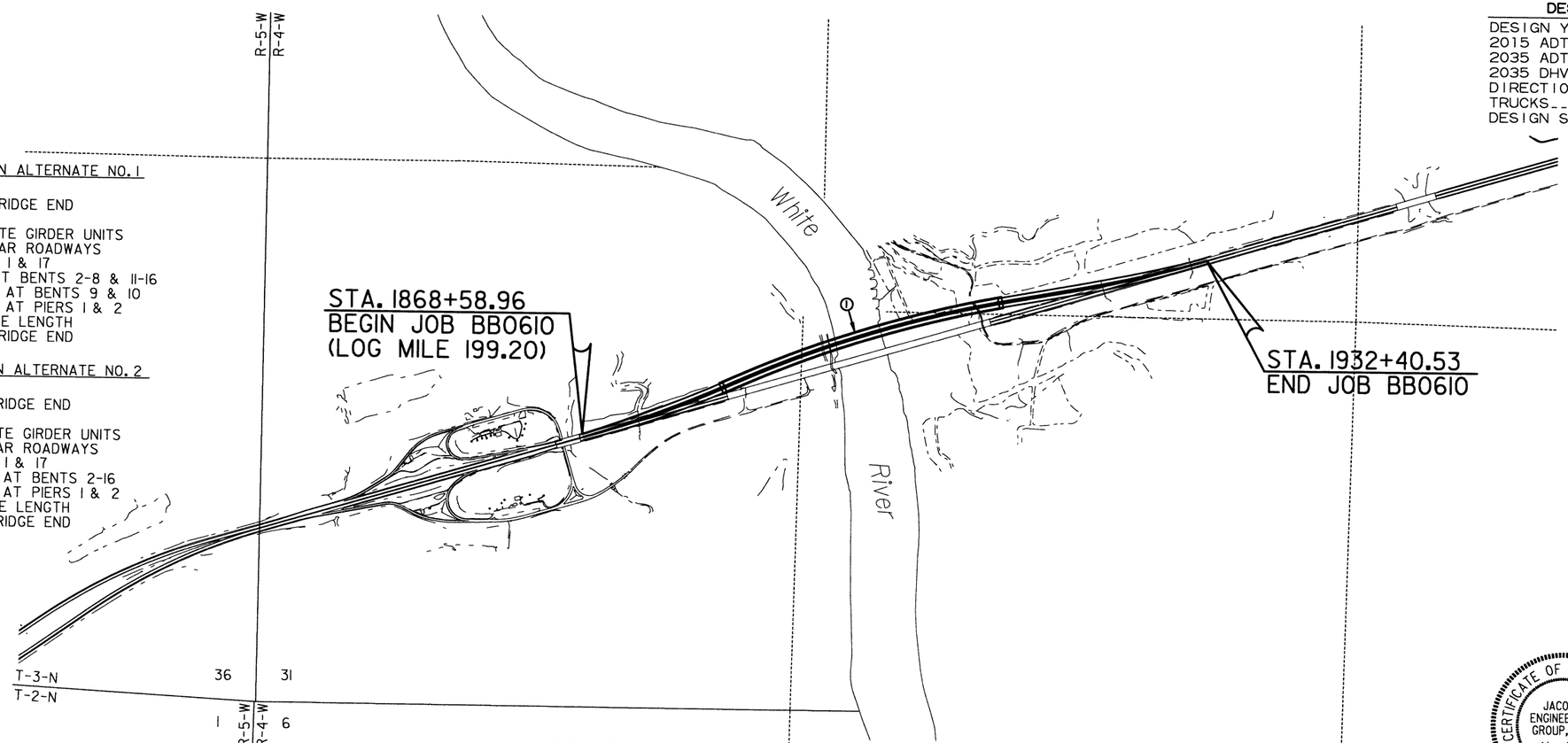
DESIGN YEAR	2035
2015 ADT	36000
2035 ADT	47000
2035 DHV	5170
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	58%
DESIGN SPEED	70 MPH

BRIDGE INFORMATION ALTERNATE NO. 1

(1) STA. 1883+41.01 BRIDGE END
BR. NO. 07343
CONT. COMP. PLATE GIRDER UNITS
TWO 56'-0" CLEAR ROADWAYS
PILES AT BENTS 1 & 17
PILE FOOTINGS AT BENTS 2-8 & 11-16
DRILLED SHAFTS AT BENTS 9 & 10
DRILLED SHAFTS AT PIERS 1 & 2
2843'-11¾" BRIDGE LENGTH
STA. 1911+84.99 BRIDGE END

BRIDGE INFORMATION ALTERNATE NO. 2

(1) STA. 1883+41.01 BRIDGE END
BR. NO. 07343
CONT. COMP. PLATE GIRDER UNITS
TWO 56'-0" CLEAR ROADWAYS
PILES AT BENTS 1 & 17
DRILLED SHAFTS AT BENTS 2-16
DRILLED SHAFTS AT PIERS 1 & 2
2843'-11¾" BRIDGE LENGTH
STA. 1911+84.99 BRIDGE END



	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°50'15"	N 34°50'25"	N 34°50'32"
LONGITUDE	W 91°27'59"	W 91°27'23"	W 91°26'45"

LENGTH OF PROJECT CALCULATED ALONG C.L. MEDIAN & IS SHOWN FOR INFORMATION ONLY

GROSS LENGTH OF PROJECT			6381.57	FEET	OR	1.209 MILES
NET	:	: ROADWAY	3537.59	:		0.670 MILES
NET	:	: BRIDGE	2843.98	:		0.539 MILES
NET	:	: PROJECT	6381.57	:		1.209 MILES

P.E. JOB BB0610

JACOBS ENGINEERING GROUP, INC. CERTIFICATE OF AUTHORIZATION No. 175 ARKANSAS-ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 8/24/16

JACOBS

8/25/2016 2:22:33 PM c:\pwworking\rdl\rgyrf\d0116341\WLXM2620-Title.dgn

INDEX OF SHEETS (SHEET 1 OF 2)

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.	DATE
1.	TITLE SHEET			
2.	INDEX OF SHEETS (SHEET 1 OF 2)			
3.	INDEX OF SHEETS (SHEET 2 OF 2)			
4.	GOVERNING SPECIFICATIONS AND GENERAL NOTES			
5 - 7.	TYPICAL SECTIONS OF IMPROVEMENT			
8 - 13.	SPECIAL DETAILS			
14 - 21.	TEMPORARY EROSION CONTROL			
22 - 38.	MAINTENANCE OF TRAFFIC			
39 - 41.	PERMANENT PAVEMENT MARKING DETAILS			
42 - 45.	QUANTITIES			
46.	SCHEDULE OF BRIDGE QUANTITIES (ALTERNATE NO. 1)	07343	56731	
47.	SCHEDULE OF BRIDGE QUANTITIES (ALTERNATE NO. 2)	07343	56731A	
48.	SUMMARY OF QUANTITIES AND REVISIONS			
49 - 51.	SURVEY CONTROL DETAILS			
52 - 54.	PLAN AND PROFILE SHEETS			
55.	WATERLINE DETAIL			
56 - 57.	WATERLINE PLAN AND PROFILE SHEETS			
58.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 1 OF 7)	07343	56732	
59.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 2 OF 7)	07343	56733	
60.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 3 OF 7)	07343	56734	
61.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 4 OF 7)	07343	56735	
62.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 5 OF 7)	07343	56736	
63.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 6 OF 7)	07343	56737	
64.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 1) (SHEET 7 OF 7)	07343	56738	
65.	HYDROGRAPHS - WHITE RIVER (ALTERNATE NOS. 1 AND 2)(SHEET 1 OF 2)	07343	56739	
66.	HYDROGRAPHS - WHITE RIVER (ALTERNATE NOS. 1 AND 2)(SHEET 2 OF 2)	07343	56739A	
67.	FOUNDATION LAYOUT (SHEET 1 OF 5)	07343	56740	
68.	FOUNDATION LAYOUT (SHEET 2 OF 5)	07343	56741	
69.	FOUNDATION LAYOUT (SHEET 3 OF 5)	07343	56742	
70.	FOUNDATION LAYOUT (SHEET 4 OF 5)	07343	56743	
71.	FOUNDATION LAYOUT (SHEET 5 OF 5)	07343	56744	
72.	DETAILS OF END BENTS 1 & 17 (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 4)	07343	56745	
73.	DETAILS OF END BENTS 1 & 17 (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 4)	07343	56746	
74.	DETAILS OF END BENTS 1 & 17 (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 4)	07343	56747	
75.	DETAILS OF END BENTS 1 & 17 (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 4)	07343	56748	
76.	DETAILS OF BENTS 2 AND 3 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56749	
77.	DETAILS OF BENTS 2 AND 3 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56750	
78.	DETAILS OF BENT 4 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56751	
79.	DETAILS OF BENT 4 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56752	
80.	DETAILS OF BENT 5 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56753	
81.	DETAILS OF BENT 5 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56754	
82.	DETAILS OF BENTS 6 AND 7 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56755	
83.	DETAILS OF BENTS 6 AND 7 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56756	
84.	DETAILS OF BENT 8 (ALTERNATE NO. 1) (SHEET 1 OF 4)	07343	56757	
85.	DETAILS OF BENT 8 (ALTERNATE NO. 1) (SHEET 2 OF 4)	07343	56758	
86.	DETAILS OF BENT 8 (ALTERNATE NO. 1) (SHEET 3 OF 4)	07343	56759	
87.	DETAILS OF BENT 8 (ALTERNATE NO. 1) (SHEET 4 OF 4)	07343	56760	
88.	DETAILS OF BENT 9 (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 4)	07343	56761	
89.	DETAILS OF BENT 9 (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 4)	07343	56762	
90.	DETAILS OF BENT 9 (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 4)	07343	56763	
91.	DETAILS OF BENT 9 (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 4)	07343	56764	
92.	DETAILS OF PIERS 1 AND 2 (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 5)	07343	56765	
93.	DETAILS OF PIERS 1 AND 2 (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 5)	07343	56766	
94.	DETAILS OF PIERS 1 AND 2 (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 5)	07343	56767	
95.	DETAILS OF PIERS 1 AND 2 (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 5)	07343	56768	
96.	DETAILS OF PIERS 1 AND 2 (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 5)	07343	56769	
97.	DETAILS OF BENT 10 (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 4)	07343	56770	
98.	DETAILS OF BENT 10 (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 4)	07343	56771	
99.	DETAILS OF BENT 10 (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 4)	07343	56772	
100.	DETAILS OF BENT 10 (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 4)	07343	56773	
101.	DETAILS OF BENT 11 (ALTERNATE NO. 1) (SHEET 1 OF 4)	07343	56774	
102.	DETAILS OF BENT 11 (ALTERNATE NO. 1) (SHEET 2 OF 4)	07343	56775	
103.	DETAILS OF BENT 11 (ALTERNATE NO. 1) (SHEET 3 OF 4)	07343	56776	
104.	DETAILS OF BENT 11 (ALTERNATE NO. 1) (SHEET 4 OF 4)	07343	56777	
105.	DETAILS OF BENTS 12 AND 13 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56778	
106.	DETAILS OF BENTS 12 AND 13 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56779	
107.	DETAILS OF BENT 14 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56780	
108.	DETAILS OF BENT 14 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56781	
109.	DETAILS OF BENTS 15 AND 16 (ALTERNATE NO. 1) (SHEET 1 OF 2)	07343	56782	
110.	DETAILS OF BENTS 15 AND 16 (ALTERNATE NO. 1) (SHEET 2 OF 2)	07343	56783	
111.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 20)	07343	56784	
112.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 20)	07343	56785	
113.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 20)	07343	56786	
114.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 20)	07343	56787	
115.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 20)	07343	56788	
116.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 6 OF 20)	07343	56789	
117.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 7 OF 20)	07343	56790	
118.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 8 OF 20)	07343	56791	
119.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 9 OF 20)	07343	56792	
120.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 10 OF 20)	07343	56793	
121.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 11 OF 20)	07343	56794	
122.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 12 OF 20)	07343	56795	
123.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 13 OF 20)	07343	56796	
124.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 14 OF 20)	07343	56797	
125.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 15 OF 20)	07343	56798	
126.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 16 OF 20)	07343	56799	
127.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 17 OF 20)	07343	56800	
128.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 18 OF 20)	07343	56801	
129.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 19 OF 20)	07343	56802	
130.	DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 20 OF 20)	07343	56803	
131.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 19)	07343	56804	
132.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 19)	07343	56805	

STATE OF ARKANSAS
KEVIN G. TOBLESKY
REGISTERED PROFESSIONAL ENGINEER
No. 11427

8/25/16

DATE REVISED	DATE PLMED	DATE REVISED	DATE PLMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.-AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		2	262

JOB NO. BB0610

INDEX OF SHEETS

JACOBS

INDEX OF SHEETS (SHEET 2 OF 2)

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.	DATE
133.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 19)	07343	56806	
134.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 19)	07343	56807	
135.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 19)	07343	56808	
136.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 6 OF 19)	07343	56809	
137.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 7 OF 19)	07343	56810	
138.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 8 OF 19)	07343	56811	
139.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 9 OF 19)	07343	56812	
140.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 10 OF 19)	07343	56813	
141.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 11 OF 19)	07343	56814	
142.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 12 OF 19)	07343	56815	
143.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 13 OF 19)	07343	56816	
144.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 14 OF 19)	07343	56817	
145.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 15 OF 19)	07343	56818	
146.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 16 OF 19)	07343	56819	
147.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 17 OF 19)	07343	56820	
148.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 18 OF 19)	07343	56821	
149.	DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 19 OF 19)	07343	56822	
150.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 14)	07343	56823	
151.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 14)	07343	56824	
152.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 14)	07343	56825	
153.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 14)	07343	56826	
154.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 14)	07343	56827	
155.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 6 OF 14)	07343	56828	
156.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 7 OF 14)	07343	56829	
157.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 8 OF 14)	07343	56830	
158.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 9 OF 14)	07343	56831	
159.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 10 OF 14)	07343	56832	
160.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 11 OF 14)	07343	56833	
161.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 12 OF 14)	07343	56834	
162.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 13 OF 14)	07343	56835	
163.	DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT (ALTERNATE NOS. 1 AND 2) (SHEET 14 OF 14)	07343	56836	
164.	DETAILS OF FINGER JOINTS FOR END BENTS 1 AND 17 (ALTERNATE NOS. 1 AND 2)	07343	56837	
165.	DETAILS OF FINGER JOINTS AT BENTS 5, 9, 10 AND 14 (ALTERNATE NOS. 1 AND 2)	07343	56838	
166.	DETAILS OF SEISMIC ISOLATION BEARINGS (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 2)	07343	56839	
167.	DETAILS OF SEISMIC ISOLATION BEARINGS (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 2)	07343	56840	
168.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 9)	07343	56841	
169.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 9)	07343	56842	
170.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 9)	07343	56843	
171.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 9)	07343	56844	
172.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 9)	07343	56845	
173.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 6 OF 9)	07343	56846	
174.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 7 OF 9)	07343	56847	
175.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 8 OF 9)	07343	56848	
176.	DETAILS OF INSPECTION WALKWAY (ALTERNATE NOS. 1 AND 2) (SHEET 9 OF 9)	07343	56849	
177.	DETAILS OF SAFETY HANDRAIL (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 5)	07343	56850	
178.	DETAILS OF SAFETY HANDRAIL (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 5)	07343	56851	
179.	DETAILS OF SAFETY HANDRAIL (ALTERNATE NOS. 1 AND 2) (SHEET 3 OF 5)	07343	56852	
180.	DETAILS OF SAFETY HANDRAIL (ALTERNATE NOS. 1 AND 2) (SHEET 4 OF 5)	07343	56853	
181.	DETAILS OF SAFETY HANDRAIL (ALTERNATE NOS. 1 AND 2) (SHEET 5 OF 5)	07343	56854	
182.	DETAILS OF TYPE SPECIAL APPROACH SLAB (ALTERNATE NOS. 1 AND 2) (SHEET 1 OF 2)	07343	56855	
183.	DETAILS OF TYPE SPECIAL APPROACH SLAB (ALTERNATE NOS. 1 AND 2) (SHEET 2 OF 2)	07343	56856	
184.	DETAILS OF NAVIGATIONAL LIGHTING (ALTERNATE NOS. 1 AND 2)	07343	56857	
185.	DETAILS OF CLEARANCE GAUGES (ALTERNATE NOS. 1 AND 2)	07343	56858	
186.	DETAILS OF CONCRETE FILLED STEEL SHELL PILES (ALTERNATE NOS. 1 AND 2)	07343	56859	
187.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 1 OF 7)	07343	58931	
188.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 2 OF 7)	07343	58932	
189.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 3 OF 7)	07343	58933	
190.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 4 OF 7)	07343	58934	
191.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 5 OF 7)	07343	58935	
192.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 6 OF 7)	07343	58936	
193.	LAYOUT OF BRIDGE OVER WHITE RIVER (ALTERNATE NO. 2) (SHEET 7 OF 7)	07343	58937	
194.	FOUNDATION LAYOUT (ALTERNATE NO. 2) (SHEET 1 OF 5)	07343	58938	
195.	FOUNDATION LAYOUT (ALTERNATE NO. 2) (SHEET 2 OF 5)	07343	58939	
196.	FOUNDATION LAYOUT (ALTERNATE NO. 2) (SHEET 3 OF 5)	07343	58940	
197.	FOUNDATION LAYOUT (ALTERNATE NO. 2) (SHEET 4 OF 5)	07343	58941	
198.	FOUNDATION LAYOUT (ALTERNATE NO. 2) (SHEET 5 OF 5)	07343	58942	
199.	DETAILS OF BENTS 2 AND 3 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58943	
200.	DETAILS OF BENTS 2 AND 3 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58944	
201.	DETAILS OF BENT 4 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58945	
202.	DETAILS OF BENT 4 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58946	
203.	DETAILS OF BENT 5 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58947	
204.	DETAILS OF BENT 5 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58948	
205.	DETAILS OF BENTS 6 AND 7 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58949	
206.	DETAILS OF BENTS 6 AND 7 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58950	
207.	DETAILS OF BENT 8 (ALTERNATE NO. 2) (SHEET 1 OF 4)	07343	58951	
208.	DETAILS OF BENT 8 (ALTERNATE NO. 2) (SHEET 2 OF 4)	07343	58952	
209.	DETAILS OF BENT 8 (ALTERNATE NO. 2) (SHEET 3 OF 4)	07343	58953	
210.	DETAILS OF BENT 8 (ALTERNATE NO. 2) (SHEET 4 OF 4)	07343	58954	
211.	DETAILS OF BENT 11 (ALTERNATE NO. 2) (SHEET 1 OF 4)	07343	58955	
212.	DETAILS OF BENT 11 (ALTERNATE NO. 2) (SHEET 2 OF 4)	07343	58956	
213.	DETAILS OF BENT 11 (ALTERNATE NO. 2) (SHEET 3 OF 4)	07343	58957	
214.	DETAILS OF BENT 11 (ALTERNATE NO. 2) (SHEET 4 OF 4)	07343	58958	
215.	DETAILS OF BENTS 12 AND 13 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58959	
216.	DETAILS OF BENTS 12 AND 13 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58960	
217.	DETAILS OF BENT 14 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58961	
218.	DETAILS OF BENT 14 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58962	
219.	DETAILS OF BENTS 15 AND 16 (ALTERNATE NO. 2) (SHEET 1 OF 2)	07343	58963	
220.	DETAILS OF BENTS 15 AND 16 (ALTERNATE NO. 2) (SHEET 2 OF 2)	07343	58964	
221.	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS		55000	2-27-14
222.	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES		55001	2-27-14
223.	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS		55005	3-24-16
224.	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE		55010	1-14-15
225.	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS		55030C	2-27-14
226.	STANDARD DETAILS FOR TYPE C2 APPROACH SLAB		55040C2	2-27-14
227.	FLARED END SECTION		FES-1	10-18-96
228.	FLARED END SECTION		FES-2	10-18-96
229.	GUARD RAIL DETAILS		GR-8	7-14-10
230.	GUARD RAIL DETAILS		GR-8A	7-14-10
231.	GUARD RAIL DETAILS		GR-9	4-17-08
232.	GUARD RAIL DETAILS		GR-9A	4-17-08
233.	GUARD RAIL DETAILS		GR-10	7-14-10
234.	GUARD RAIL DETAILS		GR-10A	7-14-10
235.	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	2-27-14
236.	METAL PIPE CULVERT FILL HEIGHTS & BEDDING		PCM-1	2-27-14
237.	PAVEMENT MARKING DETAILS		PM-1	5-12-16
238.	DETAILS OF PIPE UNDERDRAIN		PU-1	4-10-03
239.	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC		SE-1	1-09-87
240.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	9-02-15
241.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-2	9-02-15
242.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-3	9-02-15
243.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER		TC-4	2-27-14
244.	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER		TC-5	10-15-09
245.	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
246.	TEMPORARY EROSION CONTROL DEVICES		TEC-2	6-02-94
247.	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
248.	TEMPORARY EROSION CONTROL DEVICES		TEC-4	7-26-12
249.	WIRE FENCE TYPE A AND B		WF-1	8-22-02
250 - 262.	CROSS SECTIONS			

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.AID PROJ. DIST. NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		3	262

JOB NO. 080610

INDEX OF SHEETS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11427 KENNY G. TOBLESKY

8/25/16

INDEX OF SHEETS

JACOBS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-9-2015		7-29-2016		6	ARK.			
12-15-2015		9-12-2016		JOB NO.		BB0610	4	262
1-4-2016		10-17-2016		(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES				
		10-19-2016						

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - TRAINING PROGRAM - JOB BB0610
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1_____	AGGREGATE BASE COURSE
400-1_____	TACK COATS
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1_____	MULCH COVER
JOB BB0610__	ASSESSMENT OF WORKING DAYS-MAINTENANCE OF TRAFFIC
JOB BB0610__	AUTOMATED WORK ZONE INFORMATION SYSTEM
JOB BB0610__	BIDDING REQUIREMENTS AND CONDITIONS
JOB BB0610__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB BB0610__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB BB0610__	CARGO PREFERENCE ACT REQUIREMENTS
JOB BB0610__	CLASS B CONCRETE - BRIDGE
JOB BB0610__	CLASS B CONCRETE FOR STRUCTURES
JOB BB0610__	CLEARANCE GAUGES
JOB BB0610__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB BB0610__	CONTRACTOR PROVIDED CULTURAL RESOURCES CLEARANCE FOR OFF-SITE LOCATIONS
JOB BB0610__	CULVERT REHABILITATION
JOB BB0610__	DEMOLITION OF RIVER SPANS
JOB BB0610__	DETAILS FOR RIVER TRAFFIC SAFETY
JOB BB0610__	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB BB0610__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB BB0610__	DRILLED SHAFT FOUNDATIONS
JOB BB0610__	ELECTROSLAG WELDING
JOB BB0610__	EMPLOYMENT REPORTING
JOB BB0610__	EXTENSION FOR PIPE CULVERTS
JOB BB0610__	FLEXIBLE BEGINNING OF WORK
JOB BB0610__	FURNISH AND OPERATION OF MOBILE SPEED NOTIFICATION SYSTEM
JOB BB0610__	GEOSYNTHETIC INTERNAL REINFORCED EMBANKMENT CONSTRUCTION
JOB BB0610__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB BB0610__	HIGH PERFORMANCE PAVEMENT MARKING
JOB BB0610__	HORIZONTAL DIRECTIONAL DRILLING
JOB BB0610__	MAINTENANCE OF TRAFFIC
JOB BB0610__	MANDATORY ELECTRONIC CONTRACT
JOB BB0610__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB BB0610__	NAVIGATION LIGHTING SYSTEM
JOB BB0610__	NESTING SITES OF MIGRATORY BIRDS
JOB BB0610__	NONDESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB BB0610__	PARTNERING REQUIREMENTS
JOB BB0610__	PERCENT WITHIN LIMITS/PAVEMENT SMOOTHNESS
JOB BB0610__	POST GROUTING OF DRILLED SHAFT FOUNDATIONS
JOB BB0610__	POTABLE WATER DISTRIBUTION SYSTEM
JOB BB0610__	PRE-BID ON SITE INVESTIGATION OF SOIL CONDITIONS
JOB BB0610__	PROSECUTION AND PROGRESS
JOB BB0610__	REMOVAL AND DISPOSAL OF GUARDRAIL
JOB BB0610__	REQUIREMENTS OF U.S. COAST GUARD PERMIT
JOB BB0610__	RESTRAINING CONDITIONS
JOB BB0610__	RUMBLE STRIP REMOVAL
JOB BB0610__	SECTION 404 INDIVIDUAL PERMIT REQUIREMENTS
JOB BB0610__	SEISMIC ISOLATION BEARINGS
JOB BB0610__	SEQUENCE OF CONSTRUCTION
JOB BB0610__	SHORING
JOB BB0610__	SHORING FOR CULVERTS
JOB BB0610__	SITE USE (A+C METHOD)
JOB BB0610__	SPECIAL FACILITIES AT SITE
JOB BB0610__	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB BB0610__	SPLICING REINFORCING STEEL
JOB BB0610__	STORM WATER POLLUTION PREVENTION PLAN
JOB BB0610__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB BB0610__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB BB0610__	UNPAINTED WEATHERING STRUCTURAL STEEL
JOB BB0610__	UTILITY ADJUSTMENTS
JOB BB0610__	VALUE ENGINEERING
JOB BB0610__	WARM MIX ASPHALT
JOB BB0610__	ZEBRA MUSSEL CONTAINMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
10/20/16

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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				6	ARK.			
				JOB NO.		BB0610	5	262

(2) TYPICAL SECTIONS OF IMPROVEMENT

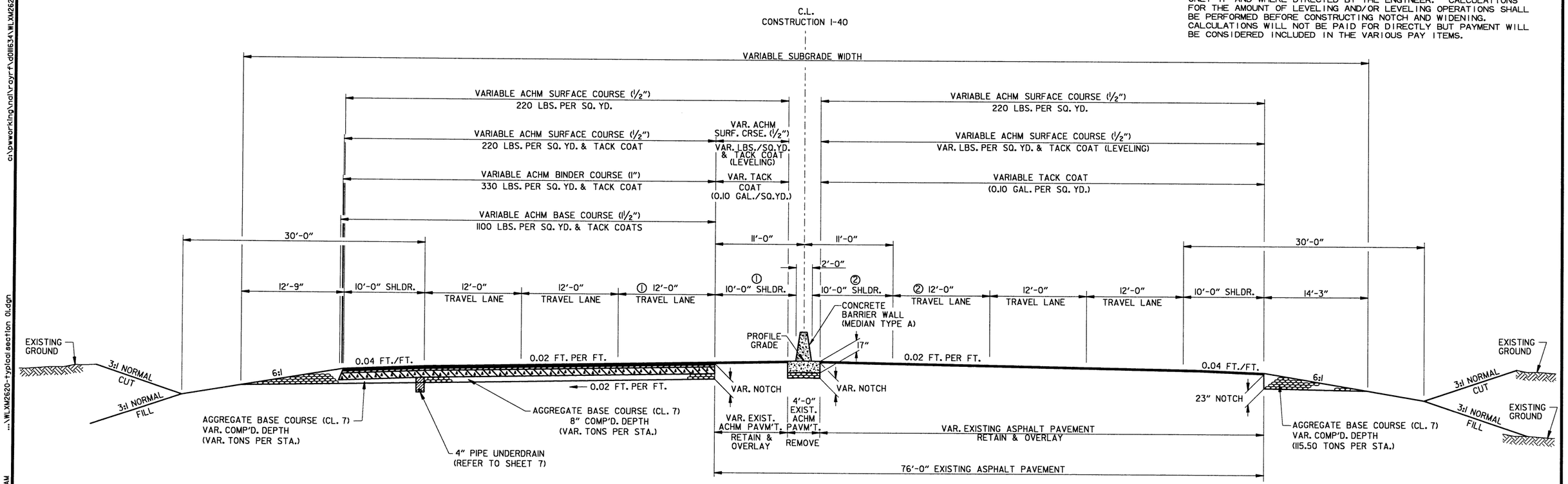
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

① NOTE: LEFT INSIDE LANE & SHOULDER
STA. 1868+58.96 TO STA. 1882+99.80 - TRANSITION 3.00' TO 22.00'
STA. 1917+00.32 TO STA. 1932+40.06 - TRANSITION 22.00' TO 3.00'

② NOTE: RIGHT INSIDE LANE & SHOULDER
STA. 1868+58.96 TO STA. 1882+99.80 - TRANSITION 3.00' TO 22.00'
STA. 1915+52.46 TO STA. 1931+80.77 - TRANSITION 22.00' TO 3.00'

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.
4. ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.



I-40 NOTCH AND WIDEN WITH PAVEMENT TRANSITION

STA. 1868+58.96 TO STA. 1875+00.00
STA. 1924+00.00 TO STA. 1932+40.53

TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		BB0610	6	262

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
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① NOTE: LEFT INSIDE LANE & SHOULDER
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STA. 1868+58.96 TO STA. 1882+99.80 - TRANSITION 3.00' TO 22.00'
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NOTES:

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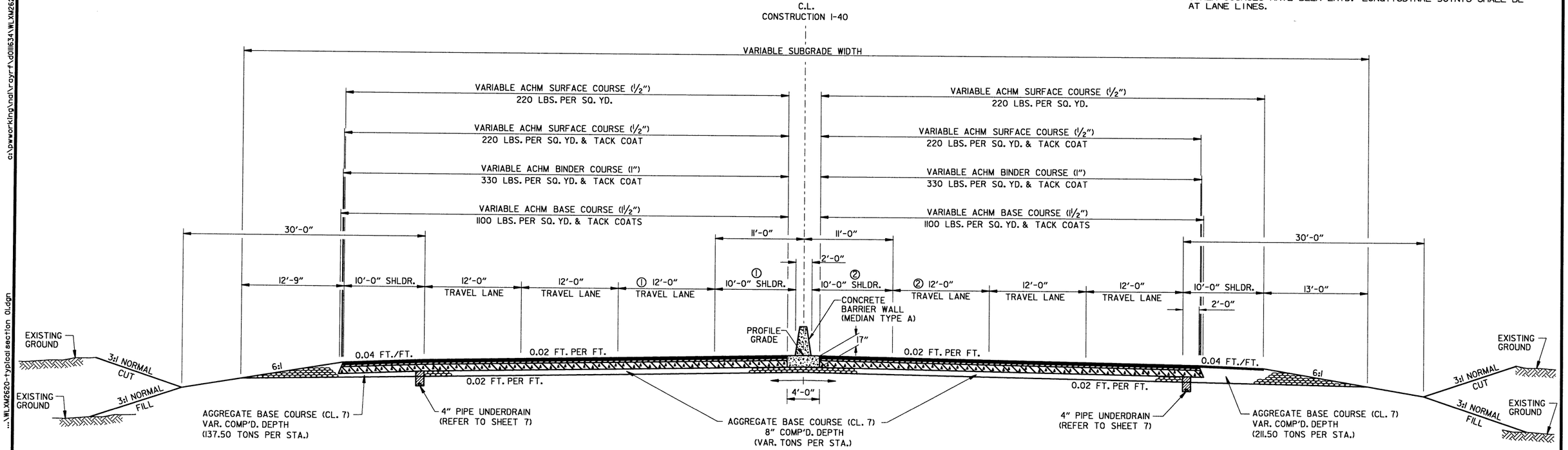
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.



I-40 FULL DEPTH CONSTRUCTION WITH PAVEMENT TRANSITION

STA. 1875+00.00 TO STA. 1882+99.80
STA. 1915+52.46 TO STA. 1924+00.00

TYPICAL SECTIONS OF IMPROVEMENT

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7-29-2016				6	ARK.			
				JOB NO.		BB0610	7	262
				(2) TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16

NOTES:

1. REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.
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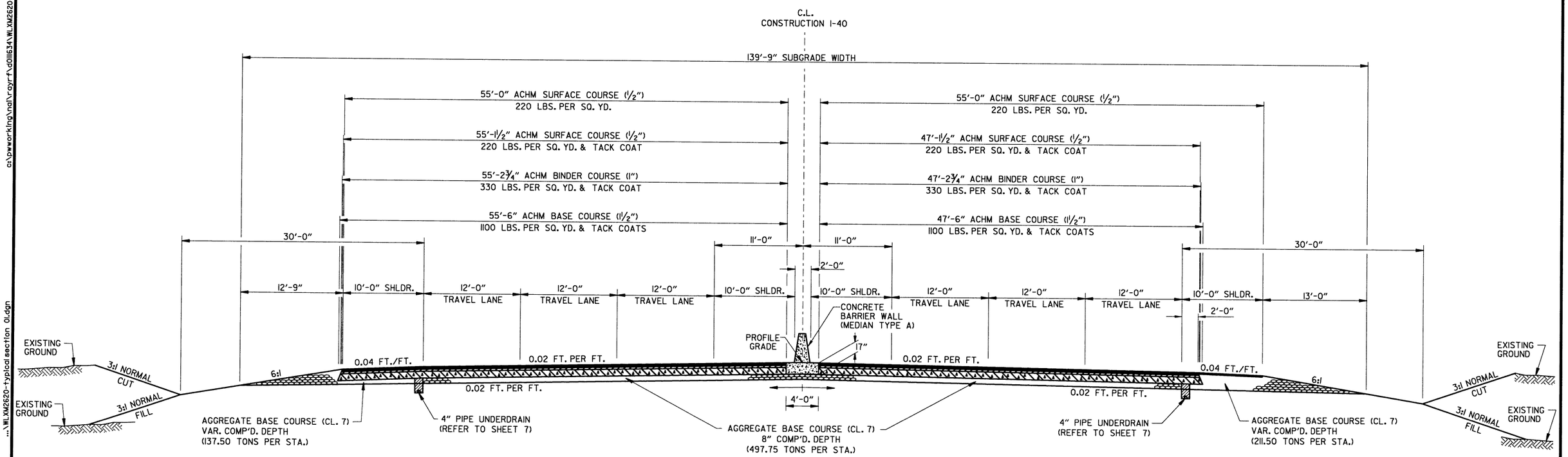
3. THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

BRIDGE AND APPROACH SLAB
STA. 1883+04.51 TO STA. 1912+21.49



I-40 FULL DEPTH CONSTRUCTION
STA. 1882+99.80 TO STA. 1883+04.51
STA. 1912+21.49 TO STA. 1915+52.46

TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		BB0610	8	262
				(2)	SPECIAL DETAILS			

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

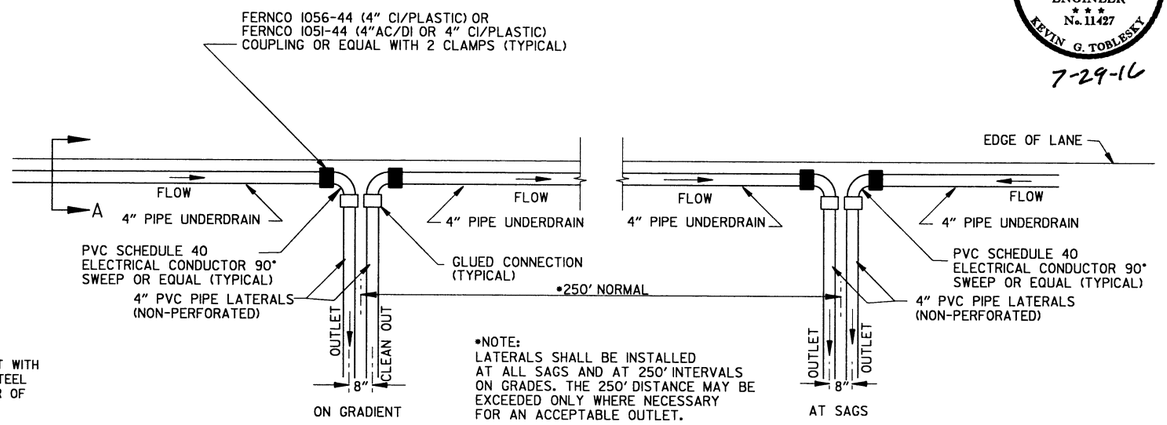
3. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

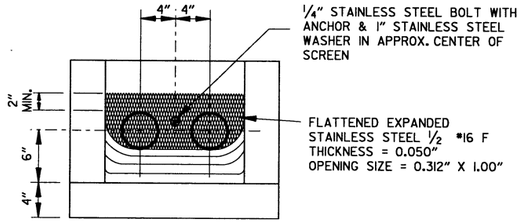
4. THE RODENT SCREEN SHOWN HEREON SHALL BE USED IN LIEU OF THE WIRE MESH RODENT SCREEN SHOWN IN STANDARD DRAWING PU-1. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

5. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

6. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE; OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE. PAYMENT SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

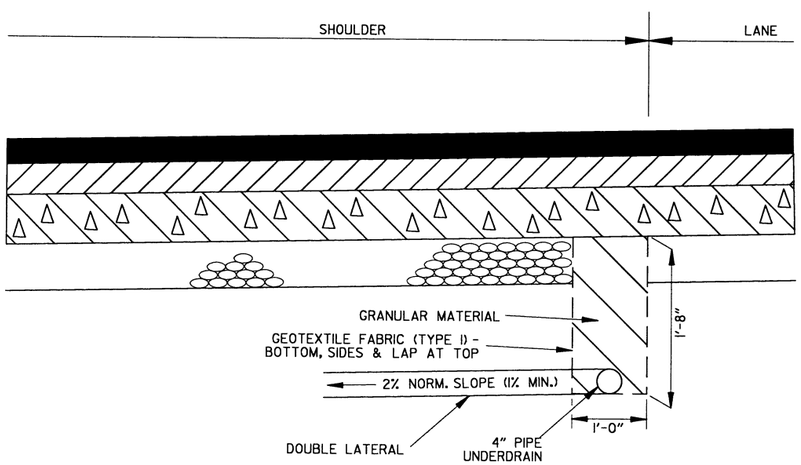




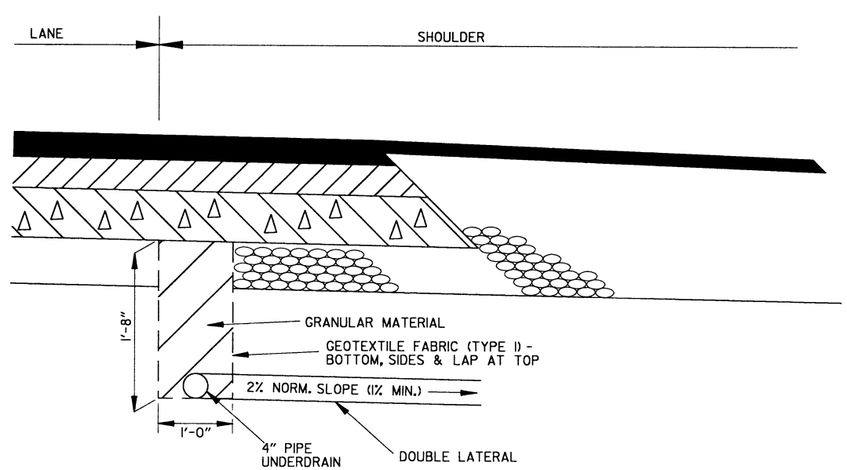
DETAIL OF RODENT SCREEN

NOTE:
PVC PIPE FOR LATERALS MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE. UNDERDRAIN OUTLET PROTECTORS SHALL BE INSTALLED ON NEW LATERALS. (REFER TO STD. DWG. PU-1,& NOTE #5)

PLAN DETAIL OF PIPE UNDERDRAIN LATERALS



SECTION A-A W/FULL DEPTH SHOULDER



SECTION A-A

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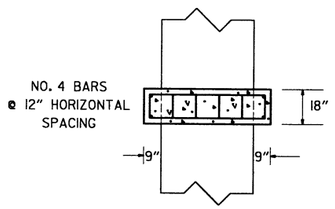
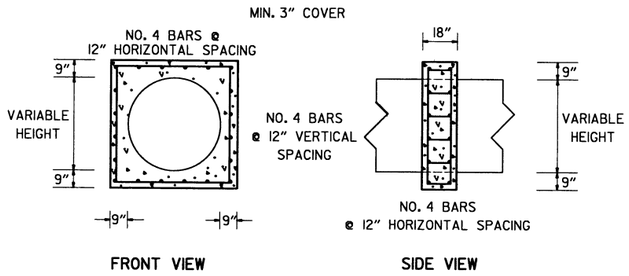
				6	ARK.			
				JOB NO.		BB0610	9	262
				(2)	SPECIAL DETAILS			



TOP VIEW

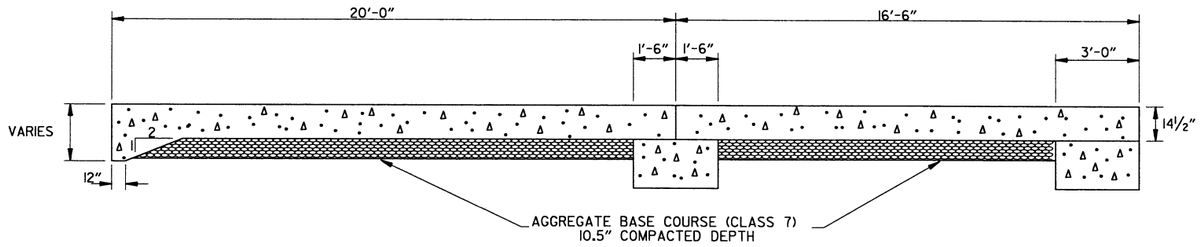
NOTE: PIPE COLLAR TO BE UTILIZED AS APPROVED BY THE ENGINEER.



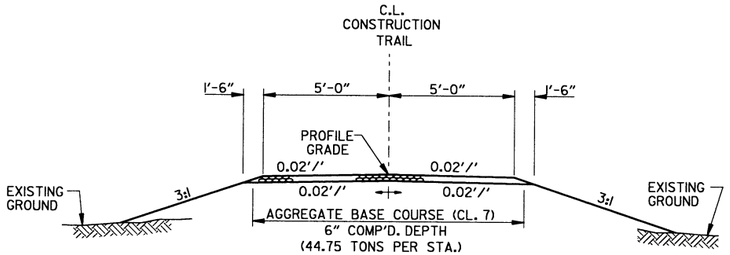
FRONT VIEW

SIDE VIEW

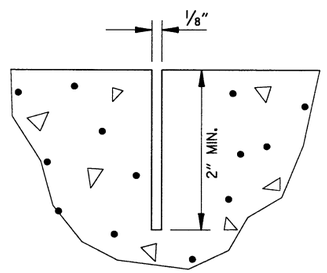
PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL



SPECIAL DETAIL OF APPROACH SLAB

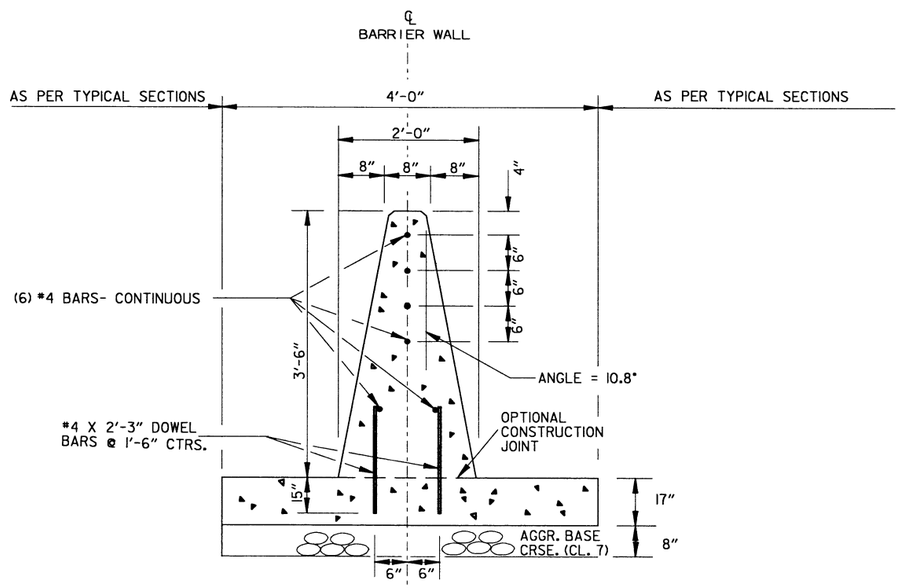


TRAIL FULL DEPTH CONSTRUCTION
STA. 9+48.73 TO STA. 11+89.75



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.



CONCRETE BARRIER WALL (MEDIAN TYPE A)
(SECTION B-B)

STATE OF ARKANSAS
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7-29-16

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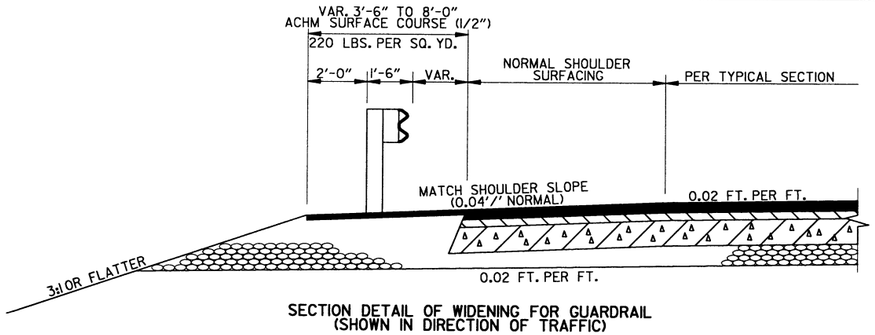
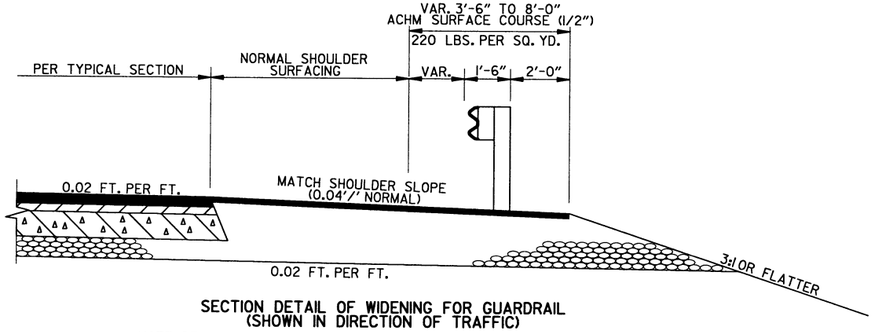
				6	ARK.			
				JOB NO.		BB0610	10	262

(2) SPECIAL DETAILS



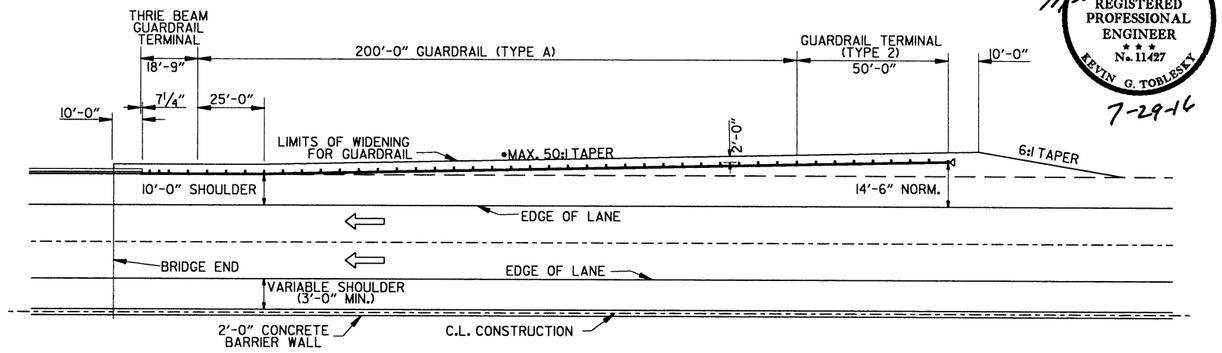
SECTION DETAIL OF WIDENING FOR GUARDRAIL (SHOWN IN DIRECTION OF TRAFFIC)

NOTE: REFER TO STANDARD DRAWINGS, GR-8, GR-8A, GR-9, GR-9A, GR-10, GR-10A, & GRT-1 FOR ADDITIONAL INFORMATION.



SECTION DETAIL OF WIDENING FOR GUARDRAIL (SHOWN IN DIRECTION OF TRAFFIC)

NOTE: REFER TO STANDARD DRAWINGS, GR-8, GR-8A, GR-9, GR-9A, GR-10, GR-10A, & GRT-1 FOR ADDITIONAL INFORMATION.



TYPICAL LAYOUT OF GUARDRAIL AT EXISTING RELIEF BRIDGE END

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REGISTERED PROFESSIONAL ENGINEER
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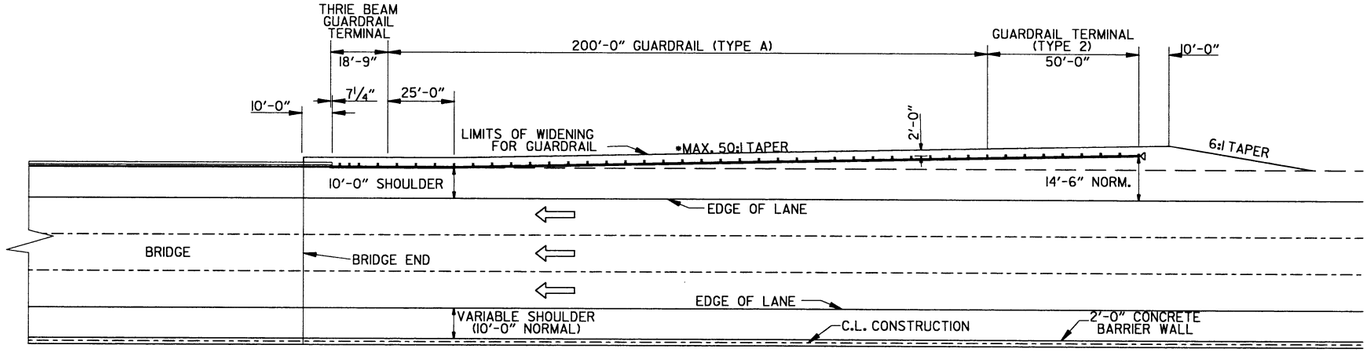

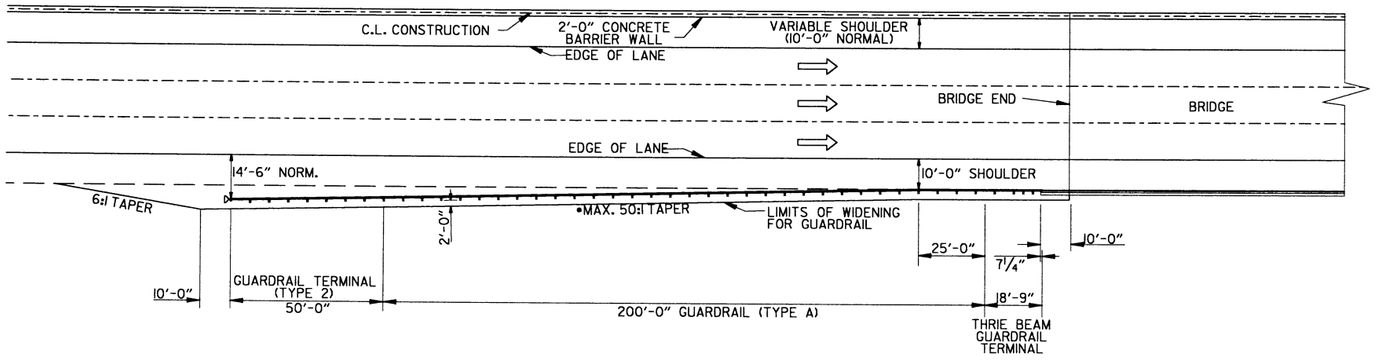

TYPICAL LAYOUT OF GUARDRAIL AT WHITE RIVER BRIDGE ENDS

SPECIAL DETAILS

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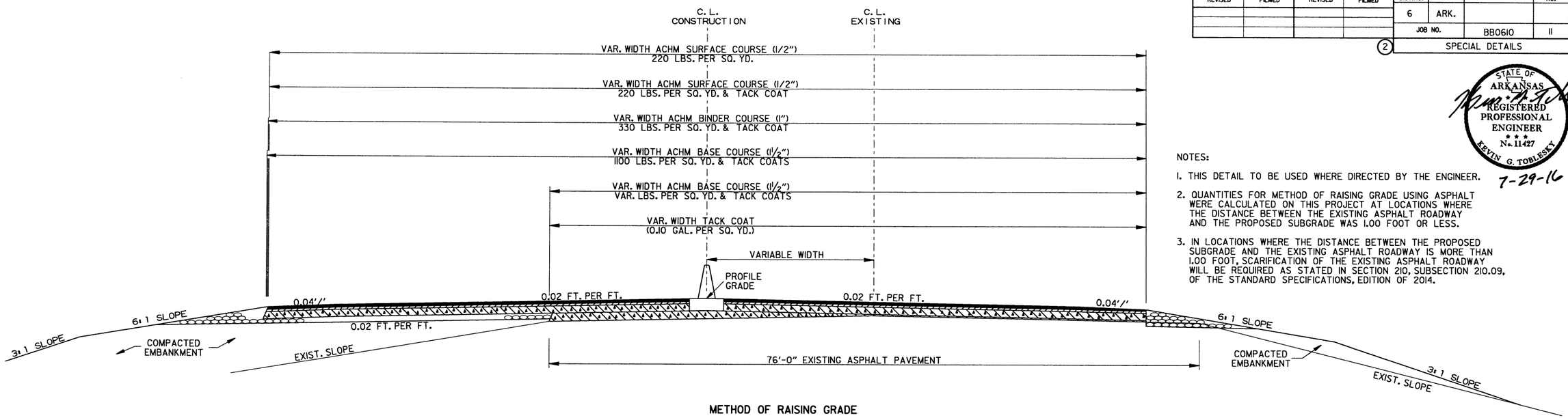
				JOB NO.		BB0610	II	262

(2) SPECIAL DETAILS



METHOD OF RAISING GRADE

NOTES:

1. THIS DETAIL TO BE USED WHERE DIRECTED BY THE ENGINEER.
2. QUANTITIES FOR METHOD OF RAISING GRADE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS 1.00 FOOT OR LESS.
3. IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN 1.00 FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09, OF THE STANDARD SPECIFICATIONS, EDITION OF 2014.

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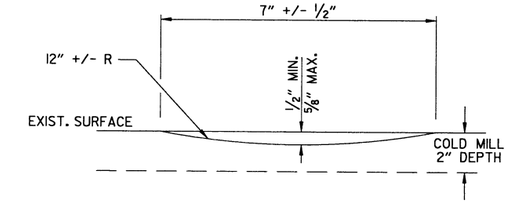
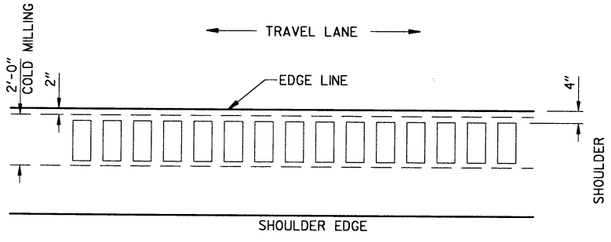
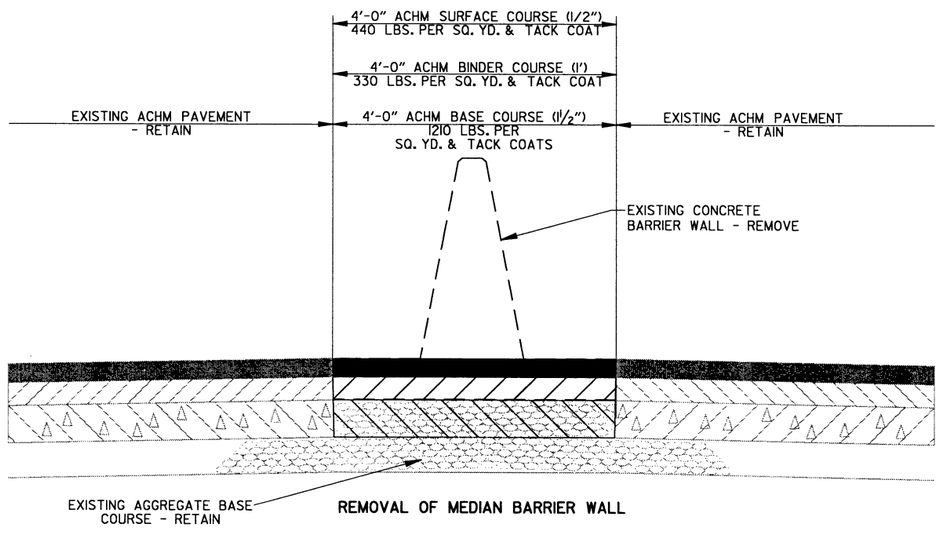


2' STRIP TO BE FILLED WITH
ACHM SURFACE COURSE (1/2")
220 LBS. PER SQ. YD.
2'-0" TACK COAT 0.10 GAL. PER SQ. YD.

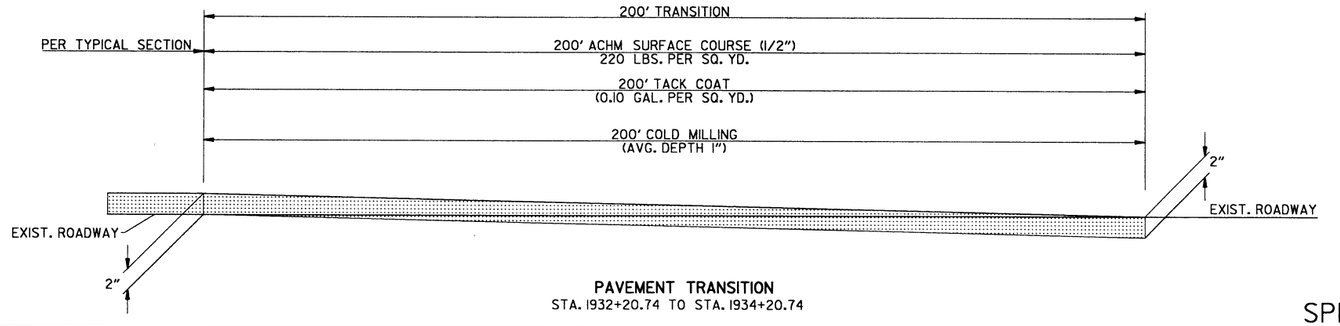
DETAILS OF RUMBLE STRIP REMOVAL



LOCATION PLAN OF RUMBLE STRIPS
TO BE REMOVED
LEFT OR RIGHT SHOULDER



REMOVAL OF MEDIAN BARRIER WALL



PAVEMENT TRANSITION
STA. 1932+20.74 TO STA. 1934+20.74

SPECIAL DETAILS

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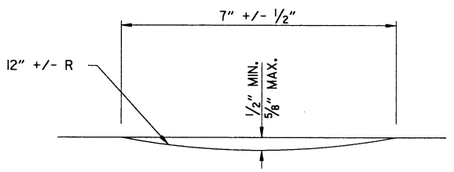
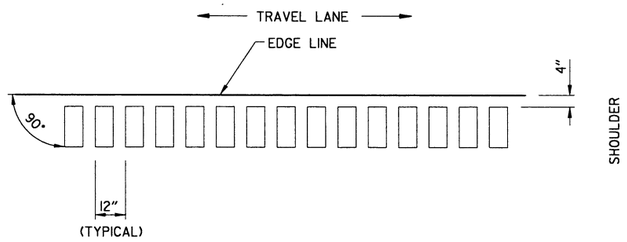
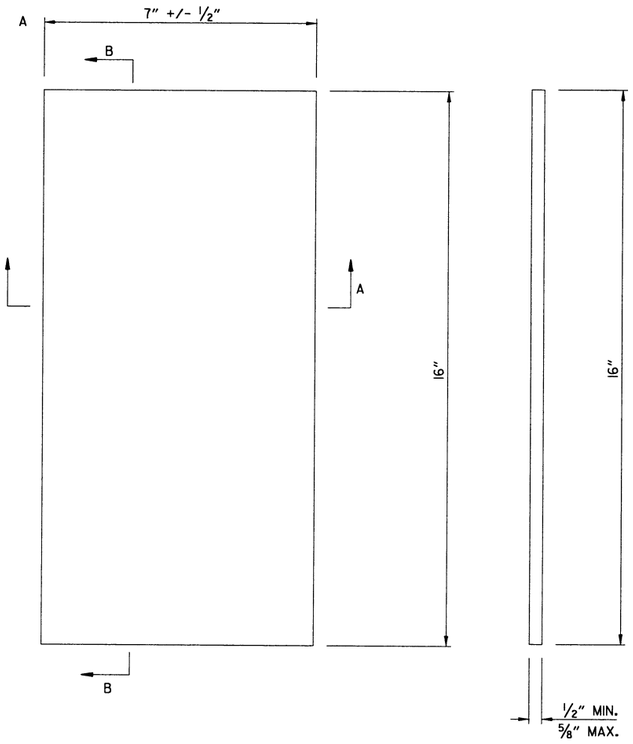
				JOB NO.		BB0610	12	262
				(2)	SPECIAL DETAILS			



SECTION A-A

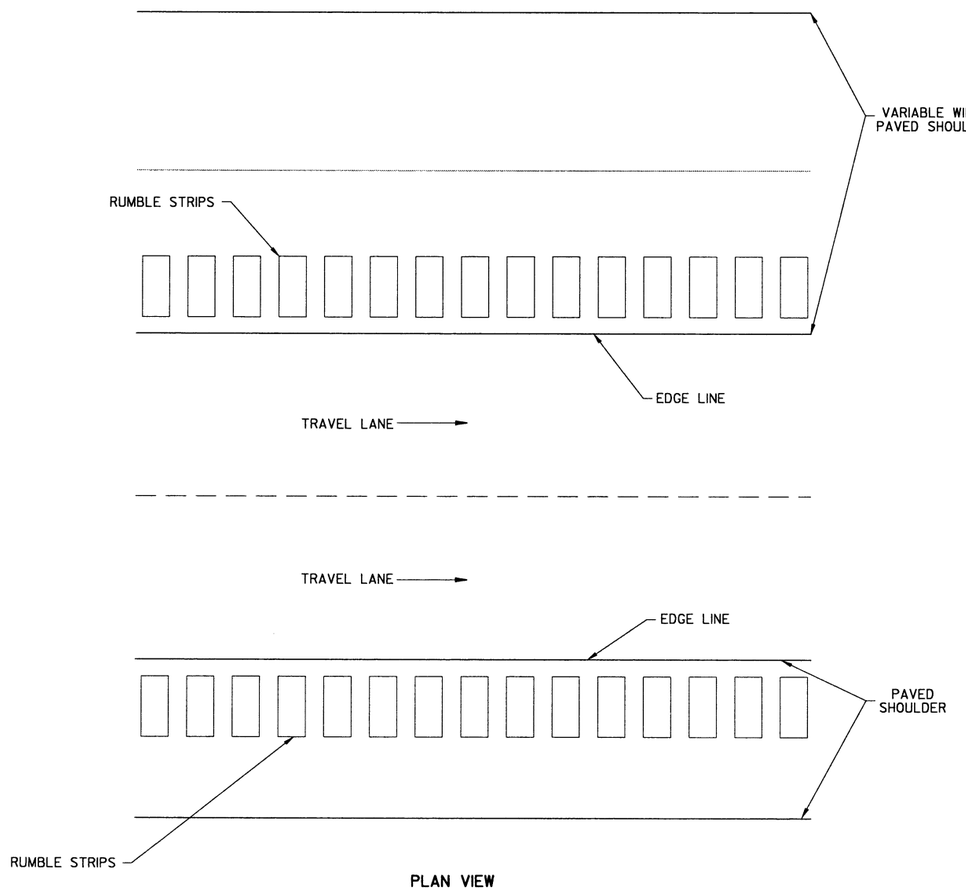


LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



PLAN OF RUMBLE STRIP

SECTION B-B



PLAN VIEW

DETAILS OF RUMBLE STRIPS

NOTES:

1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL JOINTS.
2. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATIONS TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH GUTTERS, OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.

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				JOB NO.		BB0610	13	262
				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
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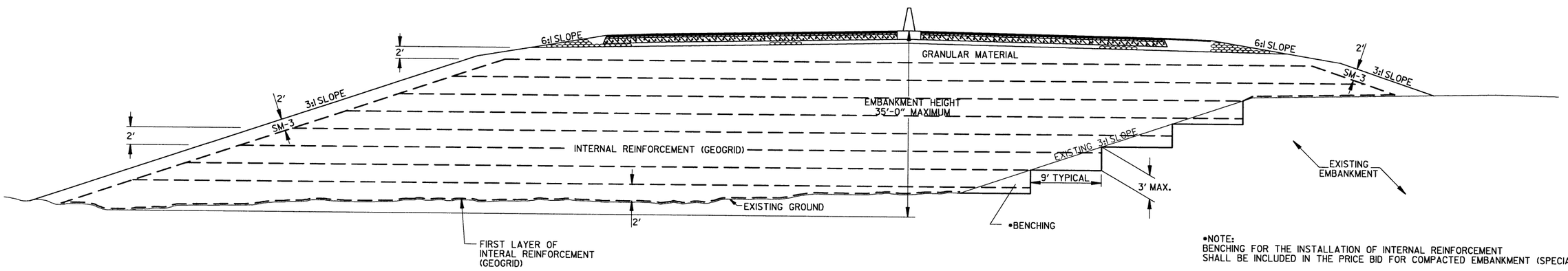
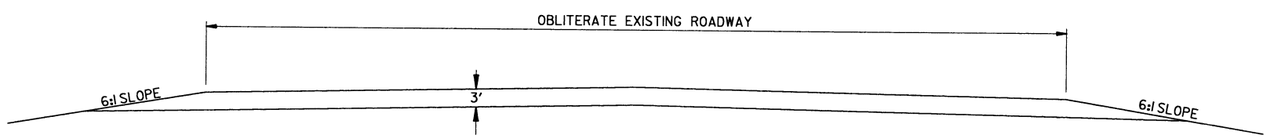


INTERNAL GEOGRID REINFORCEMENT DETAIL
STA. 1874+00 TO STA. 1884+26
STA. 1911+09 TO STA. 1914+00

•NOTE:
BENCHING FOR THE INSTALLATION OF INTERNAL REINFORCEMENT SHALL BE INCLUDED IN THE PRICE BID FOR COMPACTED EMBANKMENT (SPECIAL).

REFER TO "GEOSYNTHETIC INTERNAL REINFORCEMENT EMBANKMENT CONSTRUCTION" SPECIAL PROVISION FOR ADDITIONAL INFORMATION.



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				JOB NO.		BB0610	14	262

(2) TEMP. EROSION - STA. 1868+58.96 TO 1885+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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KEVIN G. TOBLESEY
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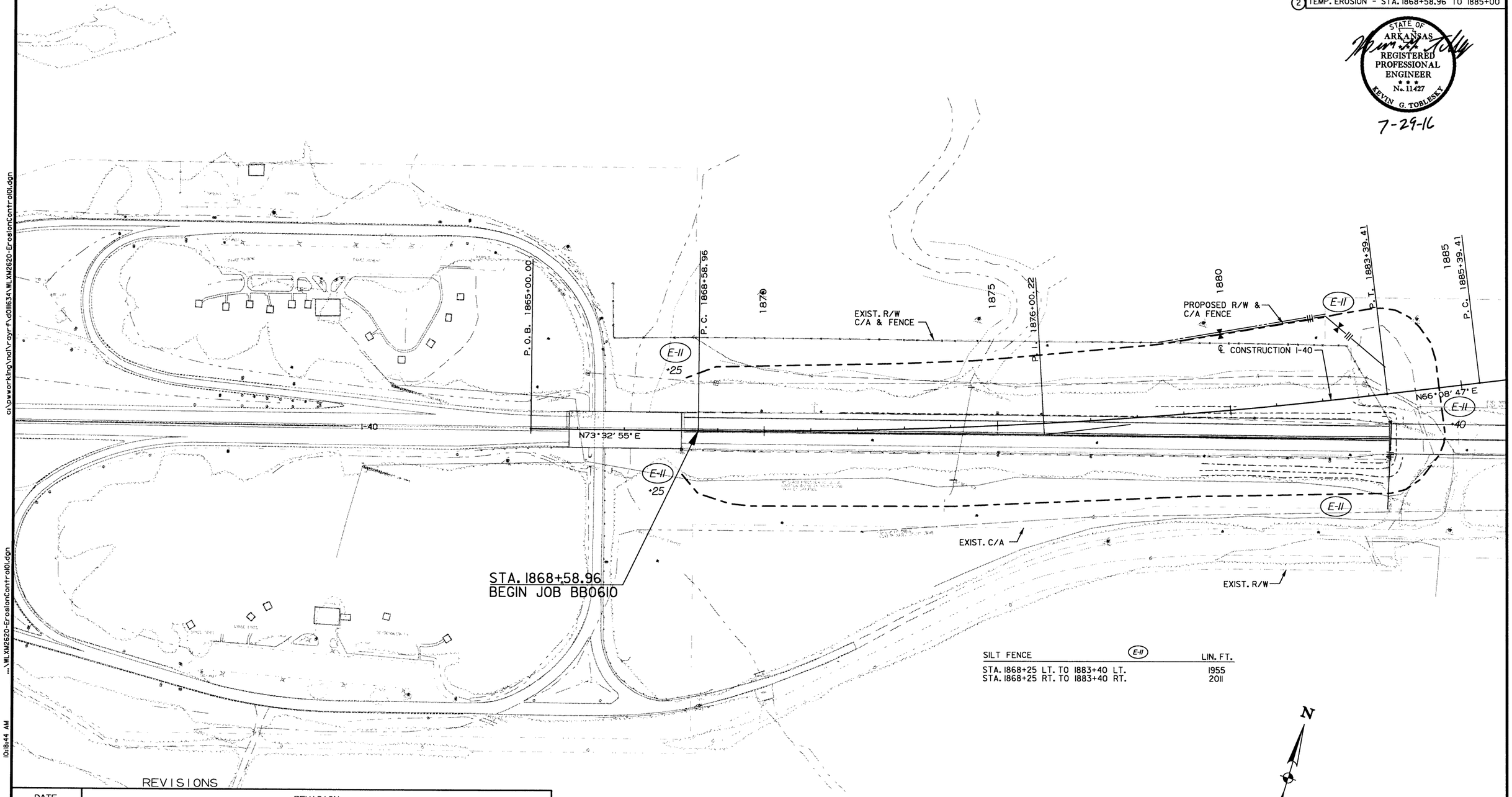

SILT FENCE (E-11)	LIN. FT.
STA. 1868+25 LT. TO 1883+40 LT.	1955
STA. 1868+25 RT. TO 1883+40 RT.	2011

N

0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

(E-6) = ROCK DITCH CHECK
(E-8) = DIVERSION DITCH
(E-11) = SILT FENCE
(E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL PRIOR TO CONSTRUCTION

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6	ARK.			
JOB NO.		BB0610	15	262

(2) TEMP. EROSION - STA. 1906+00 TO 1932+40.53

STATE OF ARKANSAS
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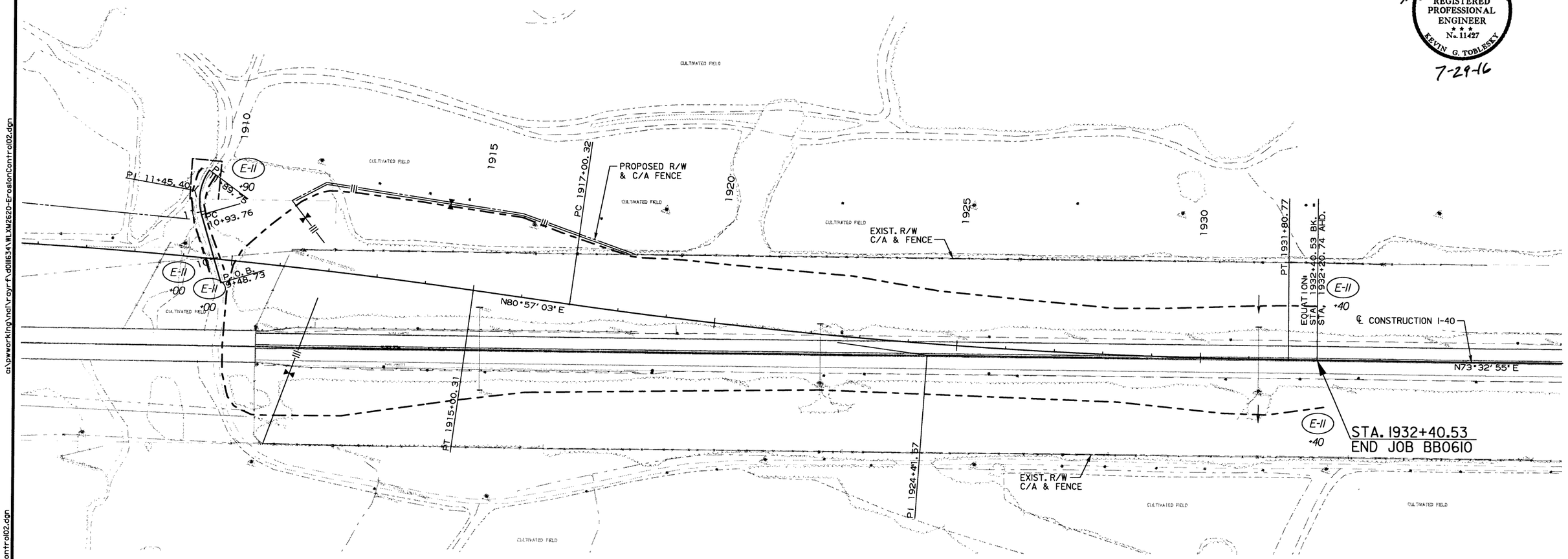
KEVIN G. TOBLESKY
7-29-16



SILT FENCE (E-11)			LIN. FT.
STA. 1910+00	LT. TO	1932+40 LT.	2290
STA. 1910+00	RT. TO	1932+40 RT.	2580
STA. 10+00	LT. TO	11+90 LT.	190
STA. 10+00	RT. TO	11+90 RT.	190

N

0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

- (E-6) = ROCK DITCH CHECK
- (E-8) = DIVERSION DITCH
- (E-11) = SILT FENCE
- (E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL PRIOR TO CONSTRUCTION

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JOB NO.		BB0610	16	262

(2) TEMP. EROSION - STA. 1868+58.96 TO 1885+00

STATE OF ARKANSAS
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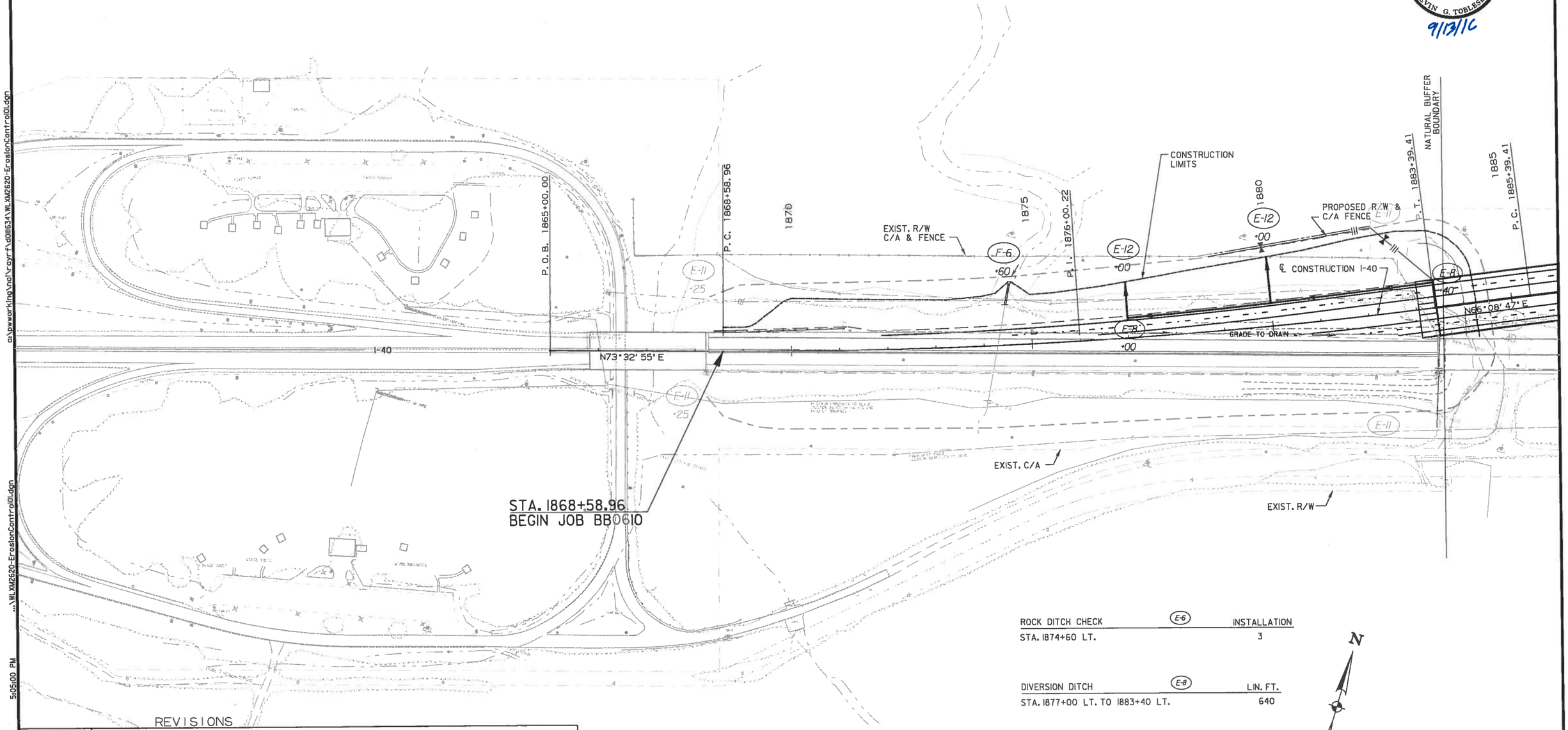

ROCK DITCH CHECK (E-6)	INSTALLATION
STA. 1874+60 LT.	3

DIVERSION DITCH (E-8)	LIN. FT.
STA. 1877+00 LT. TO 1883+40 LT.	640

SLOPE DRAIN (E-12)	LIN. FT.
STA. 1877+00 LT.	62
STA. 1880+00 LT.	84

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GRAPHIC SCALE IN FEET

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LEGEND

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- (E-8) = DIVERSION DITCH
- (E-11) = SILT FENCE
- (E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGES IA THRU IB

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9-12-2016				JOB NO.		BB0610	17	262

(2) TEMP. EROSION - STA. 1906+00 TO 1932+40.53

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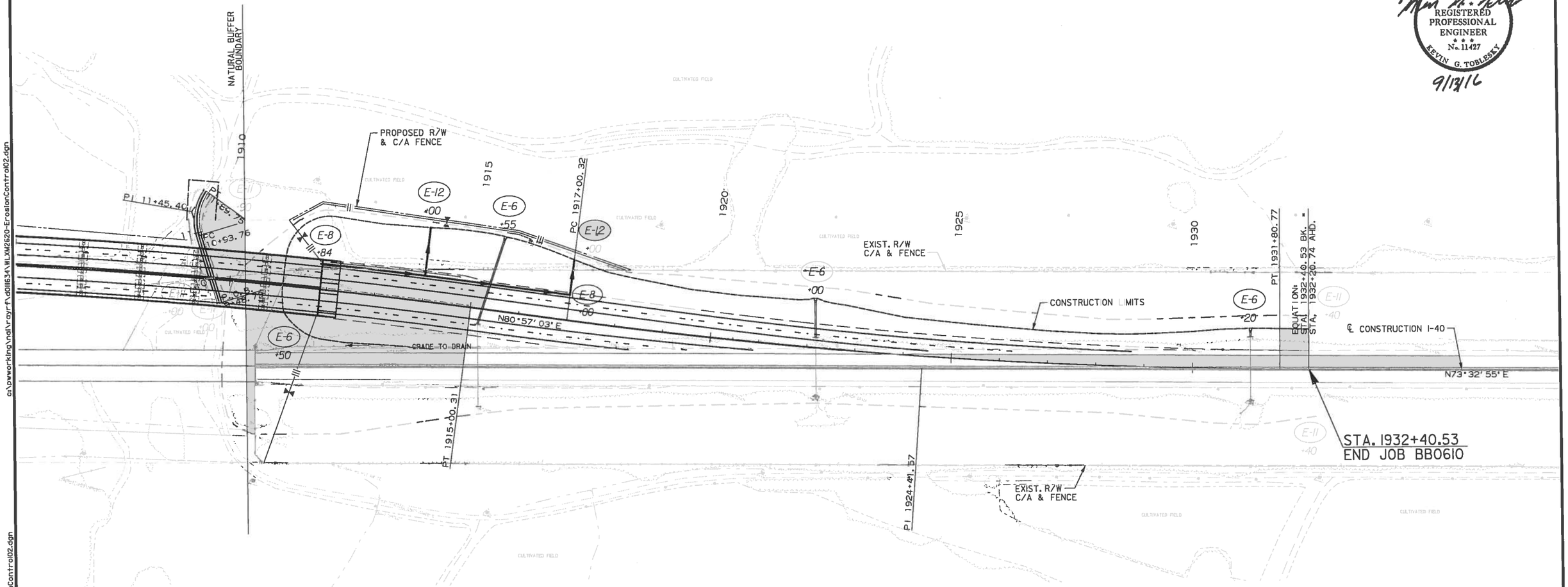
9/13/16



ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 1915+55	LT.	2
STA. 1922+00	LT.	2
STA. 1911+50	RT.	1
STA. 1931+20	LT.	2

DIVERSION DITCH	(E-8)	LIN. FT.
STA. 1911+84 LT. TO 1917+00 LT.		516

SLOPE DRAIN	(E-12)	LIN. FT.
STA. 1914+00	LT.	89
STA. 1917+00	LT.	59

N

0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

(E-6) = ROCK DITCH CHECK
(E-8) = DIVERSION DITCH
(E-11) = SILT FENCE
(E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG I-40 CL CONSTRUCTION.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGES IA THRU IB

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	18	262

(2) TEMP. EROSION - STA. 1868+58.96 TO 1885+00

STATE OF ARKANSAS
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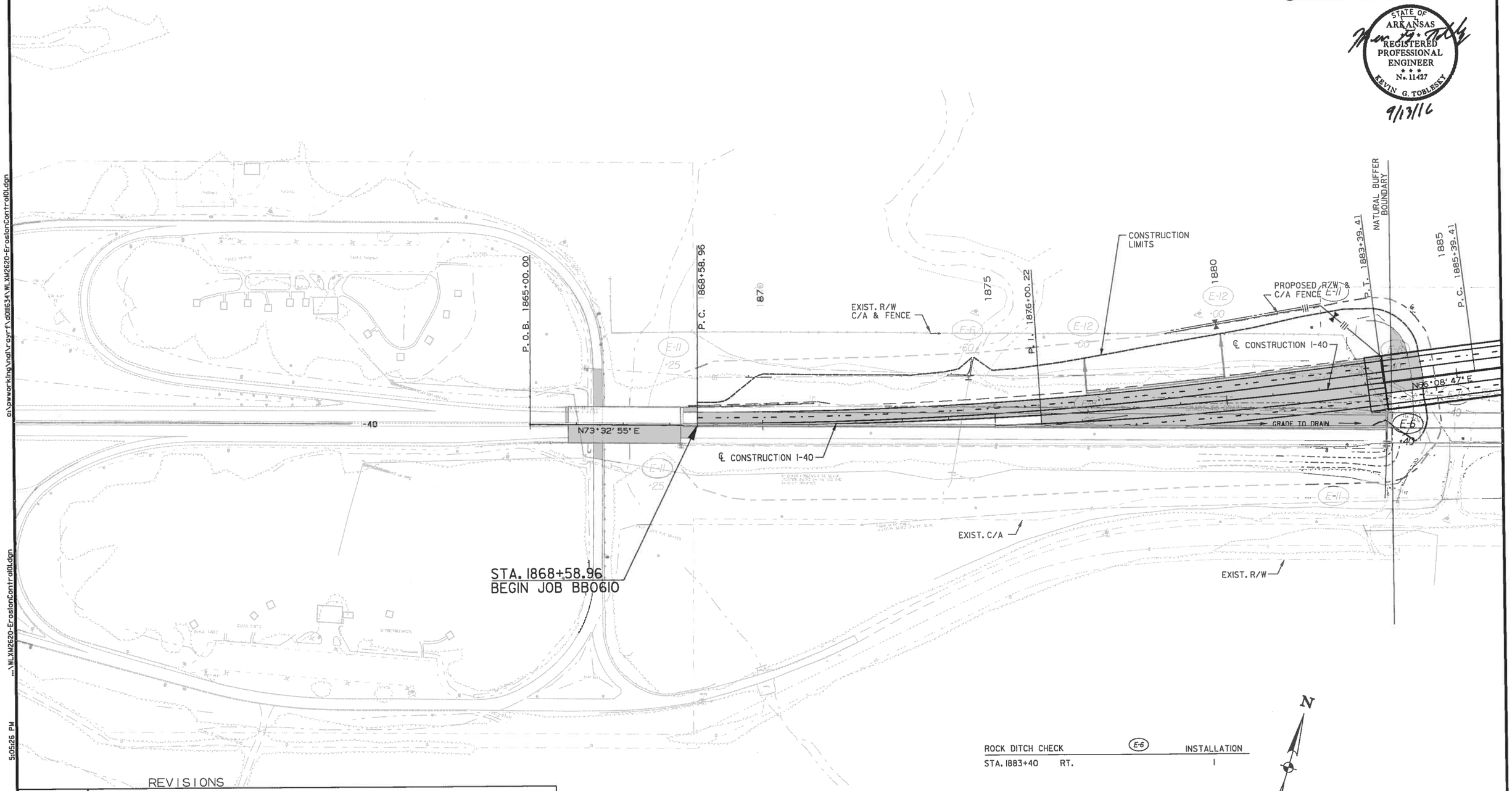
KEVIN G. TOBLESKY
9/13/16



ROCK DITCH CHECK (E-6) INSTALLATION

STA.		
1883+40	RT.	1

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GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

- (E-6) = ROCK DITCH CHECK
- (E-8) = DIVERSION DITCH
- (E-11) = SILT FENCE
- (E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGES 2A THRU 2B

JACOBS

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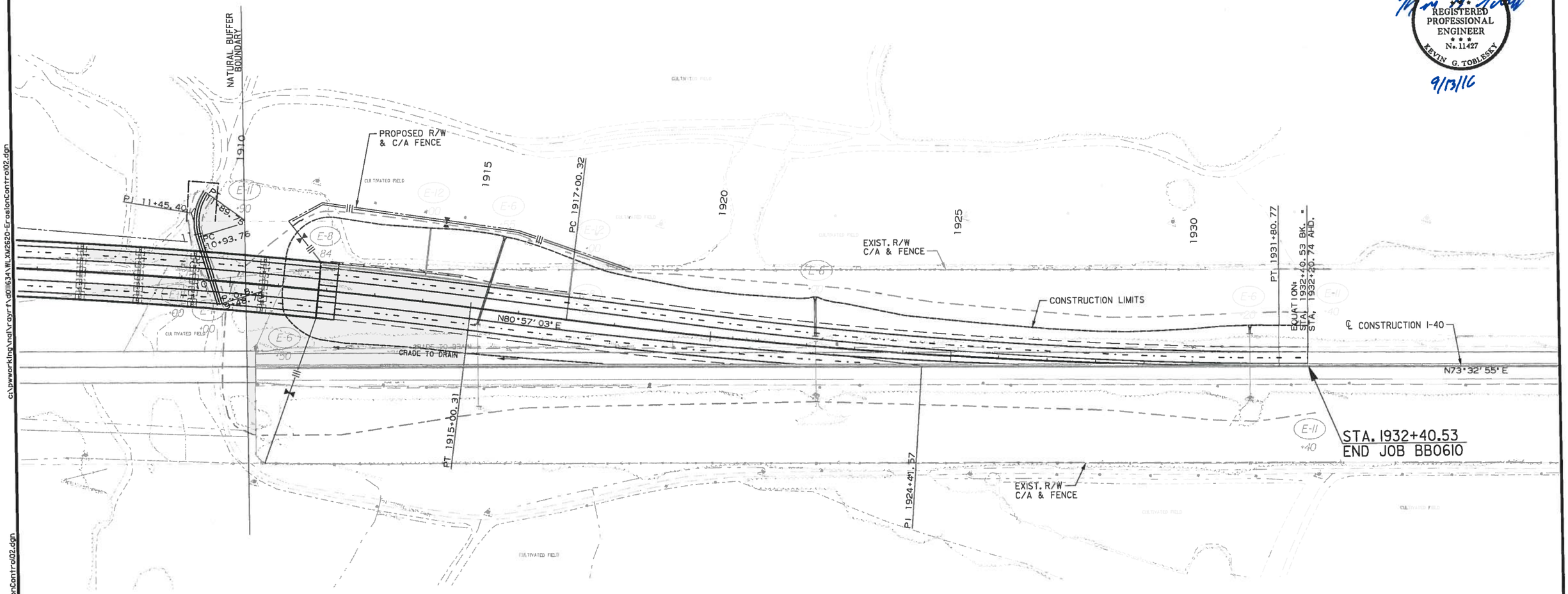
9/13/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			
9-12-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	19	262

(2) TEMP. EROSION - STA. 1906+00 TO 1932+40.53

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESSEY
9/13/16



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0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

(E-6) = ROCK DITCH CHECK
(E-8) = DIVERSION DITCH
(E-11) = SILT FENCE
(E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGES 2A THRU 2B

JACOBS

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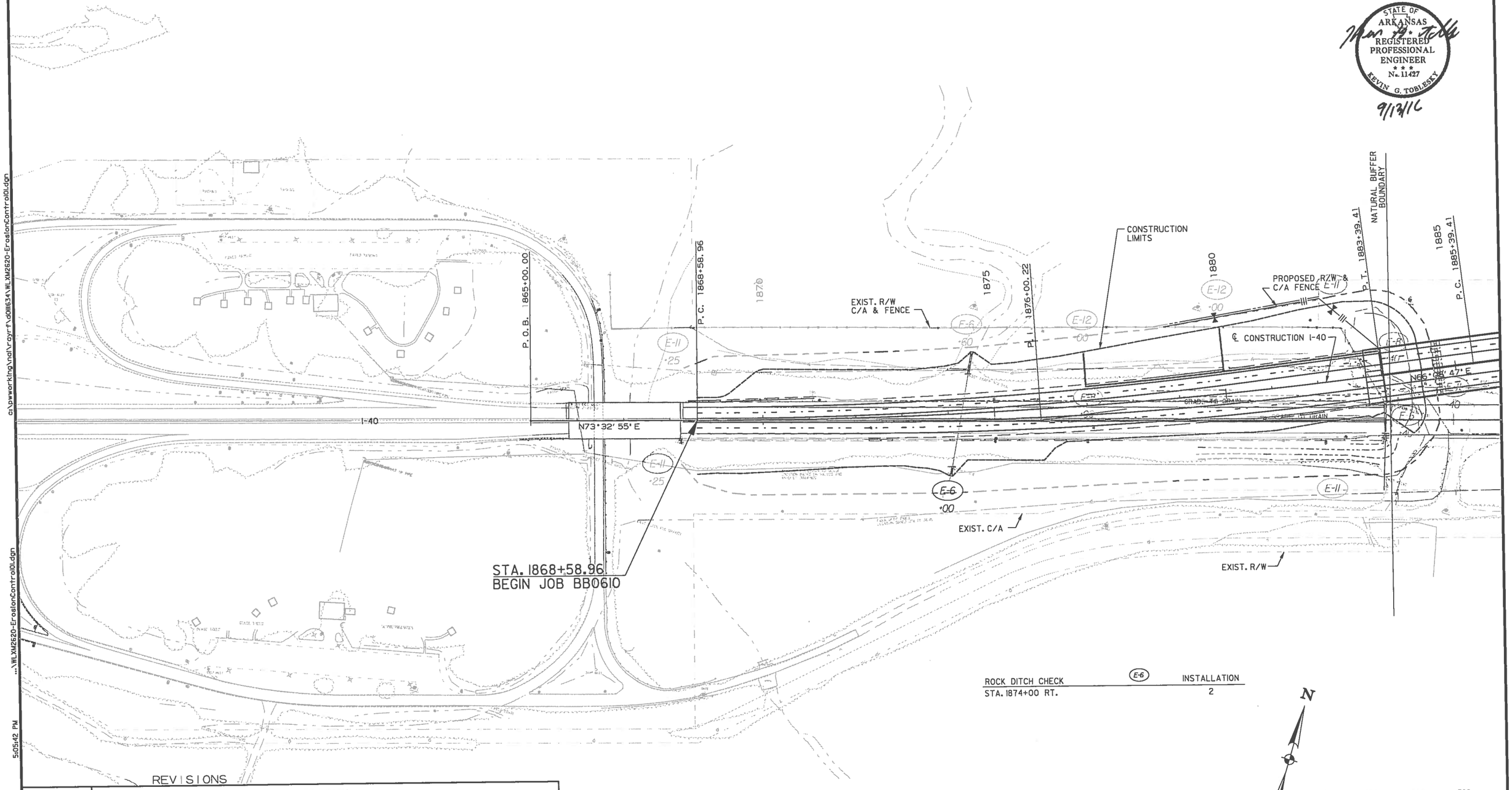
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
9-12-2016				JOB NO.		BB0610	20	262

(2) TEMP. EROSION - STA. 1868+58.96 TO 1885+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
9/13/16



ROCK DITCH CHECK	E-6	INSTALLATION
STA. 1874+00 RT.		2

N

0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

- (E-6) = ROCK DITCH CHECK
- (E-8) = DIVERSION DITCH
- (E-11) = SILT FENCE
- (E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGE 2C

JACOBS

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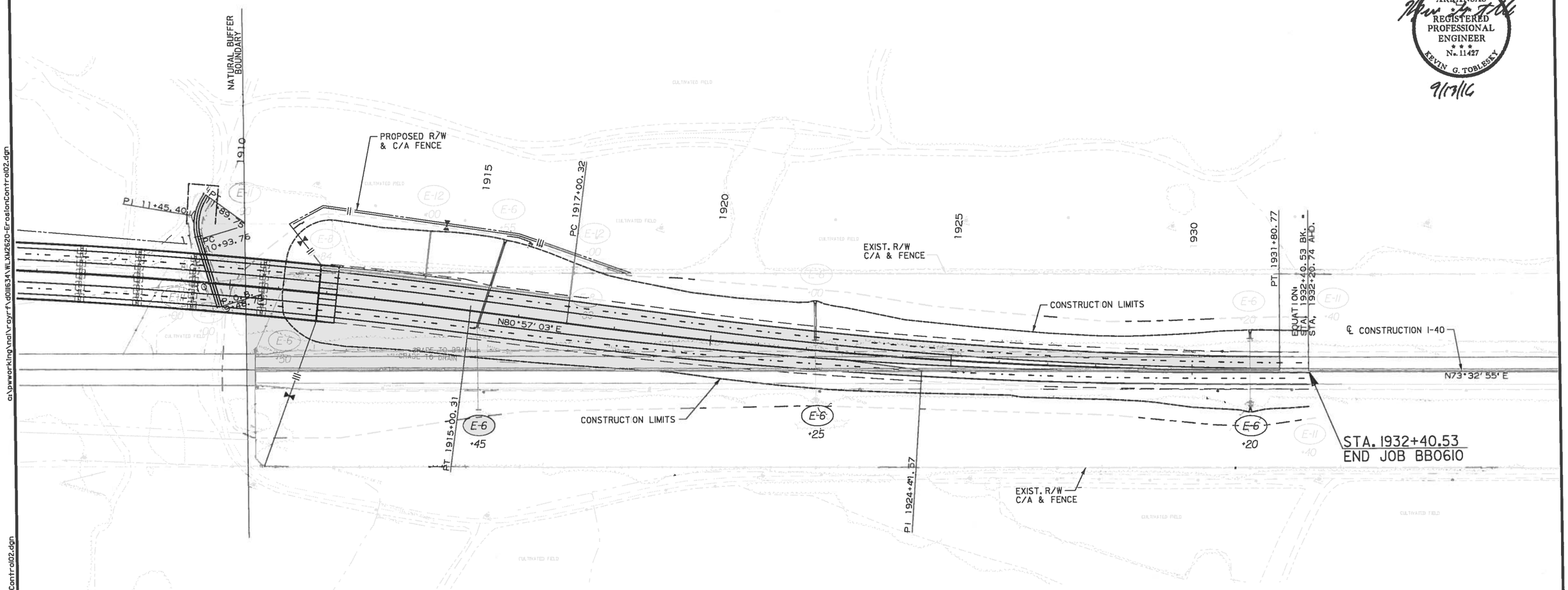
7-29-2016				6	ARK.			
9-12-2016				JOB NO.		BB0610	21	262
				(2) TEMP. EROSION - STA. 1906+00 TO 1932+40.53				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
9/13/16



ROCK DITCH CHECK		(E-6) INSTALLATION
STA. 1915+45	RT.	2
STA. 1922+25	RT.	2
STA. 1931+20	RT.	2

N

0 100 200 300
GRAPHIC SCALE IN FEET

REVISIONS

DATE	REVISION

LEGEND

(E-6) = ROCK DITCH CHECK
(E-8) = DIVERSION DITCH
(E-11) = SILT FENCE
(E-12) = SLOPE DRAIN

NOTE:
STATIONING OF EROSION CONTROL DEVICES TAKEN ALONG CL CONSTRUCTION I-40.

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL STAGE 2C

JACOBS

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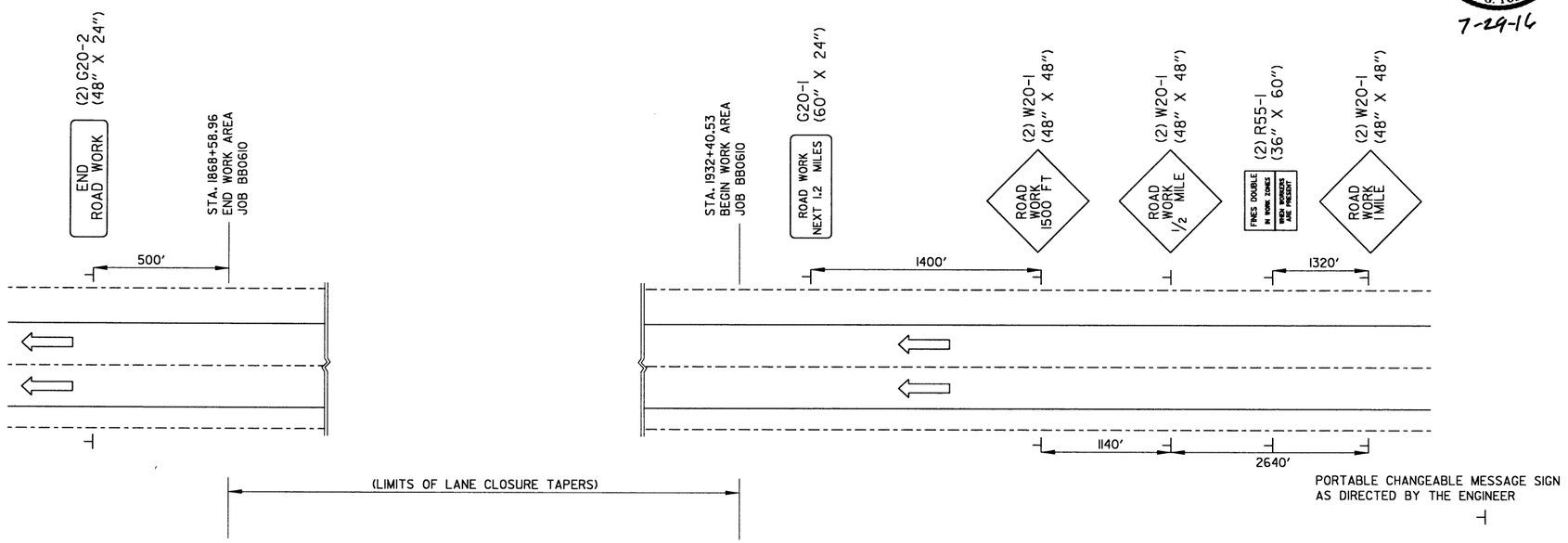
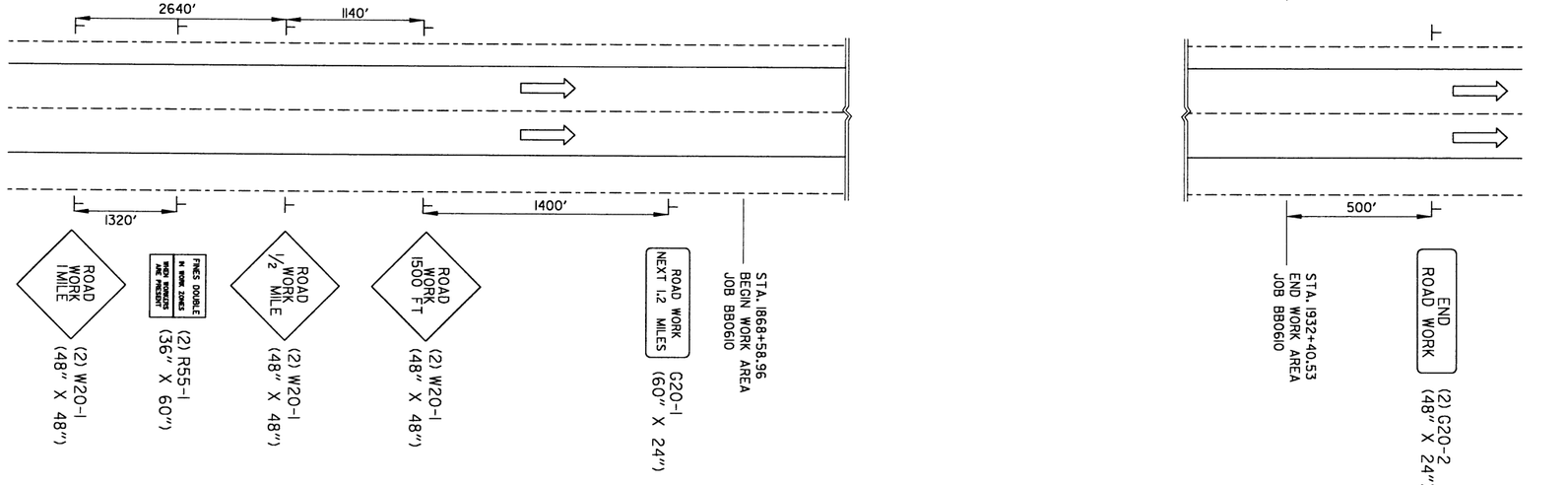
				6	ARK.			
				JOB NO.		BB0610	22	262

(2) M.O.T. - ADVANCE WARNING SIGN DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

NOTE: THESE SIGNS
MAY BE TEMPORARILY REPLACED BY
SOME OF THE ADVANCE SIGNS FOR LANE CLOSURES
WHILE WORK IS UNDERWAY IN THESE AREAS.





NOTE: THESE SIGNS
MAY BE TEMPORARILY REPLACED BY
SOME OF THE ADVANCE SIGNS FOR LANE CLOSURES
WHILE WORK IS UNDERWAY IN THESE AREAS.

ADVANCE SIGNS AT BEGINNING AND END OF JOB BB0610
ALL STAGES

MAINTENANCE OF TRAFFIC
ADVANCE WARNING SIGN DETAILS

JACOBS

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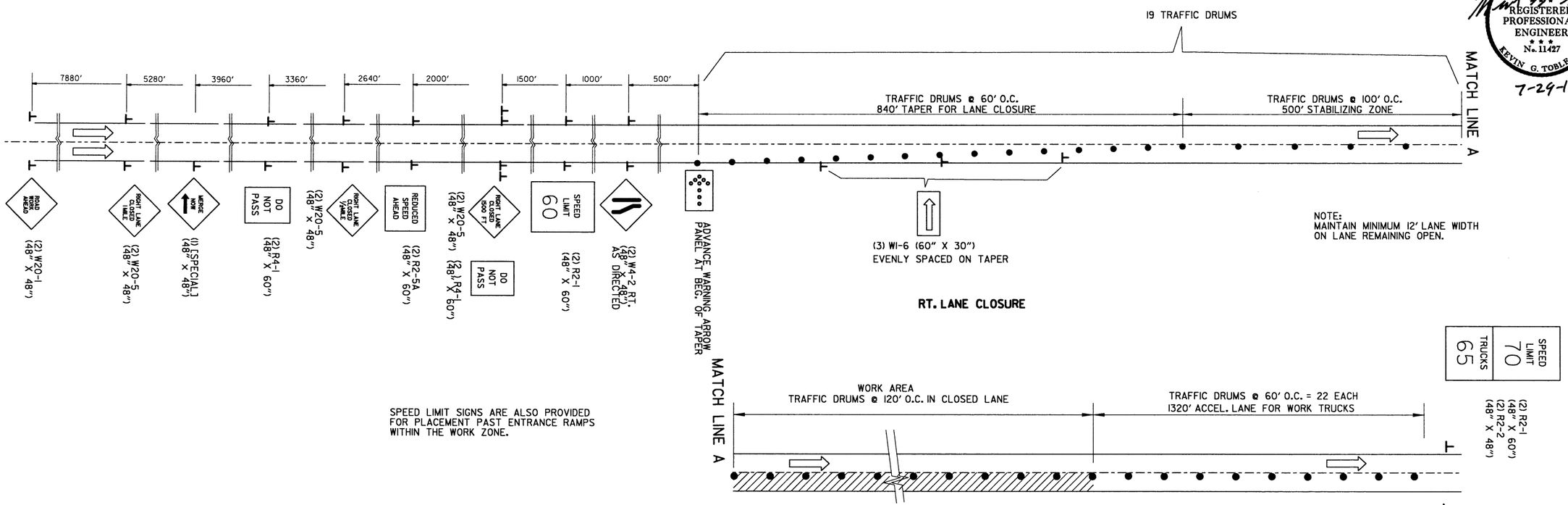
7/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	23	262

(2) M.O.T. - ADVANCE WARNING SIGN DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16


19 TRAFFIC DRUMS
MATCH LINE A
7880'
5280'
3960'
3360'
2640'
2000'
1500'
1000'
500'
TRAFFIC DRUMS @ 60' O.C.
840' TAPER FOR LANE CLOSURE
TRAFFIC DRUMS @ 100' O.C.
500' STABILIZING ZONE
ROAD WORK AHEAD
(2) W20-1 (48" X 48")
RIGHT LANE CLOSED 1 MILE
(2) W20-5 (48" X 48")
MERGE NOW
(1) [SPECIAL] (48" X 48")
DO NOT PASS
(2) R4-1 (48" X 60")
(2) W20-5 (48" X 48")
RIGHT LANE CLOSED 1/4 MILE
REDUCED SPEED AHEAD
(2) R2-5A (48" X 60")
(2) W20-5 (48" X 48")
RIGHT LANE CLOSED 500 FT
(2) R4-1 (48" X 60")
DO NOT PASS
SPEED LIMIT 60
(2) R2-1 (48" X 60")
(2) W4-2 RT. (48" X 48") AS DIRECTED
ADVANCE WARNING ARROW PANEL AT BEG. OF TAPER
(3) WI-6 (60" X 30") EVENLY SPACED ON TAPER
NOTE:
MAINTAIN MINIMUM 12' LANE WIDTH
ON LANE REMAINING OPEN.
PORTABLE CHANGEABLE MESSAGE SIGN
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
SPEED LIMIT 60
(2) R2-1 (48" X 60")
(2) R4-1 (48" X 60")
SPEED LIMIT AS POSTED
(2) W4-2 RT. (48" X 48") AS DIRECTED
SPEED LIMIT AS POSTED
(2) R2-1 (48" X 60")
(2) R2-2 (48" X 48")
SPEED LIMIT 60
(2) R2-1 (48" X 60")
(2) R2-2 (48" X 48")
SPEED LIMIT AS POSTED
SPEED LIMIT AS POSTED
SPEED LIMIT AS POSTED

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	24	262

(2) MOT STAGE IA

STAGE IA
WESTBOUND
STA. 1868+29.38 TO STA. 1883+35.78
FURNISHING AND INSTALLING P.C.C.B. = 1520 LIN. FT.

DENOTES PAVEMENT/BRIDGE TO BE CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

N

0 100 200 300
GRAPHIC SCALE IN FEET

P.O.B. 1865+00.00

P.C. 1868+58.96

1870

STA. 1877+00 INSTALL
24"x60' TEMPORARY PIPE

1875

P.I. 1876+00.22

1880

P.T. 1883+39.41

FURNISHING & INSTALLING P.C.C.B.

N73°32'55"E

A

A

STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

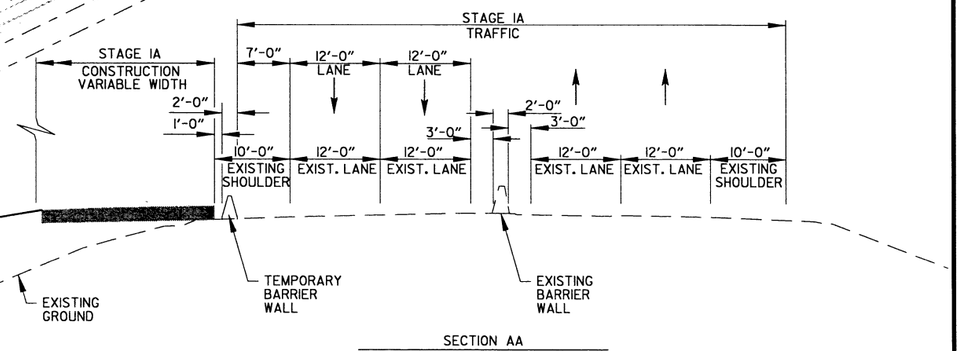
•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.



SECTION AA

MAINTENANCE OF TRAFFIC STAGE 1A

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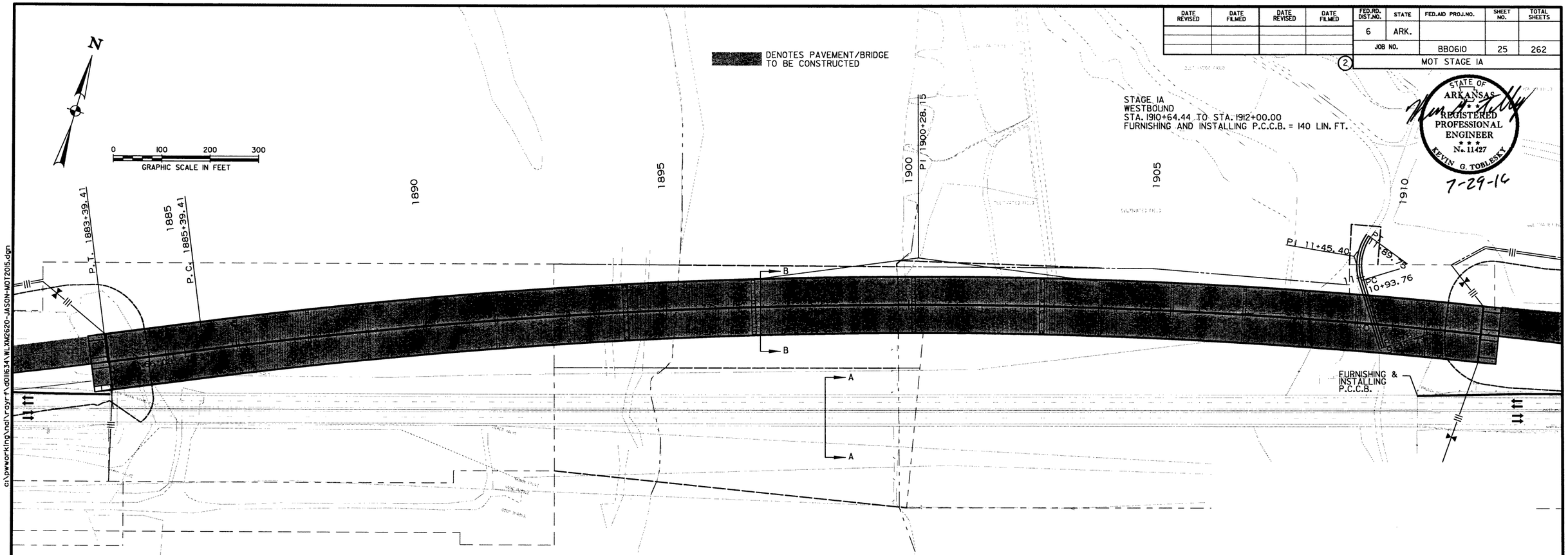
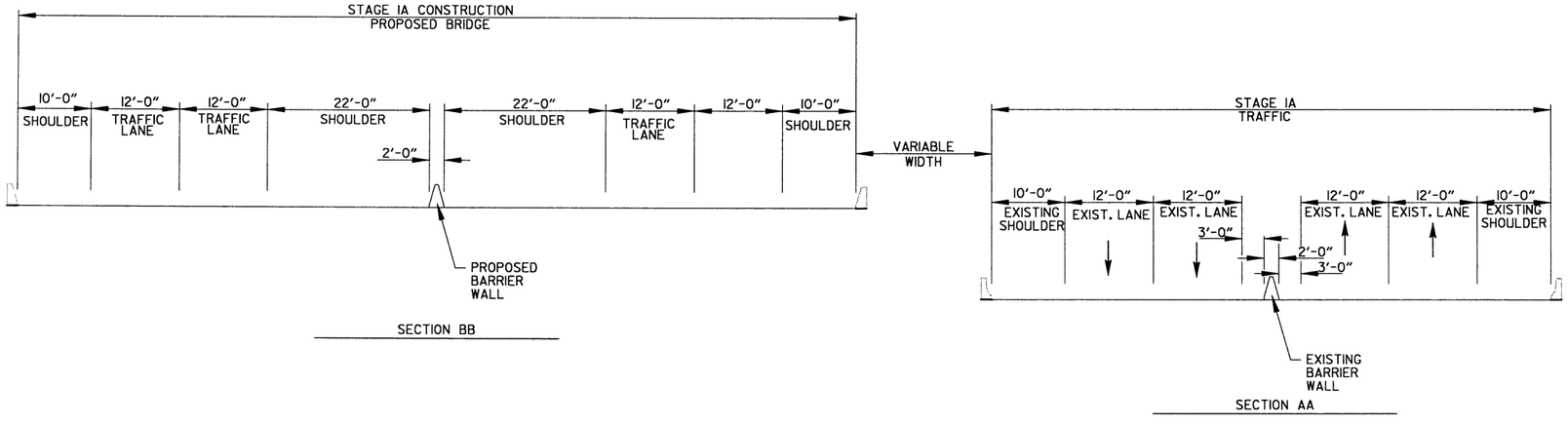
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	25	262
				(2)		MOT STAGE IA		



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16



SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC STAGE 1A

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	26	262
				(2) MOT STAGE IA				

STAGE IA
STA. 1912+00.00 TO STA. 1933+00.00
FURNISHING AND INSTALLING P.C.C.B. = 2100 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH

DENOTES PAVEMENT/BRIDGE TO BE CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

N

0 100 200 300
GRAPHIC SCALE IN FEET

STA. 1920+00 INSTALL 24"x115' TEMPORARY PIPE

1915 1920 1925 1930

PC 1917+00.32

PT 1931+80.77

EQUATION:
STA. 1932+40.53 BK. =
STA. 1932+40.74 AHD.

4 VERTICAL PANELS @ 20' O.C.

RSP-I (48" X 30")

SHOULDER CLOSED

FURNISHING & INSTALLING P.C.C.B.

A

A

500'

N80°57'03"E

N73°32'55"E

TEMP. IMPACT ATTENUATION BARRIER

STA. 1932+40.53
END JOB BB0610

T 1915+00.31

PI 1924+41.57

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

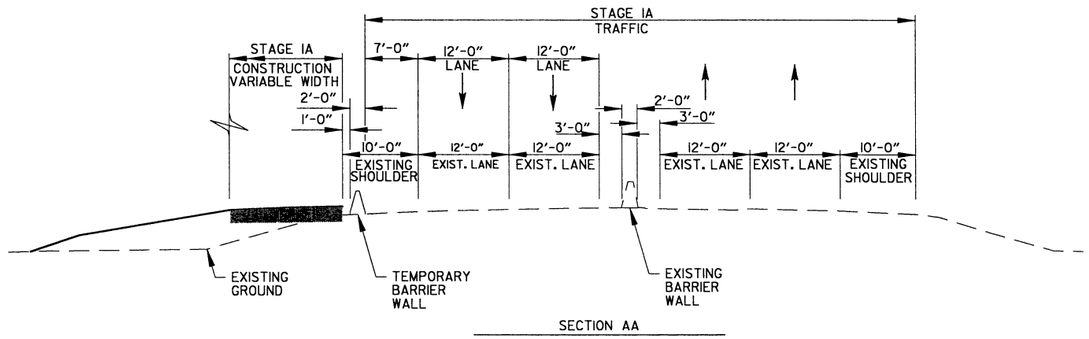
•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.



SECTION AA

MAINTENANCE OF TRAFFIC STAGE 1A

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				6	ARK.			
				JOB NO.		BB0610	27	262
				(2)	MOT STAGE IB			

STAGE IB
WESTBOUND
STA. 1868+29.53 TO STA. 1877+00.00

RELOCATING P.C.C.B. = 880 LIN. FT.

STA. 1877+00.00 TO STA. 1883+05.41
5 TRAFFIC DRUMS @ 120' O.C. FOR SINGLE LANE CLOSURE

N

0 100 200 300
GRAPHIC SCALE IN FEET

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

STA. 1869+00 TO STA. 1877+00
7 TRAFFIC DRUMS
@ 120' O.C.

STA. 1877+00 RETAIN
24"x60' TEMPORARY PIPE

P.O.B. 1865+00.00

P.C. 1868+58.96

1870

1875

P.I. 1876+00.22

1880

P.T. 1883+39.41

N73°32'55"E

A

A

RETAIN TEMP.
P.C.C.B. WALL

STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

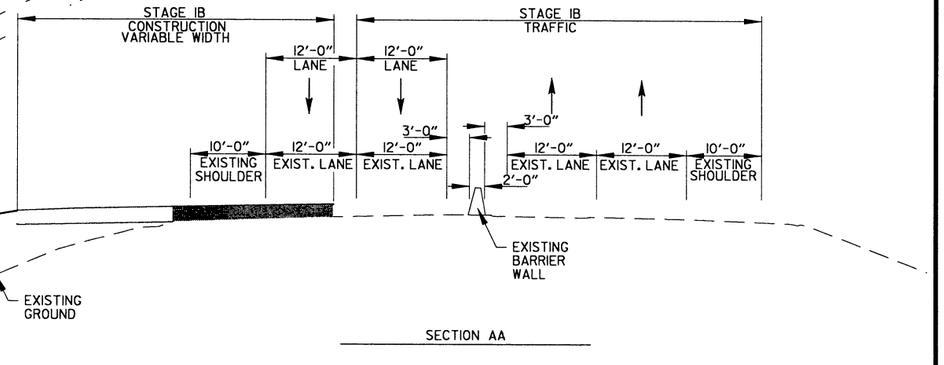
•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.



SECTION AA

MAINTENANCE OF TRAFFIC STAGE 1B

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	28	262
MOT STAGE IB				

(2)

STAGE IB
WESTBOUND
STA. 1883+05.41 TO STA. 1912+20.58
24 TRAFFIC DRUMS @ 120' O.C. FOR SINGLE LANE CLOSURE

DENOTES PAVEMENT/BRIDGE
PREVIOUSLY CONSTRUCTED

0 100 200 300
GRAPHIC SCALE IN FEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

1890 1895 1900 1905 1910

P.T. 1883+39.41
P.C. 1885+39.41
PI 1900+28.15
PI 11+45.40
D 89.8
P.C. 10+93.76
P.O.B. 9+48.73

N66°08' 47" E

RETAIN TEMP. P.C.C.B. WALL

RETAIN TEMP. P.C.C.B. WALL

A
A
B
B

PREVIOUSLY CONSTRUCTED BRIDGE

10'-0" SHOULDER	12'-0" TRAFFIC LANE	12'-0" TRAFFIC LANE	22'-0" SHOULDER	2'-0"	22'-0" SHOULDER	12'-0" TRAFFIC LANE	12'-0" TRAFFIC LANE	10'-0" SHOULDER

PROPOSED BARRIER WALL

SECTION BB

VARIABLE WIDTH

STAGE IB TRAFFIC

10'-0" EXISTING SHOULDER	12'-0" EXIST. LANE	12'-0" EXIST. LANE	12'-0" EXIST. LANE	12'-0" EXIST. LANE	10'-0" EXISTING SHOULDER

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

EXISTING BARRIER WALL

SECTION AA

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC STAGE 1B

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	29	262
				(2)	MOT STAGE IB			

STAGE IB
WESTBOUND
STA. 1922+00 TO STA. 1932+40.53

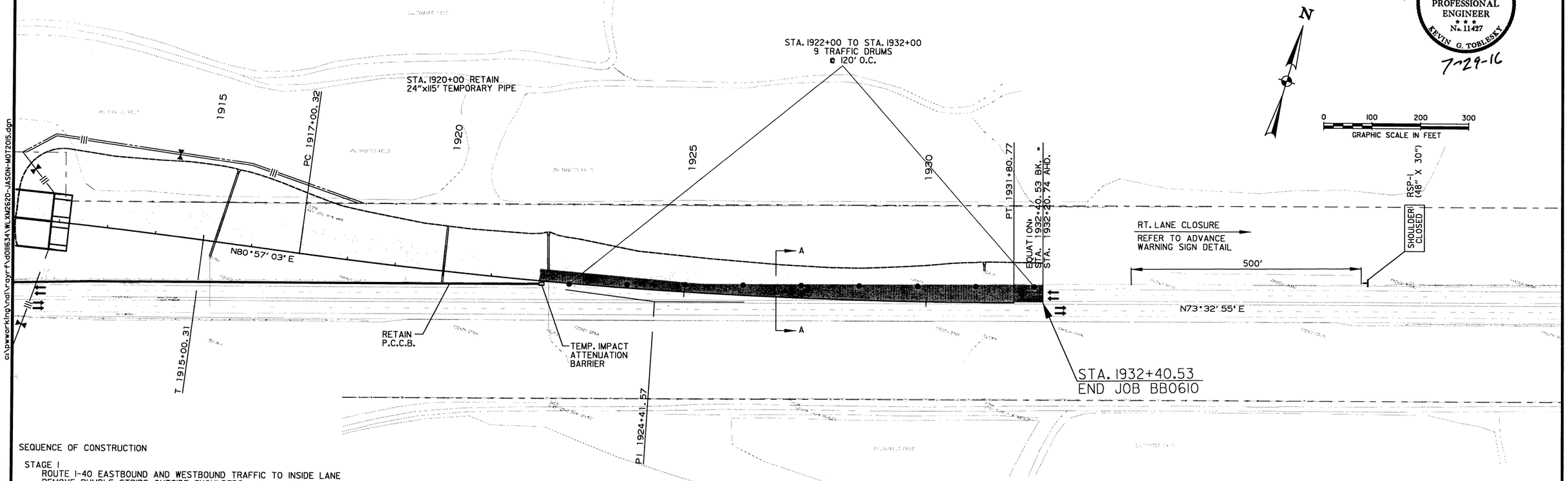
RELOCATING P.C.C.B. = 1041 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 1 EACH

STA. 1912+20.58 TO STA. 1922+00
8 TRAFFIC DRUMS @ 120' O.C. FOR SINGLE LANE CLOSURE

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16



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0 100 200 300
GRAPHIC SCALE IN FEET

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

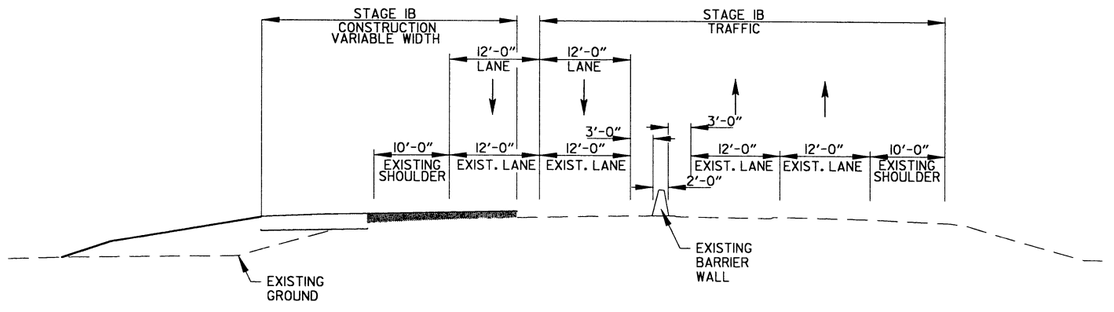
•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.



SECTION AA

MAINTENANCE OF TRAFFIC STAGE 1B

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	30	262

(2) MOT STAGE 2A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESBY
7-29-16

STAGE 2A
WESTBOUND
STA. 1865+00.00 TO STA. 1883+05.41
CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 370 LIN. FT.
WHITE 4" CONTINUOUS = 1480 LIN. FT.
YELLOW 4" CONTINUOUS = 1480 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 80 LIN. FT.
WHITE 4" CONTINUOUS = 320 LIN. FT.
YELLOW 4" CONTINUOUS = 320 LIN. FT.

STA. 1868+28 TO STA. 1883+08
FURNISH AND INSTALL P.C.C.B. = 1480 LIN. FT.

STAGE 2A
EASTBOUND
STA. 1865+00.00 TO STA. 1883+05.41
CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 370 LIN. FT.
WHITE 4" CONTINUOUS = 1495 LIN. FT.
YELLOW 4" CONTINUOUS = 1495 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 80 LIN. FT.
WHITE 4" CONTINUOUS = 320 LIN. FT.
YELLOW 4" CONTINUOUS = 320 LIN. FT.

STA. 1866+68 TO STA. 1883+08
RELOCATE P.C.C.B. = 1640 LIN. FT.
INSTALL TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH

N

0 100 200 300
GRAPHIC SCALE IN FEET

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

P.O.B. 1865+00.00

P.C. 1868+58.96

P.I. 1876+00.22

P.T. 1883+39.41

1870 1875 1880

FURNISH & INSTALL P.C.C.B.

YELLOW 4" CONT.

WHITE 4" CONT.

WHITE 4" SKIP

WHITE 4" CONT.

300'

N23°32'52"E

500'

300'

① DELTA 4°8'32"RT.
D = 5° 15'
T = 39.47'
L = 78.90'

② DELTA 4°8'32"LT.
D = 5° 15'
T = 39.47'
L = 78.90'

RELOCATE TEMP. P.C.C.B.

WHITE 4" CONT.

YELLOW 4" CONT.

MEDIAN BARRIER WALL

600' TRANSITION

WHITE 4' SKIP

A

A

WI-4pR (36" X 36")

SHOULDER CLOSED

RSP-I (48" X 30")

WI-4pL (36" X 36")

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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STAGE 2A TRAFFIC
12'-0" LANE
12'-0" LANE
2'-0"

STAGE 2A CONSTRUCTION
VARIABLE WIDTH
2'-0"
3'-0" EXISTING SHOULDER

STAGE 2A TRAFFIC
2'-0"
12'-0" EXIST. LANE
12'-0" EXIST. LANE
2'-0"
12'-0" EXIST. LANE
12'-0" EXIST. LANE
10'-0" EXISTING SHOULDER

EXISTING GROUND

WHITE 4" CONT.
WHITE 4' SKIP
YELLOW 4' CONT.
TEMPORARY BARRIER WALL
MEDIAN P.C.C.B. WALL
TEMPORARY BARRIER WALL
YELLOW 4' CONT.
WHITE 4' SKIP
WHITE 4" CONT.

SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2A

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				6	ARK.			
				JOB NO.		BB0610	31	262
				(2)	MOT STAGE 2A			

STAGE 2A
WESTBOUND
STA. 1883+05.41 TO STA. 1912+20.58
HIGH PERFORMANCE PAVEMENT MARKINGS
WHITE 4" SKIP = 730 LIN. FT.
WHITE 4" CONTINUOUS = 2915 LIN. FT.
YELLOW 4" CONTINUOUS = 2915 LIN. FT.

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

0 100 200 300
GRAPHIC SCALE IN FEET

C.L. CONSTRUCTION I-40
PI = 1900+28.15
Δ = 14°48'16" RT.
D = 0°30'00"
T = 1488.74'
L = 2960.90'
PC = 1885+39.41
PT = 1915+00.31
e = N.C.
Ls = N/A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

MEDIAN BARRIER WALL
P.T. 1883+39.41
RSP-1 (48" X 30")
SHOULDER CLOSED
P.C. 1885+39.41
1885
1890
1895
1900
PI 1900+28.15
1905
1910
WHITE 4" CONT.
WHITE 4' SKIP
YELLOW 4" CONT.
N66°08'47"E
PI 11+45.40
189.78
11°
PC 10+93.76
10°
PT 9+48.73
500'
MEDIAN BARRIER WALL
WI-4bR (36" X 36")

PREVIOUSLY CONSTRUCTED BRIDGE
STAGE 2A TRAFFIC
10'-0" SHOULDER
12'-0" TRAFFIC LANE
12'-0" TRAFFIC LANE
22'-0" SHOULDER
2'-0"
2'-0"
2'-0"
22'-0" SHOULDER
12'-0" TRAFFIC LANE
12'-0" TRAFFIC LANE
10'-0" SHOULDER
WHITE 4" CONT.
WHITE 4' SKIP
TRAFFIC DRUM
YELLOW 4' CONT.
PROPOSED BARRIER WALL
SECTION BB

VARIABLE WIDTH

STAGE 2A TRAFFIC
10'-0" EXISTING SHOULDER
12'-0" EXIST. LANE
12'-0" EXIST. LANE
3'-0"
2'-0"
3'-0"
12'-0" EXIST. LANE
12'-0" EXIST. LANE
10'-0" EXISTING SHOULDER
EXISTING BARRIER WALL
SECTION AA

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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MAINTENANCE OF TRAFFIC STAGE 2A

JACOBS

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				6	ARK.			
				JOB NO.		BB0610	32	262
				(2)	MOT STAGE 2A			

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STAGE 2A
WESTBOUND
STA. 1912+20.58 TO STA. 1938+40.53

CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 650 LIN. FT.
WHITE 4" CONTINUOUS = 2616 LIN. FT.
YELLOW 4" CONTINUOUS = 2616 LIN. FT.

STA. 1914+43.46 TO STA. 1926+30
FURNISH AND INSTALL P.C.C.B. = 1973 LIN. FT.
INSTALL TEMPORARY IMPACT ATTENUATION BARRIER = 1 EACH

STAGE 2A
EASTBOUND
STA. 1910+60.00 TO STA. 1938+40.53

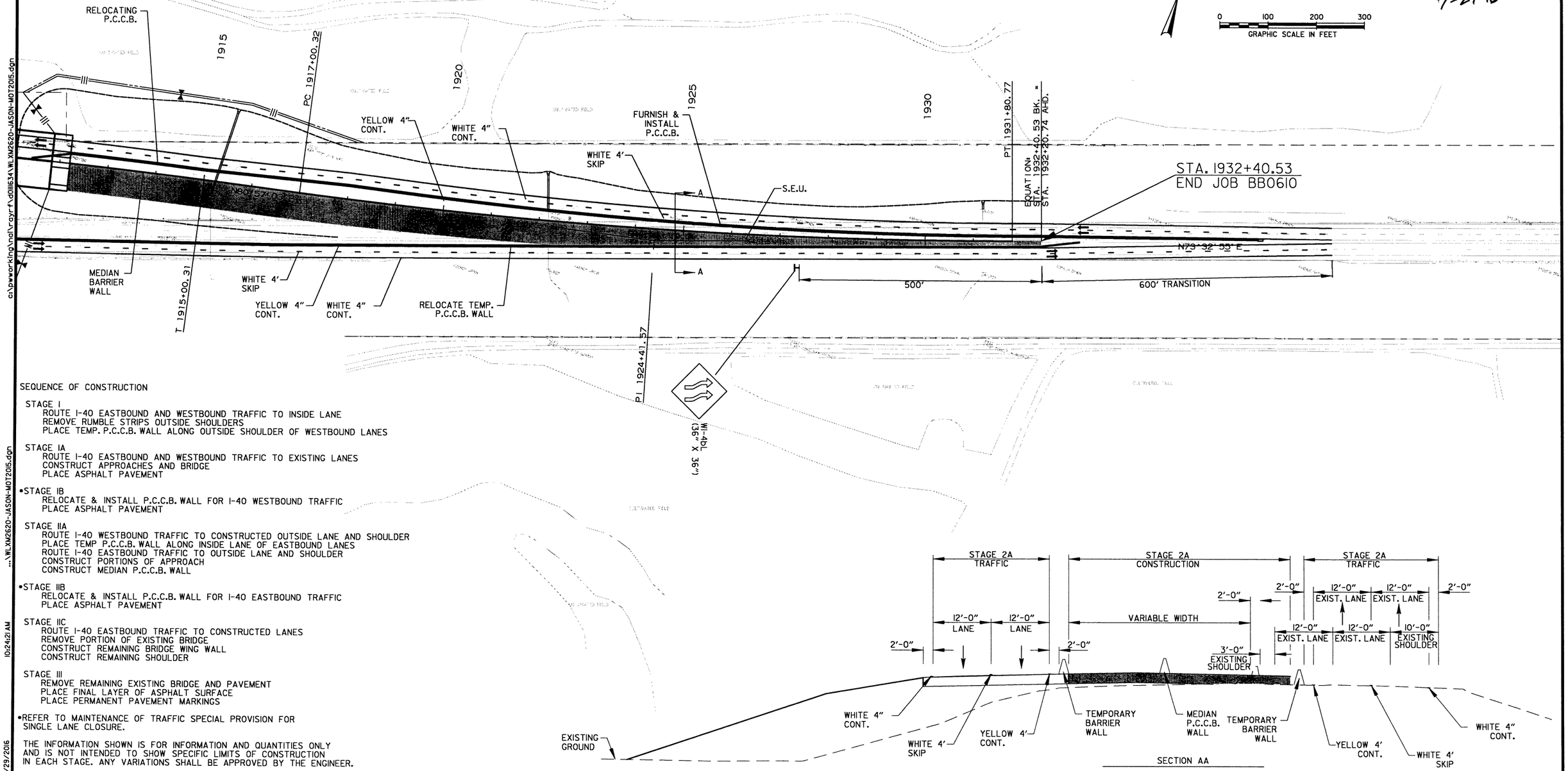
CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 700 LIN. FT.
WHITE 4" CONTINUOUS = 2780 LIN. FT.
YELLOW 4" CONTINUOUS = 2780 LIN. FT.

STA. 1910+60.00 TO STA. 1933+20.00
RELOCATE P.C.C.B. = 2260 LIN. FT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

N

0 100 200 300
GRAPHIC SCALE IN FEET



SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2A

JACOBS

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				6	ARK.			
				JOB NO.		BB0610	33	262
				(2)	MOT STAGE 2B			

STAGE 2B
EASTBOUND
STA. 1866+68 TO STA. 1879+00

RELOCATE P.C.C.B. = 1232 LIN. FT.

STA. 1866+00 TO STA. 1868+00
4 TRAFFIC DRUMS @ 60' O.C. FOR SINGLE LANE CLOSURE

STA. 1879+00 TO STA. 1883+05.41
3 TRAFFIC DRUMS @ 120' O.C. FOR SINGLE LANE CLOSURE

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

0 100 200 300
GRAPHIC SCALE IN FEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

P.O.B. 1865+00.00

P.C. 1868+58.96

P.T. 1883+39.41

P.I. 1876+00.22

WI-4bL (36" X 36")

1870 1875 1880

② DELTA 4°8'32"LT.
③ D = 5° 15'
T = 39.47'
L = 78.90'

① DELTA 4°8'32"RT.
④ D = 5° 15'
T = 39.47'
L = 78.90'

S.E.U.

300' 500' 300' 500' 500'

N2°32'52"E

WHITE 4" CONT.

YELLOW 4" CONT.

500' TRANSITION

600' TRANSITION

MEDIAN BARRIER WALL

RELOCATING P.C.C.B

RELOCATING P.C.C.B

STA. 1866+00 TO STA. 1868+00
4 TRAFFIC DRUMS @ 60' O.C.

STA. 1878+00 TO STA. 1879+00
9 TRAFFIC DRUMS @ 120' O.C.

SHOULDER CLOSED

RSP-I (48" X 30")

WI-4bR (36" X 36")

WI-4bL (36" X 36")

LT. LANE CLOSURE
REFER TO ADVANCE WARNING SIGN DETAIL

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

THE INFORMATION SHOWN IS FOR INFORMATION AND QUANTITIES ONLY AND IS NOT INTENDED TO SHOW SPECIFIC LIMITS OF CONSTRUCTION IN EACH STAGE. ANY VARIATIONS SHALL BE APPROVED BY THE ENGINEER.

STAGE 2B TRAFFIC
STAGE 2B CONSTRUCTION
STAGE 2B TRAFFIC

2'-0" 12'-0" LANE 12'-0" LANE 2'-0" VARIABLE WIDTH 3'-0" EXISTING SHOULDER 2'-0" 12'-0" EXIST. LANE 12'-0" EXIST. LANE 2'-0" 12'-0" EXIST. LANE 12'-0" EXIST. LANE 10'-0" EXISTING SHOULDER

WHITE 4" CONT.
WHITE 4" SKIP
YELLOW 4" CONT.
TEMPORARY BARRIER WALL
MEDIAN P.C.C.B. WALL
TEMPORARY BARRIER WALL OR TRAFFIC DRUM
YELLOW 4" CONT.
WHITE 4" SKIP
WHITE 4" CONT.
EXISTING GROUND

SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2B

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				6	ARK.			
				JOB NO.		BB0610	34	262
				(2)	MOT STAGE 2B			

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

RSP I (48" X 30")

SHOULDER CLOSED

WI-4bR (36" X 36")

P.T. 1883+39.41

P.C. 1885+39.41

1885

1890

1895

1900

PI 1900+28.15

1905

1910

N

0 100 200 300

GRAPHIC SCALE IN FEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16

WHITE 4" SKIP

500'

N66°08'47"E

B

B

A

A

PI 11+45.40

PI 89.5

11°PC 10+93.76

P.O.B. 9+45.73

WHITE 4" SKIP

WHITE 4" CONT.

YELLOW 4" CONT.

WHITE 4" CONT.

500'

600' TRANSITION

MEDIAN BARRIER WALL

FOR SINGLE LANE CLOSURE
STA. 1883+00 TO STA. 1912+00
24 TRAFFIC DRUMS
@ 120' O.C.

WI-4bR (36" X 36")

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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PREVIOUSLY CONSTRUCTED BRIDGE

STAGE 2B TRAFFIC

10'-0" SHOULDER | 12'-0" TRAFFIC LANE | 12'-0" TRAFFIC LANE | 22'-0" SHOULDER | 22'-0" SHOULDER | 12'-0" TRAFFICE LANE | 12'-0" TRAFFIC LANE | 10'-0" SHOULDER

2'-0" 2'-0" 2'-0"

WHITE 4" CONT.

YELLOW 4" CONT.

TRAFFIC DRUM

PROPOSED BARRIER WALL

SECTION BB

VARIABLE WIDTH

STAGE 2B TRAFFIC

10'-0" EXISTING SHOULDER | 12'-0" EXIST. LANE | 12'-0" EXIST. LANE | 12'-0" EXIST. LANE | 12'-0" EXIST. LANE | 10'-0" EXISTING SHOULDER

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

EXISTING BARRIER WALL

TRAFFIC DRUM

SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2B

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				6	ARK.			
				JOB NO.		BB0610	35	262

(2) MOT STAGE 2B

STAGE 2B
EASTBOUND
STA. 1922+00 TO STA. 1933+20

RELOCATE P.C.C.B. = 1120 LIN. FT.

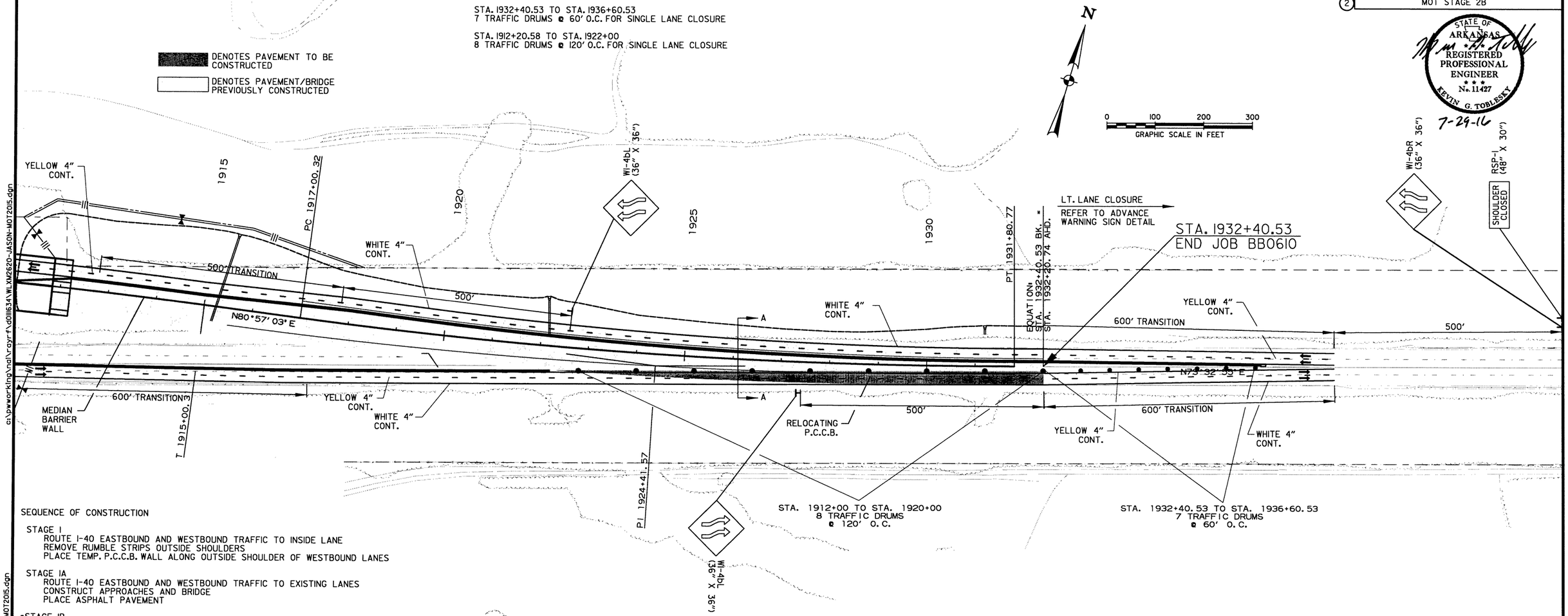
STA. 1932+40.53 TO STA. 1936+60.53
7 TRAFFIC DRUMS @ 60' O.C. FOR SINGLE LANE CLOSURE

STA. 1912+20.58 TO STA. 1922+00
8 TRAFFIC DRUMS @ 120' O.C. FOR SINGLE LANE CLOSURE

DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16



SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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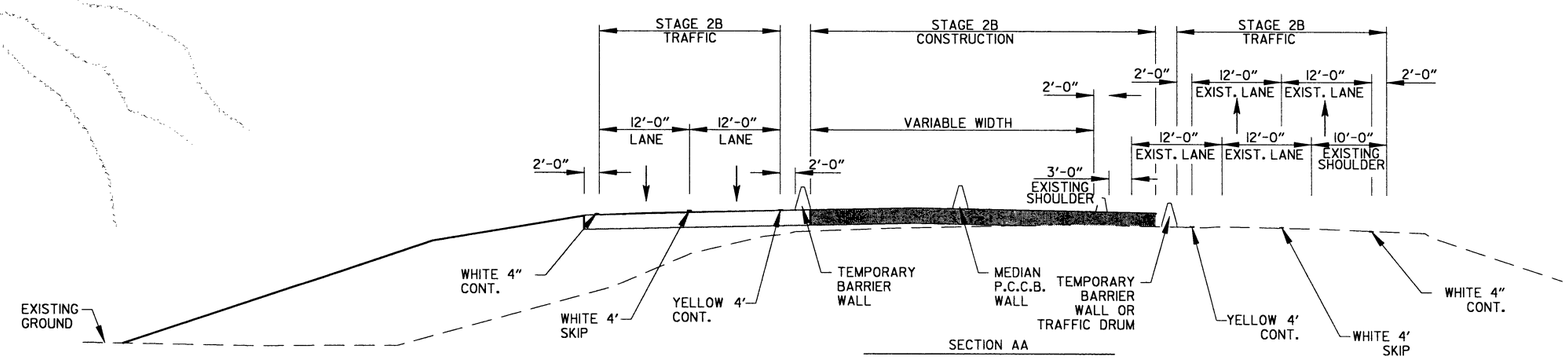

MAINTENANCE OF TRAFFIC STAGE 2B

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				6	ARK.			
				JOB NO.		BB0610	36	262
				(2)	MOT STAGE 2C			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

N

0 100 200 300
GRAPHIC SCALE IN FEET

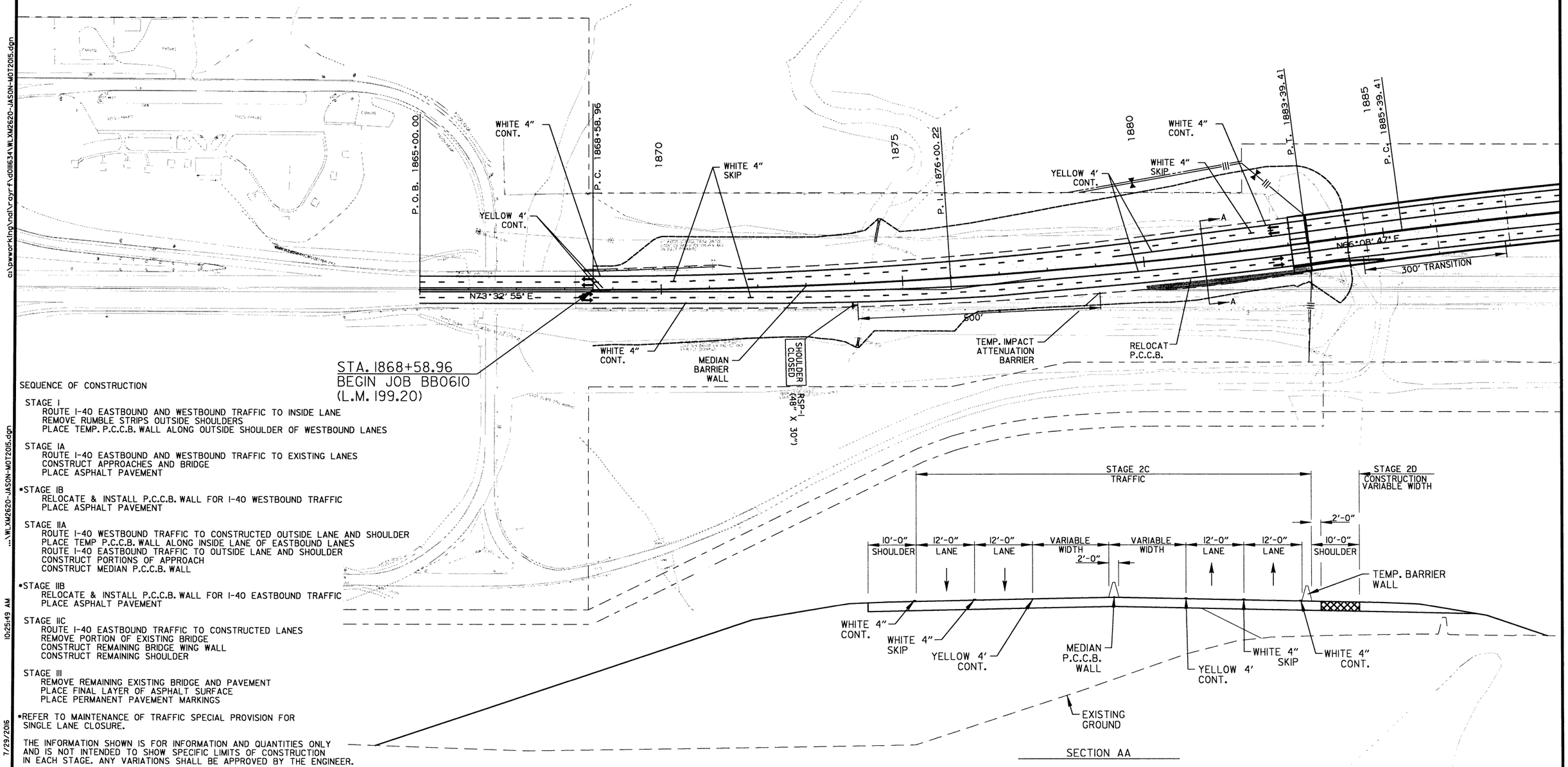
DENOTES PAVEMENT TO BE CONSTRUCTED

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STAGE 2C
EASTBOUND
STA. 1868+00 TO STA. 1879+00
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 280
WHITE 4" CONTINUOUS = 1100 LIN. FT.
YELLOW 4" CONTINUOUS = 1100 LIN. FT.

STA. 1868+00.00 TO STA. 1883+05.41
CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 360 LIN. FT.
WHITE 4" CONTINUOUS = 1442 LIN. FT.
YELLOW 4" CONTINUOUS = 1442 LIN. FT.
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
4" WHITE CONTINUOUS = 640 LIN. FT.
4" WHITE SKIP = 160 LIN. FT.
4" YELLOW CONTINUOUS = 640 LIN. FT.

STA. 1879+00 TO STA. 1885+00
RELOCATE TEMPORARY P.C.C.B. = 600 LIN. FT..



STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2C

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				6	ARK.			
				JOB NO.		BB0610	37	262
				(2) MOT STAGE 2C				

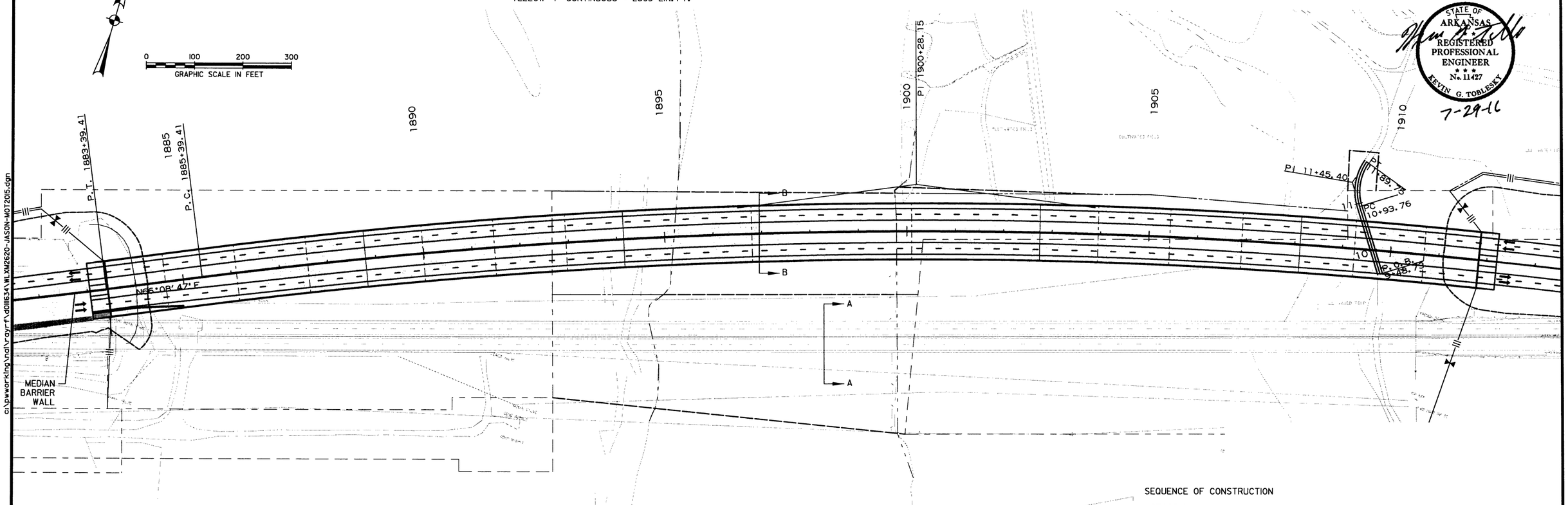
STAGE 2A
EASTBOUND
STA. 1883+05.41 TO STA. 1912+20.58
HIGH PERFORMANCE PAVEMENT MARKINGS
WHITE 4" SKIP = 650 LIN. FT.
WHITE 4" CONTINUOUS = 2595 LIN. FT.
YELLOW 4" CONTINUOUS = 2595 LIN. FT.

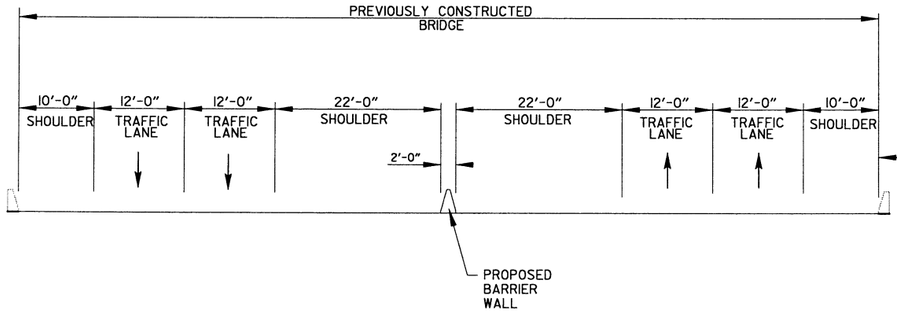
DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

N

0 100 200 300
GRAPHIC SCALE IN FEET

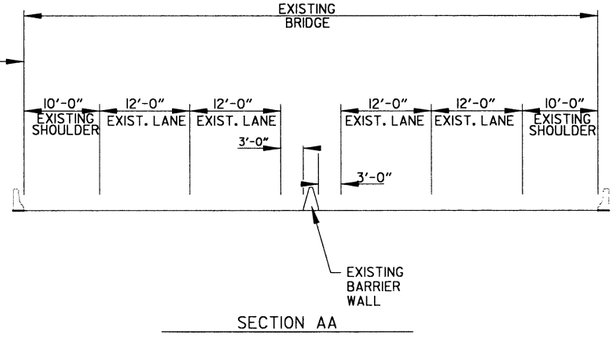
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16





SECTION BB

VARIABLE WIDTH



SECTION AA

SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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MAINTENANCE OF TRAFFIC STAGE 2C

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				6	ARK.			
				JOB NO.		BB0610	38	262
				(2)	MOT STAGE 2C			

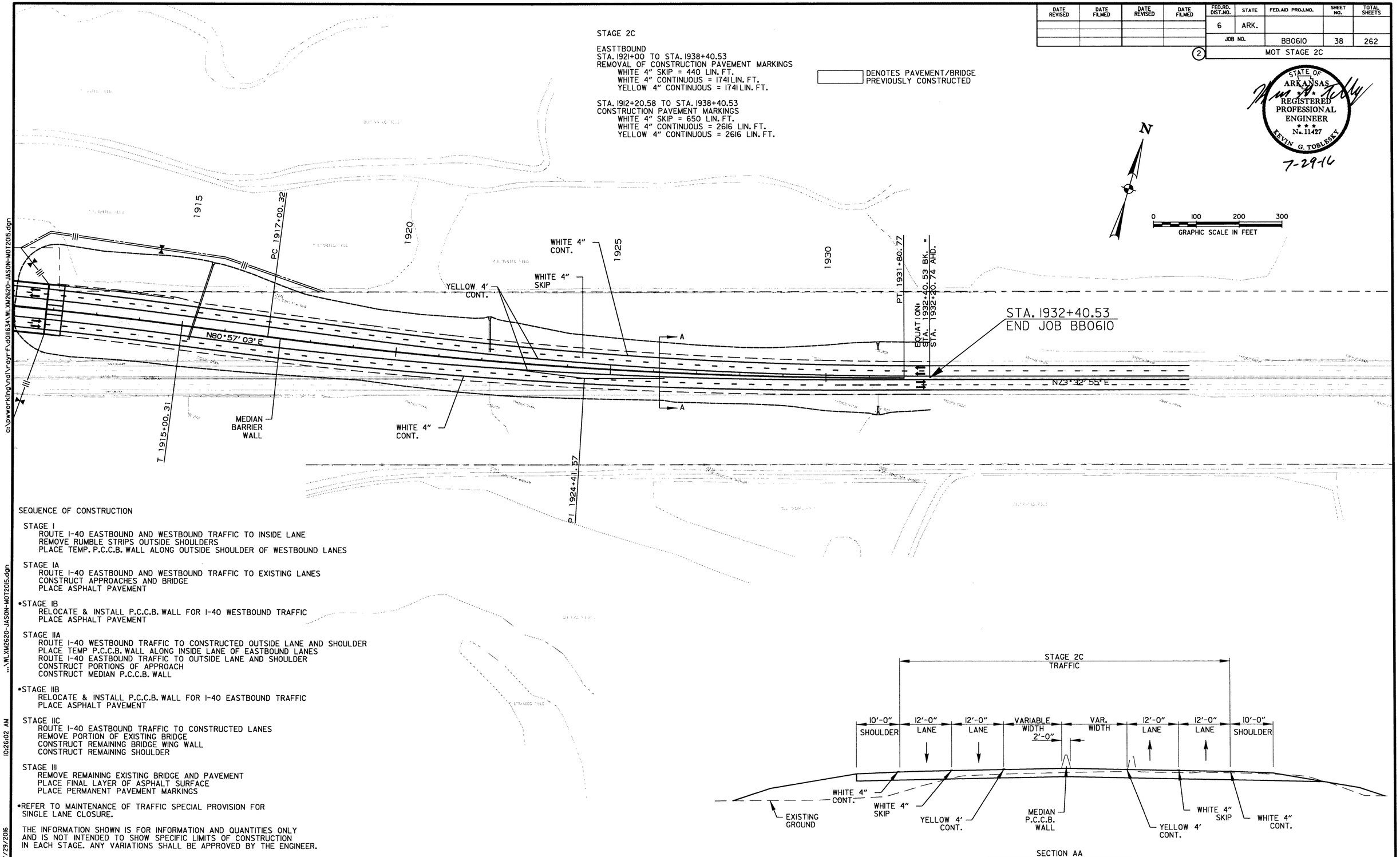
STAGE 2C

EASTTBOUND
STA. 1921+00 TO STA. 1938+40.53
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 440 LIN. FT.
WHITE 4" CONTINUOUS = 1741 LIN. FT.
YELLOW 4" CONTINUOUS = 1741 LIN. FT.

STA. 1912+20.58 TO STA. 1938+40.53
CONSTRUCTION PAVEMENT MARKINGS
WHITE 4" SKIP = 650 LIN. FT.
WHITE 4" CONTINUOUS = 2616 LIN. FT.
YELLOW 4" CONTINUOUS = 2616 LIN. FT.

DENOTES PAVEMENT/BRIDGE PREVIOUSLY CONSTRUCTED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16



SEQUENCE OF CONSTRUCTION

STAGE I
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO INSIDE LANE
REMOVE RUMBLE STRIPS OUTSIDE SHOULDERS
PLACE TEMP. P.C.C.B. WALL ALONG OUTSIDE SHOULDER OF WESTBOUND LANES

STAGE IA
ROUTE I-40 EASTBOUND AND WESTBOUND TRAFFIC TO EXISTING LANES
CONSTRUCT APPROACHES AND BRIDGE
PLACE ASPHALT PAVEMENT

•STAGE IB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 WESTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIA
ROUTE I-40 WESTBOUND TRAFFIC TO CONSTRUCTED OUTSIDE LANE AND SHOULDER
PLACE TEMP P.C.C.B. WALL ALONG INSIDE LANE OF EASTBOUND LANES
ROUTE I-40 EASTBOUND TRAFFIC TO OUTSIDE LANE AND SHOULDER
CONSTRUCT PORTIONS OF APPROACH
CONSTRUCT MEDIAN P.C.C.B. WALL

•STAGE IIB
RELOCATE & INSTALL P.C.C.B. WALL FOR I-40 EASTBOUND TRAFFIC
PLACE ASPHALT PAVEMENT

STAGE IIC
ROUTE I-40 EASTBOUND TRAFFIC TO CONSTRUCTED LANES
REMOVE PORTION OF EXISTING BRIDGE
CONSTRUCT REMAINING BRIDGE WING WALL
CONSTRUCT REMAINING SHOULDER

STAGE III
REMOVE REMAINING EXISTING BRIDGE AND PAVEMENT
PLACE FINAL LAYER OF ASPHALT SURFACE
PLACE PERMANENT PAVEMENT MARKINGS

•REFER TO MAINTENANCE OF TRAFFIC SPECIAL PROVISION FOR SINGLE LANE CLOSURE.

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SECTION AA

MAINTENANCE OF TRAFFIC STAGE 2C

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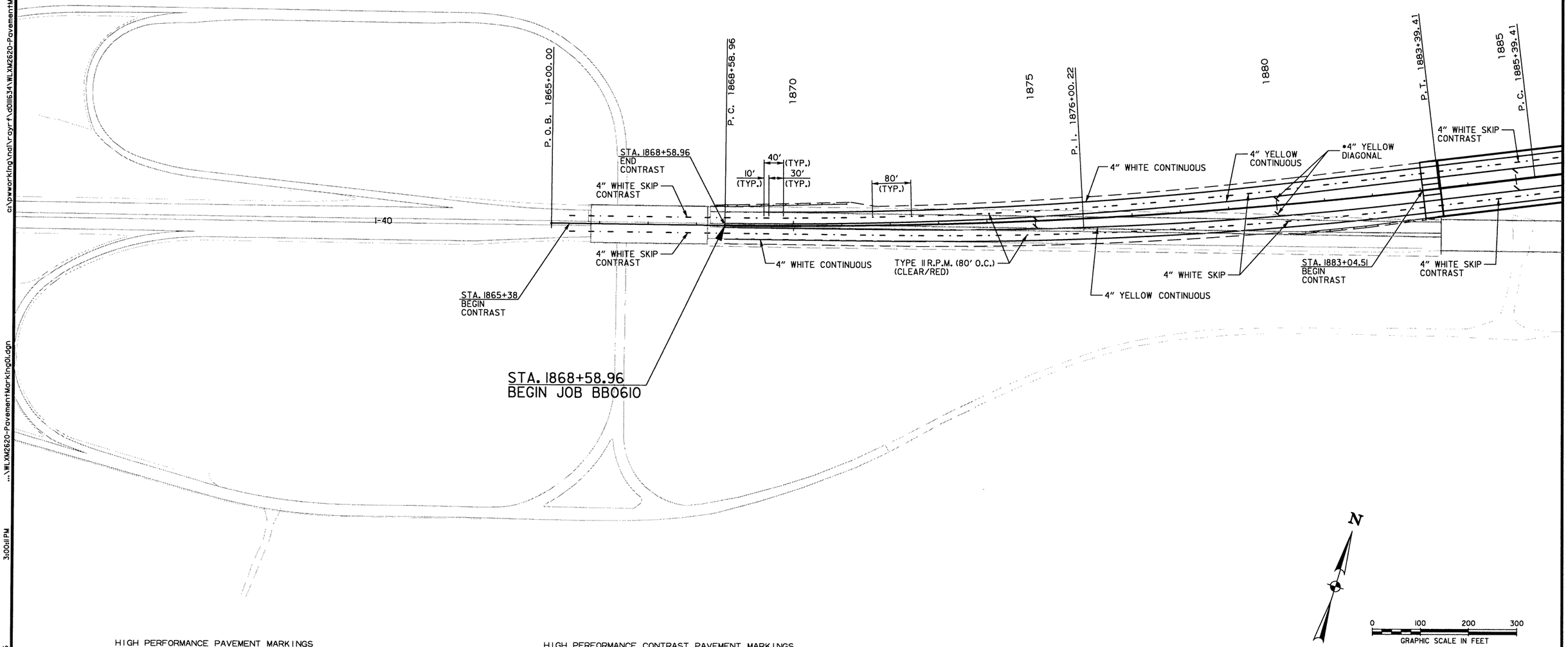
6	ARK.			
JOB NO.		BB0610	39	262

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16

•NOTE: DIAGONAL STRIP SHALL BE PLACED AT 45°, 500' O.C. & 10' IN LENGTH.



HIGH PERFORMANCE PAVEMENT MARKINGS
I-40 MAIN LANES

(STA. 1865+00.00 TO STA. 1883+04.51)	QUANTITY
4" WHITE CONTINUOUS	3610 L.F.
4" WHITE SKIP	740 L.F.
4" YELLOW CONTINUOUS	3610 L.F.
4" DIAGONAL	40 L.F.
RAISED PAVEMENT MARKER (80' O.C.)(TYPE II) CLEAR/RED	46 EACH

HIGH PERFORMANCE CONTRAST PAVEMENT MARKINGS
I-40 MAIN LANES

(STA. 1865+38.00 TO STA. 1868+58.96)	QUANTITY
4" WHITE SKIP	160 L.F.

PERMANENT PAVEMENT MARKING DETAILS

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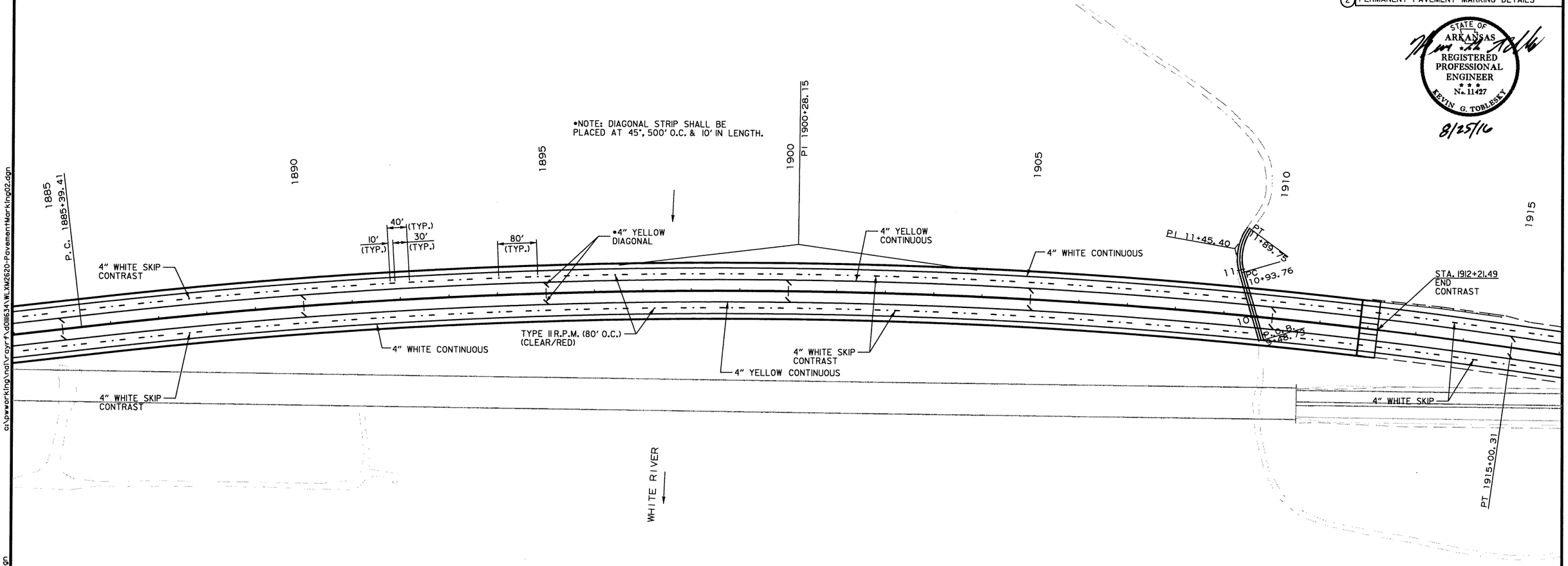
7-29-2016				6	ARK.			
				JOB NO.		BB0610	40	262

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16



HIGH PERFORMANCE PAVEMENT MARKINGS
I-40 MAIN LANES

(STA. 1883+05.46 TO STA. 1912+21.49)	QUANTITY
4" YELLOW DIAGONAL	120 L.F.
RAISED PAVEMENT MARKER (TYPE II) CLEAR/RED	72 EACH

NOTE:
HIGH PERFORMANCE PAVEMENT MARKINGS WHERE PLACED IN PREVIOUS STAGES 1C, 2A, & 2C. REFER TO SHEETS 28, 31, & 37 FOR QUANTITIES.

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GRAPHIC SCALE IN FEET

PERMANENT PAVEMENT MARKING DETAILS

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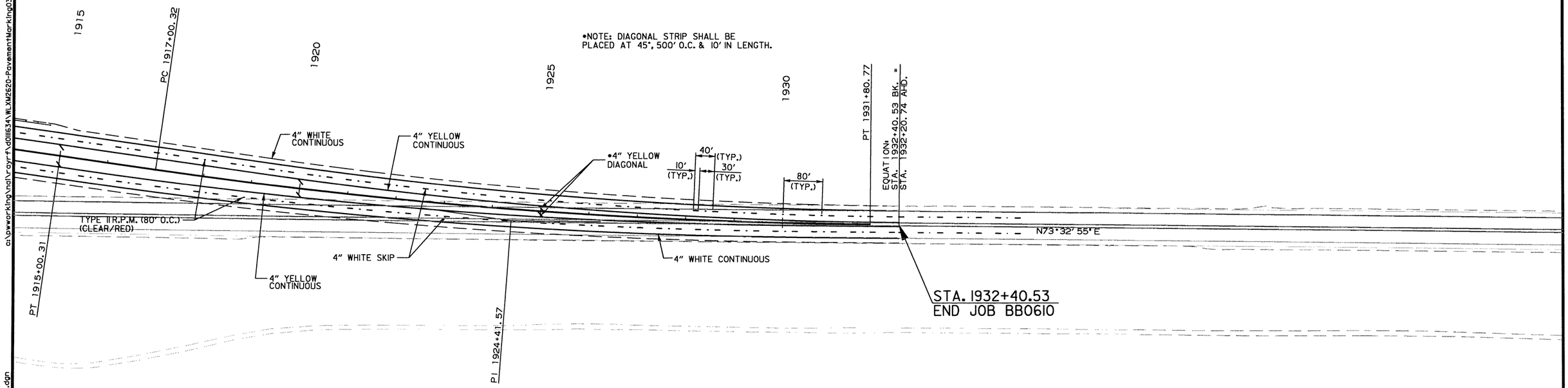
				6	ARK.			
				JOB NO.		BB0610	41	262

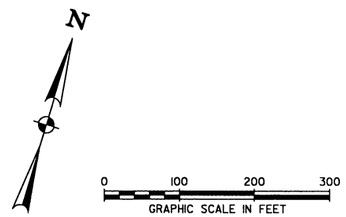
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16



HIGH PERFORMANCE PAVEMENT MARKINGS
I-40 MAIN LANES
(STA. 1912+21.49 TO STA. 1938+20.74)

	QUANTITY
4" WHITE CONTINUOUS	5240 L.F.
4" WHITE SKIP	1320 L.F.
4" YELLOW CONTINUOUS	5240 L.F.
4" YELLOW DIAGONAL	60 L.F.
RAISED PAVEMENT MARKER (TYPE II) CLEAR/RED	66 EACH



PERMANENT PAVEMENT MARKING DETAILS

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7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	42	262

(2) QUANTITIES

AUTOMATED WORK ZONE INFORMATION SYSTEM

LOCATION	*AWIS MOBILIZATION	*AWIS OPERATION	*DEVICE RELOCATION	FURNISH AND INSTALL *CLOSED CIRCUIT TELEVISION SYSTEM	*PUBLIC NOTIFICATION SYSTEM	*VARIABLE MESSAGE SIGN	*VEHICLE DETECTION SYSTEM
	LUMP SUM	MONTH	EACH	EACH			
ENTIRE PROJECT	1.00	49	10	2	2	4	26
TOTALS:	**1.00**	**49**	**10**	**2**	**2**	**4**	**26**

*QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
REFER TO "AUTOMATED WORK ZONE INFORMATION SYSTEM" SPECIAL PROVISION.

MOBILE SPEED NOTIFICATION SYSTEM

LOCATION	EACH
ENTIRE PROJECT - IF AND WHERE DIRECTED BY THE ENGINEER	2
TOTAL:	**2**

NOTE: QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	STAGE 2C	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	PORTABLE CHANGEABLE MESSAGE SIGN	ADVANCE WARNING ARROW PANEL	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)
			LIN. FT. - EACH						NO.	SQ. FT.	EACH		WEEK	DAY	LIN. FT.		EACH		
G20-1	ROAD WORK NEXT 1.2 MILES	60" X 24"	2	2	2	2	2	2	2	20.0									
G20-2	END ROAD WORK	48" X 24"	4	4	4	4	4	4	4	32.0									
R11-2	ROAD CLOSED	48" X 30"																	
R2-1	SPEED LIMIT (ADVISORY)	48" X 60"		4		4		4	4	80.0									
R2-2	SPEED LIMIT TRUCK (ADVISORY)	48" X 48"		2		2		2	2	32.0									
R2-5A	REDUCED SPEED AHEAD	48" X 60"		2		2		2	2	40.0									
R4-1	DO NOT PASS	48" X 60"		4		4		4	4	80.0									
R55-1	FINES DOUBLE IN WORK ZONES WHEN WORKERS ARE PRESENT	36" X 60"	4	4	4	4	4	4	4	60.0									
RSP-1	SHOULDER CLOSED	48" X 30"	1	1	4	1	1	4	4	40.0									
W1-4AL	REVERSE CURVE (1 LANE) TO LT.	48" X 48"																	
W1-4AR	REVERSE CURVE (1 LANE) TO RT.	48" X 48"																	
W1-4BL	REVERSE CURVE (2 LANE) TO LT.	48" X 48"			4	4		4	4	64.0									
W1-4BR	REVERSE CURVE (2 LANE) TO RT.	48" X 48"			4	4		4	4	64.0									
W1-6	LARGE ARROW	60" X 30"		3		3		3	3	37.5									
W20-1	ROAD WORK 1 MILE	48" X 48"	4	2	4	2	4	4	4	64.0									
W20-1	ROAD WORK 1/2 MILE	48" X 48"	4	2	4	2	4	4	4	64.0									
W20-1	ROAD WORK 1500 FT.	48" X 48"	4	2	4	2	4	4	4	64.0									
W20-1	ROAD WORK AHEAD	48" X 48"		2		2		2	2	32.0									
W20-5	RIGHT LANE CLOSED XXXX	48" X 48"		6		6		6	6	96.0									
W4-2	LANE ENDS	48" X 48"		2		2		2	2	32.0									
SPECIAL	MERGE NOW	48" X 48"		1		1		1	1	16.0									
	VERTICAL PANELS		4			9		9			9								
	TRAFFIC DRUMS			53		63		63				63							
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2	2	2	2					424						
	ADVANCE WARNING ARROW PANEL			1		1		1						350					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		3620		3733			7353							7353				
	RELOCATING PRECAST CONCRETE BARRIER			880	3620	2352	600	7452								7452			
	TEMPORARY IMPACT ATTENUATION BARRIER		1					1									1		
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)			1			1	2										2	
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1	1			1	3											3
TOTALS:									**917.5**		**9**	**63**	**424**	**350**	**7353**	**7452**	**1**	**2**	**3**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2A	STAGE 2B	STAGE 2C	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS TYPE II	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	HIGH PERFORMANCE PAVEMENT MARKING 4"		
									(CLEAR / RED)	4" WHITE	WHITE CONT.	WHITE SKIP	YELLOW
	LIN.FT. - EACH				LIN.FT.		LIN. FT.		EACH	LIN. FT.	LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	6931				6931								
CONSTRUCTION PAVEMENT MARKINGS	18832	8359	9126			36317							
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			6402				6402						
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1440	640	1440					3520					
RAISED PAVEMENT MARKERS TYPE II (CLEAR / RED)				184					184				
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")	730		650	80						1460			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")	2915		2595	8850							14360		
HIGH PERFORMANCE PAVEMENT MARKING (SKIP LINE) WHITE (4")				2060								2060	
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")	2915		2595	9070									14580
TOTALS:					**6931**	**36317**	**6402**	**3520**	**184**	**1460**	**14360**	**2060**	**14580**

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

NOTE: NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED UNTIL A MINIMUM OF 3 DAYS AFTER ALL MAIN LANE PAVING HAS BEEN COMPLETED.
IN ADDITION, NO PERMANENT PAVEMENT MARKINGS SHALL BE PLACED DURING THE TIME PERIOD FROM DECEMBER 21 TO MARCH 15, INCLUSIVE.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	43	262

(2) QUANTITIES

SOIL LOG

STATION	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION
1879+00	50' LT. OF C.L. I-40	4.5-5.5	52	29	A-7-6
1879+00	50' LT. OF C.L. I-40	7.0-7.5	47	27	A-7-6
1879+00	50' LT. OF C.L. I-40	14.0-15.0	44	26	A-7-6
1880+15	50' LT. OF C.L. I-40	2.5-3.5	43	23	A-7-6
1880+15	50' LT. OF C.L. I-40	4.5-5.0	48	29	A-7-6
1880+15	50' LT. OF C.L. I-40	7.0-7.5	47	26	A-7-6
1880+15	50' LT. OF C.L. I-40	14.0-15.0	38	20	A-6
1880+15	50' LT. OF C.L. I-40	19.0-20.0	19	8	A-4
1916+00	C.L. I-40	0.5-1.5	65	40	A-7-6
1616+00	C.L. I-40	2.0-2.5	56	32	A-7-6
1917+80	C.L. I-40	1.0-2.0	49	23	A-7-6
1917+80	C.L. I-40	2.0-2.5	79	52	A-7-6
1917+80	C.L. I-40	4.5-5.0	42	21	A-7-6
1915+40	10' RT. C.L. I-40	4.5-5.5	46	24	A-7-6

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.

BENCH MARKS

STATION	LOCATION	EACH
1883+45	LT. OF C.L. I-40	1
1911+80	RT. OF C.L. I-40	1
TOTAL:		2

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING STATION	GRUBBING STATION
1871+00	1895+00	C.L. I-40	24	24
1900+00	1908+00	C.L. I-40	8	8
1910+00	1927+00	C.L. I-40	17	17
TOTALS:			49	49

NOTE: CLEARING AND GRUBBING QUANTITIES SHALL BE FROM RIGHT OF WAY TO RIGHT OF WAY UNLESS OTHERWISED NOTED ON THE PLANS.
REFER TO SECTION 201 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

SELECTED PIPE BEDDING

LOCATION	CU.YD.
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	40
TOTAL:	40

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

REMOVAL AND DISPOSAL ITEMS

FROM STATION	FROM SIDE	FROM LOCATION	TO STATION	TO SIDE	TO LOCATION	BARRIER WALL LIN. FT.	APPROACH SLAB AND GUTTERS EACH	RUMBLE STRIP LIN. FT.	GATE EACH	POST EACH	FENCE LIN. FT.	GUARDRAIL LIN.FT.
1878+64	LEFT	EXISTING C.L. I-40	1883+40	LEFT	EXISTING C.L. I-40						566	
1910+40	LEFT	EXISTING C.L. I-40	1918+10	LEFT	EXISTING C.L. I-40						867	
1910+40	RIGHT	EXISTING C.L. I-40	1910+58	RIGHT	EXISTING C.L. I-40						168	
1868+65		EXISTING C.L. I-40	1883+03		EXISTING C.L. I-40	1438						
1910+77		EXISTING C.L. I-40	1932+41		EXISTING C.L. I-40	2164						
1868+28	LEFT	EXISTING C.L. I-40	1883+40	LEFT	EXISTING C.L. I-40							1512
1868+28	RIGHT	EXISTING C.L. I-40	1883+40	RIGHT	EXISTING C.L. I-40							1512
1910+49	LEFT	EXISTING C.L. I-40	1918+93	LEFT	EXISTING C.L. I-40							844
1910+49	RIGHT	EXISTING C.L. I-40	1918+43	RIGHT	EXISTING C.L. I-40							794
1883+03	LEFT	EXISTING C.L. I-40	1883+40	LEFT	EXISTING C.L. I-40		1					
1883+03	RIGHT	EXISTING C.L. I-40	1883+40	RIGHT	EXISTING C.L. I-40		1					
1910+40	LEFT	EXISTING C.L. I-40	1910+76	LEFT	EXISTING C.L. I-40		1					
1910+40	RIGHT	EXISTING C.L. I-40	1910+76	RIGHT	EXISTING C.L. I-40		1					
1868+65	RIGHT	EXISTING C.L. I-40	1883+03	RIGHT	EXISTING C.L. I-40			1438				
1910+77	RIGHT	EXISTING C.L. I-40	1938+21	RIGHT	EXISTING C.L. I-40			2744				
1868+65	LEFT	EXISTING C.L. I-40	1883+03	LEFT	EXISTING C.L. I-40			1438				
1910+77	LEFT	EXISTING C.L. I-40	1932+21	LEFT	EXISTING C.L. I-40			2144				
1901+87	LEFT	EXISTING C.L. I-40									608	
1907+95	LEFT	EXISTING C.L. I-40							1			
1907+95	LEFT	EXISTING C.L. I-40								1		
TOTALS:						3602	4	7764	1	1	2209	4662

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION CU. YD.	COMPACTED EMBANKMENT CU. YD.	COMPACTED EMBANKMENT (SPECIAL) CU. YD.
1868+58.96	1874+00.00	I-40 MAIN LANES	368	5621	
1874+00.00	1884+25.60	I-40 MAIN LANES	89		84384
1911+09.10	1914+00.00	I-40 MAIN LANES			51229
1914+00.00	1932+40.53	I-40 MAIN LANES	1630	77551	
1876+88.00	1883+26.00	I-40 MAIN LANES - OBLITERATION OF EXISTING PAVEMENT	1332		
1912+49.00	1922+34.00	I-40 MAIN LANES - OBLITERATION OF EXISTING PAVEMENT	4403		
1868+58.96	1875+00.00	REMOVAL OF EXISTING PAVEMENT FOR MEDIAN BARRIER WALL	71		
1924+00.00	1932+40.53	REMOVAL OF EXISTING PAVEMENT FOR MEDIAN BARRIER WALL	93		
*		EXCAVATE THE EXISTING GUIDE BAND AND EMBANKMENT	23544		
TOTALS:			31530	83172	135613

* REFER TO BRIDGE DRAWINGS FOR ADDITIONAL INFORMATION.

PERMANENT EROSION CONTROL

STATION	STATION	SIDE	LOCATION / DESCRIBTION	SEEDING ACRE	LIME TON	MULCH COVER ACRE	WATER M.GAL.	SECOND SEEDING APPLICATION ACRE
1868+58	1883+41	RIGHT	PROPOSED C.L. I-40	2.18	4.36	2.18	222.4	2.18
1868+58	1883+41	LEFT	PROPOSED C.L. I-40	2.58	5.16	2.58	263.2	2.58
1911+84	1932+40	RIGHT	PROPOSED C.L. I-40	4.10	8.20	4.10	418.2	4.10
1911+84	1932+40	LEFT	PROPOSED C.L. I-40	2.48	4.96	2.48	253.0	2.48
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.				3.00	6.00	3.00	306.0	3.00
TOTALS:				14.34	28.68	14.34	1462.8	14.34

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING

NOTE: THE PERMANENT EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	30	60
TOTALS:	30	60

BASIS OF ESTIMATE: PATCHING 25 TONS PER MILE
TACK 50 GAL. PER MILE
NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

ACHM PATCHING OF EXISTING ROADWAY

LOCATION / DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	15
TOTAL:	15

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

TEMPORARY EROSION CONTROL ITEMS AND DEVICES

STATION	STATION	LOCATION	TEMPORARY SEEDING ACRE	MULCH COVER ACRE	WATER M.GAL.	TRIANGULAR SILT DIKE LIN. FT.	SAND BAG DITCH CHECKS (E-5) BAG	ROCK DITCH CHECKS (E-6) CU.YD.	SILT FENCE (E-11) LIN.FT.	DIVERSION DITCH (E-8) LIN.FT.	SLOPE DRAIN (E-12) PIPE FOR SLOPE DRAINS LIN.FT.	SLOPE DRAIN (E-12) DUMPED RIPRAP CU.YD.	*SEDIMENT REMOVAL & DISPOSAL CU. YD.
ENTIRE	PROJECT	PRIOR TO CONSTRUCTION							9216				341
ENTIRE	PROJECT	STAGES 1A THRU 1C	4.76	4.76	97.1			30		1156	294	80	10
ENTIRE	PROJECT	STAGES 2A THRU 2B	6.58	6.58	134.2			3					1
ENTIRE	PROJECT	STAGE 2C						24					
													8
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.00	3.00	61.2	200	110	15	2304	289	74	20	85
TOTALS:			14.34	14.34	292.5	200	110	72	11520	1445	368	100	445

BASIS OF ESTIMATE:
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

*QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	44	262

(2) QUANTITIES

4" PIPE UNDERDRAIN

STATION	STATION	SIDE	LOCATIONS	4" PIPE UNDERDRAINS				UNDERDRAIN VIDEO INSPECTION	UNDERDRAIN OUTLET PROTECTORS
				EDGE DRAINS	LATERIALS (NON-PERFORATED)		TOTAL		
				LIN. FT.	NO.	LIN. FT.	LIN. FT.		EACH
1878+50	1883+42	RIGHT	C.L. I-40 - PROPOSED NEW UNDERDRAINS	492	4	200	692	492	2
1912+21	1919+50	RIGHT	C.L. I-40 - PROPOSED NEW UNDERDRAINS	729	6	300	1029	729	3
1871+09		RIGHT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			20	20		1
1873+59		RIGHT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			20	20		1
1876+09		RIGHT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			10	10		1
1927+73		RIGHT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			10	10		1
1930+23		RIGHT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			15	15		1
1868+59	1883+42	LEFT	C.L. I-40 - PROPOSED NEW UNDERDRAINS	1483	14	700	2183	2183	7
1912+21	1930+23	LEFT	C.L. I-40 - PROPOSED NEW UNDERDRAINS	1802	14	700	2502	1802	7
1871+09		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			20	20		1
1873+59		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			30	30		1
1876+09		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			40	40		1
1878+59		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			80	80		1
1881+09		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			110	110		1
1915+22		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			170	170		1
1917+69		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			150	150		1
1919+89		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			95	95		1
1922+08		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			70	70		1
1924+54		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			50	50		1
1927+02		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			30	30		1
1929+50		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			20	20		1
1932+00		LEFT	EXISTING C.L. I-40 - EXTEND EXISTING UNDERDRAINS			15	15		1
* ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.				1130		465	1595		10
TOTALS:				5636		3320	8956	5206	47

* NOTE: QUANTITIES ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

REMOVAL OF EXISTING OUTLET PROTECTORS FOR THE PURPOSE OF EXTENDING 4" PIPE UNDERDRAINS SHALL NOT BE PAID FOR DIRECTLY BUT WILL BE INCLUDED IN THE VARIOUS BID ITEMS.

GUARDRAIL

STATION	STATION	SIDE	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
				LIN.FT.	EACH	
1868+38.03	1871+06.78	LEFT	PROPOSED C.L. I-40	200	1	1
1880+51.84	1883+20.59	RIGHT	PROPOSED C.L. I-40	200	1	1
1912+05.41	1914+74.16	LEFT	PROPOSED C.L. I-40	200	1	1
TOTALS:				600	3	3

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16

FLOWABLE SELECT MATERIAL

STATION	LOCATION/DESCRIPTION	LENGTH	PIPE DIAMETER	CU. YD.
		LIN. FT.	FEET	
1877+00	LT. OF C.L. I-40 / FILLING OF TEMP. PIPE CULVERT	60	2	7
1920+00	LT. OF C.L. I-40 / FILLING OF TEMP. PIPE CULVERT	115	2	13
TOTAL:				20

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	LENGTH	AVG. WIDTH	SQ. YD.
			LIN. FT.	FEET	
1932+20.74	1934+20.74	RIGHT MAIN LANES	200	36	800.00
1932+20.74	1934+20.74	LEFT MAIN LANES	200	36	800.00
TOTAL:					1600.00

NOTE: AVERAGE MILLING DEPTH 1".

STRUCTURES

STATION / LOG MILE	SIDE	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)	REINFORCED CONCRETE PIPE CULVERT (CLASS V)	FLARED END SECTIONS FOR R.C. PIPE CULVERTS	TEMPORARY CULVERT	SOLID SODDING	WATER	STANDARD DRAWING NUMBERS	SLIP LINE PIPE ALT. NO. 1				CEMENTITIOUS PIPE LINER ALT. NO. 2			
			36"	36"	36"	24"				24"	30"	36"	42"	24"	30"	36"	42"
			LIN. FT.		EACH	LIN. FT.	SQ.YD.	M.GAL		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
1874+28	LEFT	EXTEND EXISTING PIPE CULVERT	44		1		17	0.2	FES-1, FES-2, PCC-1								
1874+28	RIGHT	EXTEND EXISTING PIPE CULVERT	16		1		17	0.2	FES-1, FES-2, PCC-1			194				194	
1877+00	LEFT	INSTALL TEMPORARY PIPE				60			PCC-1, PCM-1								
1915+24	LEFT	EXTEND EXISTING PIPE CULVERT		184	1		17	0.2	FES-1, FES-2, PCC-1			163				163	
1920+00	LEFT	INSTALL TEMPORARY PIPE				115			PCC-1, PCM-1								
1922+19	LEFT	EXTEND EXISTING PIPE CULVERT	76		1		17	0.2	FES-1, FES-2, PCC-1			117				117	
1931+20	LEFT	EXTEND EXISTING PIPE CULVERT	12		1		17	0.2	FES-1, FES-2, PCC-1								
1931+20	RIGHT	EXTEND EXISTING PIPE CULVERT	16		1		17	0.2	FES-1, FES-2, PCC-1			123				123	
194.00	RT. & LT.	EXISTING CM PIPE CULVERT									172				172		
194.00	LEFT	EXISTING CM PIPE CULVERT								86				86			
195.00	LEFT	EXISTING CM PIPE CULVERT								88				88			
195.00	LEFT	EXISTING CM PIPE CULVERT								92				92			
195.00	RT. & LT.	EXISTING CM PIPE CULVERT										184				184	
195.00	LEFT	EXISTING CM PIPE CULVERT								92				92			
195.00	LEFT	EXISTING CM PIPE CULVERT								100				100			
195.00	LEFT	EXISTING CM PIPE CULVERT								92				92			
196.00	LEFT	EXISTING CM PIPE CULVERT								92				92			
196.00	RT. & LT.	EXISTING CM PIPE CULVERT										184				184	
196.00	RIGHT	EXISTING CM PIPE CULVERT										84				84	
196.00	LEFT	EXISTING CM PIPE CULVERT										84				84	
196.00	LEFT	EXISTING CM PIPE CULVERT								96				96			
196.00	RIGHT	EXISTING CM PIPE CULVERT								72				72			
197.00	RIGHT	EXISTING CM PIPE CULVERT								64				64			
197.00	RIGHT	EXISTING CM PIPE CULVERT								68				68			
197.00	RIGHT	EXISTING CM PIPE CULVERT								68				68			
197.00	RIGHT	EXISTING CM PIPE CULVERT								102				102			
198.00	RIGHT	EXISTING CM PIPE CULVERT											124				124
198.00	LEFT	EXISTING CM PIPE CULVERT ON 30° SKEW											148				148
198.00	LEFT	EXISTING CM PIPE CULVERT ON 45° SKEW								124				124			
198.00	RIGHT	EXISTING CM PIPE CULVERT ON 45° SKEW								132				132			
198.00	LEFT	EXISTING CM PIPE CULVERT								92				92			
199.00	RIGHT	EXISTING CM PIPE CULVERT								108				108			
199.00	RIGHT	EXISTING CM PIPE CULVERT								80				80			
201.00	RIGHT	EXISTING CM PIPE CULVERT								80				80			
202.00	RIGHT	EXISTING CM PIPE CULVERT											88				88
202.00	LEFT	EXISTING CM PIPE CULVERT											90				90
202.00	LEFT	EXISTING CM PIPE CULVERT								78				78			
202.00	LEFT	EXISTING DBL CM PIPE CULVERT								88				88			
202.00	RIGHT	EXISTING CM PIPE SIPHON								312				312			
202.00	RT. & LT.	EXISTING DBL CM PIPE CULVERT										396				396	
202.00	RIGHT	EXISTING CM PIPE CULVERT								96				96			
202.00	RIGHT	EXISTING CM PIPE CULVERT								96				96			
202.00	RIGHT	EXISTING CM PIPE CULVERT								30				30			
202.00	LEFT	EXISTING CM PIPE CULVERT								30				30			
202.00	LEFT	EXISTING CM PIPE CULVERT								90				90			
TOTALS:			164	184	6	175	102	1.2		2548	172	1529	450	2548	172	1529	450

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

HORIZONTAL DIRECTIONAL DRILLING

STATION	STATION	LOCATION	LIN. FT.
1866+22.10	1885+30.55	RT. OF C.L. I-40	352
TOTAL:			352

NOTE: REFER TO "HORIZONTAL DIRECTIONAL DRILLING" SP FOR ADDITIONAL INFORMATION.

4" PVC POTABLE WATER LINE

STATION	STATION	LOCATION	LIN. FT.
1866+22.10	1885+30.55	RT. OF C.L. I-40	1581
TOTAL:			1581

NOTE: REFER TO "POTABLE WATER DISTRIBUTION SYSTEM" SP FOR ADDITIONAL INFORMATION.

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	45	262

(2) QUANTITIES

RUMBLE STRIPS

STATION	STATION	SIDE	LOCATION	IN ASPHALT SHOULDER
				LIN. FT.
1868+59	1883+05	RIGHT	PROPOSED C.L. I-40	1446
1868+59	1883+05	LEFT	PROPOSED C.L. I-40	1446
1912+21	1938+21	RIGHT	PROPOSED C.L. I-40	2620
1912+21	1932+41	LEFT	PROPOSED C.L. I-40	2020
TOTAL:				7532

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER	APPROACH SLABS		EPOXY COATED REINFORCING STEEL (GR. 60)	REINFORCING STEEL - RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			* (TYPE C)	**(TYPE SPECIAL)	***(TYPE C2)			
			CU.YD.			POUND	POUND	TON
1883+04.51	1883+41.01	RT. OF RIGHT MAIN LANES	18.10				995	24.8
1883+04.51	1883+41.01	RIGHT MAIN LANES			73.75		8925	89.4
1883+04.51	1883+41.01	MEDIAN		51.40		1067	5362	54.6
1883+04.51	1883+41.01	LEFT MAIN LANES			73.75		8925	89.4
1883+04.51	1883+41.01	LT. OF LEFT MAIN LANES	18.10				995	24.8
1911+84.99	1912+21.49	RT. OF RIGHT MAIN LANES	18.10				995	24.8
1911+84.99	1912+21.49	RIGHT MAIN LANES			73.75		8925	89.4
1911+84.99	1912+21.49	MEDIAN		51.40		1067	5362	54.6
1911+84.99	1912+21.49	LEFT MAIN LANES			73.75		8925	89.4
1911+84.99	1912+21.49	LT. OF LEFT MAIN LANES	18.10				995	24.8
TOTALS:			72.40	102.80	295.00	2134	50404	566.0

* SHOULDER WIDTH = 10'
** SLAB WIDTH = 22'
** SLAB WIDTH = 36'

FENCING

STATION	STATION	SIDE	LOCATION	WIRE FENCE (TYPE A)	* 16'-0" GATES
				LIN. FT.	EACH
1878+80	1883+42	LEFT	PROPOSED C.L. I-40	494	1
1883+11	1883+42	RIGHT	PROPOSED C.L. I-40	190	
1911+84	1918+20	LEFT	PROPOSED C.L. I-40	842	
1911+04	1911+84	RIGHT	PROPOSED C.L. I-40	304	1
TOTALS:				1830	2

* DENOTES ALTERNATE BID ITEM.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
8/25/16

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	(MEDIAN TYPE A)
			LIN. FT.
1868+59	1883+05	PROPOSED C.L. I-40	1446
1912+21	1932+41	PROPOSED C.L. I-40	2020
TOTAL:			3466

BASE AND SURFACING

STATION	STATION	LOCATION/DESCRIPTION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																					
1868+58.96	1875+00.00	LT. MAIN LANES - NOTCH & WIDENING	641.04	VAR.	980.74	VAR.	2518.58	0.03	75.56	12.00	854.72	1100	470.10	11.73	835.49	330	137.86	11.63	828.37	220	91.12
1872+00.00	1875+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - FIRST LAYER OF SURFACE COURSE	300.00			57.00	1900.00	0.10	190.00									57.00	1900.00	330	313.50
1873+25.00	1875+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - BINDER COURSE	175.00			52.00	1011.11	0.03	30.33					52.00	1011.11	495	250.25				
1874+00.00	1875+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - BASE COURSE	100.00			53.50	594.44	0.03	17.83	53.50	594.44	770	228.86								
1875+00.00	1878+00.00	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION - VARIABLE WIDTH	300.00			294.86	9828.67	0.03	294.86	98.50	3283.33	1100	1805.83	98.23	3274.33	330	540.26	98.13	3271.00	220	359.81
1878+00.00	1882+99.80	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION - VARIABLE WIDTH	499.80	VAR.	2609.19	302.36	16791.06	0.03	503.73	101.00	5608.87	1100	3084.88	100.73	5593.87	330	922.99	100.63	5588.32	220	614.72
1882+99.80	1883+04.51	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION	4.71	497.75	23.44	307.71	161.03	0.03	4.83	103.00	53.90	1100	29.65	102.46	53.62	330	8.85	102.25	53.51	220	5.89
1912+21.49	1915+52.46	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION	330.97	497.75	1647.40	307.71	11315.86	0.03	339.48	103.00	3787.77	1100	2083.27	102.46	3767.91	330	621.71	102.25	3760.19	220	413.62
1915+52.46	1920+00.00	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION - VARIABLE WIDTH	447.54	VAR.	2313.15	299.36	14886.17	0.03	446.59	100.00	4972.67	1100	2734.97	99.73	4959.24	330	818.27	99.63	4954.27	220	544.97
1920+00.00	1924+00.00	LT. & RT. MAIN LANES - FULL DEPTH CONSTRUCTION - VARIABLE WIDTH	400.00			282.86	12571.56	0.03	377.15	94.50	4200.00	1100	2310.00	94.23	4188.00	330	691.02	94.13	4183.56	220	460.19
1924+00.00	1929+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - BASE COURSE	500.00			66.50	3694.44	0.03	110.83	66.50	3694.44	770	1422.36								
1924+00.00	1930+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - BINDER COURSE	600.00			67.00	4466.67	0.03	134.00					67.00	4466.67	495	1105.50				
1924+00.00	1932+00.00	LT. & RT. MAIN LANES PARTIAL OVERLAY - FIRST LAYER OF SURFACE COURSE	800.00			67.00	5955.56	0.10	595.56									67.00	5955.56	330	982.67
1924+00.00	1932+40.53	LT. MAIN LANES - NOTCH & WIDENING	840.53	VAR.	1285.95	VAR.	5123.50	0.03	153.71	18.50	1727.76	1100	950.27	18.23	1702.54	330	280.92	18.13	1693.20	220	186.25
1875+00.00	1878+00.00	LT. & RT. MAIN LANES - METHOD OF RAISING GRADE	300.00			295.50	9850.00	0.03	295.50	98.50	3283.33	990	1625.25								
1920+00.00	1924+00.00	LT. & RT. MAIN LANES - METHOD OF RAISING GRADE	400.00			283.50	12600.00	0.03	378.00	94.50	4200.00	990	2079.00								
1868+58.96	1883+05.42	LT. & RT. MAIN LANES AND SHOULDERS FINAL SURFACE COURSE	1446.46			VAR.	15899.00	0.03	476.97									VAR.	15899.00	220	1748.89
1912+20.58	1932+40.53	LT. & RT. MAIN LANES AND SHOULDERS FINAL SURFACE COURSE	2019.95			VAR.	22088.44	0.03	662.65									VAR.	22088.44	220	2429.73
1932+20.74	1934+20.74	LT. & RT. MAIN LANES PAVING TRANSITION	200.00			72.00	1600.00	0.10	160.00									72.00	1600.00	220	176.00
LEFT & RIGHT MAIN LANE SHOULDERS																					
1869+00.00	1876+00.00	RIGHT MAIN LANE - RT. SHOULDER	700.00	115.50	808.50																
1876+00.00	1883+04.51	RIGHT MAIN LANE - RT. SHOULDER	704.51	211.50	1490.04																
1912+21.49	1921+00.00	RIGHT MAIN LANE - RT. SHOULDER	878.51	211.50	1858.05																
1921+00.00	1932+40.53	RIGHT MAIN LANE - RT. SHOULDER	1140.53	115.50	1317.31																
1869+00.00	1873+00.00	LEFT MAIN LANE - LT. SHOULDER	400.00	VAR.	461.50																
1873+00.00	1883+05.01	LEFT MAIN LANE - LT. SHOULDER	1005.01	137.50	1381.89																
1912+20.99	1928+00.00	LEFT MAIN LANE - LT. SHOULDER	1579.01	137.50	2171.14																
1928+00.00	1932+40.53	LEFT MAIN LANE - LT. SHOULDER	440.53	VAR.	508.26																
ENTIRE PROJECT		ADDITIONAL WIDENING FOR GUARDRAIL INSTALLATION		VAR.	537.60																
REMOVAL OF CONCRETE BARRIER WALL FOR M.O.T.																					
1868+58.96	1879+93.96	C.L. EXISTING I-40	1135.00			12.00	1513.33	0.03	45.40	4.00	504.44	1210	305.19	4.00	504.44	330	83.23	4.00	504.44	440	110.98
1917+98.53	1932+40.53	C.L. EXISTING I-40	1442.00			12.00	1922.67	0.03	57.68	4.00	640.89	1210	387.74	4.00	640.89	330	105.75	4.00	640.89	440	141.00
TOTALS:					19394.16		156292.09		5350.66		37406.56		19517.37		30998.11		5566.61		72920.75		8579.34

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.4% MIN. AGGR.....5.6% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....95.5% MIN. AGGR.....4.5% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	46	262
				(1) 07343	-	QUANTITIES -		56731

ALTERNATE NO. 1
SCHEDULE OF BRIDGE QUANTITIES - JOB NO. BB0610

BRIDGE NO. / CODE NO. / BRIDGE NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP & 205	801	802	802	802	SP & 802	803	SP & 804	804	805	SP & 807	812	816	816	SP BB0610	SP BB0610	SP BB0610	SP BB0610
		ITEM / UNIT	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	UNCLASSIFIED EXCAVATION FOR STRUCTURES -BRIDGE	CLASS S CONCRETE -BRIDGE	CLASS S(AE) CONCRETE -BRIDGE	CLASS B CONCRETE -BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL -BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL [A] SHELL PILING (18" DIA.)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W) [B]	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP	CLEARANCE GAUGES	NAVIGATION LIGHTING SYSTEM	SEISMIC ISOLATION BEARINGS	SHORING
			LUMP SUM	CU. YD.	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LB.	EACH	SQ. YD.	CU. YD.	LUMP SUM	LUMP SUM	EACH	LUMP SUM
07343 X071 WHITE RIVER	Bent No. 1			167.16				0.7	14,356	1,269	1,863	2,067		1,842	887			12	1
	Bent No. 2			1,256	683.44				93,945		4,200							12	
	Bent No. 3			881	699.80				97,234		4,200							12	
	Bent No. 4			920	708.59				99,105		4,700							12	
	Bent No. 5			997	729.42				99,977		5,100							24	
	Bent No. 6			902	723.43				105,990		4,600							12	
	Bent No. 7			1,021	736.16				108,451		4,600							12	
	Bent No. 8			972	278.84		1,019.34		248,781		4,180							12	
	Bent No. 9				365.97		963.80		181,049									22	
	Bent No. 10			461	365.97		963.80		181,049									22	
	Bent No. 11			802	280.41		827.86		191,007		4,636							12	
	Bent No. 12			993	739.49				104,091		4,900							12	
	Bent No. 13			900	723.10				100,845		4,900							12	
	Bent No. 14			985	718.98				96,045		3,400							24	
	Bent No. 15			918	668.89				122,740		4,500							12	
	Bent No. 16			1,360	652.23				119,565		4,200							12	
	Bent No. 17				167.16			0.7	14,356	1,269	1,485	2,067		2,415	1,169			12	
	Pier No. 1				579.48		1,311.30		213,689									10	
	Pier No. 2			571	579.48		1,311.30		234,705									10	
	536'-0" Cont. Comp. Plate Girder Unit 1					2,084.93		152.2		695,841		2,176,660	1						
	536'-0" Cont. Comp. Plate Girder Unit 2					2,073.71		152.2		694,436		2,165,034							
	860'-0" Cont. Comp. Plate Girder Unit 3					3,455.14		244.2		1,140,877		6,843,348							
	536'-0" Cont. Comp. Plate Girder Unit 4					2,073.71		152.2		694,436		2,165,034							
	372'-0" Cont. Comp. Plate Girder Unit 5					1,466.71		105.6		479,792		1,467,840							
	Existing Bridge No. 03713 (Site No. 1)		1																
	TOTALS FOR JOB NO. BB0610		1	13,939	10,568.00	11,154.20	6,397.4	807.8	2,426,980	3,707,920	61,464	14,822,050	1	4,257	2,056	1	1	268	1

[A] Wall thickness for 18" Dia. Steel Shell Piling = ½".

[B] Quantities For Inspection Walkway: Included in "Structural Steel In Plate Girder Spans (M270, GR. 50W)" quantities.

[C] Permanent Steel Casing shall have a minimum thickness of 1". If the Contractor requires a greater wall thickness to withstand handling and/or driving stresses, the Contractor shall submit the required thickness to the Engineer for review.

STRUCTURAL STEEL	432,505	LBS.
LENGTH OF RAILING	5,156	LIN. FT.
GRATING AREA	11,646	SQ. FT.

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. BB0610

BRIDGE NO. / CODE NO. / BRIDGE NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610
		ITEM / UNIT	DRILLED SHAFT (120" DIA.)	PERMANENT STEEL CASING (120" DIA.) [C]	CROSSHOLE SONIC LOGGING (120" DIA.)	DRILLED SHAFT (144" DIA.)	PERMANENT STEEL CASING (144" DIA.) [C]	CROSSHOLE SONIC LOGGING (144" DIA.)	CORING DRILLED SHAFT	POST GROUTING OF DRILLED SHAFT (144" DIA.)
			LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	LIN. FT.	EACH
07343 X071 WHITE RIVER	Bent No. 1									
	Bent No. 2									
	Bent No. 3									
	Bent No. 4									
	Bent No. 5									
	Bent No. 6									
	Bent No. 7									
	Bent No. 8									
	Bent No. 9		384	384	6				64	
	Bent No. 10		324	324	6				54	
	Bent No. 11									
	Bent No. 12									
	Bent No. 13									
	Bent No. 14									
	Bent No. 15									
	Bent No. 16									
	Bent No. 17									
	Pier No. 1					984	984	6	164	6
	Pier No. 2					984	984	6	164	6
	TOTALS FOR JOB NO. BB0610		708	708	12	1968	1968	12	446	12

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SCHEDULE OF BRIDGE QUANTITIES
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014
CHECKED BY: MJM DATE: 6/30/2016
DESIGNED BY: MJM DATE: 6/30/2016
FILENAME: bbb0610_qll.dgn
SCALE: No Scale
BRIDGE NO. 07343
DRAWING NO. 56731

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	47	262
				(1) 07343	-	QUANTITIES	-	5673IA

ALTERNATE NO. 2
SCHEDULE OF BRIDGE QUANTITIES - JOB NO. BB0610

BRIDGE NO. / CODE NO. / BRIDGE NAME PLATE TITLE	ITEM NO.	SP & 205	801	802	802	SP & 802	803	SP & 804	804	805	SP & 807	812	816	816	SP BB0610	SP BB0610	SP BB0610	SP BB0610
UNIT OF STRUCTURE	ITEM / UNIT	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	UNCLASSIFIED EXCAVATION FOR STRUCTURES -BRIDGE	CLASS S CONCRETE -BRIDGE	CLASS S(AE) CONCRETE -BRIDGE	CLASS B CONCRETE -BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL -BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL [A] SHELL PILING (18" DIA.)	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270, GR. 50W) [B]	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP	CLEARANCE GAUGES	NAVIGATION LIGHTING SYSTEM	SEISMIC ISOLATION BEARINGS	SHORING
	UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	CU. YD.	GAL.	LB.	LB.	LIN. FT.	LB.	EACH	SQ. YD.	CU. YD.	LUMP SUM	LUMP SUM	EACH	LUMP SUM
07343 / X071 / WHITE RIVER																		
Bent No. 1				167.16			0.7	14,356	1,269	1,863	2,067		1,842	887			12	1
Bent No. 2				274.08				51,134									12	
Bent No. 3				290.75				54,437									12	
Bent No. 4				299.53				59,971									12	
Bent No. 5				320.39				55,233									24	
Bent No. 6				314.40				82,785									12	
Bent No. 7				327.13				85,661									12	
Bent No. 8				280.06		722.60		133,405									12	
Bent No. 9				365.97		963.80		181,049									22	
Bent No. 10			461	365.97		963.80		181,049									22	
Bent No. 11			373	280.41		722.60		133,334									12	
Bent No. 12				330.44				72,122									12	
Bent No. 13				314.08				68,271									12	
Bent No. 14				309.92				52,965									24	
Bent No. 15				259.54				50,186									12	
Bent No. 16				243.15				46,998									12	
Bent No. 17				167.16			0.7	14,356	1,269	1,485	2,067		2,415	1,169			12	
Pier No. 1				579.48		1,311.30		221,262									10	
Pier No. 2			571	579.48		1,311.30		224,476									10	
536'-0" Cont. Comp. Plate Girder Unit 1					2,084.93		152.2		695,841		2,176,660	1						
536'-0" Cont. Comp. Plate Girder Unit 2					2,073.71		152.2		694,436		2,165,034							
860'-0" Cont. Comp. Plate Girder Unit 3					3,455.14		244.2		1,140,877		6,843,348							
536'-0" Cont. Comp. Plate Girder Unit 4					2,073.71		152.2		694,436		2,165,034							
372'-0" Cont. Comp. Plate Girder Unit 5					1,466.71		105.6		479,792		1,467,840							
Existing Bridge No. 03713 (Site No. 1)		1																
TOTALS FOR JOB NO. BB0610		1	1,405	6,069.1	11,154.20	5,995.4	807.8	1,783,050	3,707,920	3,348	14,822,050	1	4,257	2,056	1	1	268	1

[A] Wall thickness for 18" Dia. Steel Shell Piling = ½".

[B] Quantities For Inspection Walkway: Included in "Structural Steel In Plate Girder Spans (M270, GR. 50W)" quantities.

[C] Permanent Steel Casing shall have a minimum thickness of 1". If the Contractor requires a greater wall thickness to withstand handling and/or driving stresses, the Contractor shall submit the required thickness to the Engineer for review.

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. BB0610

BRIDGE NO. / CODE NO. / BRIDGE NAME PLATE TITLE	ITEM NO.	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610	SP BB0610
UNIT OF STRUCTURE	ITEM / UNIT	DRILLED SHAFT (96" DIA.)	PERMANENT STEEL CASING (96" DIA.) [C]	CROSSHOLE SONIC LOGGING (96" DIA.)	DRILLED SHAFT (120" DIA.)	PERMANENT STEEL CASING (120" DIA.) [C]	CROSSHOLE SONIC LOGGING (120" DIA.)	DRILLED SHAFT (144" DIA.)	PERMANENT STEEL CASING (144" DIA.) [C]	CROSSHOLE SONIC LOGGING (144" DIA.)	CORING DRILLED SHAFT	POST GROUTING OF DRILLED SHAFT (144" DIA.)
	UNIT	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH	LIN. FT.	EACH
07343 / X071 / WHITE RIVER												
Bent No. 1												
Bent No. 2		230	230	1							46	
Bent No. 3		230	230	1							46	
Bent No. 4		240	240	1							48	
Bent No. 5		250	250	1							50	
Bent No. 6		255	255	1							51	
Bent No. 7		260	260	1							52	
Bent No. 8					310	310	1				62	
Bent No. 9					384	384	6				64	
Bent No. 10					324	324	6				54	
Bent No. 11					255	255	1				51	
Bent No. 12		365	365	1							73	
Bent No. 13		365	365	1							73	
Bent No. 14		285	285	1							57	
Bent No. 15		315	315	1							63	
Bent No. 16		315	315	1							63	
Bent No. 17												
Pier No. 1								984	984	6	164	6
Pier No. 2								984	984	6	164	6
TOTALS FOR JOB NO. BB0610		3,110	3,110	11	1,273	1,273	14	1,968	1,968	12	1,811	12

STRUCTURAL STEEL	432,505 LBS.
LENGTH OF RAILING	5,156 LIN. FT.
GRATING AREA	11,646 SQ. FT.

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SCHEDULE OF BRIDGE QUANTITIES
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014 FILENAME: bbb0610s_qll.dgn
CHECKED BY: MJM DATE: 06/26/2016
DESIGNED BY: MJM DATE: 06/30/2016 SCALE: No Scale
BRIDGE NO. 07343 DRAWING NO. 5673IA

JACOBS

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8/29/2016

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY ALTERNATE 1	QUANTITY ALTERNATE 2	UNIT
201	CLEARING	49	49	STATION
201	GRUBBING	49	49	STATION
202	REMOVAL AND DISPOSAL OF FENCE	2209	2209	LIN. FT.
202	REMOVAL AND DISPOSAL OF GATES	1	1	EACH
202	REMOVAL AND DISPOSAL OF POSTS	1	1	EACH
202	REMOVAL AND DISPOSAL OF BARRIER WALL	3602	3602	LIN. FT.
202	REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS	4	4	EACH
SP	REMOVAL OF RUMBLE STRIP	7764	7764	LIN. FT.
SP & 202	REMOVAL AND DISPOSAL OF GUARDRAIL	4662	4662	LIN. FT.
206	FLOWABLE SELECT MATERIAL	20	20	CU. YD.
210	UNCLASSIFIED EXCAVATION	31530	31530	CU. YD.
210	COMPACTED EMBANKMENT	83172	83172	CU. YD.
SP & 210	COMPACTED EMBANKMENT (SPECIAL)	135613	135613	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	19960	19960	TON
SS & 401	TACK COAT	5411	5411	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	18639	18639	TON
SP & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")	878	878	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	5316	5316	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")	251	251	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	8099	8099	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	480	480	TON
412	COLD MILLING ASPHALT PAVEMENT	1600	1600	SQ. YD.
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	30	30	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	15	15	TON
504	APPROACH SLABS	397.80	397.80	CU. YD.
504	APPROACH GUTTERS	72.40	72.40	CU. YD.
601	MOBILIZATION	1.00	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	1	EACH
603	TRAFFIC CONTROL SUPERVISOR	1.00	1.00	LUMP SUM
SP & 603	MAINTENANCE OF TRAFFIC	1.00	1.00	LUMP SUM
603	24" TEMPORARY CULVERT	175	175	LIN. FT.
SS & 604	SIGNS	918	918	SQ. FT.
SS & 604	TRAFFIC DRUMS	63	63	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	7353	7353	LIN. FT.
SP	MOBILE SPEED NOTIFICATION SYSTEM	2	2	EACH
604	RELOCATING PRECAST CONCRETE BARRIER	7452	7452	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	36317	36317	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3520	3520	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	6402	6402	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	6931	6931	LIN. FT.
604	ADVANCE WARNING ARROW PANEL	350	350	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN	424	424	WEEK
SS & 604	VERTICAL PANELS	9	9	EACH
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	164	164	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	184	184	LIN. FT.
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	6	6	EACH
606	SELECTED PIPE BEDDING	40	40	CU. YD.
611	UNDERDRAIN OUTLET PROTECTORS	47	47	EACH
611	4" PIPE UNDERDRAINS	8956	8956	LIN. FT.
611	UNDERDRAIN VIDEO INSPECTION	5206	5206	LIN. FT.
617	GUARDRAIL (TYPE A)	600	600	LIN. FT.
617	GUARDRAIL TERMINAL (TYPE 2)	3	3	EACH
617	THRIE BEAM GUARDRAIL TERMINAL	3	3	EACH
619	WIRE FENCE (TYPE A)	1830	1830	LIN. FT.
* 619	16' STEEL GATES (ALTERNATE NO. 1)	2	2	EACH
* 619	16' ALUMINUM GATES (ALTERNATE NO. 2)	2	2	EACH
620	LIME	29	29	TON
620	SEEDING	14.34	14.34	ACRE
SS & 620	MULCH COVER	28.68	28.68	ACRE
620	WATER	1756.5	1756.5	M.GAL.
621	TEMPORARY SEEDING	14.34	14.34	ACRE
621	SILT FENCE	11520	11520	LIN. FT.
621	SAND BAG DITCH CHECKS	110	110	BAG
621	DIVERSION DITCH	1445	1445	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL	445	445	CU. YD.
621	PIPE FOR SLOPE DRAINS	368	368	LIN. FT.
621	ROCK DITCH CHECKS	72	72	CU. YD.
621	TRIANGULAR SILT DIKE	200	200	LIN. FT.
623	SECOND SEEDING APPLICATION	14.34	14.34	ACRE
624	SOLID SODDING	102	102	SQ. YD.
631	CONCRETE BARRIER WALL (MEDIAN TYPE A)	3466	3466	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	1.00	LUMP SUM
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	7532	7532	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	14360	14360	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	14360	14360	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING (SKIP LINE) WHITE (4") (ALTERNATE NO. 1)	2060	2060	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE (SKIP LINE) WHITE (4") (ALTERNATE NO. 2)	2060	2060	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	14580	14580	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	14580	14580	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	1460	1460	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	1460	1460	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	184	184	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	1	1	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	2	2	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	3	3	EACH
804	REINFORCING STEEL-ROADWAY (GRADE 60)	50404	50404	POUND
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	2134	2134	POUND
816	DUMPED RIPRAP	100	100	CU. YD.
SP	AWS MOBILIZATION	1.00	1.00	LUMP SUM
SP	AWS OPERATION	49	49	MONTH
SP	DEVICE RELOCATION	10	10	EACH
* SP	SLIP LINE PIPE (24") (ALTERNATE NO. 1)	2548	2548	LIN. FT.
* SP	CEMENTITIOUS PIPE LINER (24") (ALTERNATE NO. 2)	2548	2548	LIN. FT.
* SP	SLIP LINE PIPE (30") (ALTERNATE NO. 1)	172	172	LIN. FT.
* SP	CEMENTITIOUS PIPE LINER (30") (ALTERNATE NO. 2)	172	172	LIN. FT.
* SP	SLIP LINE PIPE (36") (ALTERNATE NO. 1)	1529	1529	LIN. FT.
* SP	CEMENTITIOUS PIPE LINER (36") (ALTERNATE NO. 2)	1529	1529	LIN. FT.
* SP	SLIP LINE PIPE (42") (ALTERNATE NO. 1)	450	450	LIN. FT.
* SP	CEMENTITIOUS PIPE LINER (42") (ALTERNATE NO. 2)	450	450	LIN. FT.
SP	FURNISH AND INSTALL CLOSED CIRCUIT TELEVISION SYSTEM	2	2	EACH
SP	FURNISH AND INSTALL PUBLIC NOTIFICATION SYSTEM	2	2	EACH
SP	FURNISH AND INSTALL VARIABLE MESSAGE SIGN	4	4	EACH
SP	FURNISH AND INSTALL VEHICLE DETECTION SYSTEM	26	26	EACH
SP	RIVER TRAFFIC SAFETY	1.00	1.00	LUMP SUM
SP	HORIZONTAL DIRECTIONAL DRILLING	352	352	LIN. FT.
SP	4" PVC POTABLE WATER LINE	1581	1581	LIN. FT.
	STRUCTURES OVER 20' SPAN			
SP & 205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	13939	1405	CU. YD.
SP & 802	CLASS B CONCRETE-BRIDGE	6397.40	5995.40	CU. YD.
802	CLASS S CONCRETE-BRIDGE	10568.00	8069.10	CU. YD.
802	CLASS S(AE) CONCRETE - BRIDGE	11154.20	11154.20	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	807.8	807.8	GAL.
SP & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	2426980	1783050	POUND
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	3707920	3707920	POUND
SP	CORING DRILLED SHAFT	446	1811	LIN. FT.
SP	DRILLED SHAFT (96" DIAMETER)		3110	LIN. FT.
SP	DRILLED SHAFT (120" DIAMETER)	708	1273	LIN. FT.
SP	DRILLED SHAFT (144" DIAMETER)	1968	1968	LIN. FT.
SP	PERMANENT STEEL CASING (96" DIAMETER)		3110	LIN. FT.
SP	PERMANENT STEEL CASING (120" DIAMETER)	708	1273	LIN. FT.
SP	PERMANENT STEEL CASING (144" DIAMETER)	1968	1968	LIN. FT.
805	STEEL SHELL PILING (18" DIAMETER)	61464	3348	LIN. FT.
SP	CROSSHOLE SONIC LOGGING (96" DIAMETER)		11	EACH
SP	CROSSHOLE SONIC LOGGING (120" DIAMETER)	12	14	EACH
SP	CROSSHOLE SONIC LOGGING (144" DIAMETER)	12	12	EACH
SP & 807	STRUCTURAL STEEL IN PLATE GIRDER SPANS (M270-GR50W)	14822050	14822050	POUND
812	BRIDGE NAME PLATE (TYPE D)	1	1	EACH
816	FILTER BLANKET	4257	4257	SQ. YD.
816	DUMPED RIPRAP	2056	2056	CU. YD.
SP	SHORING	1.00	1.00	LUMP SUM
SP	SEISMIC ISOLATION BEARINGS	268	268	EACH
SP	NAVIGATION LIGHTING SYSTEM	1.00	1.00	LUMP SUM
SP	CLEARANCE GAUGES	1.00	1.00	LUMP SUM
SP	POST GROUTING OF DRILLED SHAFT (144" DIAMETER)	12	12	EACH

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
11/9/2015	ADDED SS 100-3 TO GOVERNING SPECIFICATIONS LIST.	3 & 46
11/12/2015	REVISED FEDERAL AID PROJECT NUMBER	1 & 46
12/15/2015	ADDED SP "ELECTROSLAG WELDING"	3 & 46
12/17/2015	REVISED SHELL THICKNESS - NO LONGER APPLY	46, 88 & 97
12/21/2015	REVISED "HIGH PERFORMANCE PAVEMENT MARKING" SPECIAL PROVISION	46
1/4/2016	ADDED "FLEXIBLE BEGINNING OF WORK" SPECIAL PROVISION	3 & 46
7/29/2016	REVISED ALL SHEET NUMBERS	1-262
7/29/2016	ADDED SP'S "CARGO PREFERENCE ACT REQUIREMENTS", "CLASS B CONCRETE FOR STRUCTURES", "MANDATORY ELECTRONIC DOCUMENT SUBMITTAL", "NONDESTRUCTIVE TESTING OF DRILLED SHAFTS", "DRILLED SHAFT FOUNDATIONS", "POST GROUTING OF DRILLED SHAFT FOUNDATIONS", REVISED SP'S "SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT", "PROSECUTION AND PROGRESS - CALENDAR DAY CONTRACT WITH CPM", "CLASS B CONCRETE - BRIDGE"	4, 48
7/29/2016	REVISED AND ADDED SHEETS TO REFLECT THE ADDITION OF ALTERNATE SUBSTRUCTURE	2, 3, 46-48, 58-220
7/29/2016	REVISED END BENT JOINT FROM STRIP SEAL TO FINGER JOINT	1-4, 7, 39, 40, 42, 44-48, 52, 53, 58, 62, 67, 71-73, 75, 112, 117, 120, 123, 127, 129, 130, 153, 155, 157, 160-164
7/29/2016	MODIFICATION OF CLEARANCE GAUGE	185
7/29/2016	CHANGED FOUNDATION TYPE ON B60' UNIT	46, 60, 61, 63, 64, 68-70, 88-100
7/29/2016	ADDED NATURAL BUFFER BOUNDARY TO TEMPORARY EROSION CONTROL SHEETS	16-21, 48
8/31/2016	REVISED SP'S "FLEXIBLE BEGINNING OF WORK" & "POST GROUTING OF DRILLED SHAFT FOUNDATIONS"	48
9/12/2016	ADDED SS 102-2 "ISSUANCE OF PROPOSALS", REVISED SP "BIDDING REQUIREMENTS AND CONDITIONS", REVISED NATURAL BUFFER BOUNDARY LOCATION ON TEMPORARY EROSION CONTROL SHEETS	4, 16-21, 48
9/21/2016	REVISED SP "ZEBRA MUSSEL CONTAINMENT"	48
10/17/2016	REPLACED "SITE USE (A+C METHOD)-CALENDAR DAY CONTRACT" SP WITH "SITE USE (A-C METHOD)" SP, REVISED "FLEXIBLE BEGINNING OF WORK" SP, REPLACED "PROSECUTION AND PROGRESS-CALENDAR DAY CONTRACT WITH CPM" SP WITH "PROSECUTION OF PROGRESS" SP.	4, 48
10/19/2016	ADDED SP "ASSESSMENT OF WORKING DAYS-MAINTENANCE OF TRAFFIC"	4, 48

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
KEVIN G. TOBLESKY
No. 11487

DATE REVISED	DATE FILMED
11-9-2015	
11-12-2015	
12-15-2015	
12-17-2015	
12-21-2015	
1-4-2016	
7-29-2016	
8-31-2016	
9-12-2016	
9-21-2016	
10-17-2016	
10-19-2016	

(2) SUMMARY OF QUANTITIES AND REVISIONS

FED.NO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	BB06(0)	48	262

JOB NO.

SUMMARY OF QUANTITIES AND REVISIONS

JACOBS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	49	262

(2) SURVEY CONTROL - STA. 1865+00 TO 1885+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

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SURVEY CONTROL COORDINATES

Project Name: s001726
Date: 9/22/2011
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

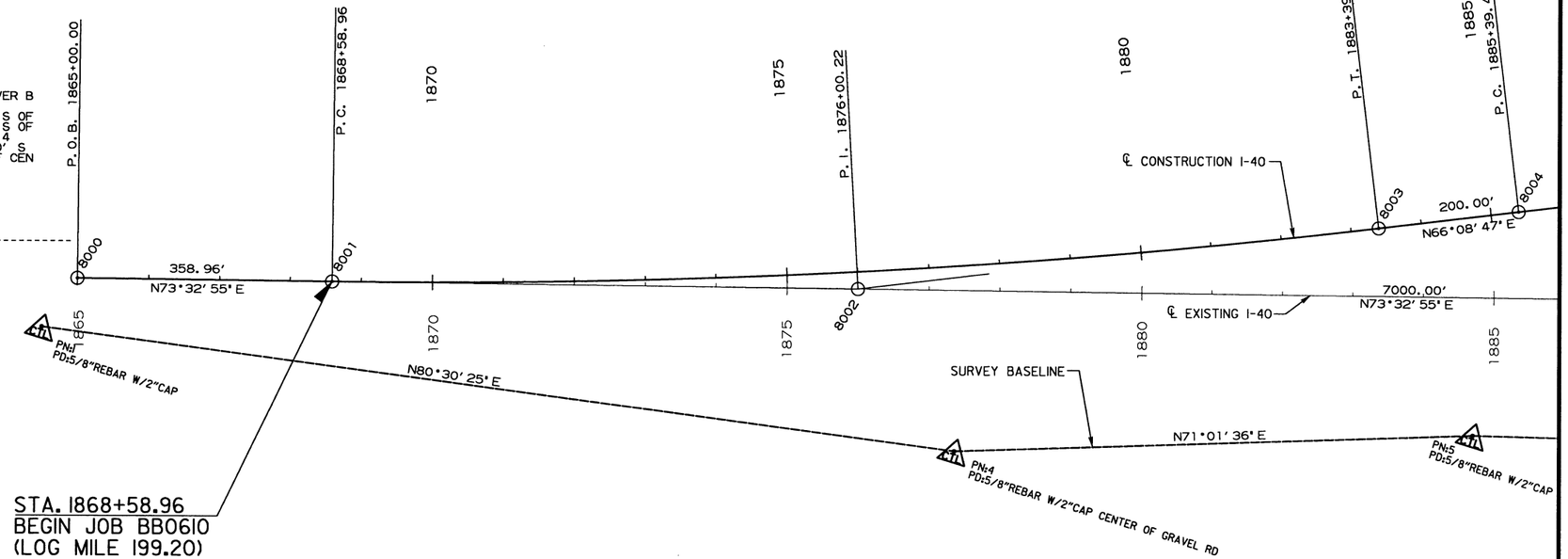
Point Name	Northing	Easting	Elev	Feature	Description
1	2102494.5860	1472128.5953	204.12	CTL	5/8" REBAR W/2" CAP
2	2101954.9076	1472074.1716	201.37	CTL	5/8" REBAR W/2" CAP
3	2102116.2847	1472675.6751	177.80	CTL	5/8" REBAR W/2" CAP
4	2102708.5244	1473407.9976	176.89	CTL	5/8" REBAR W/2" CAP CENTER OF GRAVEL RD
5	2102947.3944	1474102.7742	177.27	CTL	5/8" REBAR W/2" CAP
6	2103123.3841	1474731.3374	176.79	CTL	5/8" REBAR W/2" CAP
7	2103335.6554	1474990.9180	176.34	CTL	5/8" REBAR W/2" CAP
8	2102969.9446	1472117.3961	198.56	CTL	5/8" REBAR W/2" CAP
9	2102998.9968	1472546.5744	176.17	CTL	5/8" REBAR W/2" CAP IN WOODS N OF I-40
10	2103081.4469	1473005.5326	175.20	CTL	5/8" REBAR W/2" CAP IN WOODS N OF I-40
11	2103214.8121	1473467.3315	173.48	CTL	5/8" REBAR W/2" CAP IN WOODS N OF I-40
12	2103357.6058	1473903.5585	176.53	CTL	5/8" REBAR W/2" CAP IN WOODS N OF I-40
13	2103424.1158	1474299.6594	173.68	CTL	5/8" REBAR W/2" CAP
14	2103540.1040	1474632.8719	178.59	CTL	5/8" REBAR W/2" CAP
15	2103399.8471	1475613.2526	178.24	CTL	5/8" REBAR W/2" CAP
16	2103489.6265	1475949.6770	173.98	CTL	5/8" REBAR W/2" CAP
17	2103586.8667	1476223.2382	184.38	CTL	5/8" REBAR W/2" CAP 25' SE OF DOWN FE
18	2103632.8419	1476573.8168	183.26	CTL	5/8" REBAR W/2" CAP
19	2103708.7189	1477055.4555	182.93	CTL	5/8" REBAR W/2" CAP
20	2103949.2966	1477578.4637	183.28	CTL	5/8" REBAR W/2" CAP 1' N N EDGE GR RD
21	2104065.8118	1477991.8679	185.69	CTL	5/8" REBAR W/2" CAP
22	2104270.4312	1478685.4986	182.08	CTL	5/8" REBAR W/2" CAP
23	2104427.2326	1479241.7670	183.42	CTL	5/8" REBAR W/2" CAP 6' S S EDGE GR ROAD
27	2103840.4868	1475677.0561	176.24	CTL	5/8" REBAR W/2" CAP
28	2104019.0932	1476309.9029	183.95	CTL	5/8" REBAR W/2" CAP
29	2104264.9186	1476527.7420	183.70	CTL	5/8" REBAR W/2" CAP 25' N N EDGE BRUSH
30	2104269.0007	1476985.0770	176.64	CTL	5/8" REBAR W/2" CAP 55' N OF R/W FE
31	2104379.2732	1477234.6337	185.38	CTL	5/8" REBAR W/2" CAP 90' N OF R/W FE
32	2104573.5850	1477836.4177	185.41	CTL	5/8" REBAR W/2" CAP 115' N OF R/W FE
33	2104684.0212	1478250.2213	182.85	CTL	5/8" REBAR W/2" CAP 100' N OF R/W FE
34	2104839.9723	1478755.2969	184.19	CTL	5/8" REBAR W/2" CAP 110' N OF R/W FE
100	2101994.4584	1470426.4873	192.09	GPS	AHTD GPS 590013 RTK ELEV
101	2102852.1180	1471493.4509	201.85	GPS	AHTD GPS 590013A RTK ELEV
102	2106052.4138	1487948.6921	211.69	GPS	AHTD GPS 590014 RTK ELEV
500	2102664.1357	1472143.1655	204.06	TV	8 SPIKE
501	2102911.7801	1471972.7389	203.92	TV	8 SPIKE
502	2102769.8222	1472136.0276	204.15	TV	8 SPIKE
503	2102548.2344	1471627.8899	203.93	TV	8 SPIKE
504	2102280.2333	1472317.4050	204.19	TV	8 SPIKE
900	2102626.6058	1472477.9036	199.79	TBM	CH SQ S-E COR OF BR
901	2103057.8237	1473932.0266	204.34	TBM	CUT SQ SQ CUT S-W COR BR WHITE RIVER B
902	2103897.7820	1476500.2589	211.56	TBM	CUT SQ NE BR COR
903	2104132.4600	1477640.0170	185.56	TBM	CH SQ SQ CUT IN CENTER OF HW 21, S OF
904	2104381.4046	1478504.8409	182.91	TBM	CH SQ SQ CUT IN CENTER OF HW 28, S OF
905	2105010.6006	1480528.9547	195.02	TBM	CH SQ SQ CUT IN S-W COR BR BR 6714
906	2105752.5000	1483406.6689	199.39	TBM	CH SQ SQCUT IN HW S OF EP I-40 10' S
907	2105820.2102	1485214.8850	191.70	TBM	CH SQ SQ IN CENTER OF HW 12' N OF CEN
914	2096707.4438	1488485.9894	192.12	TBM	2" REBAR/CAP
915	2100142.9411	1488132.8215	183.16	TBM	2" REBAR/CAP
916	2103377.6844	1488030.9509	191.46	TBM	2" REBAR/CAP
990	2106184.8238	1442672.1853	213.68	BM	NGS BM S 113 78
991	2102038.9497	1442523.0574	220.23	BM	NGS BM S 109
992	2096212.5159	1490323.1498	188.21	BM	NGS BM D 31

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 1.000014448 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s061316gi.CTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED.
REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 590013 - 590013A 590014
CONVERGENCE ANGLE: 0-18-30 RIGHT AT LT: 34-50-27.2 LG: 091-26-57.3
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

C.L. CONSTRUCTION I-40
PI = 1876+00.22
Δ = 7°24'08" LT.
D = 0°30'00"
T = 741.26'
L = 1480.45'
PC = 1868+58.96
PT = 1883+39.41



C.L. CONSTRUCTION I-40

POINT NAME	DESCRIPTION	STATION	NORTHING	EASTING
8000	POB	1865+00.00	2102574.7157	1472156.3152
8001	PC	1868+58.96	2102676.3736	1472500.5818
8002	PI	1876+00.22	2102886.2971	1473211.4924
8003	PT	1883+39.41	2103186.0611	1473889.4329
8004	PC	1885+39.41	2103266.9410	1474072.3494
8005	PI	1900+28.15	2103868.9880	1475433.9275
8006	PT	1915+00.31	2104103.1361	1476904.1418
8007	PC	1917+00.32	2104134.5921	1477101.6540
8008	PI	1924+41.57	2104251.1763	1477833.6850
8009	PT	1931+80.77	2104461.0997	1478544.5953
8010	POE	1932+40.53	2104478.0237	1478601.9088

C.L. EXISTING I-40

POINT NAME	DESCRIPTION	STATION	NORTHING	EASTING
8000	POB	1865+00.00	2102574.7157	1472156.3152
8015	POE	1935+00.00	2104557.1118	1478869.7424

C.L. TRAIL

POINT NAME	DESCRIPTION	STATION	NORTHING	EASTING
8011	POB	9+48.73	2103963.3598	1476403.8672
8012	PC	10+93.76	2104084.6379	1476324.3395
8013	PI	11+45.40	2104127.8229	1476296.0210
8014	PT	11+89.75	2104176.6148	1476312.9393

N

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

0 100 200 300
GRAPHIC SCALE IN FEET

SURVEY CONTROL DETAILS

JACOBS

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7/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	50	262

(2) SURVEY CONTROL - STA. 1885+00 TO 1915+00

STATE OF ARKANSAS
KEVIN G. TOBLESKY
REGISTERED PROFESSIONAL ENGINEER
No. 11427

7-29-16

C.L. CONSTRUCTION I-40
PI = 1900+28.15
Δ = 14°48' 16" RT.
D = 0°30' 00"
T = 1488.74'
L = 2960.90'
PC = 1885+39.41
PT = 1915+00.31

C.L. TRAIL
PI = 11+45.40
Δ = 52°22' 42" RT.
R = 105.00'
T = 51.64
L = 95.99'
PC = 10+93.76
PT = 11+89.75

P.C. 1885+39.41
8004
200.00'
N66°08' 47" E
℄ CONSTRUCTION I-40
PI 1900+28.15
8005
N66°08' 47" E
N80°57' 03" E
PI 11+45.40
8013
N19°07' 25" E
8014
PT 11+89.75
℄ TRAIL
11
8012
PC 10+93.76
N33°15' 03" W
45°
10
P.O.B.
9+48.73
8011
8006
200.01'
N80°57' 03" E
℄ EXISTING I-40
7000.00'
N73°32' 55" E
PT 1915+00.31
SURVEY BASELINE
1885
1890
1895
1900
1905
1910
1915
N74°21' 30" E
N50°43' 32" E
N84°06' 39" E
N75°03' 29" E
N70°25' 54" E
N82°31' 44" E
N81°02' 50" E
PN:5 PD:5/8"REBAR W/2"CAP
PN:6 PD:5/8"REBAR W/2"CAP
PN:7 PD:5/8"REBAR W/2"CAP
PN:15 PD:5/8"REBAR W/2"CAP
PN:16 PD:5/8"REBAR W/2"CAP
PN:17 PD:5/8"REBAR W/2"CAP 25' SE OF DOWN FE
PN:18 PD:5/8"REBAR W/2"CAP
PN:19 PD:5/8"REBAR W/2"CAP

N

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

0 100 200 300
GRAPHIC SCALE IN FEET

SURVEY CONTROL DETAILS

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	51	262

(2) SURVEY CONTROL- STA. 1915+00 TO 1935+70.37

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

C. L. CONSTRUCTION I-40
PI = 1924+41.57
Δ = 7°24'08" LT.
D = 0°30'00"
T = 741.25'
L = 1480.45'
PC = 1917+00.32
PT = 1931+80.77

PT 1915+00.31

1915 1920 1925 1930 1935

PC 1917+00.32

PT 1931+80.77

EQUATION:
STA. 1932+40.53 BK. =
STA. 1932+20.74 AHD.

8006 8007 8008 8009 8010 8015

200.01'
N80°57'03"E

7000.00'
N73°32'55"E

℄ CONSTRUCTION I-40

℄ EXISTING I-40

N73°32'55"E

SURVEY BASELINE

STA. 1932+40.53
END JOB BB0610

PI 1924+41.57

N81°02'50"E
N65°17'53"E
N74°15'36"E
N73°33'51"E
N74°15'28"E

PN:19 PD:5/8"REBAR W/2"CAP

PN:20 PD:5/8"REBAR W/2"CAP 1' N N EDGE GR RD

PN:21 PD:5/8"REBAR W/2"CAP

PN:22 PD:5/8"REBAR W/2"CAP

PN:23 PD:5/8"REBAR W/2"CAP 6' S S EDGE GR ROAD

N

ALL BEARINGS ARE GRID
BASED ON GPS
ALL DISTANCES ARE GROUND

0 100 200 300
GRAPHIC SCALE IN FEET

SURVEY CONTROL DETAILS

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	52	262

(2) PLAN & PROFILE - STA. 1855+00 TO 1885+00

STATE OF ARKANSAS
Kevin G. Toblesky
REGISTERED PROFESSIONAL ENGINEER
No. 11427
8/25/16

STA 1883+41.01 TO STA. 1911+84.99 CONSTRUCT
2843'-11¾" BRIDGE
2-56' CLEAR ROADWAY
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
860' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (265'-330'-265')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (114'-144'-114')

EXISTING C.L. I-40
STA. 1883+39.75 TO STA. 1910+40.25 IN PLACE
2700'-6" TOTAL LENGTH
2-29' CLEAR ROADWAY
BRIDGE CONSISTING OF
CONTINUOUS COMPOSITE PLATE GIRDER UNITS
REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM

C.L. CONSTRUCTION I-40
PI = 1876+00.22
Δ = 7°24'08" LT.
D = 0°30'00"
T = 741.26'
L = 1480.45'
PC = 1868+58.96
PT = 1883+39.41
e = N.C.
Ls = N/A

REMOVAL AND DISPOSAL OF CONCRETE BARRIER WALL
STA. 1868+65 TO STA. 1883+03 C.L. EXISTING I-40 = 1438 LIN. FT.

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1868+28 TO STA. 1883+40 LT. OF R.M.L. C.L. EXISTING I-40 = 1512 LIN. FT.
STA. 1868+28 TO STA. 1883+40 RT. OF L.M.L. C.L. EXISTING I-40 = 1512 LIN. FT.

REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS
STA. 1883+03.25 TO STA. 1883+39.75 R.M.L. C.L. EXISTING I-40 = 1 EACH
STA. 1883+03.25 TO STA. 1883+39.75 L.M.L. C.L. EXISTING I-40 = 1 EACH

REMOVAL AND DISPOSAL OF FENCE
STA. 1878+64 TO STA. 1883+40 L.M.L. C.L. EXISTING I-40 = 566 LIN. FT.

APPROACH SLAB AND GUTTERS - RETAIN
STA. 1868+22.63 TO STA. 1868+65.13 R.M.L. = 1 EACH
STA. 1868+22.63 TO STA. 1868+65.13 L.M.L. = 1 EACH

STA. 1877+00 INSTALL
24"x60' TEMPORARY PIPE

P.O.B. 1865+00.00
P.C. 1868+58.96
P.I. 1876+00.22
P.T. 1883+39.41
P.C. 1885+39.41
1878+80.13 155' LT.
1882+25.09 180' LT.
399.80
36'
10' SHLD.
22'-0"
24' PVMT.
8'
10' SHLD.
+58.96
1440.84' INSIDE SHOULDER & LANE TRANSITION
R=9,150'
R=8,600'
N73°32'55"E
N66°08'47"E
1865
1870
1875
1880
1885

EXIST. 4" WATER
EXIST. 4" SEWER
EXIST. FIBER-OPTIC CABLE
EXIST. R/W
EXIST. R/W C/A & FENCE
PROPOSED R/W & C/A FENCE
CONSTRUCTION LIMITS
100 YR. FLOOD-PLAIN LIMITS
℄ CONSTRUCTION I-40
℄ EXISTING I-40
PROPOSED BR. END 1883+41.01
PROPOSED C/A
EXIST. C/A
I-40

① NOTE: LEFT INSIDE LANE & SHOULDER
STA. 1868+65.13 TO STA. 1882+99.80 - TRANSITION 3.00' TO 22.00'

② NOTE: RIGHT INSIDE LANE & SHOULDER
STA. 1868+65.13 TO STA. 1882+99.80 - TRANSITION 3.00' TO 22.00'

WIRE FENCE - INSTALLATION

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE EA.
1878+80	1883+42	LEFT	A	494	1
1883+11	1883+42	RIGHT	A	190	

STA. 1874+28 IN PLACE
36"x202' R.C. PIPE CULVERT
10° LT. FWD. SKEW
WITH HDWLS. LT. & RT.
REMOVE HDWLS. LT. & RT. AND EXTEND
R.C. PIPE 40' LT. AND 12' RT.
(CLASS III)(TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
36" R.C. PIPE = 60 LIN. FT.
36" F.E.S. = 2 EACH

GUARDRAIL - INSTALLATION

	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 2)
STA. 1880+51.84 TO STA. 1883+20.59 RT OF CL I-40 = 200 LIN. FT.	1 EACH	1 EACH	1 EACH
STA. 1868+38.03 TO STA. 1871+06.78 LT OF CL I-40 = 200 LIN. FT.	1 EACH	1 EACH	1 EACH

APPROACH SLAB AND GUTTERS
STA. 1883+04.51 TO STA. 1883+41.01 R.M.L. = 1 EACH
STA. 1883+04.51 TO STA. 1883+41.01 L.M.L. = 1 EACH

N

0 100 200 300
GRAPHIC SCALE IN FEET

STA. 1868+58.96
BEGIN JOB BB0610
(L.M. 199.20)

STA. 1868+58.96
BEGIN JOB BB0610
P.G. ELEV. 200.26

PVI 1868+58.96
ELEV. 200.26

-1.71%

PVC 1871+10.00
ELEV 195.96

VC=860.00'
e=5.06'
K=183

PROFILE GRADE

PVT 1879+70.00
ELEV 201.51

3.00%

PROPOSED BR. END
1883+41.01
PG 212.64

3:1 SLOPE

EXISTING GROUND

PVI 1875+40.00
ELEV. 188.61
P.G. 193.67

1874+28
EXIST. FL INLET LT = 168.77
EXIST. FL OUTLET RT = 168.27
PROP. FL INLET LT = 168.87
PROP. FL OUTLET RT = 168.24

240 230 220 210 200 190 180 170 160

1855+00 1860+00 1865+00 1870+00 1875+00 1880+00 1885+00

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STA 1883+41.01 TO STA. 1911+84.99 CONSTRUCT
2843'-11¾" BRIDGE
2-56' CLEAR ROADWAY
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
860' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (265'-330'-265')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (120'-148'-148'-120')
536' CONTINUOUS COMPOSITE PLATE GIRDER UNIT (114'-144'-114')

C.L. EXISTING I-40
STA. 1883+39.75 TO STA. 1910+40.25 IN PLACE
2700'-6" TOTAL LENGTH
2-29' CLEAR ROADWAY
BRIDGE CONSISTING OF
CONTINUOUS COMPOSITE PLATE GIRDER UNITS
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 1) = 1.00 LUMP SUM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	53	262

(2) PLAN & PROFILE - STA. 1885+00 TO 1915+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
8/25/16

GUARDRAIL - INSTALLATION
STA. 1912+05.41 TO STA. 1914+74.16 LT. OF L.M.L. = 200 LIN. FT.

GUARDRAIL (TYPE A) 1 EACH
THRIE BEAM GUARDRAIL TERMINAL 1 EACH
TERMINAL ANCHOR POST (TYPE 2) 1 EACH

C.L. CONSTRUCTION I-40
PI = 1900+28.15
Δ = 14°48'16" RT.
D = 0°30'00"
T = 1488.74'
L = 2960.90'
PC = 1885+39.41
PT = 1915+00.31
e = N.C.
Ls = N/A

RESTRAINING CONDITION LIMITS
REFER TO SPECIAL PROVISION

TEMP. CONST. EASEMENT 1904+00 81.89' LT.

TEMP. CONST. EASEMENT
PI = 11+45.40
Δ = 52°22'42"
D = 54°34'03"
T = 51.64
L = 95.99
PC = 10+93.76
PT = 11+89.75

WIRE FENCE - INSTALLATION

STA.	STA.	SIDE	TYPE	LIN. FT.	16' GATE EA.
1911+84	1918+20	LEFT	A	842	
1911+04	1911+84	RIGHT	A	304	1

APPROACH SLAB AND GUTTERS
STA. 1911+84.99 TO STA. 1912+21.49 R.M.L. = 1 EACH
STA. 1911+84.99 TO STA. 1912+21.49 L.M.L. = 1 EACH

REMOVAL AND DISPOSAL OF APPROACH SLAB AND GUTTERS
STA. 1910+40 TO STA. 1910+76 R.M.L. C.L. EXISTING I-40 = 1 EACH
STA. 1910+40 TO STA. 1910+76 L.M.L. C.L. EXISTING I-40 = 1 EACH

REMOVAL AND DISPOSAL OF FENCE
STA. 1910+40 TO STA. 1910+58 RT. OF R.M.L. C.L. EXISTING I-40 = 168 LIN. FT.
STA. 1910+40 TO STA. 1918+10 LT. OF L.M.L. C.L. EXISTING I-40 = 867 LIN. FT.

REMOVAL AND DISPOSAL OF CONCRETE BARRIER WALL
STA. 1910+77 TO STA. 1931+61 C.L. EXISTING I-40 = 2084 LIN. FT.

REMOVAL AND DISPOSAL OF GUARDRAIL
STA. 1910+49 TO STA. 1918+43 RT. OF R.M.L. C.L. EXISTING I-40 = 794 LIN. FT.
STA. 1910+49 TO STA. 1918+93 LT. OF L.M.L. C.L. EXISTING I-40 = 844 LIN. FT.

WHITE RIVER STA. 1895+15 TO STA. 1899+95
FOR THE CONSTRUCTION OF TEMPORARY WORK RAMPS OR HAUL ROADS, THE STREAM IS CLASSIFIED AS A 5cfs STREAM. THE STREAM BANK ELEVATIONS ARE 168.0' msl. SEE SUBSECTION 110.06(C) FOR THE STANDARD SPECIFICATIONS REGARDING CONSTRUCTION OF TEMPORARY FILLS WITHIN 5cfs STREAM LIMITS.

GRAPHIC SCALE IN FEET 0 100 200 300

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	54	262
				(2)	PLAN & PROFILE - STA. 1915+00 TO 1945+00			

STA. 1915+24.4 IN PLACE
36"x171' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWL. LT. AND EXTEND
R.C. PIPE 180' LT. ON 11° LT. FWD. SKEW
(CLASS V)(TYPE 3 BEDDING) WITH
F.E.S. LT.
36" R.C. PIPE = 184 LIN. FT.
36" F.E.S. = 1 EACH
PIPE COLLAR = 1 EACH

STA. 1922+19 IN PLACE
36"x121' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWL. LT. AND EXTEND
R.C. PIPE 72' LT.
(CLASS III)(TYPE 3 BEDDING) WITH
F.E.S. LT.
36" R.C. PIPE = 76 LIN. FT.
36" F.E.S. = 1 EACH

C. L. CONSTRUCTION I-40
PI = 1924+41.57
Δ = 7°24'08" LT.
D = 0°30'00"
T = 741.25'
L = 1480.45'
PC = 1917+00.32
PT = 1931+80.77
e = N.C.
Ls = N/A

STA. 1931+20 IN PLACE
36"x131' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWLS. LT. & RT. AND EXTEND
R.C. PIPE 8' LT. AND 12' RT.
(CLASS III)(TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
36" R.C. PIPE = 28 LIN. FT.
36" F.E.S. = 2 EACH

(1) NOTE: LEFT INSIDE LANE & SHOULDER
STA. 1917+00.32 TO STA. 1932+40.53 - TRANSITION 22.00' TO 3.00'

(2) NOTE: RIGHT INSIDE LANE & SHOULDER
STA. 1915+52.46 TO STA. 1931+80.77 - TRANSITION 22.00' TO 3.00'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
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7-29-16

STA. 1920+00 INSTALL
24"x115' TEMPORARY PIPE

1540.21' INSIDE SHOULDER & LANE TRANSITION

1628.31' INSIDE SHOULDER & LANE TRANSITION

PROPOSED R/W & C/A FENCE

EXIST. FIBER-OPTIC CABLE

EXIST. R/W C/A & FENCE

100 YR. FLOOD-PLAIN LIMITS

℄ CONSTRUCTION I-40

℄ EXISTING I-40

R=10,080'

R=11,500'

CONSTRUCTION LIMITS

EQUATION: STA. 1932+40.53 BK. = STA. 1932+20.74 AHD.

200' TRANSITION

DENOTES: PAVEMENT TRANSITION.

RESTRAINING CONDITION LIMITS REFER TO SPECIAL PROVISION

N80°57'03"E

N73°32'55"E

STA. 1932+40.53
END JOB BB0610

CULTIVATED FIELD

N

0 100 200 300
GRAPHIC SCALE IN FEET

240 230 220 210 200 190 180 170 160

3.00%

PVC 1916+33.00
Elev 204.12

VC=700.00'
e=2.55'
K=241

PVI 1918+83.00
ELEV 193.62
P.G. 196.17

PVT 1923+33.00
Elev 193.30

PROFILE GRADE

-0.09%

EXISTING GROUND

STA. 1932+40.53
END JOB BB0610
P.G. ELEV. 192.49

PVI 1932+40.53
ELEV. 192.49

1915+24.4
EXIST. FL INLET RT = 179.64
EXIST. FL OUTLET LT = 177.54
PROP. FL OUTLET LT = 176.15

1922+19
EXIST. FL INLET RT = 181.42
EXIST. FL OUTLET LT = 180.33
PROP. FL OUTLET LT = 179.69

1931+20
EXIST. FL INLET LT = 179.90
EXIST. FL OUTLET RT = 179.10
PROP. FL INLET LT = 180.50
PROP. FL OUTLET RT = 179.03

1915+00 1920+00 1925+00 1930+00 1935+00 1940+00 1945+00

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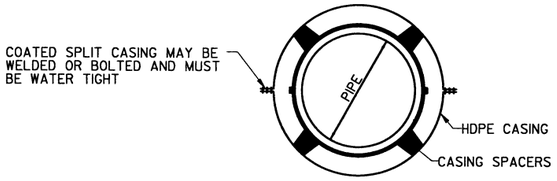
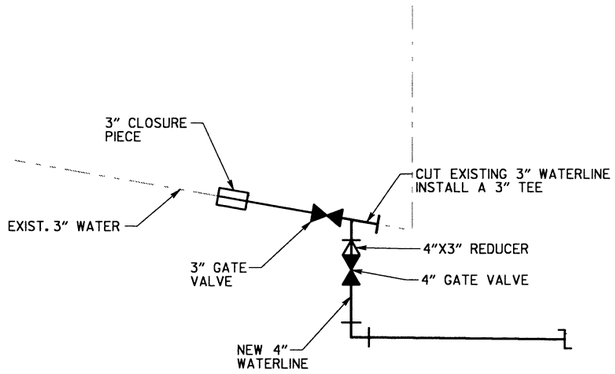
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	55	262
				(2)	WATERLINE DETAIL			

WATER LINE QUANTITIES

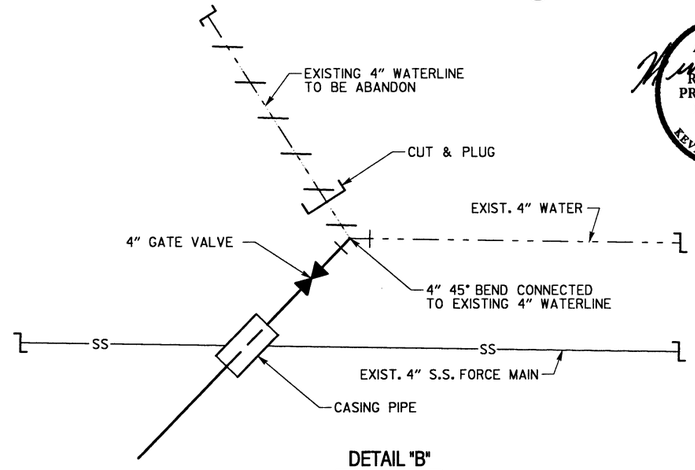
DESCRIPTION	QUANTITY	UNIT
4" (NOMINAL) PVC SDR 18 BY OPEN CUT	1581	LIN. FT.
10" (NOMINAL) HDPE DR 9 CASING PIPE BY HDD	185	LIN. FT.
4" (NOMINAL) HDPE DR 11 BY HDD	167	LIN. FT.
8" STEEL CASING BY OPEN CUT	20	LIN. FT.
4" GATE VALVE IN HEAVY DUTY BOX	3	EACH
3" CATE VALVE IN HEAVY DUTY BOX	1	EACH
3" x 3" TEE	1	EACH
4" X 3" REDUCER	1	EACH



SECTION A-A

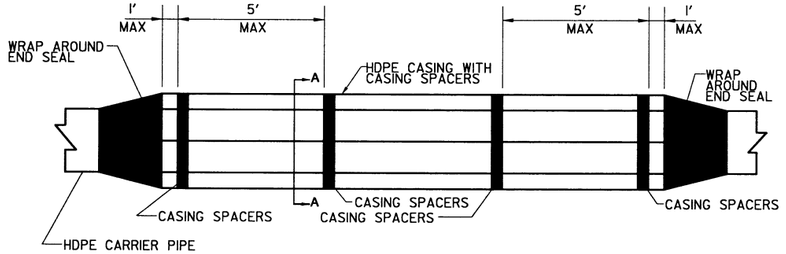


DETAIL "A"
NOT TO SCALE



DETAIL "B"
NOT TO SCALE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESEY
7-29-16



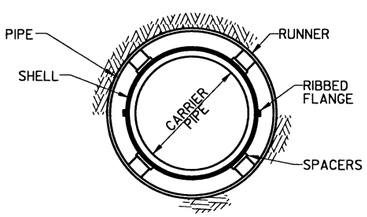
TYPICAL CASING DETAIL
NOT TO SCALE

NOTES:

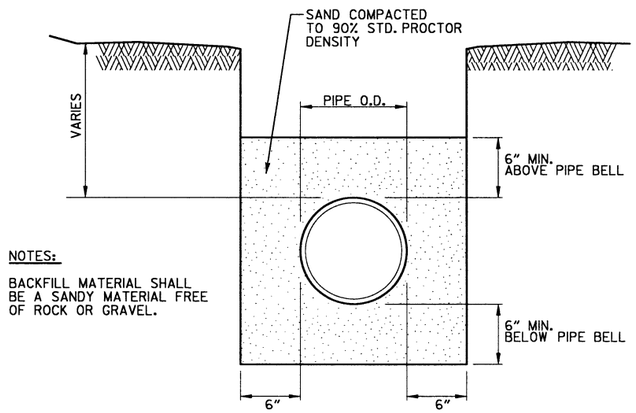
1.) STEEL CASING PIPE TO BE MIN. 150P.S.I. PRESSURE RATED.

2.) CARRIER PIPE TO BE SUPPORTED WITHIN ENCASEMENT PIPE AT FIVE FEET INTERVALS WITH CASING SPACERS.

3.) SEAL THE SPACE BETWEEN THE ENCASEMENT PIPE AND THE CARRIER PIPE AT EACH END WITH NON-SHRINK CEMENT GROUT OR WITH A MANUFACTURED SEAL.



DETAIL C - STEEL CASING
NOT TO SCALE



NOTES:

BACKFILL MATERIAL SHALL BE A SANDY MATERIAL FREE OF ROCK OR GRAVEL.

DETAIL D - EMBEDMENT
NOT TO SCALE

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WATERLINE DETAIL

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0610	56	262
				(2)	WATERLINE PLAN AND PROFILE SHEETS			

NOTES:

1. REFER TO SHEET 53 FOR WATERLINE QUANTITIES.
2. CONTRACTOR SHALL EXERCISE CARE TO PROTECT ITEMS DURING CONSTRUCTION AND EXCAVATION OPERATIONS. DAMAGE TO ADJACENT ITEMS SHALL BE REPAIRED OR REPLACED AT NO COST TO THE DEPARTMENT IF AND WHERE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE NECESSARY CONTACTS TO IDENTIFYING CONCEALED SITE ITEMS AND UTILITIES ADJACENT TO CONSTRUCTION AND EXCAVATION OPERATIONS.
3. CUTTING AND ABANDONMENT OF THE EXISTING WATERLINE TO BE COORDINATED WITH THE AHTD (OWNER)
4. CONNECTION OF THE RELOCATED WATERLINE TO BE COORDINATED WITH THE AHTD (OWNER)
5. CONTRACTOR TO CALL ARKANSAS ONE CALL AT (800)482-8998 OR 811 AND VERIFY ALL UNDERGROUND UTILITIES ALONG THE RELOCATED WATERLINE ALIGNMENT BEFORE COMMENCING DRILLING AND EXCAVATION.
6. CONTRACTOR TO LOCATE EXISTING 3" WATERLINE AND CONNECT NEW 4" WATERLINE AT STA. 1865+91.80
7. SEE DETAIL "D" FOR PIPE EMBEDMENT.
8. RESTRAINT FOR PVC PIPE IS BY MECHANICAL RESTRAINING DEVICES. LENGTHS ARE AS SPECIFIED IN SPECIFICATIONS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESET
7-29-16

1870 1875 1880

P.O.B. 1865+00.00

EXIST. 3" WATER

CUT & PLUG EXIST. 4" W

EXIST. 4" WATER

P.C. 1868+58.96

EXIST. R/W C/A & FENCE

ABANDON EXIST. 4" W IN PLACE

EXIST. FIBER-OPTIC CABLE

P.I. 1876+00.22

PROPOSED R/W & C/A FENCE

ROADWAY CONSTRUCTION LIMITS

PAVED RD.

EXISTING BRIDGE

I-40

N73°32'55"E

100 YR. FLOOD-PLAIN LIMITS

℄ CONSTRUCTION I-40

℄ EXISTING I-40

MATCH LINE STA. 1880+00

EXIST. 3" WATER

EXIST. 4" SEWER FORCE MAIN

STA. 1868+12.15
CONNECT
4" HDPE DR-11 TO
4" PVC SDR-18

185 L.F. 10" HDPE DR-9 CASING
CASING PIPE (SEE DETAIL "C" SHEET 53)

100 YR. FLOOD-PLAIN LIMITS

ROADWAY CONSTRUCTION LIMITS

STA. 1873+02.15
CONNECT
4" PVC SDR-18 TO
4" HDPE DR-11

STA. 1874+69.15
CONNECT
4" HDPE DR-11 TO
4" PVC SDR-18

EXIST. 4" S.S. FORCE MAIN

100 YR. FLOOD-PLAIN LIMITS

4" SDR-18 (PVC)

4" W

4" HDPE DR-11

4" SDR-18 (PVC)

15'

50'

STA. 1866+22.10, 119.64' RT.
℄ CONSTRUCTION I-40 = STA. 1865+91.80 WATERLINE
BEGIN NEW 4" WATERLINE
CONNECT TO EXIST. 3" W
INSTALL:
1- 3" GATE VALVE
1- 3" M.J. TEE
1- 3" x 4" M.J. REDUCER
1- 4" M.J. GATE VALVE
N 2102494.5539
E 1472307.2971
SEE DETAIL "A"
SHEET 53

STA. 1866+22.32, 150.15' RT.
℄ CONSTRUCTION I-40 = STA. 1866+22.32
INSTALL:
1- 90° BEND LT.
N 2102465.3498
E 1472316.1500

STA. 1869+00.00
INSTALL:
1- 4" GATE VALVE

WARNING 1 EXIST. FIBER-OPTIC CABLE

EXIST. C/A

PI 1876+00.37
INSTALL:
1- 22.5° BEND LT.
N 2102742.3409
E 1473254.1615

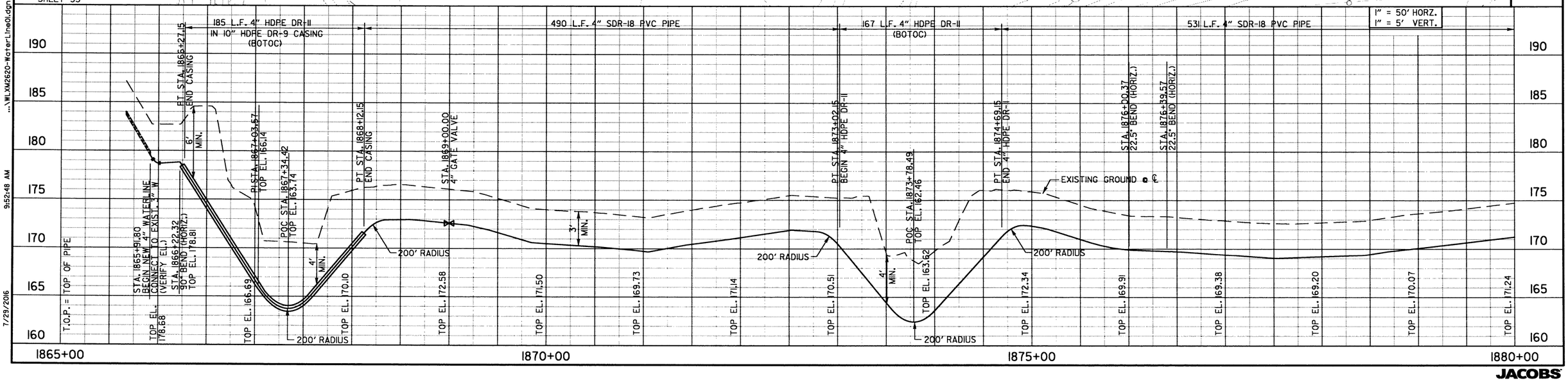
PI 1876+39.57
INSTALL:
1- 22.5° BEND RT.
N 2102766.9826
E 1473284.6440

EXIST. C/A

WARNING 1 EXIST. FIBER-OPTIC CABLE

GRAVEL RD.

0 50 100
GRAPHIC SCALE IN FEET



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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	57	262

(2) WATERLINE PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11427
KEVIN G. TOBLESKY
7-29-16

MATCH LINE STA. 1880+00

ROADWAY CONSTRUCTION LIMITS
PROPOSED R/W & C/A FENCE
EXIST. R/W
P.I. 1883+39.41
100 YR. FLOOD-PLAIN LIMITS
P.C. 1885+39.41
WHITE RIVER
EXIST. R/W
PROPOSED BRIDGE
℄ CONSTRUCTION I-40
EXIST. FIBER-OPTIC CABLE
EXIST. 4" WATER
ABANDON EXIST. 4" W IN PLACE
N66°08'47"E
20 LF OF 10" STEEL CASING PIPE (SEE DETAIL "C" SHEET 53) CENTER OVER S.S. FORCE MAIN
EXIST. FIBER-OPTIC CABLE
EXISTING BRIDGE
CUT & PLUG EXIST. 4" W (SDR-26)
℄ EXISTING I-40
EXIST. 4" WATER
EXIST. 4" WATER
S86°W
℄ EXISTING I-40
EXISTING BRIDGE END
EXIST. 4" S.S. FORCE MAIN
EXIST. 4" S.S. FORCE MAIN
ROADWAY CONSTRUCTION LIMITS
4" SDR-18 (PVC)
15'
4" W
EXIST. FIBER-OPTIC CABLE
EXIST. C/A
GRAVEL RD.
PROPOSED C/A
EXIST. R/W

STA. 1885+30.55
END NEW 4" WATERLINE
CONNECT TO EXIST. 4" W (SDR-26)
INSTALL:
1- 45° BEND RT.
1- 4" GATE VALVE
N 2103107.7404
E 1474065.8192
(PROVIDE ADDITIONAL BENDS AS REQ'D. SEE DETAIL "B" SHEET 53

PI 1883+84.85
INSTALL:
1- 45° BEND LT.
N 2102978.0507
E 1473999.4117

NOTES:

1. REFER TO SHEET 53 FOR WATERLINE QUANTITIES.
2. CONTRACTOR SHALL EXERCISE CARE TO PROTECT ITEMS DURING CONSTRUCTION AND EXCAVATION OPERATIONS. DAMAGE TO ADJACENT ITEMS SHALL BE REPAIRED OR REPLACED AT NO COST TO THE DEPARTMENT IF AND WHERE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE NECESSARY CONTACTS TO IDENTIFYING CONCEALED SITE ITEMS AND UTILITIES ADJACENT TO CONSTRUCTION AND EXCAVATION OPERATIONS.
3. CUTTING AND ABANDONMENT OF THE EXISTING WATERLINE TO BE COORDINATED WITH THE AHTD (OWNER)
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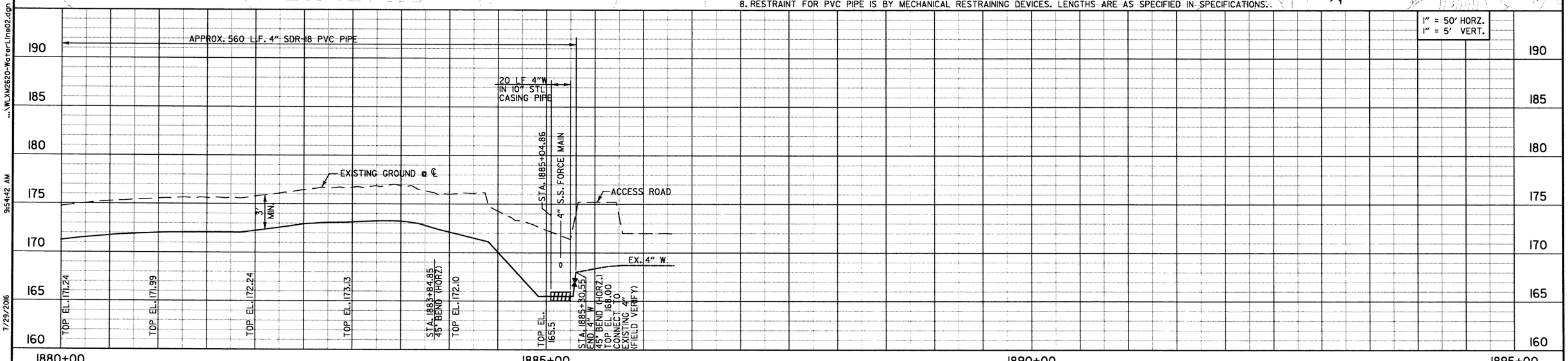
5. CONTRACTOR TO CALL ARKANSAS ONE CALL AT (800)482-8998 OR 811 AND VERIFY ALL UNDERGROUND UTILITIES ALONG THE RELOCATED WATERLINE ALIGNMENT BEFORE COMMENCING DRILLING AND EXCAVATION.
6. CONTRACTOR TO LOCATE EXISTING 3" WATERLINE AND CONNECT NEW 4" WATERLINE AT STA. 1865+91.80
7. SEE DETAIL "D" FOR PIPE EMBEDMENT.
8. RESTRAINT FOR PVC PIPE IS BY MECHANICAL RESTRAINING DEVICES. LENGTHS ARE AS SPECIFIED IN SPECIFICATIONS.

N

0 50 100
GRAPHIC SCALE IN FEET

1" = 50' HORZ.
1" = 5' VERT.



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	58	262
1 07343	-	LAYOUT -		56732

Note: For R/W Data, See Roadway Plans.

Existing R/W

Existing Fence to be removed.

Approx. 6 miles to State Hwy. 11 Interchange

Tangent Distance 1,60'

Place Type Special Approach Slab, Type C2 Approach Slab and Type C ("W" = 10'-0") Approach Gutters on this end of bridge. See Dwg. No. 56855, 56856, 55040C2 and 55030C.

Fiber Optic Cable to be relocated by others.

Type C2 Approach Slab

Existing 4" Water Line to be relocated. See Water Line Plans.

Note: Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bent 1 & 2 are square. Bent 3 is aligned radially.

1'-6" Dumped Riprap on top of Filter Blanket Top of Riprap Elev. 203.0 except as shown. See Location Sketch Drawing No. 56737.

Boring No. 4

Boring No. 6

Toe of Fill Slope

Type Special Approach Slab

Type C2 Approach Slab

2'-0" Concrete Median Barrier

Type C Approach Gutter (Typ.)

Fiber Optic Cable to be relocated by others.

Longitudinal Construction Joint (Optional)

℄ Bridge & ℄ Construction I-40

Boring No. 5

Shoring [A]

See Drawing No. 56737 for "Details of End Bent Removal"

Toe of Fill Slope

Existing Signs

Existing Overhead Electric

Existing ℄ I-40

Existing Br. No. 03713 to be removed.

Existing work road

Use-in-place existing embankment (Typ.)

Existing 4" Sewer Line

Existing 4" Water Line

Proposed 4" Water Line Relocation. See Water Line Plans

PLAN

STA. 1887+00

MATCH LINE

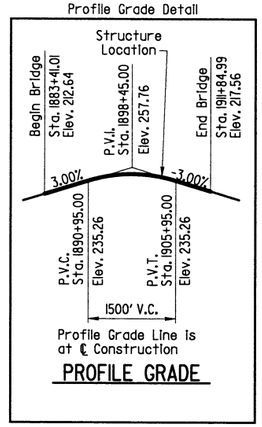
Curve Data
℄ Construction
HORIZONTAL CURVE DATA

PI = 1876+00.22
R = 11,459.16'
Δ = 7°24'08" Lt.
D = 0°30'00"
T = 741.26'
L = 1480.45'
PC = 1868+58.96
PT = 1883+39.41
e = Normal Crown

Curve Data
℄ Construction
HORIZONTAL CURVE DATA

PI = 1900+28.15
R = 11,459.16'
Δ = 14°48'16" Rt.
D = 0°30'00"
T = 1488.74'
L = 2960.90'
PC = 1885+39.41
PT = 1915+00.31
e = Normal Crown

Profile Grade Detail



Profile Grade Line is at ℄ Construction

PROFILE GRADE

BORING BLOW COUNTS

Boring No. 4
℄ Construction I-40
Sta. 1883+83, 60' Lt.

0.5-1.5,	N=9
4.5-5.5,	N=13
9.0-10.0,	N=23
14.0-15.0,	N=22
19.0-20.0	N=23
24.0-25.0,	N=26
29.0-30.0,	N=45
33.0-34.0,	N=50
38.0-39.0,	N=50 (9")
43.0-44.0,	N=50 (8")
48.5-49.5,	N=50 (9")
53.0-53.5,	N=50 (6")
58.0-59.0,	N=50 (8")
68.0-68.5,	N=50 (6")
78.5-79.5,	N=80 (9")
88.5-89.5,	N=50 (7")
99.5-100.0,	N=50 (6")

Boring No. 5
℄ Construction I-40
Sta. 1884+63, 60' Rt.

0.5-1.5,	N=9
4.5-5.5,	N=8
9.0-10.0,	N=10
14.0-15.0,	N=27
19.0-20.0	N=35
24.0-25.0,	N=50 (10")
29.0-30.0,	N=50 (8")
34.0-35.0,	N=29
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (9")
54.0-54.5,	N=70 (3")
58.5-59.0,	N=50 (6")
68.5-69.5,	N=50 (11")
78.5-79.5,	N=70 (9")
88.5-89.5,	N=50 (8")
95.0-95.5,	N=70 (6")

Boring No. 6
℄ Construction I-40
Sta. 1886+11, 60' Lt.

0.5-1.5,	N=5
4.5-5.5,	N=12
9.0-10.0,	N=9
14.0-15.0,	N=14
19.0-20.0	N=25
24.0-25.0,	N=37
29.0-30.0,	N=44
34.0-35.0,	N=50 (11")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=72
49.0-50.0,	N=50 (10")
54.0-55.0,	N=50 (9")
59.0-59.5,	N=50 (7")
68.5-69.0,	N=80 (3")
78.5-79.0,	N=70 (6")
88.5-89.0,	N=70 (5")
99.0-100.0,	N=70 (5")

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

[A] See SP Job BB0610 "Shoring".

[B] See SP Job BB0610 "Geosynthetic Internal Reinforced Embankment Construction".

Begin Bridge Sta. 1883+41.01 Elev. 212.64

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 1

℄ 3½" Finger Joint

Guardrail See Rdwy. Plans

Slope Intercept Sta. 1883+20.01 Elev. 212.01

Concrete Parapet Railing

Low Steel to Design High Water = 19.75'

Working Point to Low Steel =8'-1⅜"

℄ Bent 2 Sta. 1884+63.00 Elev. 216.30

℄ Bent 3 Sta. 1886+11.00 Elev. 220.14

+3.00% Grade

Proposed Grade Line ⌀ ℄ Bridge and ℄ Construction I-40

Design High Water Elevation 184.9

2% Flow Level Elevation 182.2

Historical High Water Elevation 192.9 (Backwater)

Existing Ground Line along ℄ Bridge and ℄ Construction I-40

69' Piles

42' Piles

42' Piles

Bent No.	℄ Deck ⌀ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
2	9'-3¾"
3	9'-3¾"

Boring No. 4
Sta. 1883+83, 60 Ft. Lt.

Boring No. 5
Sta. 1884+63, 60 Ft. Rt.

Boring No. 6
Sta. 1886+11, 60 Ft. Lt.

Note: For "Boring Legend" and "Hydraulic Data", see Drawing No. 56737. For "General Notes", see Drawing No. 56738.

ELEVATION

STA. 1887+00

MATCH LINE

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. CJC 7/29/16

ALTERNATE NO. 1
SHEET 1 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
CHRISTOPHER J. CRISWELL
No. 11338
REGISTERED PROFESSIONAL ENGINEER
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHG DATE: 12/16/13
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 10/28/14
BRIDGE NO. 07343
FILENAME: bbb0610_lxl.dgn
SCALE: 1" = 30'-0"
DRAWING NO. 56732

JACOBS

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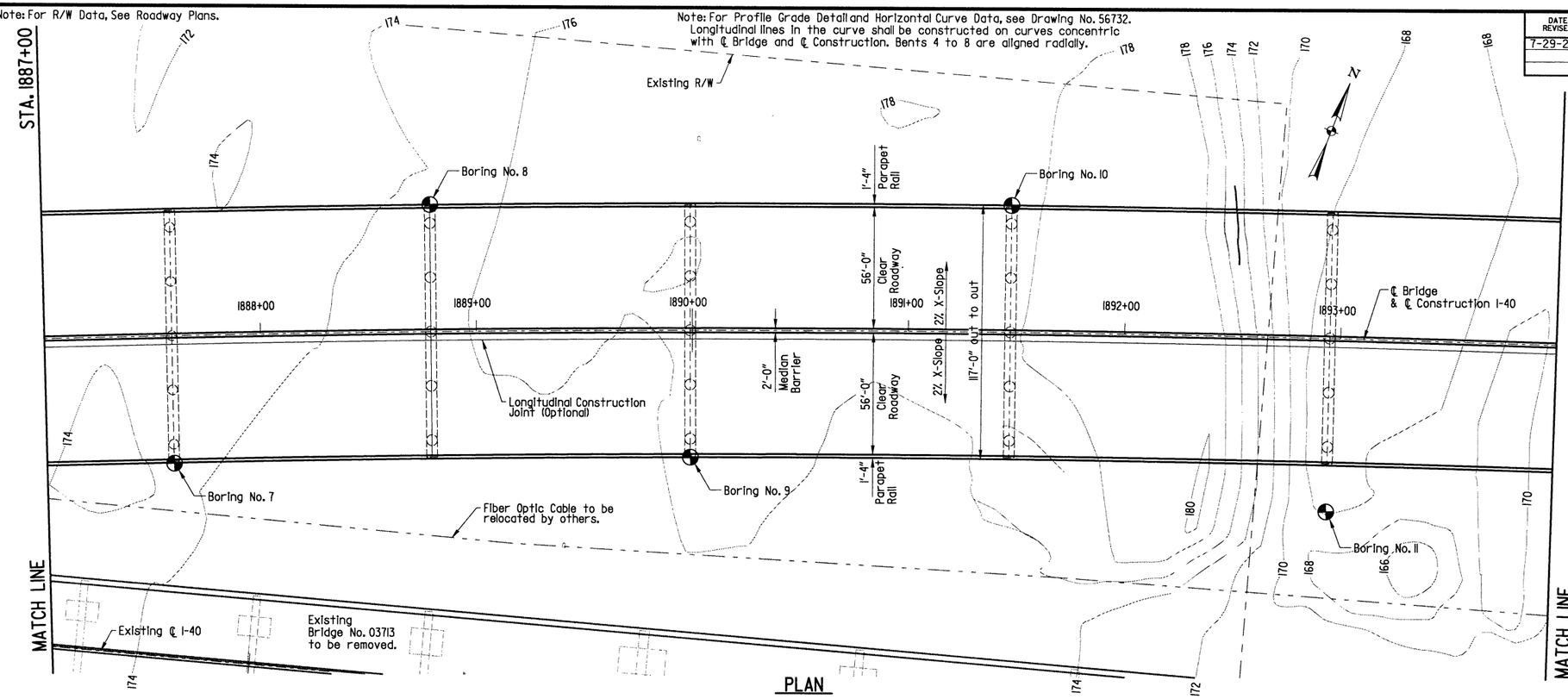
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	59	262
				(1) 07343		- LAYOUT -		56733

Note: For R/W Data, See Roadway Plans.

Note: For Profile Grade Detail and Horizontal Curve Data, see Drawing No. 56732. Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bents 4 to 8 are aligned radially.



BORING BLOW COUNTS

Boring No. 7
℄ Construction I-40
Sta. 1887+59, 60' Rt.

0.5-1.5,	N=7
4.5-5.5,	N=9
9.0-10.0,	N=6
14.0-15.0,	N=14
19.0-20.0,	N=27
24.0-25.0,	N=44
29.0-30.0,	N=50
34.0-35.0,	N=50 (9")
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (8")
49.0-50.0,	N=50 (11")
54.0-55.0,	N=80 (8")
59.0-60.0,	N=80 (8")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (6")
99.0-100.0,	N=80 (6")

Boring No. 8
℄ Construction I-40
Sta. 1888+79, 60' Lt.

0.5-1.5,	N=10
4.5-5.5,	N=14
9.0-10.0,	N=16
14.0-15.0,	N=10
19.0-20.0,	N=21
24.0-25.0,	N=52
29.0-30.0,	N=50 (11")
34.0-35.0,	N=50 (8")
39.0-40.0,	N=50 (11")
44.0-45.0,	N=50
49.0-50.0,	N=49
54.0-55.0,	N=50 (10")
58.5-59.5,	N=50 (9")
69.0-70.0,	N=70 (9")
78.5-79.5,	N=90 (9")
88.5-89.5,	N=70 (8")
99.0-100.0,	N=70 (8")

Boring No. 9
℄ Construction I-40
Sta. 1889+99, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=12
9.0-10.0,	N=12
14.0-15.0,	N=9
19.0-20.0,	N=16
24.0-25.0,	N=22
29.0-30.0,	N=42
34.0-35.0,	N=50 (9")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (10")
54.0-55.0,	N=80 (8")
58.5-59.5,	N=70 (9")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=70 (10")
88.5-89.5,	N=70 (8")
99.5-100.0,	N=70 (6")

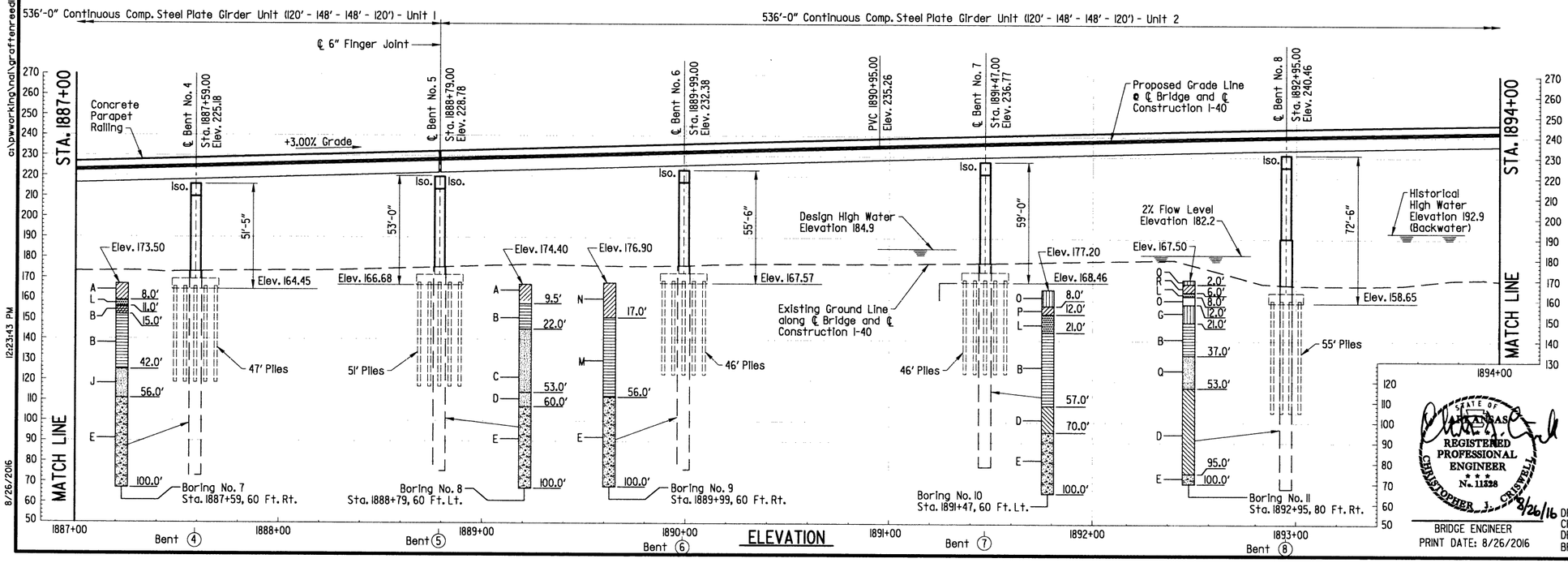
Boring No. 10
℄ Construction I-40
Sta. 1891+47, 60' Lt.

0.5-1.5,	N=9
2.5-3.5,	N=10
4.5-5.5,	N=9
6.5-7.5	N=10
9.0-10.0,	N=13
14.0-15.0,	N=6
19.0-20.0,	N=5
24.0-25.0,	N=20
29.0-30.0,	N=45
34.0-35.0,	N=50 (10")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=40
49.0-50.0,	N=50 (8")
54.0-55.0,	N=50
58.5-59.5,	N=80 (8")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (7")
99.0-100.0,	N=80 (7")

Boring No. 11
℄ Construction I-40
Sta. 1892+95, 80' Rt.

0.5-1.5,	N=8
2.5-3.5,	N=9
4.5-5.5,	N=8
6.5-7.5	N=6
9.0-10.0,	N=7
14.0-15.0,	N=26
19.0-20.0,	N=25
24.0-25.0,	N=20
29.0-30.0,	N=40
34.0-35.0,	N=50 (11")
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (8")
49.0-50.0,	N=70 (8")
54.0-55.0,	N=70 (8")
58.5-59.5,	N=80 (8")
68.5-69.5,	N=80 (7")
78.5-79.5,	N=80 (8")
88.5-89.5,	N=80 (10")
99.5-100.0,	N=80 (6")

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)



Bent No.	℄ Deck @ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
4	9'-3¾"
5	9'-1⅞"
6	9'-3¾"
7	9'-3¾"
8	9'-3¾"

Note: For "Boring Legend" and "Hydraulic Data", see Drawing No. 56737. For "General Notes", see Drawing No. 56738.

Note:
Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

(1) Revised sheet to reflect the addition of alternate substructure. CJC 7/29/16

ALTERNATE NO. 1
SHEET 2 OF 7
LAYOUT OF BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
CHRISTOPHER J. CRISTELL
REGISTERED PROFESSIONAL ENGINEER
No. 11828
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHG DATE: 12/30/13
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 12/19/14
BRIDGE NO. 07343
FILENAME: bbb0610_lx2.dgn
SCALE: 1" = 30'-0"
DRAWING NO. 56733

JACOBS

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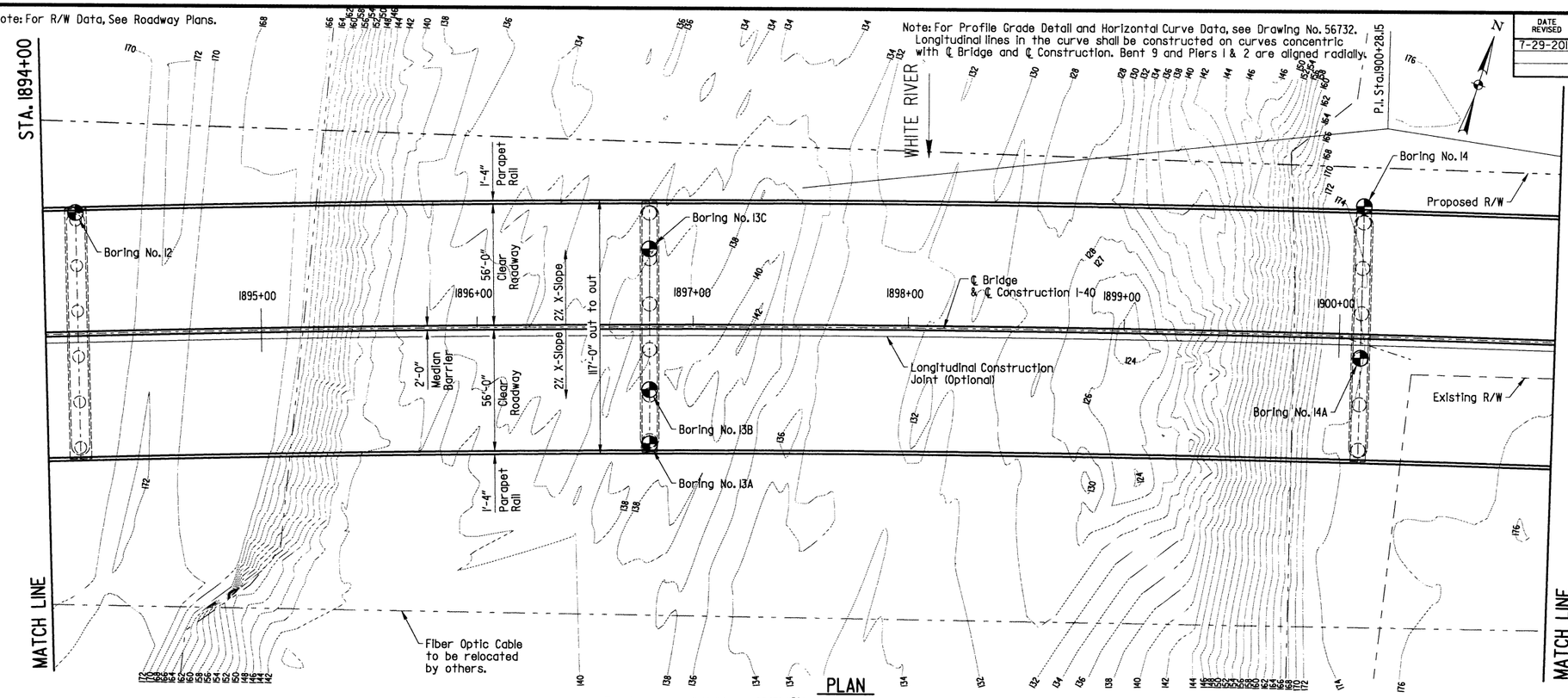
8/26/2016 12:23:43 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	60	262
1	07343	- LAYOUT -		56734

Note: For R/W Data, See Roadway Plans.

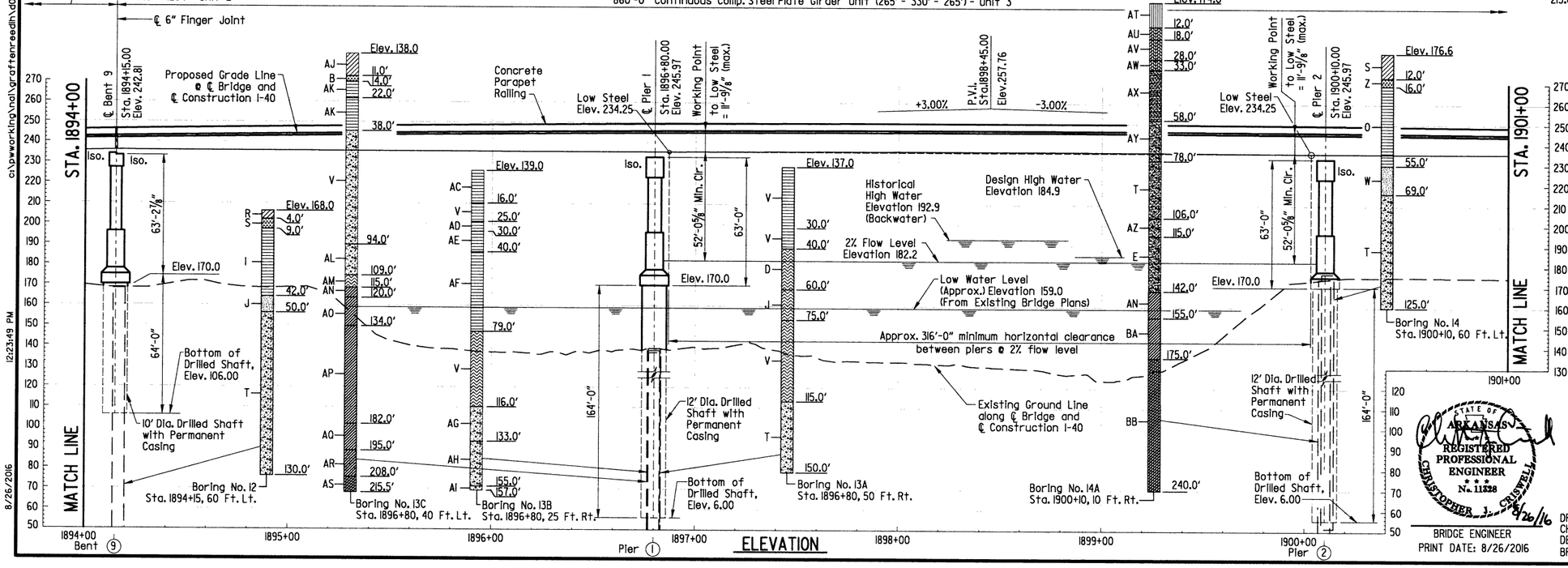
Note: For Profile Grade Detail and Horizontal Curve Data, see Drawing No. 56732. Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bent 9 and Piers 1 & 2 are aligned radially.



Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 2

860'-0" Continuous Comp. Steel Plate Girder Unit (265' - 330' - 265') - Unit 3



BORING BLOW COUNTS

Boring No. 12
℄ Construction I-40
Sta. 1894+15, 60' Lt.

0.5-1.5,	N=2
2.5-3.5,	N=2
4.5-5.5,	N=3
6.5-7.5,	N=3
9.0-10.0	N=18
14.0-15.0,	N=18
19.0-20.0,	N=29
24.0-25.0,	N=29
29.0-30.0,	N=46
34.0-35.0,	N=55
39.0-40.0	N=50 (11")
44.0-45.0	N=32
49.0-50.0,	N=45
54.0-55.0,	N=50 (11")
58.5-59.5,	N=70 (10")
68.5-69.5,	N=70 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (7")
97.5-98.5,	N=80 (5")
107.5-108.5,	N=80 (8")

Boring No. 13A
℄ Construction I-40
Sta. 1896+80, 50' Rt.

0.5-1.5,	N=50 (8")
9.0-10.0,	N=45
19.0-20.0,	N=36
29.0-30.0,	N=50 (10")
38.5-39.5	N=100 (7")
49.0-50.0,	N=100 (8")
51.5-52.5,	N=50 (8")
59.0-60.0,	N=100 (7")
68.0-69.0,	N=100 (5")
79.0-80.0,	N=105 (7")
88.5-89.5,	N=100 (7")

Boring No. 13B
℄ Construction I-40
Sta. 1896+80, 25' Rt.

8.0-9.0,	N=17
17.5-18.5,	N=31
22.0-23.0,	N=35
26.0-27.0,	N=50 (9")
31.0-32.0,	N=50 (7")
36.0-37.0,	N=50 (7")
41.0-42.0,	N=50 (11")
46.0-47.0,	N=50 (7")
56.0-57.0,	N=50 (8")
66.0-67.0,	N=50 (8")
76.0-77.0,	N=50 (6")
85.0-86.0,	N=50 (8")
95.0-96.0,	N=50 (9")
103.0-104.0,	N=50 (8")
114.0-115.0,	N=37 (6")
115.0-116.0,	N=26 (6")
126.0-127.0,	N=50 (7")
136.0-137.0,	N=50 (8")
146.0-147.0,	N=50 (11")
155.0-156.0,	N=50 (4")

Boring No. 13C
℄ Construction I-40
Sta. 1896+80, 40' Lt.

10.0-11.0,	N=12
15.0-16.0,	N=50 (11")
20.0-21.0,	N=50 (8")
25.0-26.0,	N=48
30.0-31.0,	N=50 (7")
36.0-37.0,	N=50 (7")
40.0-41.0,	N=50 (7")
45.0-46.0,	N=50 (6")
55.0-56.0,	N=50 (7")
65.0-66.0,	N=50 (9")
75.0-76.0,	N=50 (6")
85.0-86.0,	N=50 (6")
95.0-96.0,	N=50 (6")
115.0-116.0,	N=50 (9")
135.0-136.0,	N=50 (7")
145.0-146.0,	N=50 (7")
155.0-156.0,	N=50 (6")
165.0-166.0,	N=50 (5")
175.0-176.0,	N=50 (6")
185.0-186.0,	N=50 (4")
195.0-196.0,	N=50 (6")
205.0-206.0,	N=50 (5")
215.0-216.0,	N=50 (6")

Boring No. 14
℄ Construction I-40
Sta. 1900+10, 60' Lt.

0.5-1.5,	N=2
2.5-3.5,	N=7
4.5-5.5,	N=5
6.5-7.5,	N=4
9.0-10.0	N=8
14.0-15.0,	N=6
19.0-20.0,	N=5
24.0-25.0,	N=14
29.0-30.0,	N=32
34.0-35.0,	N=36
39.0-40.0,	N=40
44.0-45.0,	N=41
49.0-50.0,	N=45
58.0-59.0,	N=50 (11")
68.0-69.0,	N=50 (11")
78.0-79.0,	N=50 (10")
88.0-89.0,	N=50 (6")
97.0-98.0,	N=50 (7")
108.0-109.0,	N=50 (6")
118.0-119.0,	N=50 (4")

Boring No. 14A
℄ Construction I-40
Sta. 1900+10, 10' Rt.

0.5-1.5,	N=4
2.0-3.0,	N=11
4.5-5.5,	N=10
6.5-7.5,	N=7
9.0-10.0	N=3
14.0-15.0,	N=5
19.0-20.0,	N=4
24.0-25.0,	N=12
29.0-30.0,	N=6
34.0-35.0,	N=25
39.0-40.0,	N=26
44.0-45.0,	N=23
49.0-50.0,	N=50 (10")
58.0-59.0,	N=50 (11")
68.0-69.0,	N=50 (6")
78.0-79.0,	N=50 (7")
88.0-89.0,	N=50 (4")
98.0-99.0,	N=50 (7")
108.0-109.0,	N=50 (5")
118.0-119.0,	N=50 (4")
128.0-129.0,	N=50 (4")
138.0-139.0,	N=50 (4")
149.0-150.0,	N=50 (8")
169.5-170.5,	N=50 (6")
178.0-179.0,	N=50 (5")
189.0-190.0,	N=50 (7")
199.5-200.5,	N=50 (6")
209.5-210.5,	N=50 (5")
219.0-220.0,	N=50 (8")
229.5-230.5,	N=50 (4")
239.0-240.0,	N=50 (6")

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

Note: For "Boring Legend" and "Hydraulic Data", See Drawing No. 56737. For "General Notes", see Drawing No. 56738.

Bent or Pier No.	℄ Deck ⊕ ℄ Bent or Pier & ℄ Bridge (Working Point) to Low Side Top of Cap
Bent 9	9'-6¹⁵⁄₁₆"
Pier 1	12'-11⅝"
Pier 2	12'-11⅝"

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

ALTERNATE NO. 1
SHEET 3 OF 7
LAYOUT OF BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHG DATE: 12/16/13 FILENAME: bbb0610_lx3.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/2/16 SCALE: 1" = 30'-0"
BRIDGE NO. 07343 DRAWING NO. 56734

JACOBS

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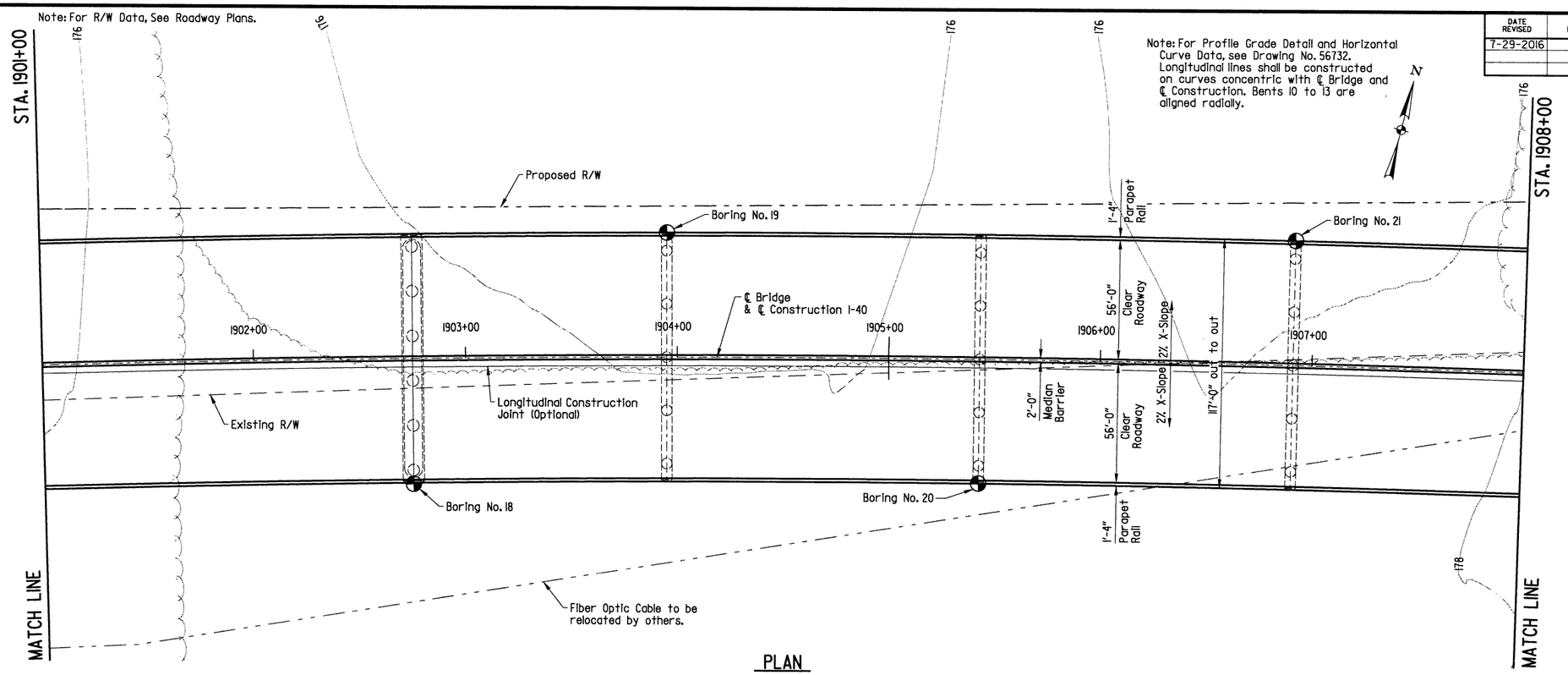
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	61	262
(1) 07343		- LAYOUT -		56735

Note: For R/W Data, See Roadway Plans.

Note: For Profile Grade Detail and Horizontal Curve Data, see Drawing No. 56732. Longitudinal lines shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bents 10 to 13 are aligned radially.



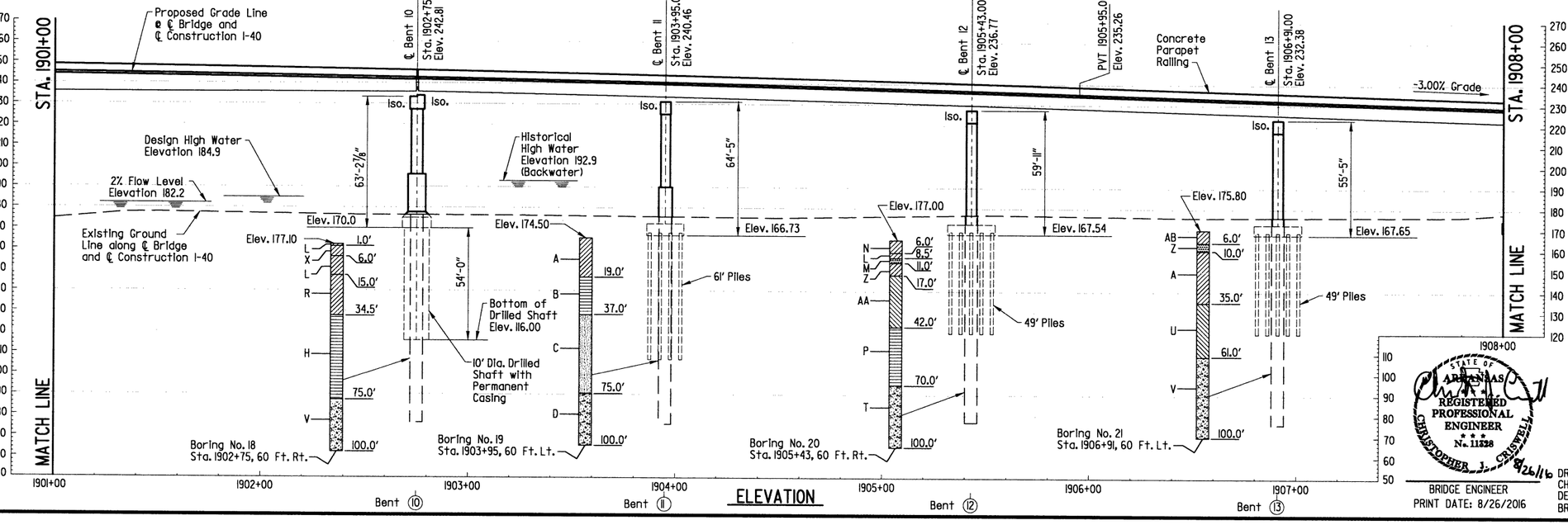
PLAN

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

860'-0" Continuous Comp. Steel Plate Girder Unit (265' - 330' - 265') - Unit 3

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 4

℄ 6" Finger Joint



ELEVATION

BORING BLOW COUNTS

Boring No. 18
℄ Construction I-40
Sta. 1902+75, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=16
9.0-10.0	N=9
14.0-15.0,	N=4
19.0-20.0,	N=3
24.0-25.0,	N=8
29.0-30.0,	N=21
33.5-34.5,	N=44
38.5-39.5,	N=50 (11")
43.5-44.5,	N=50 (11")
48.5-49.5,	N=50 (10")
58.5-59.5	N=50 (10")
68.5-69.5,	N=50 (9")
78.5-79.5,	N=50 (9")
88.5-89.0,	N=50 (7")
95.0-95.5,	N=50 (6")

Boring No. 19
℄ Construction I-40
Sta. 1903+95, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=13
9.0-10.0,	N=9
14.0-15.0,	N=7
19.0-20.0,	N=23
24.0-25.0,	N=43
29.0-30.0,	N=48
34.0-35.0,	N=55
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (10")
59.0-60.0,	N=50 (9")
69.0-70.0,	N=50 (10")
79.0-80.0,	N=50 (9")

Boring No. 20
℄ Construction I-40
Sta. 1905+43, 60' Rt.

0.5-1.5,	N=10
4.5-5.5,	N=14
9.0-10.0	N=14
24.0-25.0,	N=15
29.0-30.0,	N=13
34.0-35.0,	N=9
39.0-40.0,	N=8
44.0-45.0,	N=50
49.0-50.0,	N=50
58.5-59.5	N=50 (11")
68.5-69.5,	N=50 (10")
78.5-79.5,	N=50 (9")
88.5-89.5,	N=50 (8")
99.5-100.0,	N=50 (6")

Boring No. 21
℄ Construction I-40
Sta. 1906+91, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=11
6.5-7.5,	N=7
9.0-10.0,	N=3
14.0-15.0,	N=8
19.0-20.0,	N=7
24.0-25.0,	N=6
28.5-29.5,	N=5
34.0-35.0,	N=4
35.0-36.0,	N=20
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50
49.0-50.0,	N=50 (10")
58.5-59.5,	N=50 (10")
68.5-69.5,	N=50 (9")
78.5-79.5,	N=50 (8")
87.5-88.0,	N=50 (7")
95.0-95.5,	N=50 (7")

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

Note:
For "Boring Legend" and "Hydraulic Data", See Drawing No. 56737. For "General Notes", See Drawing No. 56738.

Bent No.	℄ Deck @ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
10	9'-6⅛"
11	9'-3¾"
12	9'-3¾"
13	9'-3¾"

Note: Stations and elevations are along ℄ Bridge ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

ALTERNATE NO. 1
SHEET 4 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11328 CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY:	LHG	DATE:	12/16/13
CHECKED BY:	CJC	DATE:	7/28/16
DESIGNED BY:	STL	DATE:	10/28/14
BRIDGE NO. 07343		DRAWING NO. 56735	

FILENAME: bbb0610_lx4.dgn
SCALE: 1" = 30'-0"

JACOBS

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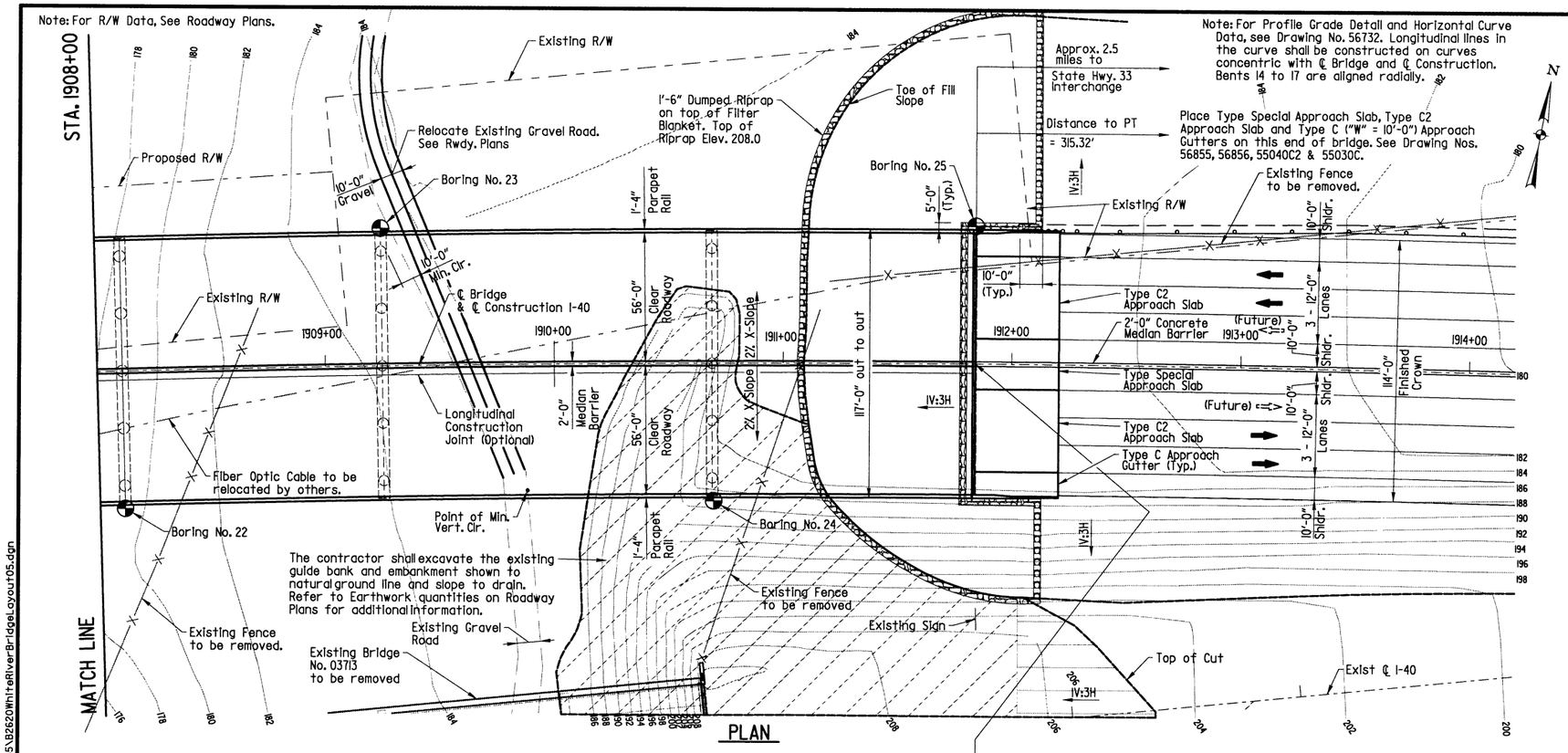
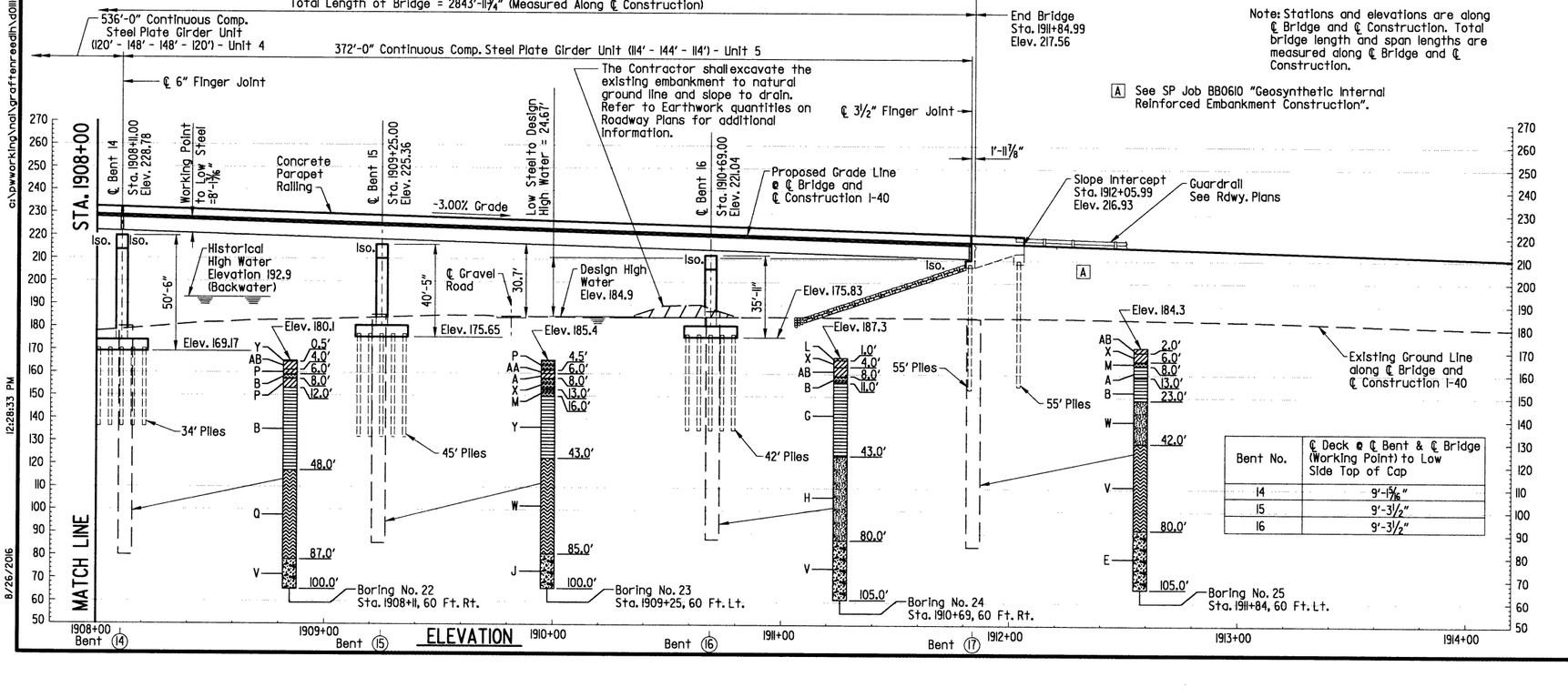
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	62	262
				(1) 07343		- LAYOUT -		56736

Note: For R/W Data, See Roadway Plans.



PLAN



Bent No.	℄ Deck @ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
14	9'-1⅝"
15	9'-3½"
16	9'-3½"

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

BORING BLOW COUNTS

Boring No. 22
℄ Construction I-40
Sta. 1908+11, 60' Rt.

0.5-1.5,	N=6
4.5-5.5,	N=10
9.0-10.0	N=14
14.0-15.0,	N=10
19.0-20.0,	N=20
24.0-25.0,	N=50 (10")
29.0-30.0,	N=47
33.5-34.5,	N=50 (10")
38.5-39.5,	N=50 (9")
44.0-45.0,	N=50
48.0-49.0,	N=50 (10")
59.0-60.0	N=65
68.0-69.0,	N=50 (11")
78.0-79.0,	N=50 (8")
88.0-88.5,	N=50 (5")
95.0-95.5,	N=50 (4")

Boring No. 23
℄ Construction I-40
Sta. 1909+25, 60' Lt.

0.5-1.5,	N=15
2.5-3.5,	N=20
4.5-5.5,	N=11
9.0-10.0	N=22
14.0-15.0,	N=10
19.0-20.0,	N=6
24.0-25.0,	N=50 (10")
29.0-30.0,	N=43
34.0-35.0,	N=50 (7")
39.0-40.0,	N=50
44.0-45.0,	N=40
49.0-50.0,	N=50 (11")
59.0-59.5	N=50 (7")
68.5-69.5,	N=50
78.5-79.5,	N=50 (10")
88.5-89.0,	N=25
95.0-95.5,	N=50 (2")

Boring No. 24
℄ Construction I-40
Sta. 1910+69, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=27
9.0-10.0	N=28
14.0-15.0,	N=28
19.0-20.0,	N=38
24.0-25.0,	N=50
29.0-30.0,	N=50
34.0-35.0,	N=32
39.0-40.0,	N=46
44.0-45.0,	N=50 (8")
49.0-50.0,	N=50 (10")
54.0-55.0	N=50 (8")
64.0-65.0,	N=50 (8")
74.0-75.0,	N=50 (8")
84.0-84.5,	N=50 (4")
94.0-94.5,	N=50 (6")
104.5-105.0,	N=50 (5")

Boring No. 25
℄ Construction I-40
Sta. 1911+84, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=16
9.0-10.0	N=16
14.0-15.0,	N=21
19.0-20.0,	N=27
24.0-25.0,	N=35
29.0-30.0,	N=38
34.0-35.0,	N=59
39.0-40.0,	N=50 (11")
44.0-45.0,	N=50 (11")
49.0-50.0,	N=50 (10")
54.0-55.0	N=50 (8")
64.0-65.0,	N=50 (11")
74.0-74.5,	N=50 (3")
84.0-84.5,	N=50 (4")
94.0-94.5,	N=50 (5")
104.5-105.0,	N=50 (4")

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. CJC 7/29/16

Note: For "Boring Legend" and "Hydraulic Data", See Drawing No. 56737. For "General Notes", See Drawing No. 56738.

ALTERNATE NO. 1
SHEET 5 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11238 CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHG DATE: 12/16/13
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 10/24/14
BRIDGE NO. 07343
FILENAME: bbb0610_lx5.dgn
SCALE: 1" = 30'-0"
DRAWING NO. 56736

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	63	262
				(1) 07343		- LAYOUT -		56737

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY (YEARS)	TOTAL DISCHARGE (CFS) (2)	DISCHARGE THROUGH BRIDGE OPENING (CFS)	(1) NATURAL WATER SURFACE ELEVATION (ft)	WATER SURFACE ELEVATION WITH BACKWATER (ft)
DESIGN	50	195,000	182,900	184.80	184.92
BASE	100	227,000	212,400	186.71	186.85
EXTREME	500	300,000	275,200	190.62	190.74
OVERTOPPING	>500	-	-	-	-

(1) Unconstricted water surface without existing or proposed structure and roadway approaches.

(2) Includes main river bridge (Br. No. 07343) and relief structures.

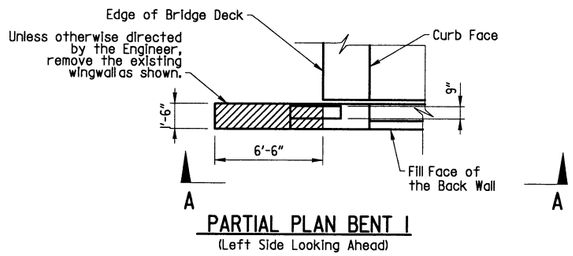
Q100 backwater elevation for existing structure = 186.86 feet.

Proposed Low Bridge Member Elev. = 204.53 feet.

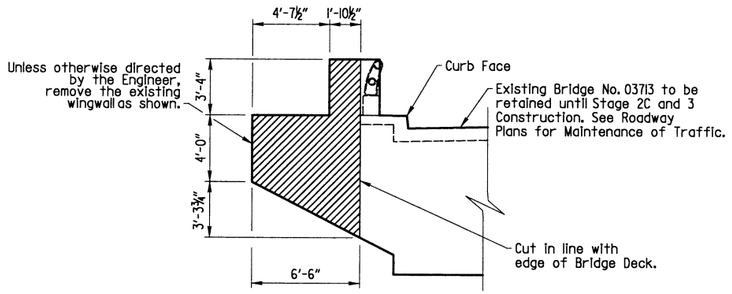
Drainage Area = 23,464 sq. miles

Historical H.W. Elev. = 192.9 feet (May 2011) (Backwater)

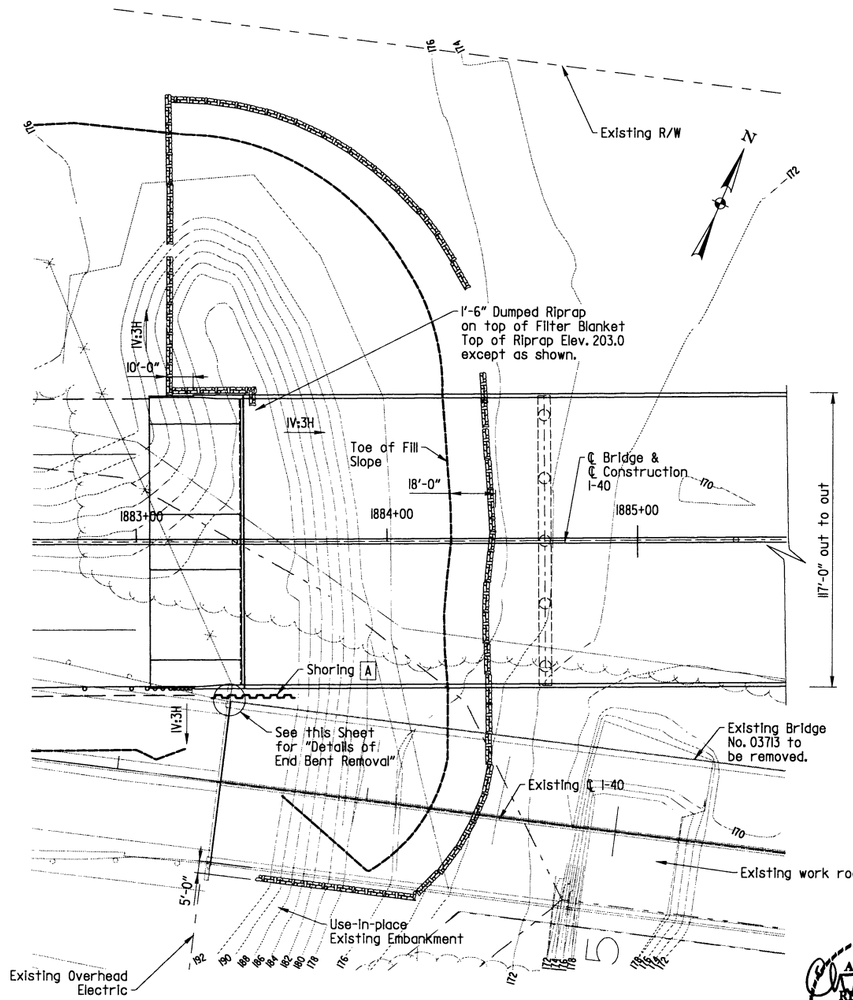
Historical H.W. Elev. = 189.5 feet (April 1927) (Headwater)



PARTIAL PLAN BENT 1
(Left Side Looking Ahead)



PARTIAL ELEVATION A-A BENT 1
(Left Side Looking Ahead)



A See SP Job BB0610 "Shoring".

LOCATION SKETCH

DETAILS OF END BENT REMOVAL

BORING LEGEND

A	-	Firm gray and brown silty clay with silt pockets and ferrous nodules and stains
B	-	Medium dense gray and brown silty fine sand
C	-	Dense gray fine sand, slightly silty
D	-	Dense to very dense gray fine to medium sand with some fine to coarse gravel
E	-	Dense to very dense gray sandy fine to coarse gravel
F	-	Loose gray and brown fine sandy silt, slightly clayey, wet
G	-	Medium dense reddish tan and tan silty fine sand
H	-	Dense to very dense gray and tan fine sand, slightly silty
I	-	Medium dense gray fine to medium sand, slightly silty with occasional organic inclusions
J	-	Dense to very dense gray silty fine to coarse sand with some fine to course gravel
K	-	Soft gray & brown clay, slightly silty with ferrous stains & nodules
L	-	Soft brown clayey silt with occasional clay pockets
M	-	Medium dense brown silty fine sand with occasional clay pockets
N	-	Firm brown silty clay with ferrous stains and nodules
O	-	Loose brown fine sandy silt with silty clay seams and layers
P	-	Stiff gray and brown silty clay with ferrous stains and nodules
Q	-	Dense to very dense gray fine to medium sand
R	-	Very soft gray and brown silty clay with occasional silt pockets and seams
S	-	Very soft brown clayey silt with silty clay seams
T	-	Dense to very dense gray sandy fine to course gravel with occasional fine to medium sand seams and layers
U	-	Medium dense brown and gray silty fine sand with trace fine to coarse gravel
V	-	Dense brown & gray fine to coarse sand with fine to coarse gravel
W	-	Dense brownish gray fine to medium sand, slightly silty
X	-	Stiff brown clay
Y	-	Loose dark gray and brown silty fine sand with numerous organic inclusions
Z	-	Soft to firm brown and gray silty sand
AA	-	Stiff gray clay
AB	-	Firm tan and brown clay
AC	-	Loose brown fine sand, medium dense, with clay layer
AD	-	Dense to very dense brownish gray fine to coarse sand with a little fine gravel
AE	-	Dense to very dense brown fine to coarse sand, slightly silty with a little fine to coarse gravel
AF	-	Dense to very dense brownish gray sandy fine gravel
AG	-	Very stiff light gray silty clay with a little fine to coarse gravel with occasional interbedded fine to coarse gravel seams and layers
AH	-	Hard brownish gray clay, slightly blocky with some fine to coarse gravel and occasional lignite inclusions
AI	-	Hard greenish gray silty clay with fine sand pockets and inclusions
AJ	-	Very soft to soft gray silty clay, wet, stiff
AK	-	Dense to very dense brownish gray fine sand, slightly silty with a trace fine gravel, fine to medium sand
AL	-	Dense to very dense gray fine to coarse sand with some fine gravel
AM	-	Very stiff to hard gray silty clay
AN	-	Hard brownish gray clay, slightly blocky
AO	-	Hard light gray clay
AP	-	Hard greenish gray clay, blocky with silty fine sand partings and occasional lignite inclusions, some clayey fine sand seams
AQ	-	Hard light grayish green clay
AR	-	Dense to very dense greenish gray fine sandy clay with some clay seams and lignite inclusions, interbedded fine sand partings and clay seams
AS	-	Hard greenish gray silty clay, blocky with fine sand partings and occasional clayey fine sand seams
AT	-	Very soft to soft brown and gray silty clay, slightly sandy with silt partings, organic inclusions and organic stains, damp
AU	-	Loose grayish brown silty fine sand with ferrous stains
AV	-	Very loose to loose gray silty fine sand with interbedded silty clay seams and layers
AW	-	Loose gray silty fine sand
AX	-	Medium dense grayish brown fine sand, slightly silty
AY	-	Dense to very dense gray fine to coarse sand with fine to coarse gravel and occasional organic inclusions
AZ	-	Dense to very dense brownish gray fine to medium sand with a little fine to coarse gravel
BA	-	Hard light gray silty clay, blocky
BB	-	Hard brownish gray fine sandy clay with fine sand partings and pockets and organic stains

1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11228 CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 6 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 12/16/13 FILENAME: bbb0610_lx6.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 10/24/14 SCALE: No Scale
BRIDGE NO. 07343 DRAWING NO. 56737

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	64	262
				(1) 07343		- LAYOUT -		56738

GENERAL NOTES

BENCH MARKS:
TBM 901 - CH SQ Cut S-W Corner BR White River Bridge, 134.52' right of Sta. 1883+26.66, Elev. 204.34.
TBM 902 - Cut CQ NE Bridge Corner, 131.07' right of Sta. 1910+64.07, Elev. 211.56.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted on the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with current Interims, and AASHTO Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges, 2nd Edition (2009) with 2010 Interims.

LIVE LOADING: HL-93
OPERATIONAL IMPORTANCE: Essential (with substructure response modification factors for Critical Operational Importance).

SEISMIC ZONE: 2 S_{D1} = 0.29 SITE CLASS: D

MATERIALS AND STRENGTHS:

Class S (AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Class B Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322, Type A, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 through 8 and 11 through 17 shall be 18" diameter concrete filled steel shell piles and shall be driven to the minimum ultimate bearing capacity shown in the "Steel Shell Piling" table. All piles shall be driven with an approved air, steam, or diesel hammer. Piling in Bents 1 and 17 shall be driven after embankment to the bottom of the cap is in place. Piling in Bents 1 through 8 and 11 through 17 shall be driven to the tip elevation shown in the "Steel Shell Piling" table or lower. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

The driving system approval and the ultimate bearing capacity determination for all piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum rated hammer energy required to obtain the minimum ultimate bearing capacity will be as shown in the "Steel Shell Piling" table.

Water jetting, preboring, or other methods as approved by the Engineer may be required to achieve the specified minimum tip elevation. Any cost associated with achieving the minimum tip elevation will be considered incidental to the item "Steel Shell Piling (18" dia.)".

FOOTINGS: The top of footings for Bents 2 through 8 and 11 through 16 shall be set a minimum of 2'-0" below natural ground and no higher than the elevations shown on the plans. Foundations for footings shall be prepared in accordance with Subsection 801.04 and backfilled in accordance with Subsection 801.08.

DRILLED SHAFTS: Foundations for Bents 9 & 10 and Piers 1 & 2 shall consist of drilled shafts. All drilled shafts shall be founded to the minimum tip elevations shown on the plans. No adjustments to plan tip elevations shall be made without prior approval of the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job BB0610 "Drilled Shaft Foundations".

CROSSHOLE SONIC LOGGING: Nondestructive testing shall be performed in accordance with SP Job BB0610 "Nondestructive Testing of Drilled Shafts".

EXISTING BRIDGE: Existing Bridge No. 03713 (log mile 199.48) is 65.5 feet wide and 2700.5 feet long and consists of continuous, composite plate girder units. Superstructure is supported by concrete substructure. The existing bridge is located approximately 217 feet downstream from the proposed new bridge. Half size sheets (Drawings Nos. 13199 through 13235) of the existing bridge may be obtained from the Construction Contract Procurement Section of the Program Management Division.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing Bridge No. 03713 shall be removed in accordance with Section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor with the exception of the lenses in the navigational lights which will remain the property of AHTD District 6. The Contractor shall coordinate with the Engineer regarding temproary storage and on-site loading onto Department equipment. This work will be considered subsidiary to the item "Removal of Existing Bridge Structure (Site No. 1).

MAINTENANCE OF TRAFFIC: See Roadway Plans.

DETAIL DRAWINGS:	DRAWING NOS.
Schedule of Bridge Quantities	56731
Layout of Bridge over White River	56732 - 56738
Hydrograph of White River	56739 & 56739A
Foundation Layout	56740 - 56744
End Bents 1 & 17	56745 - 56748
Intermediate Bents 2 through 16	56749 - 56764 & 56770 - 56783
Piers 1 & 2	56765 - 56769
536'-0" Continuous Composite Plate Girder Unit - Units 1, 2 and 4	56784 - 56803
860'-0" Continuous Composite Plate Girder Unit - Unit 3	56804 - 56822
372'-0" Continuous Composite Plate Girder Unit - Unit 5	56823 - 56836
Details of Finger Joints	56837 - 56838
Seismic Isolation Bearings	56839 - 56840
Details of Inspection Walkway	56841 - 56849
Details of Safety Handrail	56850 - 56854
Details of Type Special Approach Slab	56855 - 56856
Details of Navigational Lighting	56857
Details of Clearance Gauges	56858
Details of Concrete Filled Steel Shell Piles	56859

Steel Shell Piling				
Bent/Pier	Minimum Pile Tip Elevation	Estimated Production Pile Length feet	Minimum Ultimate Bearing Capacity tons/pile	Hammer Energy ft-kips
End Bent 1	133	69	210.0	66.2
Bent 2	122	42	182.2	51.2
Bent 3	122	42	177.7	51.2
Bent 4	118	47	213.6	73.8
Bent 5	117	51	180.0	59.7
Bent 6	123	46	205.0	59.7
Bent 7	124	46	170.0	51.2
Bent 8	105	55	245.0	54.0
Bent 9	-	-	-	-
Pier 1	-	-	-	-
Pier 2	-	-	-	-
Bent 10	-	-	-	-
Bent 11	107	61	292.0	75.4
Bent 12	120	49	170.0	51.2
Bent 13	120	49	169.0	51.2
Bent 14	137	34	116.1	59.7
Bent 15	132	45	169.3	51.2
Bent 16	135	42	169.3	51.2
End Bent 17	152	55	240.0	66.2

SUPERSTRUCTURE GENERAL NOTES

STRUCTURAL STEEL: All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted. All structural steel shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)". Structural Steel completely embedded in concrete may be AASHTO M270 Gr. 36. or Gr. 50, unless otherwise noted. All exposed surfaces shall be cleaned in accordance with Subsection 807.84 unless noted otherwise.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Girders, including all field splice plates and crossframe members, are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Steel plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All girders shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured with the girders in their true position and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60° F. A tolerance of +/- 1/4" is allowed for camber.

Girder webs may be made by shop splicing with a minimum length of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with a minimum length of 25 feet for sections. No additional payment for these splice welds will be made. Material specifications and location of shop welded splices, if any, shall be shown on shop drawings.

Field connections shall be bolted with high strength bolts. For 3/4" bolts: Open holes = 15/16 " unless otherwise noted. Bolt spacing = 2½" unless otherwise noted. Minimum edge distance = 1¼" unless otherwise noted. For 7/8" Bolts: Open holes = 15/16 " unless otherwise noted. Bolt spacing = 3" unless otherwise noted. Minimum edge distance = 1½" unless otherwise noted. For 1" bolts: Open holes = 1 1/16" unless otherwise noted. Bolt spacing = 3½" unless otherwise noted. Minimum edge distance = 1¾" unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of girder flanges.

Oversized holes may be used in center bay of all units if optional longitudinal joint in deck is used. Holes for 1" high strength bolts in crossframes may be 1¼" diameter if a washer is supplied for use under both the nut and head of the bolt. Holes for 3/4" high strength bolts in expansion devices may be 15/16 " diameter if a washer is supplied for use under both the nut and the head of the bolt.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Groove welds in main plate girder members shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing shall be considered subsidary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, submitted and approval secured before fabrication is begun.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with the recommendations of the manufacturer.

Crossframes shall be installed as girders are erected, unless oterwise noted. All bolts in crossframes and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck, except as noted.

All seismic isolation bearings shall be seated in accordance with the recommendations of the bearing manufacturer. This work and material will not be paid for directly but will be considered subsidiary to the item "Seismic Isolation Bearings".

REINFORCING STEEL: All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports. The reinforcing steel shall be accurately located in the forms and firmly held in place by wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of "Epoxy Coated Reinforcing Steel (Grade 60)".

CONCRETE: Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless otherwise noted. The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 and Drawing No. 56794, 56795, 56815, and 56831 for allowable modifications and for tolerances when permanent steel bridge deck forms are used. Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class S Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. Use of a longitudinal screed is not permitted on any span of the bridge deck with horizontal curvature. A minimum of 72 hours shall elapse between completion of the bridge deck and the pouring of the parapet railing or median barrier. Any railing or barrier pours made before the entire slab has been placed and cured must be approved by the Engineer.

CLASS 1 PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the roadway surface, to the roadway face and top of concrete parapet rail, and to each face and top of the median barrier.

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11328 CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 7 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JOS DATE: 4/19/14 FILENAME: bbb0610_gnl.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 10/24/14 SCALE: NONE
BRIDGE NO. 07343 DRAWING NO. 56738

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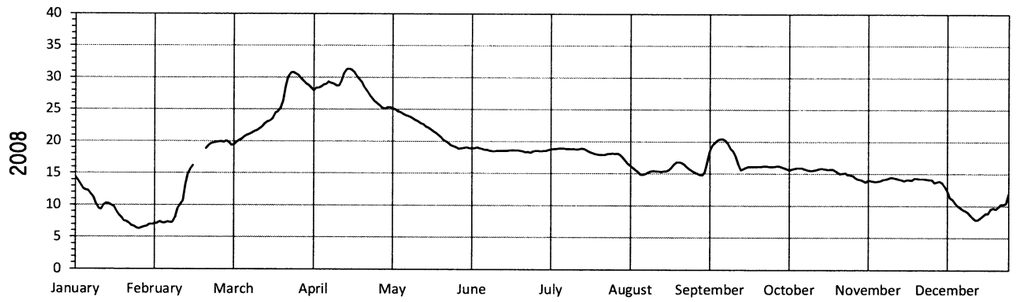
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	65	262
				(1) 07343	-	HYDROGRAPH	-	56739

Daily Stages are the water surface height, in feet, above Gage No. 07077000 datum.



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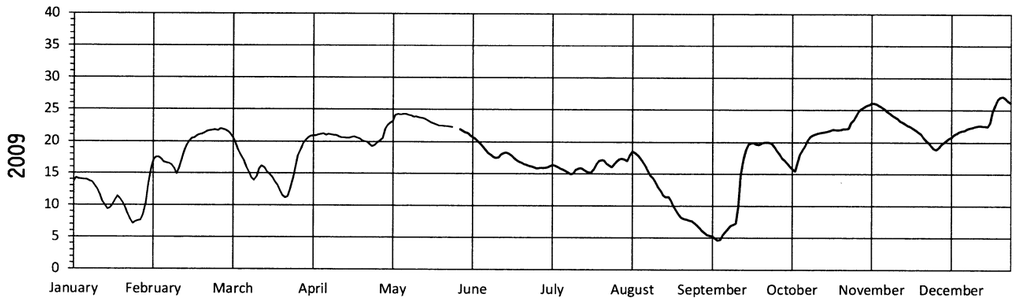

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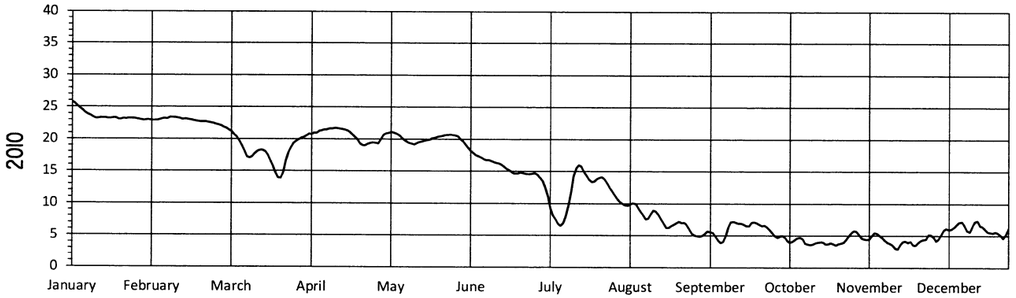

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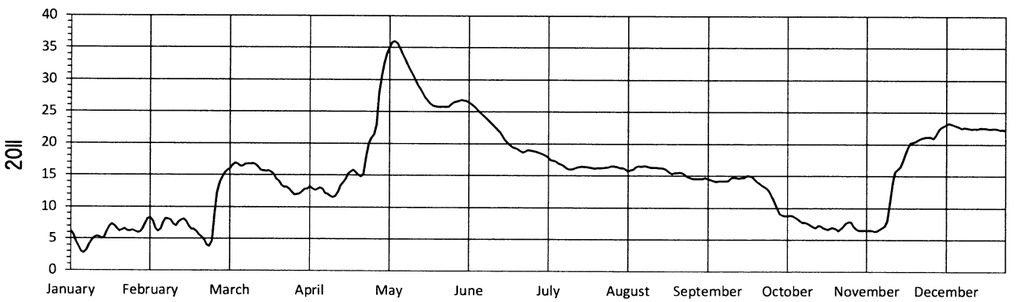

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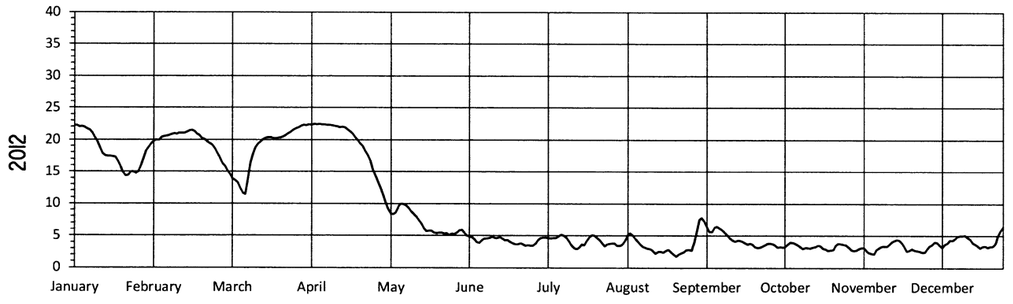
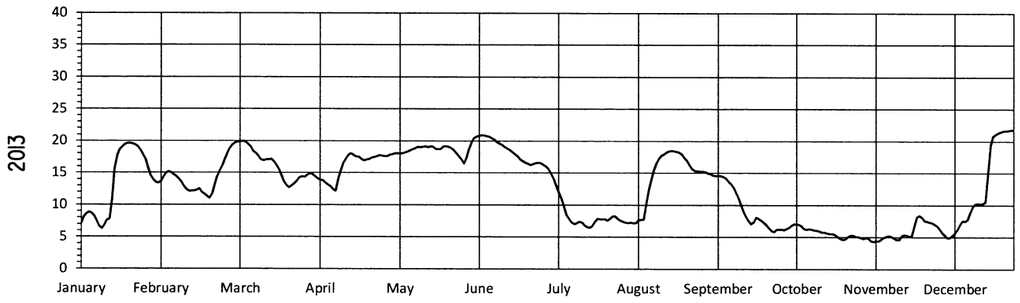
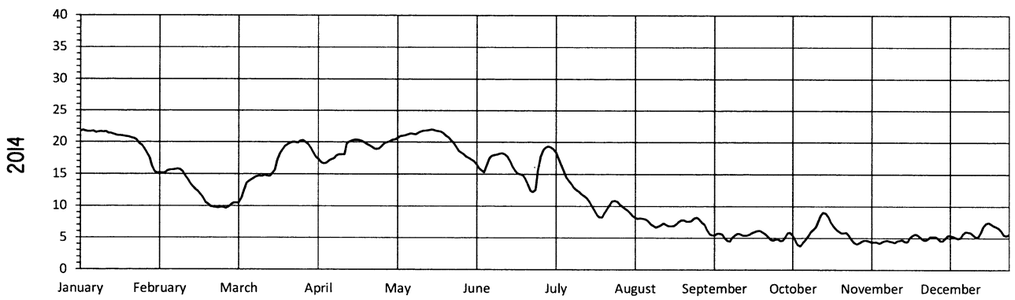


DAILY STAGES FOR JANUARY THROUGH DECEMBER 2012



DAILY STAGES FOR JANUARY THROUGH DECEMBER 2013



DAILY STAGES FOR JANUARY THROUGH DECEMBER 2014

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

This Stage Hydrograph was obtained from the United States Geological Survey Division and was plotted by Jacobs.

This hydrograph is provided for information only. Additional gage height information can be found at http://waterdata.usgs.gov/ar/nwis/uv?site_no=07077000

Gage No. 07077000
Location: Latitude 34°47'40", Longitude 91°26'41", At River Mile 121.7, Gage datum Elevation 152.93 above NAVD29. Broken lines in hydrograph signify missing data.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15927
CHARLES G. WISE
8/24/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 2
HYDROGRAPH - WHITE RIVER
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 2/25/14
CHECKED BY: MJS DATE: 1/31/15
DESIGNED BY: CGW DATE: 2/12/15
BRIDGE NO. 07343
FILENAME: bbb0610_hgl.dgn
SCALE: No Scale
DRAWING NO. 56739

JACOBS

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8/26/2016

Daily Stages are the water surface height, in feet, above Gage No. 07077000 datum.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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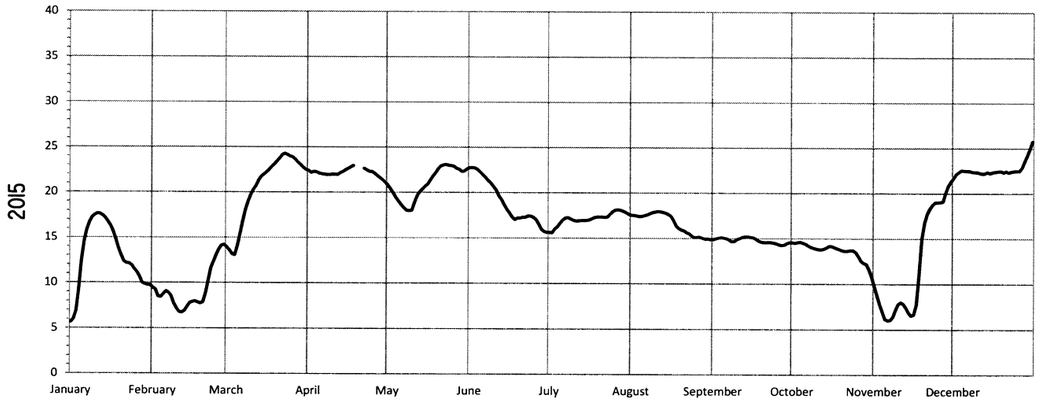
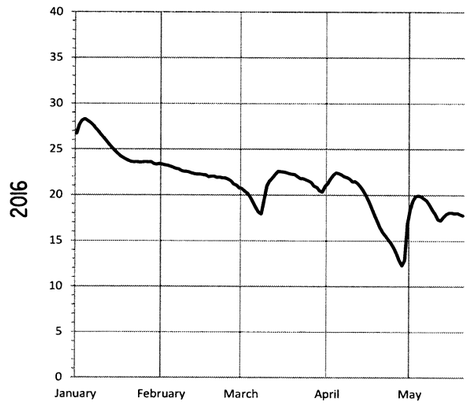
				JOB NO.		BB0610	66	262
				(1) 07343	-	HYDROGRAPH	-	56739A



DAILY STAGES FOR JANUARY THROUGH DECEMBER 2015



DAILY STAGES FOR JANUARY THROUGH MAY 2016

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

This Stage Hydrograph was obtained from the United States Geological Survey Division and was plotted by Jacobs.

This hydrograph is provided for information only. Additional gage height information can be found at http://waterdata.usgs.gov/ar/nwis/uv?site_no=07077000

Gage No. 07077000
Location: Latitude 34°47'40", Longitude 91°26'41", At River Mile 121.7, Gage datum Elevation 152.93 above NAVD29. Broken lines in hydrograph signify missing data.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15927
CHARLES G. WISE
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 2
HYDROGRAPH - WHITE RIVER
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 6/14/16
CHECKED BY: MJS DATE: 6/24/16
DESIGNED BY: CGW DATE: 2/12/15
BRIDGE NO. 07343

FILENAME: bbb06XX_hgl.dgn
SCALE: No Scale
DRAWING NO. 56739A

JACOBS

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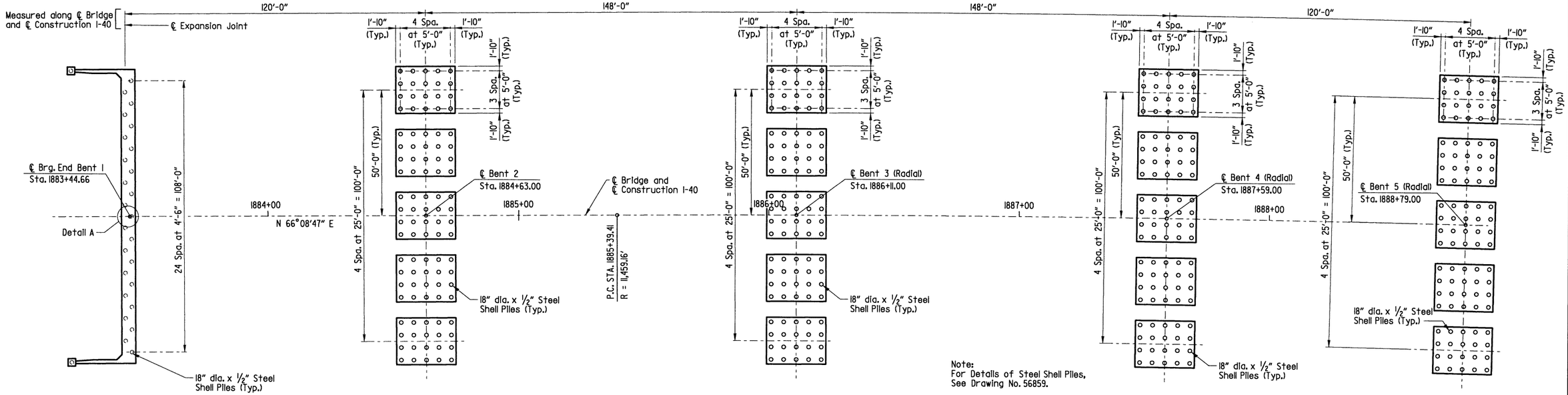
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

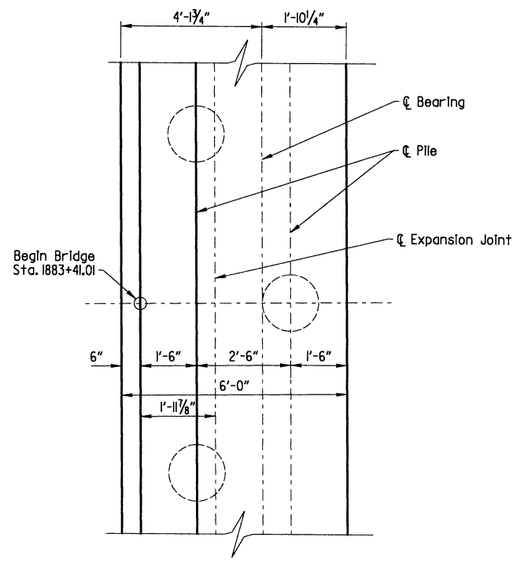
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	67	262
1	07343 - FOUNDATION LAYOUT -			56740



Note:
For Details of Steel Shell Piles, See Drawing No. 56859.

FOUNDATION LAYOUT - UNIT 1

Scale: 1" = 20'-0"



DETAIL A

No Scale

Curve Data	
℄ Construction HORIZONTAL CURVE DATA	
PI =	1876+00.22
R =	11,459.16'
Δ =	7°24'08" Lt.
D =	0°30'00"
T =	741.26'
L =	1480.45'
PC =	1868+58.96
PT =	1883+39.41
e =	Normal Crown

Curve Data	
℄ Construction HORIZONTAL CURVE DATA	
PI =	1900+28.15
R =	11,459.16'
Δ =	14°48'16" Rt.
D =	0°30'00"
T =	1488.74'
L =	2960.90'
PC =	1885+39.41
PT =	1915+00.31
e =	Normal Crown

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. CJC 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11328 CHRISTOPHER J. CRISWELL 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 1 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	4/4/2014	FILENAME:	bbb0610_fil.dgn
CHECKED BY:	CJC	DATE:	7/28/2016		
DESIGNED BY:	---	DATE:	---	SCALE:	AS NOTED
BRIDGE NO. 07343		DRAWING NO. 56740			

JACOBS

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8/26/2016

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				JOB NO.		BB0610	68	262
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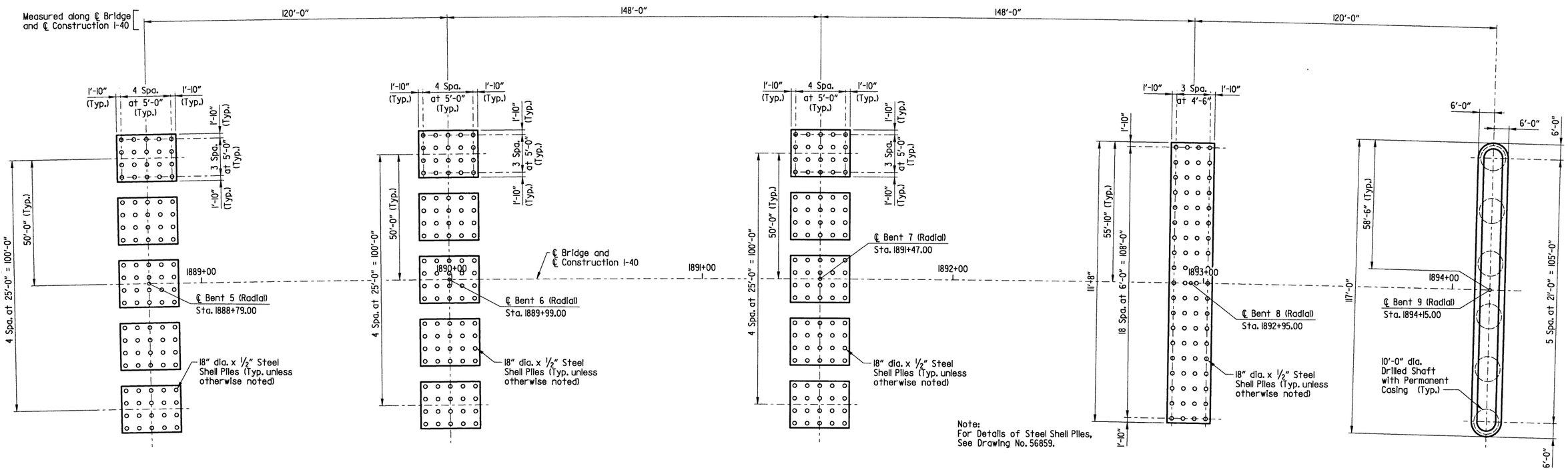

Note:
For Details of Steel Shell Piles, See Drawing No. 56859.

FOUNDATION LAYOUT - UNIT 2

Scale: 1" = 20'-0"

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11238
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 2 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	4/4/2014	FILENAME:	bbb0610_fl2.dgn
CHECKED BY:	CJC	DATE:	7/28/2016		
DESIGNED BY:	---	DATE:	---	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56741		

JACOBS

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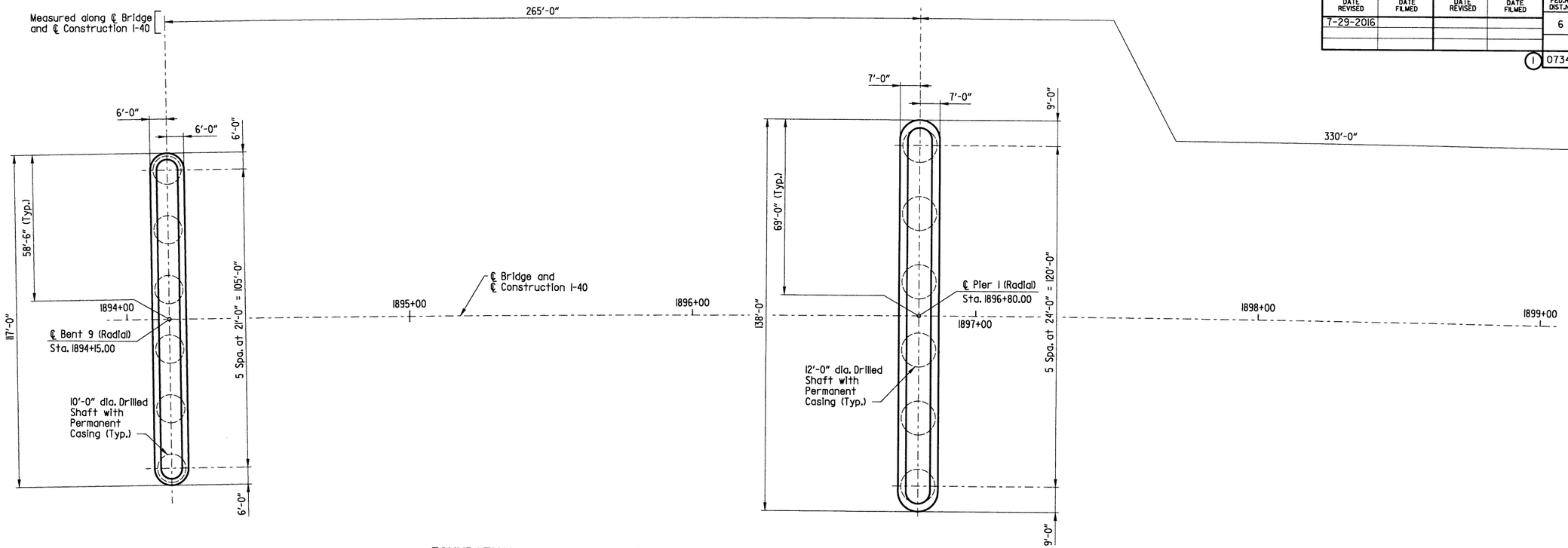
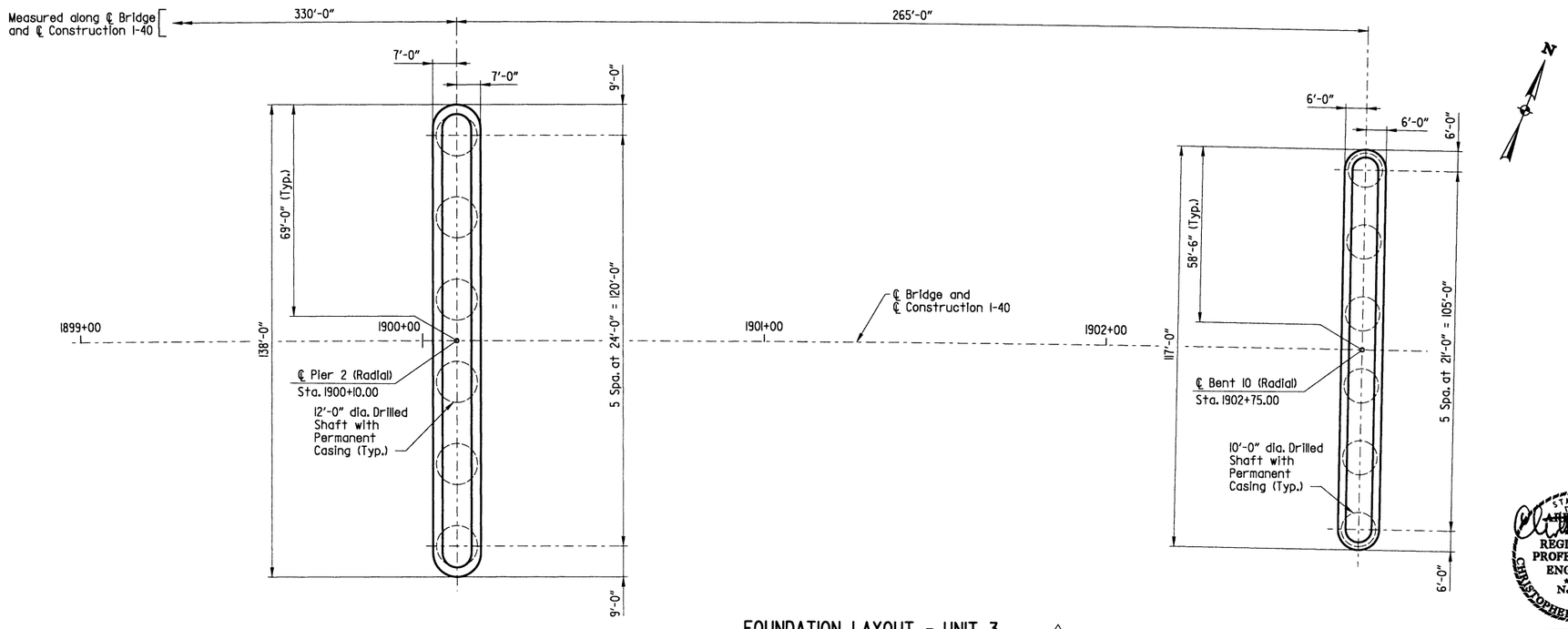
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	69	262
1 07343	- FOUNDATION LAYOUT -			56742



FOUNDATION LAYOUT - UNIT 3

Scale: 1" = 20'-0"



FOUNDATION LAYOUT - UNIT 3

Scale: 1" = 20'-0"

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

STATE OF ARKANSAS
CHRISTOPHER J. CRISWELL
REGISTERED PROFESSIONAL ENGINEER
No. 11328
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 3 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE: 4/4/2014	FILENAME: bbb0610_fl3.dgn
CHECKED BY:	CJC	DATE: 7/28/2016	
DESIGNED BY:	---	DATE: ---	SCALE: AS NOTED
BRIDGE NO. 07343		DRAWING NO. 56742	

JACOBS

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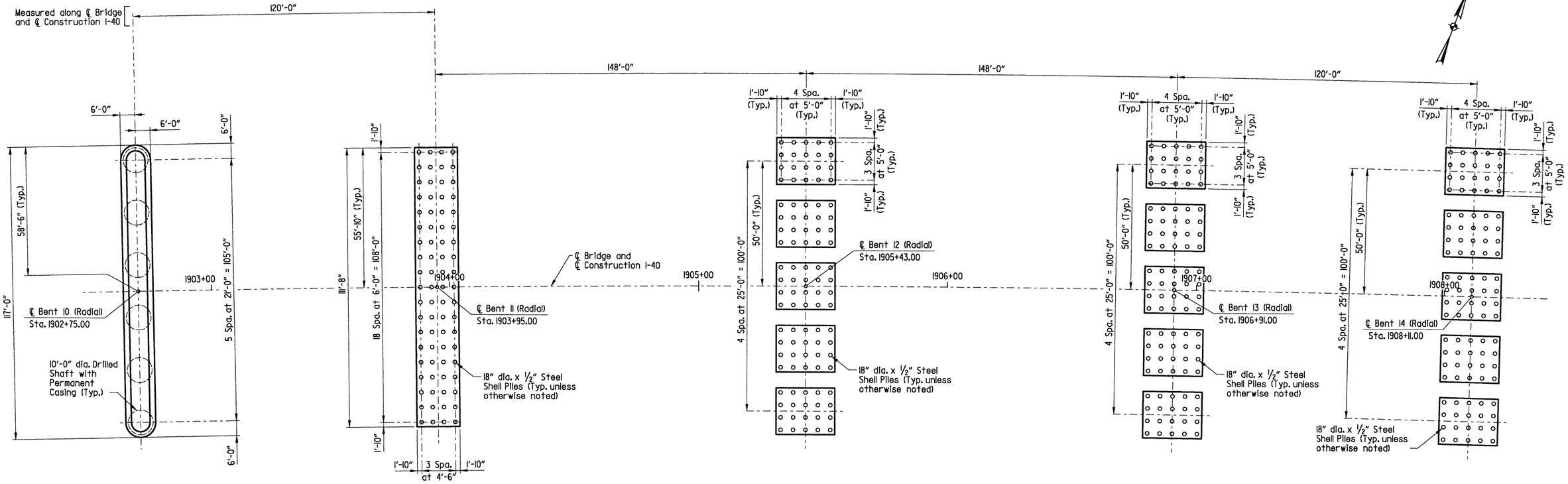
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	70	262
1	07343 - FOUNDATION LAYOUT -			56743



FOUNDATION LAYOUT - UNIT 4

Scale: 1" = 20'-0"

Note:
For Details of Steel Shell Piles,
See Drawing No. 56859.

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11228
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 4 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014 FILENAME: bbb0610_fl4.dgn
CHECKED BY: CJC DATE: 7/28/2016
DESIGNED BY: --- DATE: ---
BRIDGE NO. 07343 SCALE: AS NOTED
DRAWING NO. 56743

JACOBS

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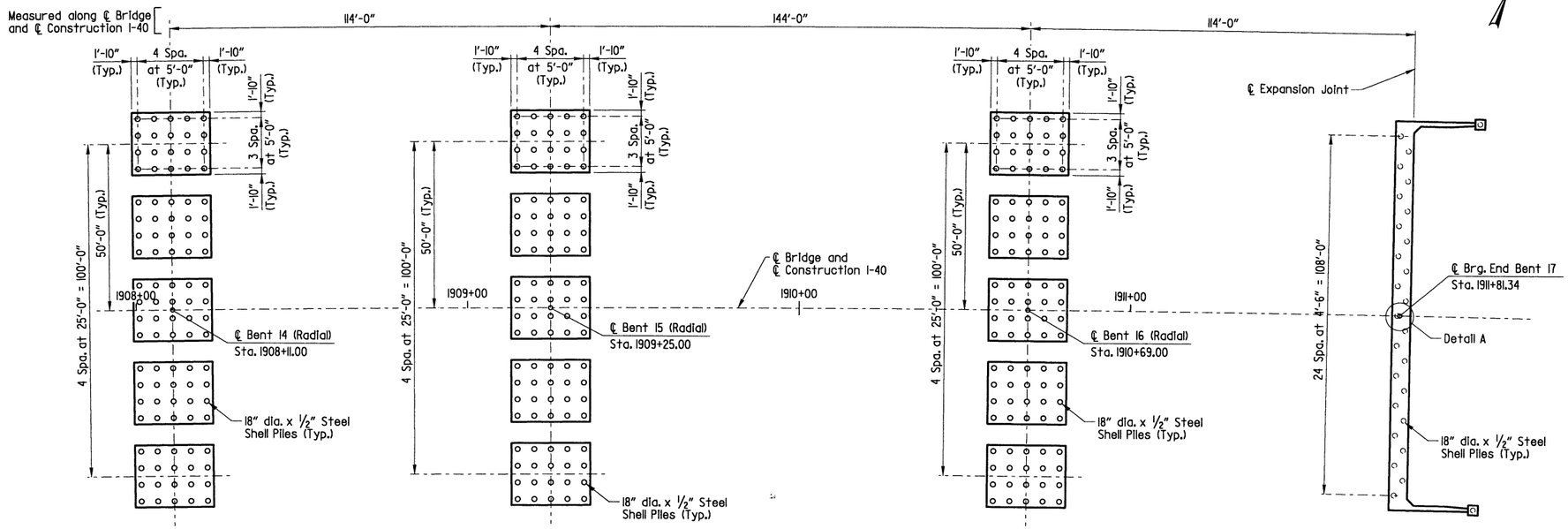
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

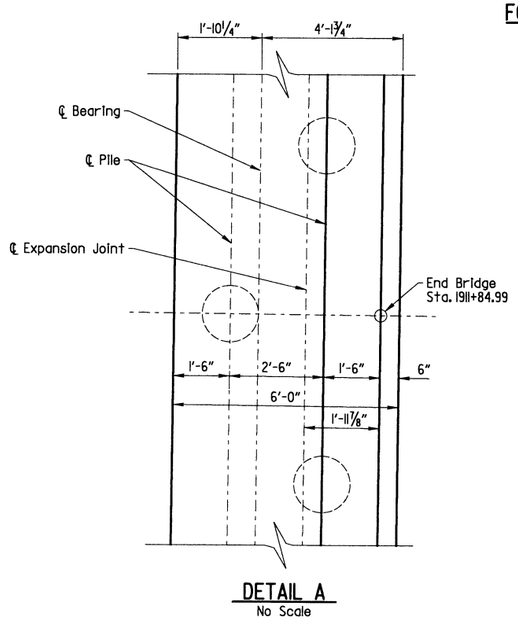
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	71	262
(1) 07343	-	FOUNDATION LAYOUT	-	56744



FOUNDATION LAYOUT - UNIT 5

Scale: 1" = 20'-0"

Note:
For Details of Steel Shell Piles, See Drawing No. 56859.



DETAIL A

No Scale

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11228
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 1
SHEET 5 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014 FILENAME: bbb0610_fl5.dgn
CHECKED BY: CJC DATE: 7/28/2016
DESIGNED BY: --- DATE: ---
BRIDGE NO. 07343 SCALE: AS NOTED
DRAWING NO. 56744

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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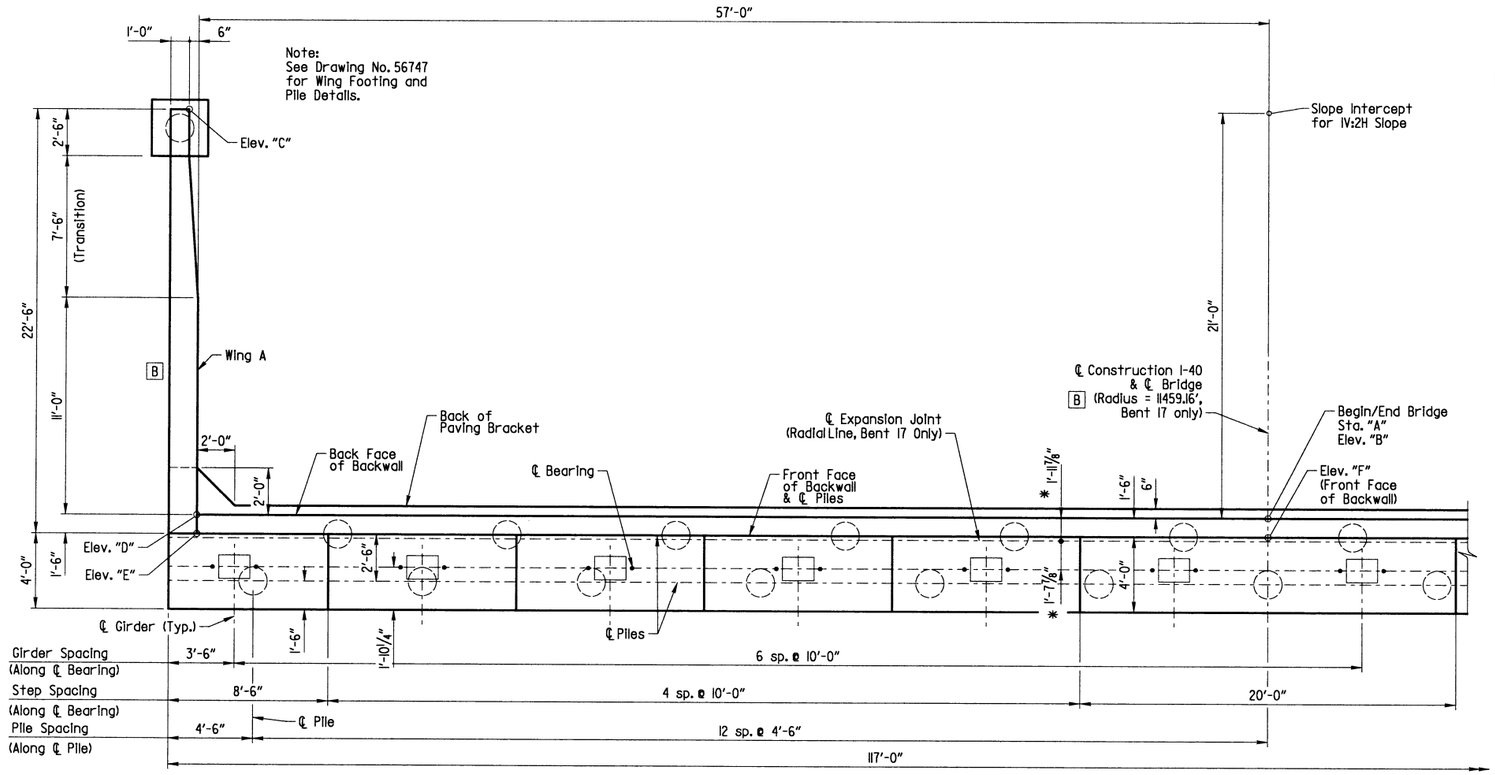
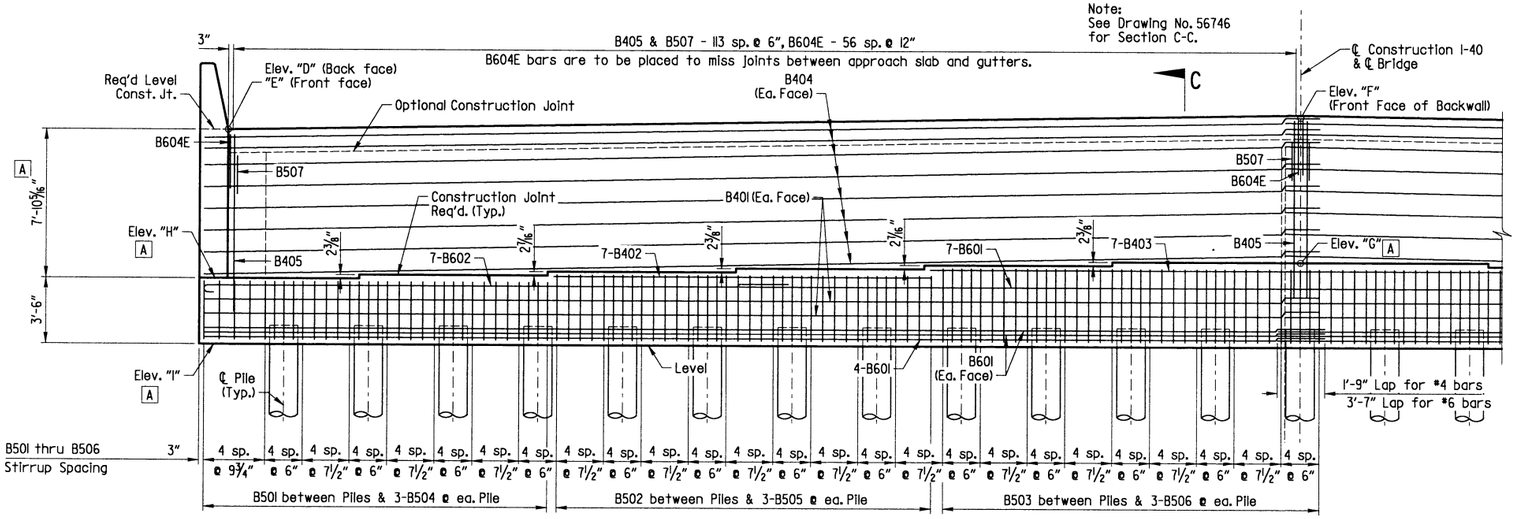


PART PLAN

Scale: 1/4" = 1'-0"

* Dimensions are shown to ℄ Expansion Joint & measured normal to ℄ Joint.



PART ELEVATION

(Bent 1 Looking Back)
(Bent 17 Looking Forward)
Scale: 1/4" = 1'-0"

A Anchor bolts shall not be set until the seismic isolation bearings shop drawings are approved. Elevations & dimensions shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown, actual locations shall be based on approved seismic isolation bearing shop drawings.

B All longitudinal lines at Bent 17 shall be constructed on curves concentric to ℄ Bridge and ℄ Construction.

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength of f'c = 3,500 psi.

Concrete shall be poured in the dry and exposed corners shall be chamfered 3/4" unless otherwise noted.

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (fy = 60,000 psi). Mill test reports shall be submitted for reinforcing steel.

The backwall above the required construction joints shall not be poured until the girders are in place. Backwall may be placed prior to placing the adjacent concrete deck only if the optional backwall construction joint is used. Finish top of backwall to match the bridge deck.

Structural Steel in backwall shall be AASHTO M 270, Gr. 50W and shall be paid for as "Structural Steel in Plate Girder Spans (M 270, Gr. 50W)".

Class I Protective Surface Treatment shall be applied to the roadway face & top of the wing rails, and to the top of the backwall.

For additional information see Layout.

TABLE OF VARIABLES

Variables	End Bt. No. 1	End Bt. No. 17
Sta. "A"	1883+41.51	1911+84.49
Elev. "B"	212.64	217.56
Elev. "C"	210.87	215.79
Elev. "D"	211.50	216.42
Elev. "E"	211.55	216.47
Elev. "F"	212.69	217.61
Elev. "G"	204.69	209.61
Elev. "H"	203.69	208.61
Elev. "I"	200.19	205.11

A

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 4
DETAILS OF END BENTS 1 & 17
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

DRAWN BY: LHG DATE: 11/10/14
CHECKED BY: CMF DATE: 01/27/15
DESIGNED BY: CGW DATE: 12/15/14
FILENAME: bbb0610_all.dgn
SCALE: As Noted
BRIDGE NO. 07343
DRAWING NO. 56745

JACOBS

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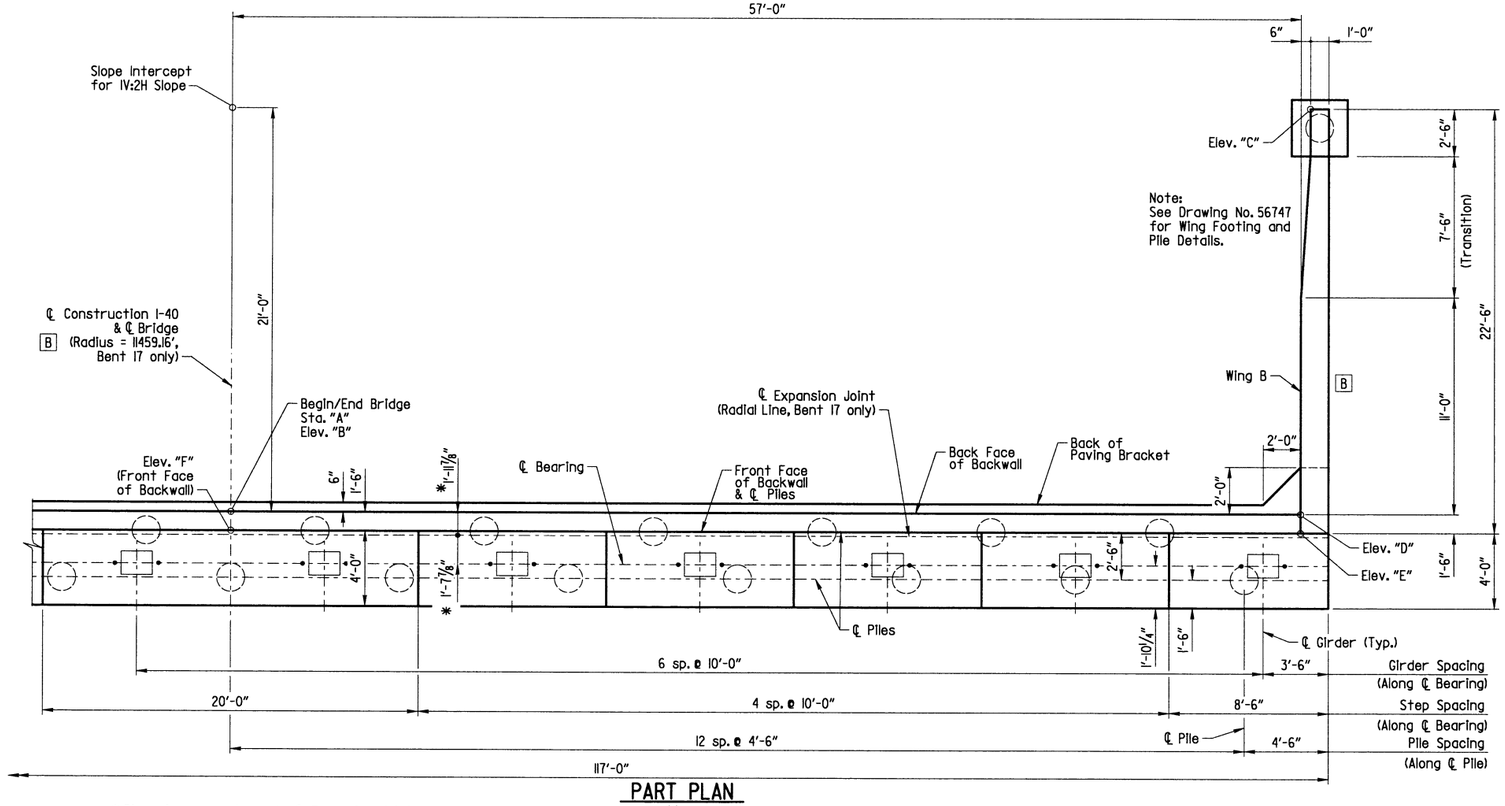
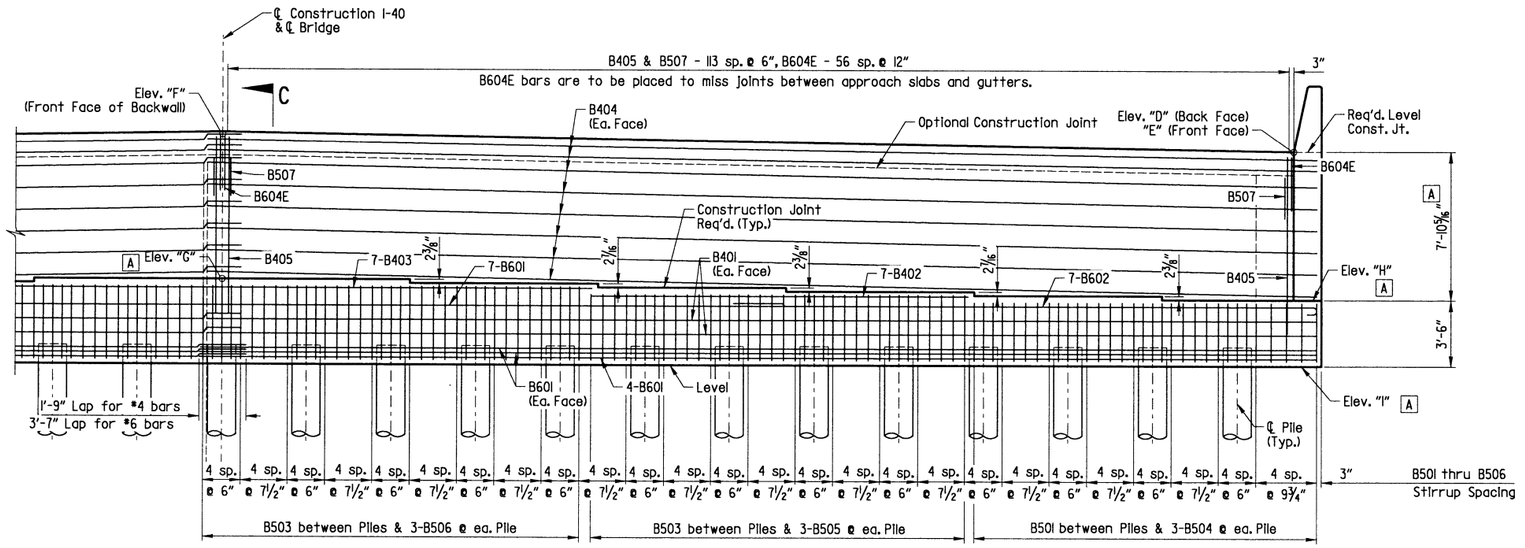
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	73	262
				07343	-	END BENTS	-	56746



* Dimensions are shown to ℄ Expansion Joint & measured normal to ℄ Joint.

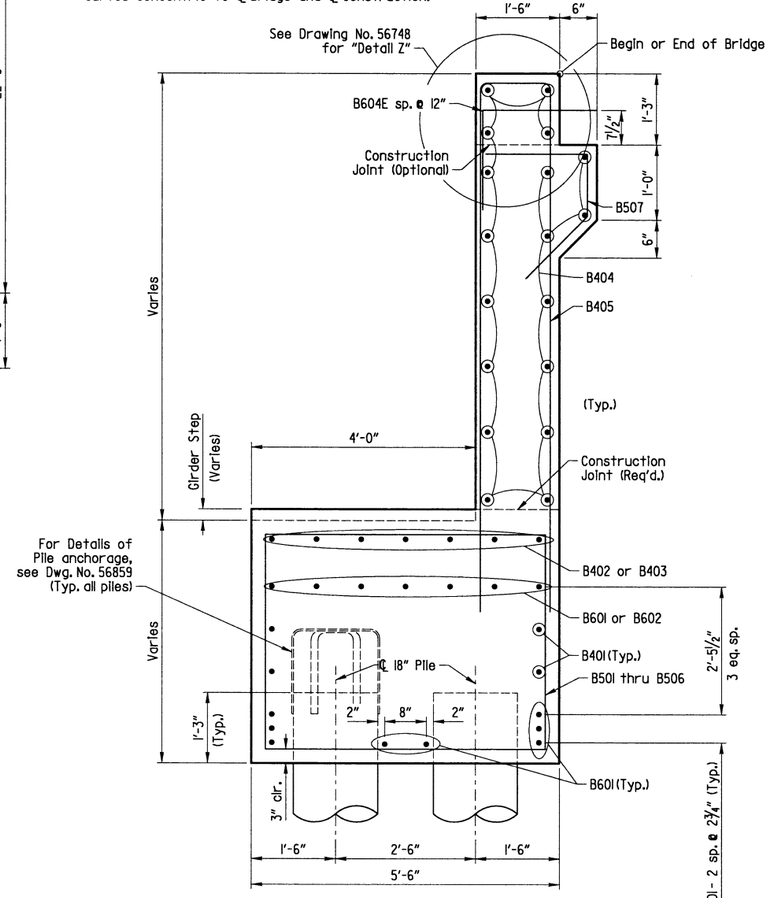
PART PLAN
Scale: 1/4" = 1'-0"



PART ELEVATION
(Bent 1 Looking Back)
(Bent 17 Looking Forward)
Scale: 1/4" = 1'-0"

A Anchor bolts shall not be set until the seismic isolation bearings shop drawings are approved. Elevations & dimensions shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown, actual locations shall be based on approved seismic isolation bearing shop drawings.

B All longitudinal lines at Bent 17 shall be constructed on curves concentric to ℄ Bridge and ℄ Construction.



SECTION C-C
Scale: 3/4" = 1'-0"

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 4
DETAILS OF END BENTS 1 & 17
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 11/10/14
CHECKED BY: CMF DATE: 01/27/15
DESIGNED BY: CGW DATE: 12/15/14
BRIDGE NO. 07343
FILENAME: bbb0610_al2.dgn
SCALE: As Noted
DRAWING NO. 56746

JACOBS

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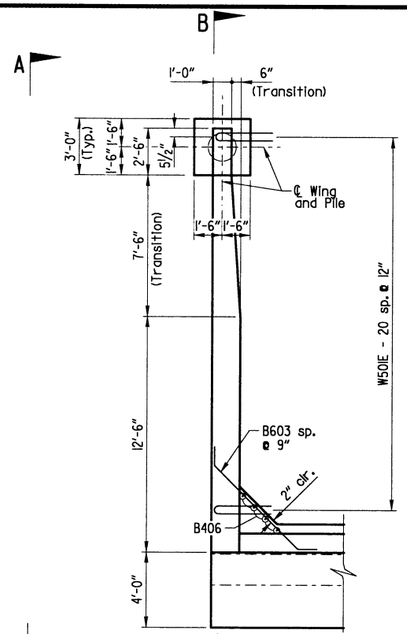
8/26/2016

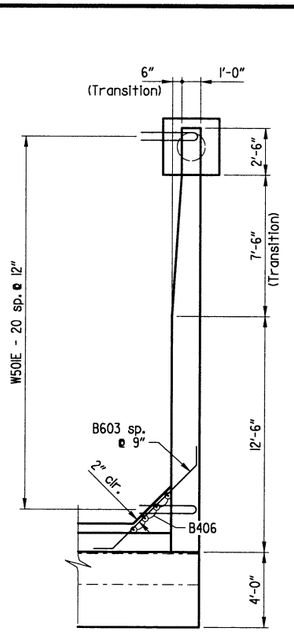
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	74	262
1 07343	-	END BENTS	-	56747



DETAIL WING A

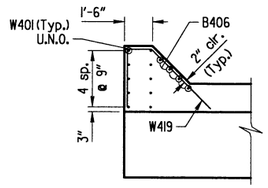
Scale: 1/4" = 1'-0"



DETAIL WING B

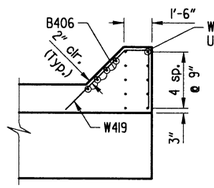
Scale: 1/4" = 1'-0"

* R401 bars shall be field bent to match rail face. Pin Dia. = 3"



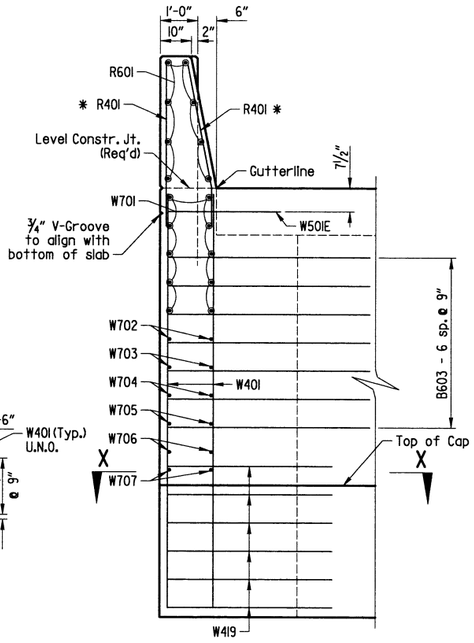
SECTION X-X

Scale: 1/4" = 1'-0"



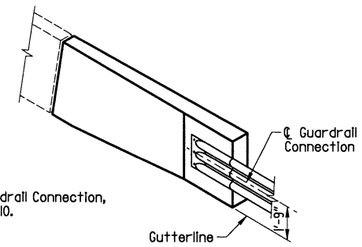
SECTION X-X

Scale: 1/4" = 1'-0"



VIEW E-E

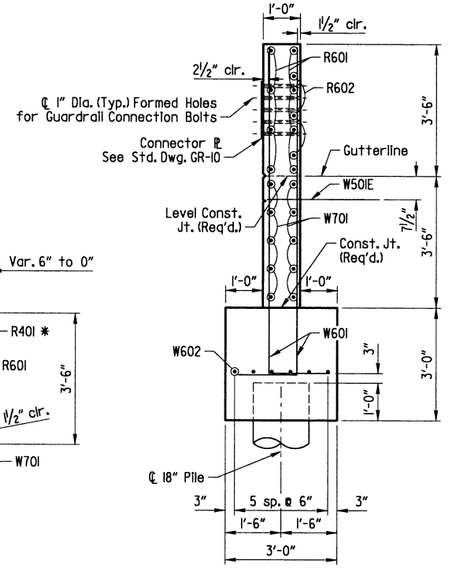
Scale: 1/2" = 1'-0"



Note:
For details of Guardrail Connection, See Std. Dwg. No. GR-10.

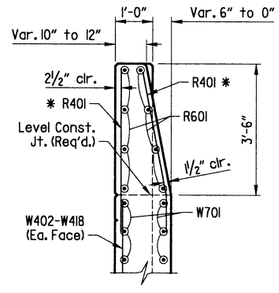
THREE DIMENSIONAL VIEW OF RAIL

No Scale



SECTION G-G

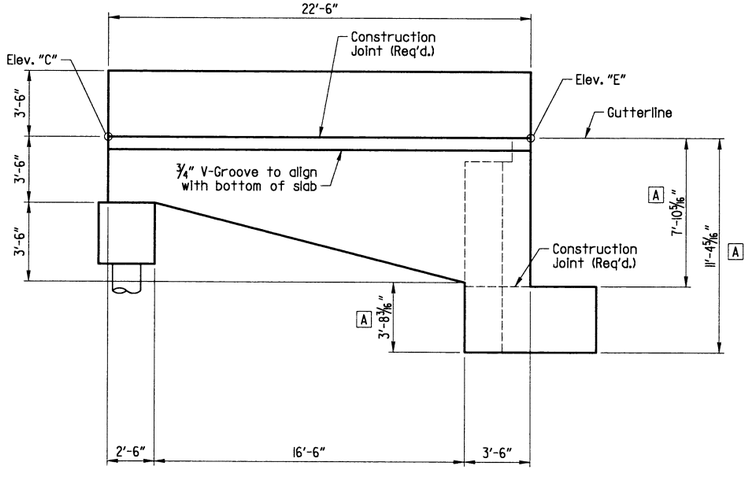
Scale: 1/2" = 1'-0"



SECTION F-F

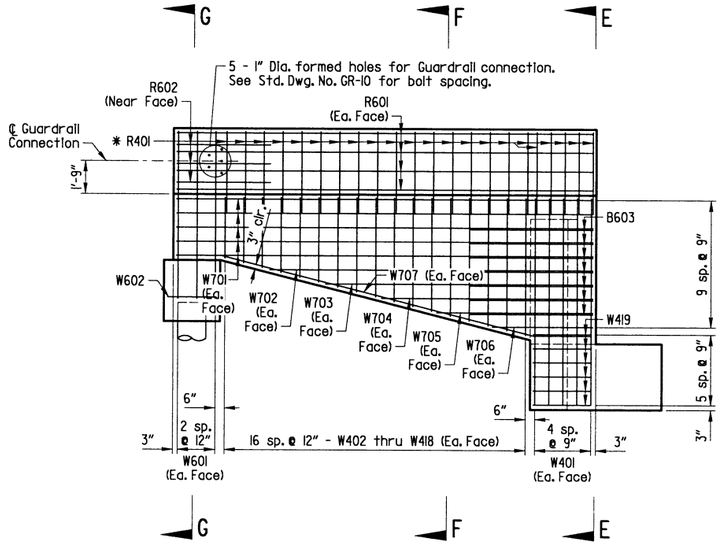
Scale: 1/2" = 1'-0"

[A] Dimensions shown are estimated. Actual values to be determined by the Contractor based on approved seismic isolation bearing shop drawings.



VIEW A-A

No Scale



SECTION B-B

No Scale

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 4
DETAILS OF END BENTS 1 & 17
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	11/11/14	FILENAME:	bbb0610_al3.dgn
CHECKED BY:	CMF	DATE:	01/27/15		
DESIGNED BY:	CGW	DATE:	12/15/14	SCALE:	As Noted
BRIDGE NO. 07343			DRAWING NO. 56747		

JACOBS

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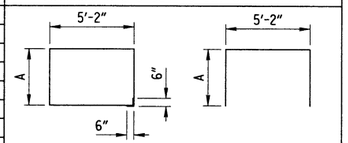
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	75	262
				(1) 07343	-	END BENTS	-	56748

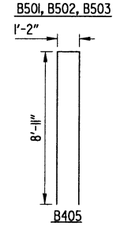
BAR LIST FOR ONE END BENT

Mark	NO. REQ'D.	LENGTH	A	PIN DIA.
B401	8	59'-2"		Str.
B402	14	20'-0"		Str.
B403	7	39'-6"		Str.
B404	32	59'-2"		Str.
B405	228	18'-10"		2"
B406	8	9'-7"		Str.
B501	40	17'-0"	3'-1"	2½"
B502	46	17'-8"	3'-5"	2½"
B503	44	18'-6"	3'-10"	2½"
B504	24	11'-1"	3'-1"	2½"
B505	24	11'-9"	3'-5"	2½"
B506	27	12'-7"	3'-10"	2½"
B507	228	4'-3"		3¾"
B601	23	59'-7"		Str.
B602	14	32'-9"		4½"
B603	14	8'-3"		4½"
B604E	114	6'-4"		4½"
* R401	88	6'-4"		3"
R601	8	22'-2"		Str.
R602	6	5'-0"		Str.
W401	20	10'-11"		Str.
W402 to W418	4 ea.	3'-2" to 7'-1"		Str.
W419	12	8'-7"		3"
W501E	42	6'-2"		3¾"
W601	12	10'-0"		4½"
W602	12	2'-6"		Str.
W701	20	22'-1"		Str.
W702	4	17'-2"		Str.
W703	4	14'-2"		Str.
W704	4	11'-1"		Str.
W705	4	8'-0"		Str.
W706	4	4'-11"		Str.
W707	4	20'-1"		5¼"

BAR BENDING DIAGRAM (Dimensions are out to out of bars.)

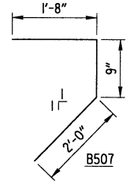


B501, B502, B503



B405

B504, B505, B506



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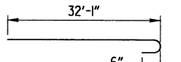

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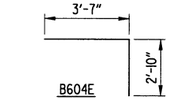
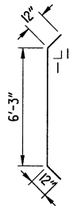


B604E



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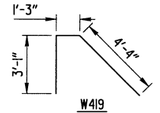
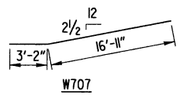


W419



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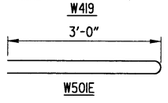

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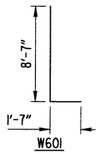
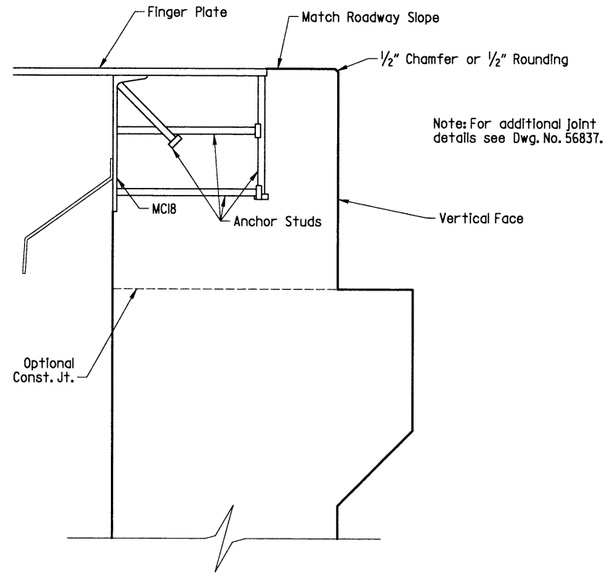


W601

* R401 bars shall be field bent to match rail face. Pin Dia. = 3"

Note:
All bars designated with an "E" suffix shall be epoxy coated.



Note: Concrete shall be hand packed under the joint armor in the backwall and the span.

DETAIL Z
(No Scale)

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 15927
CHARLES G. WISE
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 4
DETAILS OF END BENTS 1 & 17
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHC DATE: 11/11/14
CHECKED BY: CMF DATE: 1/27/15
DESIGNED BY: CGW DATE: 12/15/14
BRIDGE NO. 07343
FILENAME: bbb0610_al4.dgn
SCALE: As Noted
DRAWING NO. 56748

JACOBS

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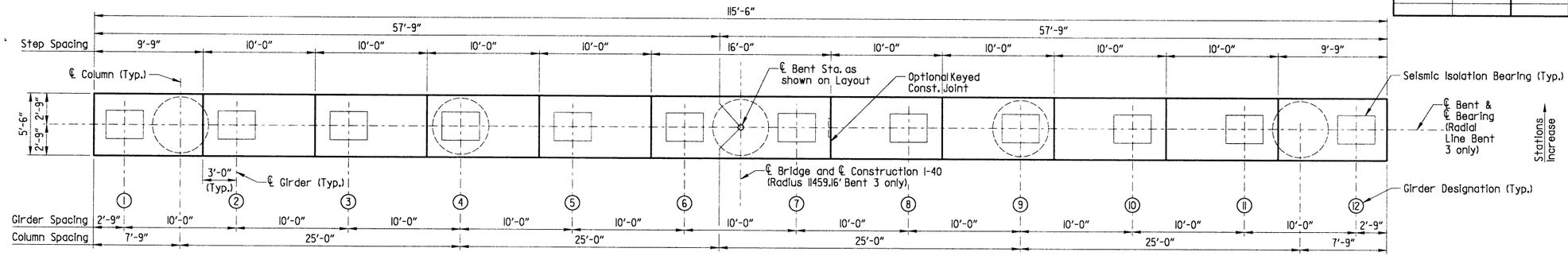
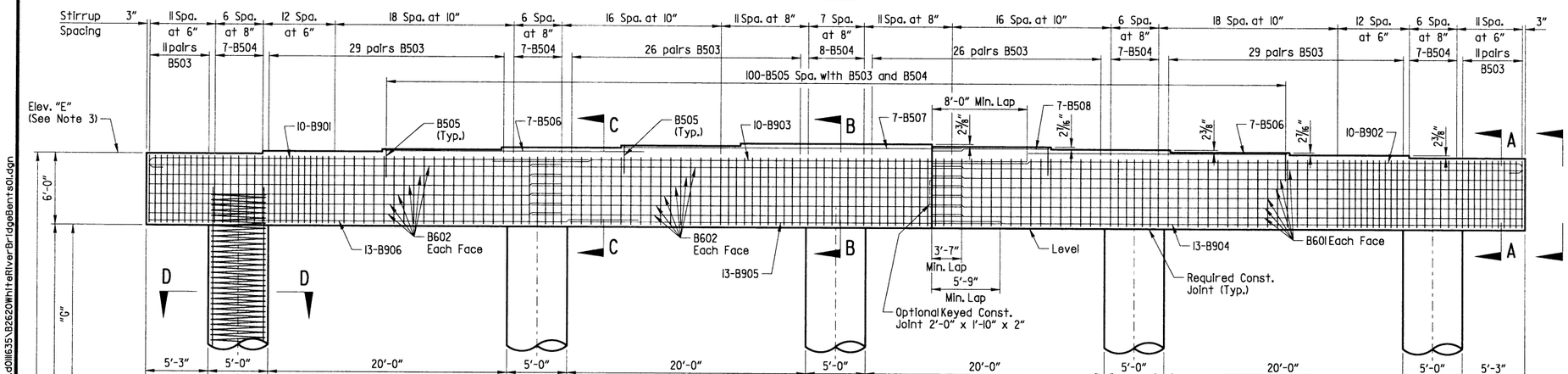
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	76	262
1 07343	-	INTERMEDIATE BENTS	-	56749

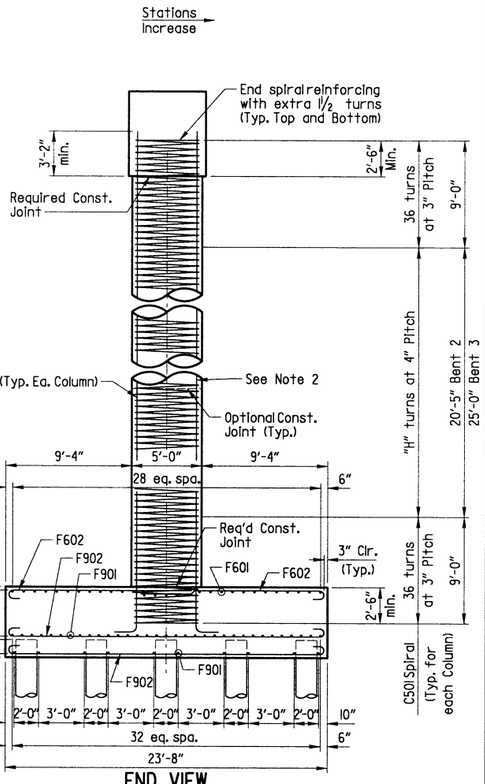


PLAN



ELEVATION
(Looking Ahead Station)

TABLE OF VARIABLES		
VARIABLE	BENT 2	BENT 3
"A"	44'-5"	49'-0"
"B"	33'-5"	38'-0"
Elev. "C"	162.57	162.43
Elev. "E"	206.99	211.43
"F"	15'-0"	17'-3"
"G"	18'-5"	20'-9"
"H"	61	75
"J"	1946'-7"	2146'-10"
"K"	41'-3"	45'-10"
"L"	39'-10 3/4"	44'-5 3/4"



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56750.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENTS 2 & 3
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/28/2014 FILENAME: bbb0610_b21.dgn
CHECKED BY: MJS DATE: 01/24/2015
DESIGNED BY: CAS DATE: 10/28/2014 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343
DRAWING NO. 56749

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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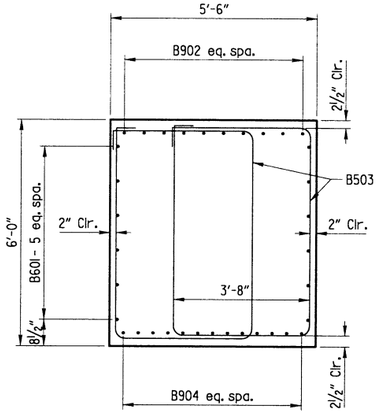
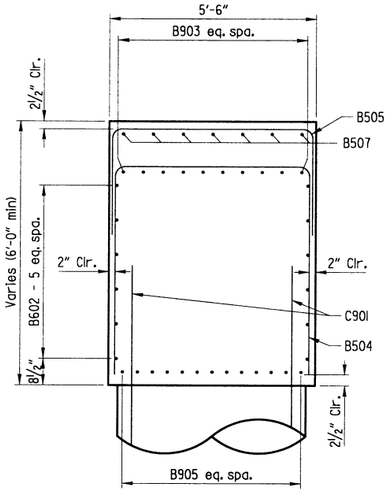
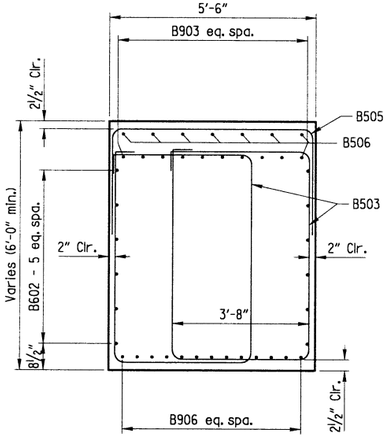
				JOB NO.		BB0610	77	262
				1	07343 - INTERMEDIATE BENTS -			56750



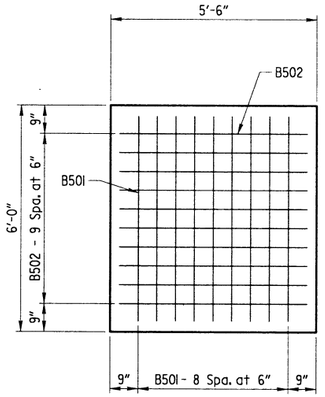
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



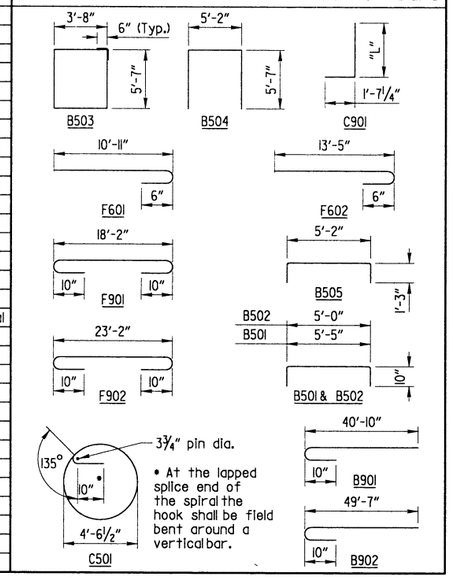
SECTION E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

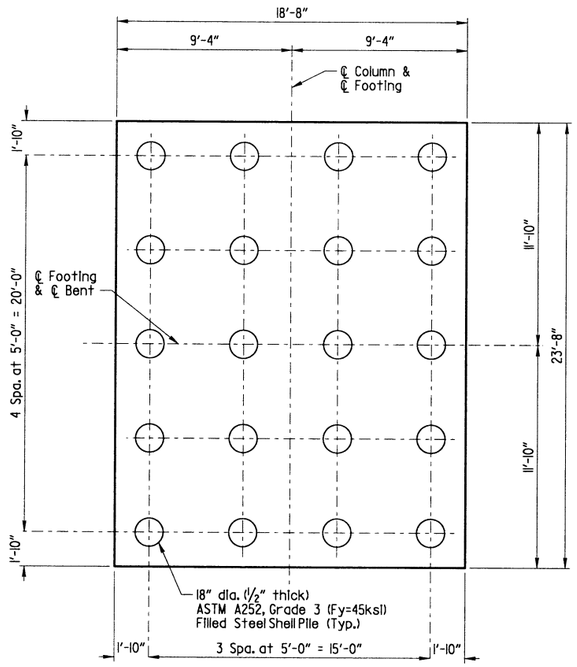
BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	264	19'-0"	2½"
B504	36	16'-2"	2½"
B505	100	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	"J"	Spiral
C901	145	"K"	9"
F601	290	11'-7"	4½"
F602	230	14'-1"	4½"
F901	215	20'-8"	9"
F902	215	25'-8"	9"

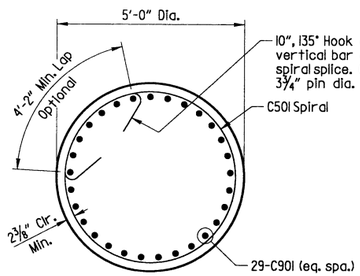
Bending Diagrams
Dimensions shown are out to out of bars



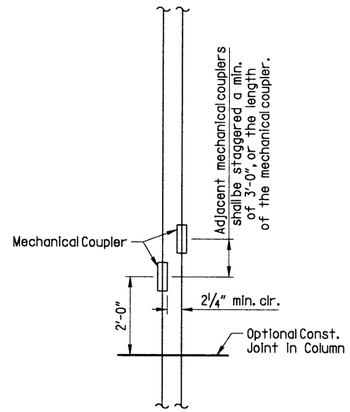
For table of variables, see Drawing No. 56749.



FOOTING PLAN
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENTS 2 & 3
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014
CHECKED BY: MJS DATE: 10/29/2014
DESIGNED BY: CAS DATE: 10/29/2014
FILENAME: bbb0610_b22.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56750

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

JACOBS

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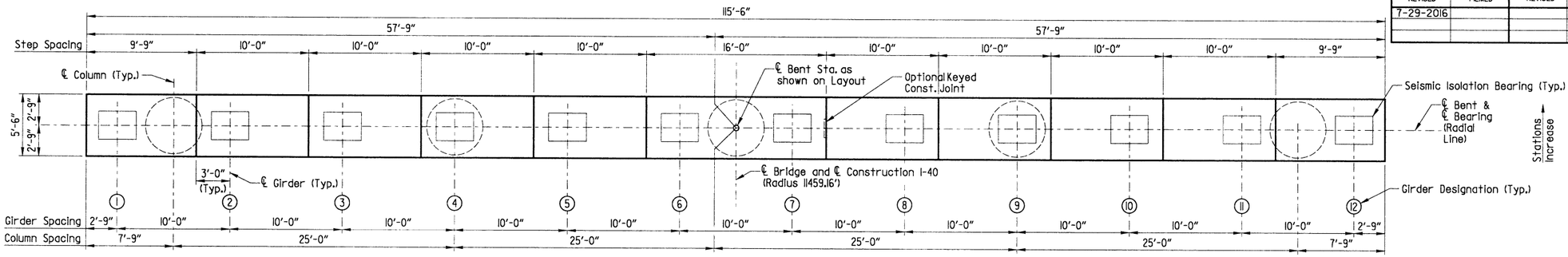
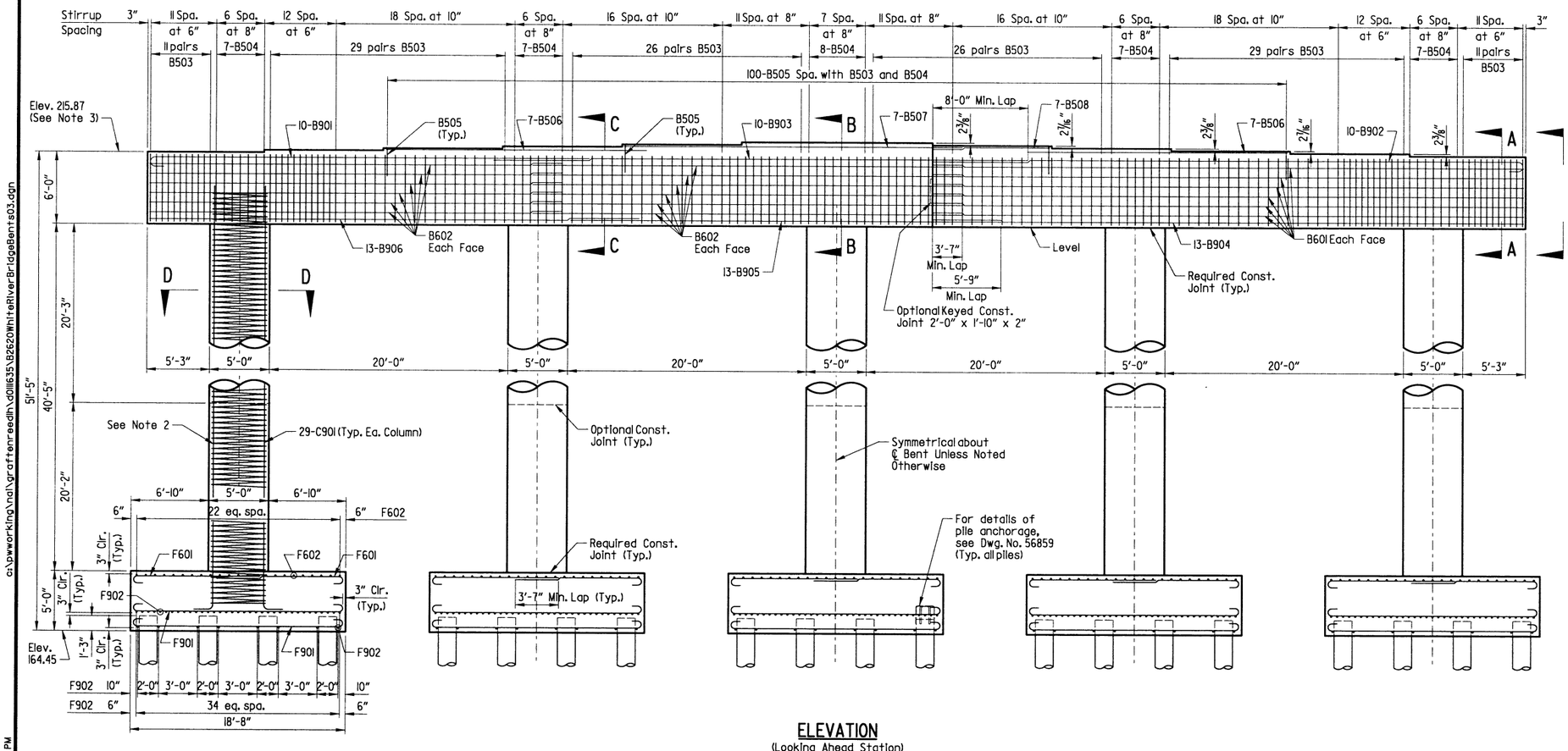
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

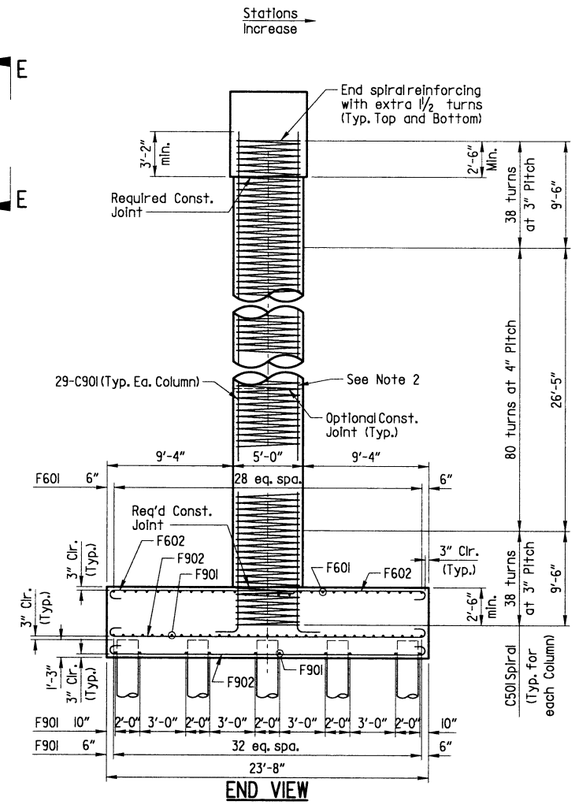
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	78	262
(1) 07343	-	INTERMEDIATE BENTS	-	56751



PLAN



ELEVATION
(Looking Ahead Station)



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56752.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENT 4
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	10/28/2014	FILENAME:	bbb0610_b41.dgn
CHECKED BY:	CAS	DATE:	01/28/2015		
DESIGNED BY:	CAS	DATE:	12/19/2014	SCALE:	3/16" = 1'-0"
BRIDGE NO. 07343			DRAWING NO. 56751		

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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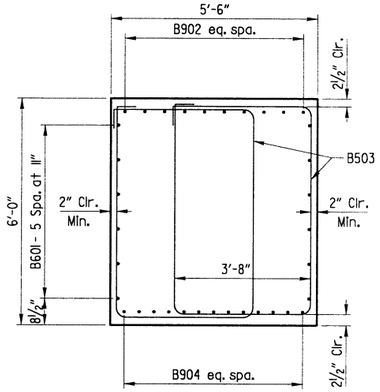
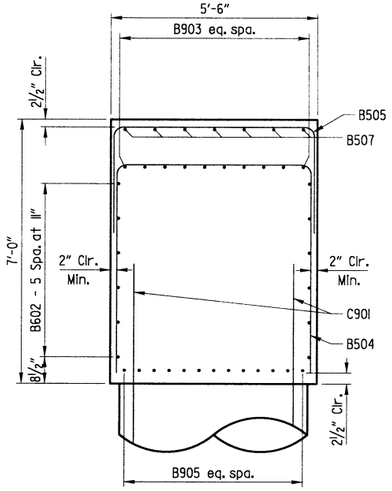
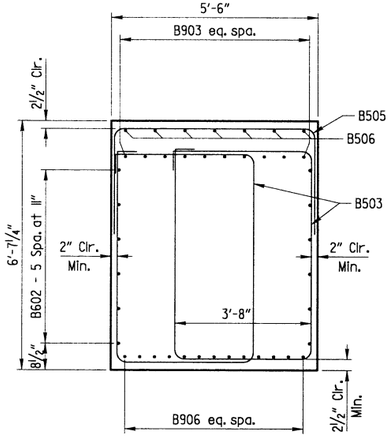
				JOB NO.		BB0610	79	262
				(1) 07343 - INTERMEDIATE BENTS -				56752



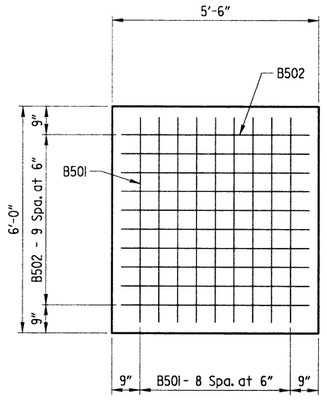
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



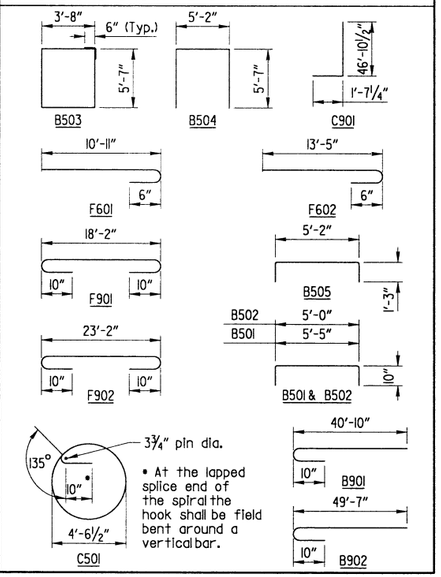
SECTION E-E
Scale: ½" = 1'-0"

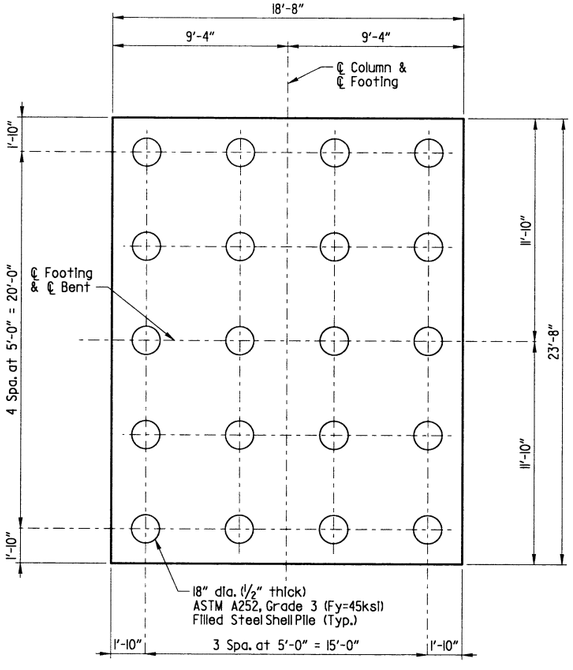
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

BAR LIST - PER BENT

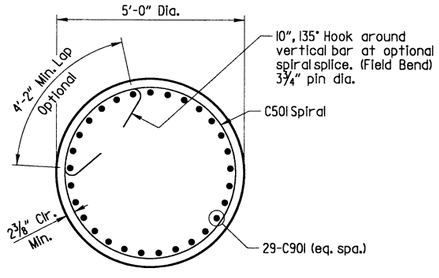
Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10	2½"
B502	20	6'-5"	2½"
B503	264	19'-0"	2½"
B504	36	16'-2"	2½"
B505	100	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	2275'-6"	Spiral
C901	145	48'-3"	9"
F601	290	11'-7"	4½"
F602	230	14'-1"	4½"
F901	215	20'-8"	9"
F902	215	25'-8"	9"

Bending Diagrams
Dimensions shown are out to out of bars

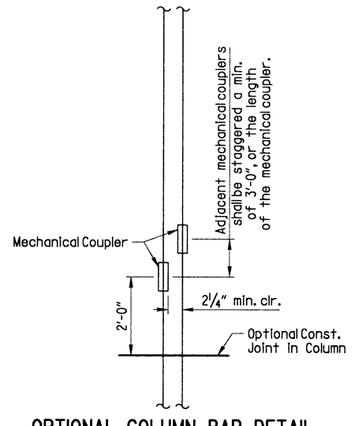




FOOTING PLAN
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 1'-0" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
9/28/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENT 4
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610_b42.dgn
CHECKED BY: CAS DATE: 01/28/2015
DESIGNED BY: CAS DATE: 12/19/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56752

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

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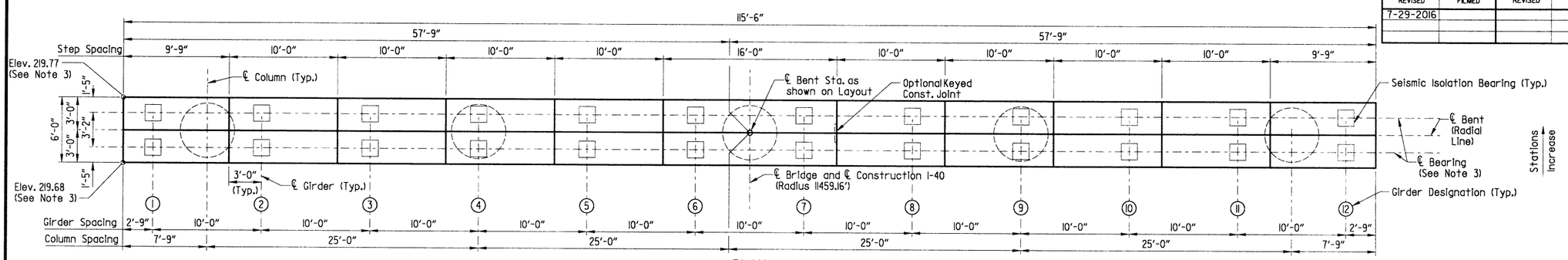
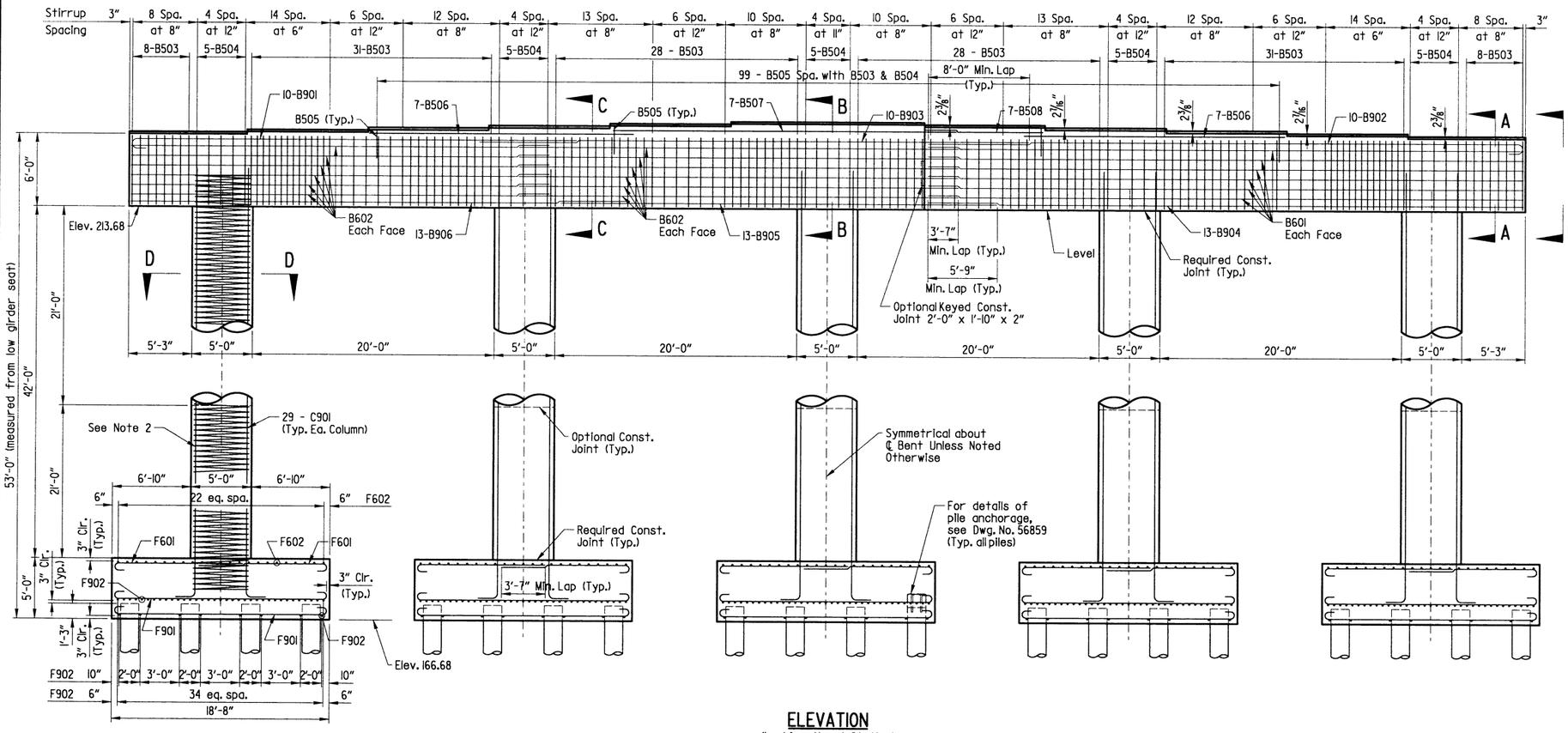
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

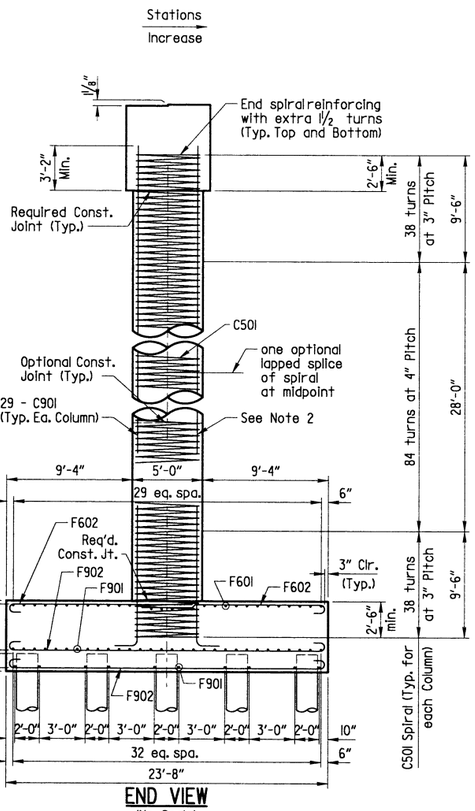
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	80	262
1 07343	-	INTERMEDIATE BENTS	-	56753



PLAN
(No Scale)



ELEVATION
(Looking Ahead Station)
(No Scale)



END VIEW
(No Scale)

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56754.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENT 5
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	10/15/14	FILENAME:	bbb0610_b51.dgn
CHECKED BY:	JRS	DATE:	02/05/15		
DESIGNED BY:	CGW	DATE:	01/22/15	SCALE:	No Scale
BRIDGE NO. 07343			DRAWING NO. 56753		

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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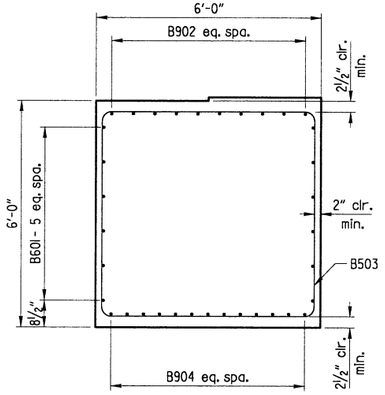
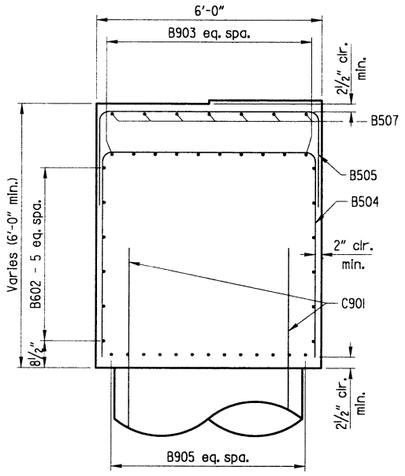
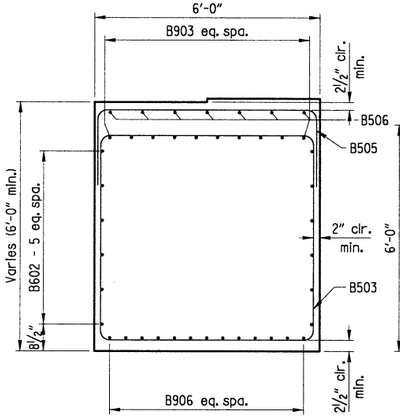
				JOB NO.		BB0610	81	262
				(1) 07343	-	INTERMEDIATE BENTS	-	56754



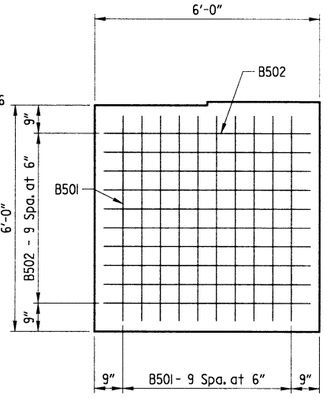
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bars C501 not shown for clarity.

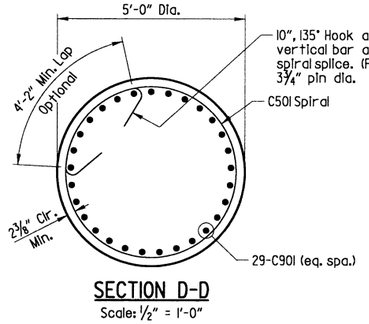


SECTION C-C
Scale: ½" = 1'-0"

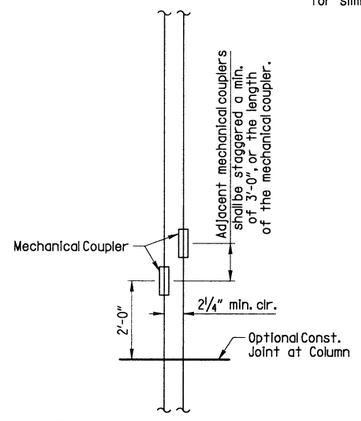


SECTION E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

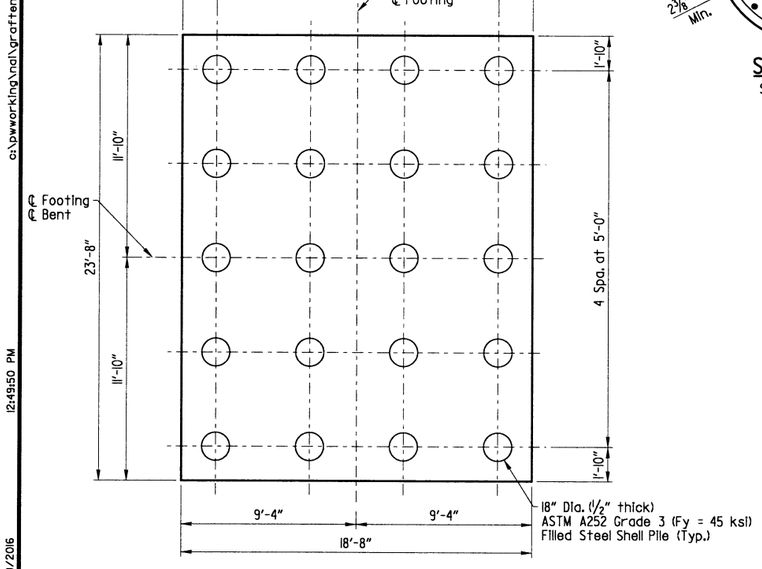


SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

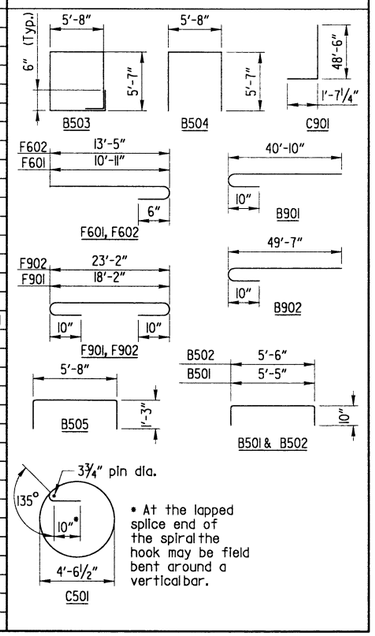


FOOTING PLAN
Scale: ¼" = 1'-0"

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	20	6'-11"	2½"
B502	20	7'-0"	2½"
B503	134	23'-0"	2½"
B504	25	16'-8"	2½"
B505	99	8'-0"	2½"
B506	14	2'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	2332'-9"	Spiral
C901	145	49'-10"	9"
F601	300	11'-7"	4½"
F602	230	14'-1"	4½"
F901	215	20'-8"	9"
F902	215	28'-8"	9"

Bending Diagrams
Dimensions shown are out to out of bars



- At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 7'-0" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spiral not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENT 5
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 10/15/14 FILENAME: bbb0610_b52.dgn
CHECKED BY: JRS DATE: 02/05/15
DESIGNED BY: CGW DATE: 01/22/15 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56754

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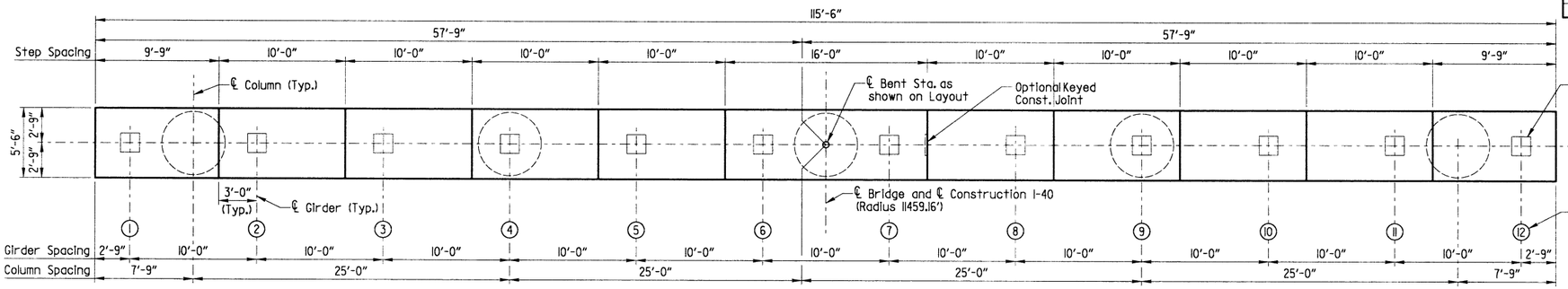
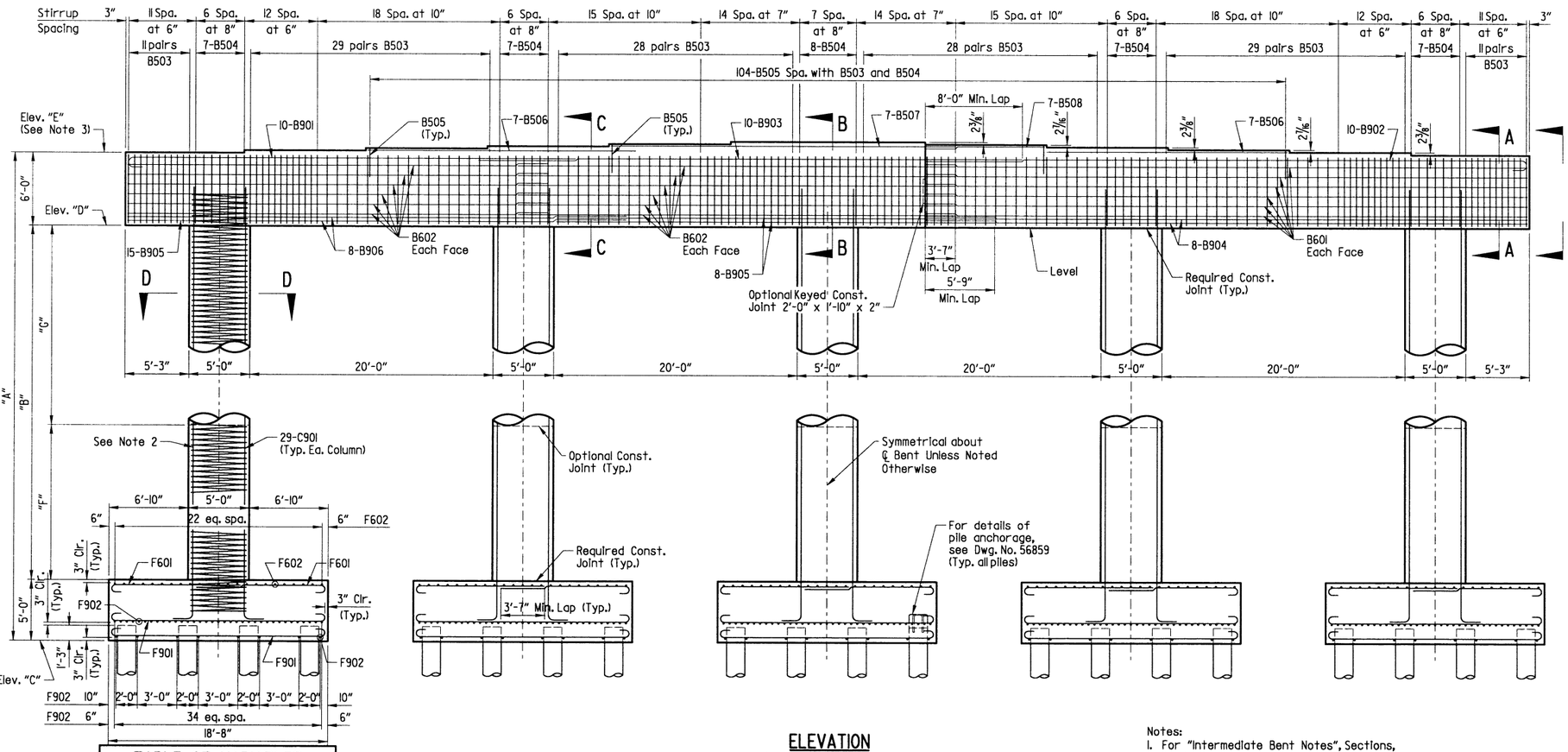
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

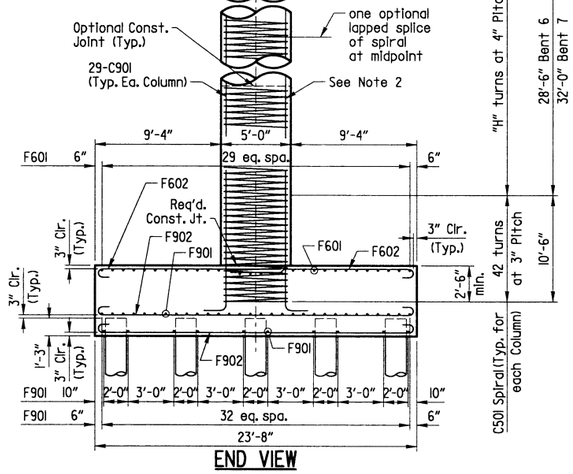
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	82	262
(1) 07343	-	INTERMEDIATE BENTS	-	56755



PLAN



ELEVATION
(Looking Ahead Station)



END VIEW

TABLE OF VARIABLES

VARIABLE	BENT 6	BENT 7
"A"	55'-6"	59'-0"
"B"	44'-6"	48'-0"
Elev. "C"	167.57	168.46
Elev. "D"	217.07	221.46
Elev. "E"	223.07	227.46
"F"	22'-3"	24'-0"
"G"	22'-3"	24'-0"
"H"	86	96
"J"	2475'-9"	2618'-9"
"K"	52'-4"	55'-10"
"L"	5'-0"	54'-6"

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56756.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 5/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENTS 6 & 7
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 10/14/15
CHECKED BY: JRS DATE: 02/05/15
DESIGNED BY: CGW DATE: 01/22/14
BRIDGE NO. 07343
FILENAME: bbb0610_b61.dgn
SCALE: 3/16" = 1'-0"
DRAWING NO. 56755

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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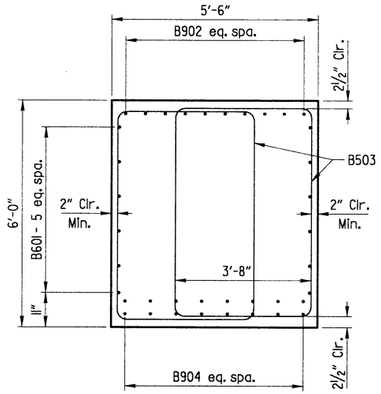
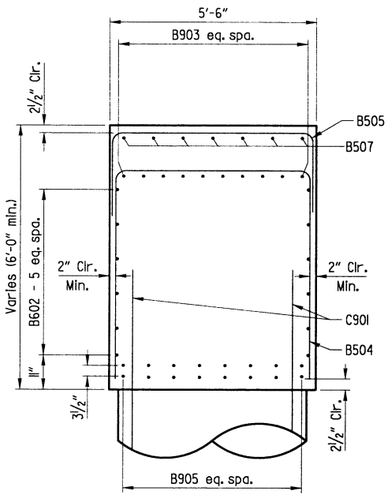
				JOB NO.		BB0610	83	262
				(1) 07343 - INTERMEDIATE BENTS -				56756

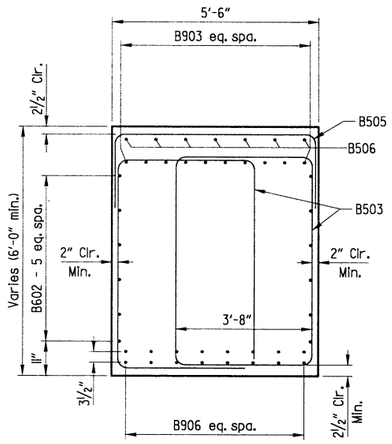


SECTION A-A
Scale: ½" = 1'-0"

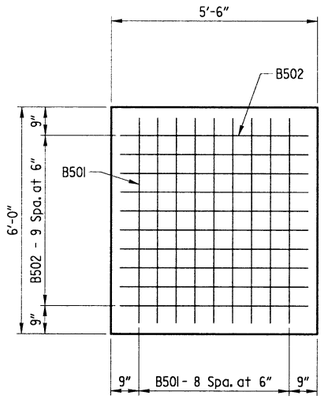


SECTION B-B
Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.

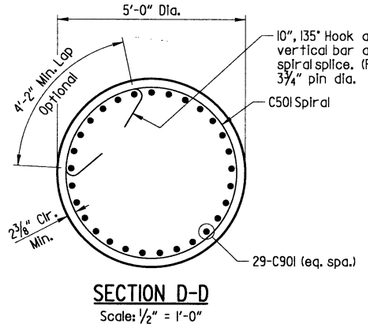


SECTION C-C
Scale: ½" = 1'-0"

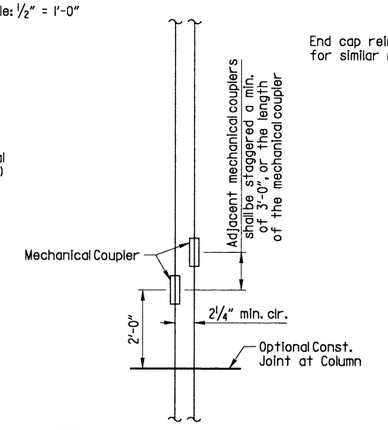


SECTION E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

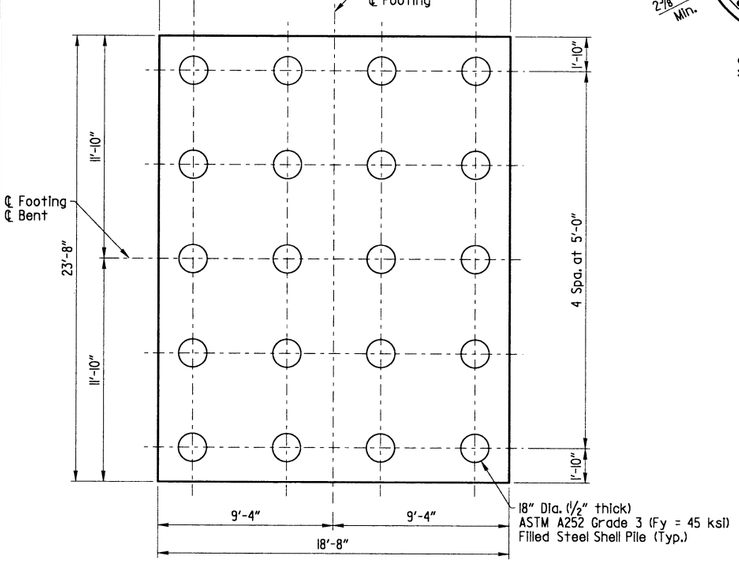


SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

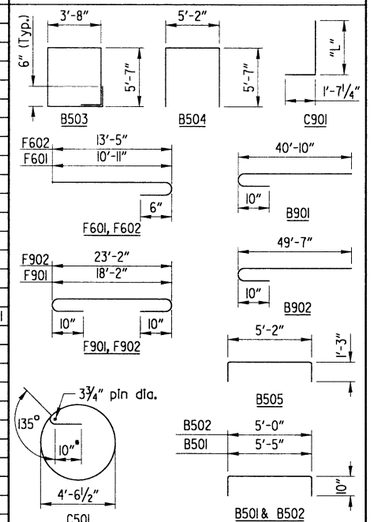


FOOTING PLAN
Scale: ¼" = 1'-0"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-11"	2½"
B502	20	6'-6"	2½"
B503	272	19'-0"	2½"
B504	36	16'-1"	2½"
B505	104	7'-5"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	16	49'-7"	Str.
B905	16	36'-1"	Str.
B906	16	41'-0"	Str.
C501	5	J	Spiral
C901	145	K	9"
F601	300	11'-7"	4½"
F602	230	14'-1"	4½"
F901	215	20'-8	9"
F902	215	28'-8"	9"

Bending Diagrams
Dimensions shown are out to out of bars



* At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 8'-0" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENTS 6 & 7
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 10/15/14 FILENAME: bbb0610_b62.dgn
CHECKED BY: JRS DATE: 02/05/15
DESIGNED BY: CGW DATE: 01/22/15 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56756

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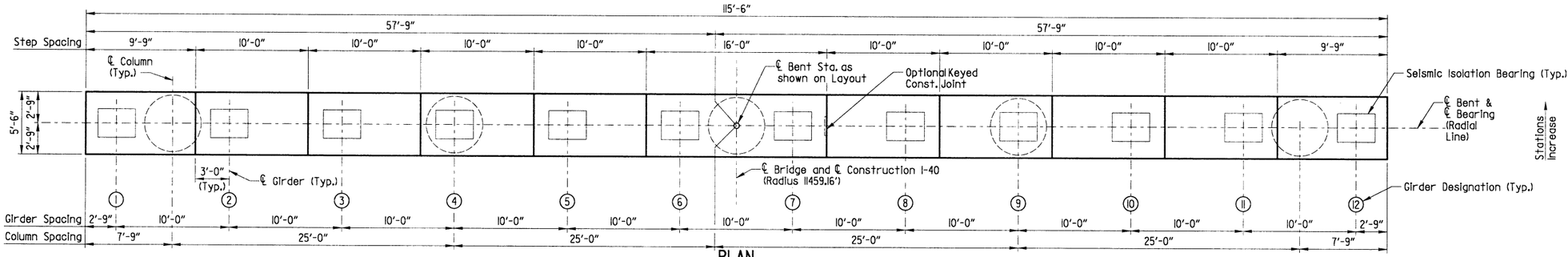
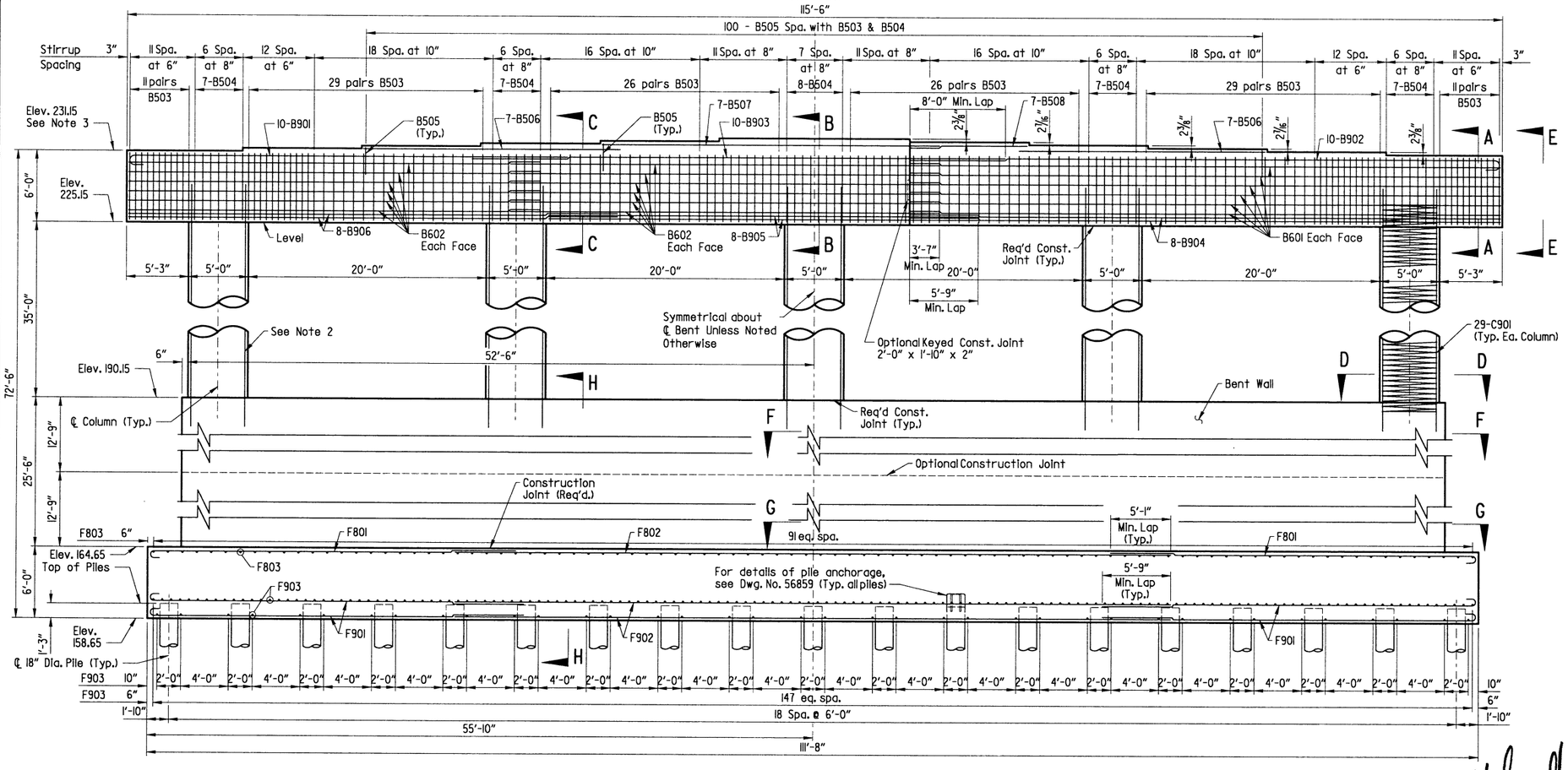
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	84	262
(1) 07343	-	INTERMEDIATE BENTS	-	56757



PLAN
(No Scale)



ELEVATION
(Looking Ahead Station)
(No Scale)

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56758.

2. No lap splice will be allowed for bars C90I.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 1 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 10/16/14 FILENAME: bbb0610_b8I.dgn
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DESIGNED BY: CGW DATE: 01/26/15 SCALE: No Scale
BRIDGE NO. 07343 DRAWING NO. 56757

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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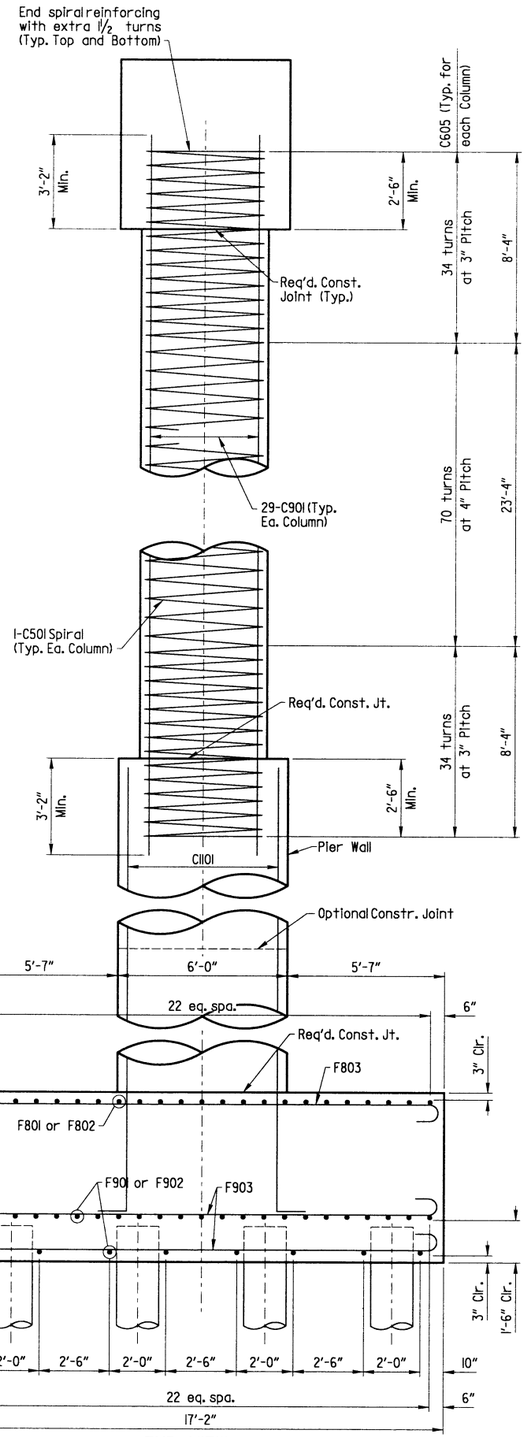
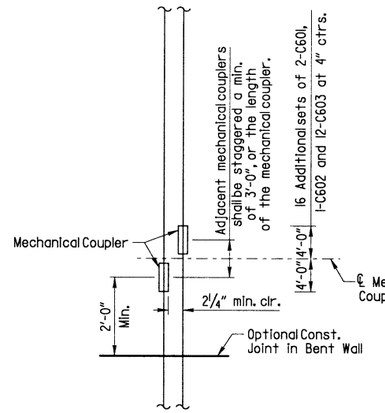


END VIEW

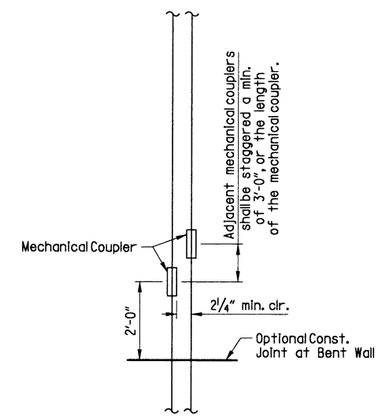
Scale 3/8" = 1'-0"



OPTIONAL BENT WALL BAR DETAIL

Scale: No Scale

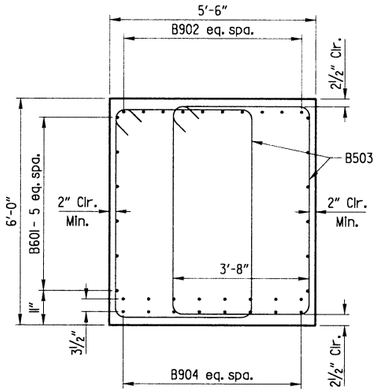
Note: Mechanical couplers in the Bent Wall shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



OPTIONAL COLUMN BAR DETAIL

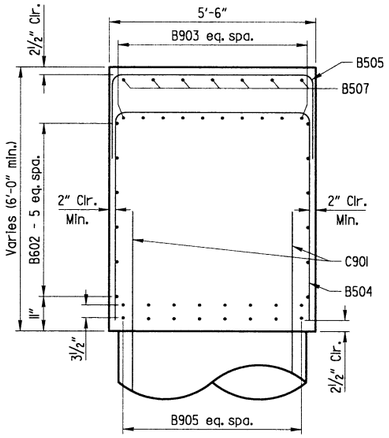
Scale: No Scale

Note: Mechanical couplers in the Bent Wall shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION A-A

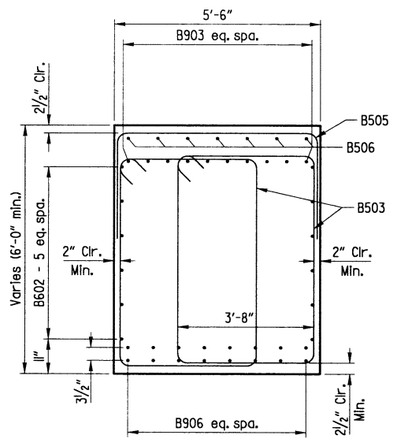
Scale: ½" = 1'-0"



SECTION B-B

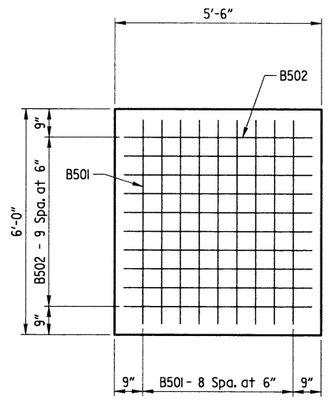
Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.



SECTION C-C

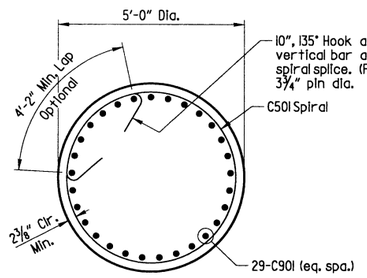
Scale: ½" = 1'-0"



SECTION E-E

Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.



SECTION D-D

Scale: ½" = 1'-0"

INTERMEDIATE BENT NOTES:

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the bent wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A, with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum dia. of 0.75".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needing for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom ¼ of the column height and top 15' of the bent wall.

Spirals in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 2 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	10/15/14	FILENAME:	bbb0610_b82.dgn
CHECKED BY:	JRS	DATE:	02/05/14		
DESIGNED BY:	CGW	DATE:	01/26/15	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56758		

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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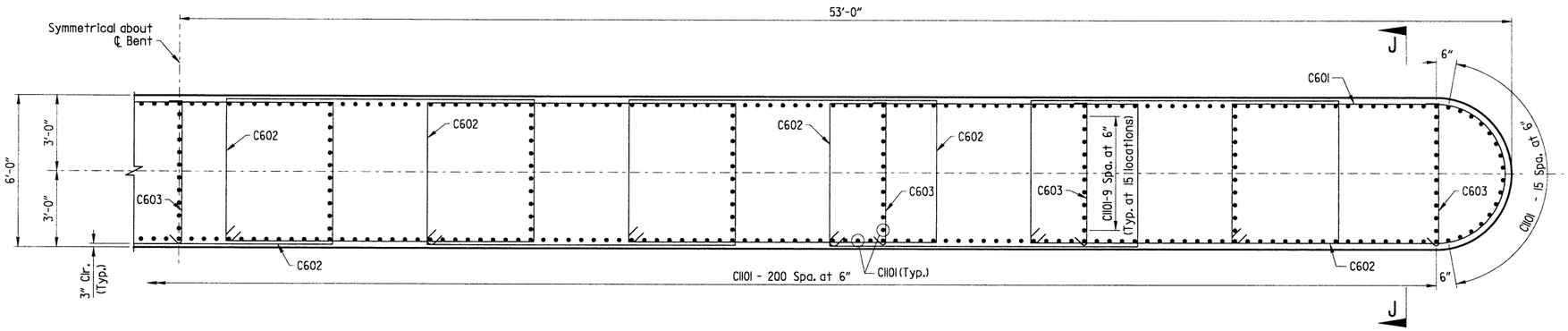
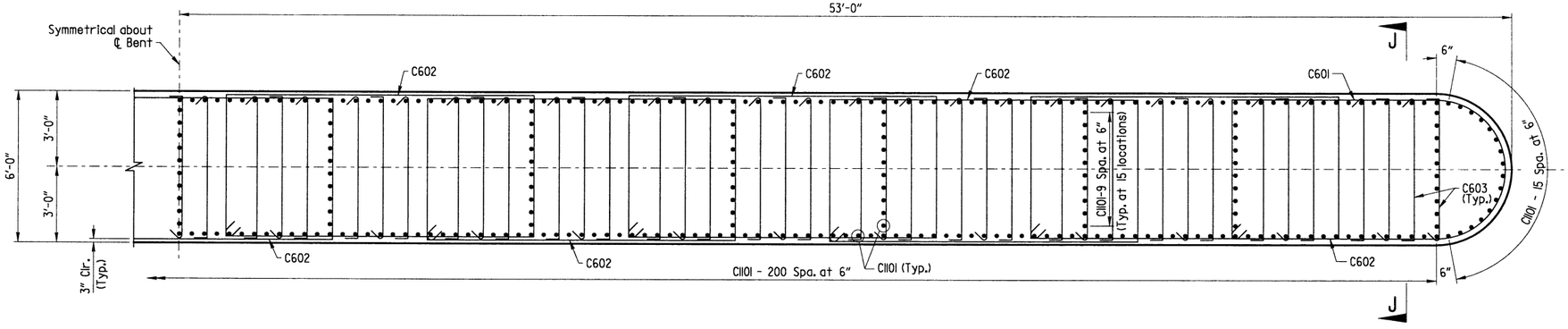
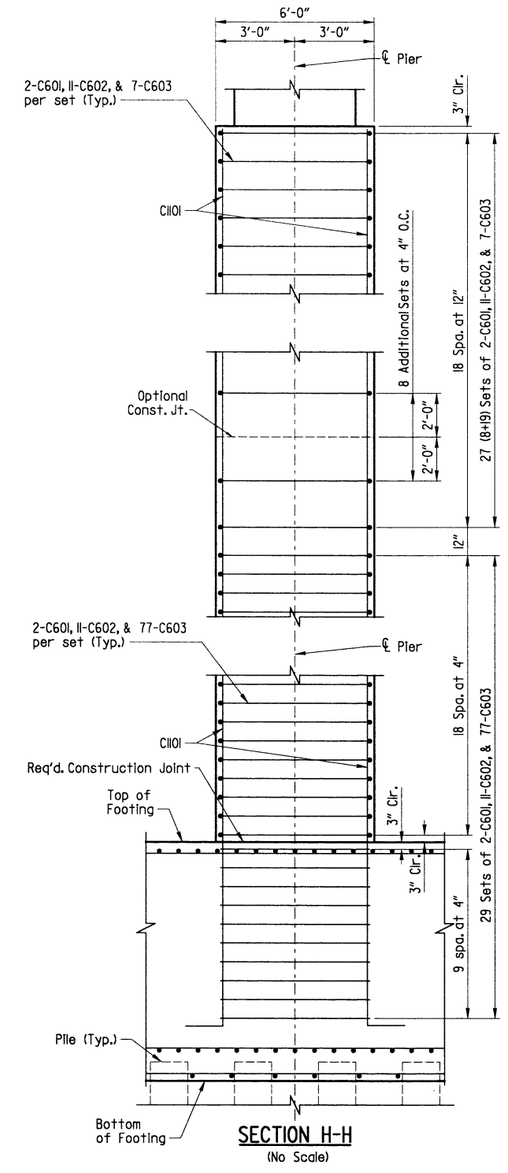
				07343 - INTERMEDIATE BENTS -				56759



SECTION F-F
Scale 3/8" = 1'-0"



SECTION G-G
Scale 3/8" = 1'-0"



SECTION H-H
(No Scale)

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 3 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 10/15/14
CHECKED BY: JRS DATE: 02/05/15
DESIGNED BY: CGW DATE: 01/26/15
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SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56759

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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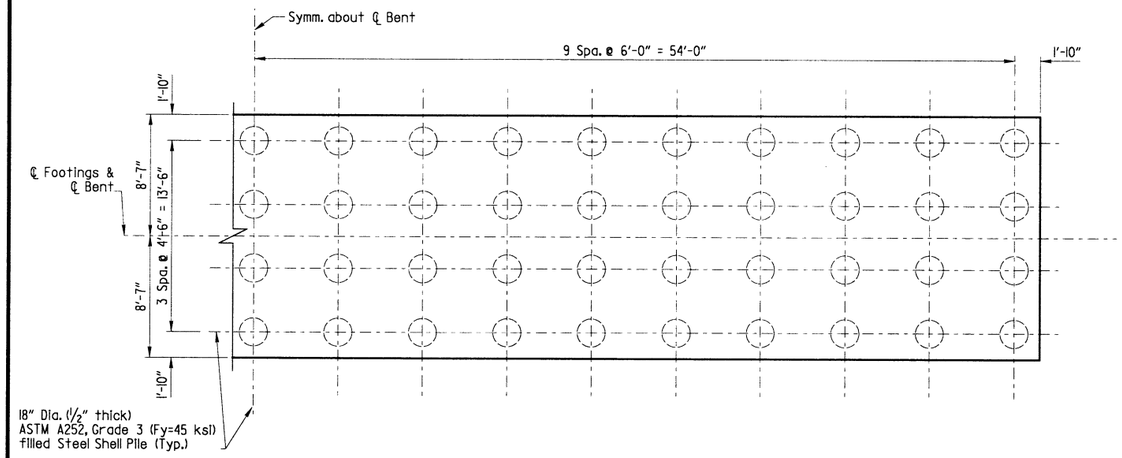
				(1) 07343	- INTERMEDIATE BENTS -			56760



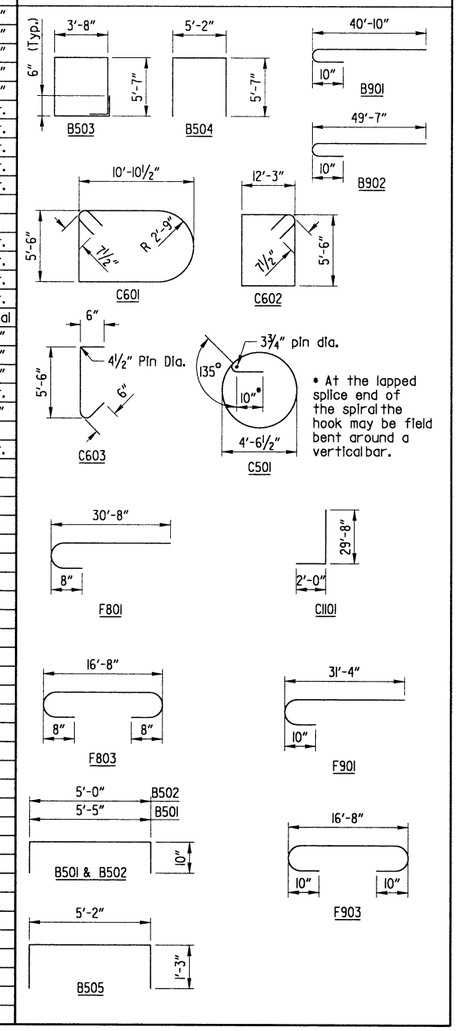
FOOTING PLAN

Scale: 3/16" = 1'-0"

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-11"	2 1/2"
B502	20	6'-6"	2 1/2"
B503	264	19'-0"	2 1/2"
B504	36	16'-1"	2 1/2"
B505	100	7'-5"	2 1/2"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	16	49'-7"	Str.
B905	16	36'-1"	Str.
B906	16	41'-0"	Str.
C501	5	2,041'-2"	Spiral
C601	112	31'-3"	4 1/2"
C602	616	36'-4"	4 1/2"
C603	2422	6'-6"	4 1/2"
C901	145	41'-4"	Str.
C1101	584	31'-3"	11 1/4"
F801	46	31'-7"	6"
F802	23	60'-0"	Str.
F803	92	18'-6"	6"
F901	62	32'-7"	9"
F902	31	60'-0"	9"
F903	186	19'-2"	9"

Bending Diagrams
Dimensions shown are out to out of bars



* At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 4 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHC DATE: 10/16/14
CHECKED BY: JRS DATE: 02/05/15
DESIGNED BY: CGW DATE: 01/26/15
FILENAME: bbb0610_b84.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56760

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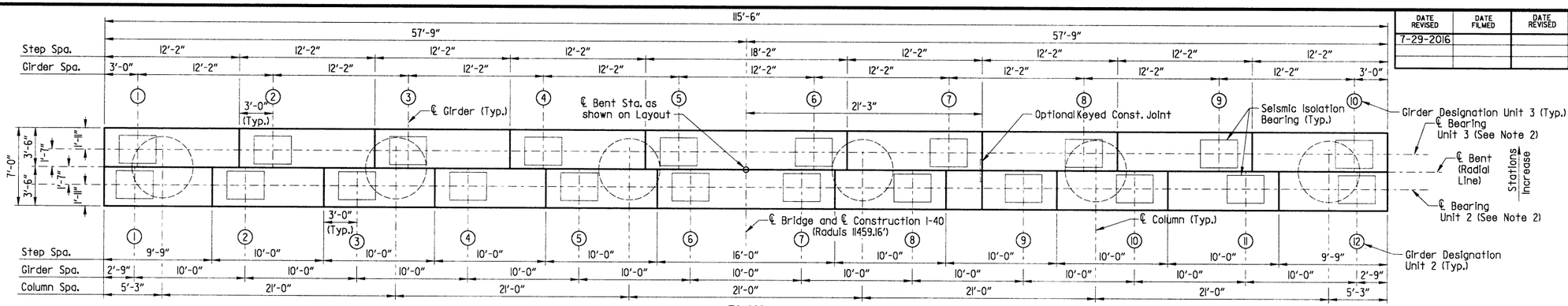
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	88	262
(1) 07343	- INTERMEDIATE BENTS -			56761



ELEVATION
(Looking Ahead Station)

Notes:
1. For "Intermediate Bent Notes, Sections, and additional details, see Dwg. No. 56762.
2. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.
3. No lap splice will be allowed for bars C1001.
4. For Sections A, B, C, D, E, J and K, See Drawing No. 56762. For Sections F, G, and H, See Drawing No. 56763 and 56764.

⚠1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
MARK ASHER
REGISTERED PROFESSIONAL ENGINEER
No. 8940
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 4
DETAILS OF BENT 9
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/14/2016 FILENAME: bbb0610_b9l.dgn
CHECKED BY: MJM DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/14/2016 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 56761

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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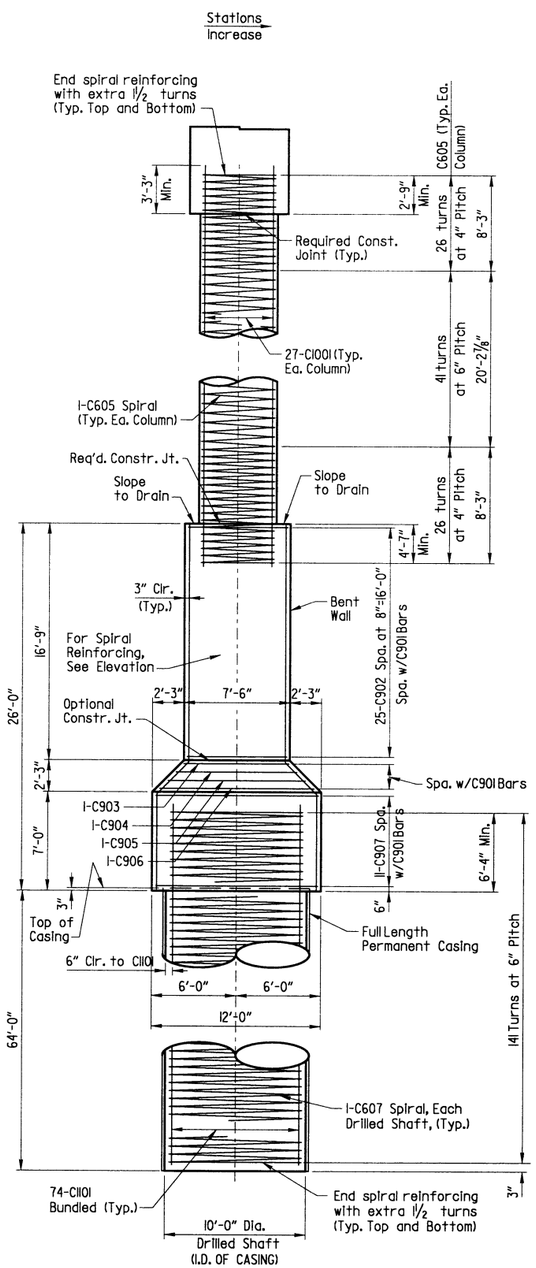
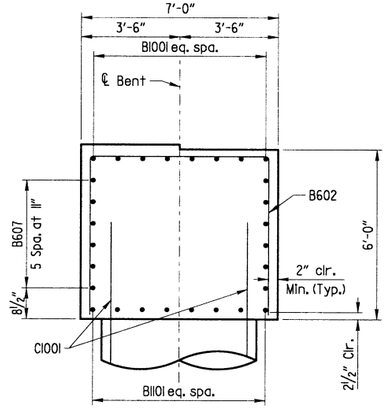
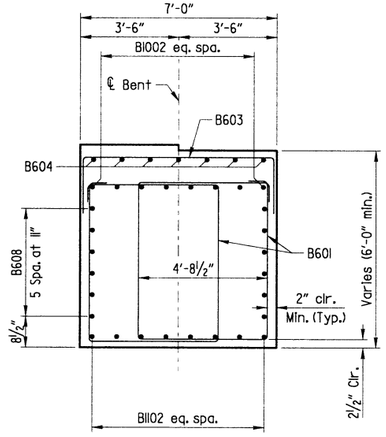


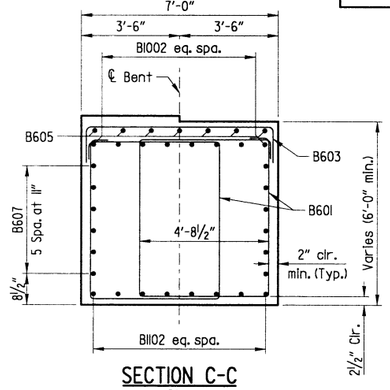
END VIEW
Scale 3/16" = 1'-0"



SECTION A-A
Scale 3/8" = 1'-0"
Note: Spiral bars C605 not shown for clarity.



SECTION B-B
Scale 3/8" = 1'-0"



SECTION C-C
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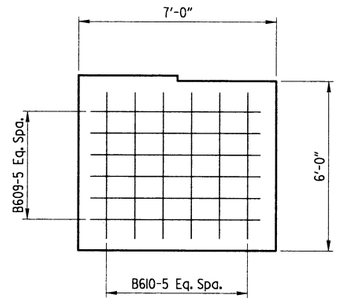
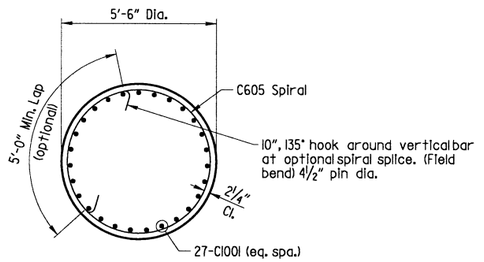
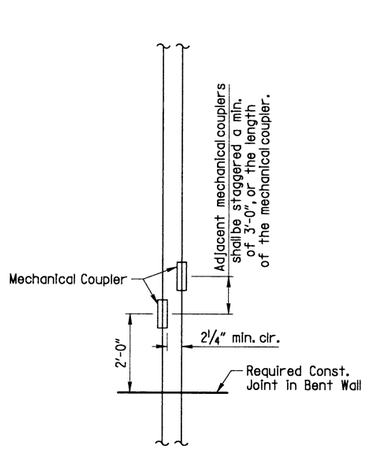


VIEW E-E
Scale 3/8" = 1'-0"

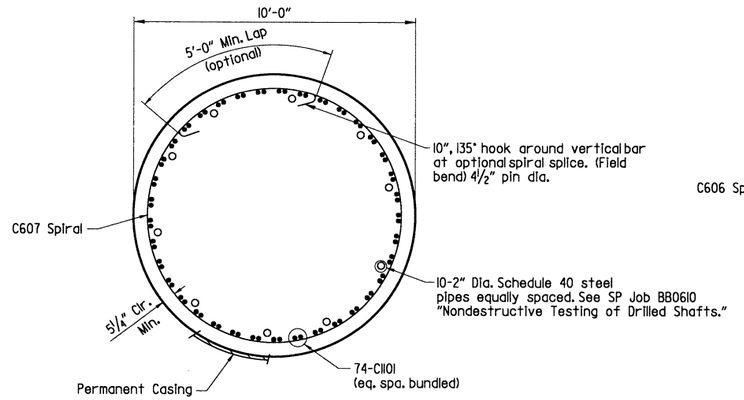


SECTION D-D
Scale 3/8" = 1'-0"



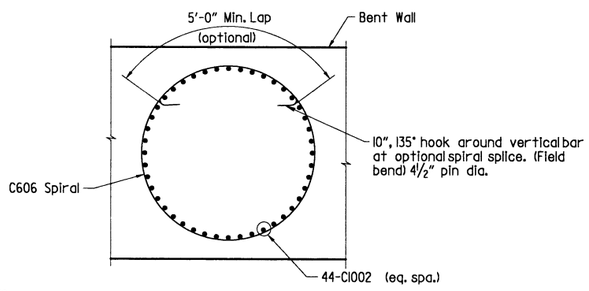
OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the Bent Wall shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION J-J
Scale 3/8" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



SECTION K-K
Scale 3/8" = 1'-0"

INTERMEDIATE BENT NOTES:

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the bent wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A, with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum dia. of 0.75".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needing for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom ¼ of the column height or top 15' of the bent wall.

Spirals in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

Permanent casing at Bent 9 shall be painted using two coats of Series 45H-413, Tneme-Tar, 10 mils/coat or approved equal in accordance with SP Job BB0610 "Drilled Shaft Foundations". This protection shall extend from Elevation 160 to Elevation 170. No painting is required on the portion of the permanent casing embedded in concrete. Painting of permanent casing will not be paid for separately but will be considered subsidiary to the item "Drilled Shaft (120" Dia.)".

⚠1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
5/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 4
DETAILS OF BENT 9
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/13/2016 FILENAME: bbb0610_b92.dgn
CHECKED BY: MJM DATE: 06/30/2016
DESIGNED BY: SSS DATE: 06/2/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56762

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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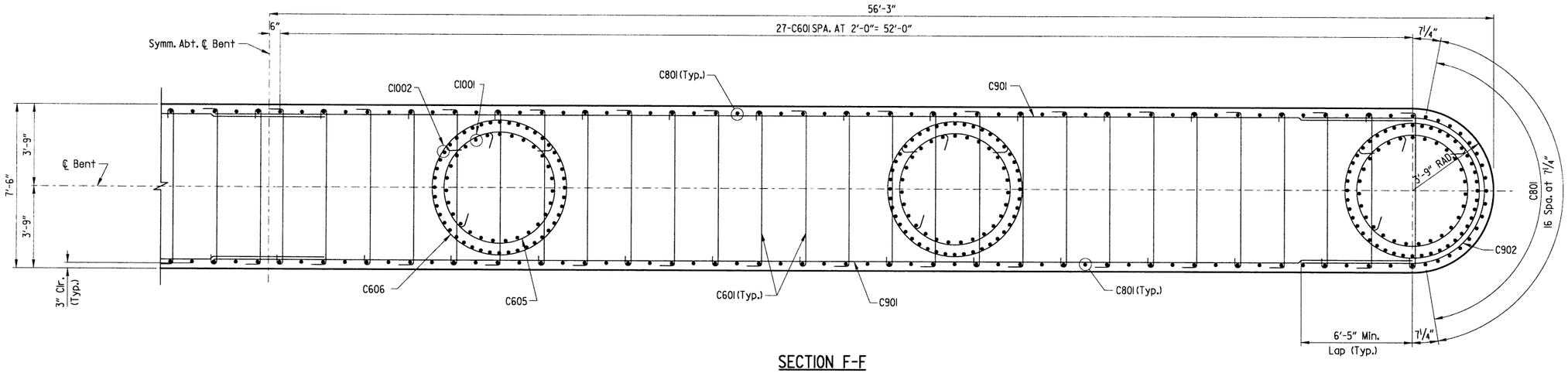
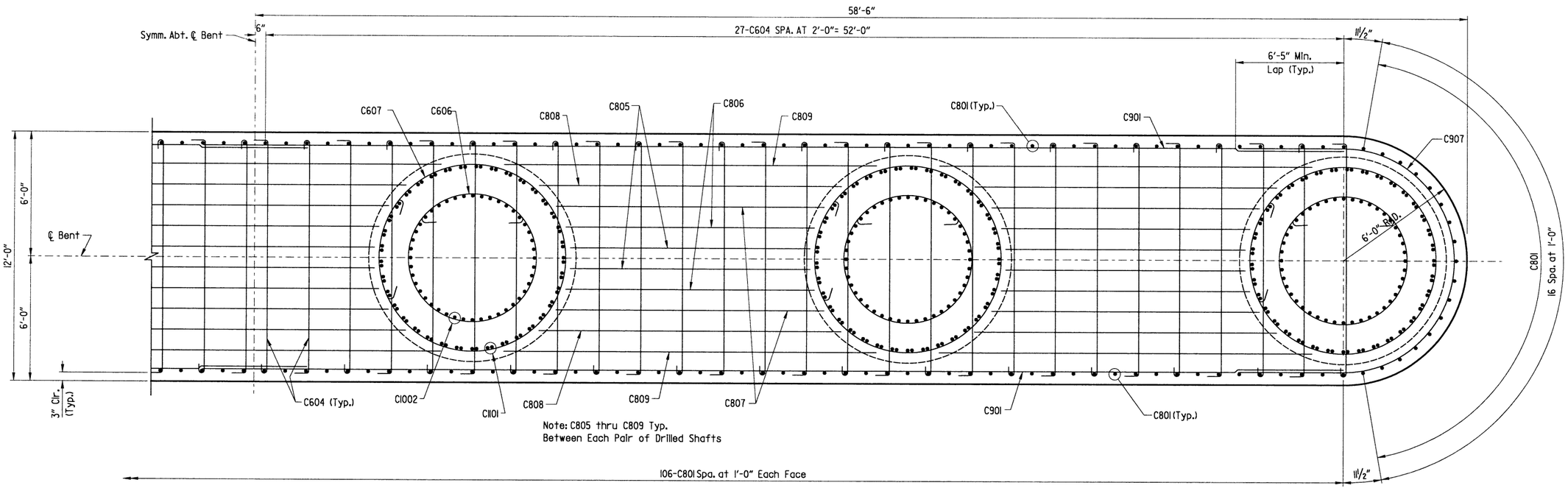
				JOB NO.		BB0610	90	262
				1	07343 - INTERMEDIATE BENTS -			56763



SECTION F-F
Scale ⅜" = 1'-0"



SECTION G-G
Scale ⅜" = 1'-0"

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
9/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 4
DETAILS OF BENT 9
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/14/2016 FILENAME: bbb0610_b93.dgn
CHECKED BY: MJM DATE: 06/30/2016
DESIGNED BY: SSS DATE: 06/14/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56763

JACOBS

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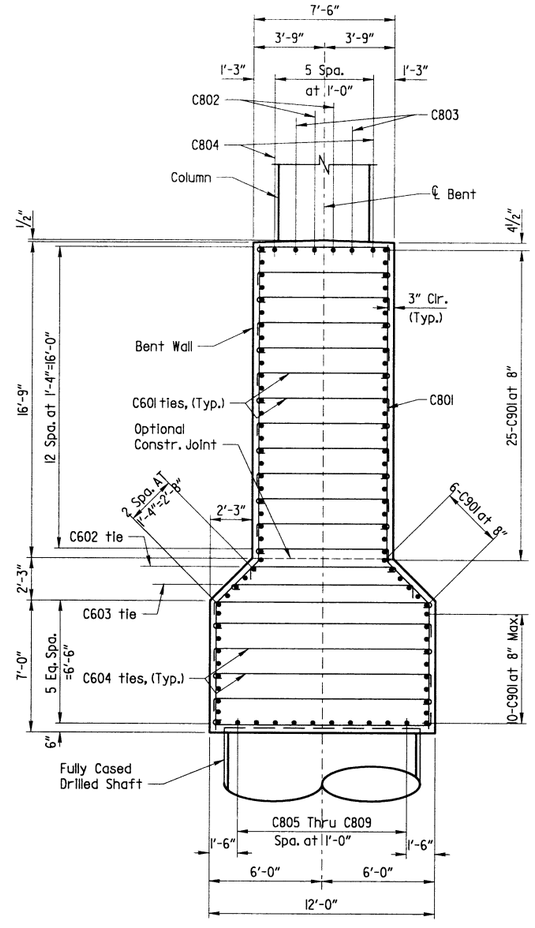
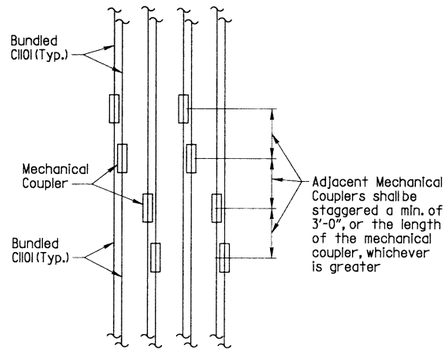


SECTION H-H
SCALE 1/4" = 1'-0"



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

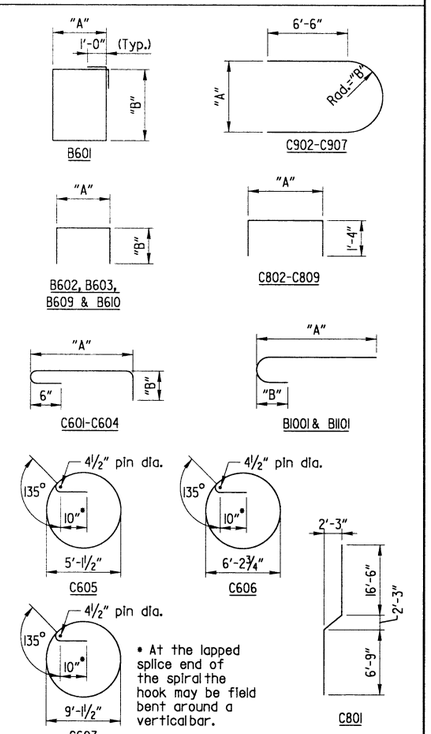
Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (120" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.

BAR LIST

Mark	No. Req'd	Length	"A"	"B"	Pin Dia.
B601	172	21'-11"	4'-8 1/2"	5'-8"	4 1/2"
B602	30	17'-8"	6'-8"	5'-8"	4 1/2"
B603	86	8'-10"	6'-8"	1'-3"	4 1/2"
B604	7	17'-10"	-	-	Str.
B605	7	26'-0"	-	-	Str.
B606	7	12'-0"	-	-	Str.
B607	24	36'-4"	-	-	Str.
B608	12	49'-8"	-	-	Str.
B609	12	8'-3"	6'-6 1/2"	12"	4 1/2"
B610	12	7'-3"	5'-6 1/2"	12"	4 1/2"
B1001	16	37'-9"	36'-4"	11 1/2"	10"
B1002	8	58'-8"	-	-	Str.
B1101	16	37'-10"	36'-4"	1'-0 1/2"	11 1/4"
B1102	8	56'-10"	-	-	Str.
C601	702	8'-7 1/2"	7'-11 1/2"	1'-0"	4 1/2"
C602	54	9'-4"	7'-10"	1'-0"	4 1/2"
C603	54	11'-2"	9'-8"	1'-0"	4 1/2"
C604	324	13'-0"	11'-6"	1'-0"	4 1/2"
C605	6	1528'-6"	-	-	Spiral
C606	6	1067'-2"	-	-	Spiral
C607	6	410'-8"	-	-	Spiral
C801	246	26'-5"	-	-	6"
C802	10	17'-0"	14'-4"	-	6"
C803	10	17'-10"	15'-2"	-	6"
C804	10	19'-2"	16'-6"	-	6"
C805	10	13'-2"	10'-6"	-	6"
C806	10	13'-7"	10'-11"	-	6"
C807	10	14'-5"	11'-9"	-	6"
C808	10	15'-10"	13'-2"	-	6"
C809	10	18'-3"	15'-7"	-	6"
C901	164	55'-9"	-	-	Str.
C902	52	34'-3 1/2"	6'-10"	3'-5"	-
C903	2	36'-11"	7'-8"	3'-10"	-
C904	2	39'-9 1/2"	8'-7"	4'-3 1/2"	-
C905	2	42'-11 1/2"	9'-7"	4'-9 1/2"	-
C906	2	45'-10"	10'-6"	5'-3"	-
C907	22	48'-5 1/2"	11'-4"	5'-8"	-
C1001	162	39'-3"	-	-	Str.
C1002	264	25'-9"	-	-	Str.
(1) C1101	444	70'-2"	-	-	Str.

(1) Non-pay Item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

Bending Diagrams
Dimensions shown are out to out of bars



• At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

(1) Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 4
DETAILS OF BENT 9
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/13/2016 FILENAME: bbb0610_b94.dgn
CHECKED BY: MJM DATE: 06/30/2016
DESIGNED BY: SSS DATE: 06/13/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56764

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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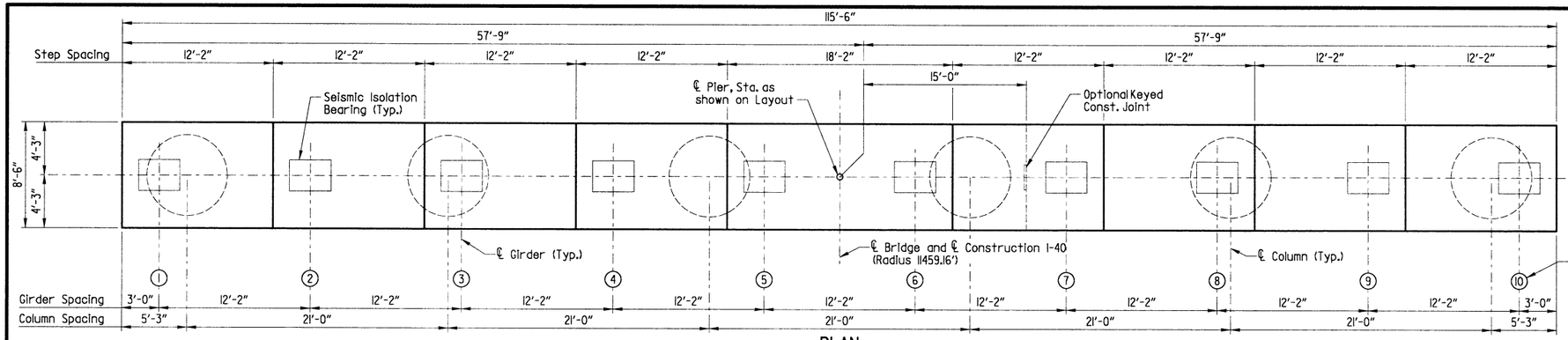
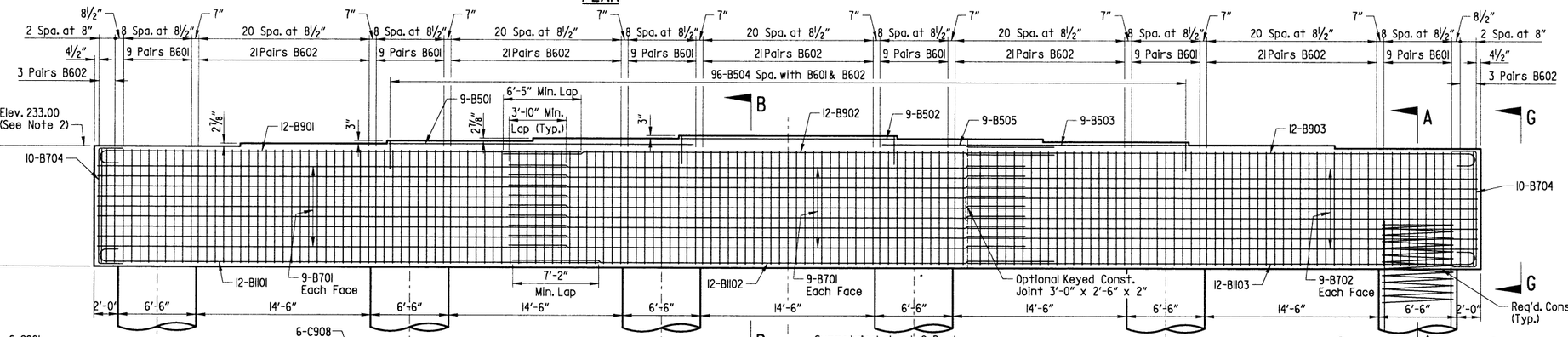


Notes:
1. For "Pier Notes", Sections and additional details, see sheet 56766.
2. Anchor bolts for Unit 3 shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.
3. No lap splice will be allowed for bars C1101.

PLAN



ELEVATION

(Looking Ahead Station)
Pier 1 shown (Pier 2 similar)

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 5
DETAILS OF PIERS 1 & 2
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SCK	DATE:	06/13/2016	FILENAME:	bbb0610_pll.dgn
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BRIDGE NO. 07343			DRAWING NO. 56765		

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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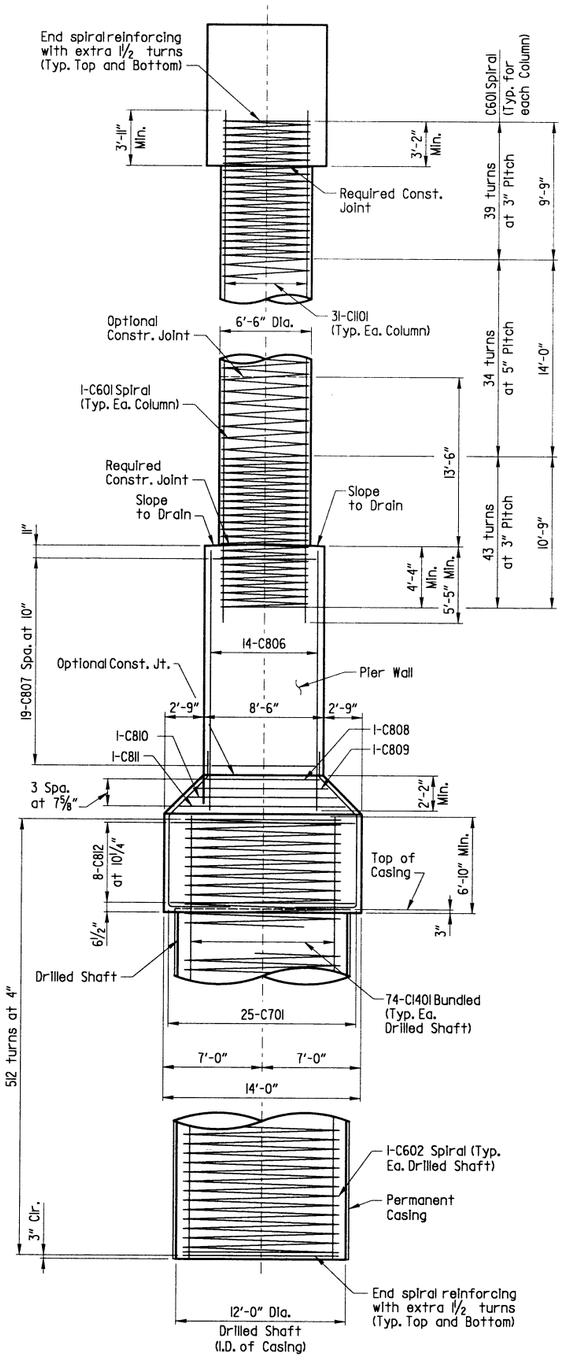
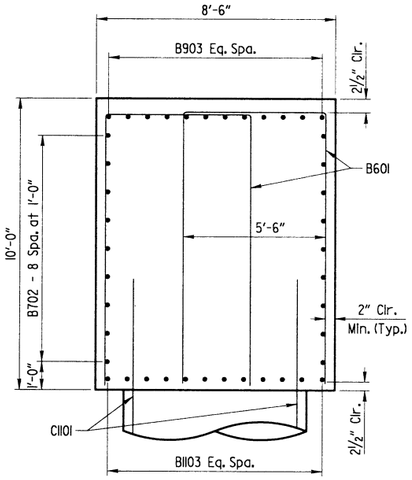
				JOB NO.		BB0610	93	262
				1 07343		- PIERS -		56766



END VIEW

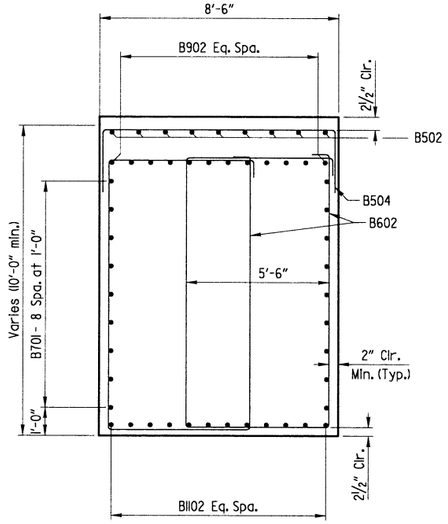
Pier 1 shown (Pier 2 similar)



SECTION A-A

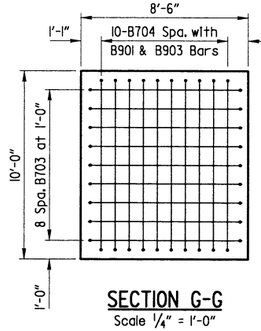
Scale ⅜" = 1'-0"

Note: Spiral bars C601 not shown for clarity.



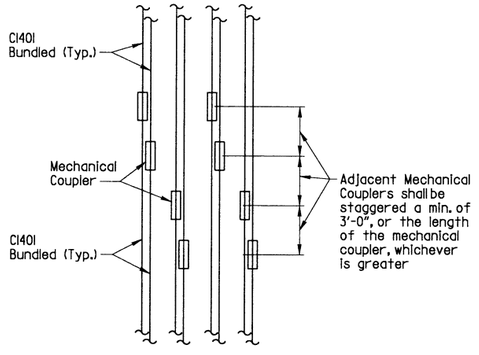
SECTION B-B

Scale ⅜" = 1'-0"



SECTION G-G

Scale ¼" = 1'-0"



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

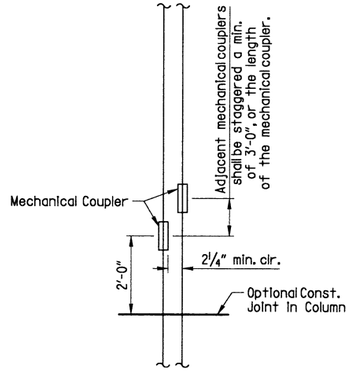
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (144" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.



OPTIONAL COLUMN BAR DETAIL

Scale: No Scale

Note: Mechanical couplers in column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

PIER NOTES:

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the pier wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

¾" dia. Anchors shall be placed in bent column for clearance gauge. For location, see Dwg. No. 56858.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A, with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum dia. of 0.75".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needing for assembly, shipping, handling, or erecting.

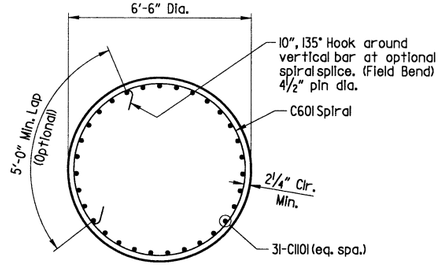
Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom ¼ of the column height or top 15' of the pier wall.

Spirals in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

Permanent casing at Piers 1 & 2 shall be painted using two coats of Series 45H-413, Tneme-Tar, 10 mils/coat or approved equal in accordance with SP Job BB0610 "Drilled Shaft Foundations". This protection shall extend from Elevation 140 to Elevation 170. No painting is required on the portion of the permanent casing embedded in concrete. Painting of permanent casing will not be paid for separately but will be considered subsidiary to the item "Drilled Shaft (144" Dia.)".

Post Grouting of Drilled Shafts for Piers 1 and 2 will be required, see SP JOB BB0610 "Post Grouting of Drilled Shaft Foundations".



SECTION C-C

Scale ⅜" = 1'-0"

1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 5
DETAILS OF PIERS 1 & 2
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/13/2016 FILENAME: bbb0610_pl2.dgn
CHECKED BY: JDS DATE: 07/13/2016
DESIGNED BY: SSS DATE: 06/07/2016 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 56766

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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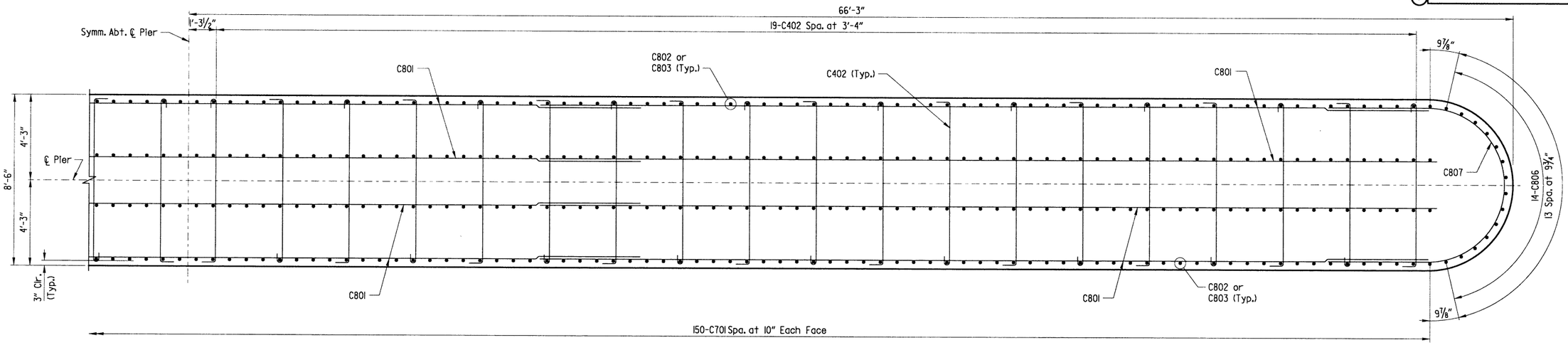
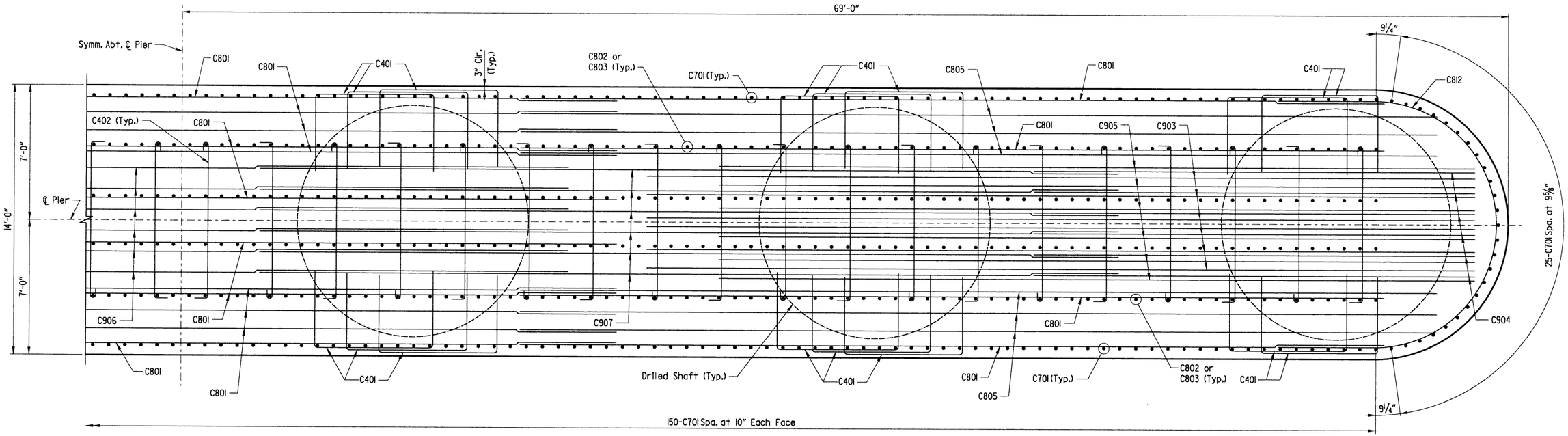
				JOB NO.		BB0610	94	262
				1 07343		- PIERS -		56767



SECTION D-D

Scale ⅜" = 1'-0"



SECTION E-E

Scale ⅜" = 1'-0"

Note: Drilled Shaft Reinforcing not shown for clarity.

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 5
DETAILS OF PIERS 1 & 2
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/13/2016 FILENAME: bbb0610_pl3.dgn
CHECKED BY: JOS DATE: 07/11/2016
DESIGNED BY: SSS DATE: 06/07/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56767

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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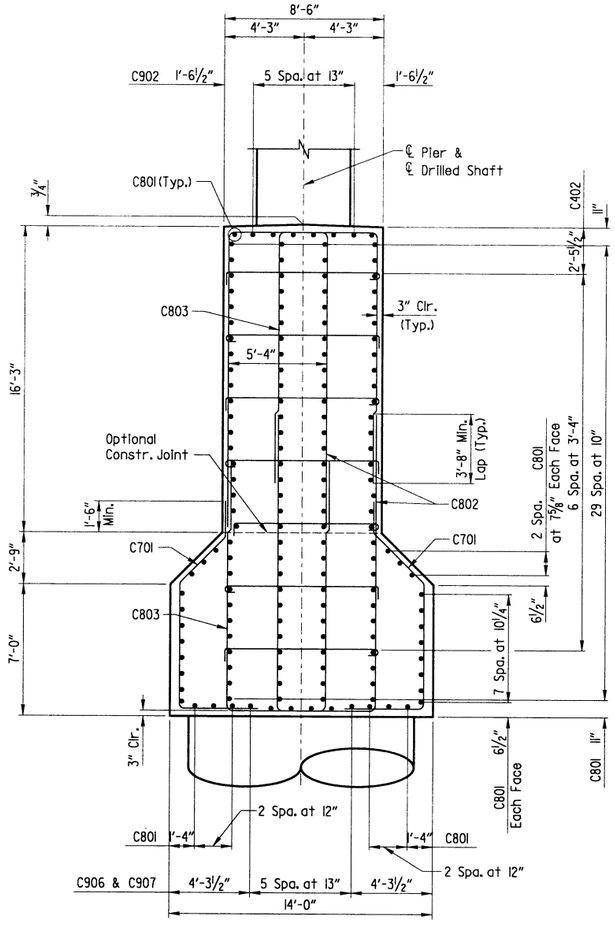
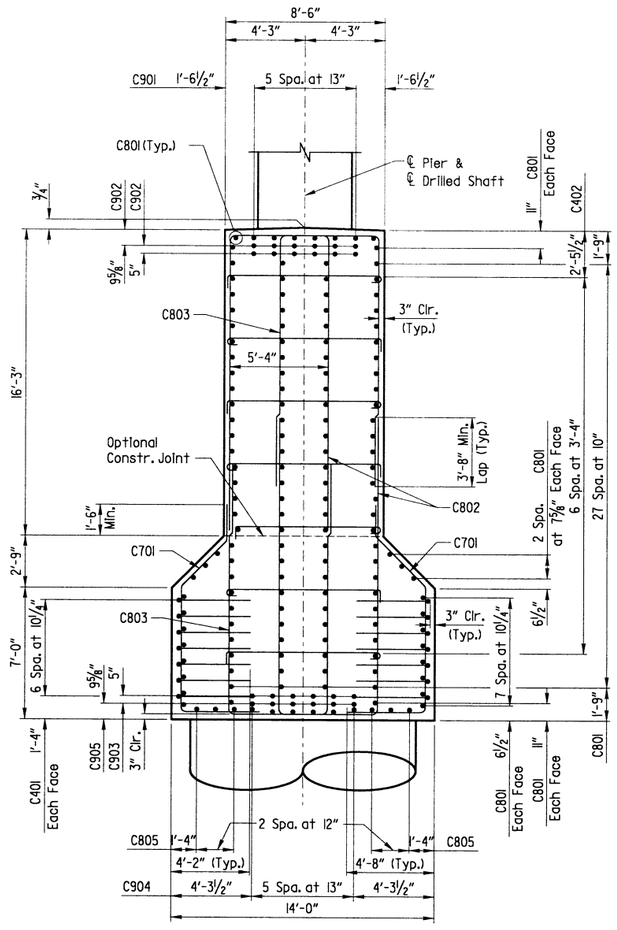
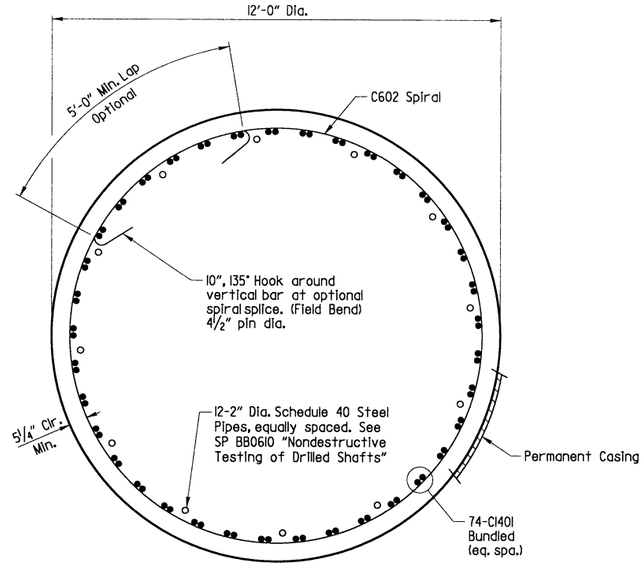


SECTION F-F
SCALE ¼" = 1'-0"



SECTION H-H
SCALE ¼" = 1'-0"



SECTION THRU DRILLED SHAFT
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.

⚠1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 5
DETAILS OF PIERS 1 & 2
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/13/2016 FILENAME: bbb0610_pl4.dgn
CHECKED BY: JOS DATE: 07/11/2016
DESIGNED BY: SSS DATE: 06/07/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56768

JACOBS

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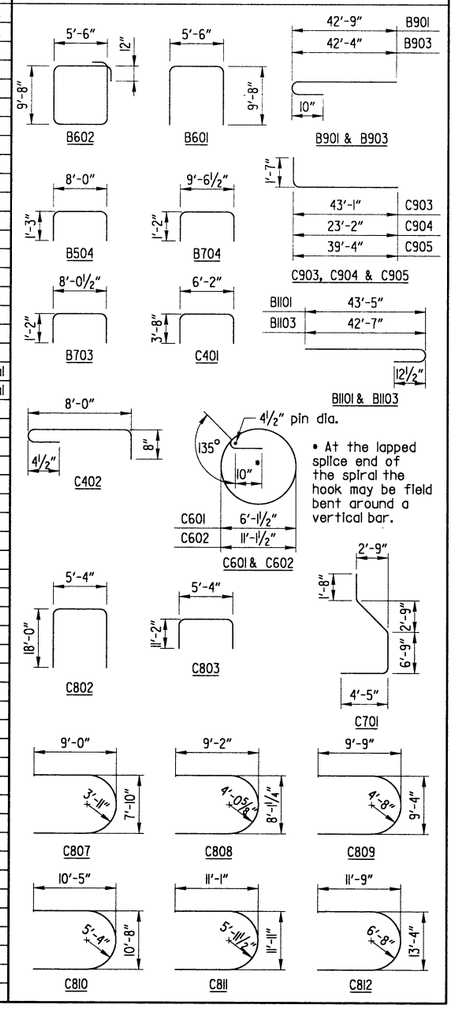
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	96	262
				(1) 07343		- PIERS -		56769

BAR LIST - PIER 1

Mark	No. Req'd	Length	Pin Dia.
B501	9	25'-9"	Str.
B502	9	17'-10"	Str.
B503	9	18'-3"	Str.
B504	96	10'-3"	3¾"
B505	9	8'-0"	Str.
B601	54	24'-6"	4½"
B602	111	32'-4"	4½"
B701	36	40'-2"	Str.
B702	18	42'-7"	Str.
B703	18	10'-0"	5¼"
B704	20	11'-6"	5¼"
B901	12	44'-0"	9"
B902	12	42'-9"	Str.
B903	12	43'-7"	9"
B1101	12	44'-11"	11¼"
B1102	12	43'-6"	Str.
B1103	12	44'-1"	11¼"
C401	224	13'-9"	3"
C402	266	9'-6"	3"
C601	6	2268'-10"	Spiral
C602	6	17,900'-1"	Spiral
C701	350	16'-4"	5¼"
C801	438	44'-9"	Str.
C802	300	40'-11"	6"
C803	300	27'-3"	6"
C805	12	47'-10"	Str.
C806	28	18'-2"	Str.
C807	38	22'-6"	---
C808	2	22'-11"	---
C809	2	24'-10"	---
C810	2	26'-11"	---
C811	2	28'-11"	---
C812	16	31'-1"	---
C901	12	27'-4"	Str.
C902	30	13'-4"	Str.
C903	6	44'-5"	9"
C904	12	24'-11"	9"
C905	12	40'-8"	9"
C906	6	40'-2"	Str.
C907	12	44'-9"	Str.
C908	12	41'-5"	Str.
C1101	186	36'-4"	Str.
(1) C1401	444	170'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars

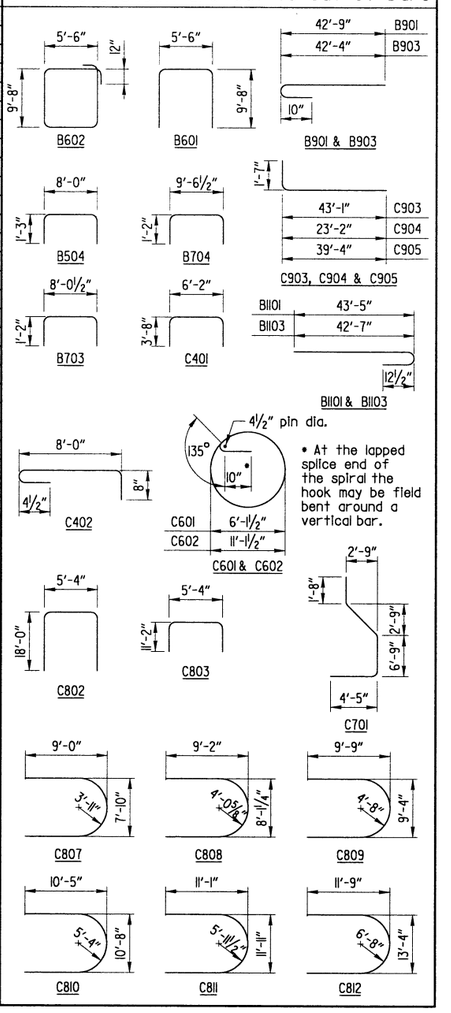


(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PIER 2

Mark	No. Req'd	Length	Pin Dia.
B501	9	25'-9"	Str.
B502	9	17'-10"	Str.
B503	9	18'-3"	Str.
B504	96	10'-3"	3¾"
B505	9	8'-0"	Str.
B601	54	24'-6"	4½"
B602	111	32'-4"	4½"
B701	36	40'-2"	Str.
B702	18	42'-7"	Str.
B703	18	10'-0"	5¼"
B704	20	11'-6"	5¼"
B901	12	44'-0"	9"
B902	12	42'-9"	Str.
B903	12	43'-7"	9"
B1101	12	44'-11"	11¼"
B1102	12	43'-6"	Str.
B1103	12	44'-1"	11¼"
C401	224	13'-9"	3"
C402	266	9'-6"	3"
C601	6	2268'-10"	Spiral
C602	6	17,900'-1"	Spiral
C701	350	16'-4"	5¼"
C801	438	44'-9"	Str.
C802	300	40'-11"	6"
C803	300	27'-3"	6"
C805	12	47'-10"	Str.
C806	28	18'-2"	Str.
C807	38	22'-6"	---
C808	2	22'-11"	---
C809	2	24'-10"	---
C810	2	26'-11"	---
C811	2	28'-11"	---
C812	16	31'-1"	---
C901	12	27'-4"	Str.
C902	30	13'-4"	Str.
C903	6	44'-5"	9"
C904	12	24'-11"	9"
C905	12	40'-8"	9"
C906	6	40'-2"	Str.
C907	12	44'-9"	Str.
C908	12	41'-5"	Str.
C1101	186	36'-4"	Str.
(1) C1401	444	170'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

(1) Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 5
DETAILS OF PIERS 1 & 2
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/14/2016 FILENAME: bbb0610_pl5.dgn
CHECKED BY: JOS DATE: 07/11/2016
DESIGNED BY: SSS DATE: 06/07/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56769

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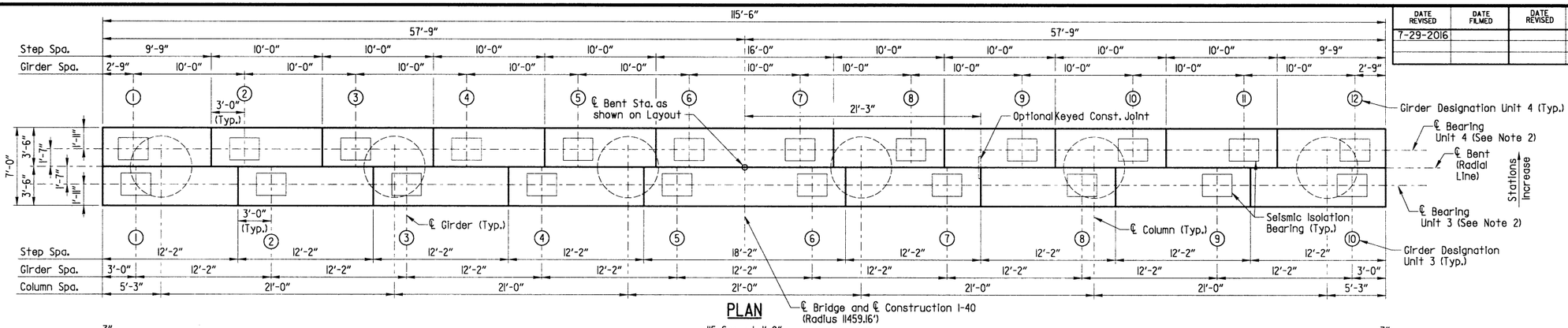
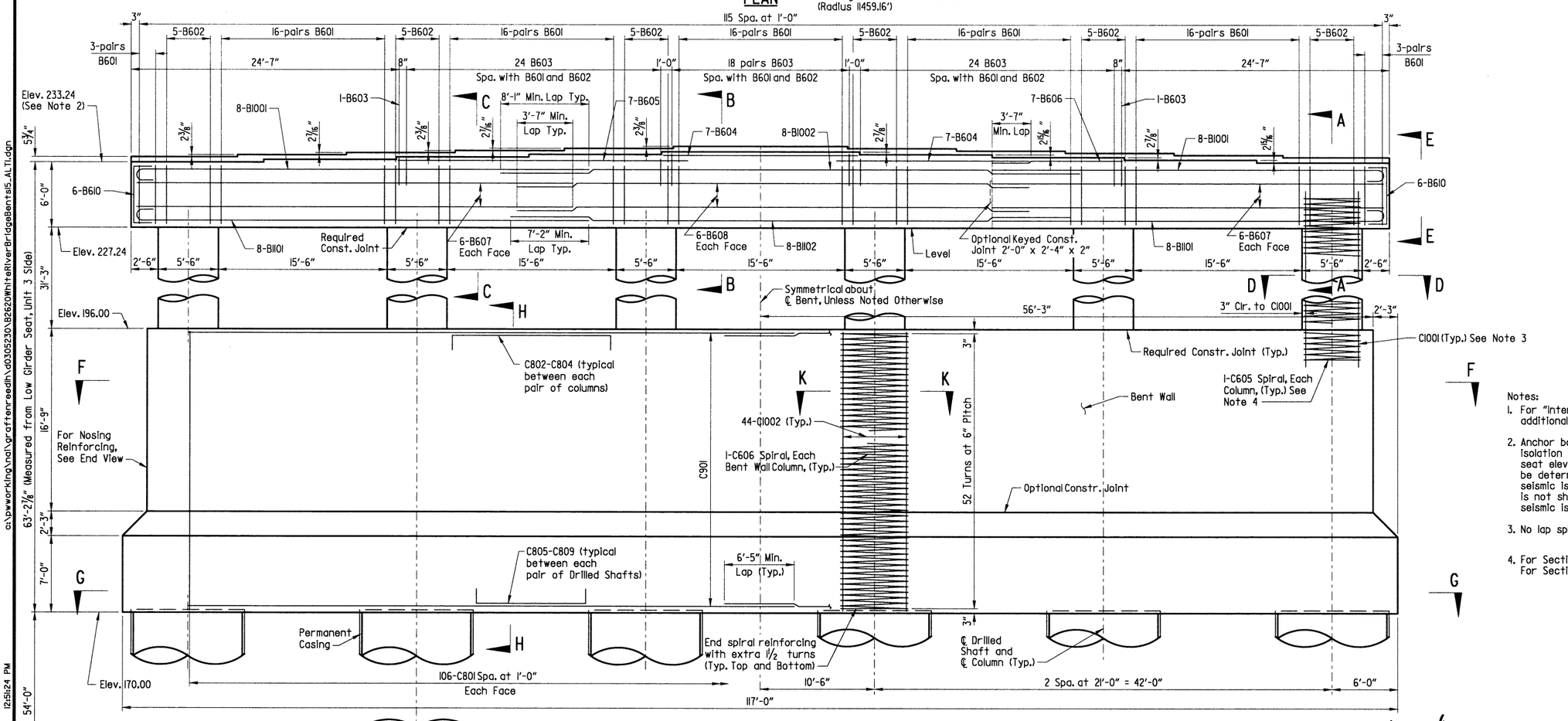
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	97	262
07343	-	INTERMEDIATE BENTS	-	56770

(1)



PLAN



ELEVATION
(Looking Ahead Station)

Notes:

1. For "Intermediate Bent Notes", Sections and additional details, see sheet 56771.
2. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.
3. No lap splice will be allowed for bars C1001.
4. For Sections A, B, C, D, E, J and K, See Drawing No. 56771. For Sections F, G, and H, See Drawing No. 56772 and 56773.

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 4
DETAILS OF BENT 10
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/08/2016 FILENAME: bbb0610_bal.dgn
CHECKED BY: MJM DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/02/2016 SCALE: 1/8" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 56770

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RO. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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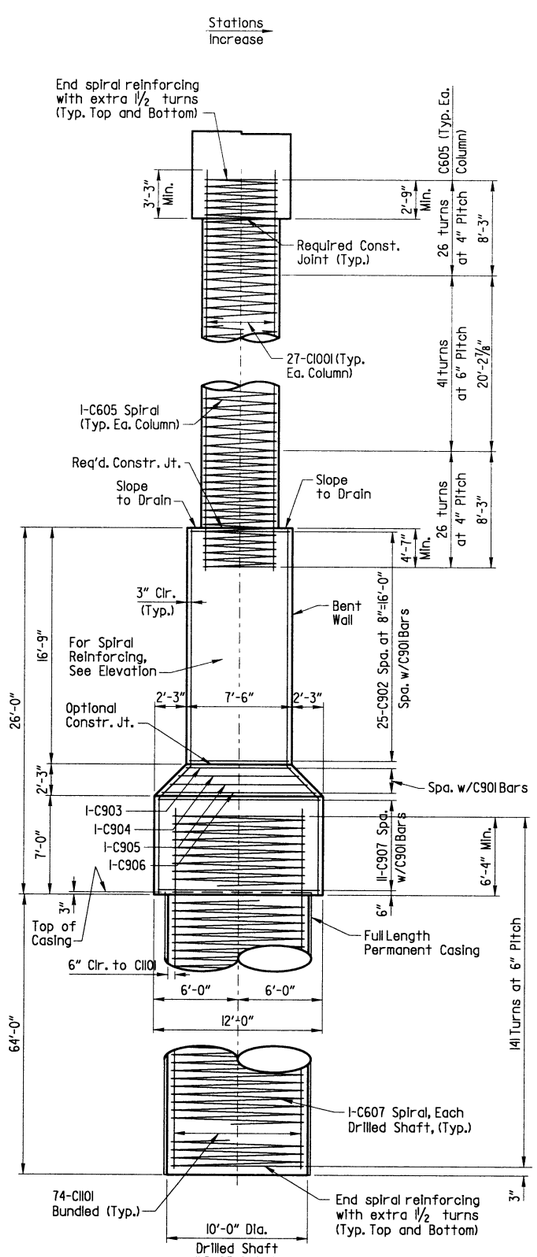
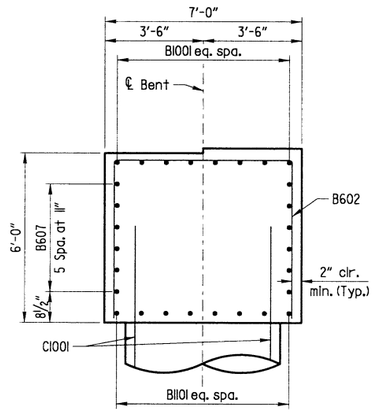
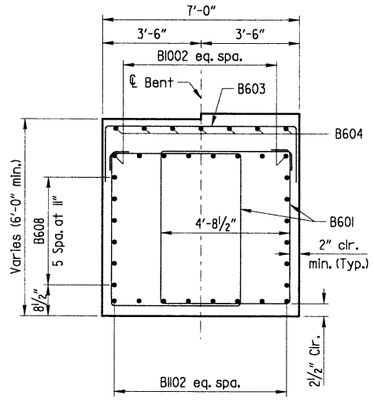
				① 07343	-	INTERMEDIATE BENTS	-	56771



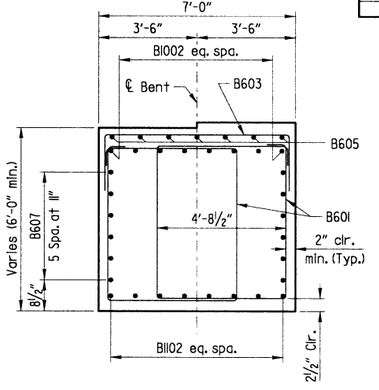
END VIEW
Scale 3/16" = 1'-0"



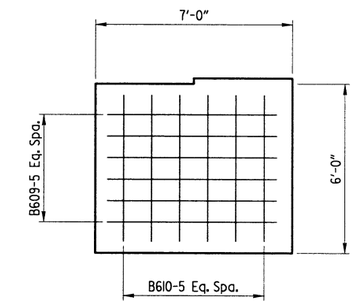
SECTION A-A
Scale 3/8" = 1'-0"
Note: Spiral bars C605 not shown for clarity.



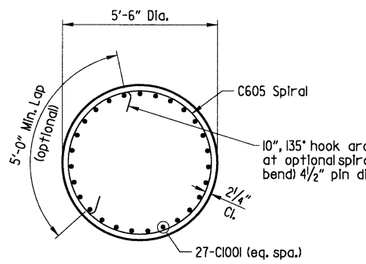
SECTION B-B
Scale 3/8" = 1'-0"



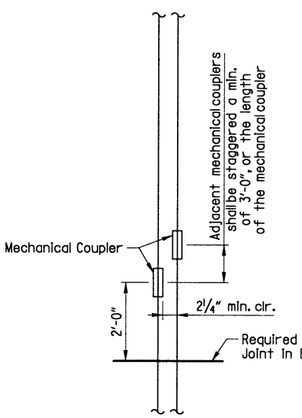
SECTION C-C
Scale 3/8" = 1'-0"



VIEW E-E
Scale 3/8" = 1'-0"

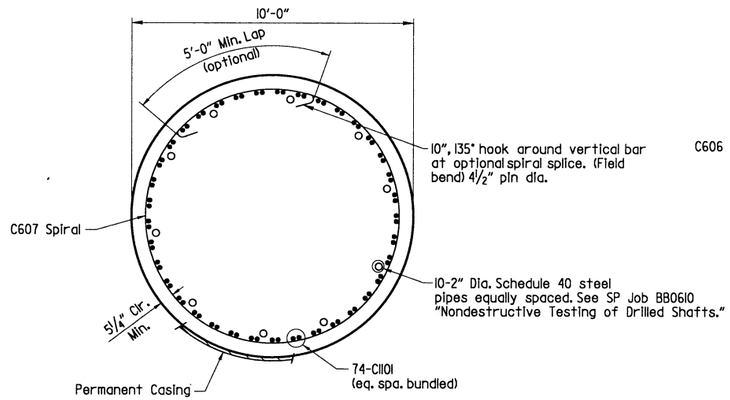


SECTION D-D
Scale 3/8" = 1'-0"



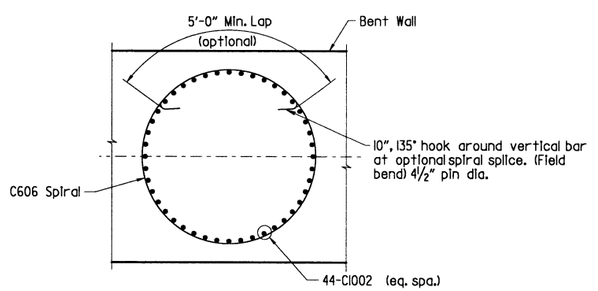
OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the Bent Wall shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The OPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION J-J
Scale 3/8" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



SECTION K-K
Scale 3/8" = 1'-0"

INTERMEDIATE BENT NOTES:

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the bent wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A, with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum dia. of 0.75".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needing for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom ¼ of the column height or top 15' of the bent wall.

Spirals in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

⚠1 Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 4
DETAILS OF BENT 10
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/09/2016 FILENAME: bbb0610_ba2.dgn
CHECKED BY: MJM DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/02/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56771

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		BB0610	99	262
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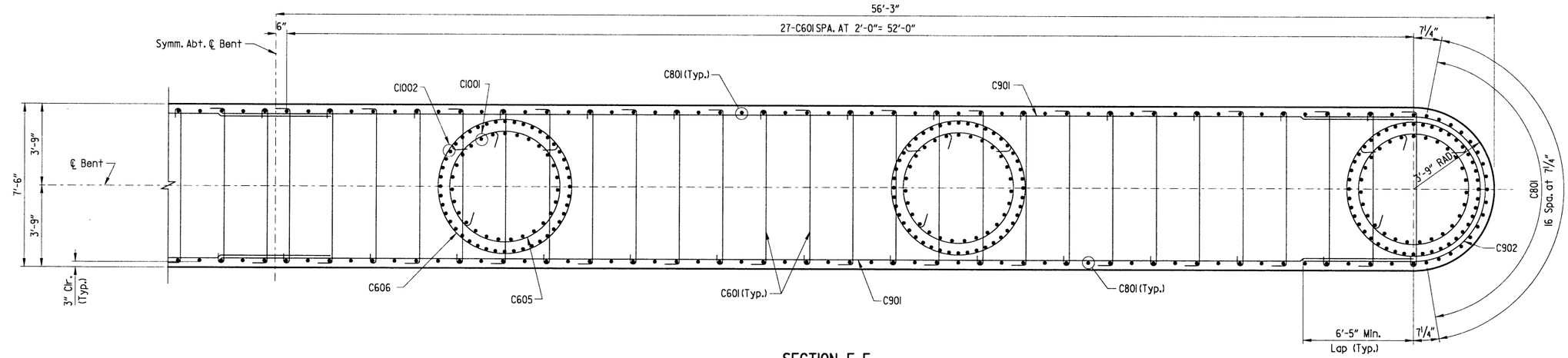
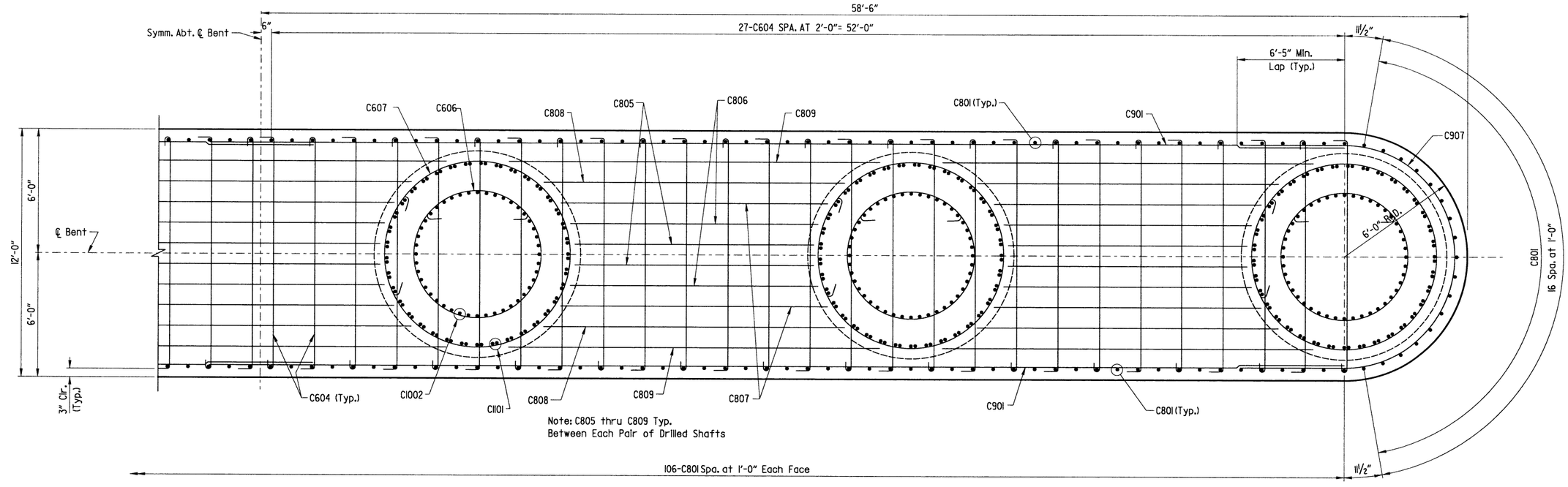


SECTION F-F
Scale ⅜" = 1'-0"



SECTION G-G

⚠ Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHTON 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 4
DETAILS OF BENT 10
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/09/16 FILENAME: bbb0610_ba3.dgn
CHECKED BY: MJM DATE: 06/29/16
DESIGNED BY: SSS DATE: 06/02/16 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56772

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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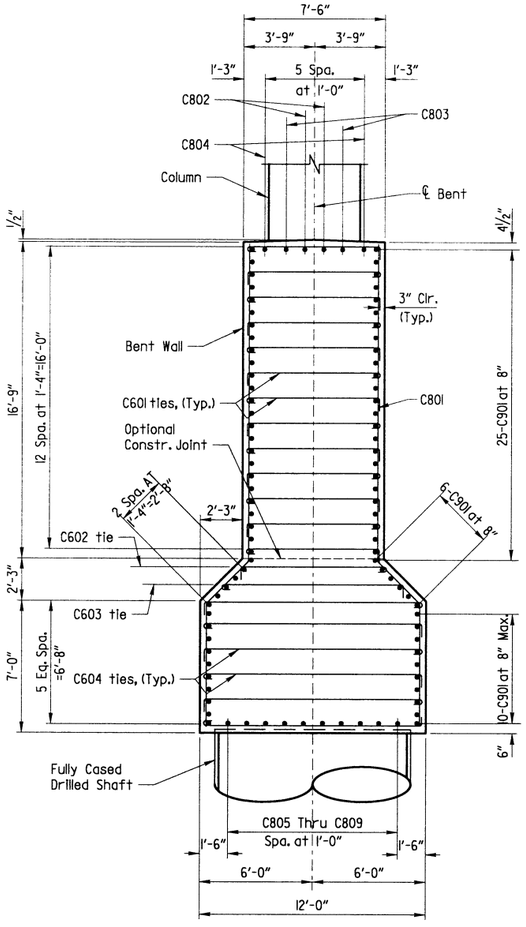
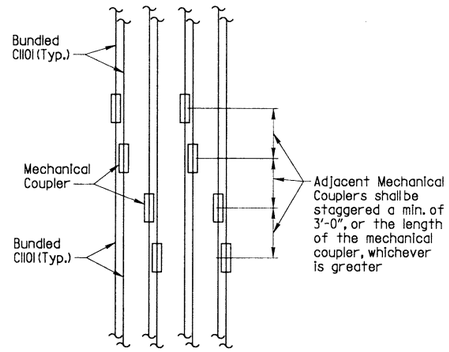


SECTION H-H

SCALE 1/4" = 1'-0"



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

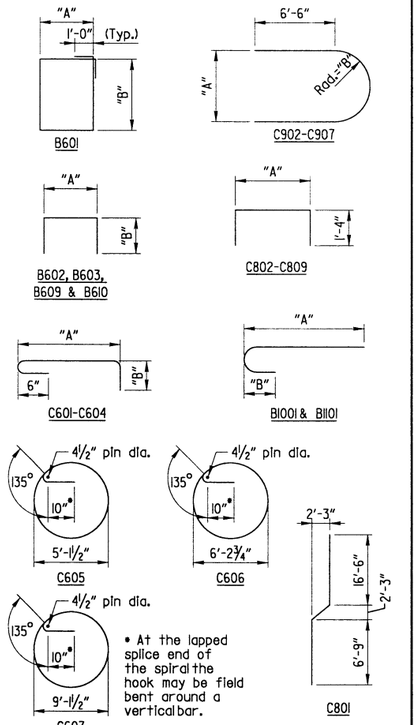
The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL", not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the Item "DRILLED SHAFT (120" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.

BAR LIST

Mark	No. Req'd	Length	"A"	"B"	Pin Dia.
B601	172	21'-11"	4'-8½"	5'-8"	4½"
B602	30	17'-8"	6'-8"	5'-8"	4½"
B603	86	8'-10"	6'-8"	1'-3"	4½"
B604	7	17'-10"	-	-	Str.
B605	7	26'-0"	-	-	Str.
B606	7	12'-0"	-	-	Str.
B607	24	36'-4"	-	-	Str.
B608	12	49'-8"	-	-	Str.
B609	12	8'-3"	6'-6½"	12"	4½"
B610	12	7'-3"	5'-6½"	12"	4½"
B1001	16	37'-9"	36'-4"	11½"	10"
B1002	8	58'-8"	-	-	Str.
B1101	16	37'-10"	36'-4"	1'-0½"	11¼"
B1102	8	56'-10"	-	-	Str.
C601	702	8'-7½"	7'-1½"	1'-0"	4½"
C602	54	9'-4"	7'-10"	1'-0"	4½"
C603	54	11'-2"	9'-8"	1'-0"	4½"
C604	324	13'-0"	11'-6"	1'-0"	4½"
C605	6	1528'-6"	-	-	Spiral
C606	6	1067'-2"	-	-	Spiral
C607	6	3532'-2"	-	-	Spiral
C801	246	26'-5"	-	-	6"
C802	10	17'-0"	14'-4"	-	6"
C803	10	17'-10"	15'-2"	-	6"
C804	10	19'-2"	16'-6"	-	6"
C805	10	13'-2"	10'-6"	-	6"
C806	10	13'-7"	10'-11"	-	6"
C807	10	14'-5"	11'-9"	-	6"
C808	10	15'-10"	13'-2"	-	6"
C809	10	18'-3"	15'-7"	-	6"
C901	164	55'-9"	-	-	Str.
C902	52	34'-3½"	6'-10"	3'-5"	-
C903	2	36'-11"	7'-8"	3'-10"	-
C904	2	39'-9½"	8'-7"	4'-3½"	-
C905	2	42'-11½"	9'-7"	4'-9½"	-
C906	2	45'-10"	10'-6"	5'-3"	-
C907	22	48'-5½"	11'-4"	5'-8"	-
C1001	162	39'-3"	-	-	Str.
C1002	264	25'-9"	-	-	Str.
(1) C1101	444	60'-2"	-	-	Str.

Bending Diagrams
Dimensions shown are out to out of bars



• At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

(1) Non-pay Item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

(1) Revised sheet to reflect the addition of alternate substructure and foundation change on 860' unit. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 4
DETAILS OF BENT 10
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/09/2016 FILENAME: bbb0610_ba4.dgn
CHECKED BY: MJM DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/02/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56773

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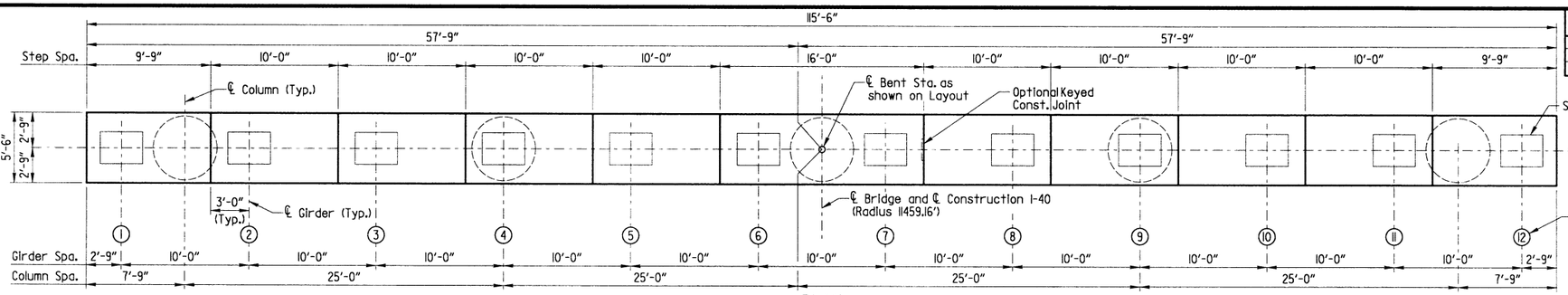
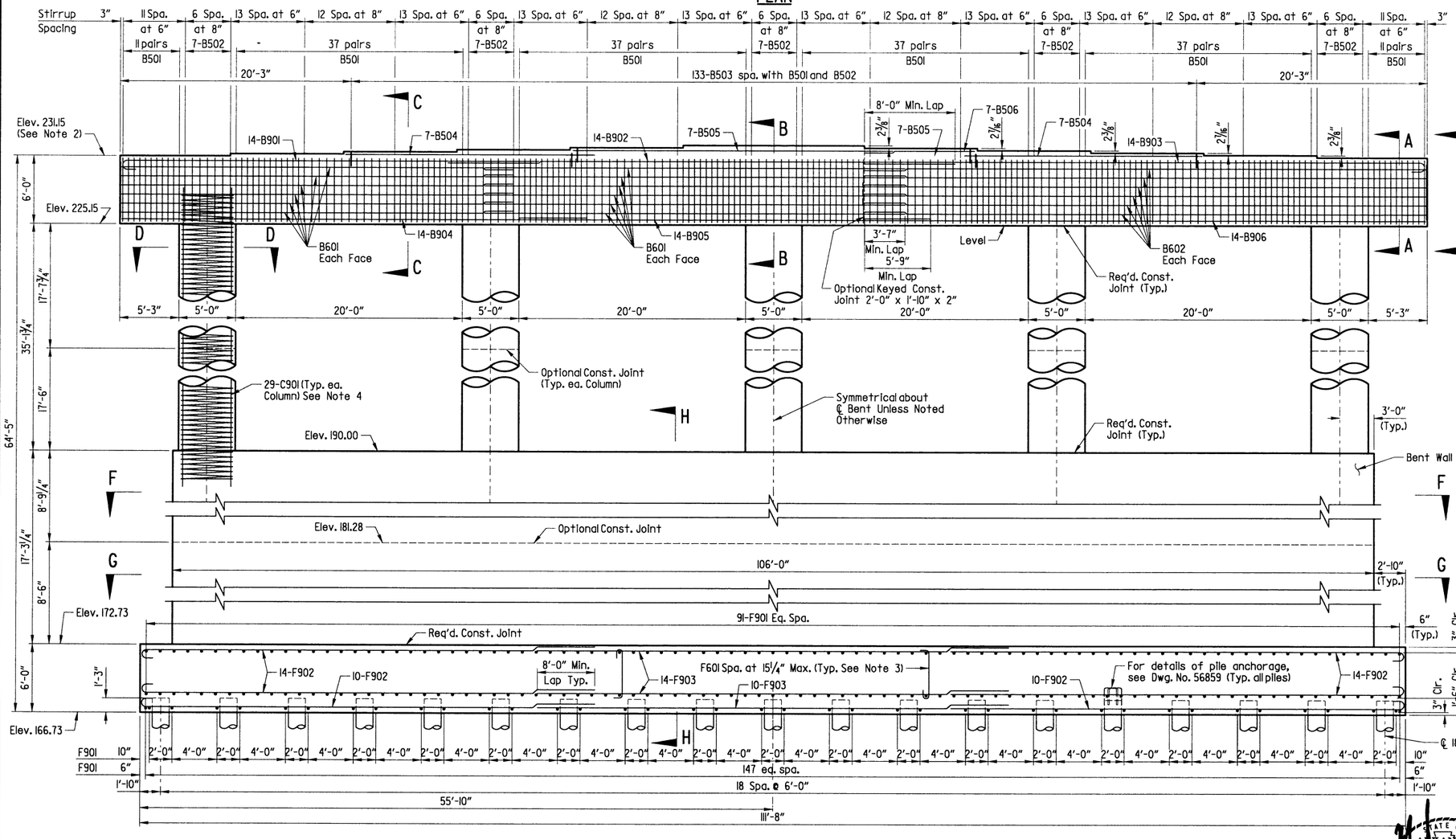
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	101	262
07343	-	INTERMEDIATE BENTS	-	56774

(1)



PLAN



ELEVATION

(Looking Ahead Station)

Notes:

1. For "Intermediate Bent Notes", and additional details, see Drawing No. 56777.
2. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.
3. Place F601 bars as shown on "Plan of Footing Ties", Dwg. No. 56777.
4. No lap splice will be allowed for bars C901.

ALTERNATE NO. 1

SHEET 1 OF 4

DETAILS OF BENT 11

BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY

ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

(1) Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

DRAWN BY: EAK DATE: 01/25/2015 FILENAME: bbb0610_bbi.dgn

CHECKED BY: MJS DATE: 01/29/2015

DESIGNED BY: MJM DATE: 01/25/2015 SCALE: 3/16" = 1'-0"

BRIDGE NO. 07343 DRAWING NO. 56774

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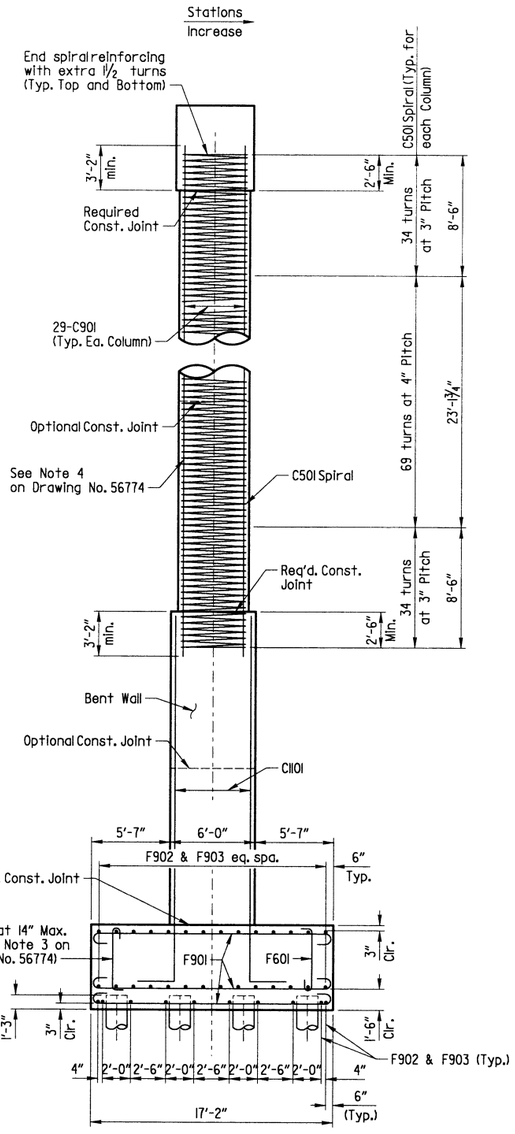
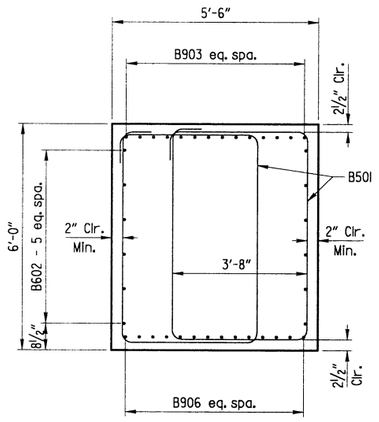
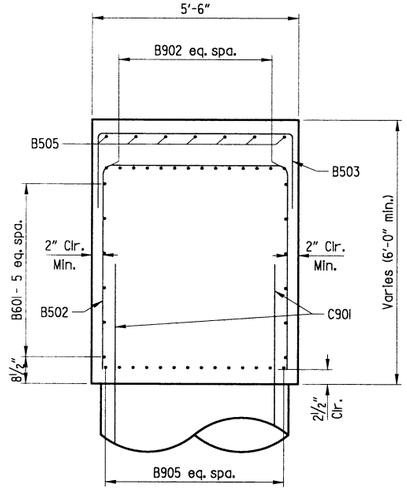
				1	07343 - INTERMEDIATE BENTS -			56775



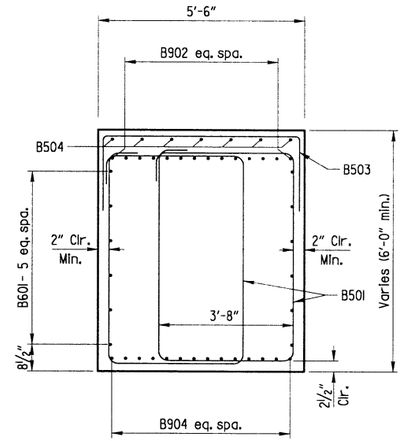
END VIEW
Scale 3/16" = 1'-0"



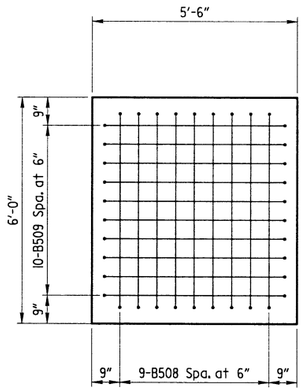
SECTION A-A
Scale: ½" = 1'-0"



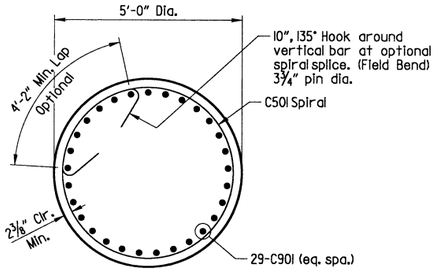
SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



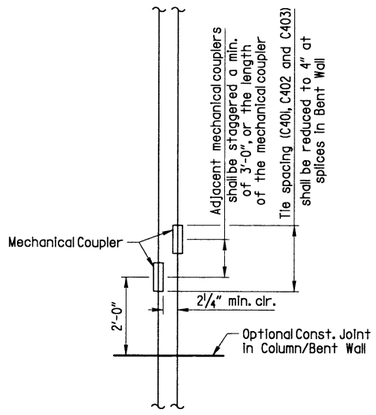
SECTION C-C
Scale: ½" = 1'-0"



VIEW E-E
Scale: ½" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN/BENT WALL BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column/bent wall shall maintain the clearances shown. Their payment shall be subsidiary to the Item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 2 OF 4
DETAILS OF BENT II
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 01/25/2015 FILENAME: bbb0610_bb2.dgn
CHECKED BY: MJS DATE: 02/01/2015
DESIGNED BY: MJM DATE: 01/25/2015 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56775

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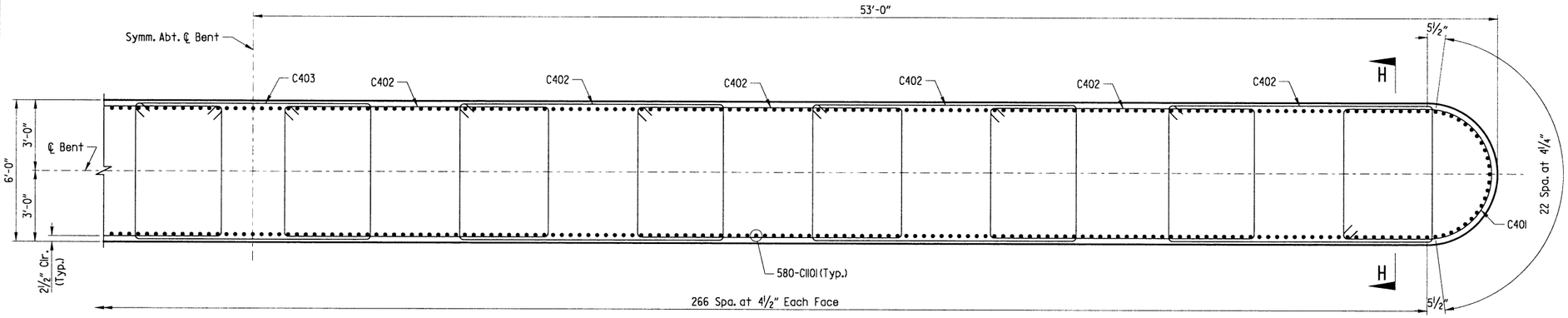
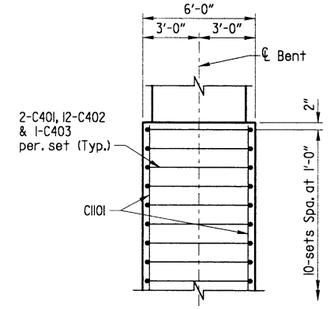


SECTION F-F
Scale ⅜" = 1'-0"



SECTION H-H
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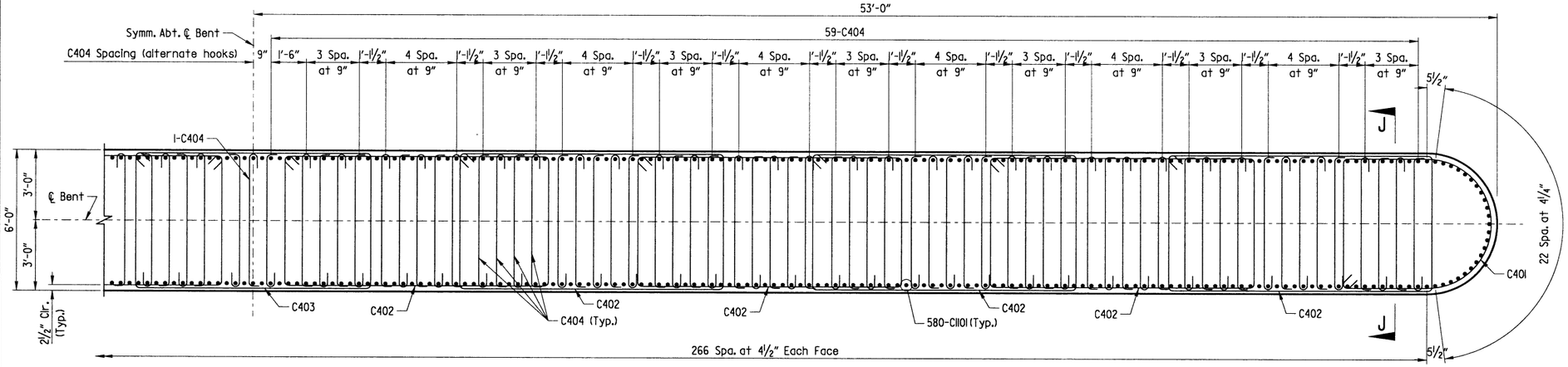
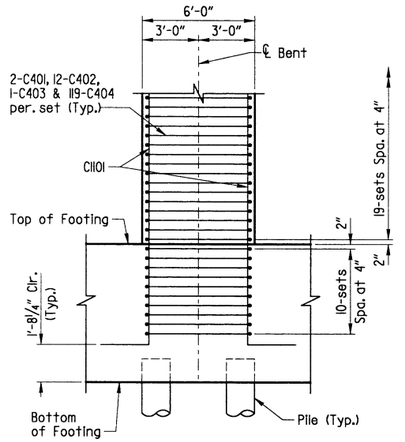


SECTION G-G
Scale ⅜" = 1'-0"



SECTION H-H
SCALE ¼" = 1'-0"

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 3 OF 4
DETAILS OF BENT 11
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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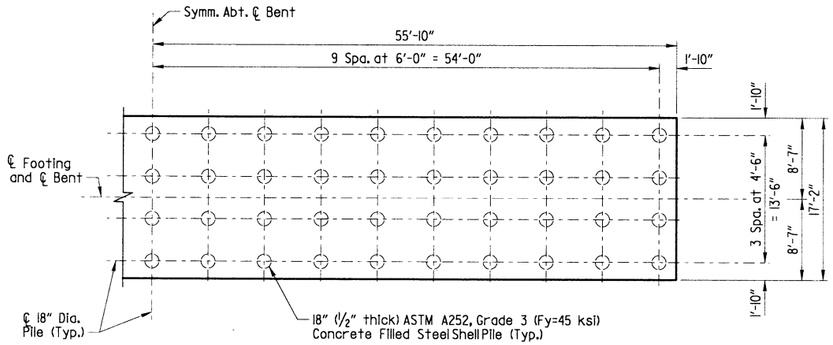
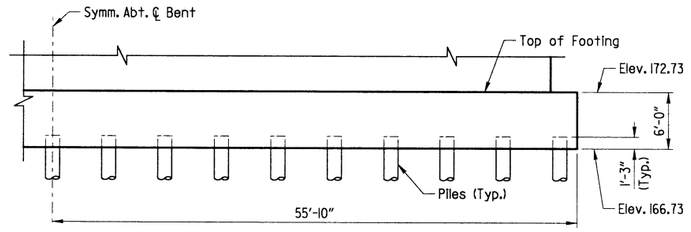
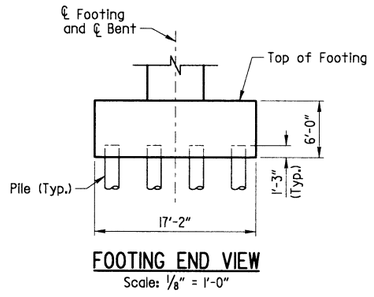


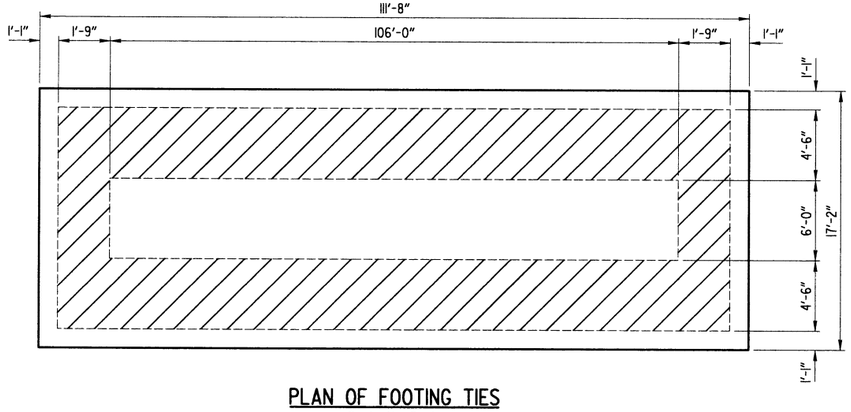
FOOTING PLAN
Scale: 1/8" = 1'-0"



FOOTING ELEVATION
Scale: 1/8" = 1'-0"



FOOTING END VIEW
Scale: 1/8" = 1'-0"



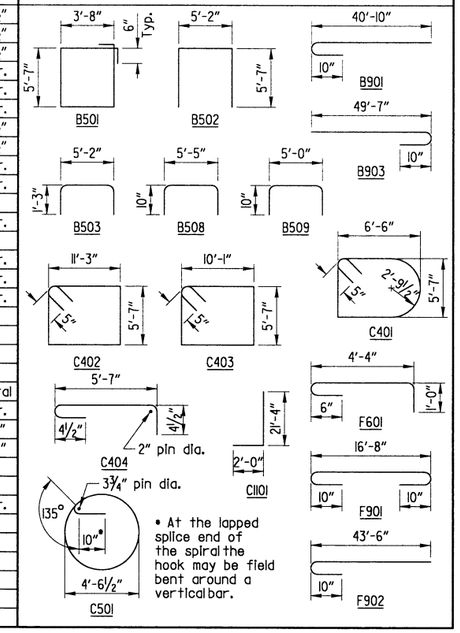
PLAN OF FOOTING TIES
Scale: No Scale

Note: Place F601 bars within the hatched area at 15¼" max. in the long direction of the footing and 14" max. in the short direction of the footing. Alternate hooks between top and bottom mat.

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	340	19'-0"	2½"
B502	35	16'-2"	2½"
B503	133	7'-6"	2½"
B504	14	21'-6"	Str.
B505	7	29'-10"	Str.
B506	7	9'-10"	Str.
B508	18	6'-10"	2½"
B509	20	6'-5"	2½"
B601	24	36'-5"	Str.
B602	12	49'-7"	Str.
B901	14	42'-1"	9"
B902	14	40'-10"	Str.
B903	14	50'-10"	9"
B904	14	41'-0"	Str.
B905	14	36'-1"	Str.
B906	14	49'-7"	Str.
C401	78	22'-7"	3"
C402	468	34'-4"	3"
C403	39	32'-0"	3"
C404	3,451	6'-5"	3"
C501	5	2,026'-9"	Spiral
C901	145	41'-6"	Str.
C1101	580	23'-0"	11¼"
F601	732	6'-2"	4½"
F901	222	19'-2"	9"
F902	76	44'-9"	9"
F903	38	40'-2"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



• At the lapped splice end of the spiral the hook may be field bent around a vertical bar.

INTERMEDIATE BENT NOTES

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Concrete in the bent wall and footing shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete-Bridge" and Section 802. All Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-0" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 4 OF 4
DETAILS OF BENT II
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 01/29/2015 FILENAME: bbb0610_bb4.dgn
CHECKED BY: MJS DATE: 02/02/2015
DESIGNED BY: MJM DATE: 01/28/2015 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56777

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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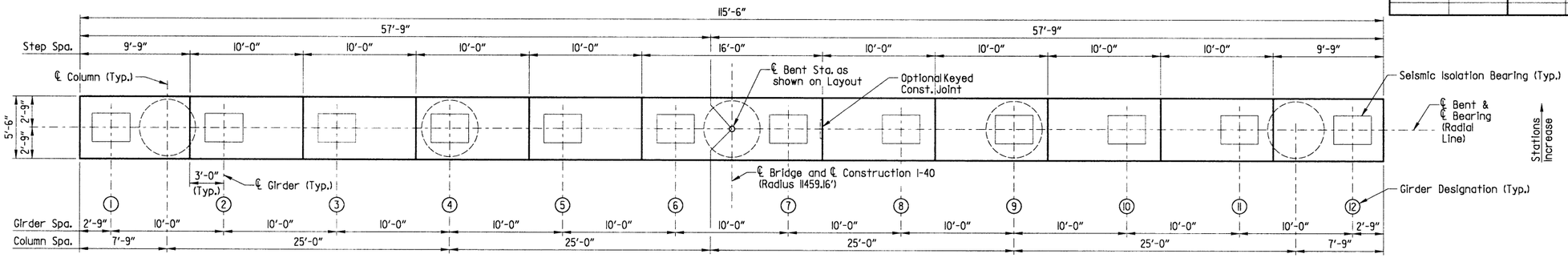
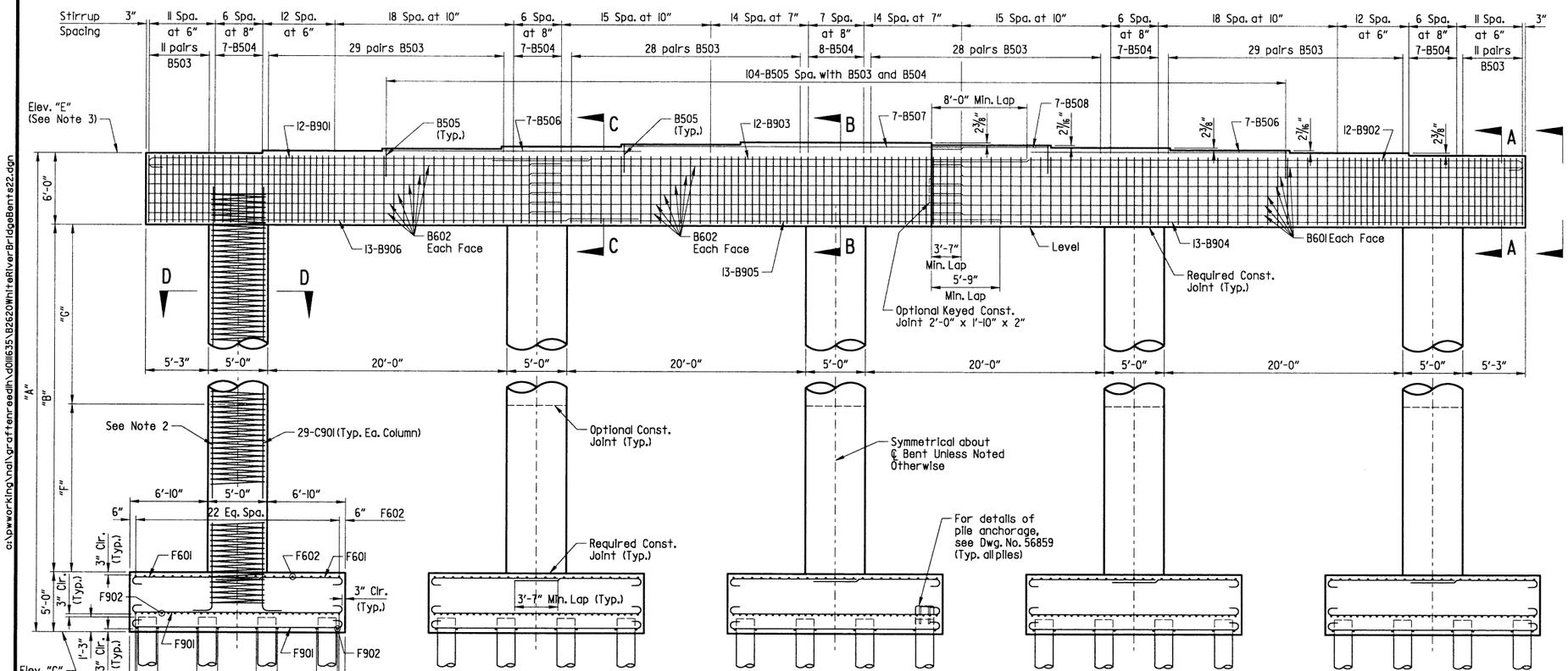
				(1) 07343	-	INTERMEDIATE BENTS	-	56778



PLAN



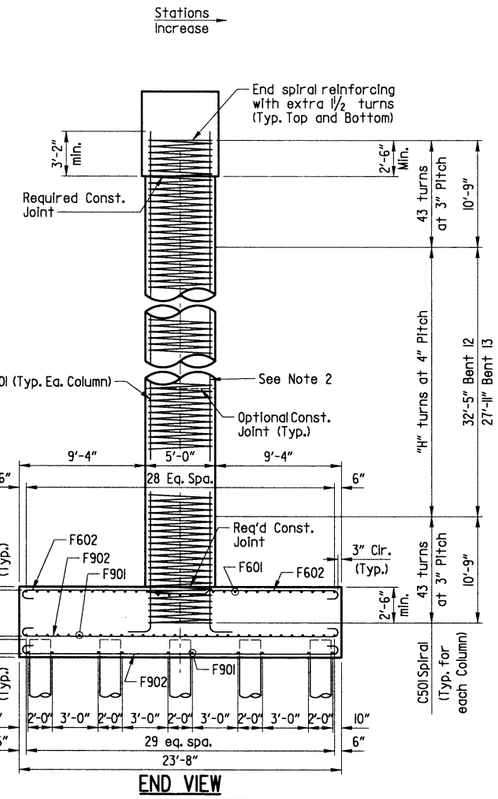
ELEVATION
(Looking Ahead Station)

TABLE OF VARIABLES		
VARIABLE	BENT 12	BENT 13
"A"	59'-11"	55'-5"
"B"	48'-11"	44'-5"
Elev. "C"	167.54	167.65
Elev. "E"	227.46	223.07
"F"	24'-6"	22'-6"
"G"	24'-5"	22'-11"
"H"	98	84
"J"	2675'-11"	2475'-9"
"K"	56'-9"	52'-3"
"L"	55'-4¾"	50'-10¾"

Notes:
1. For "Intermediate Bent Notes, Sections, and additional details, see Drawing No. 56779.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.



END VIEW
ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENTS 12 & 13
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

DRAWN BY: EAK DATE: 10/28/2014 FILENAME: bbb0610_bcl.dgn
CHECKED BY: CAS DATE: 10/28/2014
DESIGNED BY: CAS DATE: 10/28/2014 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 56778

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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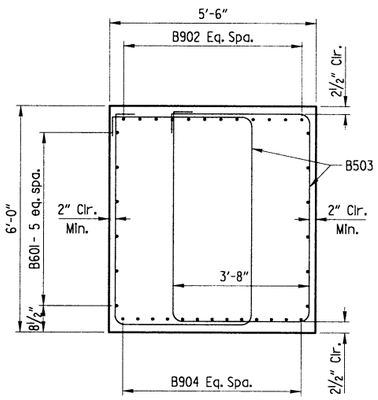
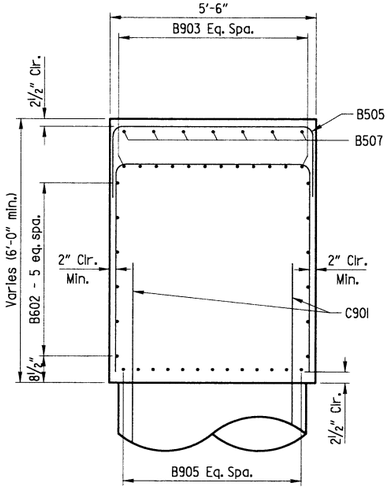
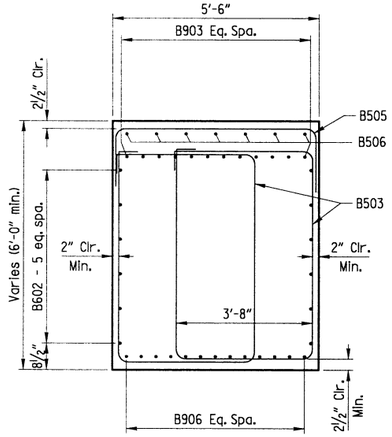
				JOB NO.		BB0610	106	262
				① 07343 - INTERMEDIATE BENTS -				56779



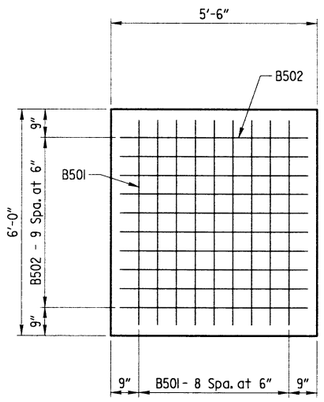
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



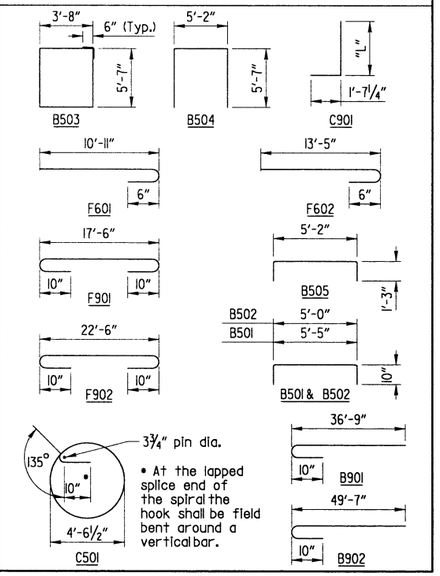
SECTION E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

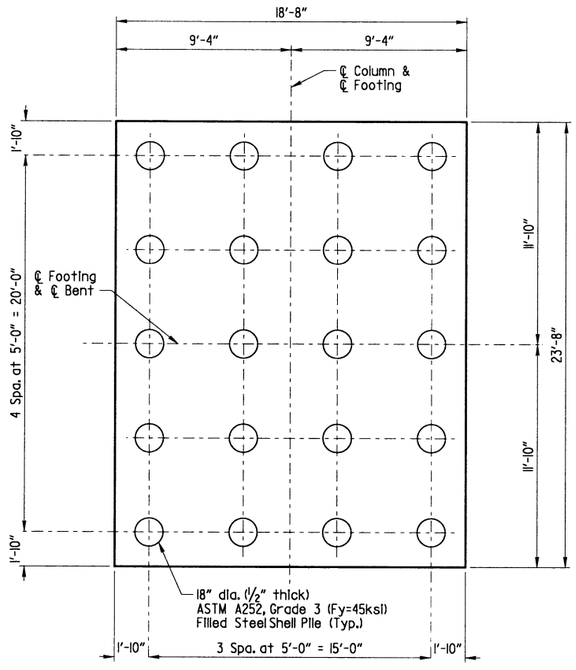
BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	272	19'-0"	2½"
B504	36	16'-2"	2½"
B505	104	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	12	42'-1"	9"
B902	12	50'-10"	9"
B903	12	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	"J"	Spiral
C901	145	"K"	9"
F601	290	11'-7"	4½"
F602	230	14'-1"	4½"
F901	200	20'-8"	9"
F902	200	25'-8"	9"

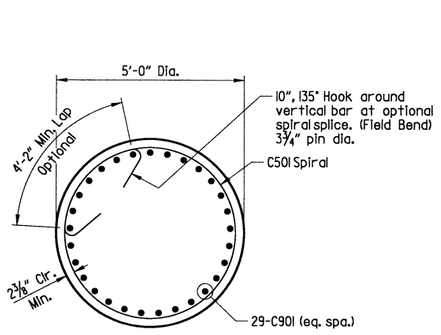
Bending Diagrams
Dimensions shown are out to out of bars



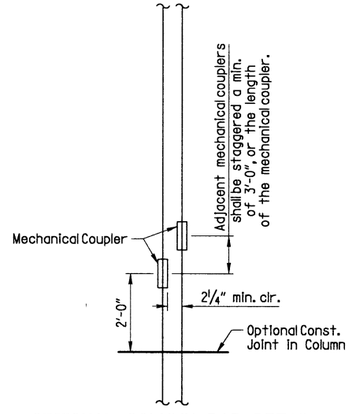
Note: For table of variables, see Drawing No. 56778.



FOOTING PLAN
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 8'-3" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENTS 12 & 13
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610_bc2.dgn
CHECKED BY: CAS DATE: 10/29/2014
DESIGNED BY: CAS DATE: 10/29/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56779

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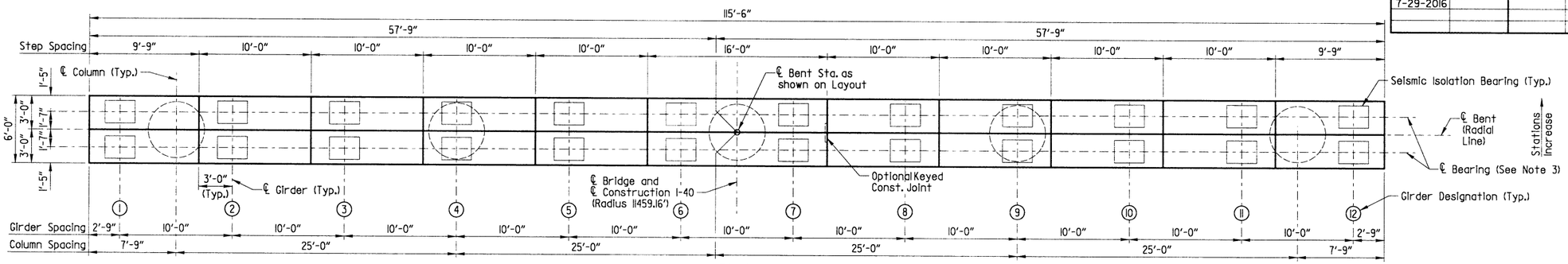
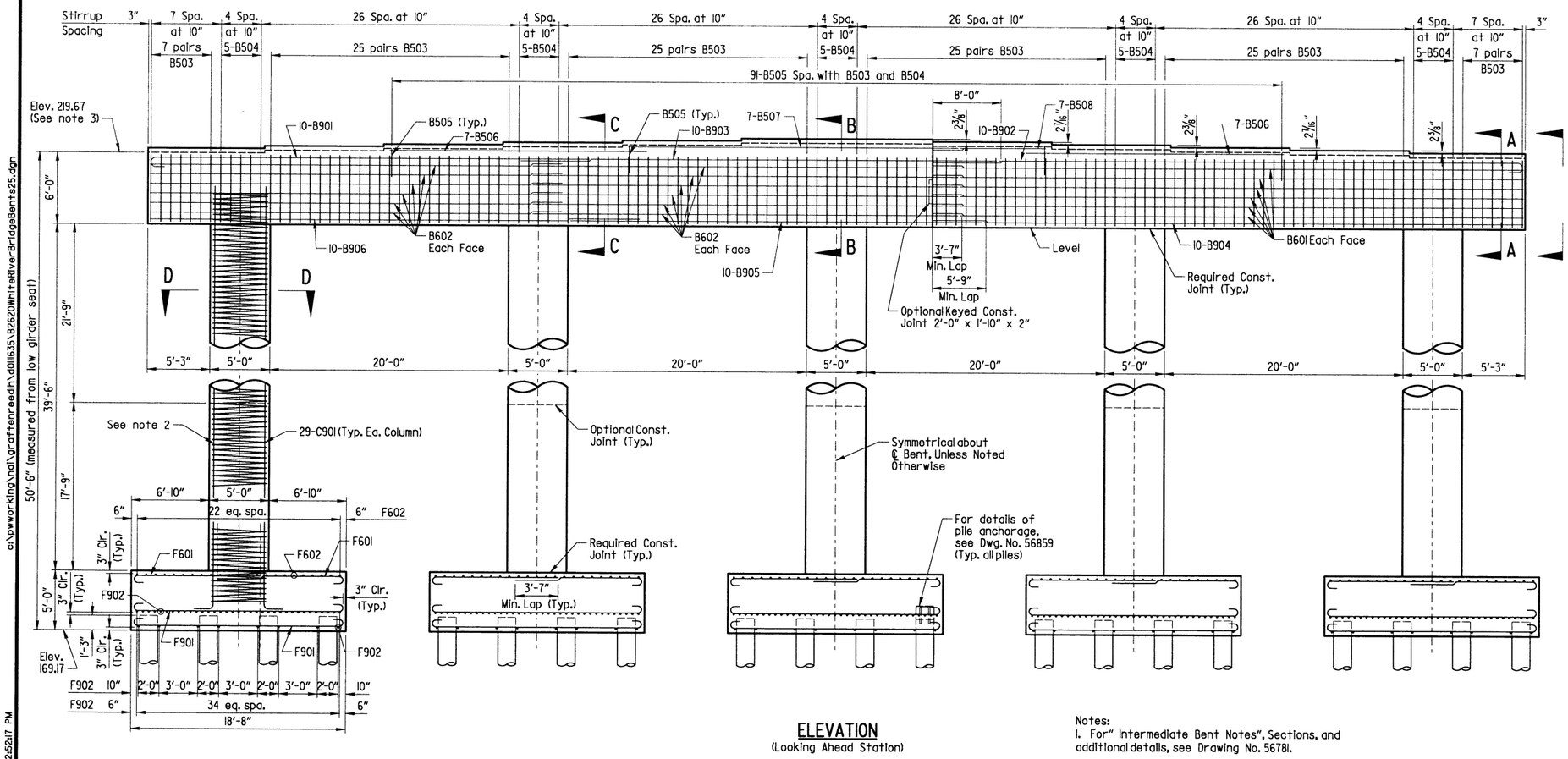
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

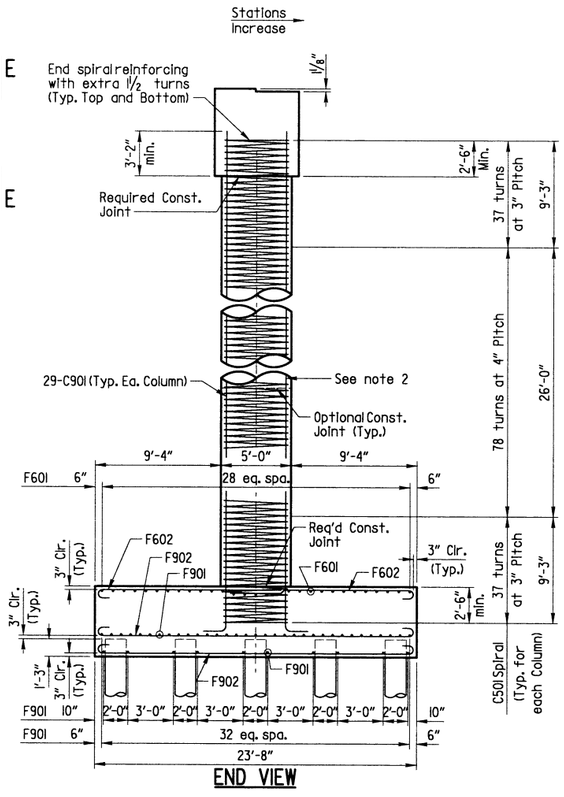
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	107	262
(1) 07343	-	INTERMEDIATE BENTS	-	56780



PLAN



ELEVATION
(Looking Ahead Station)



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56781.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENT 14
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 01/30/2015 FILENAME: bbb0610_bei.dgn
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DESIGNED BY: CM DATE: 01/29/2015 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 56780

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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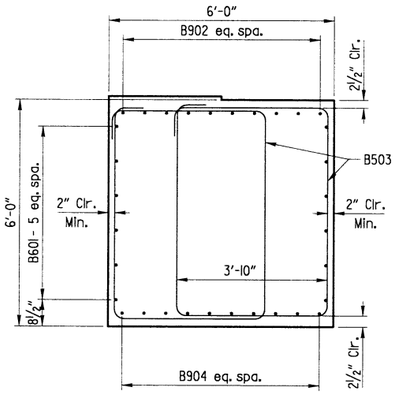
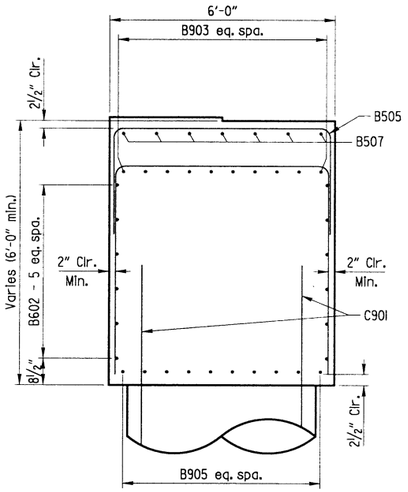
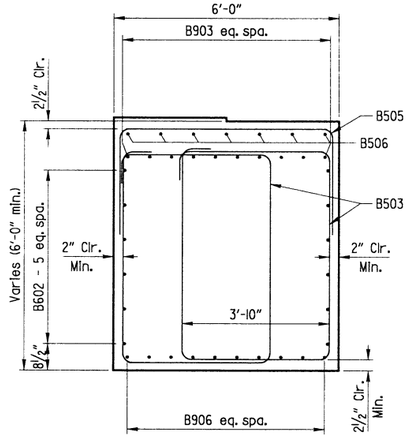
				JOB NO.		BB0610	108	262
				(1) 07343	- INTERMEDIATE BENTS -			56781



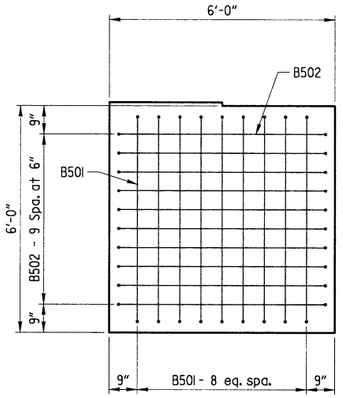
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



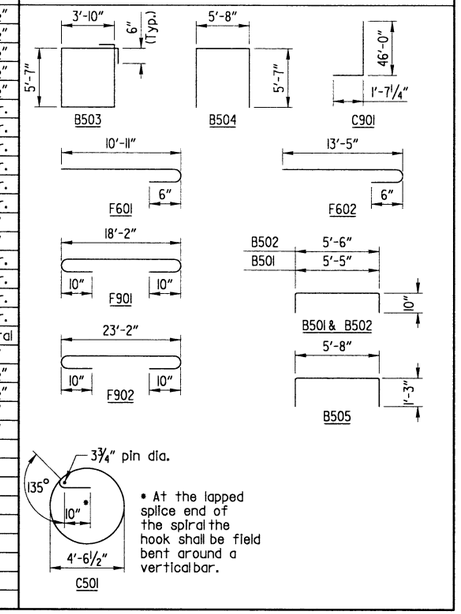
SECTION E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

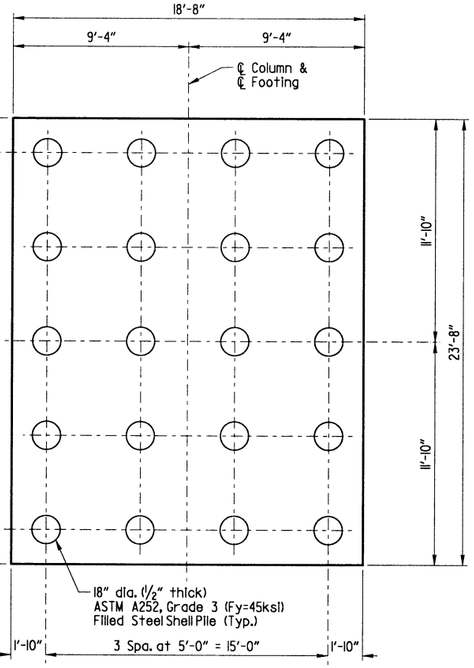
BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	228	19'-4"	2½"
B504	25	16'-7"	2½"
B505	91	8'-0"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B509	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	10	49'-7"	Str.
B905	10	36'-1"	Str.
B906	10	41'-0"	Str.
C501	5	2,218'-4"	Spiral
C901	145	47'-4"	9"
F601	290	11'-7"	4½"
F602	230	14'-1"	4½"
F901	215	20'-8"	9"
F902	215	25'-8"	9"

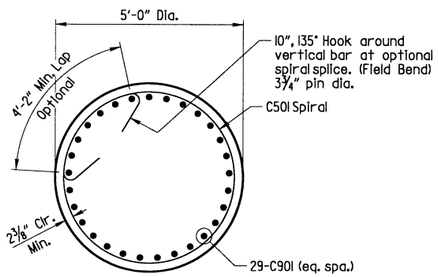
Bending Diagrams
Dimensions shown are out to out of bars



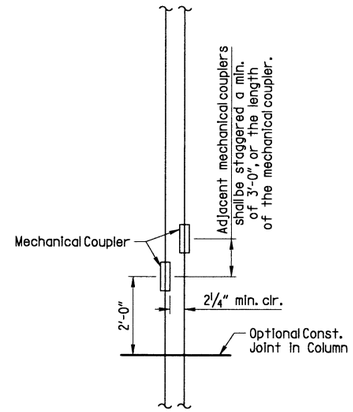
• At the lapped splice end of the spiral the hook shall be field bent around a vertical bar.



FOOTING PLAN
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall the spiral be lapped within 6'-9' of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENT 14
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610_be2.dgn
CHECKED BY: SSS DATE: 10/29/2014
DESIGNED BY: CM DATE: 10/29/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56781

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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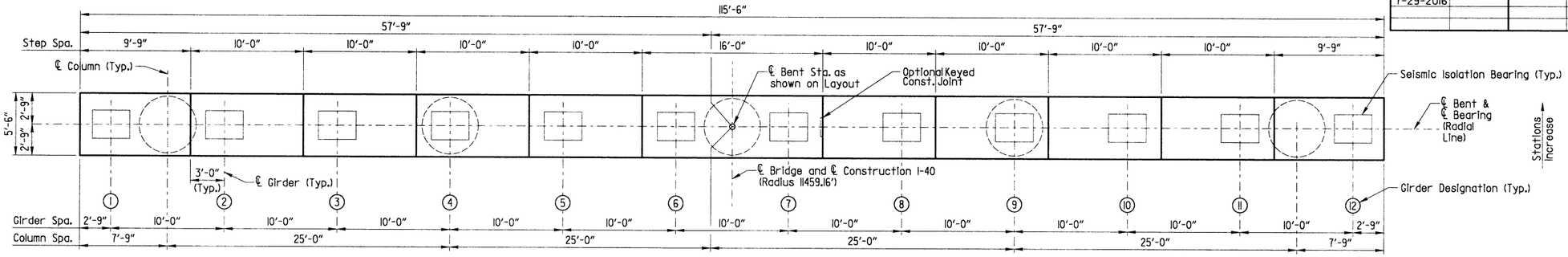
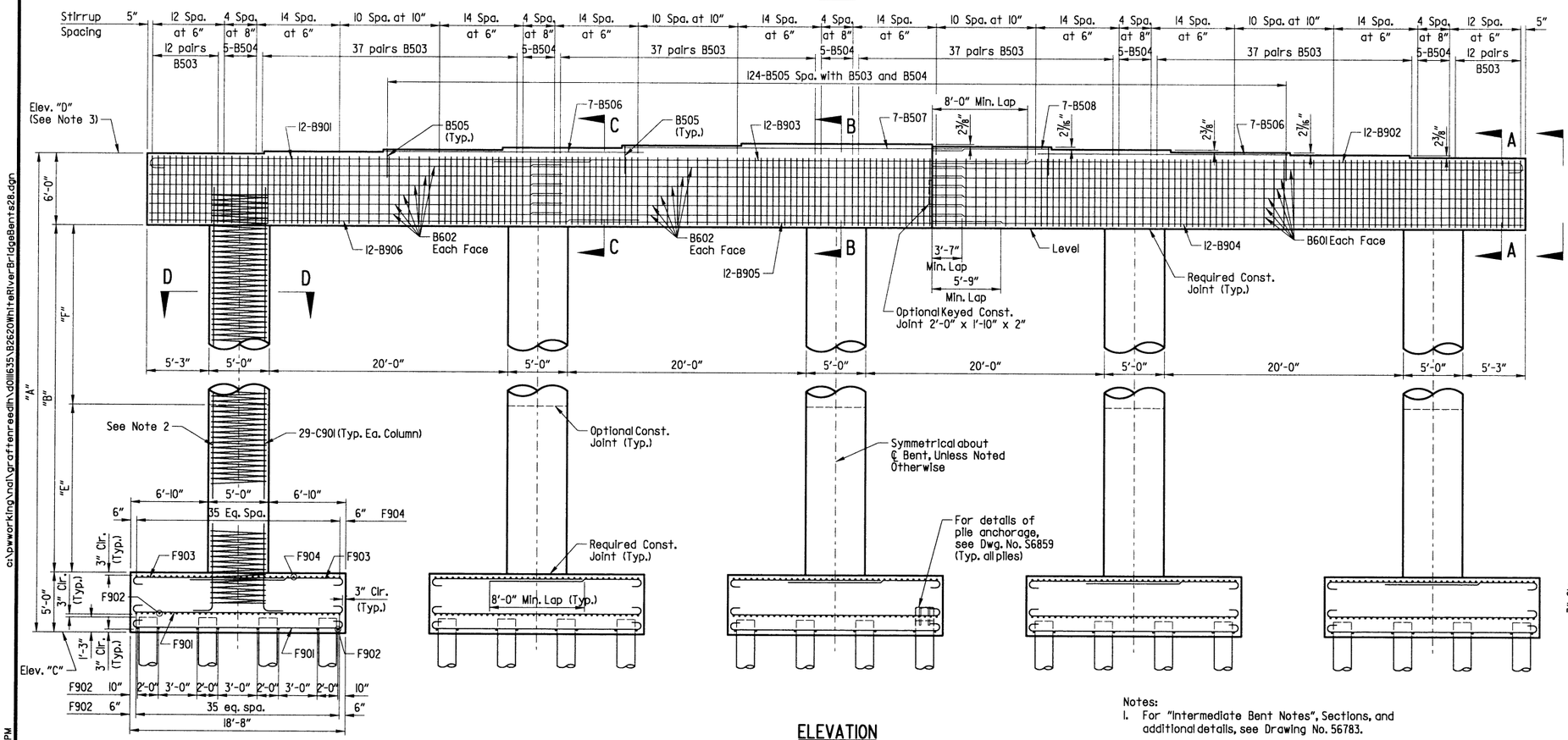
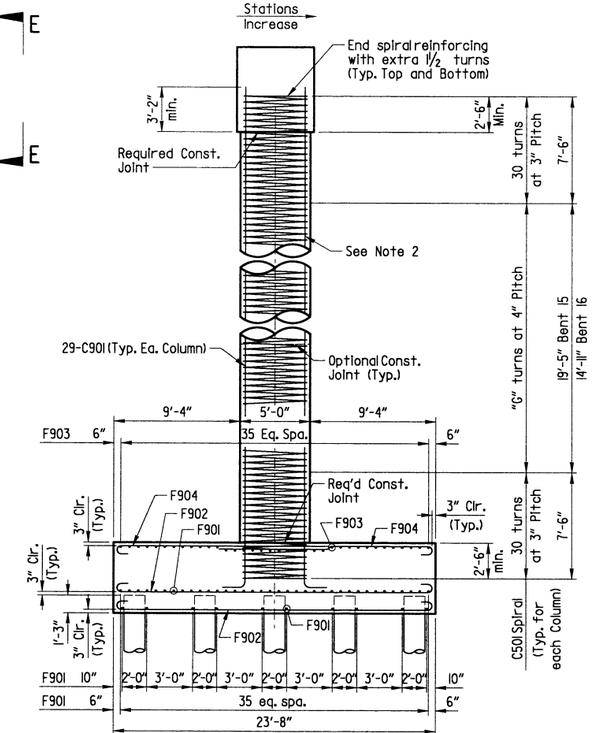
				JOB NO.		BB0610	109	262
				(1) 07343	-	INTERMEDIATE BENTS	-	56782



PLAN



ELEVATION
(Looking Ahead Station)



END VIEW

TABLE OF VARIABLES		
Variable	BENT 15	BENT 16
"A"	40'-5"	35'-11"
"B"	29'-5"	24'-11"
Elev. "C"	175.65	175.83
Elev. "D"	216.07	211.75
"E"	15'-0"	13'-0"
"F"	14'-5"	11'-11"
"G"	58	45
"H"	35'-10¾"	31'-4¾"
"J"	1,732'-1"	1,546'-2"
"K"	37'-3"	32'-9"

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 56783.
2. No lap splice will be allowed for bars C901.
3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 1 OF 2
DETAILS OF BENTS 15 & 16
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	10/24/2014	FILENAME:	bbb0610_bfi.dgn
CHECKED BY:	MJS	DATE:	01/25/2015		
DESIGNED BY:	CAS	DATE:	10/24/2014	SCALE:	3/16" = 1'-0"
BRIDGE NO. 07343			DRAWING NO. 56782		

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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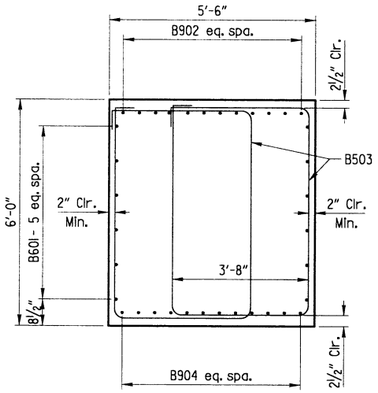
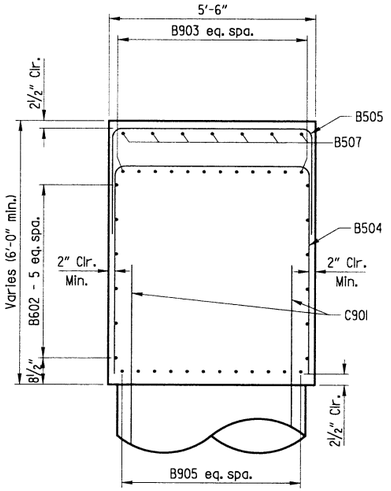
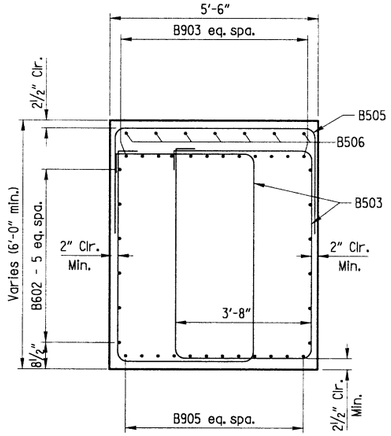
				JOB NO.		BB0610	110	262
				(1) 07343	-	INTERMEDIATE BENTS	-	56783



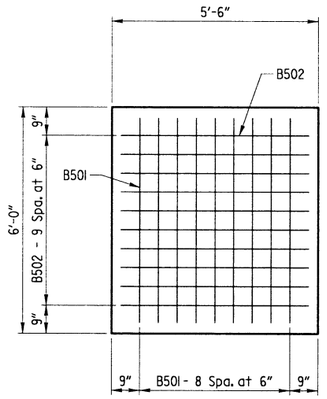
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



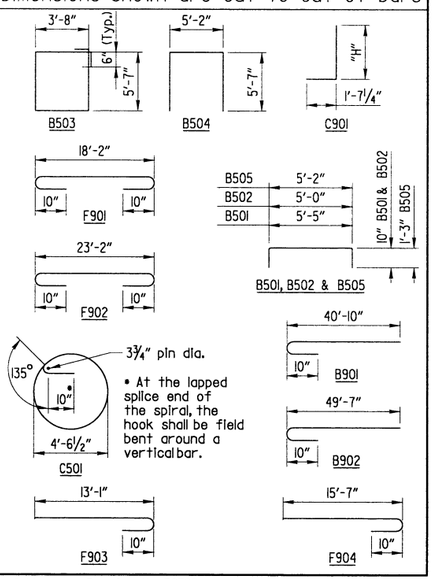
VIEW E-E
Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

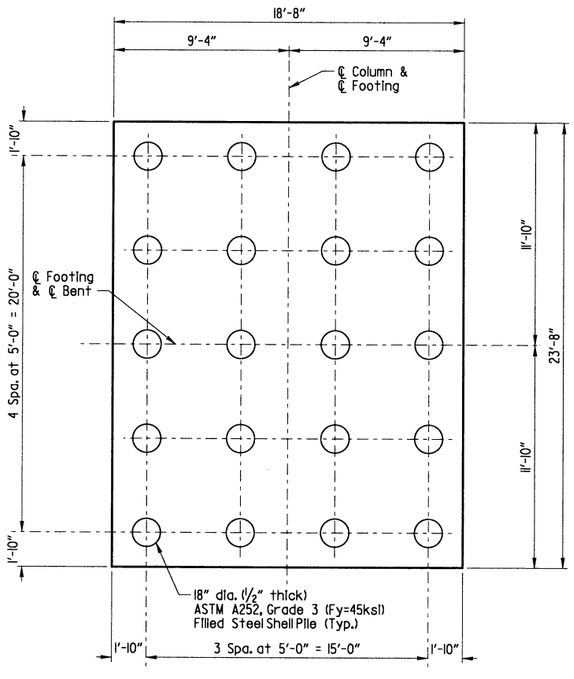
BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	344	19'-2"	2½"
B504	25	16'-2"	2½"
B505	124	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	12	42'-1"	9"
B902	12	50'-10"	9"
B903	12	40'-10"	Str.
B904	12	49'-7"	Str.
B905	12	36'-1"	Str.
B906	12	41'-0"	Str.
C501	5	"J"	Spiral
C901	145	"K"	9"
F901	230	20'-8"	9"
F902	220	25'-8"	9"
F903	360	14'-4"	9"
F904	360	16'-10"	9"

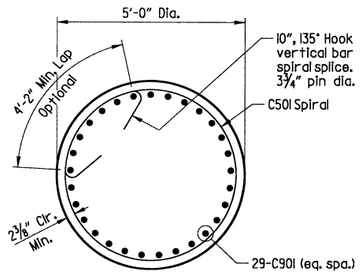
Bending Diagrams
Dimensions shown are out to out of bars



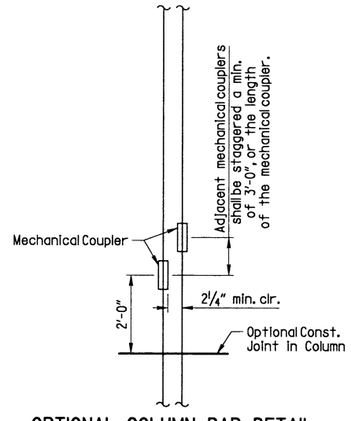
Note: For table of variables, see Drawing No. 56782.



FOOTING PLAN
Scale: ¼" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

Notes: All concrete in cap, columns & footings shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 5'-0" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 1
SHEET 2 OF 2
DETAILS OF BENTS 15 & 16
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610_bf2.dgn
CHECKED BY: MJS DATE: 01/25/2015
DESIGNED BY: MJM DATE: 10/29/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56783

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

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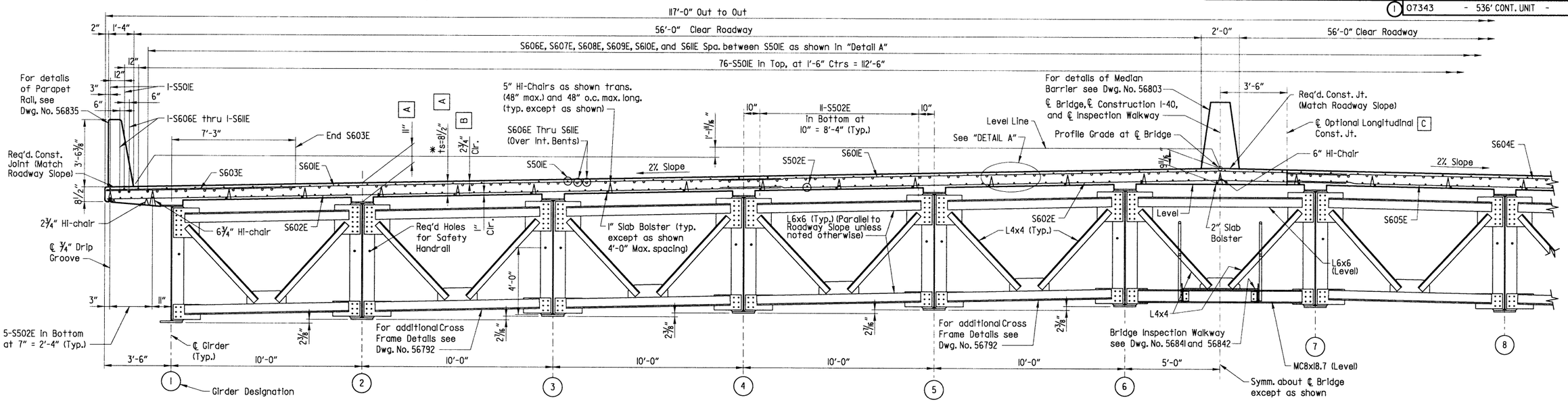
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	III	262
				(1) 07343	- 536' CONT. UNIT -			56784

Note: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface, to the face and top of the Concrete Parapet Rail and to each face and top of the Median Barrier.



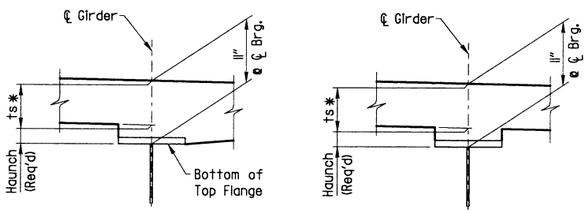
TYPICAL ROADWAY SECTION - UNITS 1, 2 AND 4

Looking Ahead
Scale: 3/8" = 1'-0"

A See "Adjustment for Slab Thickness Tolerance"

B Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

C Crossframe Bolts shall be installed loosely in center bay between Girders 6 & 7 if optional longitudinal construction joint is used. Install remaining bolts and fully tighten after deck pours are complete in accordance with Subsection 807.71 of the Standard Specification.



* Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

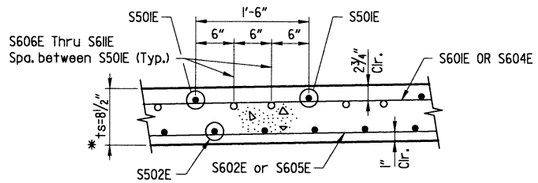
ts = Slab Thickness shown in "Typical Roadway Section".

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance. Minimum - occurs when top flange contacts bottom reinforcing steel. Maximum-top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

(No Scale)



DETAIL A

Scale: 1" = 1'-0"

SLAB REINFORCING

Transverse: S601E at 6" ctrs. (Top)
S604E at 6" ctrs. (Top)
S602E at 8" ctrs. (Bottom)
S605E at 8" ctrs. (Bottom)
S603E at 6" ctrs. (Top of Slab at Overhang)

Longitudinal: S501E spaced as shown (Top)
S502E spaced as shown (Bottom)
S606E spaced as shown over Intermediate Bents (Top)
S607E spaced as shown over Intermediate Bents (Top)
S608E spaced as shown over Intermediate Bents (Top)
S609E spaced as shown over Intermediate Bents (Top)
S610E spaced as shown over Intermediate Bents (Top)
S611E spaced as shown over Intermediate Bents (Top)

Note:
The superstructure details shown are for use when removable deck forming is used and are the basis for measurement for Class S(AE) concrete. If the optional construction joint and permanent deck forms are used, the design and installation of the permanent deck forms shall include the differential deflection of the girders.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/04/2014 FILENAME: bbb0610_sxl.dgn
CHECKED BY: SGK DATE: 07/06/2014
DESIGNED BY: DMS DATE: 03/07/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56784

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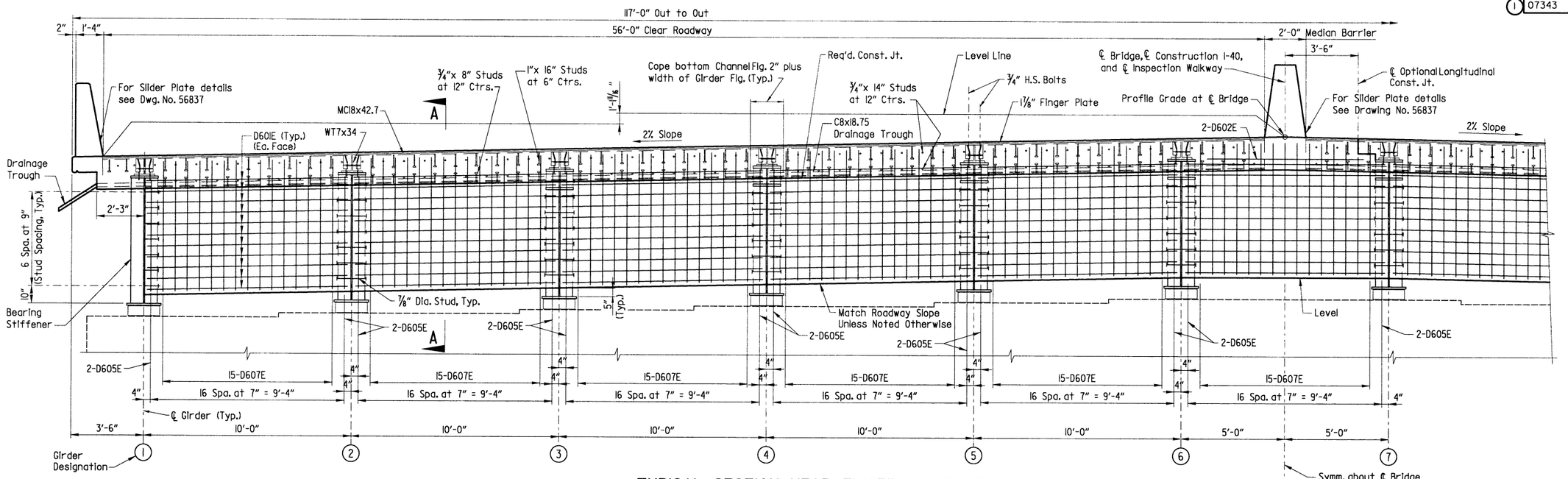
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	112	262
(1) 07343	-	536' CONT. UNIT	-	56785



TYPICAL SECTION NEAR FINGER JOINT AT BENT 1- UNIT 1

Scale: ⅜"=1'-0"
Looking Ahead

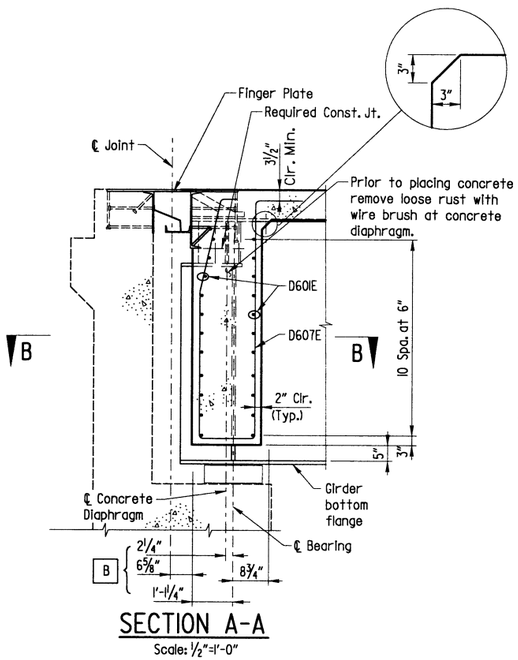
Note:
For details of Finger Joint, See Drawing No. 56837.

Removable forms for diaphragm shall be used.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

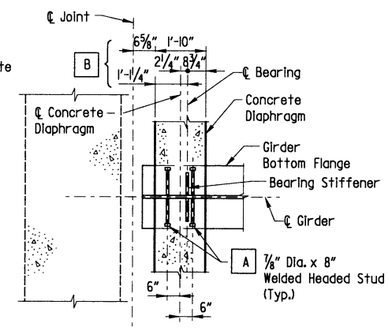
EXPANSION DEVICE

Roadway Channel - MC18x42.7
Channel Conn. - WT7X34
Finger Joint - 3½" movement
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" plates & 1- ⅛" plate.



SECTION A-A

Scale: ½"=1'-0"



SECTION B-B

Scale: ½"=1'-0"

A Omit Studs on outside of Exterior Girders.

B Measured perpendicular to Joint.

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014 FILENAME: bbb0610_sx2.dgn
CHECKED BY: DMS DATE: 01/21/2015
DESIGNED BY: DMS DATE: 03/13/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56785

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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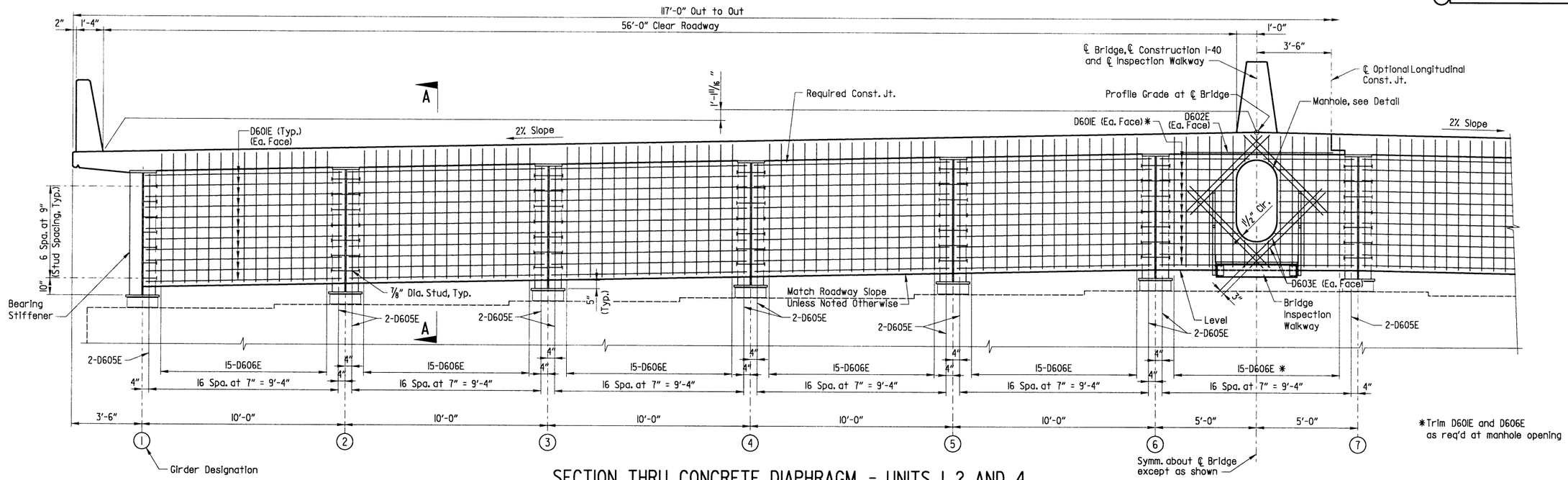
				JOB NO.		BB0610	113	262
				(1) 07343	-	536' CONT. UNIT -		56786



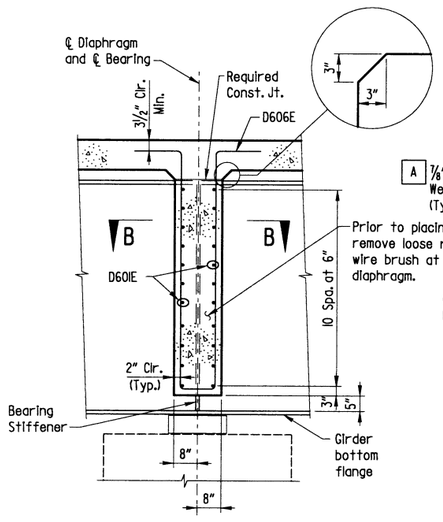
SECTION THRU CONCRETE DIAPHRAGM - UNITS 1, 2 AND 4

Scale: 3/8" = 1'-0"
Looking Ahead

Note:
Diaphragm Typical at Bent 2, 3, 4, 6, 7, 8, 11, 12 and 13.

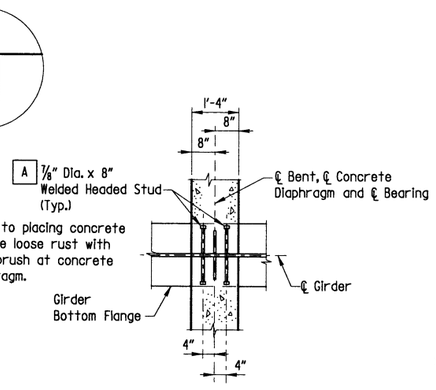
All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

Removable forms for diaphragms shall be used.



SECTION A-A

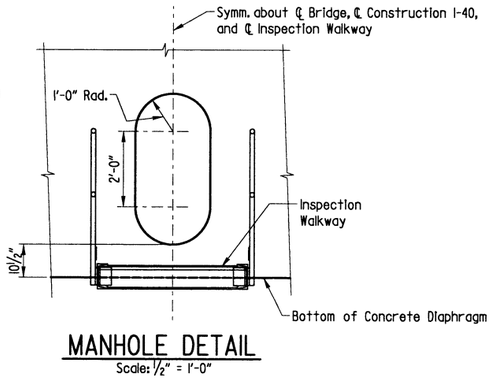
Scale: 1/2" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"

A Omit Studs on outside of Exterior Girders.



MANHOLE DETAIL

Scale: 1/2" = 1'-0"

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014 FILENAME: bbb0610_sx3.dgn
CHECKED BY: SGK DATE: 07/13/2014
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BRIDGE NO. 07343 DRAWING NO. 56786

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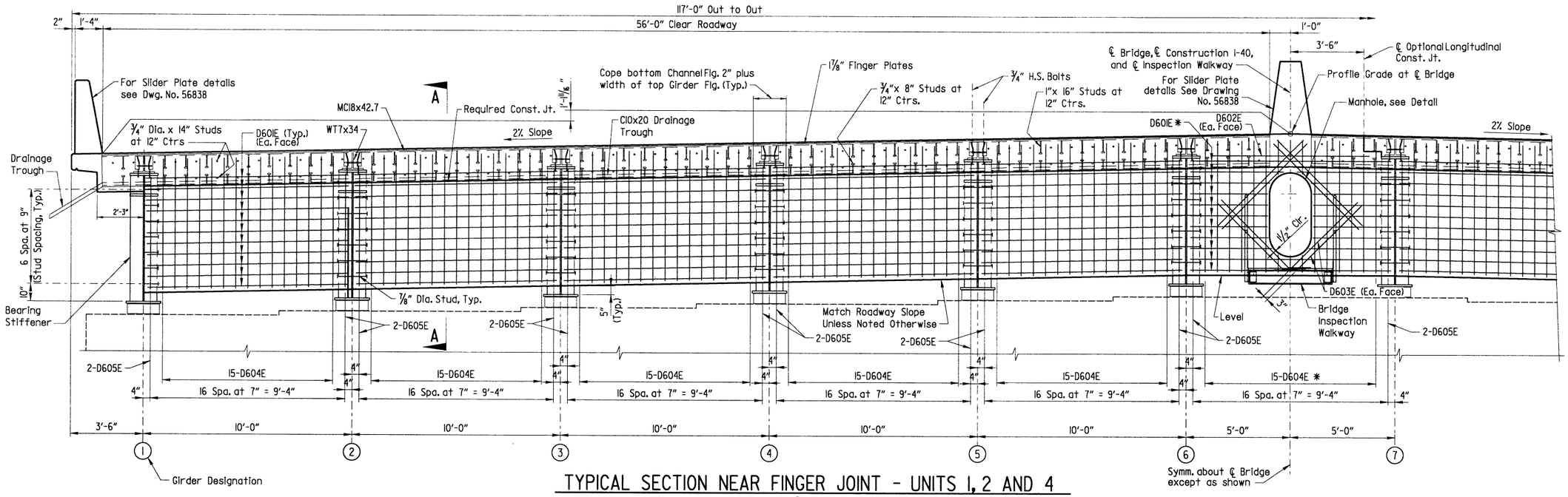
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	114	262
(1) 07343	-	536' CONT. UNIT	-	56787



TYPICAL SECTION NEAR FINGER JOINT - UNITS 1, 2 AND 4

Scale: ⅜" = 1'-0"
Looking Ahead

✱Trim D601E and D604E as req'd at manhole opening

Note:
Diaphragm Typical at Bent 5, 9, 10 and 14.

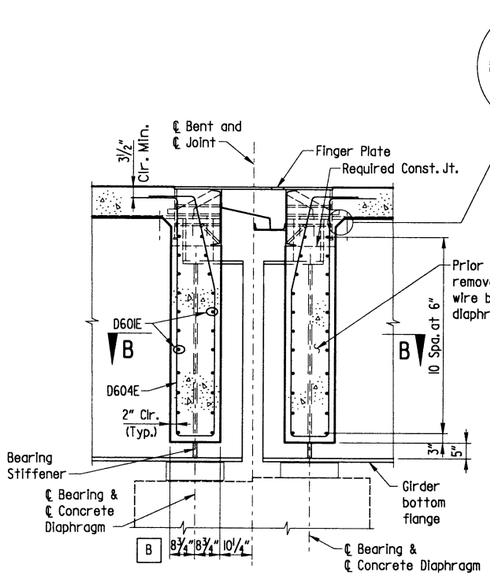
For details of Finger Joint, see Drawing No. 56838.

Removable forms for diaphragms shall be used.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

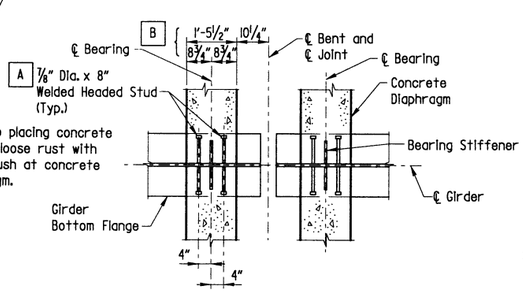
EXPANSION DEVICE

Roadway Channel - MC18x42.7
Channel Conn. - WT7x34
Finger Joint - 6" Movement
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" plates & 1- ⅛" plate.



SECTION A-A

Scale: ½" = 1'-0"

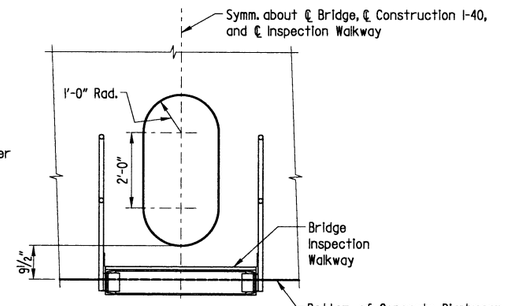


SECTION B-B

Scale: ½" = 1'-0"

A Omit Studs on outside of Exterior Girders.

B Measured perpendicular to Joint.



MANHOLE DETAIL

Scale: ½" = 1'-0"

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014 FILENAME: bbb0610_sx4.dgn
CHECKED BY: SGK DATE: 01/2/2015
DESIGNED BY: DMS DATE: 03/13/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56787

JACOBS

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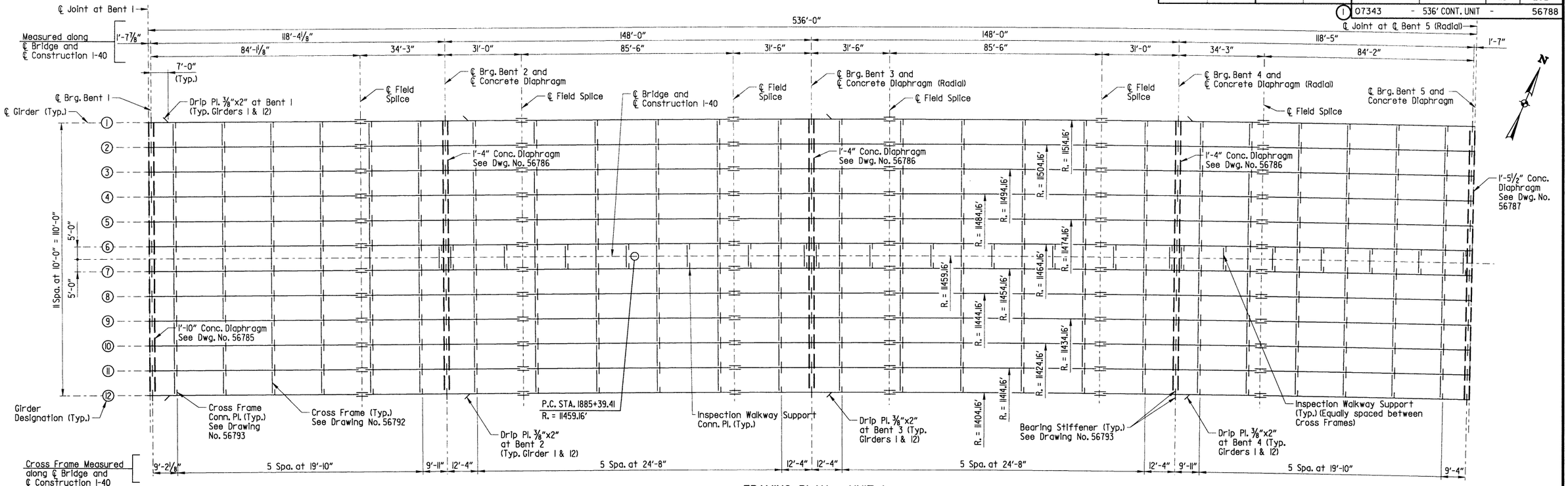
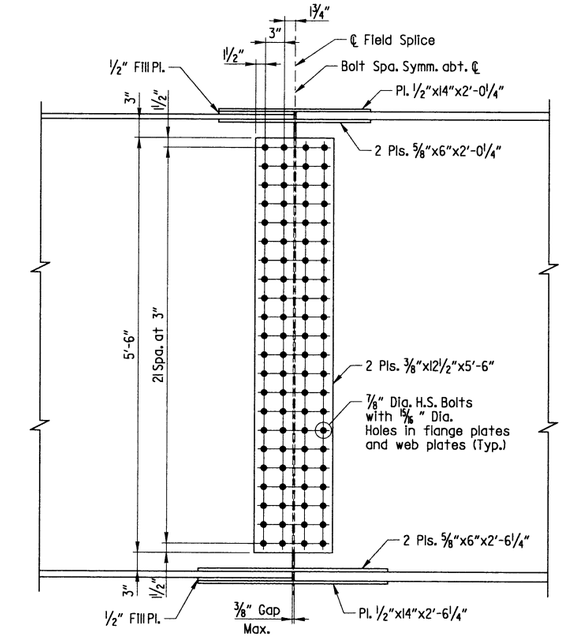
8/29/2016 12:52:57 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	115	262
				(1) 07343	- 536' CONT. UNIT -			56788



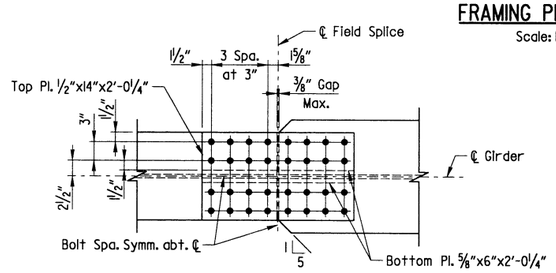
FRAMING PLAN - UNIT 1

Scale: 1" = 20'-0"



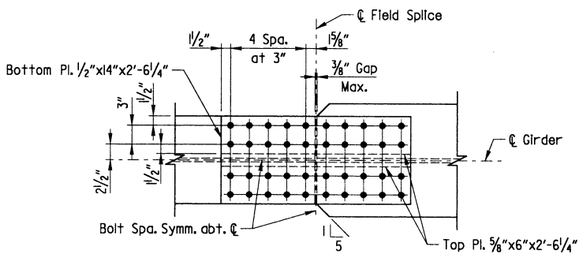
WEB SPLICE

Scale: 1" = 1'-0"



TOP FLANGE SPLICE

Scale: 1" = 1'-0"



BOTTOM FLANGE SPLICE

Scale: 1" = 1'-0"

FIELD SPLICE DETAILS

Notes:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be eliminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.
All field splice bolts shall be ⅞"" Dia. H.S. Bolts.
All field splice bolt holes shall be 15/16 " Dia.

Bolted field splices are designed as a slip critical connection with a class "B" coefficient.

For Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56793.

Cross Frames and Field Splices shall be placed radially.

For Drip Plate Details, see Drawing No. 56793.

For Inspection Walkway Details, see Drawing Nos. 56841 - 56849.

For Details of Safety Handrails, see Drawing Nos. 56850 - 56856.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
5/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	07/16/14	FILENAME:	bbb0610_sx5.dgn
CHECKED BY:	JOS	DATE:	10/01/14		
DESIGNED BY:	DMS	DATE:	07/09/14	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56788		

JACOBS

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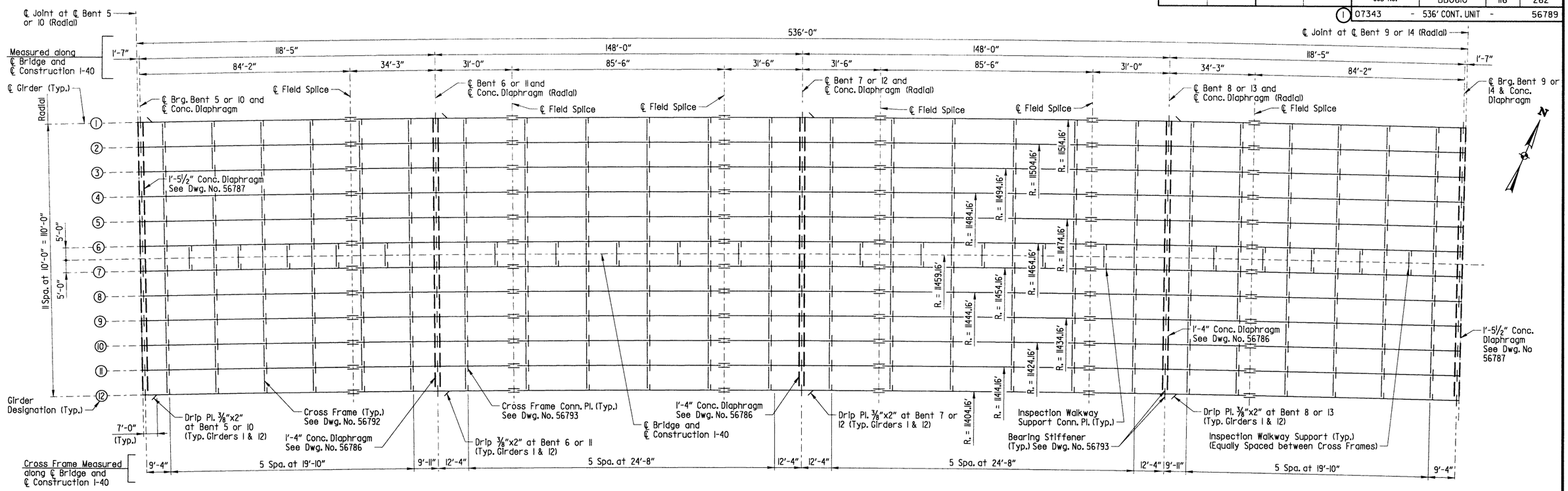
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	116	262
				(1) 07343	- 536' CONT. UNIT -			56789



FRAMING PLAN - UNIT 2 SHOWN
FRAMING PLAN - UNIT 4 (SIMILAR)

Scale: 1" = 20'-0"

Note:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be eliminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.
All field splice bolts shall be ⅞" Dia. H.S. Bolts.
All field splice bolt holes shall be 15/16" Dia.

Bolted field splices are designed as a slip critical connection with a class "B" coefficient. For Field Splice Details, see Drawing No. 56788.

For Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56793.

Cross Frames and Field Splices and Typical Detail for Unequal Width Flanges, shall be placed radially.

Drip Plates shown for Unit 2, Unit 4 Drip Plates are opposite hand, see Drawing No. 56793 for details.

For Inspection Walkway Details, see Drawing Nos. 56841 - 56849.

For Details of Safety Handrails, see Drawing Nos. 56850 - 56856.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 6 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 07/17/14 FILENAME: bbb0610_sx6.dgn
CHECKED BY: JOS DATE: 07/24/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56789

JACOBS

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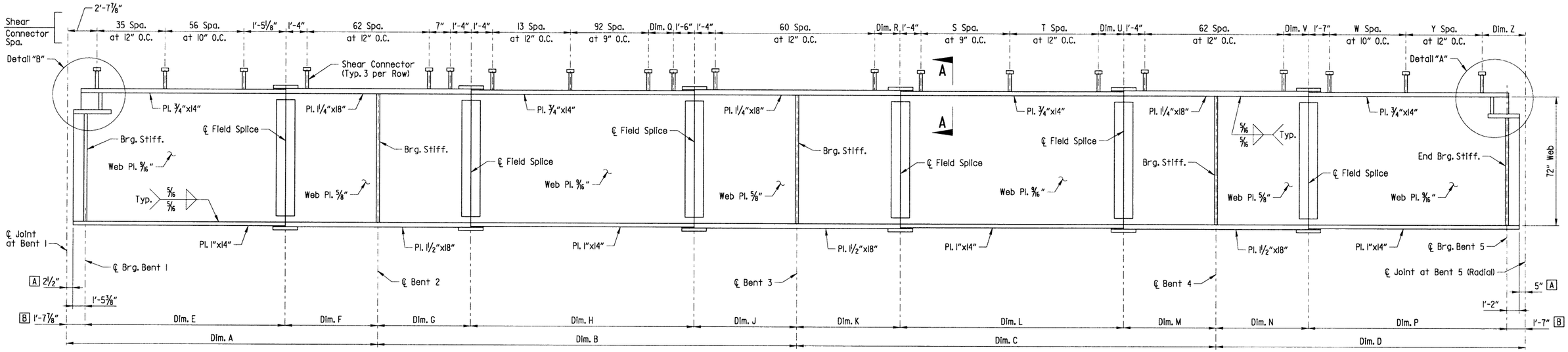
12:53:08 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	117	262
(1) 07343	- 536' CONT. UNIT -			56790



A Measured perpendicular to Joint at 60° F.

B Measured perpendicular to Joint.

DEVELOPED GIRDER ELEVATION - UNIT 1

No Scale

PLATE GIRDER VARIABLES (ft)

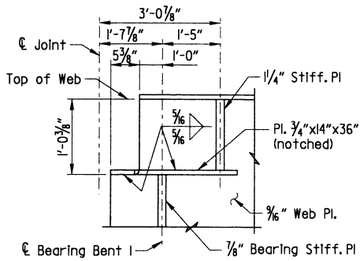
Girder No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G	Dim. H	Dim. J	Dim. K	Dim. L	Dim. M	Dim. N	Dim. P
1	120'-0"	148'-4 9/16"	148'-8 1/2"	120'-6 11/16"	85'-9"	34'-3"	31'-0"	85'-8 1/4"	31'-7 7/8"	31'-7 11/16"	85'-10 5/16"	31'-1 5/16"	34'-5"	86'-1 7/16"
2	120'-0"	148'-3 7/8"	148'-6 5/16"	120'-5 7/16"	85'-9"	34'-3"	31'-0"	85'-7 1/8"	31'-7 1/2"	31'-7 1/2"	85'-10"	31'-1 1/16"	34'-4 5/8"	86'-0 5/16"
3	120'-0"	148'-2 5/8"	148'-5 3/8"	120'-4 5/16"	85'-9"	34'-3"	31'-0"	85'-7 1/16"	31'-7 5/16"	31'-7 1/8"	85'-9 1/8"	31'-1 1/8"	34'-4 1/4"	86'-0 1/16"
4	120'-0"	148'-1 1/8"	148'-3 7/8"	120'-3 1/8"	85'-9"	34'-3"	31'-0"	85'-7"	31'-6 11/16"	31'-6 7/8"	85'-8 1/4"	31'-0 3/4"	34'-3 7/8"	85'-11 3/16"
5	120'-0"	148'-1 1/8"	148'-2 5/16"	120'-1 7/16"	85'-9"	34'-3"	31'-0"	85'-6 5/16"	31'-6 5/16"	31'-6 3/8"	85'-7 5/16"	31'-0 1/2"	34'-3 3/8"	85'-10 5/16"
6	120'-0"	148'-0 5/8"	148'-0 3/4"	120'-0 5/8"	85'-9"	34'-3"	31'-0"	85'-6 3/16"	31'-6 3/16"	31'-6 3/16"	85'-6 1/16"	31'-0 3/16"	34'-3 5/16"	85'-9 1/16"
7	120'-0"	147'-11 5/8"	147'-11 1/4"	119'-11 3/4"	85'-9"	34'-3"	31'-0"	85'-5 11/16"	31'-5 11/16"	31'-5 11/16"	85'-5 5/16"	30'-11 5/16"	34'-2 7/16"	85'-8 9/16"
8	120'-0"	147'-10 1/8"	147'-9 9/16"	119'-10 1/8"	85'-9"	34'-3"	31'-0"	85'-5 3/16"	31'-5 1/16"	31'-5 1/16"	85'-4 11/16"	30'-11 1/2"	34'-2 1/8"	85'-7 11/16"
9	120'-0"	147'-10 1/8"	147'-8 1/8"	119'-8 1/8"	85'-9"	34'-3"	31'-0"	85'-5"	31'-5 1/16"	31'-5 1/8"	85'-3 1/4"	30'-11 1/4"	34'-2 1/8"	85'-6 1/16"
10	120'-0"	147'-9 3/8"	147'-6 5/16"	119'-7 11/16"	85'-9"	34'-3"	31'-0"	85'-4 9/16"	31'-4 11/16"	31'-4 1/8"	85'-2 1/8"	30'-10 1/8"	34'-1 3/4"	85'-5 1/16"
11	120'-0"	147'-8 5/8"	147'-5 1/16"	119'-6 7/16"	85'-9"	34'-3"	31'-0"	85'-4 1/8"	31'-4 1/2"	31'-4 1/2"	85'-2"	30'-10 5/16"	34'-1 7/8"	85'-5 1/16"
12	120'-0"	147'-7 7/8"	147'-3 1/2"	119'-5 7/16"	85'-9"	34'-3"	31'-0"	85'-3 3/4"	31'-4 1/8"	31'-4 7/16"	85'-1 7/16"	30'-10 3/16"	34'-1"	85'-4 1/8"

Note: Dimensions measured along ℄ Girder.

SHEAR CONNECTOR VARIABLES

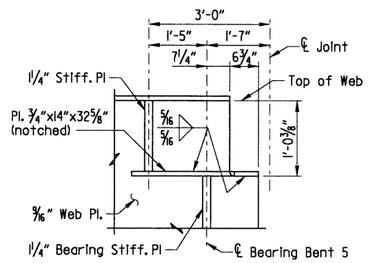
Girder No.	Dim. Q	Dim. R	S Spa.	T Spa.	Dim. U	Dim. V	W Spa.	Y Spa.	Dim. Z
1	10¼"	23 5/8"	9 5	12	15 7/8"	26 3/4"	57	35	3'-4 7/8"
2	9 1/8"	23"	9 5	11	27"	26 1/8"	57	35	3'-4"
3	9 1/2"	22 3/8"	9 5	11	26 1/8"	25 3/8"	57	35	3'-3 1/8"
4	9"	21 3/4"	9 5	11	25 1/4"	24 5/8"	57	35	3'-2 1/4"
5	8 5/8"	21 1/8"	9 5	11	24 3/8"	24"	57	35	3'-1 1/4"
6	8 1/8"	20 3/8"	9 5	11	23 3/8"	23 3/8"	57	35	3'-0 1/2"
7	7 7/8"	19 5/8"	9 5	11	22 5/8"	22 5/8"	57	35	2'-11 1/2"
8	7 3/8"	18 7/8"	9 5	11	21 5/8"	22"	57	35	2'-10 5/8"
9	7"	18 1/4"	9 5	11	20 3/4"	21 3/8"	57	35	2'-9 7/8"
10	6 1/2"	17 5/8"	9 5	11	19 7/8"	20 5/8"	57	35	3'-8 1/8"
11	6 1/8"	17"	9 4	12	16"	19 7/8"	57	34	3'-8"
12	5 3/4"	16 3/8"	9 4	12	15 5/8"	19 1/4"	56	35	3'-5 7/8"

Note: Dimensions measured along ℄ Girder.



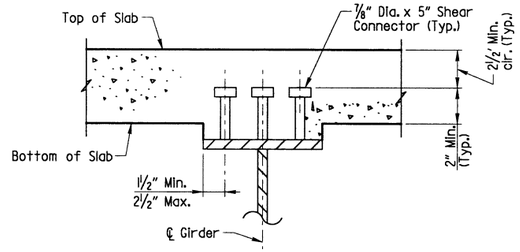
DETAIL "B"

No Scale



DETAIL "A"

No Scale



SECTION A-A

Scale: 1" = 1'-0"

Stud Shear Connectors shown shall be ⅞" x 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the manufacturer. ¾" Dia. Studs may be used in place of the ⅞" Dia. Studs shown, at the ratio of 1.361-¾" Dia. Studs in place of one ⅞" Dia. Stud. ⅞" Dia. Studs will be used as basis for measurement of structural steel in shear connectors. Maximum Stud spacing as shown.

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 8/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 7 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE: 04/11/14	FILENAME: bbb0610_sx7.dgn
CHECKED BY:	DS	DATE: 09/29/14	
DESIGNED BY:	DMS	DATE: 07/09/14	SCALE: AS NOTED
BRIDGE NO. 07343		DRAWING NO. 56790	

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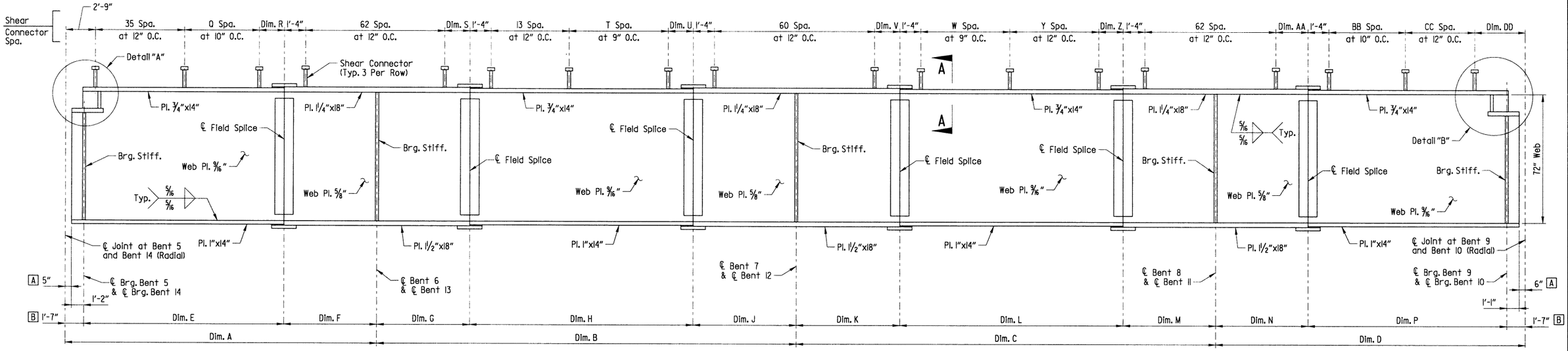
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	118	262
				07343	- 536' CONT. UNIT -			56791



A Measured perpendicular to Joint at 60°F.

B Measured perpendicular to Joint.

DEVELOPED GIRDER ELEVATION - UNIT 2 SHOWN
DEVELOPED GIRDER ELEVATION - UNIT 4 OPPOSITE HAND

No Scale

PLATE GIRDER VARIABLES (ft)

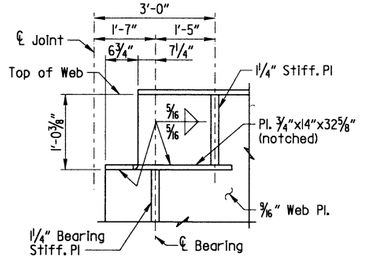
Girder No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G	Dim. H	Dim. J	Dim. K	Dim. L	Dim. M	Dim. N	Dim. P
1	120'-6 7/16"	148'-8 1/2"	148'-8 1/2"	120'-6 7/16"	86'-1 1/8"	34'-5"	31'-1 7/16"	85'-10 5/16"	31'-7 5/16"	31'-7 5/16"	85'-10 5/16"	31'-1 5/16"	34'-5"	86'-1 1/8"
2	120'-5 9/16"	148'-6 5/16"	148'-6 5/16"	120'-5 9/16"	86'-0 5/16"	34'-4 5/8"	31'-1 1/16"	85'-10"	31'-7 1/2"	31'-7 1/2"	85'-10"	31'-1 1/16"	34'-4 5/8"	86'-0 5/16"
3	120'-4 5/16"	148'-5 3/8"	148'-5 3/8"	120'-4 5/16"	86'-0 1/16"	34'-4 1/4"	31'-1 1/8"	85'-9 7/8"	31'-7 1/8"	31'-7 1/8"	85'-9 7/8"	31'-1 1/8"	34'-4 1/4"	86'-0 1/16"
4	120'-3 1/8"	148'-3 7/8"	148'-3 7/8"	120'-3 1/8"	85'-11 5/16"	34'-3 7/8"	31'-0 3/4"	85'-8 1/4"	31'-6 7/8"	31'-6 7/8"	85'-8 1/4"	31'-0 3/4"	34'-3 7/16"	85'-11 5/16"
5	120'-1 7/8"	148'-2 5/16"	148'-2 5/16"	120'-1 7/8"	85'-10 5/16"	34'-3 5/16"	31'-0 1/2"	85'-7 5/16"	31'-6 3/16"	31'-6 3/16"	85'-7 5/16"	31'-0 1/2"	34'-3 5/16"	85'-10 5/16"
6	120'-0 5/8"	148'-0 3/4"	148'-0 3/4"	120'-0 5/8"	85'-9 1/16"	34'-2 3/4"	31'-0 1/16"	85'-6 7/16"	31'-6 3/16"	31'-6 1/16"	85'-6 7/16"	31'-0 1/16"	34'-2 3/4"	85'-9 1/16"
7	119'-11 3/8"	147'-11 1/4"	147'-11 1/4"	119'-11 3/8"	85'-8 3/16"	34'-2 1/16"	30'-11 5/16"	85'-5 5/16"	31'-5 13/16"	31'-5 13/16"	85'-5 5/16"	30'-11 5/16"	34'-2 1/16"	85'-8 3/16"
8	119'-10 1/8"	147'-9 11/16"	147'-9 11/16"	119'-10 1/8"	85'-7 1/16"	34'-1 7/16"	30'-11 1/2"	85'-4 11/16"	31'-5 1/16"	31'-5 1/16"	85'-4 11/16"	30'-11 1/2"	34'-1 7/16"	85'-7 11/16"
9	119'-8 7/8"	147'-8 7/8"	147'-8 7/8"	119'-8 7/8"	85'-6 5/16"	34'-1 2/8"	30'-11 1/4"	85'-3 3/4"	31'-5 1/8"	31'-5 1/8"	85'-3 3/4"	30'-11 1/4"	34'-1 2/8"	85'-6 5/16"
10	119'-7 11/16"	147'-7 5/8"	147'-7 5/8"	119'-7 11/16"	85'-5 5/16"	34'-1 3/4"	30'-10 7/8"	85'-2 7/8"	31'-4 7/8"	31'-4 7/8"	85'-2 7/8"	30'-10 7/8"	34'-1 3/4"	85'-5 5/16"
11	119'-6 7/16"	147'-5 1/16"	147'-5 1/16"	119'-6 7/16"	85'-5 1/16"	34'-1 3/8"	30'-10 5/16"	85'-2"	31'-4 1/2"	31'-4 1/2"	85'-2"	30'-10 3/16"	34'-1 3/8"	85'-5 1/16"
12	119'-5 3/16"	147'-3 1/2"	147'-3 1/2"	119'-5 3/16"	85'-4 1/8"	34'-1"	30'-10 1/16"	85'-1 1/16"	31'-4 3/16"	31'-4 3/16"	85'-1 1/16"	30'-10 3/16"	34'-1"	85'-4 1/8"

Note: Dimensions measured along ℄ Girder.

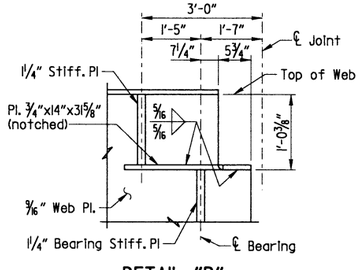
SHEAR CONNECTOR VARIABLES

Girder No.	Q Spa.	Dim. R	Dim. S	T Spa.	Dim. U	Dim. V	W Spa.	Y Spa.	Dim. Z	Dim. AA	BB Spa.	CC Spa.	Dim. DD
1	57	10 7/8"	26 3/4"	93	21 1/8"	23 5/8"	95	12	15 7/8"	26 3/4"	58	33	3'-5 7/8"
2	57	10"	26"	93	21"	23"	95	11	27"	26"	58	33	3'-5"
3	57	9 1/8"	25 3/8"	93	20 1/8"	22 1/4"	95	11	26 1/8"	25 3/8"	58	33	3'-4 1/8"
4	57	8 1/4"	24 3/4"	93	19 1/4"	21 5/8"	95	11	25 1/4"	24 3/4"	58	33	3'-3 1/4"
5	57	7 1/4"	24"	93	18 3/8"	21"	95	11	24 3/8"	24"	58	33	3'-2 1/4"
6	57	6 1/2"	23 3/8"	93	17 1/2"	20 3/8"	95	11	23 1/2"	23 3/8"	58	33	3'-1 1/2"
7	56	15 1/2"	22 5/8"	93	16 1/2"	19 5/8"	95	11	22 1/2"	22 5/8"	58	33	3'-0 1/2"
8	56	14 5/8"	22"	93	15 5/8"	19"	95	11	21 5/8"	22"	58	33	3'-11 5/8"
9	56	13 7/8"	21 1/4"	92	23 3/4"	18 3/8"	95	11	20 3/4"	21 1/4"	58	33	2'-10 7/8"
10	56	12 7/8"	20 5/8"	92	22 7/8"	17 7/8"	95	11	19 7/8"	20 5/8"	58	33	2'-9 7/8"
11	56	12"	20"	92	22"	17"	94	12	16"	20"	58	33	2'-9"
12	56	11 1/8"	19 1/4"	92	21 1/8"	16 3/8"	94	12	15 1/8"	19 1/4"	57	33	3'-6 1/8"

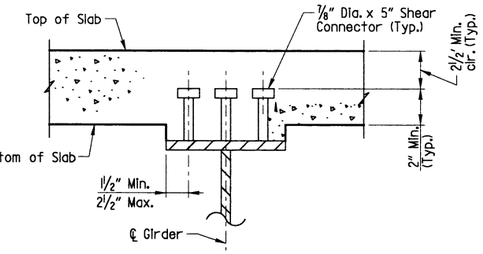
Note: Dimensions measured along ℄ Girder.



DETAIL "A"
No Scale



DETAIL "B"
No Scale



SECTION A-A
Scale: 1" = 1'-0"

Stud Shear Connectors shown shall be 7/8" x 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the manufacturer. 3/4" Dia. Studs may be used in place of the 7/8" Dia. Studs shown, at the ratio of 1.36 - 3/4" Dia. Studs in place of one 7/8" Dia. Stud. 7/8" Dia. Studs will be used as basis for measurement of structural steel in shear connectors. Maximum Stud spacing as shown.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

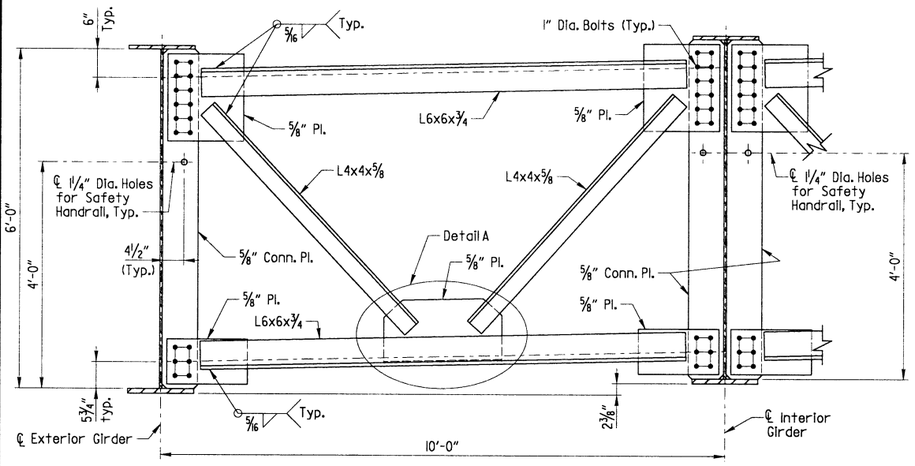
ALTERNATE NOS. 1 AND 2
SHEET 8 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 04/11/14 FILENAME: bbb0610_sx8.dgn
CHECKED BY: DS DATE: 9/29/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56791

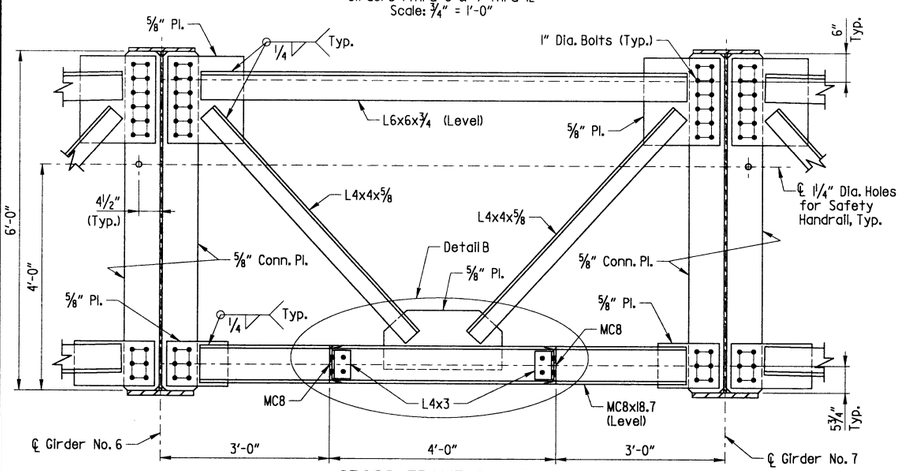
JACOBS

c:\pwworking\ncl\grafftenreedh\d0116351\B2620WhiteRiverBridgeGirder02.dgn
8/29/2016 12:53:20 PM

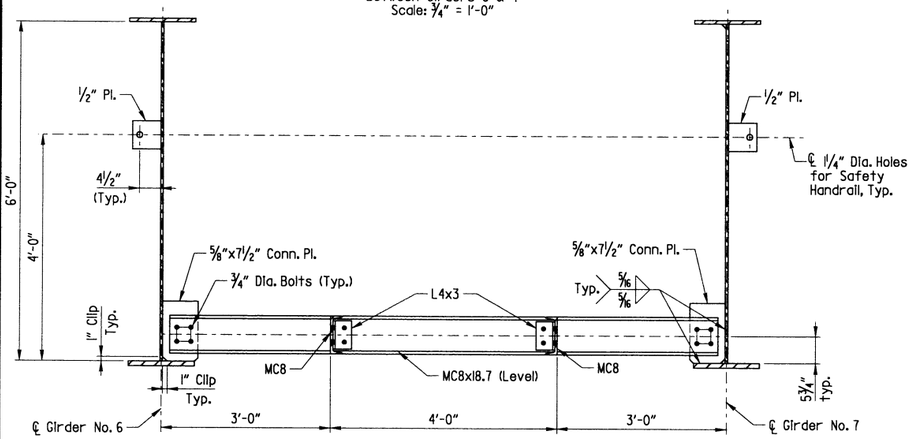
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	119	262
				(1)	07343	- 536' CONT. UNIT -		56792



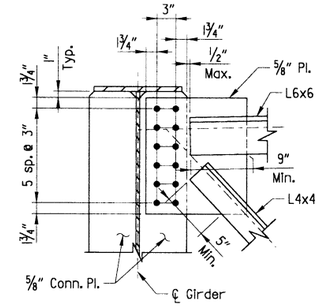
CROSS FRAME DETAIL
Girders 1Thru 6 & 7 Thru 12
Scale: 3/4" = 1'-0"



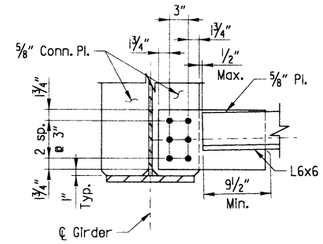
CROSS FRAME DETAIL
Between Girders 6 & 7
Scale: 3/4" = 1'-0"



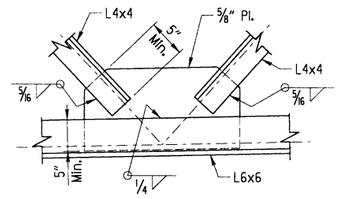
INSPECTION WALKWAY SUPPORT DETAIL
Between Girders 6 & 7
Scale: 3/4" = 1'-0"



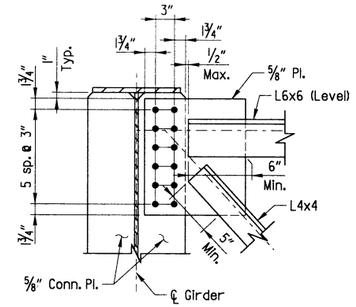
UPPER CROSS FRAME CONNECTION
Girders 1Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



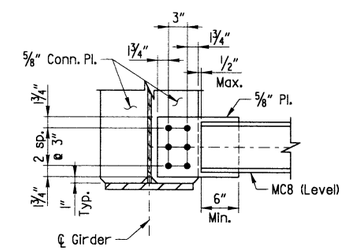
LOWER CROSS FRAME CONNECTION
Girders 1Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



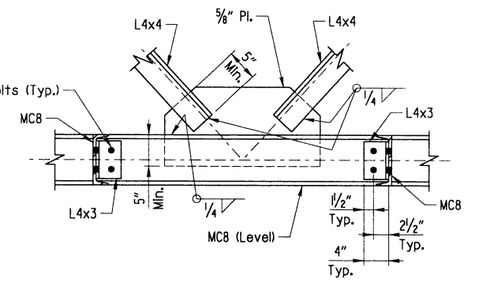
DETAIL A
Girders 1Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



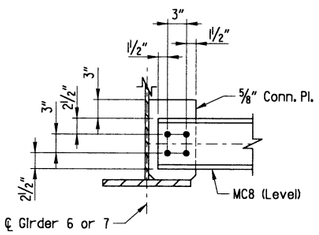
UPPER CROSS FRAME CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"



LOWER CROSS FRAME CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"



DETAIL B
Between Girders 6 & 7
Scale: 1" = 1'-0"



INSPECTION WALKWAY SUPPORT CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"

Notes:
Loosely install bolts in the center bay between Girder No. 6 and Girder No. 7 if optional longitudinal joint in deck is used. Fully tighten bolts after deck pours are complete.

Bolts in cross frame connections shall be properly installed and tightened in accordance with subsection 807.71 of the Standard Specifications.

For Details of Safety Handrails, See Drawing Nos. 56850 to 56854.

For Details of Inspection Walkway, See Drawing Nos. 56841 to 56849.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

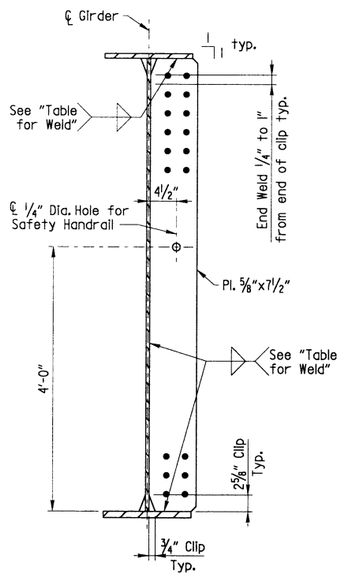
ALTERNATE NOS. 1 AND 2
SHEET 9 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 05/29/2014 FILENAME: bbb0610_sx9.dgn
CHECKED BY: SEM DATE: 08/06/2014
DESIGNED BY: DMS DATE: 06/25/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56792

JACOBS

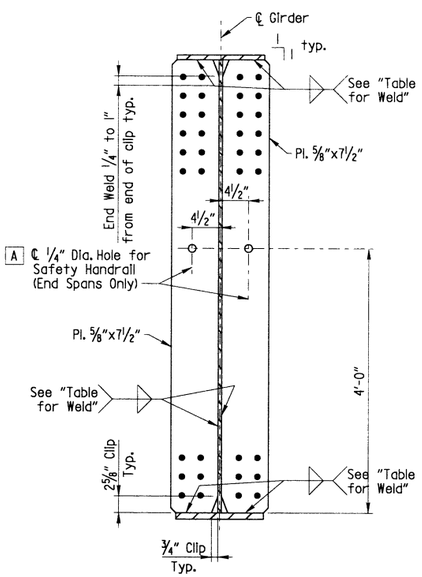
c:\pwworking\nal\graftonreedlh.d0111635\B2620White River Bridge Cross Frames.dgn
12:53:25 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	120	262
				(1) 07343		- 536' CONT. UNIT -		56793



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT EXTERIOR GIRDERS

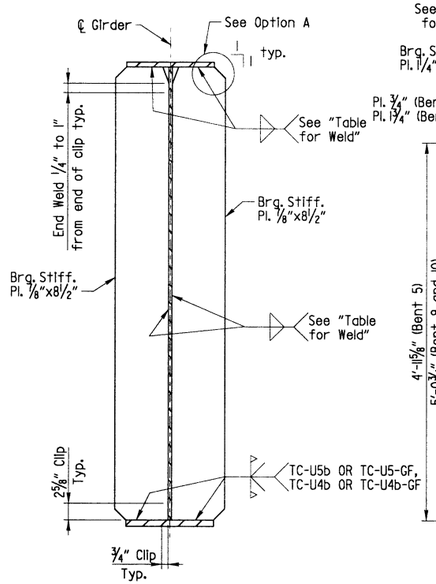
Scale: 1" = 1'-0"



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT INTERIOR GIRDERS

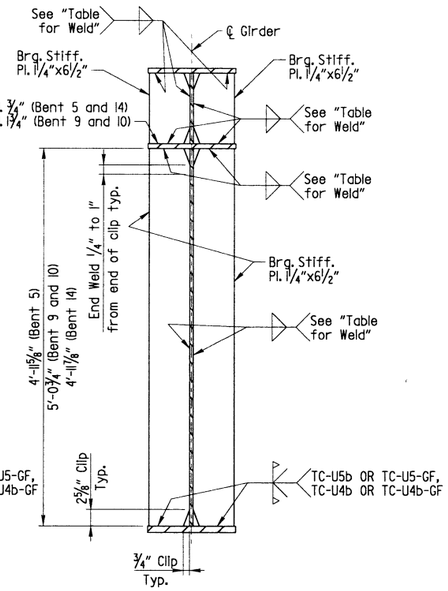
Scale: 1" = 1'-0"

A Holes for Safety Handrail shall be omitted in the interior bay between Girders 6 & 7 within the limits of the inspection Walkway. See Drawing Nos. 56841 - 56842 and 56850 - 56854.



BEARING STIFFENERS

Scale: 1" = 1'-0"

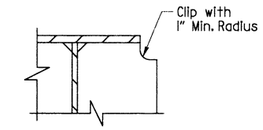


BEARING STIFFENERS AT BENTS 1, 5, 9, 10 AND 14

Scale: 1" = 1'-0"

Notes:
Bearing Stiffeners to be fabricated so as to be vertical in their final position.

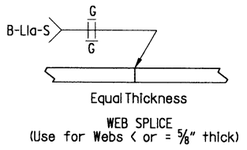
Bolts in Cross Frame connections shall be properly installed and tightened in accordance with subsection 807.71 except as noted.

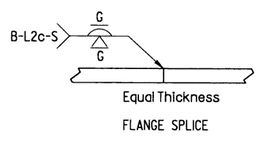


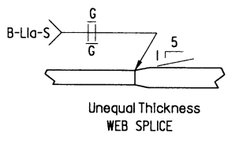
OPTION A

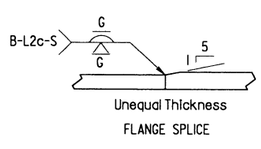
Scale: 1½" = 1'-0"

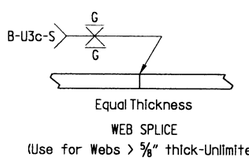
Note:
If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.

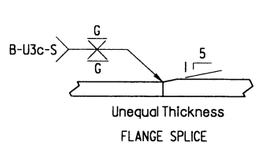


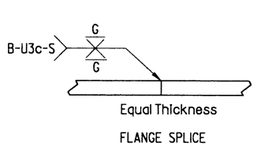






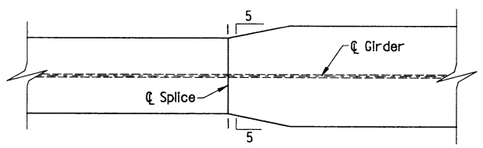






DETAILS OF WELDED SPLICES

(No Scale)



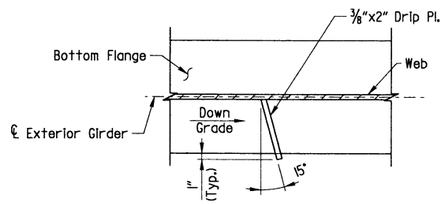
TYPICAL DETAIL FOR UNEQUAL WIDTH FLANGES

(No Scale)

Material Thickness of Thicker Part Joined (inches)	Minimum Size of Fillet Weld (inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼	
Over ¾"	5/16	

Note: when a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

TABLE FOR WELD



PLAN ELEVATION

BOTTOM FLANGE DRIP PLATE

Scale: N.T.S.

Bottom flange drip pl. to be welded to the outside flange of the exterior girders. Locate drip pl. 7'-0" from ℄ Bearing on the high side of each bent.

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 10 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 08/04/2014 FILENAME: bbb0610_sxa.dgn
CHECKED BY: SEM DATE: 08/08/2014
DESIGNED BY: DMS DATE: 06/25/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56793

JACOBS

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8/29/2016

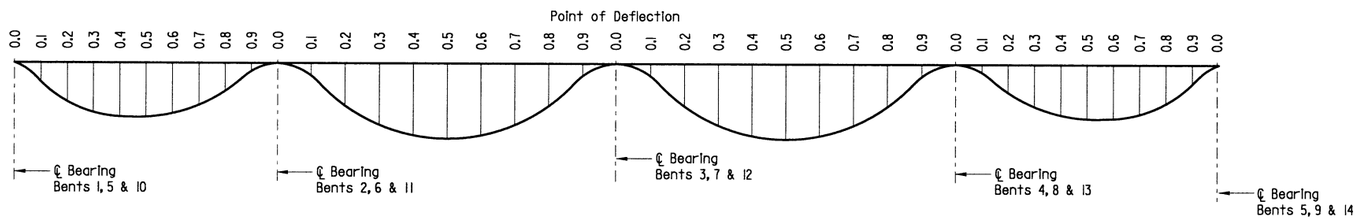
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	121	262
(1) 07343	-	536' CONT. UNIT	-	56794

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel												Structural Steel + Slab											
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12
℄ Brg. Bent 1 to ℄ Brg. Bent 2, ℄ Brg. Bent 5 to ℄ Brg. Bent 6 and ℄ Brg. Bent 10 to ℄ Brg. Bent 11	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.110	0.112	0.115	0.116	0.117	0.117	0.118	0.118	0.118	0.118	0.116	0.115	0.542	0.569	0.594	0.611	0.624	0.632	0.636	0.634	0.628	0.620	0.605	0.589
	0.2	0.202	0.205	0.209	0.211	0.213	0.213	0.214	0.215	0.215	0.214	0.212	0.208	0.999	1.039	1.083	1.115	1.138	1.153	1.160	1.157	1.147	1.130	1.106	1.075
	0.3	0.261	0.269	0.275	0.279	0.280	0.281	0.282	0.283	0.283	0.282	0.279	0.275	1.302	1.374	1.433	1.477	1.505	1.526	1.535	1.531	1.518	1.495	1.463	1.424
	0.4	0.284	0.293	0.299	0.303	0.305	0.306	0.307	0.307	0.308	0.306	0.303	0.298	1.427	1.504	1.568	1.615	1.648	1.672	1.682	1.675	1.661	1.636	1.602	1.559
	0.5	0.269	0.277	0.282	0.286	0.288	0.290	0.290	0.291	0.291	0.290	0.287	0.282	1.367	1.440	1.499	1.544	1.577	1.602	1.610	1.603	1.589	1.567	1.535	1.493
	0.6	0.222	0.228	0.233	0.236	0.238	0.239	0.240	0.240	0.240	0.239	0.236	0.233	1.148	1.210	1.260	1.297	1.325	1.346	1.354	1.347	1.335	1.318	1.291	1.255
	0.7	0.156	0.161	0.165	0.167	0.168	0.169	0.169	0.170	0.170	0.169	0.167	0.164	0.834	0.880	0.917	0.944	0.964	0.980	0.985	0.981	0.973	0.960	0.941	0.913
	0.8	0.082	0.085	0.087	0.088	0.088	0.089	0.089	0.090	0.089	0.089	0.088	0.086	0.469	0.497	0.517	0.532	0.543	0.553	0.556	0.554	0.549	0.543	0.533	0.517
	0.9	0.025	0.027	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.027	0.172	0.184	0.191	0.197	0.201	0.205	0.206	0.205	0.203	0.202	0.199	0.193
℄ Brg. Bent 2 to ℄ Brg. Bent 3, ℄ Brg. Bent 6 to ℄ Brg. Bent 7 and ℄ Brg. Bent 11 to ℄ Brg. Bent 12	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.034	0.034	0.034	0.034	0.059	0.060	0.061	0.062	0.061	0.061	0.061	0.060	0.059	0.057	0.053	0.049
	0.2	0.105	0.106	0.108	0.108	0.109	0.109	0.109	0.109	0.110	0.110	0.110	0.109	0.314	0.328	0.339	0.345	0.350	0.353	0.353	0.349	0.344	0.336	0.324	0.307
	0.3	0.198	0.202	0.205	0.206	0.207	0.207	0.208	0.209	0.209	0.209	0.208	0.206	0.697	0.733	0.759	0.775	0.787	0.794	0.796	0.790	0.779	0.762	0.737	0.703
	0.4	0.264	0.270	0.273	0.276	0.277	0.277	0.278	0.279	0.280	0.280	0.278	0.275	1.005	1.057	1.094	1.120	1.138	1.150	1.152	1.143	1.129	1.106	1.071	1.022
	0.5	0.290	0.297	0.301	0.303	0.304	0.305	0.306	0.307	0.308	0.308	0.306	0.302	1.160	1.222	1.266	1.295	1.316	1.332	1.334	1.324	1.307	1.283	1.242	1.187
	0.6	0.267	0.272	0.276	0.279	0.280	0.280	0.281	0.282	0.283	0.282	0.281	0.278	1.103	1.160	1.203	1.232	1.252	1.266	1.268	1.258	1.243	1.219	1.182	1.130
	0.7	0.203	0.208	0.211	0.212	0.213	0.214	0.214	0.215	0.216	0.215	0.214	0.211	0.867	0.914	0.948	0.968	0.985	0.997	0.998	0.990	0.979	0.960	0.930	0.888
	0.8	0.112	0.115	0.117	0.118	0.118	0.118	0.118	0.119	0.119	0.119	0.118	0.117	0.505	0.534	0.554	0.566	0.575	0.582	0.583	0.578	0.570	0.560	0.542	0.516
	0.9	0.036	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.182	0.194	0.201	0.205	0.208	0.211	0.211	0.208	0.206	0.202	0.196	0.185
℄ Brg. Bent 3 to ℄ Brg. Bent 4, ℄ Brg. Bent 7 to ℄ Brg. Bent 8 and ℄ Brg. Bent 12 to ℄ Brg. Bent 13	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.033	0.034	0.035	0.035	0.035	0.035	0.036	0.036	0.036	0.036	0.036	0.035	0.084	0.088	0.092	0.094	0.096	0.097	0.099	0.099	0.098	0.097	0.095	0.093
	0.2	0.106	0.108	0.110	0.111	0.111	0.112	0.112	0.113	0.113	0.113	0.112	0.111	0.341	0.358	0.372	0.382	0.388	0.394	0.396	0.395	0.391	0.386	0.376	0.365
	0.3	0.199	0.204	0.207	0.209	0.210	0.210	0.211	0.212	0.213	0.213	0.211	0.209	0.704	0.742	0.770	0.790	0.804	0.814	0.818	0.814	0.807	0.795	0.774	0.746
	0.4	0.265	0.270	0.275	0.277	0.278	0.279	0.280	0.282	0.283	0.282	0.280	0.277	0.973	1.025	1.065	1.091	1.110	1.125	1.129	1.124	1.114	1.096	1.067	1.026
	0.5	0.290	0.296	0.301	0.303	0.305	0.306	0.307	0.308	0.309	0.309	0.307	0.304	1.081	1.140	1.184	1.212	1.234	1.250	1.255	1.248	1.236	1.217	1.184	1.137
	0.6	0.265	0.271	0.275	0.277	0.278	0.279	0.280	0.282	0.283	0.282	0.281	0.278	0.982	1.036	1.075	1.101	1.119	1.135	1.139	1.132	1.122	1.104	1.075	1.031
	0.7	0.202	0.206	0.209	0.210	0.211	0.212	0.213	0.210	0.211	0.211	0.213	0.211	0.728	0.769	0.798	0.816	0.830	0.842	0.845	0.819	0.812	0.800	0.797	0.763
	0.8	0.111	0.113	0.114	0.115	0.115	0.116	0.116	0.120	0.121	0.121	0.117	0.116	0.375	0.397	0.411	0.420	0.427	0.434	0.435	0.445	0.442	0.436	0.412	0.392
	0.9	0.035	0.036	0.036	0.036	0.036	0.036	0.037	0.038	0.039	0.039	0.037	0.037	0.098	0.104	0.108	0.109	0.111	0.113	0.114	0.118	0.118	0.117	0.108	0.102
℄ Brg. Bent 4 to ℄ Brg. Bent 5, ℄ Brg. Bent 8 to ℄ Brg. Bent 9 and ℄ Brg. Bent 13 to ℄ Brg. Bent 14	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.024	0.025	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.025	0.148	0.156	0.162	0.166	0.169	0.171	0.172	0.170	0.168	0.165	0.162	0.155
	0.2	0.078	0.081	0.083	0.084	0.084	0.085	0.085	0.085	0.085	0.084	0.083	0.082	0.425	0.448	0.466	0.478	0.486	0.494	0.495	0.491	0.485	0.476	0.464	0.447
	0.3	0.153	0.158	0.161	0.163	0.164	0.165	0.165	0.165	0.165	0.165	0.163	0.160	0.790	0.832	0.863	0.886	0.903	0.915	0.917	0.911	0.900	0.885	0.861	0.829
	0.4	0.220	0.227	0.231	0.234	0.236	0.237	0.237	0.238	0.238	0.237	0.234	0.230	1.114	1.172	1.216	1.249	1.273	1.290	1.294	1.285	1.269	1.247	1.213	1.169
	0.5	0.269	0.276	0.282	0.286	0.288	0.289	0.290	0.290	0.290	0.289	0.286	0.281	1.345	1.412	1.467	1.507	1.536	1.557	1.562	1.550	1.531	1.504	1.463	1.410
	0.6	0.284	0.292	0.298	0.302	0.304	0.305	0.306	0.307	0.306	0.305	0.302	0.297	1.410	1.482	1.540	1.582	1.612	1.633	1.638	1.627	1.607	1.578	1.535	1.479
	0.7	0.261	0.269	0.274	0.278	0.280	0.281	0.281	0.282	0.282	0.281	0.278	0.274	1.291	1.358	1.411	1.449	1.477	1.496	1.500	1.491	1.473	1.447	1.407	1.354
	0.8	0.201	0.207	0.211	0.214	0.215	0.216	0.217	0.217	0.217	0.217	0.214	0.211	0.991	1.043	1.083	1.113	1.134	1.149	1.152	1.144	1.131	1.112	1.080	1.039
	0.9	0.110	0.114	0.116	0.117	0.118	0.119	0.119	0.119	0.119	0.119	0.117	0.115	0.542	0.571	0.593	0.609	0.621	0.630	0.630	0.626	0.619	0.609	0.591	0.568
	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Dead Load Deflections based on removable forms. If non-matching stay-in-place forms are used, ribs shall be filled with a lightweight material positively attached to the forms.



DEAD LOAD DEFLECTION DIAGRAM

No Scale

Note:
Camber for Dead Load Deflection plus Vertical Curve +/- 1/4" tolerance. Deflections shown are from a chord from ℄ Bearing to ℄ Bearing. Vertical Curve corrections not included.
Negative sign (-) indicates point above curve.

(1) Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 11 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 07/05/2014 FILENAME: bbb0610_sxb.dgn
CHECKED BY: SEM DATE: 07/25/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: NONE
BRIDGE NO. 07343 DRAWING NO. 56794

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	122	262
(1) 07343	-	536' CONT. UNIT	-	56795

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel + Slab + Parapets + Median Barrier											
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12
℄ Brg. Bent 1 to ℄ Brg. Bent 2, ℄ Brg. Bent 5 to ℄ Brg. Bent 6 and ℄ Brg. Bent 10 to ℄ Brg. Bent 11	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.574	0.601	0.626	0.643	0.656	0.664	0.668	0.666	0.660	0.653	0.638	0.623
	0.2	1.059	1.097	1.141	1.173	1.196	1.211	1.218	1.215	1.206	1.189	1.166	1.137
	0.3	1.380	1.451	1.509	1.553	1.581	1.603	1.612	1.608	1.596	1.573	1.543	1.506
	0.4	1.512	1.588	1.651	1.698	1.731	1.756	1.766	1.759	1.746	1.721	1.689	1.648
	0.5	1.447	1.520	1.578	1.623	1.656	1.681	1.690	1.683	1.669	1.648	1.618	1.578
	0.6	1.215	1.276	1.325	1.362	1.391	1.412	1.420	1.413	1.401	1.385	1.359	1.325
	0.7	0.881	0.927	0.963	0.990	1.010	1.027	1.032	1.028	1.020	1.008	0.989	0.963
	0.8	0.494	0.522	0.542	0.557	0.568	0.578	0.581	0.579	0.574	0.568	0.559	0.543
	0.9	0.180	0.192	0.199	0.205	0.209	0.213	0.214	0.213	0.211	0.210	0.207	0.201
℄ Brg. Bent 2 to ℄ Brg. Bent 3, ℄ Brg. Bent 6 to ℄ Brg. Bent 7 and ℄ Brg. Bent 11 to ℄ Brg. Bent 12	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.069	0.069	0.070	0.071	0.070	0.070	0.070	0.069	0.069	0.067	0.063	0.059
	0.2	0.346	0.359	0.370	0.376	0.381	0.384	0.384	0.380	0.376	0.368	0.356	0.340
	0.3	0.758	0.793	0.819	0.835	0.847	0.854	0.856	0.850	0.840	0.823	0.799	0.767
	0.4	1.087	1.138	1.174	1.200	1.218	1.231	1.233	1.224	1.210	1.188	1.154	1.107
	0.5	1.250	1.311	1.354	1.383	1.405	1.421	1.423	1.413	1.397	1.374	1.334	1.281
	0.6	1.186	1.242	1.285	1.314	1.334	1.348	1.350	1.341	1.326	1.303	1.267	1.217
	0.7	0.931	0.977	1.011	1.031	1.048	1.060	1.061	1.054	1.043	1.024	0.995	0.955
	0.8	0.541	0.569	0.589	0.601	0.610	0.617	0.619	0.614	0.606	0.596	0.579	0.554
	0.9	0.194	0.206	0.213	0.217	0.220	0.223	0.223	0.220	0.218	0.214	0.208	0.197
℄ Brg. Bent 3 to ℄ Brg. Bent 4, ℄ Brg. Bent 7 to ℄ Brg. Bent 8 and ℄ Brg. Bent 12 to ℄ Brg. Bent 13	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.093	0.097	0.101	0.103	0.105	0.106	0.108	0.108	0.107	0.106	0.104	0.103
	0.2	0.372	0.389	0.402	0.412	0.418	0.425	0.427	0.426	0.422	0.417	0.408	0.397
	0.3	0.764	0.801	0.829	0.849	0.863	0.873	0.877	0.873	0.867	0.855	0.835	0.809
	0.4	1.053	1.104	1.144	1.170	1.189	1.204	1.208	1.204	1.194	1.177	1.149	1.110
	0.5	1.170	1.227	1.271	1.299	1.321	1.337	1.342	1.336	1.324	1.306	1.274	1.229
	0.6	1.064	1.116	1.155	1.181	1.199	1.215	1.219	1.212	1.203	1.185	1.158	1.116
	0.7	0.790	0.830	0.859	0.877	0.891	0.903	0.906	0.879	0.872	0.861	0.860	0.828
	0.8	0.410	0.431	0.445	0.454	0.461	0.468	0.469	0.479	0.476	0.471	0.447	0.428
	0.9	0.109	0.115	0.119	0.120	0.122	0.124	0.125	0.129	0.129	0.128	0.119	0.113
℄ Brg. Bent 4 to ℄ Brg. Bent 5, ℄ Brg. Bent 8 to ℄ Brg. Bent 9 and ℄ Brg. Bent 13 to ℄ Brg. Bent 14	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.155	0.163	0.169	0.173	0.176	0.178	0.179	0.177	0.176	0.173	0.169	0.162
	0.2	0.449	0.471	0.489	0.501	0.509	0.517	0.519	0.515	0.509	0.500	0.489	0.472
	0.3	0.836	0.878	0.908	0.931	0.949	0.961	0.963	0.958	0.947	0.932	0.909	0.878
	0.4	1.180	1.237	1.281	1.314	1.338	1.356	1.360	1.352	1.336	1.315	1.281	1.239
	0.5	1.425	1.491	1.546	1.586	1.615	1.637	1.642	1.631	1.612	1.586	1.546	1.495
	0.6	1.494	1.566	1.623	1.665	1.695	1.717	1.722	1.712	1.692	1.664	1.622	1.568
	0.7	1.368	1.435	1.487	1.525	1.553	1.573	1.577	1.569	1.551	1.526	1.487	1.436
	0.8	1.050	1.102	1.141	1.171	1.193	1.208	1.211	1.203	1.191	1.172	1.141	1.102
	0.9	0.575	0.603	0.625	0.641	0.653	0.662	0.662	0.659	0.652	0.642	0.624	0.602
℄ Brg. Bent 13 to ℄ Brg. Bent 14	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Dead Load Deflections based on removable forms. If non-matching stay-in-place forms are used, ribs shall be filled with a lightweight material positively attached to the forms.

Note:
For Dead Load Deflection Diagram, see Dwg. No. 56794.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 12 OF 20
DETAILS OF 536'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 07/05/2014 FILENAME: bbb0610_sxc.dgn
CHECKED BY: SEM DATE: 07/25/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: NONE
BRIDGE NO. 07343 DRAWING NO. 56795

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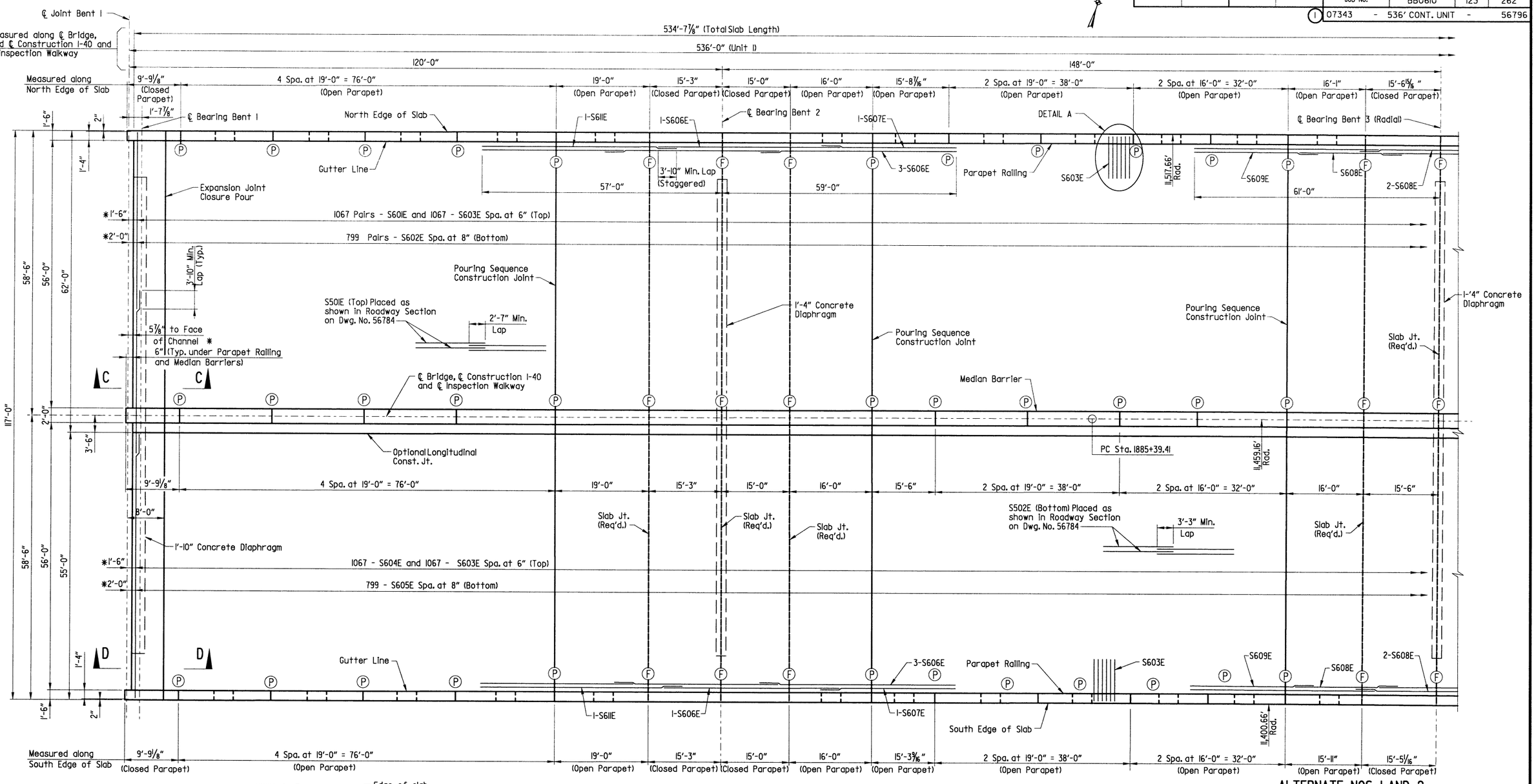
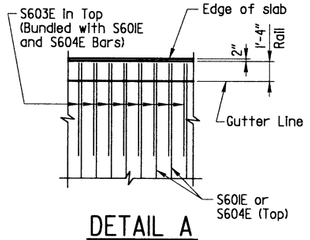
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	123	262
(1) 07343	-	536' CONT. UNIT	-	56796



* Measured at 60° F.



DETAIL A

REINFORCING PLAN - UNIT 1

(No Scale)

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A, B-B, C-C and D-D, See Dwg. 56800.

For Slab Pouring Sequence, See Dwg. 56800.

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 13 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 04/04/2014 FILENAME: bbb0610_sxd.dgn
CHECKED BY: SEM DATE: 01/25/2015
DESIGNED BY: DMS DATE: 03/13/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56796

JACOBS

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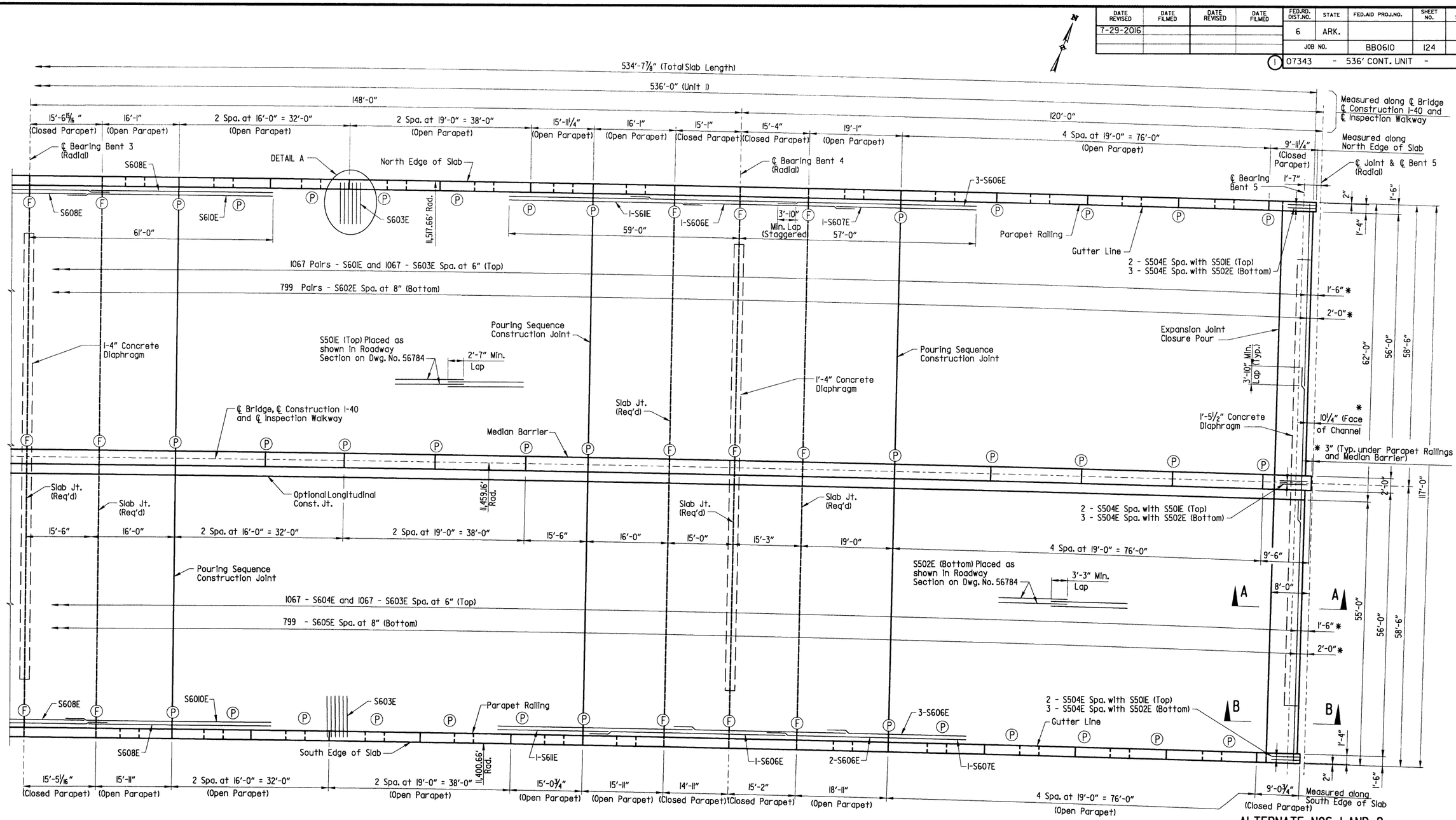
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	124	262
(I) 07343	-	536' CONT. UNIT	-	56797



REINFORCING PLAN - UNIT I

(No Scale)

(P) ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

(F) ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Detail A, see Dwg. 56796.

For Section A-A, B-B, C-C and D-D, See Dwg. 56800.

For Slab Pouring Sequence, See Dwg. 56800.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

* Measured at 60° F.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. I AND 2

SHEET 14 OF 20

DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY

ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	04/01/2014
CHECKED BY:	SEM	DATE:	1/21/2015
DESIGNED BY:	DMS	DATE:	3/13/2014
BRIDGE NO. 07343			

FILENAME: bbb0610_sxe.dgn
SCALE: AS NOTED
DRAWING NO. 56797

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	125	262
07343	-	536' CONT. UNIT	-	56798

℄ Joint & Bent 5 and ℄ Bent 10 (Radial)

Measured along ℄ Bridge, and ℄ Construction I-40 and ℄ Inspection Walkway

534'-3½" (Total Slab Length)

536'-0" (Units 2 and 4)

120'-0"

148'-0"

Measured along North Edge of Slab

9'-11¼" (Closed Parapet)

4 Spa. at 19'-0" = 76'-0" (Open Parapet)

19'-1" (Open Parapet)

15'-4" (Closed Parapet)

15'-1" (Closed Parapet)

16'-1" (Open Parapet)

15'-11¼" (Open Parapet)

2 Spa. at 19'-0" = 38'-0" (Open Parapet)

2 Spa. at 16'-0" = 32'-0" (Open Parapet)

16'-1" (Open Parapet)

15'-6 15/16" (Closed Parapet)

1'-7"

℄ Bearing Bent 5 and Bent 10

North Edge of Slab

I-S611E

I-S606E

℄ Bearing and Bent 11 (Radial) Bent 6

I-S607E

DETAIL A

℄ Bearing Bent 7 and Bent 12 (Radial)

1'-6"

2"

1'-4"

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

Gutter Line

Expansion Joint Closure Pour

57'-0"

3'-10" Min. Lap (Staggered)

59'-0"

3-S606E

Parapet Railing

S603E

11,517.66' Rad.

S609E

S608E

2-S608E

6'-0"

* 1'-6"

1067 Pairs - S601E and 1067 - S603E Spa. at 6" (Top)

* 2'-0"

799 Pairs - S602E Spa. at 8" (Bottom)

58'-6"

56'-0"

62'-0"

3'-10" Min. Lap (Typ.)

S501E (Top) Placed as shown in Roadway Section on Dwg. No. 56784

2'-7" Min. Lap

1-4" Concrete Diaphragm

Pouring Sequence Construction Joint

1'-4" Concrete Diaphragm

10¼" to Face * of Channel

8'-0"

* 3" (Typ. under Parapet Railings and Median Barrier)

℄ Bridge, ℄ Construction I-40 and ℄ Inspection Walkway

Pouring Sequence Construction Joint

Slab Jt. (Req'd.)

Median Barrier

117'-0"

2'-0"

Optional Longitudinal Const. Jt.

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

11,459.16' Rad.

9'-6"

4 Spa. at 19'-0" = 76'-0"

19'-0"

15'-3"

15'-0"

16'-0"

15'-6"

2 Spa. at 19'-0" = 38'-0"

2 Spa. at 16'-0" = 32'-0"

16'-0"

15'-6"

A

A

1'-5½" Concrete Diaphragm

Pouring Sequence Construction Joint

Slab Jt. (Req'd.)

Slab Jt. (Req'd.)

Slab Jt. (Req'd.)

S502E (Bottom) Placed as shown in Roadway Section on Dwg. No. 56784

3'-3" Min. Lap

Slab Jt. (Req'd.)

58'-6"

56'-0"

55'-0"

* 1'-6"

1067 - S604E and 1067 - S603E Spa. at 6" (Top)

* 2'-0"

799 - S605E Spa. at 8" (Bottom)

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

1'-4"

B

B

Gutter Line

3-S606E

Parapet Railing

S603E

S609E

S608E

2-S608E

1'-6"

2"

I-S611E

I-S606E

I-S607E

South Edge of Slab

11,400.66' Rad.

Measured along South Edge of Slab

9'-0¾" (Closed Parapet)

4 Spa. at 19'-0" = 76'-0" (Open Parapet)

18'-11" (Open Parapet)

15'-2" (Closed Parapet)

14'-11" (Closed Parapet)

15'-11" (Open Parapet)

15'-0¾" (Open Parapet)

2 Spa. at 19'-0" = 38'-0" (Open Parapet)

2 Spa. at 16'-0" = 32'-0" (Open Parapet)

15'-11" (Open Parapet)

15'-5 1/16" (Closed Parapet)

* Measured at 60° F.

S603E In Top (Bundled with S601E and S604E Bars)

Edge of slab

2"

1'-4" Rail

Gutter Line

S601E or S604E (Top)

DETAIL A

REINFORCING PLAN - UNITS 2 AND 4

(No Scale)

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A, B-B, C-C and D-D, See Dwg. 56800.

For Slab Pouring Sequence, See Dwg. 56800.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 15 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY

ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 04/01/2014 FILENAME: bbb0610_sxf.dgn
CHECKED BY: SEM DATE: 01/05/2015
DESIGNED BY: DMS DATE: 03/08/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56798

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	126	262
07343	-	536' CONT. UNIT	-	56799

534'-3½" (Total Slab Length)

536'-0" (Unit 2 and 4)

148'-0"

120'-0"

15'-6 15/16" (Closed Parapet) | 16'-1" (Open Parapet) | 2 Spa. at 16'-0" = 32'-0" (Open Parapet) | 2 Spa. at 19'-0" = 38'-0" (Open Parapet) | 15'-11¼" (Open Parapet) | 16'-1" (Open Parapet) | 15'-1" (Closed Parapet) | 15'-4" (Closed Parapet) | 19'-1" (Open Parapet) | 4 Spa. at 19'-0" = 76'-0" (Open Parapet) | 9'-11¼" (Closed Parapet)

℄ Bearing Bent 7 and Bent 12 (Radial)

℄ Bearing Bent 8 and Bent 13 (Radial)

℄ Bearing Bent 9 and Bent 14

Measured along ℄ Bridge, ℄ Construction 1-40 and ℄ Inspection Walkway

Measured along North Edge of Slab

℄ Joint, Bent 9 and Bent 14 (Radial)

DETAIL A

North Edge of Slab

S608E | S608E | S610E | S603E | 11,517.66' Rad. | 1-S611E | 3-S606E | 1-S606E | 1-S607E

61'-0" | 59'-0" | 3'-10" Min. Lap (Staggered) | 57'-0"

Parapet Railing | Gutter Line

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

1067 Pairs - S601E and 1067 - S603E Spa. at 6" (Top)

799 Pairs - S602E Spa. at 8" (Bottom)

1'-6" *

2'-0" *

S501E (Top) Placed as shown in Roadway Section on Dwg. No. 56784

2'-7" Min. Lap

Pouring Sequence Construction Joint

1'-4" Concrete Diaphragm

℄ Bridge, ℄ Construction 1-40 and ℄ Inspection Walkway

Median Barrier

3'-10" Min. Lap (Typ.)

62'-0" | 56'-0" | 58'-6"

1'-5½" Concrete Diaphragm

10¼" to Face of Channel *

A | A

Slab Jt. (Req'd) | Slab Jt. (Req'd) | Optional Longitudinal Const. Jt. | 11,459.16' Rad. | Slab Jt. (Req'd) | Slab Jt. (Req'd) | Slab Jt. (Req'd)

15'-6" | 16'-0" | 2 Spa. at 16'-0" = 32'-0" | 2 Spa. at 19'-0" = 38'-0" | 15'-6" | 16'-0" | 15'-0" | 15'-3" | 19'-0" | 4 Spa. at 19'-0" = 76'-0" | 9'-6"

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

* 3" (Typ. under Parapet Railings and Median Barrier)

117'-0"

Pouring Sequence Construction Joint

S502E (Bottom) Placed as shown in Roadway Section on Dwg. No. 56784

3'-3" Min. Lap

Expansion Joint Closure Pour

1067 - S604E and 1067 - S603E Spa. at 6" (Top)

799 - S605E Spa. at 8" (Bottom)

1'-6" *

2'-0" *

8'-0"

B | B

55'-0" | 56'-0" | 58'-6"

S608E | S610E | S603E | Parapet Railing | 3-S606E | Gutter Line

2 - S504E Spa. with S501E (Top)
3 - S504E Spa. with S502E (Bottom)

S608E | South Edge of Slab | 11,400.66' Rad. | 1-S611E | 1-S606E | 1-S607E

15'-5 1/16" (Closed Parapet) | 15'-11" (Open Parapet) | 2 Spa. at 16'-0" = 32'-0" (Open Parapet) | 2 Spa. at 19'-0" = 38'-0" (Open Parapet) | 15'-0¾" (Open Parapet) | 15'-11" (Open Parapet) | 14'-11" (Closed Parapet) | 15'-2" (Closed Parapet) | 18'-11" (Open Parapet) | 4 Spa. at 19'-0" = 76'-0" (Open Parapet) | 9'-0¾" (Closed Parapet)

Measured along South Edge of Slab

1'-4" | 2" | 1'-6"

REINFORCING PLAN - UNITS 2 AND 4

(No Scale)

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A, B-B, C-C and D-D, See Dwg. 56800.

For Slab Pouring Sequence, See Dwg. 56800.

For Detail A, See Dwg. 56798.

* Measured at 60°F

△1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 16 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS | DATE: 04/05/2014 | FILENAME: bbb0610_sxg.dgn
CHECKED BY: SEM | DATE: 01/06/2015
DESIGNED BY: DMS | DATE: 03/07/2014 | SCALE: AS NOTED
BRIDGE NO. 07343 | DRAWING NO. 56799

JACOBS

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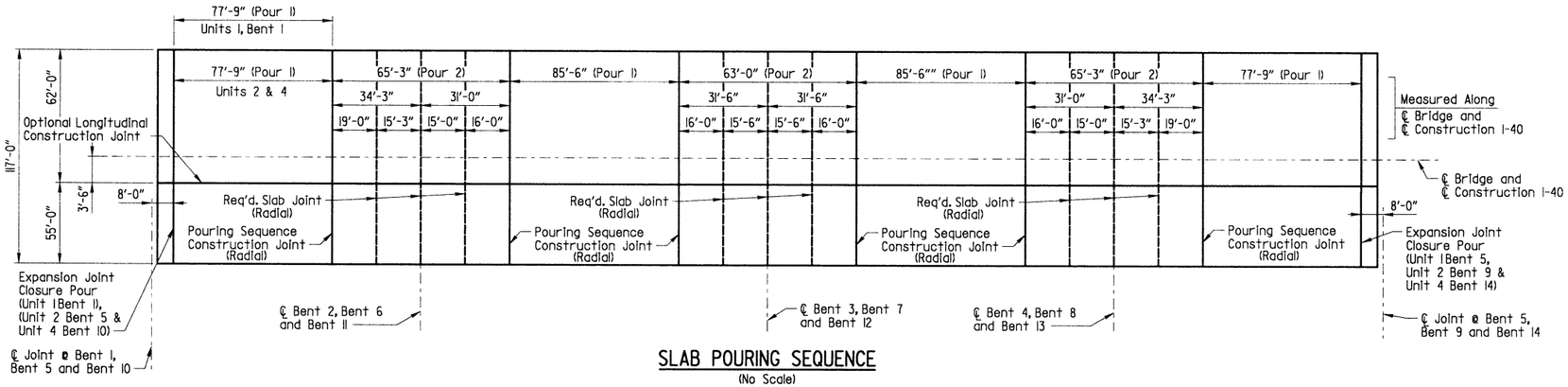
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	127	262
				1	07343	- 536' CONT. UNIT -		56800



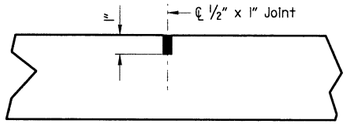
SLAB POURING SEQUENCE

(No Scale)

Note: All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour. Pours must be placed in sequence shown. Pours with the same number may be placed simultaneously or separately. All pour(s) 1 must be complete before pour(s) 2 can be placed. No deviations allowed. Deflections based on pouring sequence. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. Should the Contractor use the Optional Longitudinal Construction Joint, a minimum of 72 hours shall elapse between the end of one pour and the start of the adjacent pours. A minimum of 72 hours shall elapse between the end of the slab pour and the start of the parapet or median barrier pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer.

Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

After all incremental pours on both Units adjacent to Finger Joint are complete, closure pours on each side of finger joint at Bents 5, 9, 10 and 14 shall be poured simultaneously. See Drawing No. 56745 for sequence of concrete placement at Bent 1. A minimum of 48 hours shall elapse between the last incremental pour and the closure pours.



Use Type 3 or 4 Joint Sealer. See Subsections 501.02 (h)(2) and 501.05 (j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge.

Slab Joints

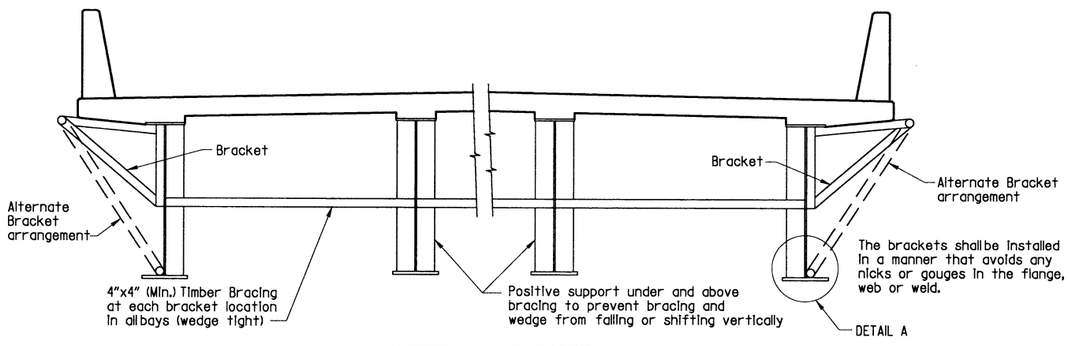
Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). No joint sealer shall be placed on the deck slab under the parapet railing or median barrier. Slab joints shall align with parapet and median barrier open joints except for slab joint at closure pour at finger joint.

Optional Longitudinal Construction Joint

Longitudinal Construction Joint shall be formed. Seal must be gray or other color similar to concrete.

SLAB JOINT DETAIL AND OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

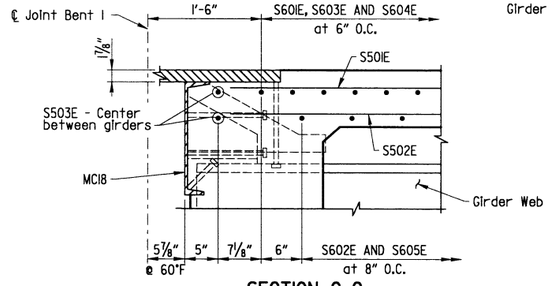
(No Scale)



SCREED RAIL SUPPORT

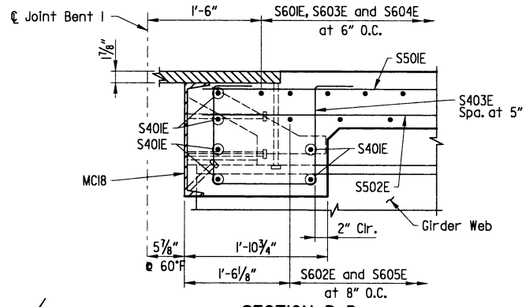
(No Scale)

Note: If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if above the strutting system is used. The strutting system may be omitted if 5/8" X 7½" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for Crossframe connection plates shown on Drawing No. 56783. No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel In Plate Girder Spans (M270. Gr. 50W)"



SECTION C-C

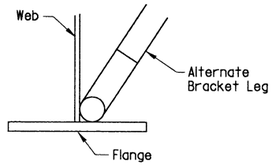
(No Scale)



SECTION D-D

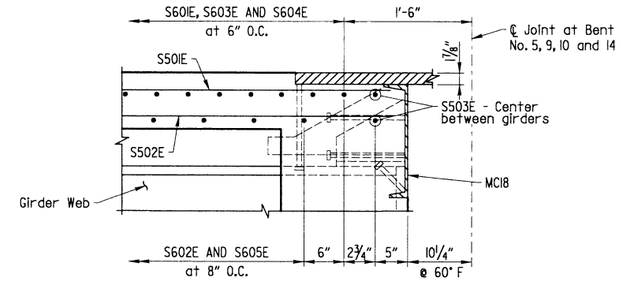
(No Scale)

(On Cantilever Only at Bent 1)



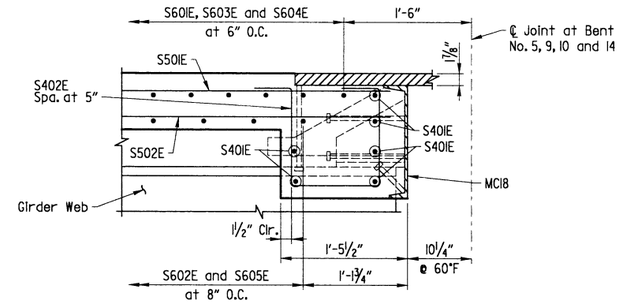
DETAIL A

(No Scale)



SECTION A-A

(No Scale)



SECTION B-B

(No Scale)

(On Cantilever Only at Bents 5, 9, 10, & 14)

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 17 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY

ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

DRAWN BY: EAK DATE: 09/04/14 FILENAME: bbb0610_sxh.dgn
CHECKED BY: SEM DATE: 07/06/16
DESIGNED BY: DMS DATE: 03/13/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56800

JACOBS

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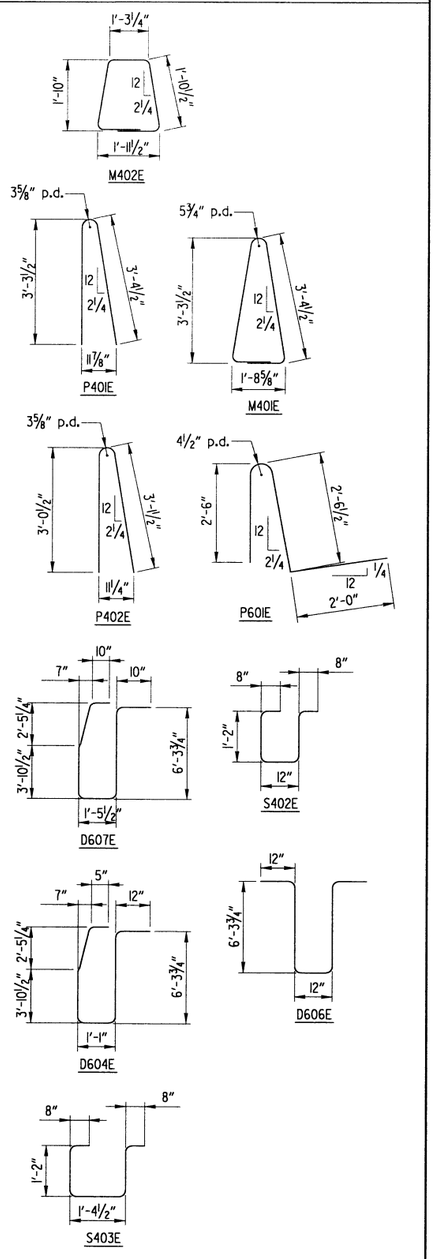
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	128	262
				(1) 07343	-	536' CONT. UNIT	-	56801

BAR LIST - UNIT 1

Mark	No. Required	Length	Pin Dia.
S401E	24	1'-10"	Str.
S402E	10	4'-3"	3"
S403E	10	4'-7½"	3"
S501E	800	55'-10"	Str.
S502E	1310	56'-3"	Str.
S503E	44	9'-7"	Str.
S504E	15	3'-3"	Str.
S601E	2134	34'-9"	Str.
S602E	1598	34'-9"	Str.
S603E	2134	10'-7"	Str.
S604E	1069	54'-10"	Str.
S605E	801	54'-10"	Str.
S606E	616	41'-3"	Str.
S607E	154	31'-3"	Str.
S608E	385	43'-3"	Str.
S609E	77	13'-6"	Str.
S610E	77	33'-6"	Str.
S611E	154	51'-3"	Str.
P401E	1996	5'-10"	3⅝"
P402E	384	5'-4"	3⅝"
P501E	48	54'-0"	Str.
P502E	72	41'-2½"	Str.
P503E	5	8'-8¾"	Str.
P504E	5	9'-7¼"	Str.
P505E	10	9'-4¾"	Str.
P506E	11	14'-7"	Str.
P507E	22	14'-8"	Str.
P508E	5	14'-8⅛"	Str.
P509E	11	14'-9"	Str.
P510E	11	14'-10"	Str.
P511E	22	14'-11"	Str.
P512E	5	14'-11½"	Str.
P513E	11	15'-0"	Str.
P514E	22	15'-1"	Str.
P515E	22	15'-2½"	Str.
P516E	5	15'-4"	Str.
P517E	38	15'-7"	Str.
P518E	62	15'-8"	Str.
P519E	33	15'-9"	Str.
P520E	11	18'-7"	Str.
P521E	142	18'-8"	Str.
P522E	11	18'-9"	Str.
P601E	1996	7'-3"	4½"
M401E	1070	9'-4"	3⅝"
M402E	1070	7'-2"	3⅝"
M501E	20	56'-4"	Str.
M502E	16	53'-7"	Str.
M503E	24	41'-0"	Str.
M504E	4	9'-2"	Str.
M505E	4	9'-4¾"	Str.
M506E	12	14'-8"	Str.
M507E	12	14'-11"	Str.
M508E	20	15'-2"	Str.
M509E	40	15'-8"	Str.
M510E	60	18'-8"	Str.
D601E	1210	9'-8"	Str.
D602E	10	8'-2"	Str.
D603E	64	5'-6"	Str.
D604E	165	14'-7¼"	4½"
D605E	220	5'-4"	Str.
D606E	495	15'-3"	4½"
D607E	165	15'-2¾"	4½"

Bending Diagrams
Dimensions shown are out to out of bars

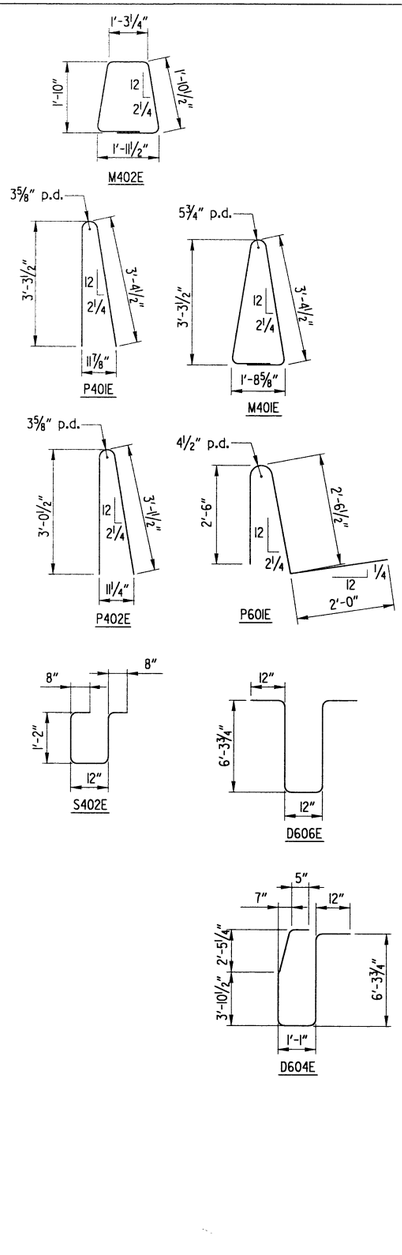


Note: All bars designated with an "E" suffix are to be epoxy coated.

BAR LIST - UNITS 2 AND 4 (PER UNIT)

Mark	No. Required	Length	Pin Dia.
S401E	24	1'-10"	Str.
S402E	20	4'-3"	3"
S501E	800	55'-10"	Str.
S502E	1310	56'-5"	Str.
S503E	44	9'-7"	Str.
S504E	30	3'-3"	Str.
S601E	2134	34'-9"	Str.
S602E	1598	34'-9"	Str.
S603E	2134	10'-7"	Str.
S604E	1067	54'-10"	Str.
S605E	799	54'-10"	Str.
S606E	616	41'-3"	Str.
S607E	154	31'-3"	Str.
S608E	385	43'-3"	Str.
S609E	77	13'-6"	Str.
S610E	77	33'-6"	Str.
S611E	154	51'-3"	Str.
P401E	1996	5'-10"	3⅝"
P402E	384	5'-4"	3⅝"
P501E	48	54'-0"	Str.
P502E	72	41'-2½"	Str.
P523E	10	8'-8¾"	Str.
P524E	10	9'-7¼"	Str.
P525E	22	14'-7"	Str.
P526E	10	14'-8½"	Str.
P527E	22	14'-9"	Str.
P528E	22	14'-10"	Str.
P529E	22	15'-0"	Str.
P530E	22	15'-1"	Str.
P531E	22	15'-3"	Str.
P532E	54	15'-7"	Str.
P533E	40	15'-8"	Str.
P534E	44	15'-9"	Str.
P535E	22	18'-7"	Str.
P536E	120	18'-8"	Str.
P537E	22	18'-9"	Str.
P601E	1996	7'-3"	4½"
M401E	1070	9'-4"	3⅝"
M402E	1070	7'-2"	3⅝"
M501E	20	56'-4"	Str.
M502E	16	53'-7"	Str.
M503E	24	41'-0"	Str.
M511E	4	9'-2"	Str.
M512E	4	14'-8"	Str.
M513E	12	14'-11"	Str.
M514E	12	15'-2"	Str.
M515E	20	15'-8"	Str.
M516E	40	18'-8"	Str.
D601E	1210	9'-8"	Str.
D602E	10	8'-2"	Str.
D603E	80	5'-6"	Str.
D604E	330	14'-7¼"	4½"
D605E	220	5'-4"	Str.
D606E	495	15'-3"	4½"

Bending Diagrams
Dimensions shown are out to out of bars



Note: All bars designated with an "E" suffix are to be epoxy coated.

Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 18 OF 20
DETAILS OF 536'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 06/11/2014 FILENAME: bbb0610_sx1.dgn
CHECKED BY: MAS DATE: 02/06/2015
DESIGNED BY: MAS DATE: 02/03/2015 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56801

JACOBS

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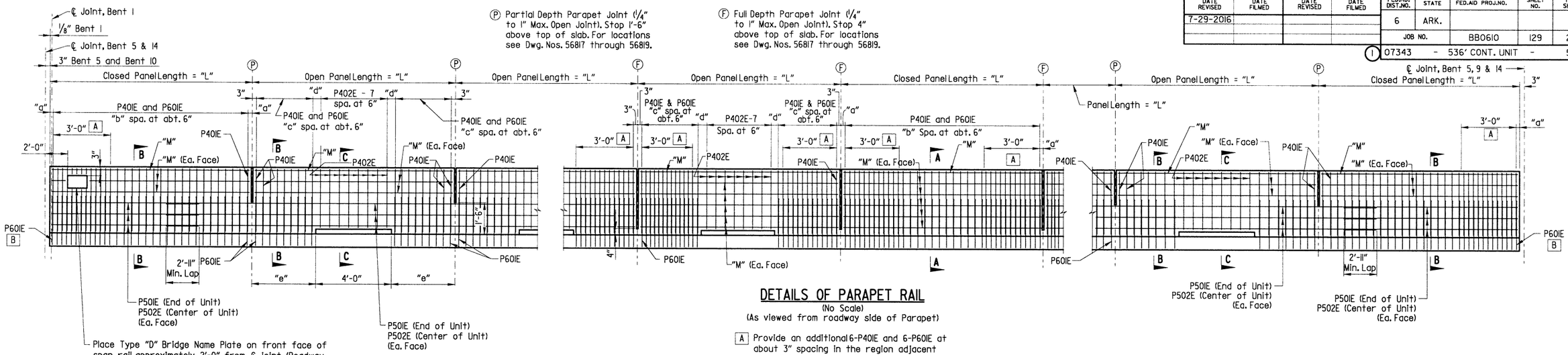
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	129	262
				(1) 07343	-	536' CONT. UNIT	-	56802



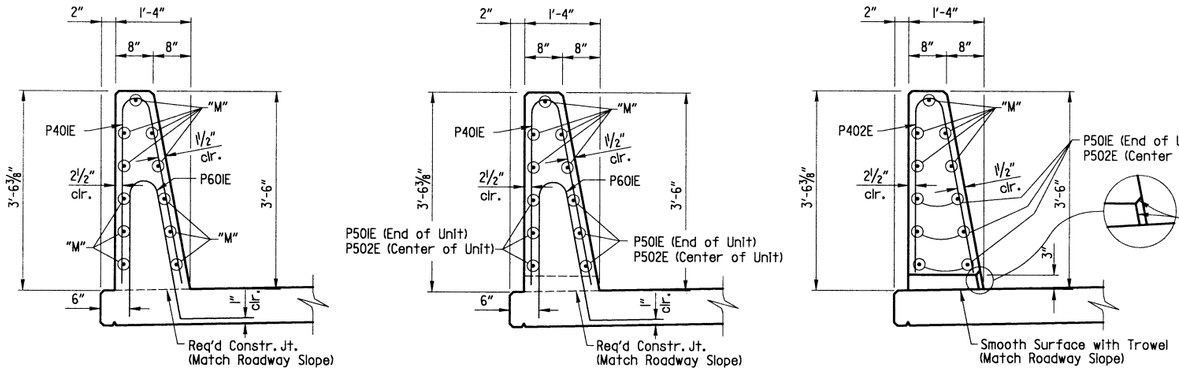
DETAILS OF PARAPET RAIL

(No Scale)

(As viewed from roadway side of Parapet)

A Provide an additional 6-P401E and 6-P601E at about 3" spacing in the region adjacent to a full depth parapet joint.

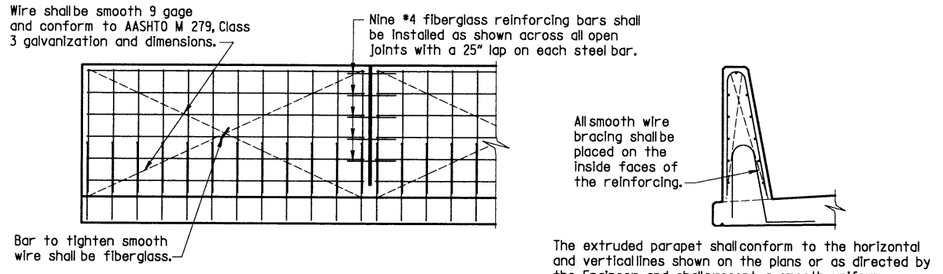
B Cut horizontal leg of end P601E at finger joint slab extension.



SECTION A-A (No Scale)

SECTION B-B (No Scale)

SECTION C-C (No Scale)



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing steel, see parapet details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

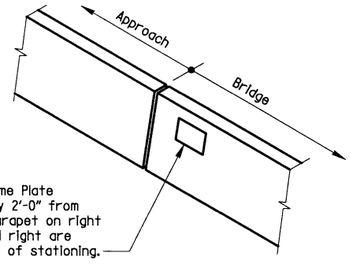
(No Scale)

PARAPET RAIL VARIABLES - UNIT 1

Number of Panels	Panel Length "L"	Panel Type	Closed Parapet "a"	Closed Parapet "b"	Open Parapet "c"	Open Parapet "d"	Open Parapet "e"	"M" Bar
1	9'-0 3/4"	Closed	3 3/8"	17	-	-	-	P503E
1	9'-11 1/4"	Closed	2 5/8"	19	-	-	-	P504E
2	9'-9 1/8"	Closed	4"	18	-	-	-	P505E
1	14'-11"	Closed	2 1/2"	29	-	-	-	P506E
2	15'-0"	Closed	3"	29	-	-	-	P507E
1	15'-0 3/4"	Open	-	-	10	6 3/8"	5'-6 3/8"	P508E
1	15'-1"	Closed	3 1/2"	29	-	-	-	P509E
1	15'-2"	Closed	4"	29	-	-	-	P510E
2	15'-3"	Closed	4 1/2"	29	-	-	-	P511E
1	15'-3 3/16"	Open	-	-	10	7 3/4"	5'-7 3/4"	P512E
1	15'-4"	Closed	5"	29	-	-	-	P513E
2	15'-5 1/16"	Closed	2 1/2"	30	-	-	-	P514E
2	15'-6 5/16"	Closed	3 1/2"	30	-	-	-	P515E
1	15'-8 7/16"	Open	-	-	II	4 1/4"	5'-10 3/16"	P516E
3	15'-11"	Open	-	-	II	5 1/2"	5'-11 1/2"	P516E
1	15'-11 1/4"	Open	-	-	II	5 5/8"	5'-11 5/8"	P517E
10	16'-0"	Open	-	-	II	6"	6'-0"	P518E
3	16'-1"	Open	-	-	II	6 1/2"	6'-0 1/2"	P519E
1	18'-11"	Open	-	-	14	5 1/2"	7'-5 1/2"	P520E
26	19'-0"	Open	-	-	14	6"	7'-6"	P521E
1	19'-1"	Open	-	-	14	6 1/2"	7'-6 1/2"	P522E

PARAPET RAIL VARIABLES - UNITS 2 & 4

Number of Panels per Unit	Panel Length "L"	Panel Type	Closed Parapet "a"	Closed Parapet "b"	Open Parapet "c"	Open Parapet "d"	Open Parapet "e"	"M" Bar
2	9'-0 3/4"	Closed	3 3/8"	17	-	-	-	P523E
2	9'-11 1/4"	Closed	2 5/8"	19	-	-	-	P524E
2	14'-11"	Closed	2 1/2"	29	-	-	-	P525E
2	15'-0 3/4"	Open	-	-	10	6 3/8"	5'-6 3/8"	P526E
2	15'-1"	Closed	3 1/2"	29	-	-	-	P527E
2	15'-2"	Closed	4"	29	-	-	-	P528E
2	15'-4"	Closed	5"	29	-	-	-	P529E
2	15'-5 1/16"	Closed	2 1/2"	30	-	-	-	P530E
2	15'-6 5/16"	Closed	3 1/2"	30	-	-	-	P531E
4	15'-11"	Open	-	-	II	5 1/2"	5'-11 1/2"	P532E
2	15'-11 1/4"	Open	-	-	II	5 5/8"	5'-11 5/8"	P532E
8	16'-0"	Open	-	-	II	6"	6'-0"	P533E
4	16'-1"	Open	-	-	II	6 1/2"	6'-0 1/2"	P534E
2	18'-11"	Open	-	-	14	5 1/2"	7'-5 1/2"	P535E
24	19'-0"	Open	-	-	14	6"	7'-6"	P536E
2	19'-1"	Open	-	-	14	6 1/2"	7'-6 1/2"	P537E



Place Type "D" Bridge Name Plate on span rail approximately 2'-0" from ℄ joint. (Rdwy. face of parapet on right side of Bent 1). Left and right are defined by the direction of stationing.

THREE DIMENSIONAL VIEW OF RAIL

(No Scale)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 19 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY

ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/05/2014 FILENAME: bbb0610_sx1.dgn
CHECKED BY: SGK DATE: 07/06/2014
DESIGNED BY: DMS DATE: 03/05/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56802

JACOBS

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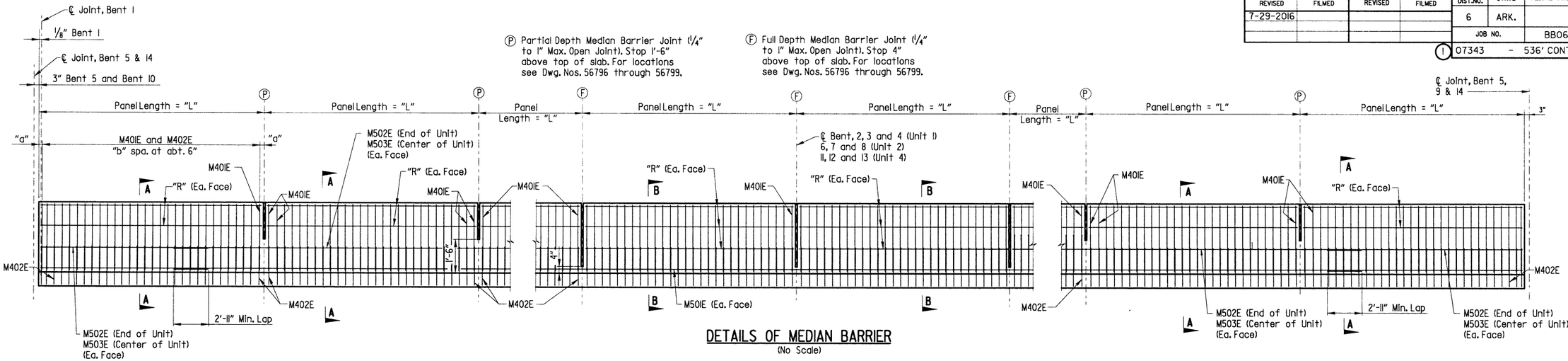
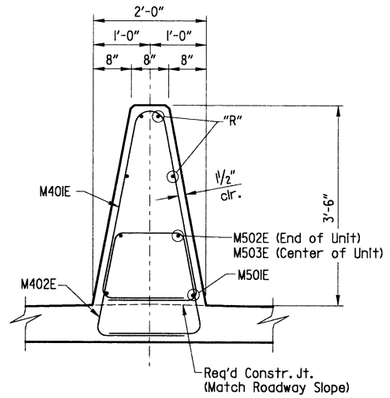
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

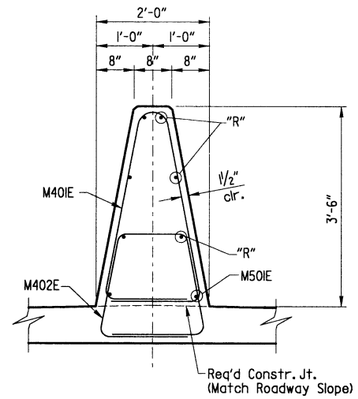
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	130	262
① 07343	-	536' CONT. UNIT	-	56803



DETAILS OF MEDIAN BARRIER
(No Scale)



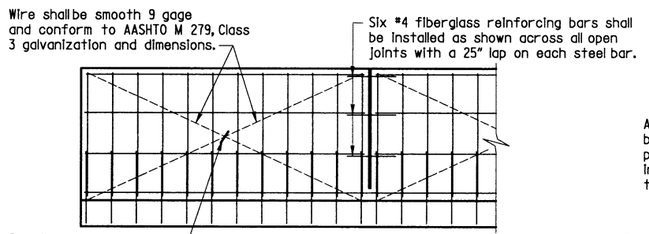
SECTION A-A
(No Scale)



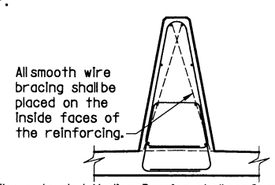
SECTION B-B
(No Scale)

MEDIAN BARRIER VARIABLES

UNIT 1					UNITS 2 & 4				
Number of Panels	Panel Length "L"	"a"	"b"	"R" Bar	Number of Panels per Unit	Panel Length "L"	"a"	"b"	"R" Bar
1	9'-6"	3"	18	M504E	2	9'-6"	3"	18	M511E
1	9'-9 1/8"	4"	18	M505E	2	15'-0"	4"	18	M512E
2	15'-0"	3"	29	M506E	2	15'-3"	3"	29	M513E
2	15'-3"	4 1/2"	29	M507E	4	15'-6"	4 1/2"	29	M514E
4	15'-6"	3"	30	M508E	8	16'-0"	3"	30	M515E
8	16'-0"	3"	31	M509E	14	19'-0"	3"	31	M516E
14	19'-0"	3"	37	M510E					



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded Median Barrier shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing steel, see Median Barrier details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE MEDIAN BARRIER
(No Scale)

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 20 OF 20
DETAILS OF 536'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/03/2014 FILENAME: bbb0610_sxk.dgn
CHECKED BY: SGK DATE: 07/02/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56803

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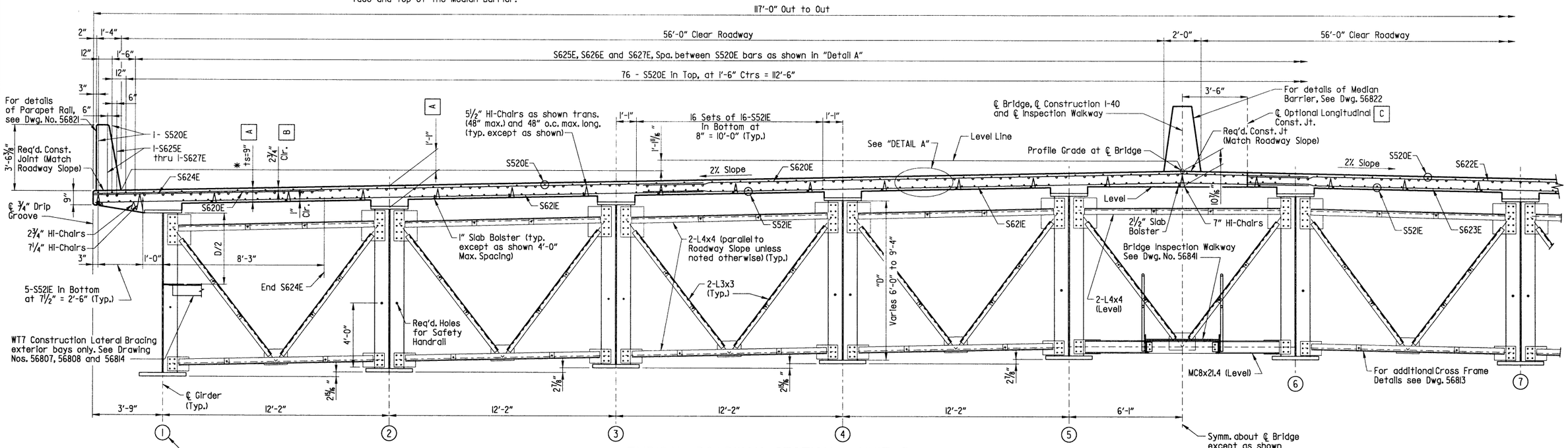
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	131	262
				(1) 07343	-	860' CONT. UNIT	-	56804

Note: Class I Protective Surface Treatment shall be applied to the Roadway Surface, to the face and top of the Concrete Parapet Rail and to each face and top of the Median Barrier.



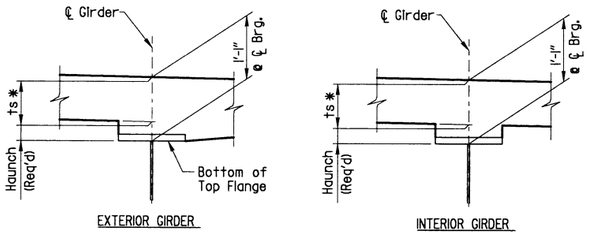
TYPICAL ROADWAY SECTION - UNIT 3

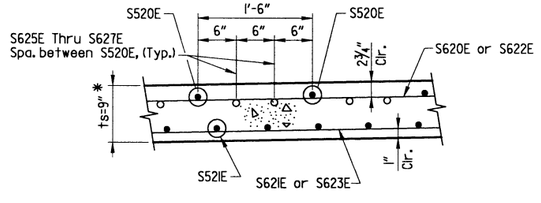
Looking Ahead
Scale: 3/8" = 1'-0"

A See "Adjustment for Slab Thickness Tolerance"

B Tolerance: Minus = 1/4"; Plus equal to the amount of slab thickening used to meet thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

C Crossframe Bolts shall be installed loosely in center bay between Girders 5 & 6 if optional longitudinal construction joint is used. Install remaining bolts and fully tighten after deck pours are complete in accordance with Subsection 807.71 of the Standard Specification.





DETAIL A
Scale: 1" = 1'-0"

* Tolerance when removable deck forming is used is +1/2", -1/4". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ts = Slab Thickness shown in "Typical Roadway Section".

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance. Minimum - occurs when top flange contacts bottom reinforcing steel. Maximum-top flange thickness plus 1 3/4". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

(No Scale)

SLAB REINFORCING

Transverse: S620E at 5" ctrs. (Top)
S622E at 5" ctrs. (Top)
S621E at 8" ctrs. (Bottom)
S623E at 8" ctrs. (Bottom)
S624E at 5" ctrs. (Top of Slab at Overhang)

Longitudinal: S520E spaced as shown (Top)
S521E spaced as shown (Bottom)
S625E spaced as shown over Intermediate Bents (Top)
S626E spaced as shown over Intermediate Bents (Top)
S627E spaced as shown over Intermediate Bents (Top)

Note:
The superstructure details shown are for use when removable deck forming is used and are the basis for measurement for Class S(AE) concrete. If the optional construction joint and permanent deck forms are used, the design and installation of the permanent deck forms shall include the differential deflection of the girders.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 05/25/2014 FILENAME: bbb0610_sxl.dgn
CHECKED BY: JOS DATE: 12/07/2014
DESIGNED BY: DMS DATE: 03/13/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56804

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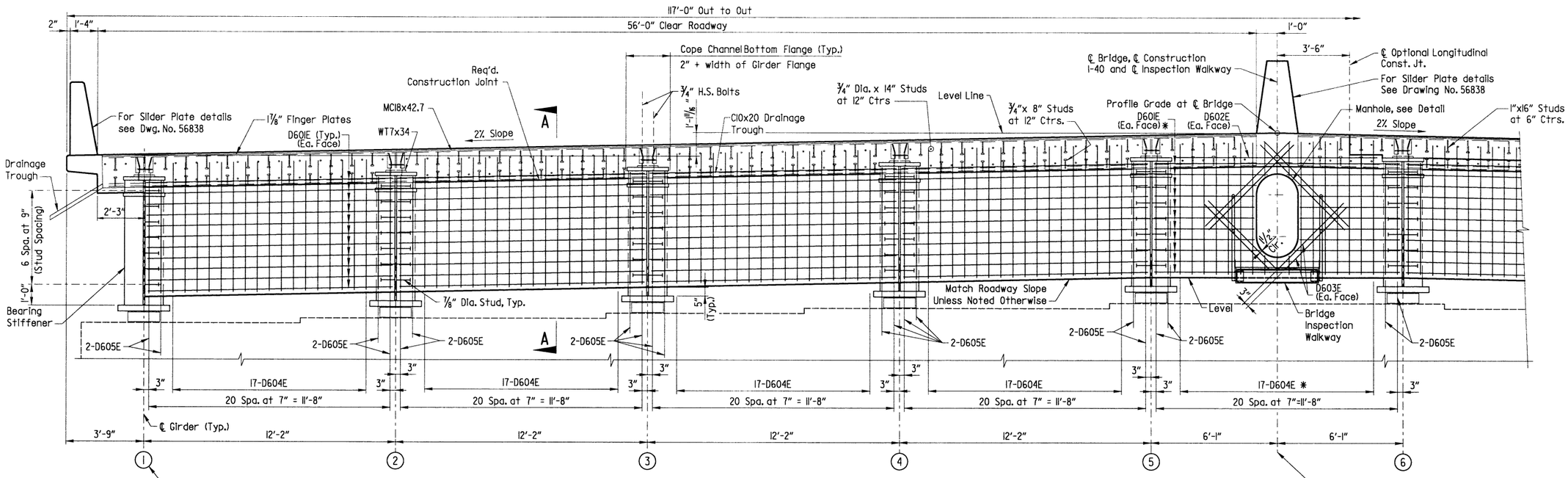
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	132	262
07343	- 860' CONT. UNIT -			56805



TYPICAL SECTION NEAR FINGER JOINT - UNIT 3

Scale: ⅜"=1'-0"
Looking Ahead

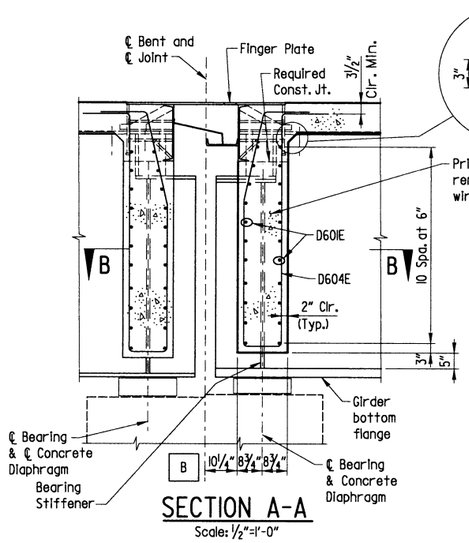
Note:
Diaphragm typical at Bent 9 and 10.

For Details of finger joint, See Drawing No. 56838.
Removable forms for diaphragm shall be used.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

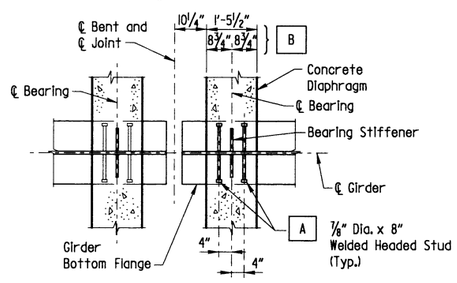
*Trim D601E and D604E as req'd at manhole opening

Expansion Device
Roadway Channel - MCI8.42.7
Channel Conn. - WT7x34
Finger Joint - 6" Movement
Detail device - ⅛" high & provide ¼"
Shims using 2 - 1/16" plates & 1 - ⅛" plate.



SECTION A-A

Scale: ½"=1'-0"

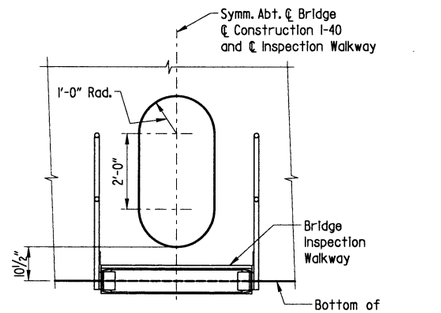


SECTION B-B

Scale: ½"=1'-0"

A Omit Studs on outside of Exterior Girders.

B Measured perpendicular to the Joint.



MANHOLE DETAIL

Scale: ½"=1'-0"

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SEM	DATE:	04/16/2014	FILENAME:	bbb0610_sxm.dgn
CHECKED BY:	DMS	DATE:	01/21/2015		
DESIGNED BY:	DMS	DATE:	12/17/2014	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56805		

JACOBS

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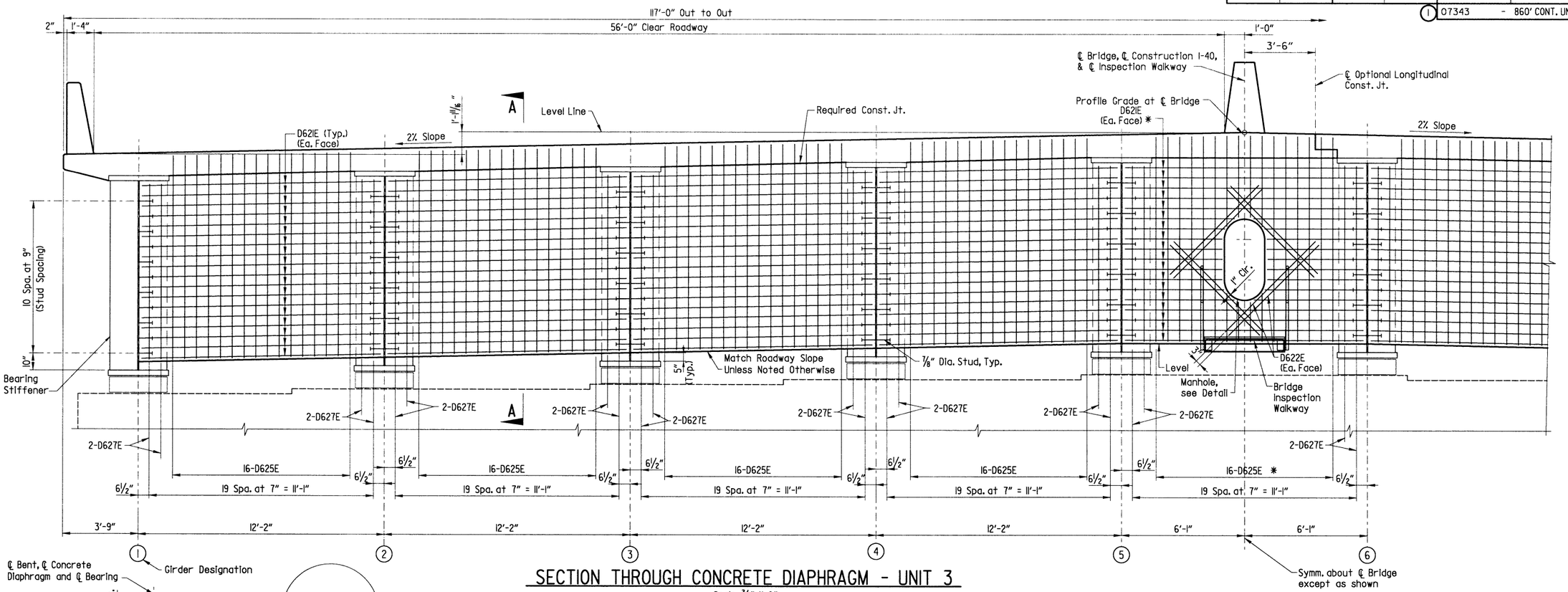
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	133	262
07343	- 860' CONT. UNIT -			56806



SECTION THROUGH CONCRETE DIAPHRAGM - UNIT 3

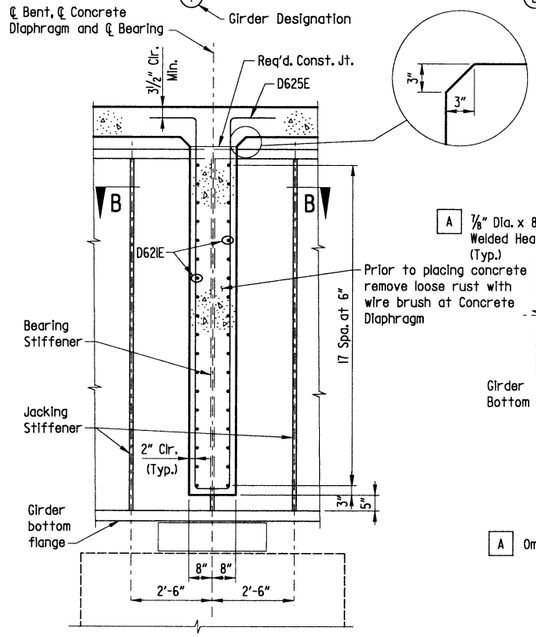
Scale: 3/8"=1'-0"
Looking Ahead

Note:
Diaphragm typical at Pier 1 and Pier 2.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

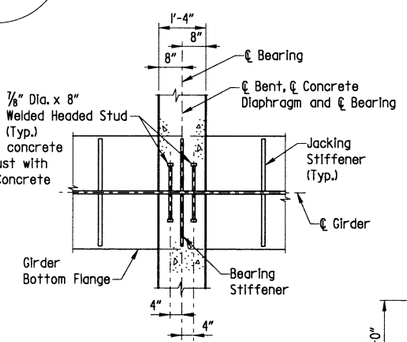
Removable form for diaphragm shall be used.

* Trim D621E and D625E as req'd at manhole opening



SECTION A-A

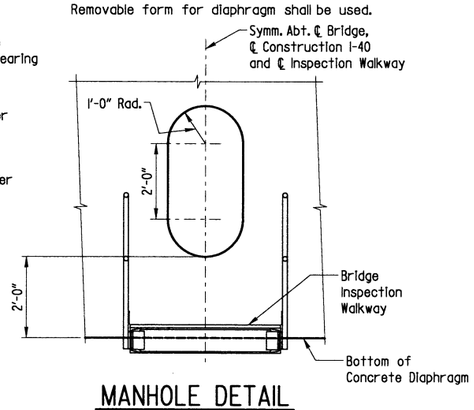
Scale: 1/2"=1'-0"



SECTION B-B

Scale: 1/2"=1'-0"

A Omit Studs on outside of Exterior Girders.



MANHOLE DETAIL

Scale: 1/2"=1'-0"

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/14/2014 FILENAME: bbb0610_sxn.dgn
CHECKED BY: DMS DATE: 01/21/2015
DESIGNED BY: DMS DATE: 03/13/2014 SCALE: NOTED
BRIDGE NO. 07343 DRAWING NO. 56806

JACOBS

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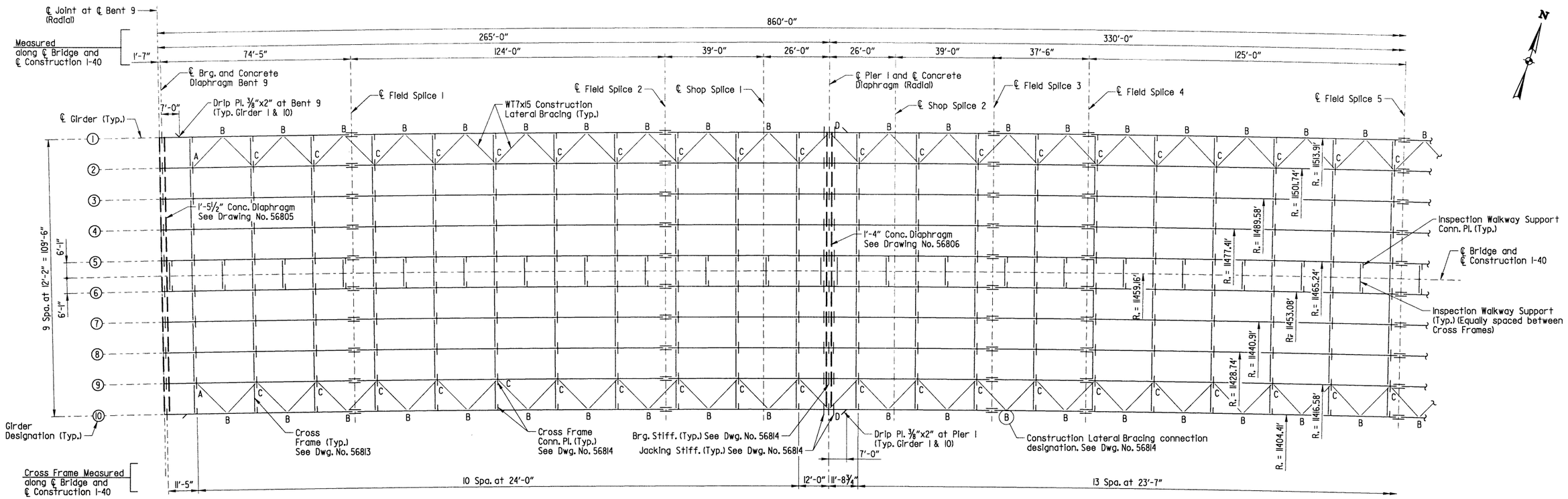
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	134	262
(1) 07343	-	860' CONT. UNIT	-	56807



FRAMING PLAN - UNIT 3

Scale: 1" = 20'-0"

Notes:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be eliminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.
All field splice bolts shall be 1" Dia. H.S. Bolts.
All field splice bolt holes shall be 1 1/16" Dia.

Bolted field splices are designed as a slip critical connection with a class "B" coefficient. For Field Splice Details, see Drawing Nos. 56811 and 56812.

For Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56814.

Cross Frames and Field Splices shall be placed radially.

For Inspection Walkway Details, see Drawing Nos. 56841 - 56849.

For Details of Safety Handrails, see Drawing Nos. 56850 - 56856.

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 09/02/14 FILENAME: bbb0610_sxo.dgn
CHECKED BY: DS DATE: 08/13/14
DESIGNED BY: SAH DATE: 07/09/14 SCALE: AS SHOWN
BRIDGE NO. 07343 DRAWING NO. 56807

JACOBS

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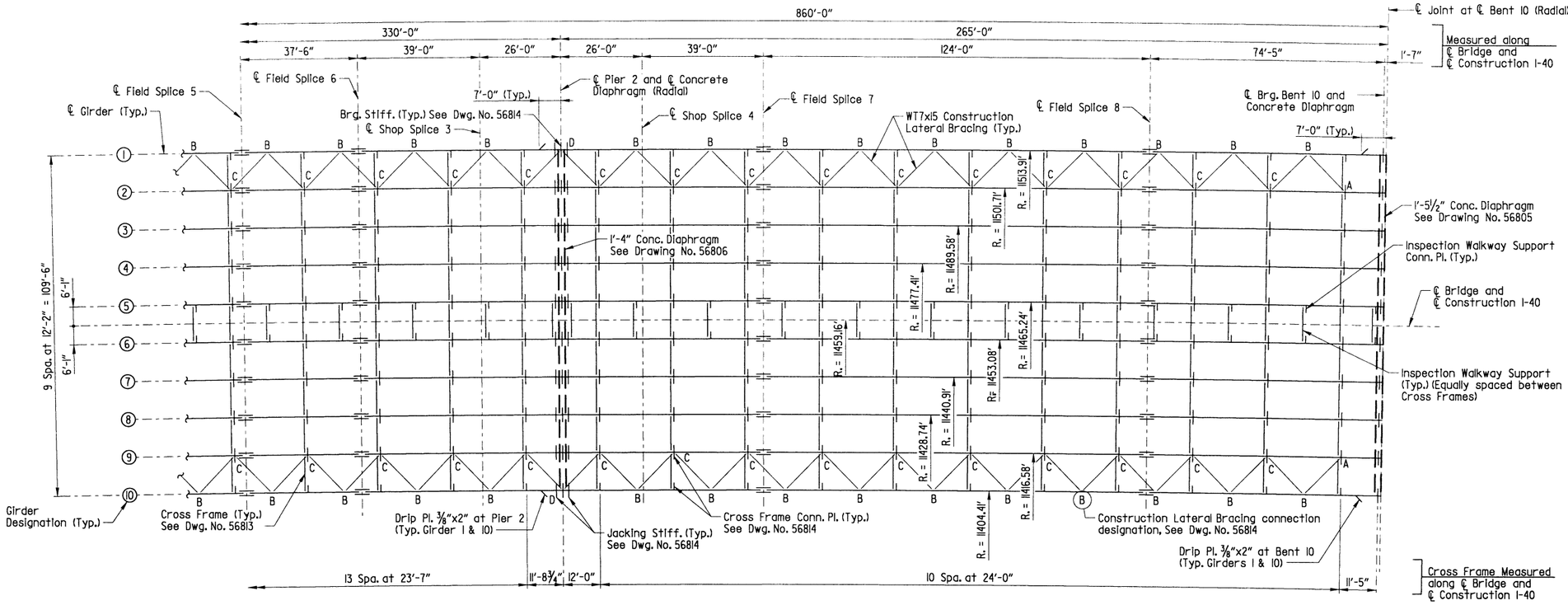
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	135	262
(1) 07343	-	860' CONT. UNIT	-	56808



FRAMING PLAN - UNIT 3

Scale: 1" = 20'-0"

Notes:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be eliminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.
All field splice bolts shall be 1" Dia. H.S. Bolts.
All field splice bolt holes shall be 1 1/16" Dia.

Bolted field splices are designed as a slip critical connection with a class "B" coefficient. For Field Splice Details, see Drawing Nos. 56811 and 56812.

For Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56814.

Cross Frames and Field Splices shall be placed radially.

For Inspection Walkway Details, see Drawing Nos. 56841 - 56849.

For Details of Safety Handrails, see Drawing Nos. 56850 - 56856.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
5/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 07/28/14 FILENAME: bbb0610_sxp.dgn
CHECKED BY: DS DATE: 08/13/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56808

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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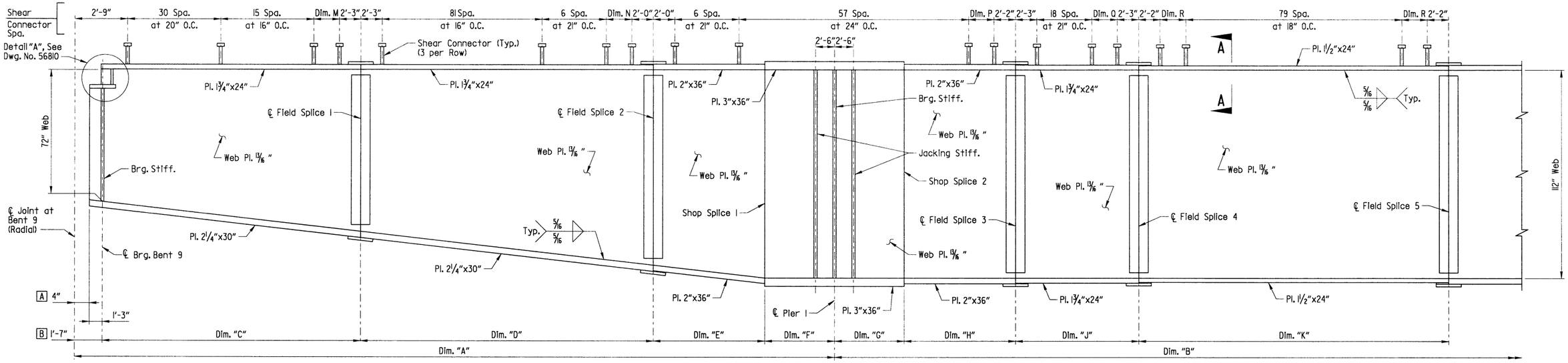
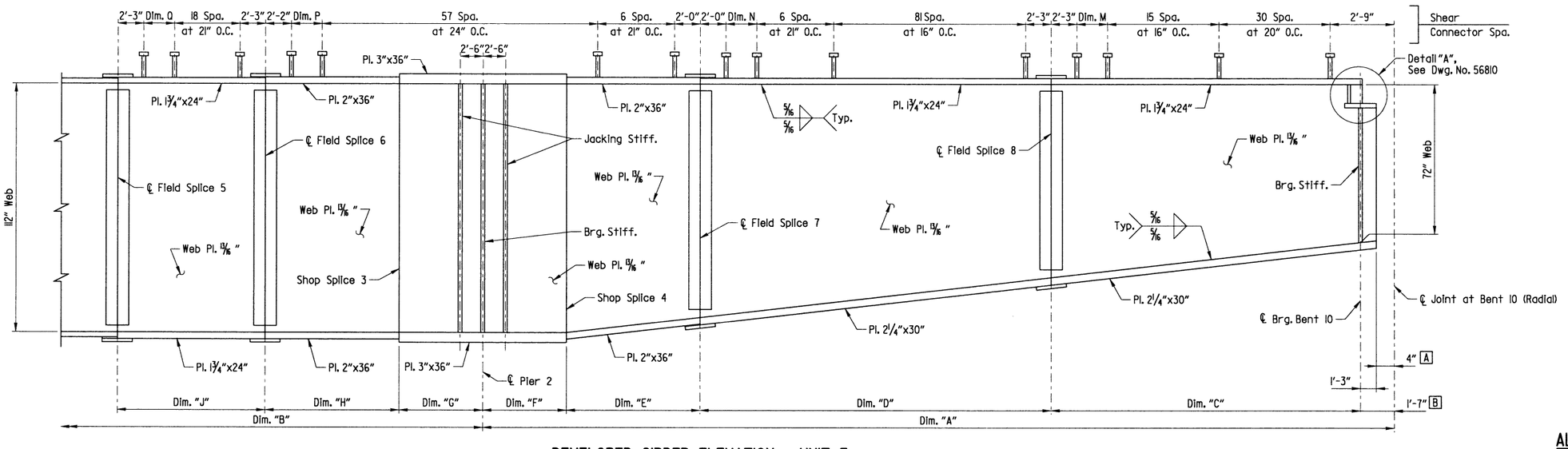
				JOB NO.		BB0610	136	262
				(1) 07343	-	860' CONT. UNIT	-	56809



DEVELOPED GIRDER ELEVATION - UNIT 3

Scale: N.T.S.



DEVELOPED GIRDER ELEVATION - UNIT 3

Scale: N.T.S.

A Measured perpendicular to Joint at 60° F.

B Measured perpendicular to Joint.

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 6 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/30/14 FILENAME: bbb0610_sxq.dgn
CHECKED BY: SM DATE: 10/02/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56809

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	137	262
(1) 07343	-	860' CONT. UNIT	-	56810

PLATE GIRDER VARIABLES (ft)

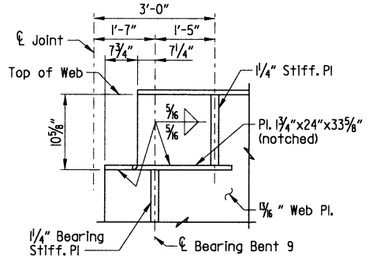
Girder No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G	Dim. H	Dim. J	Dim. K
1	266'-3 1/8"	331'-6 15/16"	76'-4 5/16"	124'-7 1/16"	39'-2 1/4"	26'-1 1/2"	26'-1 1/2"	39'-2 1/4"	37'-8 3/16"	125'-7 3/16"
2	266'-11 3/4"	331'-2 15/16"	76'-3 3/8"	124'-5 1/2"	39'-1 3/4"	26'-1 1/8"	26'-1 7/16"	39'-1 3/4"	37'-7 11/16"	125'-5 9/16"
3	265'-8 7/16"	330'-10 9/16"	76'-2 7/8"	124'-3 15/16"	39'-1 1/4"	26'-0 15/16"	26'-0 15/16"	39'-1 1/4"	37'-7 7/16"	125'-3 15/16"
4	265'-5 1/16"	330'-6 1/4"	76'-1 7/16"	124'-2 5/16"	39'-0 3/4"	26'-0 9/16"	26'-0 1/2"	39'-0 3/4"	37'-6 3/4"	125'-2 3/8"
5	265'-1 11/16"	330'-2 1/8"	76'-0 1/2"	124'-0 7/16"	39'-0 1/4"	26'-0 3/16"	26'-0 3/16"	39'-0 1/4"	37'-6 1/4"	125'-0 7/16"
6	264'-10 5/16"	329'-9 1/8"	75'-11 1/2"	123'-11 1/4"	38'-11 3/4"	25'-11 15/16"	25'-11 15/16"	38'-11 3/4"	37'-5 3/4"	124'-11 1/4"
7	264'-6 5/16"	329'-5 1/4"	75'-10 5/16"	123'-9 11/16"	38'-11 1/4"	25'-11 7/16"	25'-11 1/2"	38'-11 1/4"	37'-5 1/4"	124'-9 5/8"
8	264'-3 1/16"	329'-1 7/16"	75'-9 5/8"	123'-8 1/16"	38'-10 3/4"	25'-11 3/16"	25'-11 3/16"	38'-10 3/4"	37'-4 13/16"	124'-8 1/16"
9	264'-0 1/4"	328'-9 3/16"	75'-8 5/8"	123'-6 1/2"	38'-10 1/4"	25'-10 7/8"	25'-10 15/16"	38'-10 1/4"	37'-4 7/16"	124'-6 7/16"
10	263'-8 7/8"	328'-5 1/8"	75'-7 11/16"	123'-4 15/16"	38'-9 3/4"	25'-10 1/2"	25'-10 1/2"	38'-9 3/4"	37'-3 11/16"	124'-4 1/8"

Note: Dimensions measured along ℄ Girder.

SHEAR CONNECTOR VARIABLES

Girder No.	Dim. M	Dim. N	Dim. P	Dim. Q	Dim. R
1	16 1/4"	22 1/8"	23 1/2"	20 1/8"	16 5/8"
2	15 5/8"	20 1/2"	21 1/8"	19 5/8"	15 3/4"
3	14 3/8"	19"	20 1/4"	19 1/4"	14 7/8"
4	13 1/2"	17 3/8"	18 1/2"	18 3/4"	14 1/4"
5	12 1/2"	15 3/4"	16 7/8"	18 1/4"	13 3/8"
6	11 1/2"	14 1/4"	15 1/8"	17 3/4"	12 5/8"
7	10 1/2"	12 5/8"	13 1/2"	17 1/4"	11 3/4"
8	9 5/8"	11"	11 3/4"	16 3/4"	11 1/8"
9	8 5/8"	9 1/2"	10 1/8"	16 3/8"	10 1/4"
10	7 3/4"	7 7/8"	8 1/2"	15 7/8"	9 3/8"

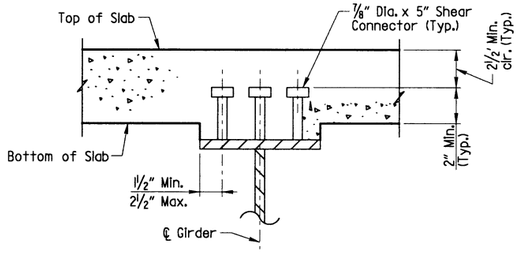
Note: Dimensions measured along ℄ Girder.



DETAIL "A"

No Scale

Note: Bent 9 shown Bent 10 opposite hand.



SECTION A-A

Scale: 1" = 1'-0"

Stud Shear Connectors shown shall be 7/8" x 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the manufacturer. 3/4" Dia. Studs may be used in place of the 7/8" Dia. Studs shown, at the ratio of 1.361-3/4" Dia. Studs in place of one 7/8" Dia. Stud. 7/8" Dia. Studs will be used as basis for measurement of structural steel in shear connectors. Maximum Stud spacing as shown on Dwg. No. 56809.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 7 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 9/9/14 FILENAME: bbb0610_sxr.dgn
CHECKED BY: SM DATE: 10/2/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56810

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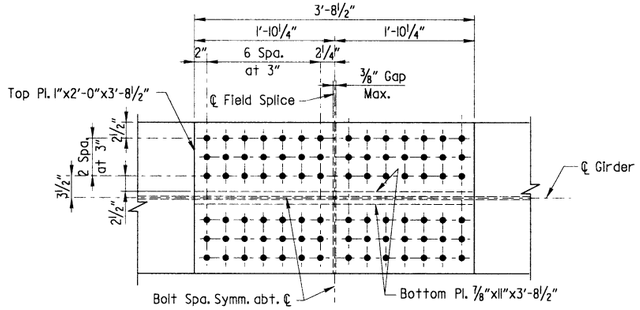
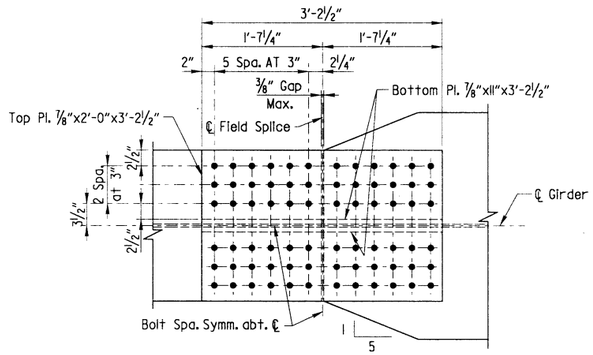
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	138	262
				(1) 07343		- 860' CONT. UNIT -		56811



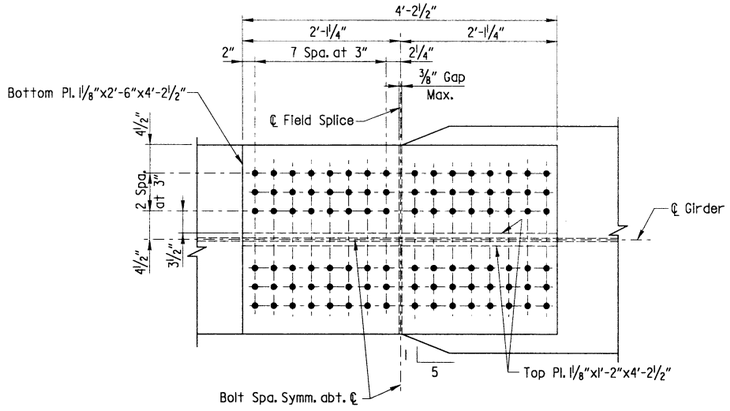
TOP FLANGE SPLICE 1 AND 8

Scale: 1" = 1'-0"



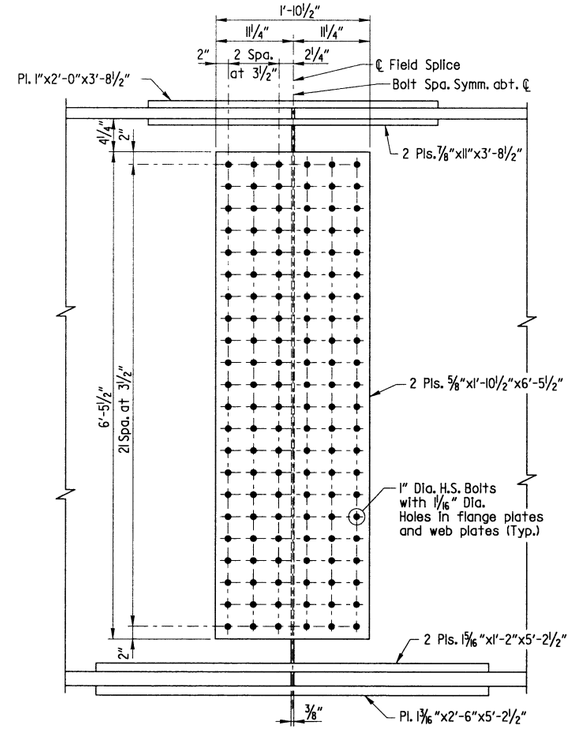
TOP FLANGE SPLICE 2
TOP FLANGE SPLICE 7 SIMILAR AND OPPOSITE HAND

Scale: 1" = 1'-0"



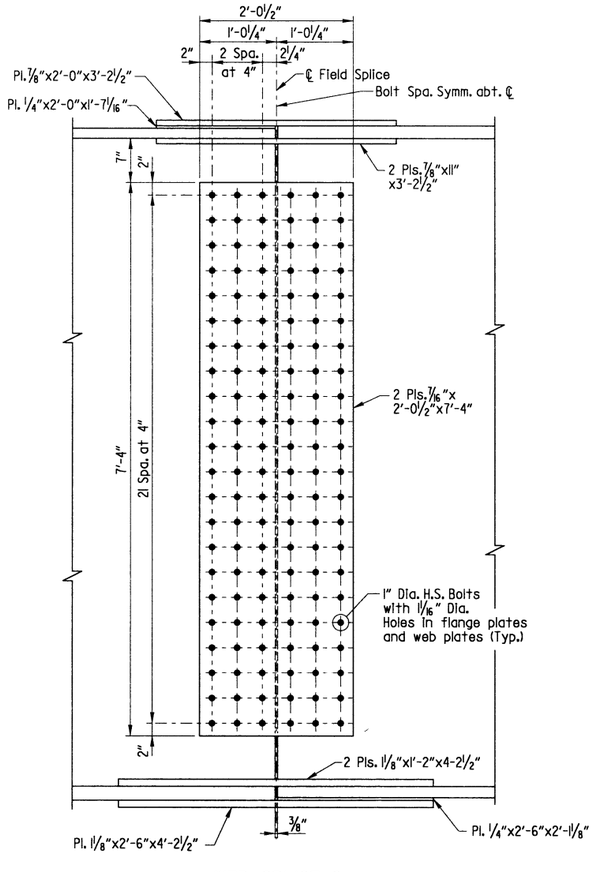
BOTTOM FLANGE SPLICE 2
BOTTOM FLANGE SPLICE 7 SIMILAR AND OPPOSITE HAND

Scale: 1" = 1'-0"



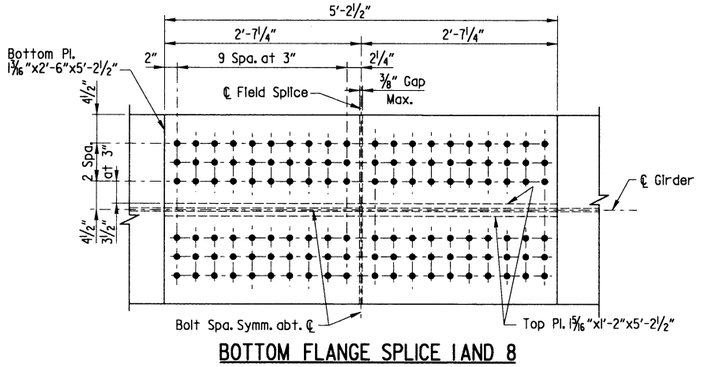
WEB SPLICE 1 AND 8

Scale: 1" = 1'-0"



WEB SPLICE 2
WEB SPLICE 7 SIMILAR AND OPPOSITE HAND

Scale: 1" = 1'-0"



BOTTOM FLANGE SPLICE 1 AND 8

Scale: 1" = 1'-0"

Notes:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be elminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.

Bolted field splices are designed as a slip critical connection with a class "B" surface condition. All bolts shall be 1" Dia. provide 1⅛" holes for bolts.

All parts of each splice shall be completely assembled taking into account their relative position in the finished structure due to grade, camber and curvature. Sections shall be match marked while so assembled.

For additional Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56814.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
9/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 8 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 07/16/14 FILENAME: bbb0610_sxs.dgn
CHECKED BY: SEM DATE: 11/28/14
DESIGNED BY: ARK DATE: 10/21/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56811

JACOBS

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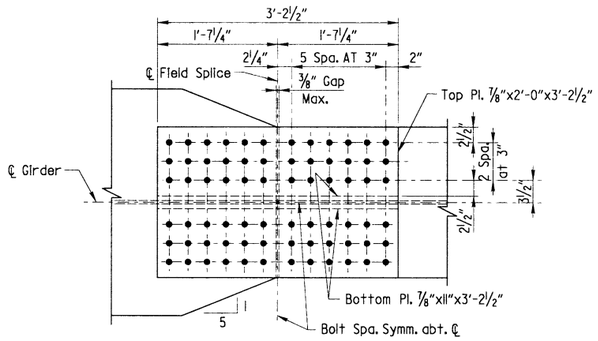
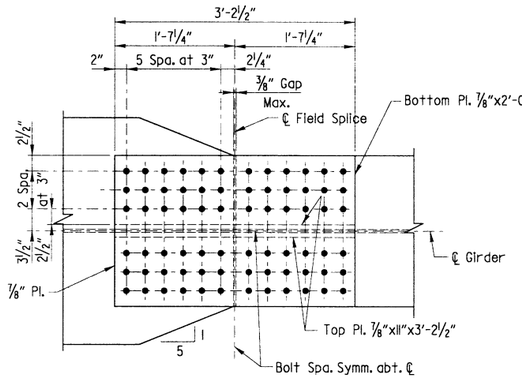
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	139	262
				(1) 07343	- 860' CONT. UNIT -			56812



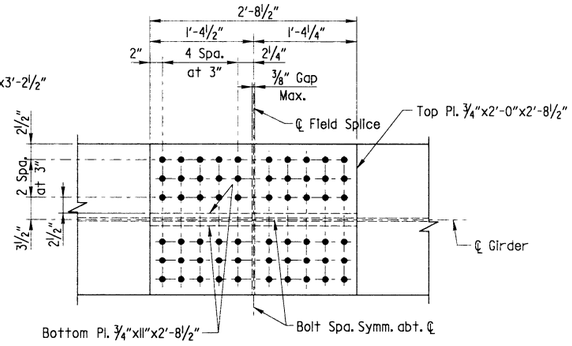
TOP FLANGE SPLICE 3
TOP FLANGE SPLICE 6 SIMILAR AND OPPOSITE HAND

Scale: l" = l'-0"



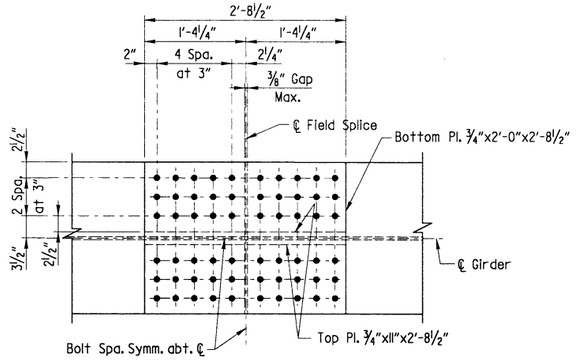
BOTTOM FLANGE SPLICE 3
BOTTOM FLANGE SPLICE 6 SIMILAR AND OPPOSITE HAND

Scale: l" = l'-0"



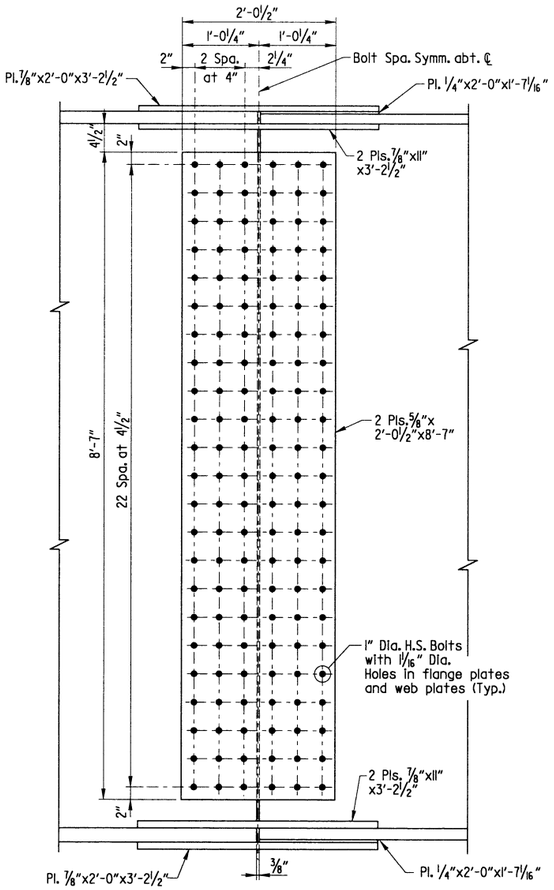
TOP FLANGE SPLICE 4 AND 5

Scale: l" = l'-0"



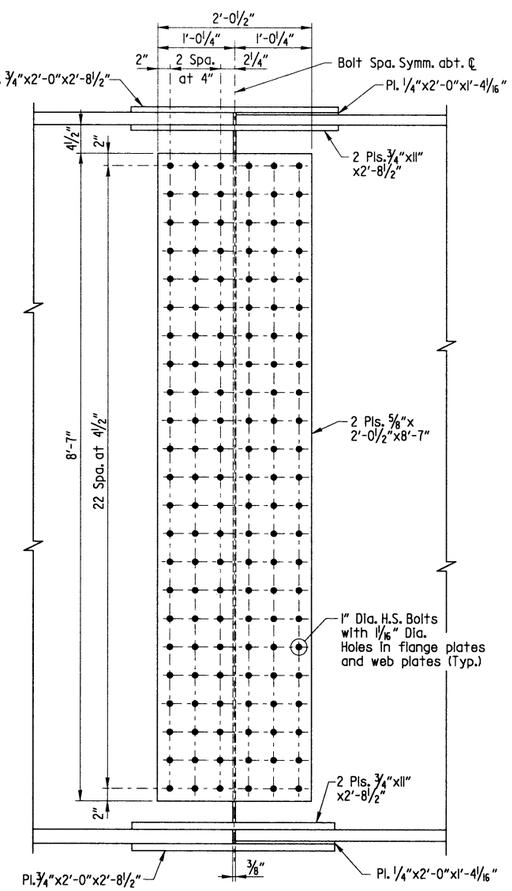
BOTTOM FLANGE SPLICE 4 AND 5

Scale: l" = l'-0"



WEB SPLICE 3
WEB SPLICE 6 SIMILAR AND OPPOSITE HAND

Scale: l" = l'-0"



WEB SPLICE 4 AND 5

Scale: l" = l'-0"

Note:
For splice notes, see Drawing No. 56811.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 9 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

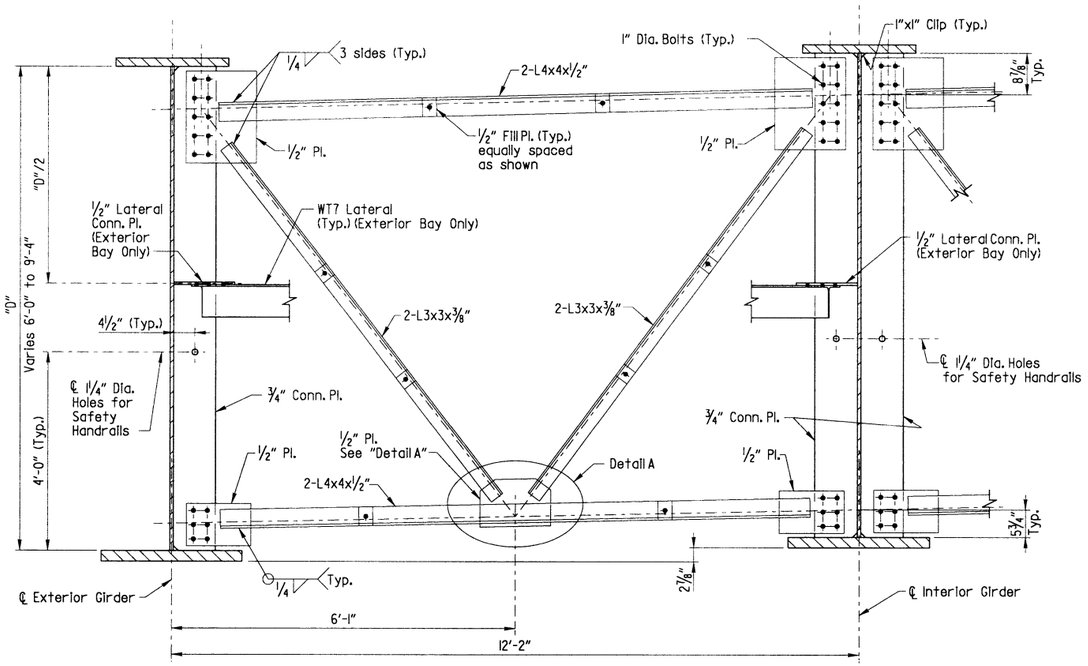
DRAWN BY:	EAK	DATE:	07/16/14	FILENAME:	bbb0610_sxt.dgn
CHECKED BY:	SEM	DATE:	11/28/14		
DESIGNED BY:	ARK	DATE:	101/21/14	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56812		

JACOBS

8/29/2016 12:55:15 PM c:\pwworking\nd\graftenreedh\d0111635\B2620WhiteRiverBridgeFraming8.dgn

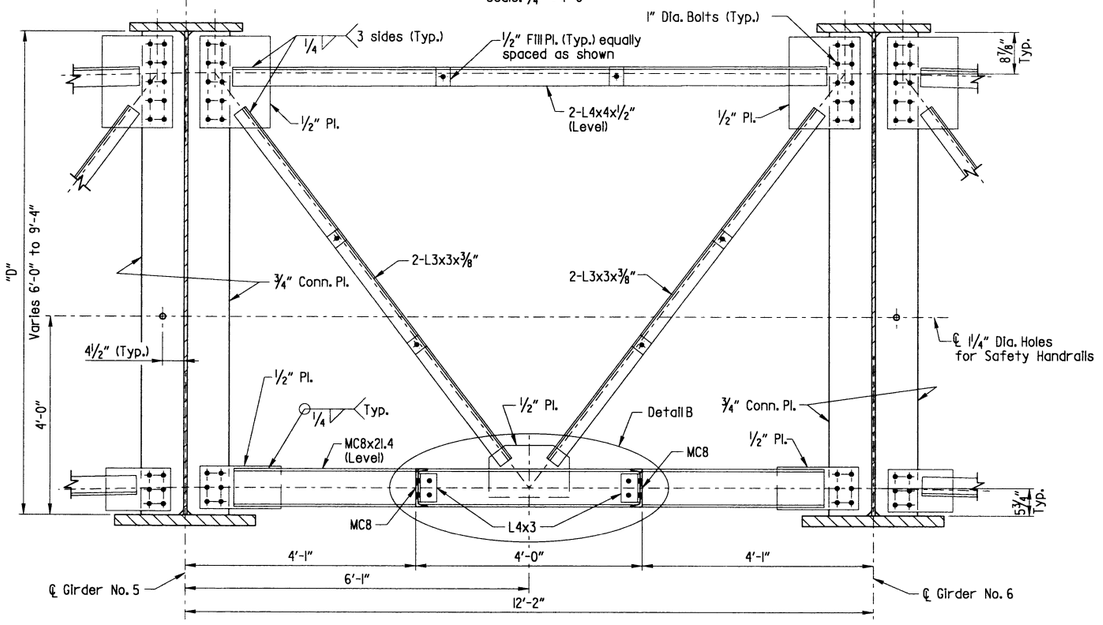
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	140	262
1 07343	- 860' CONT. UNIT -			56813



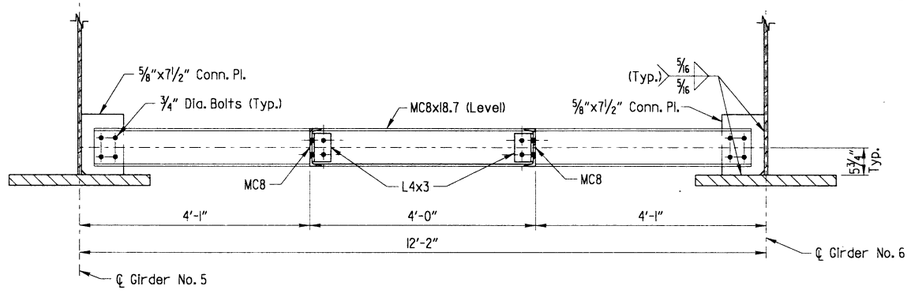
CROSS FRAME DETAIL

Girders 1 Thru 5 and 6 Thru 10
Scale: 3/4" = 1'-0"



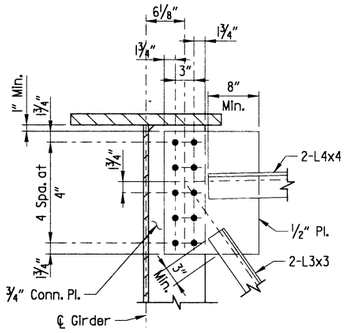
CROSS FRAME DETAIL

Between Girders 5 and 6
Scale: 3/4" = 1'-0"



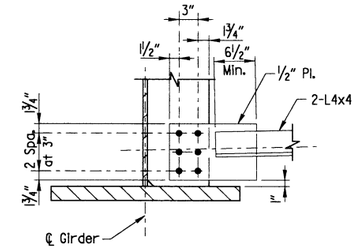
INSPECTION WALKWAY SUPPORT DETAIL

Between Girders 5 and 6
Scale: 3/4" = 1'-0"



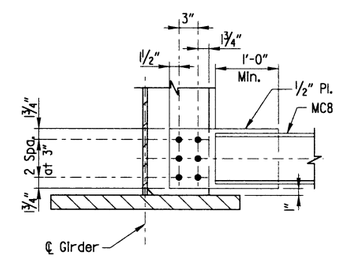
UPPER CROSS FRAME CONNECTION

Girders 1 Thru 10
Scale: 1" = 1'-0"



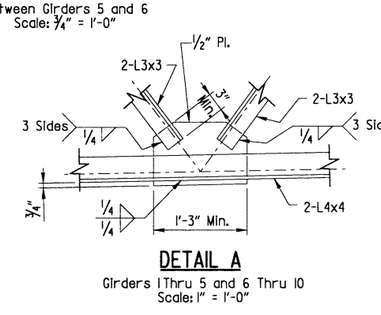
LOWER CROSS FRAME CONNECTION

Girders 1 Thru 5 and 6 Thru 10
Scale: 1" = 1'-0"



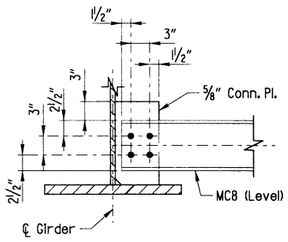
LOWER CROSS FRAME CONNECTION

Between Girders 5 and 6
Scale: 1" = 1'-0"



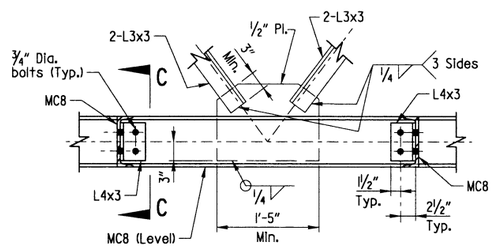
DETAIL A

Girders 1 Thru 5 and 6 Thru 10
Scale: 1" = 1'-0"



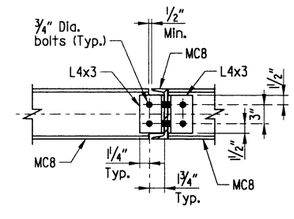
INSPECTION WALKWAY SUPPORT CONNECTION

Between Girders 5 and 6
Scale: 1" = 1'-0"



DETAIL B

Between Girders 5 and 6
Scale: 1" = 1'-0"



SECTION C-C

Between Girders 5 and 6
Scale: 1" = 1'-0"

Notes:
Loosely install bolts in the center bay between Girder No. 5 and Girder No. 6 if optional logitudinal joint in deck is used. Fully tighten bolts after deck pours are complete.

Bolts in cross frame connections shall be properly installed and tightened in accordance with subsection 807.7 of the Standard Specifications.

For Details of Safety Handrails, See Drawing Nos. 56850 to 56854.

For Details of Inspection Walkway, See Drawing Nos. 56841 to 56849.

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

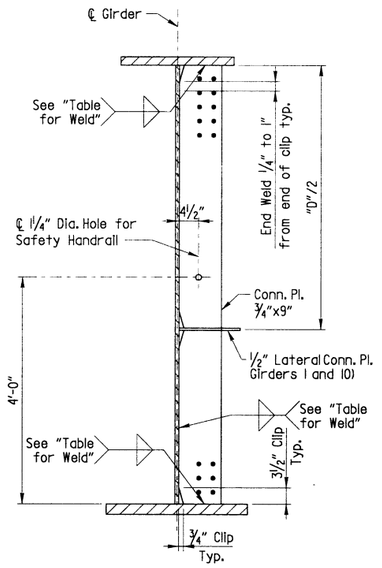
ALTERNATE NOS. 1 AND 2
SHEET 10 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SEM	DATE:	07/23/14	FILENAME:	bbb0610_sxu.dgn
CHECKED BY:	JOS	DATE:	11/31/14		
DESIGNED BY:	SAH	DATE:	07/09/14	SCALE:	AS NOTED
BRIDGE NO. 07343		DRAWING NO. 56813			

JACOBS

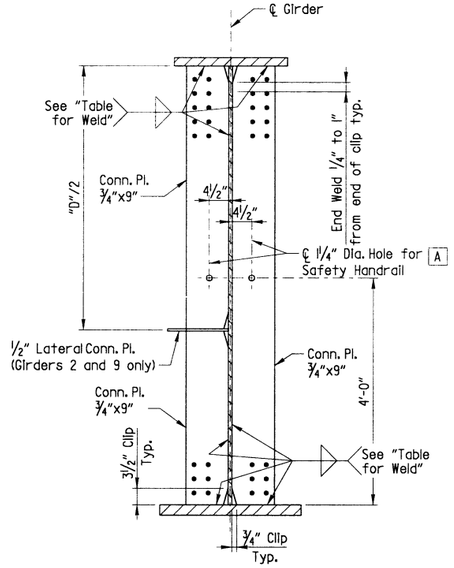
c:\pwworking\nal\graftenreedlh\d0116635\B2620WhiteRiverBridgeCrossFrames2.dgn
12:55:20 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	141	262
				(1) 07343	-	860' CONT. UNIT	-	56814



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT EXTERIOR GIRDERS

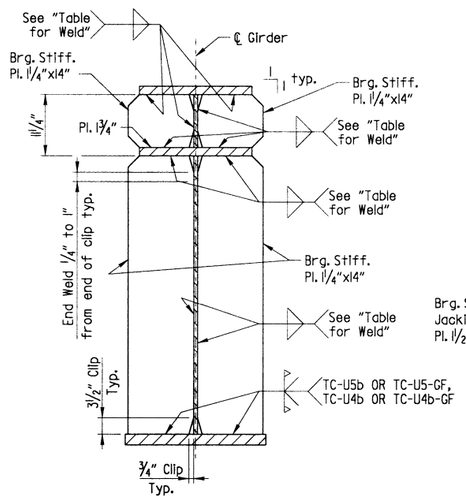
Scale: 3/4" = 1'-0"



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT INTERIOR GIRDERS

Scale: 3/4" = 1'-0"

A Holes for Safety Handrail shall be omitted in the interior bay between Girders 5 & 6 within the limits of the inspection Walkway. See Drawing Nos. 56841 - 56842 and 56850 - 56854.

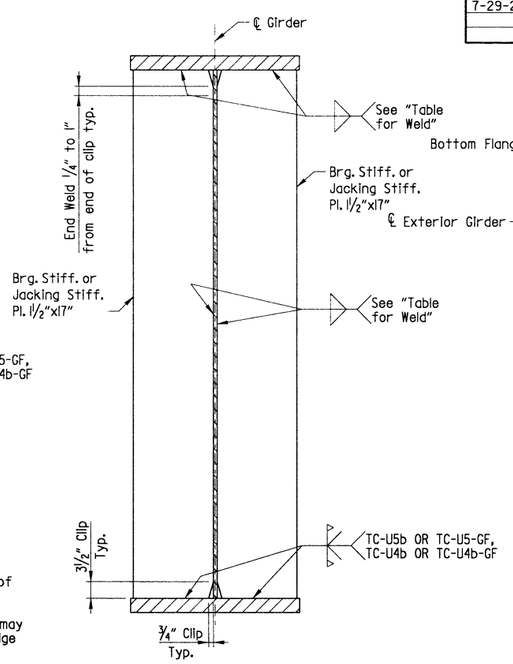


BEARING STIFFENERS AT BENT 9 AND 10

Scale: 3/4" = 1'-0"

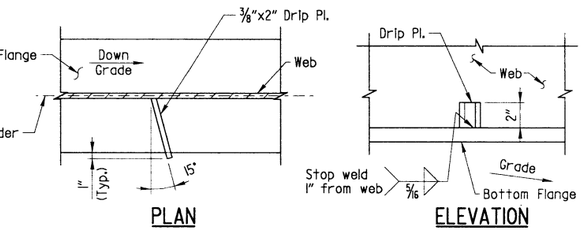
Lateral Bracing Notes:
Ends of lateral bracing members shall be kept a minimum of 4" from web and any stiffener or connection plate.

At the Contractor's option holes in one end of the WT may be field drilled. Minimum edge distance from ℄ Bolt to Edge of Plate is 1 1/2".



BEARING STIFFENERS AND JACKING STIFFENERS AT PIERS 1 AND 2

Scale: 3/4" = 1'-0"

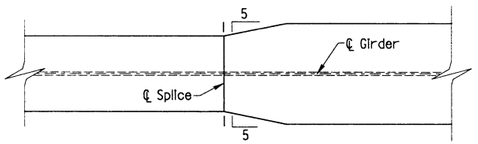


PLAN ELEVATION

BOTTOM FLANGE DRIP PLATE

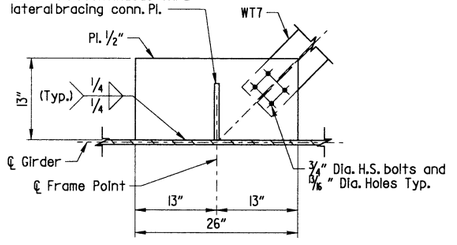
Scale: N.T.S.

Bottom flange drip pl. to be welded to the outside flange of the exterior girders. Locate drip pl. 7'-0" from ℄ Bearing on the high side of each bent.



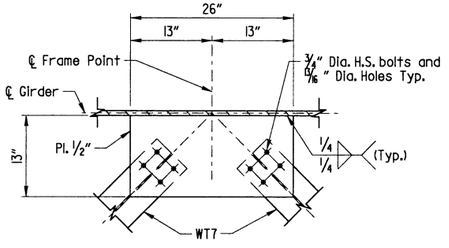
TYPICAL DETAIL FOR UNEQUAL WIDTH FLANGES

(No Scale)



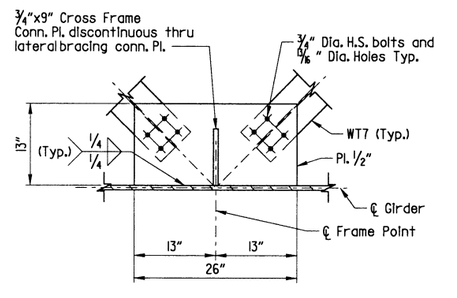
PLAN - LATERAL BRACING CONNECTION A

Scale: 1" = 1'-0"



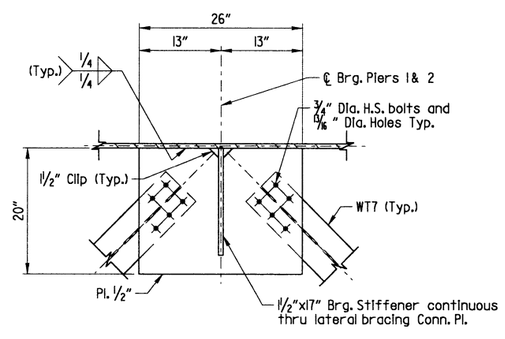
PLAN - LATERAL BRACING CONNECTION B

Scale: 1" = 1'-0"



PLAN - LATERAL BRACING CONNECTION C

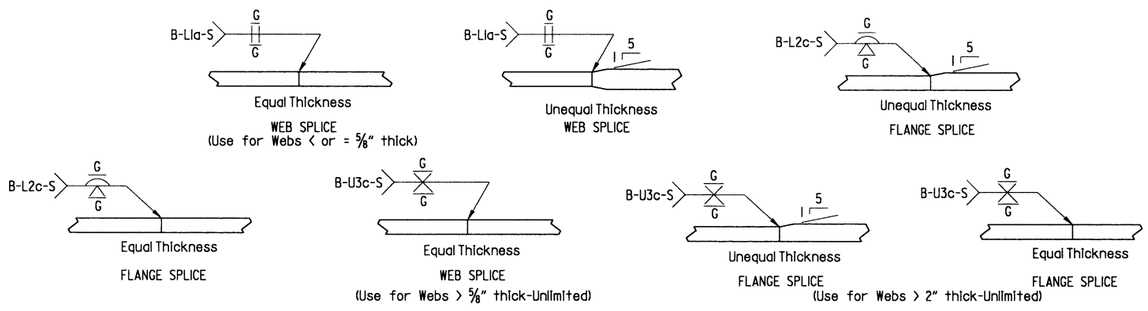
Scale: 1" = 1'-0"



PLAN - LATERAL BRACING CONNECTION D

Scale: 1" = 1'-0"

Note: The 1/2" lateral bracing connection Pl. shall be notched at these locations to allow for the 1 1/2" Bearing Stiffeners as required.



DETAILS OF WELDED SPLICE

(No Scale)

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4	
Over 3/4"	5/16	

Note: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

TABLE FOR WELD

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 11 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 09/04/14 FILENAME: bbb0610_sxv.dgn
CHECKED BY: SEM DATE: 11/30/14
DESIGNED BY: SAH DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56814

JACOBS

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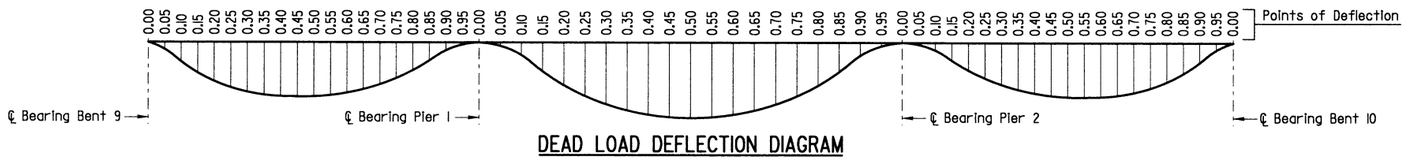
TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel										Structural Steel + Slab									
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10
℄ Bearing Bent 9 to ℄ Bearing Pier 1	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.05	0.761	0.774	0.786	0.797	0.808	0.813	0.812	0.813	0.816	0.821	2.33	2.427	2.508	2.567	2.608	2.627	2.623	2.606	2.576	2.539
	0.10	1.449	1.475	1.497	1.518	1.538	1.548	1.547	1.549	1.555	1.564	4.442	4.627	4.779	4.892	4.969	5.005	5	4.966	4.911	4.84
	0.15	2.065	2.102	2.133	2.164	2.192	2.205	2.206	2.208	2.237	2.25	6.337	6.598	6.814	6.976	7.086	7.136	7.13	7.082	7.066	6.965
	0.20	2.609	2.655	2.695	2.734	2.768	2.785	2.787	2.79	2.801	2.817	8.014	8.341	8.613	8.818	8.956	9.02	9.013	8.953	8.853	8.727
	0.25	3.022	3.075	3.122	3.167	3.206	3.226	3.229	3.233	3.252	3.271	9.296	9.671	9.987	10.225	10.386	10.46	10.453	10.385	10.289	10.145
	0.30	3.323	3.381	3.435	3.484	3.526	3.548	3.553	3.558	3.572	3.593	10.241	10.65	10.999	11.262	11.439	11.521	11.516	11.442	11.316	11.159
	0.35	3.494	3.555	3.611	3.663	3.706	3.729	3.735	3.741	3.755	3.783	10.791	11.218	11.582	11.859	12.045	12.131	12.126	12.048	11.927	11.768
	0.40	3.554	3.616	3.672	3.724	3.767	3.791	3.798	3.804	3.819	3.841	11	11.432	11.799	12.08	12.268	12.357	12.353	12.275	12.14	11.972
	0.45	3.49	3.55	3.605	3.668	3.699	3.723	3.73	3.748	3.763	3.784	10.833	11.277	11.614	11.925	12.076	12.19	12.162	12.122	11.966	11.823
	0.50	3.338	3.394	3.446	3.495	3.536	3.559	3.567	3.573	3.587	3.607	10.391	10.791	11.132	11.396	11.576	11.662	11.661	11.59	11.464	11.303
	0.55	3.079	3.148	3.178	3.223	3.262	3.302	3.291	3.297	3.31	3.328	9.621	10.04	10.303	10.546	10.714	10.85	10.796	10.733	10.617	10.466
	0.60	2.766	2.811	2.854	2.894	2.929	2.949	2.956	2.963	2.975	2.99	8.673	9.001	9.283	9.5	9.652	9.727	9.731	9.677	9.574	9.435
	0.65	2.398	2.436	2.45	2.508	2.517	2.557	2.54	2.569	2.557	2.593	7.546	7.783	8.001	8.26	8.323	8.413	8.394	8.42	8.309	8.211
	0.70	1.975	2.005	2.036	2.065	2.092	2.107	2.112	2.117	2.127	2.138	6.239	6.468	6.667	6.823	6.936	6.994	6.999	6.964	6.895	6.795
	0.75	1.562	1.564	1.587	1.633	1.654	1.643	1.647	1.676	1.684	1.669	4.945	5.1	5.194	5.401	5.49	5.514	5.456	5.52	5.406	5.307
	0.80	1.137	1.154	1.171	1.188	1.204	1.213	1.217	1.221	1.228	1.235	3.598	3.722	3.832	3.921	3.986	4.022	4.029	4.015	3.981	3.928
	0.85	0.765	0.756	0.788	0.8	0.81	0.796	0.82	0.824	0.829	0.813	2.389	2.445	2.537	2.64	2.684	2.643	2.672	2.711	2.691	2.595
	0.90	0.425	0.431	0.438	0.445	0.451	0.455	0.457	0.46	0.463	0.466	1.36	1.4	1.439	1.473	1.499	1.514	1.521	1.519	1.511	1.496
	0.95	0.177	0.179	0.182	0.185	0.188	0.189	0.191	0.192	0.194	0.195	0.57	0.584	0.6	0.614	0.626	0.632	0.637	0.637	0.636	0.631
℄ Bearing Pier 1 to ℄ Bearing Pier 2	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.05	-0.08	-0.082	-0.084	-0.086	-0.087	-0.088	-0.091	-0.093	-0.095	-0.097	-0.307	-0.308	-0.314	-0.322	-0.329	-0.335	-0.343	-0.349	-0.355	-0.363
	0.10	-0.05	-0.053	-0.055	-0.057	-0.057	-0.06	-0.065	-0.069	-0.073	-0.078	-0.268	-0.26	-0.26	-0.267	-0.276	-0.288	-0.303	-0.319	-0.337	-0.363
	0.15	0.123	0.121	0.121	0.121	0.122	0.085	0.081	0.105	0.066	0.092	0.207	0.239	0.258	0.262	0.257	0.142	0.121	0.187	0.052	0.037
	0.20	0.342	0.343	0.344	0.348	0.351	0.348	0.339	0.329	0.321	0.313	0.853	0.912	0.952	0.972	0.974	0.957	0.924	0.876	0.813	0.735
	0.25	0.606	0.646	0.651	0.658	0.664	0.662	0.615	0.604	0.639	0.584	1.667	1.867	1.936	1.976	1.991	1.975	1.894	1.749	1.785	1.556
	0.30	0.917	0.927	0.937	0.947	0.955	0.953	0.941	0.928	0.917	0.907	2.653	2.777	2.872	2.932	2.957	2.942	2.888	2.805	2.694	2.561
	0.35	1.199	1.187	1.228	1.242	1.224	1.251	1.21	1.195	1.212	1.172	3.517	3.707	3.855	3.936	3.874	3.957	3.797	3.698	3.662	3.411
	0.40	1.406	1.425	1.442	1.458	1.47	1.469	1.456	1.441	1.428	1.416	4.285	4.461	4.601	4.695	4.739	4.725	4.656	4.544	4.395	4.221
	0.45	1.546	1.558	1.587	1.605	1.608	1.607	1.604	1.579	1.574	1.562	4.802	4.956	5.146	5.248	5.258	5.244	5.209	5.052	4.902	4.743
	0.50	1.592	1.615	1.636	1.653	1.666	1.666	1.654	1.637	1.623	1.611	5.028	5.222	5.381	5.483	5.53	5.515	5.443	5.318	5.154	4.965
	0.55	1.536	1.558	1.587	1.605	1.617	1.617	1.594	1.578	1.574	1.553	4.943	5.144	5.305	5.403	5.446	5.413	5.346	5.208	5.058	4.879
	0.60	1.406	1.425	1.442	1.458	1.47	1.469	1.456	1.441	1.428	1.417	4.614	4.785	4.919	5.006	5.042	5.022	4.95	4.837	4.688	4.514
	0.65	1.202	1.191	1.204	1.218	1.228	1.254	1.241	1.227	1.215	1.204	4.04	4.111	4.274	4.345	4.316	4.375	4.308	4.207	4.073	3.864
	0.70	0.923	0.934	0.943	0.954	0.963	0.96	0.949	0.936	0.926	0.915	3.222	3.337	3.424	3.474	3.487	3.46	3.402	3.317	3.206	3.07
	0.75	0.614	0.653	0.624	0.631	0.637	0.634	0.659	0.648	0.639	0.594	2.348	2.395	2.418	2.445	2.443	2.415	2.478	2.41	2.321	2.106
	0.80	0.349	0.35	0.351	0.355	0.358	0.355	0.346	0.337	0.33	0.321	1.445	1.492	1.523	1.533	1.52	1.493	1.454	1.405	1.343	1.263
	0.85	0.128	0.091	0.125	0.126	0.127	0.088	0.081	0.075	0.069	0.092	0.71	0.616	0.741	0.737	0.719	0.659	0.547	0.518	0.481	0.538
	0.90	-0.05	-0.053	-0.055	-0.057	-0.057	-0.06	-0.065	-0.069	-0.073	-0.077	0.078	0.076	0.07	0.057	0.039	0.019	0.002	-0.013	-0.031	-0.054
	0.95	-0.081	-0.083	-0.085	-0.087	-0.088	-0.089	-0.092	-0.094	-0.096	-0.098	-0.122	-0.129	-0.137	-0.149	-0.162	-0.172	-0.18	-0.185	-0.191	-0.199
℄ Bearing Pier 2 to ℄ Bearing Bent 10	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.05	0.178	0.18	0.183	0.186	0.189	0.191	0.192	0.193	0.195	0.196	0.421	0.438	0.455	0.469	0.483	0.492	0.495	0.494	0.492	0.485
	0.10	0.427	0.434	0.44	0.447	0.453	0.457	0.459	0.462	0.465	0.468	1.05	1.095	1.134	1.167	1.195	1.212	1.218	1.214	1.204	1.187
	0.15	0.749	0.78	0.792	0.782	0.814	0.821	0.823	0.827	0.832	0.837	1.891	2.025	2.058	2.093	2.158	2.225	2.229	2.218	2.194	2.161
	0.20	1.142	1.159	1.176	1.193	1.209	1.218	1.221	1.226	1.232	1.239	2.94	3.06	3.165	3.248	3.309	3.346	3.349	3.329	3.289	3.235
	0.25	1.545	1.59	1.592	1.615	1.658	1.671	1.675	1.658	1.666	1.692	4.067	4.255	4.339	4.451	4.553	4.598	4.641	4.546	4.49	4.462
	0.30	1.979	2.011	2.041	2.071	2.097	2.112	2.118	2.123	2.133	2.136	5.222	5.436	5.619	5.763	5.863	5.915	5.915	5.871	5.797	5.679
	0.35	2.405	2.444	2.481	2.493	2.547	2.542	2.571	2.577	2.565	2.57	6.408	6.669	6.893	7.043	7.138	7.174	7.239	7.184	7.023	6.885
	0.40	2.776	2.822	2.865	2.905	2.94	2.96	2.967	2.973	2.984	2.996	7.451	7.756	8.016	8.215	8.351	8.414	8.406	8.339	8.228	8.081
	0.45	3.092	3.163	3.211	3.257	3.276	3.297	3.323	3.31	3.322	3.357	8.352	8.751	9.044	9.269	9.36	9.426	9.472	9.337	9.251	9.073
	0.50	3.354	3.411	3.463	3.512	3.553	3.576	3.583	3.589	3.601	3.62	9.111	9.487	9.805	10.049	10.21	10.28	10.263	10.178	10.04	9.873
	0.55	3.506	3.566	3.632	3.684	3.727	3.75	3.745	3.762	3.775	3.784	9.59	9.987	10.335	10.592	10.736	10.831	10.774	10.72	10.551	10.388
	0.60	3.568	3.629	3.686	3.738	3.782	3.805	3.811	3.816	3.829	3.85	9.778	10.185	10.531	10.791	10.962	11.032	11.009	10.916	10.768	10.588
	0.65	3.507	3.568	3.623	3.675	3.718	3.746	3.751	3.75	3.768	3.789	9.644	10.049	10.389	10.647	10.814	10.887	10.863	10.764	10.635	10.445
	0.70	3.334	3.392	3.445	3.494	3.536	3.557	3.56	3.564	3.577	3.597	9.198	9.588	9.914	10.158	10.318	10.381	10.356	10.266	10.127	9.954
	0.75	3.03	3.083	3.136	3.181	3.214	3.239	3.235	3.238	3.255	3.274	8.381	8.748	9.043	9.265	9.414	9.466	9.437	9.355	9.241	9.073
	0.80	2.616	2.661	2.702	2.741	2.775	2.79	2.792	2.794	2.804	2.82	7.25	7.563	7.82	8.011	8.137	8.183	8.163	8.092	7.98	7.84
	0.85	2.09	2.106	2.138	2.169	2.217	2.23	2.209	2.231	2.239	2.232	5.802	5.998	6.24	6.392	6.513	6.551	6.472	6.477	6.348	6.252
	0.90	1.452	1.478	1.5	1.521	1.541	1.55	1.549	1.55	1.556	1.566	4.038	4.217	4.359	4.464	4.534	4.561	4.548	4.508	4.446	4.366
	0.95	0.762	0.776	0.787	0.799	0.809	0.814	0.813	0.813	0.817	0.822	2.122	2.217	2.292	2.347	2.384	2.398	2.391	2.37	2.338	2.294
	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



DEAD LOAD DEFLECTION DIAGRAM

No Scale

Note:
Dead Load Deflections based on removable forms. If non-matching stay-in-place forms are used, ribs shall be filled with a lightweight material positively attached to the forms.

Camber for dead load deflection plus Vertical Curve +/- 1/4" tolerance. Deflections shown are from a chord from ℄ Bearing to ℄ Bearing. Vertical Curve corrections not included.
Negative sign (-) indicates point above curve.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	142	262
(1) 07343	-	860' CONT. UNIT	-	56815

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 12 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 08/25/14 FILENAME: bbb0610_sxw.dgn
CHECKED BY: SEM DATE: 11/30/14
DESIGNED BY: SAH DATE: 07/23/14 SCALE: AS SHOWN
BRIDGE NO. 07343 DRAWING NO. 56815

JACOBS

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8/29/2016

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel + Slab + Parapets + Median Barrier									
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10
℄ Bearing Bent 9 to ℄ Bearing Pier 1	0.00	0	0	0	0	0	0	0	0	0	0
	0.05	2.403	2.5	2.581	2.64	2.681	2.7	2.697	2.681	2.652	2.618
	0.10	4.581	4.765	4.917	5.03	5.108	5.144	5.141	5.109	5.056	4.989
	0.15	6.534	6.795	7.011	7.173	7.283	7.334	7.33	7.285	7.275	7.18
	0.20	8.263	8.59	8.861	9.066	9.205	9.27	9.266	9.209	9.114	8.995
	0.25	9.584	9.958	10.274	10.512	10.674	10.75	10.745	10.681	10.592	10.456
	0.30	10.557	10.965	11.314	11.577	11.755	11.839	11.837	11.767	11.648	11.5
	0.35	11.122	11.549	11.912	12.19	12.376	12.464	12.462	12.389	12.275	12.125
	0.40	11.335	11.767	12.134	12.415	12.604	12.695	12.694	12.621	12.493	12.333
	0.45	11.161	11.604	11.941	12.254	12.404	12.52	12.495	12.461	12.312	12.177
	0.50	10.703	11.102	11.443	11.707	11.888	11.976	11.978	11.911	11.792	11.639
	0.55	9.906	10.327	10.588	10.831	11	11.139	11.086	11.027	10.917	10.773
	0.60	8.927	9.255	9.536	9.754	9.907	9.983	9.99	9.939	9.841	9.708
	0.65	7.763	8	8.216	8.477	8.539	8.632	8.613	8.645	8.536	8.445
	0.70	6.415	6.644	6.843	6.999	7.113	7.172	7.179	7.146	7.081	6.985
	0.75	5.081	5.234	5.328	5.537	5.627	5.649	5.593	5.661	5.55	5.451
	0.80	3.694	3.817	3.928	4.017	4.082	4.119	4.127	4.114	4.082	4.031
	0.85	2.45	2.504	2.598	2.701	2.746	2.703	2.735	2.775	2.756	2.659
	0.90	1.391	1.431	1.47	1.504	1.53	1.546	1.553	1.552	1.544	1.53
	0.95	0.581	0.595	0.611	0.625	0.637	0.644	0.649	0.649	0.648	0.644
℄ Bearing Pier 1 to ℄ Bearing Pier 2	0.00	0	0	0	0	0	0	0	0	0	0
	0.05	-0.304	-0.305	-0.311	-0.319	-0.326	-0.333	-0.341	-0.347	-0.353	-0.361
	0.10	-0.251	-0.243	-0.243	-0.25	-0.259	-0.271	-0.286	-0.302	-0.32	-0.346
	0.15	0.255	0.287	0.306	0.31	0.301	0.186	0.169	0.235	0.096	0.086
	0.20	0.936	0.995	1.034	1.054	1.056	1.039	1.007	0.959	0.897	0.82
	0.25	1.788	1.992	2.06	2.1	2.115	2.096	2.015	1.871	1.909	1.681
	0.30	2.817	2.94	3.035	3.094	3.119	3.105	3.052	2.97	2.861	2.731
	0.35	3.718	3.904	4.055	4.135	4.071	4.157	3.995	3.898	3.868	3.617
	0.40	4.513	4.688	4.828	4.922	4.966	4.952	4.885	4.775	4.629	4.459
	0.45	5.048	5.2	5.391	5.492	5.502	5.488	5.456	5.3	5.155	5
	0.50	5.28	5.473	5.632	5.733	5.781	5.766	5.696	5.573	5.413	5.228
	0.55	5.188	5.388	5.55	5.647	5.691	5.658	5.592	5.456	5.311	5.135
	0.60	4.842	5.012	5.146	5.233	5.269	5.249	5.179	5.068	4.922	4.752
	0.65	4.241	4.309	4.471	4.542	4.513	4.576	4.51	4.41	4.279	4.074
	0.70	3.386	3.501	3.587	3.637	3.65	3.624	3.567	3.483	3.374	3.241
	0.75	2.47	2.521	2.539	2.566	2.564	2.537	2.604	2.537	2.45	2.232
	0.80	1.529	1.575	1.606	1.616	1.603	1.576	1.537	1.489	1.428	1.349
	0.85	0.755	0.66	0.789	0.785	0.767	0.703	0.591	0.562	0.526	0.553
	0.90	0.096	0.093	0.087	0.074	0.056	0.036	0.019	0.004	-0.014	-0.037
	0.95	-0.119	-0.126	-0.134	-0.146	-0.16	-0.17	-0.178	-0.183	-0.189	-0.197
℄ Bearing Pier 2 to ℄ Bearing Bent 10	0.00	0	0	0	0	0	0	0	0	0	0
	0.05	0.432	0.449	0.466	0.481	0.495	0.504	0.507	0.506	0.504	0.498
	0.10	1.081	1.126	1.165	1.198	1.227	1.244	1.25	1.247	1.237	1.221
	0.15	1.95	2.087	2.12	2.153	2.22	2.288	2.292	2.282	2.259	2.228
	0.20	3.036	3.156	3.261	3.344	3.406	3.443	3.447	3.429	3.391	3.339
	0.25	4.201	4.391	4.473	4.585	4.69	4.736	4.781	4.685	4.632	4.609
	0.30	5.398	5.612	5.795	5.94	6.04	6.093	6.095	6.054	5.983	5.869
	0.35	6.626	6.887	7.111	7.259	7.357	7.392	7.461	7.41	7.251	7.117
	0.40	7.706	8.01	8.27	8.47	8.606	8.671	8.666	8.602	8.496	8.355
	0.45	8.638	9.039	9.332	9.557	9.647	9.715	9.765	9.633	9.552	9.383
	0.50	9.424	9.8	10.117	10.362	10.524	10.595	10.581	10.501	10.369	10.21
	0.55	9.919	10.316	10.665	10.922	11.067	11.164	11.109	11.06	10.898	10.742
	0.60	10.114	10.521	10.867	11.127	11.299	11.371	11.351	11.263	11.122	10.951
	0.65	9.976	10.381	10.72	10.979	11.147	11.222	11.201	11.106	10.984	10.803
	0.70	9.515	9.904	10.23	10.474	10.635	10.7	10.678	10.592	10.46	10.295
	0.75	8.669	9.036	9.331	9.554	9.703	9.757	9.73	9.652	9.545	9.384
	0.80	7.499	7.812	8.069	8.26	8.387	8.434	8.416	8.349	8.242	8.109
	0.85	6.002	6.195	6.437	6.589	6.713	6.752	6.673	6.682	6.558	6.465
	0.90	4.177	4.356	4.497	4.603	4.673	4.701	4.689	4.651	4.592	4.516
	0.95	2.195	2.29	2.365	2.42	2.457	2.471	2.465	2.445	2.415	2.373
	0.00	0	0	0	0	0	0	0	0	0	0

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	143	262
(1) 07343	-	860' CONT. UNIT	-	56816

Note:
For Dead Load Deflection Notes, see Drawing No. 56815.

⚠ (1) Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 13 OF 19
DETAILS OF 860'-0" CONTINUOUS
COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 08/25/14 FILENAME: bbb0610_sxx.dgn
CHECKED BY: SEM DATE: 11/30/14
DESIGNED BY: SAH DATE: 07/23/14 SCALE: AS SHOWN
BRIDGE NO. 07343 DRAWING NO. 56816

JACOBS

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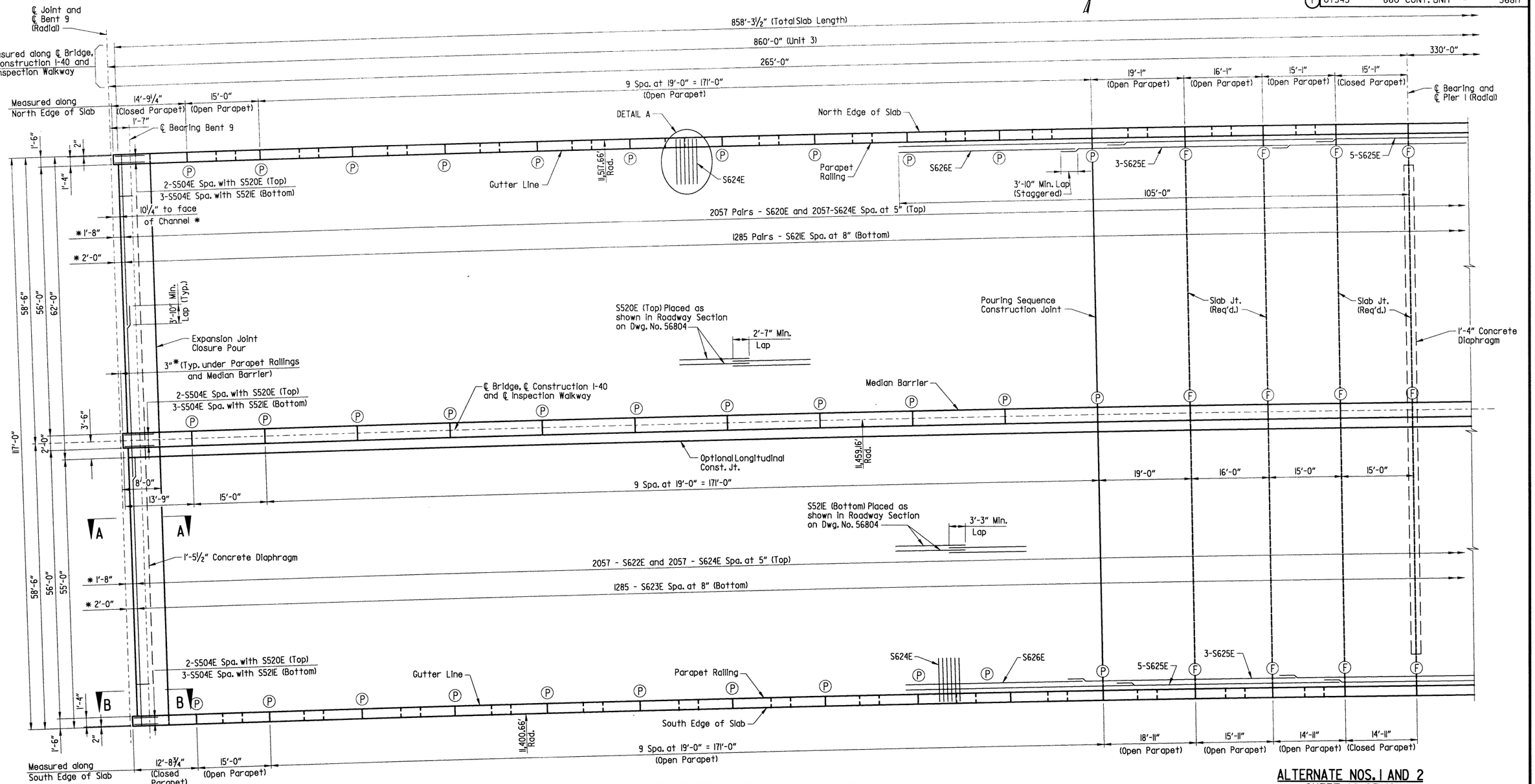
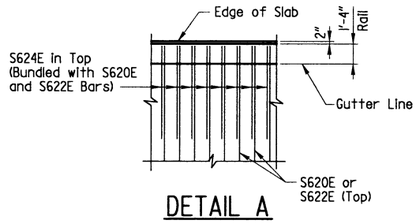
DATE REVISED	DATE FIL.MED	DATE REVISED	DATE FIL.MED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	144	262
(1) 07343	-	860' CONT. UNIT	-	56817



* Measured at 60° F.



DETAIL A

REINFORCING PLAN - UNIT 3

Scale: 1" = 10'-0"

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.)Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A and B-B, see Dwg. 56820.

For Slab Pouring Sequence, see Dwg. 56820.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 14 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SGK	DATE:	04/08/2014	FILENAME:	bbb0610_sxy.dgn
CHECKED BY:	SEM	DATE:	01/20/2015		
DESIGNED BY:	SAH	DATE:	07/09/2014	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56817		

JACOBS

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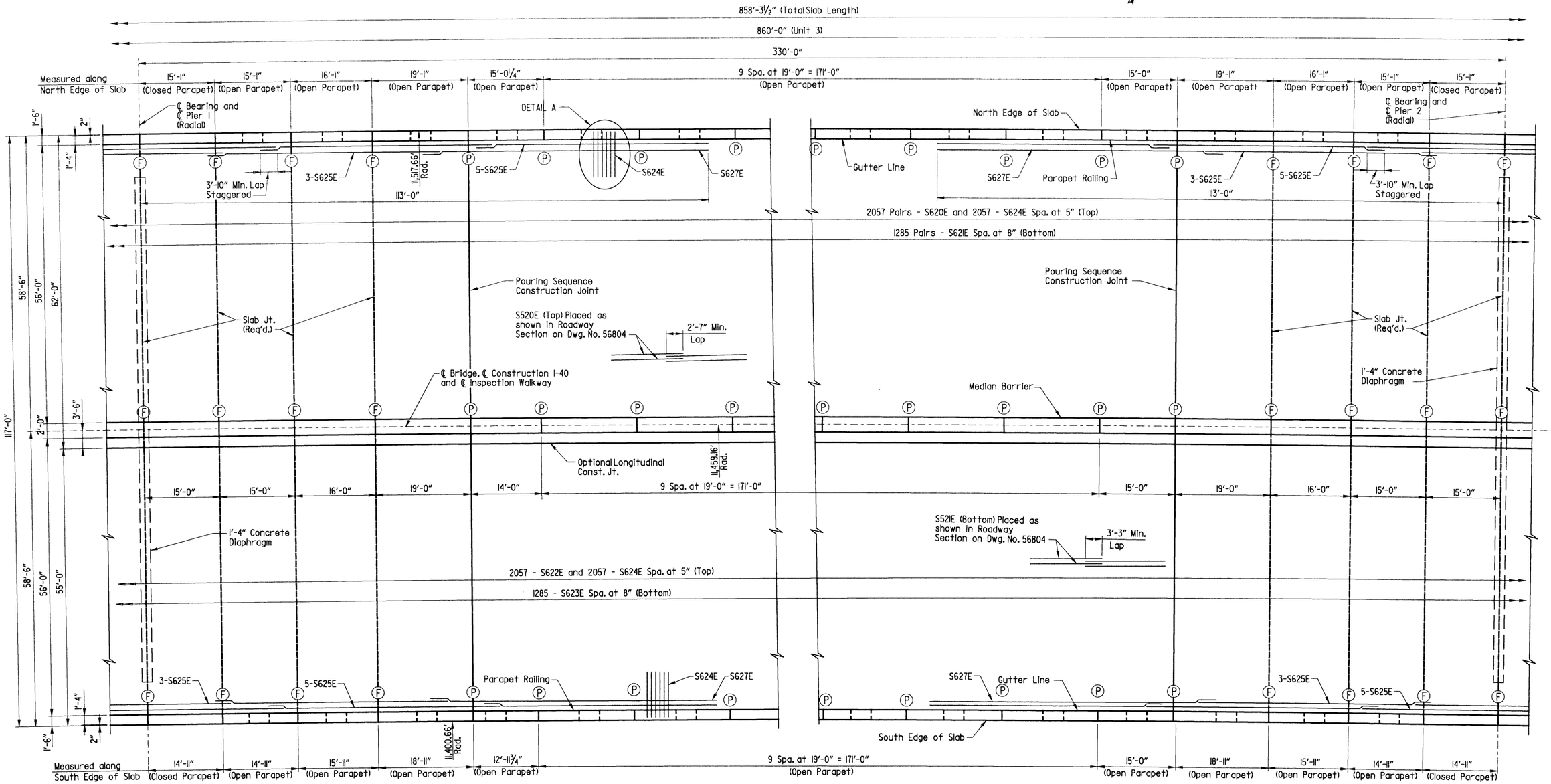
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	145	262
(1) 07343		860' CONT. UNIT		56818



REINFORCING PLAN - UNIT 3

SCALE: 1" = 10'

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Detail A, see Dwg. 56817.

For Slab Pouring Sequence, see Dwg. 56820.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2

SHEET 15 OF 19

DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 04/02/2014 FILENAME: bbb0610_sxz.dgn
CHECKED BY: SEM DATE: 01/21/2015
DESIGNED BY: SAH DATE: 08/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56818

JACOBS

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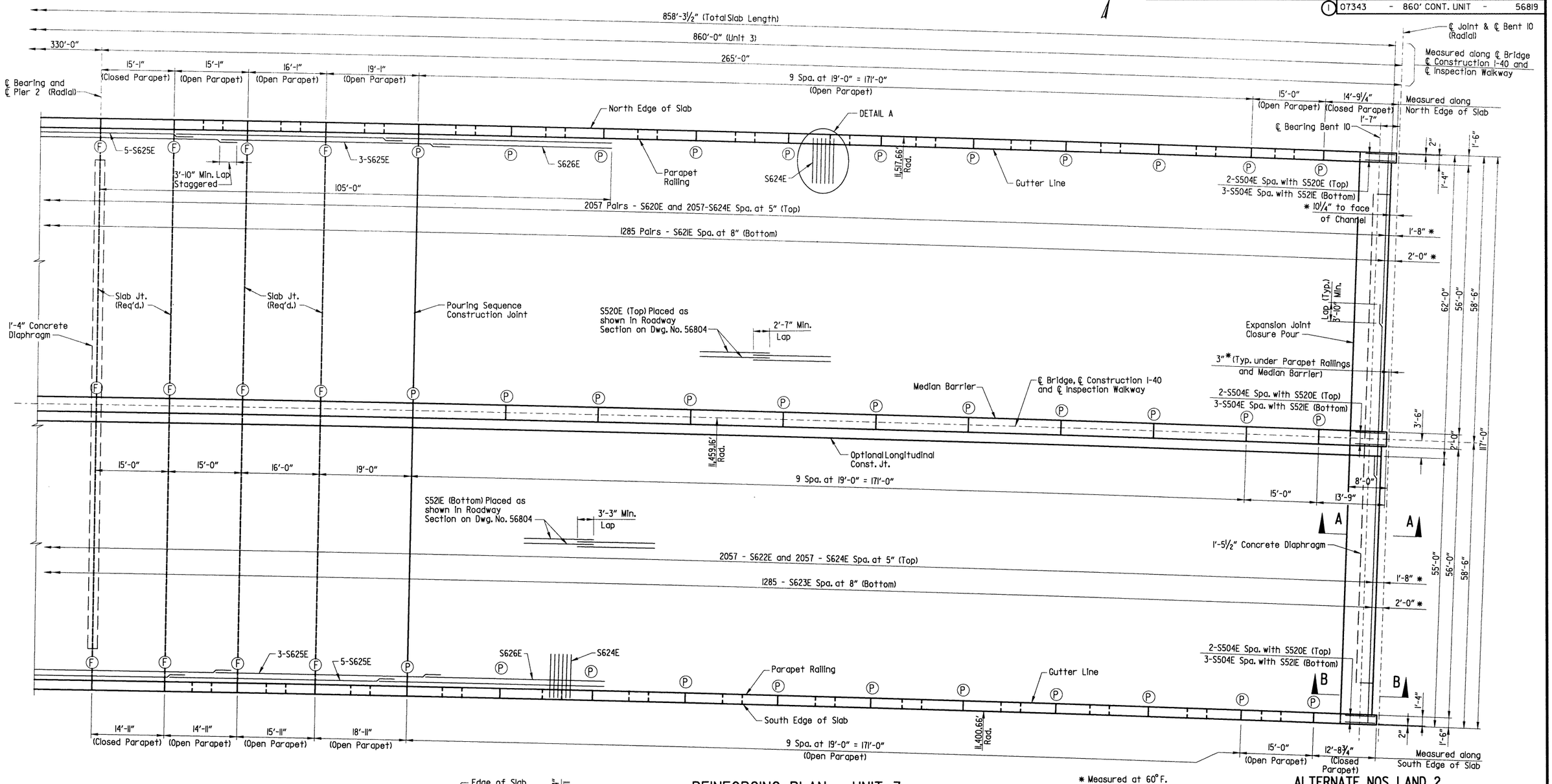
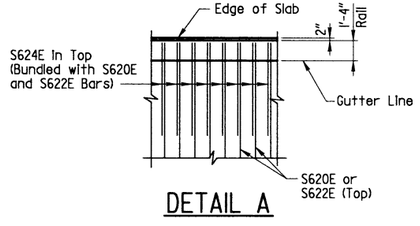
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	146	262
				(1) 07343	-	860' CONT. UNIT	-	56819





DETAIL A

REINFORCING PLAN - UNIT 3

Scale: 1" = 10'-0"

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A and B-B, see Dwg. 56820.

For Slab Pouring Sequence, see Dwg. 56820.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

* Measured at 60° F.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 16 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 04/02/2014 FILENAME: bbb0610_sa0.dgn
CHECKED BY: SEM DATE: 01/20/2015
DESIGNED BY: SAH DATE: 08/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56819

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8/29/2016

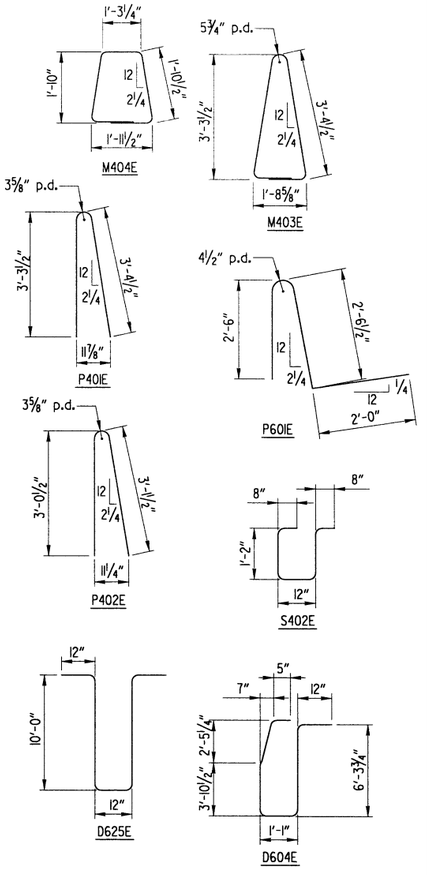
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	147	262
07343	-	860' CONT. UNIT	-	56820

BAR LIST - UNIT 3 (1)

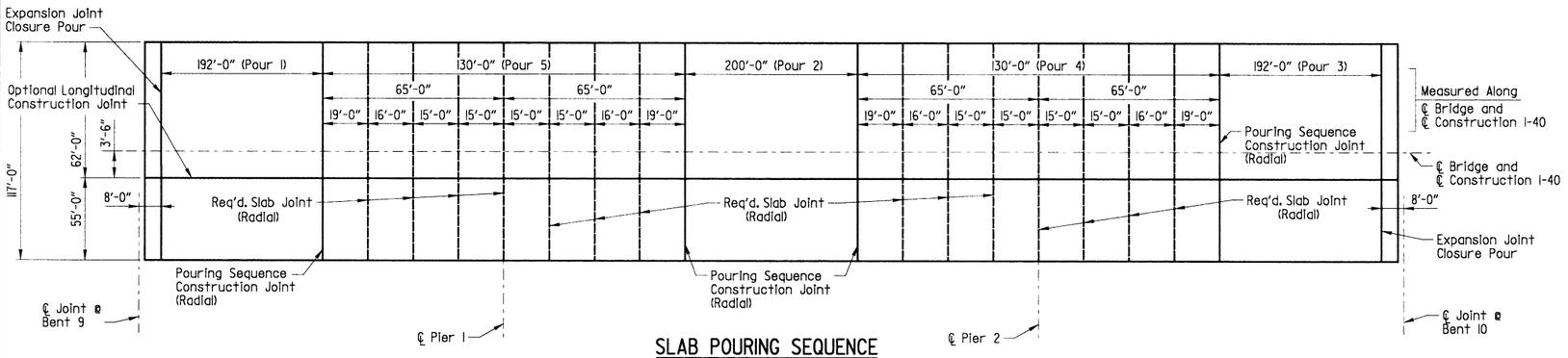
Mark	No. Required	Length	Pin Dia.
S401E	24	1'-10"	Str.
S402E	20	4'-3"	3
S503E	44	9'-7"	Str.
S504E	30	3'-3"	Str.
S520E	1280	56'-1"	Str.
S521E	2096	56'-8"	Str.
S620E	4114	34'-9"	Str.
S621E	2570	34'-9"	Str.
S622E	2057	54'-10"	Str.
S623E	1285	54'-10"	Str.
S624E	4114	10'-7"	Str.
S625E	1386	46'-8"	Str.
S626E	154	36'-8"	Str.
S627E	154	56'-8"	Str.
P401E	3108	5'-10"	3⅝"
P402E	688	5'-4"	3⅝"
P538E	96	57'-3"	Str.
P539E	60	50'-1½"	Str.
P540E	10	12'-4¾"	Str.
P541E	5	9'-0"	Str.
P542E	10	14'-5¼"	Str.
P543E	88	14'-8½"	Str.
P544E	35	14'-9"	Str.
P545E	88	14'-10"	Str.
P546E	44	15'-0"	Str.
P547E	44	15'-1"	Str.
P548E	44	15'-3"	Str.
P549E	270	15'-7"	Str.
P550E	44	15'-8"	Str.
P601E	3108	7'-3"	4½"
M403E	1718	9'-4"	3⅝"
M404E	1718	7'-2"	3⅝"
M517E	30	60'-0"	Str.
M518E	32	57'-0"	Str.
M519E	20	49'-10½"	Str.
M520E	8	13'-5"	Str.
M521E	4	13'-8"	Str.
M522E	60	14'-8"	Str.
M523E	24	15'-8"	Str.
M524E	132	18'-8"	Str.
D601E	396	11'-10"	Str.
D602E	4	9'-8"	Str.
D603E	32	5'-6"	Str.
D604E	306	14'-7¼"	4½"
D605E	72	5'-4"	Str.
D621E	648	11'-10"	Str.
D622E	32	5'-6"	Str.
D625E	288	22'-5"	4½"
D627E	72	8'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



Note: All bars designated with an "E" suffix are to be epoxy coated.

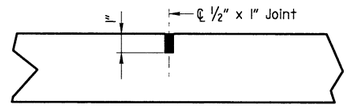
SLAB POURING SEQUENCE
(No Scale)



Note: All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour. Pours must be placed in sequence shown. No deviations allowed. Deflections based on pouring sequence. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. Should the Contractor use the Optional Longitudinal construction joint, a minimum of 72 hours shall elapse between the end of one pour and the start of the adjacent pours. A minimum of 72 hours shall elapse between the end of the slab pour and the start of the parapet or median barrier pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer.

Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

After all incremental pours on both Units adjacent to Finger Joint are complete, closure pours on each side of finger joint shall be poured simultaneously. A minimum of 48 hours shall elapse between the last incremental pour and the closure pours.

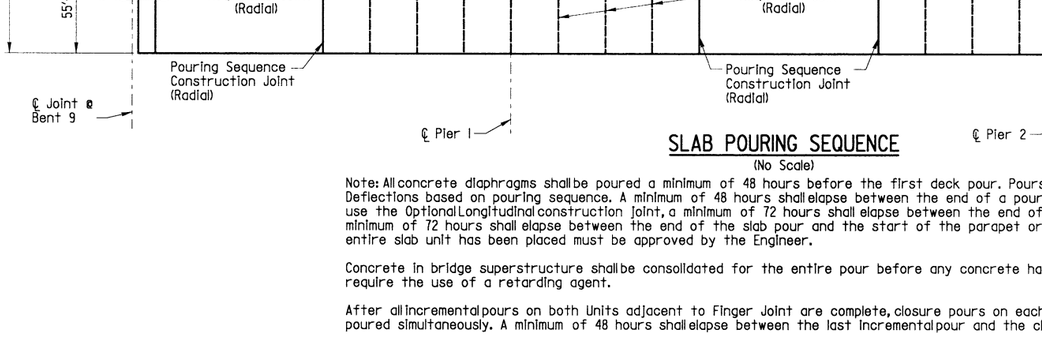


Use Type 3 or 4 Joint Sealer. See Subsections 501.02 (h)(2) and 501.05 (j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge.

Slab Joints
Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). No joint sealer shall be placed on the deck slab under the parapet railing or median barrier. Slab joints shall align with parapet and median barrier open joints except for slab joint at closure pour at finger joint.

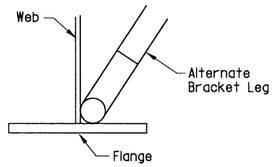
Optional Longitudinal Construction Joint
Longitudinal Construction Joint shall be formed. Seal must be gray or other color similar to concrete.

SLAB JOINT AND OPTIONAL LONGITUDINAL CONSTRUCTION JOINT DETAIL
(No Scale)

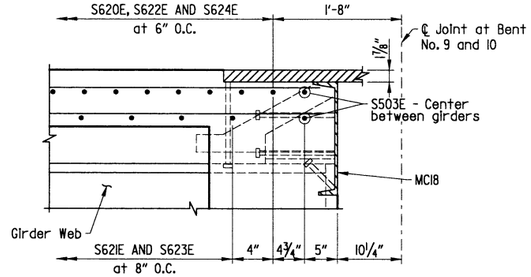


SCREED RAIL SUPPORT
(No Scale)

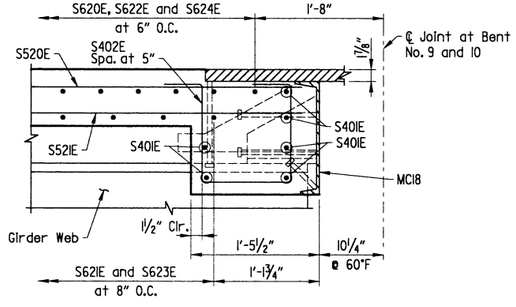
Note: If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if above the strutting system is used. The strutting system may be omitted if ¾" x 9" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for Crossframe connection plates shown on Drawing No. 56814.
No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (M270. Gr. 50W)"



DETAIL A
(No Scale)



SECTION A-A
(No Scale)



SECTION B-B
(No Scale)
(On Cantilever Only at Bents 9 and 10)

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

Note: All bars designated with an "E" suffix are to be epoxy coated.

ALTERNATE NOS. 1 AND 2
SHEET 17 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SGK	DATE:	06/06/2014
CHECKED BY:	SEM	DATE:	01/20/2015
DESIGNED BY:	DS	DATE:	03/21/2014
FILENAME:	bbb0610_sal.dgn		
SCALE:	AS NOTED		
BRIDGE NO. 07343		DRAWING NO. 56820	

JACOBS

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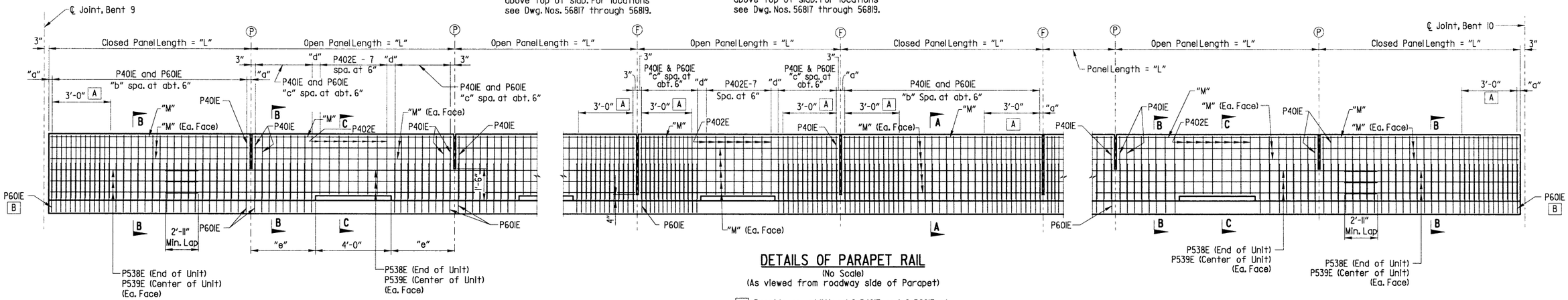
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	148	262
				(1) 07343	-	860' CONT. UNIT	-	56821

Ⓟ Partial Depth Parapet Joint 1¼" to 1" Max. Open Joint). Stop 1'-6" above top of slab. For locations see Dwg. Nos. 56817 through 56819.

Ⓕ Full Depth Parapet Joint 1¼" to 1" Max. Open Joint). Stop 4" above top of slab. For locations see Dwg. Nos. 56817 through 56819.



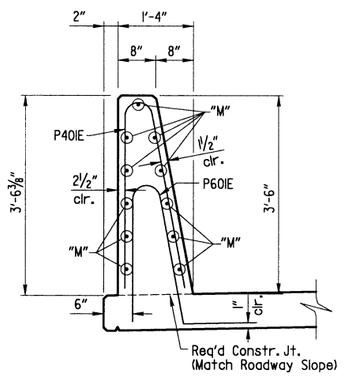
DETAILS OF PARAPET RAIL

(No Scale)

(As viewed from roadway side of Parapet)

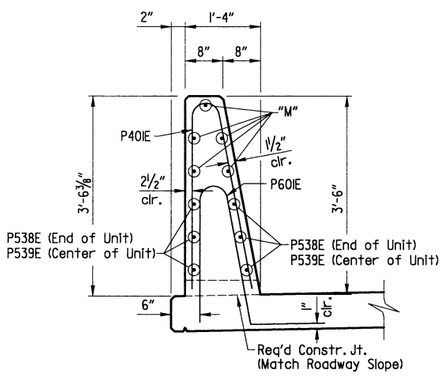
A Provide an additional 6-P401E and 6-P601E at about 3" spacing in the region adjacent to a full depth parapet joint.

B Cut horizontal leg of end P601E at finger joint slab extension.



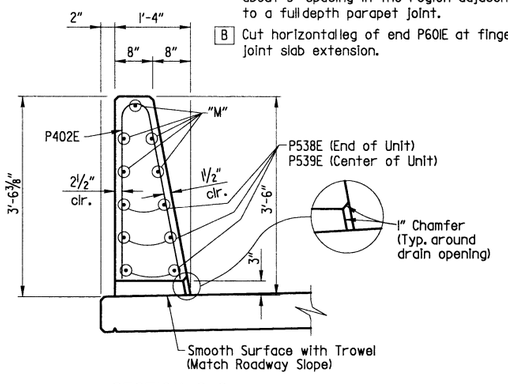
SECTION A-A

(No Scale)



SECTION B-B

(No Scale)

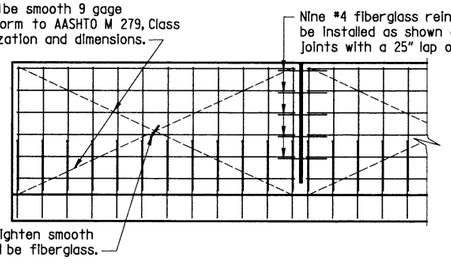


SECTION C-C

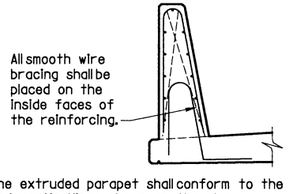
(No Scale)

PARAPET RAIL VARIABLES - UNIT 3

Number of Panels	Panel Length "L"	Panel Type	Closed Parapet "a"	Closed Parapet "b"	Open Parapet "c"	Open Parapet "d"	Open Parapet "e"	"M" Bar
2	12'-8¾"	Closed	4⅜"	24	-	-	-	P540E
1	12'-11¾"	Open	-	-	8	5⅞"	4'-5⅞"	P541E
2	14'-9¼"	Closed	4⅝"	28	-	-	-	P542E
4	14'-11"	Open	-	-	10	5½"	5'-5½"	P543E
4	14'-11"	Closed	2½"	29	-	-	-	P543E
6	15'-0"	Open	-	-	10	6"	5'-6"	P544E
1	15'-0¼"	Open	-	-	10	6⅛"	5'-6⅛"	P544E
4	15'-1"	Open	-	-	10	6½"	5'-6½"	P545E
4	15'-1"	Closed	3½"	29	-	-	-	P545E
4	15'-11"	Open	-	-	11	5½"	5'-11½"	P546E
4	16'-1"	Open	-	-	11	6½"	6'-0½"	P547E
4	18'-11"	Open	-	-	14	5½"	7'-5½"	P548E
54	19'-0"	Open	-	-	14	6"	7'-6"	P549E
4	19'-1"	Open	-	-	14	6½"	7'-6½"	P550E



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing steel, see parapet details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

(No Scale)

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 18 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/01/2014 FILENAME: bbb0610_sa2.dgn
CHECKED BY: SGK DATE: 06/01/2014
DESIGNED BY: SAH DATE: 08/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56821

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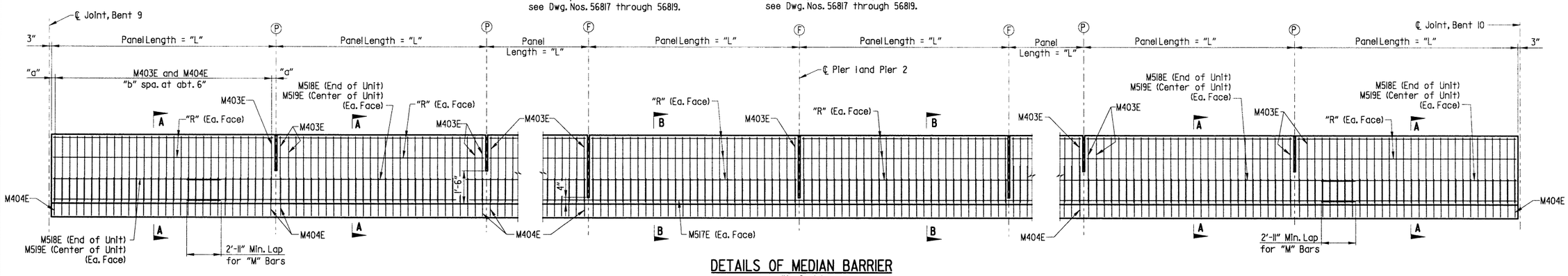
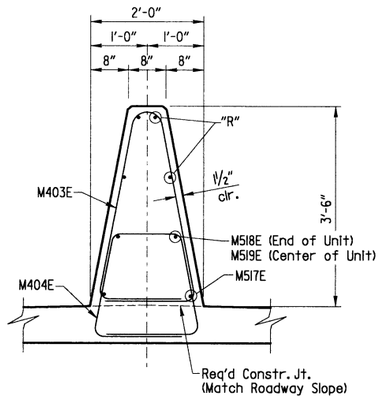
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	149	262
				07343	-	860' CONT. UNIT	-	56822

(P) Partial Depth Median Barrier Joint (1/4" to 1" Max. Open Joint). Stop 1'-6" above top of slab. For locations see Dwg. Nos. 56817 through 56819.

(F) Full Depth Median Barrier Joint (1/4" to 1" Max. Open Joint). Stop 4" above top of slab. For locations see Dwg. Nos. 56817 through 56819.



DETAILS OF MEDIAN BARRIER
(No Scale)



SECTION A-A
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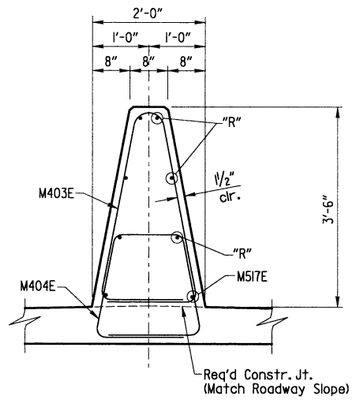
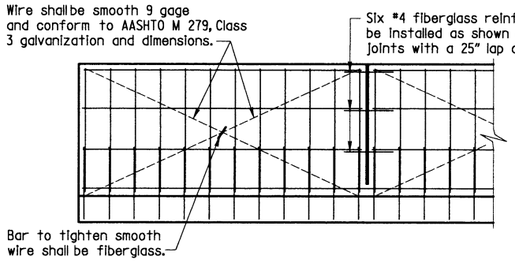


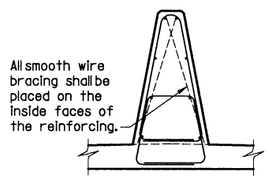
SECTION B-B
(No Scale)

MEDIAN BARRIER VARIABLES
UNIT 3

Number of Panels	Panel Length "L"	"a"	"b"	"R" Bar
2	13'-9"	4½"	26	M520E
1	14'-0"	3"	27	M521E
11	15'-0"	3"	29	M522E
4	16'-0"	3"	31	M523E
31	19'-0"	3"	37	M524E



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded Median Barrier shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing, see Median Barrier details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE MEDIAN BARRIER
(No Scale)

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 19 OF 19
DETAILS OF 860'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/01/2014 FILENAME: bbb0610_sa3.dgn
CHECKED BY: SGK DATE: 06/01/2014
DESIGNED BY: SAH DATE: 08/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56822

JACOBS

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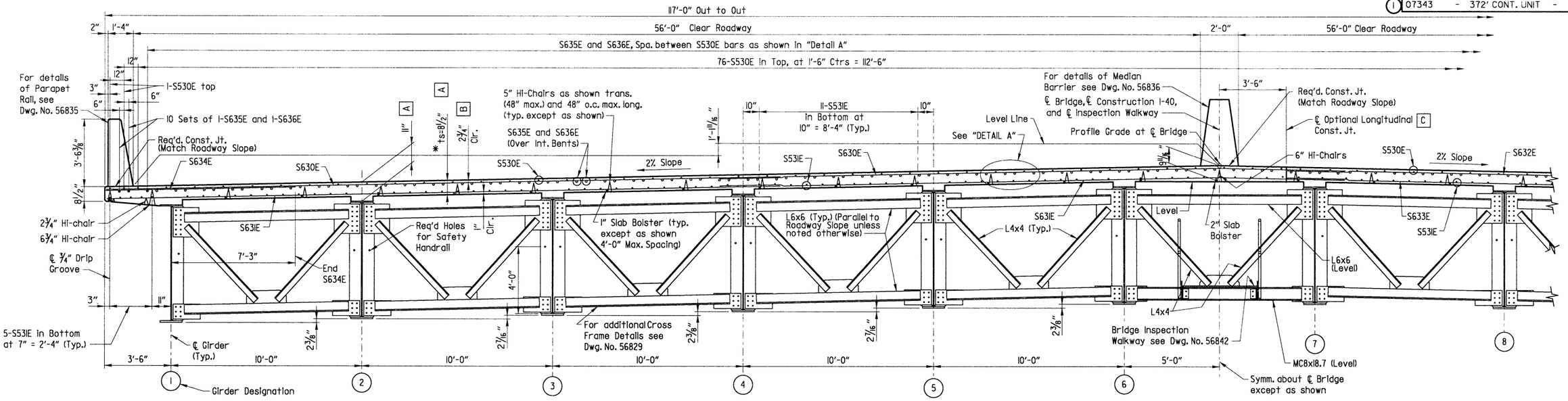
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	150	262
				(1) 07343	-	372' CONT. UNIT	-	56823

Note: Class 1 Protective Surface Treatment shall be applied to the Roadway Surface, to the face and top of the Concrete Parapet Rail and to each face and top of the Median Barrier.



TYPICAL ROADWAY SECTION - UNIT 5

Looking Ahead
Scale: ⅜" = 1'-0"

[A] See "Adjustment for Slab Thickness Tolerance"

[B] Tolerance: Minus = ¼"; Plus equal to the amount of slab thickening used to meet thickness tolerance. See "Adjustment for Slab Thickness Tolerance"

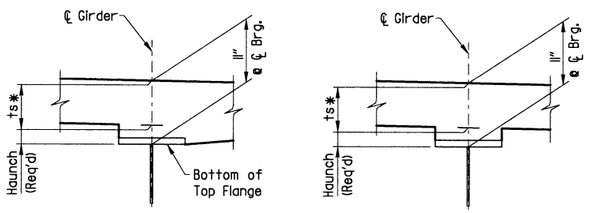
[C] Crossframe Bolts shall be installed loosely in center bay between Girders 6 & 7 if optional longitudinal construction joint is used. Install remaining bolts and fully tighten after deck pours are complete in accordance with Subsection 807.71 of the Standard Specification.

SLAB REINFORCING

Transverse: S630E @ 6" ctrs. (Top)
S632E @ 6" ctrs. (Top)
S631E @ 8" ctrs. (Bottom)
S633E @ 8" ctrs. (Bottom)
S634E @ 6" ctrs. (Top of Slab at Overhang)

Longitudinal: S530E Spaced as shown (Top)
S531E Spaced as shown (Bottom)
S635E Spaced as shown over Intermediate Bents (Top)
S636E Spaced as shown over Intermediate Bents (Top)

Note:
The superstructure details shown are for use when removable deck forming is used and are the basis for measurement for Class S(AE) concrete. If the optional construction joint and permanent deck forms are used, the design and installation of the permanent deck forms shall include the differential deflection of the girders.



* Tolerance when removable deck forming is used is +½", -¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

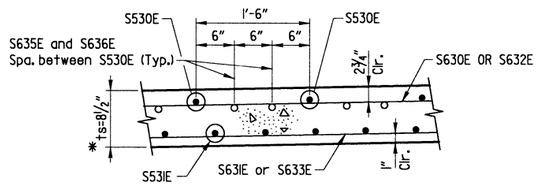
ts = Slab Thickness shown in "Typical Roadway Section".

Notes:
Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance. Minimum - occurs when top flange contacts bottom reinforcing steel. Maximum-top flange thickness plus 1¾". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

(No Scale)



DETAIL A

Scale: 1" = 1'-0"

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/25/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/01/2014 FILENAME: bbb0610_sa4.dgn
CHECKED BY: SGK DATE: 08/01/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56823

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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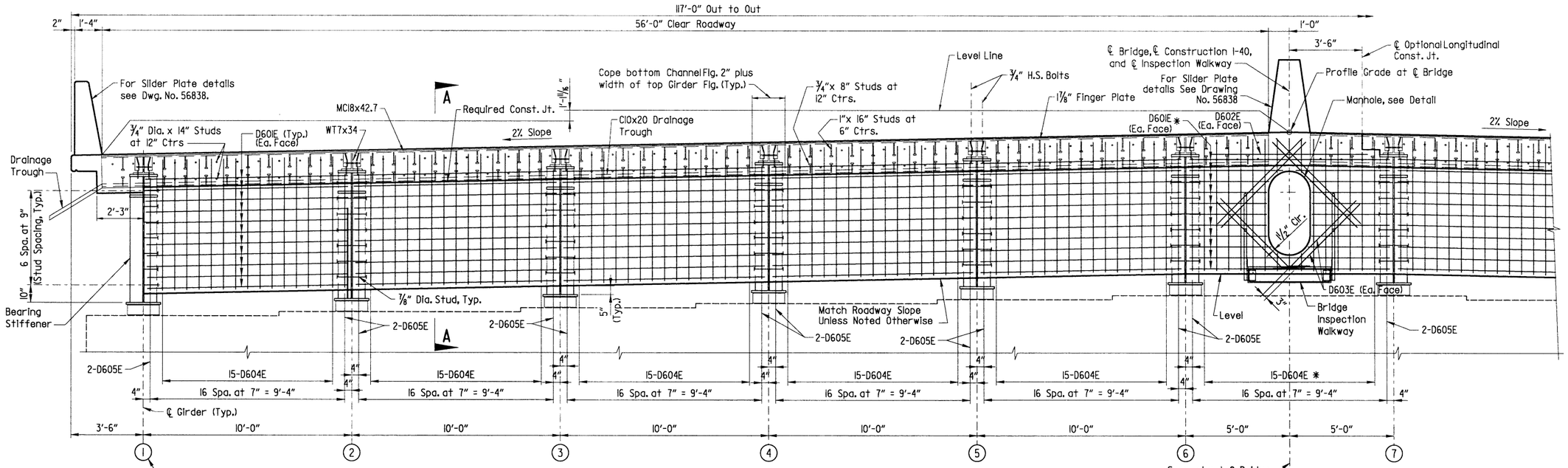
				JOB NO.		BBB0610	151	262
				(1) 07343	- 372' CONT. UNIT -			56824



TYPICAL SECTION NEAR FINGER JOINT - UNIT 5

Scale: ⅜" = 1'-0"
Looking Ahead

Note:
For details of Finger Joint, see Drawing No. 56838.

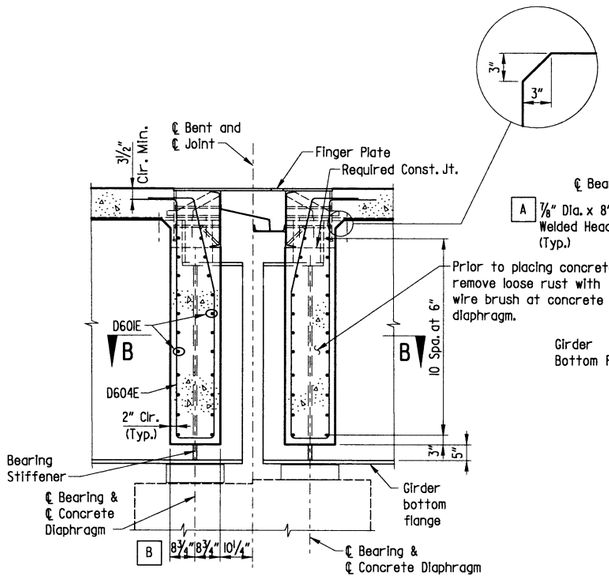
Removable forms for diaphragms shall be used.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

*Trim D601E and D604E as req'd at manhole opening

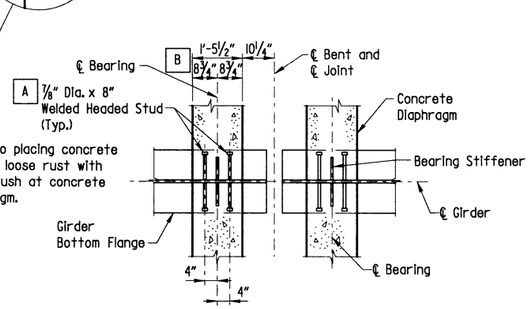
EXPANSION DEVICE

Roadway Channel - MCI8x42.7
Channel Conn. - WT7x34
Finger Joint - 6" Movement
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" plates & 1 - ⅛" plate.



SECTION A-A

Scale: ½" = 1'-0"

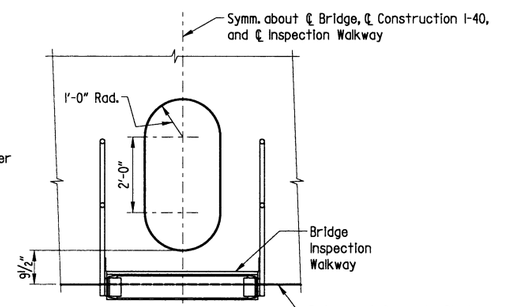


SECTION B-B

Scale: ½" = 1'-0"

A Omit Studs on outside of Exterior Girders.

B Measured perpendicular to Joint.



MANHOLE DETAIL

Scale: ½" = 1'-0"

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014
CHECKED BY: MJS DATE: 02/06/2015
DESIGNED BY: DMS DATE: 07/09/2014
FILENAME: bbb0610_sa5.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56824

JACOBS

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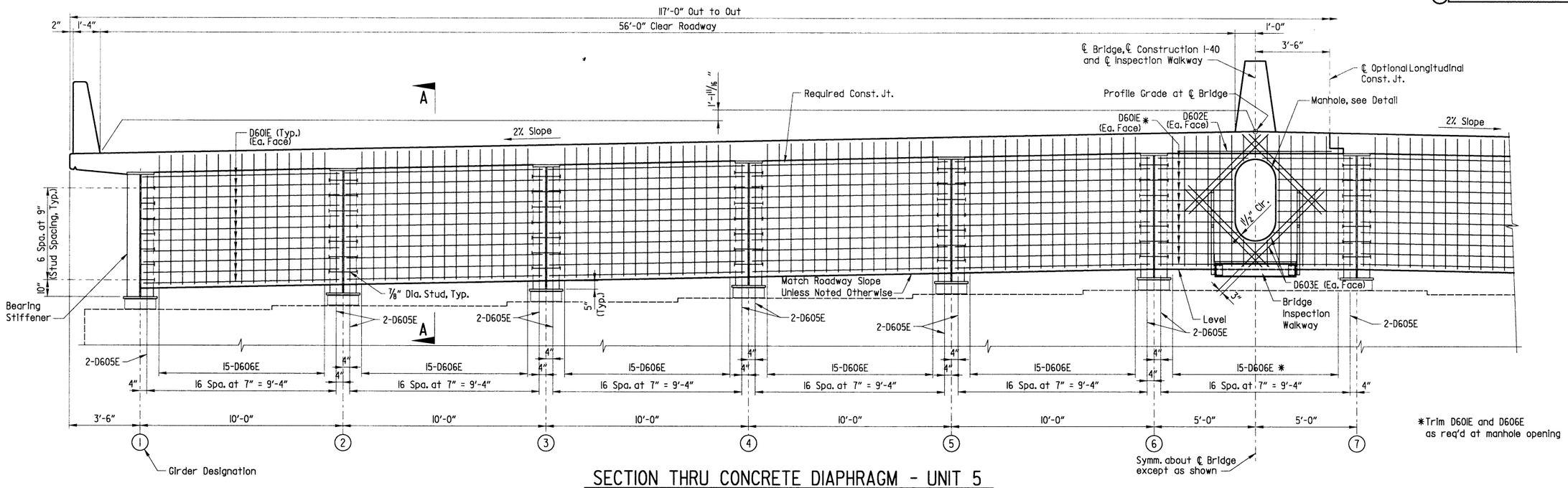
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	152	262
(1) 07343	-	372' CONT. UNIT	-	56825



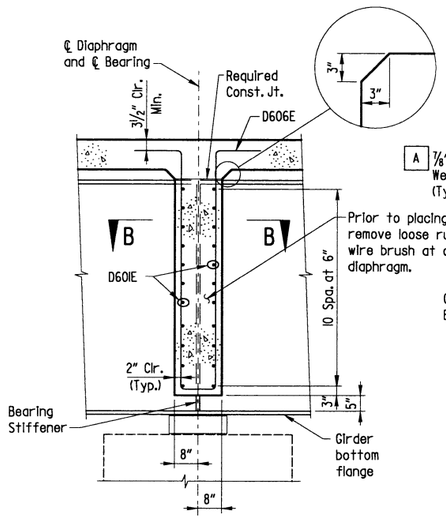
SECTION THRU CONCRETE DIAPHRAGM - UNIT 5

Scale: 3/8" = 1'-0"
Looking Ahead

Note:
Diaphragm Typical at Bents 15 and 16.

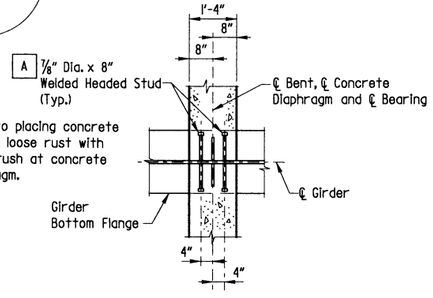
All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

Removable forms for diaphragm shall be used.



SECTION A-A

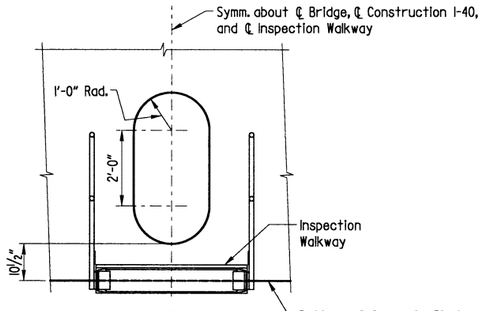
Scale: 1/2" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"

A Omit Studs on outside of Exterior Girders.



MANHOLE DETAIL

Scale: 1/2" = 1'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014 FILENAME: bbb0610_sa6.dgn
CHECKED BY: SGK DATE: 07/13/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56825

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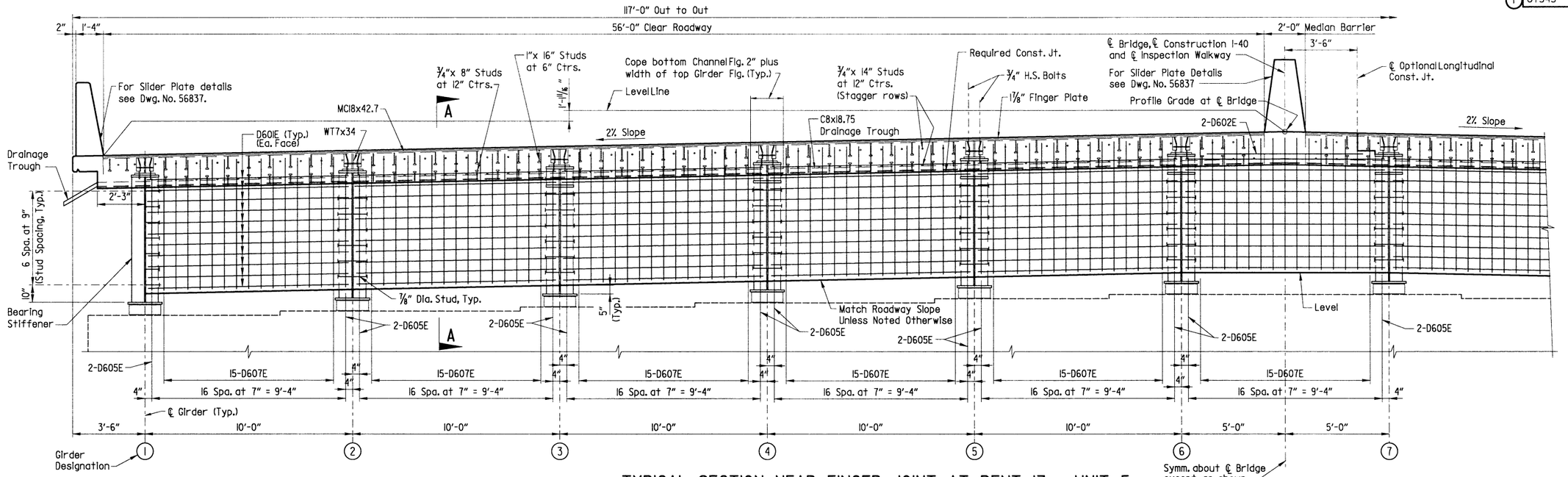
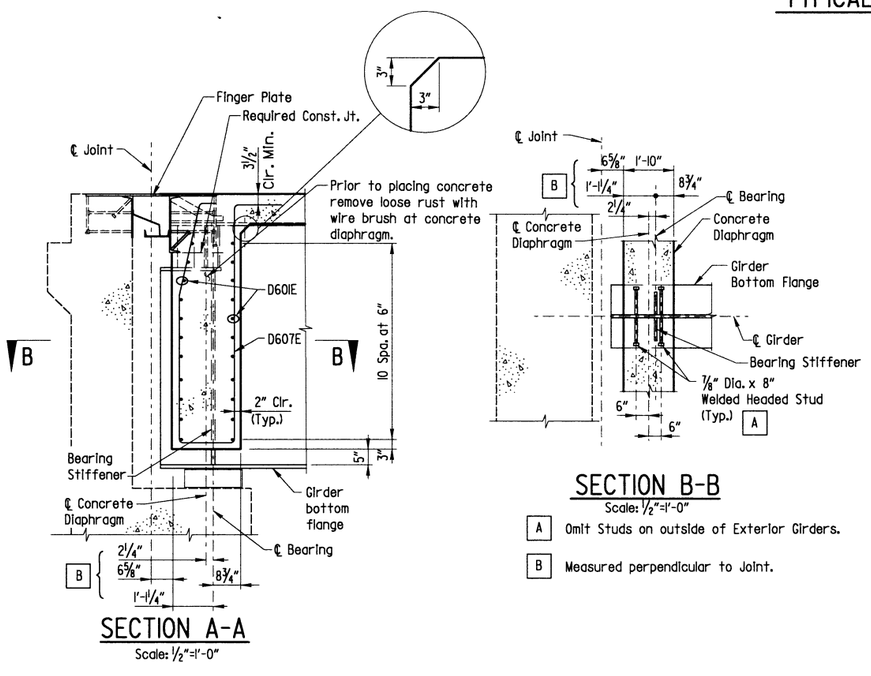
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	153	262
(1) 07343	-	372' CONT. UNIT	-	56826



TYPICAL SECTION NEAR FINGER JOINT AT BENT 17 - UNIT 5

Scale: ⅜"=1'-0"
Looking Ahead



SECTION A-A

Scale: ½"=1'-0"

SECTION B-B

Scale: ½"=1'-0"

A Omit Studs on outside of Exterior Girders.

B Measured perpendicular to Joint.

Note:
For Details of Finger Joint, see Drawing No. 56837.

All Concrete Diaphragms shall be poured a minimum of 48 hours before the first deck pour.

Removable forms for diaphgrams shall be used.

EXPANSION DEVICE

Roadway Channel - MC18x42.7
Channel Conn. - WT7x34
Finger Joint - 3½" movement
Detail device ⅛" high and provide ¼" shims using 2 - 1/16" plates & 1 - ⅛" plate.

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/16/2014 FILENAME: bbb0610_sa7.dgn
CHECKED BY: DMS DATE: 01/21/2015
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56826

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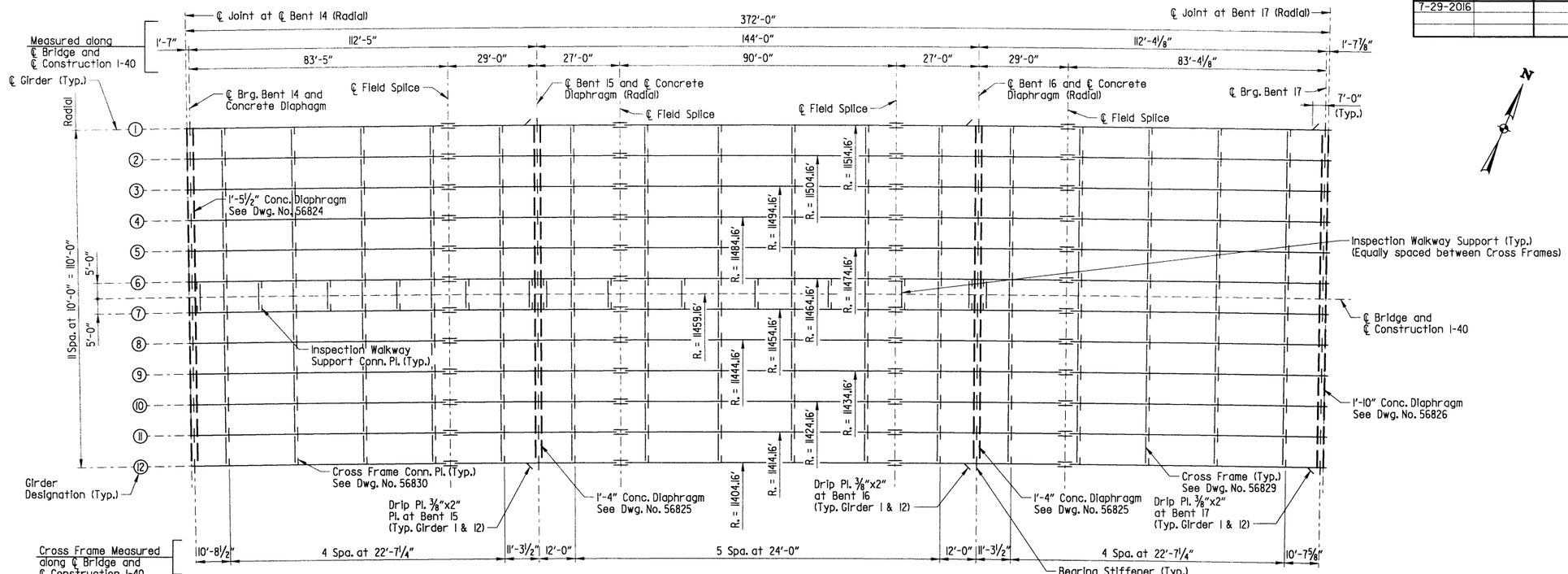
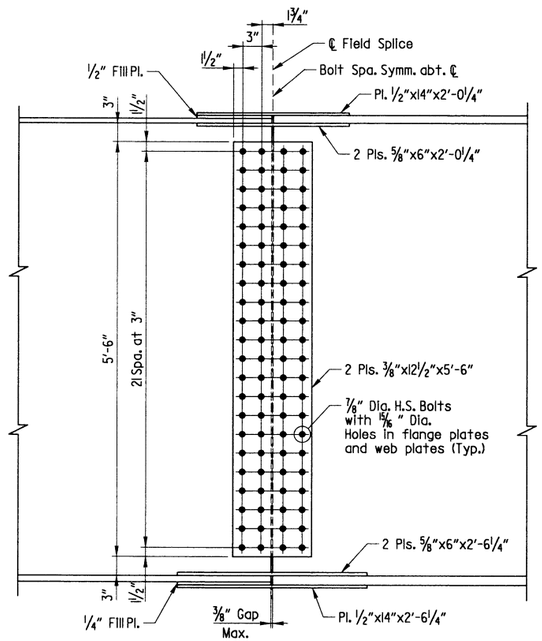
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	154	262
				1 07343	-	372' CONT. UNIT -		56827



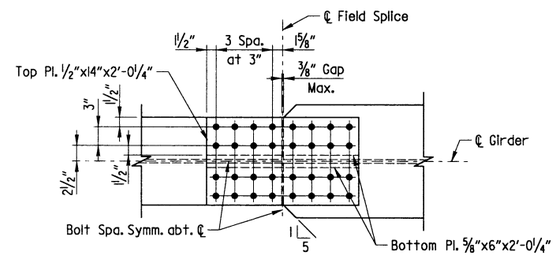
FRAMING PLAN - UNIT 5

Scale: 1" = 20'-0"



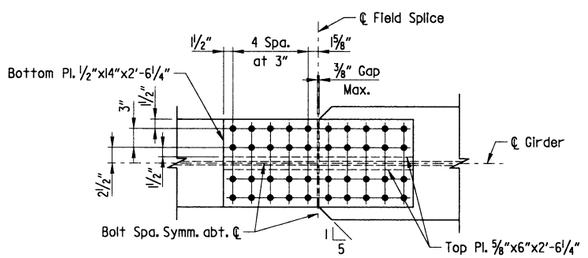
WEB SPLICE

Scale: 1" = 1'-0"



TOP FLANGE SPLICE

Scale: 1" = 1'-0"



BOTTOM FLANGE SPLICE

Scale: 1" = 1'-0"

FIELD SPLICE DETAILS

Notes:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted. Bolted field splices may be eliminated or shop weld splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.

All field splice plates shall be AASHTO M270, Gr. 50W.
All field splice bolts shall be ⅞"" Dia. H.S. Bolts.
All field splice bolt holes shall be 15/16 " Dia.

Bolted field splices are designed as a slip critical connection with a class "B" coefficient.

Cross Frames and Field Splices shall be placed radially.

For Details of Welded Splices and Typical Detail for Unequal Width Flanges, see Drawing No. 56830.

For Inspection Walkway Details, see Drawings No. 56841 - 56849.

For Details of Safety Handrails, see Drawings No. 56850 - 56856.

For Drip Plate Details, See Drawing No. 56830.

1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 07/17/14 FILENAME: bbb0610_sa8.dgn
CHECKED BY: JOS DATE: 07/29/14
DESIGNED BY: DMS DATE: 07/09/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56827

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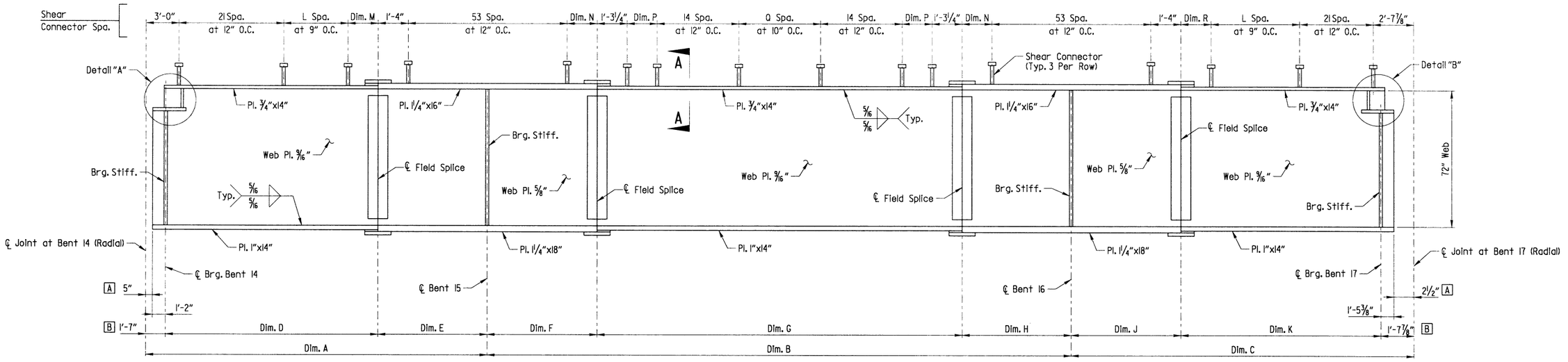
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	155	262
07343	-	372' CONT. UNIT	-	56828



A Measured perpendicular to Joint at 60° F.
B Measured perpendicular to Joint.

DEVELOPED GIRDER ELEVATION - UNIT 5

No Scale

PLATE GIRDER VARIABLES - UNIT 5 (ft)

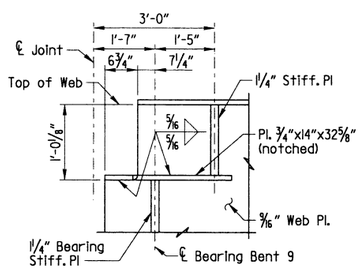
Girder No.	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	Dim. G	Dim. H	Dim. J	Dim. K
1	114'-6½"	144'-8¾"	114'-6½"	85'-4⅞"	29'-1⅞"	27'-1⅞"	90'-5⅜"	27'-1⅞"	29'-1⅞"	85'-4⅞"
2	114'-5⅝"	144'-6¾"	114'-5⅝"	85'-3⅝"	29'-1⅜"	27'-1¼"	90'-4¼"	27'-1¼"	29'-1⅜"	85'-3⅝"
3	114'-4⅛"	144'-5¼"	114'-4⅛"	85'-3⅛"	29'-1⅛"	27'-0⅝"	90'-3⅝"	27'-1"	29'-1"	85'-3⅛"
4	114'-2⅝"	144'-3¾"	114'-2⅝"	85'-2⅛"	29'-0¾"	27'-0¾"	90'-2⅝"	27'-0¾"	29'-0¾"	85'-2⅛"
5	114'-1¾"	144'-2¼"	114'-1¾"	85'-1⅝"	29'-0½"	27'-0⅛"	90'-1⅛"	27'-0⅛"	29'-0⅛"	85'-1⅝"
6	114'-0⅜"	144'-0¾"	114'-0⅜"	85'-0⅛"	29'-0⅛"	27'-0⅜"	90'-0½"	27'-0⅛"	29'-0⅜"	85'-0⅛"
7	113'-11⅞"	143'-11¼"	113'-11⅞"	84'-11⅝"	28'-11⅞"	26'-11⅝"	89'-11½"	26'-11⅞"	28'-11⅞"	84'-11⅝"
8	113'-10¼"	143'-9¾"	113'-10¼"	84'-10⅛"	28'-11⅜"	26'-11½"	89'-10⅝"	26'-11⅝"	28'-11½"	84'-10⅛"
9	113'-9⅛"	143'-8¼"	113'-9⅛"	84'-9⅝"	28'-11¼"	26'-11⅛"	89'-9⅛"	26'-11¼"	28'-11¼"	84'-9⅝"
10	113'-7⅞"	143'-6¾"	113'-7⅞"	84'-8⅝"	28'-11"	26'-11"	89'-8⅛"	26'-11⅛"	28'-10⅝"	84'-8⅝"
11	113'-6⅛"	143'-5¼"	113'-6⅛"	84'-8⅛"	28'-10⅝"	26'-10¾"	89'-7¼"	26'-10¾"	28'-10⅛"	84'-8⅛"
12	113'-5½"	143'-3¾"	113'-5½"	84'-7⅛"	28'-10⅝"	26'-10⅛"	89'-6⅛"	26'-10⅛"	28'-10⅝"	84'-7⅛"

Note: Dimensions measured along ℄ Girder.

SHEAR CONNECTOR VARIABLES

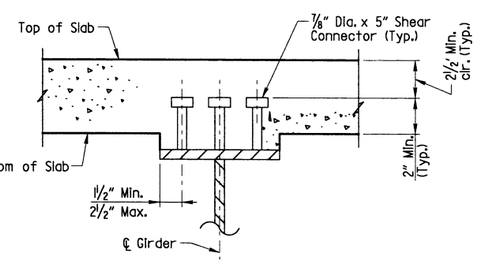
Girder No.	L Spa.	Dim. M	Dim. N	Dim. P	Q Spa.	R Spa.
1	80	16¾"	23¼"	9⅜"	70	16"
2	80	16"	22⅝"	8⅞"	70	15"
3	79	24"	22"	8⅜"	70	23⅛"
4	79	23⅛"	21½"	7⅞"	70	22⅜"
5	79	22¼"	20⅞"	7½"	70	21⅝"
6	79	21⅜"	20¼"	7"	70	20½"
7	79	20⅝"	19¾"	6½"	70	19¾"
8	79	19¾"	19⅛"	6"	70	18⅞"
9	79	18⅞"	18½"	10⅝"	69	17⅛"
10	79	18"	18"	10⅛"	69	17⅛"
11	79	17⅛"	17⅜"	9⅝"	69	16¼"
12	79	16⅛"	16¾"	9⅛"	69	15¼"

Note: Dimensions measured along ℄ Girder.



DETAIL "A"

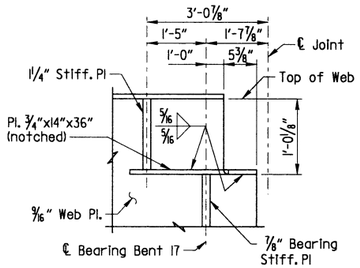
No Scale



SECTION A-A

Scale: 1" = 1'-0"

Stud Shear Connectors shown shall be ⅞" x 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the girder flange in accordance with the recommendations of the manufacturer. ¾" Dia. Studs may be used in place of the ⅞" Dia. Studs shown, at the ratio of 1.361-¾" Dia. Studs in place of one ⅞" Dia. Stud. ⅞" Dia. Studs will be used as basis for measurement of structural steel in shear connectors. Maximum Stud spacing as shown.



DETAIL "B"

No Scale

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 6 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

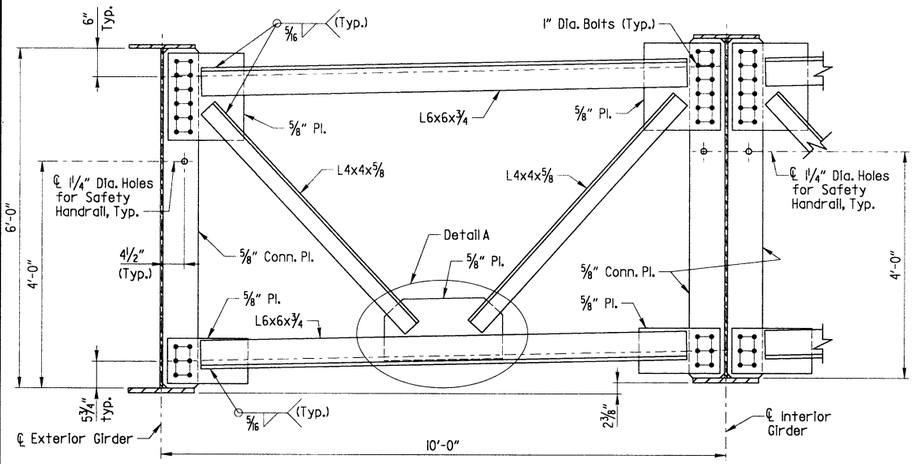
DRAWN BY:	CLS	DATE:	04/11/14	FILENAME:	bbb0610_sa9.dgn
CHECKED BY:	DS	DATE:	09/29/14		
DESIGNED BY:	DMS	DATE:	07/09/14	SCALE:	AS NOTED

BRIDGE NO. 07343 DRAWING NO. 56828

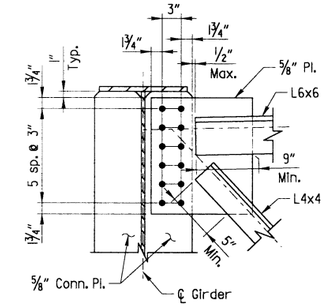
JACOBS

c:\pwworking\mal\graftenreedlh\d0116351\B2620WhiteRiverBridgeGirder04.dgn
12:56:46 PM
8/29/2016

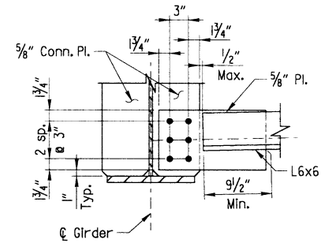
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	156	262
				1	07343	- 372' CONT. UNIT -		56829



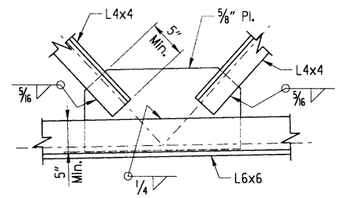
CROSS FRAME DETAIL
Girders 1 Thru 6 & 7 Thru 12
Scale: 3/4" = 1'-0"



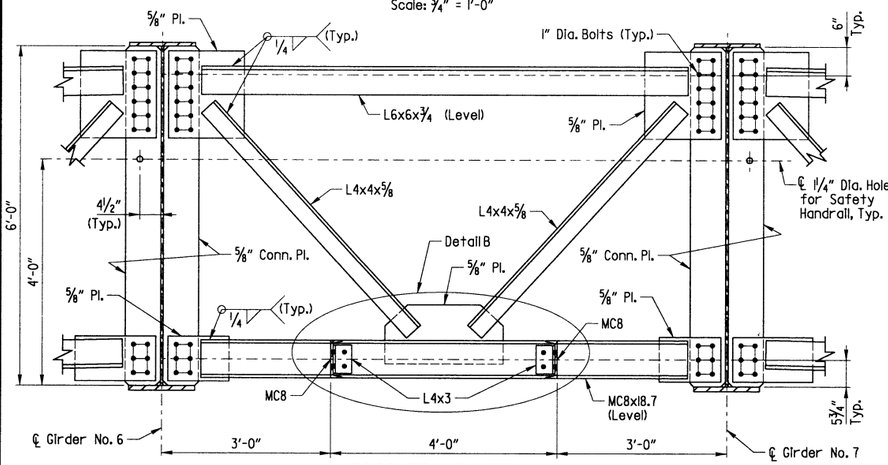
UPPER CROSS FRAME CONNECTION
Girders 1 Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



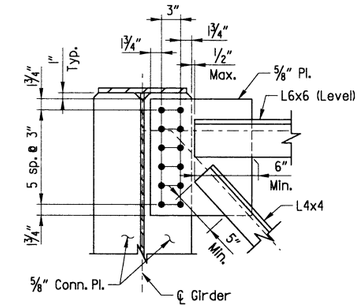
LOWER CROSS FRAME CONNECTION
Girders 1 Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



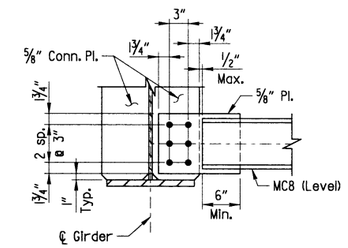
DETAIL A
Girders 1 Thru 6 & 7 Thru 12
Scale: 1" = 1'-0"



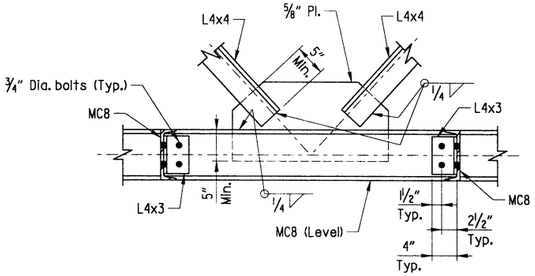
CROSS FRAME DETAIL
Between Girders 6 & 7
Scale: 3/4" = 1'-0"



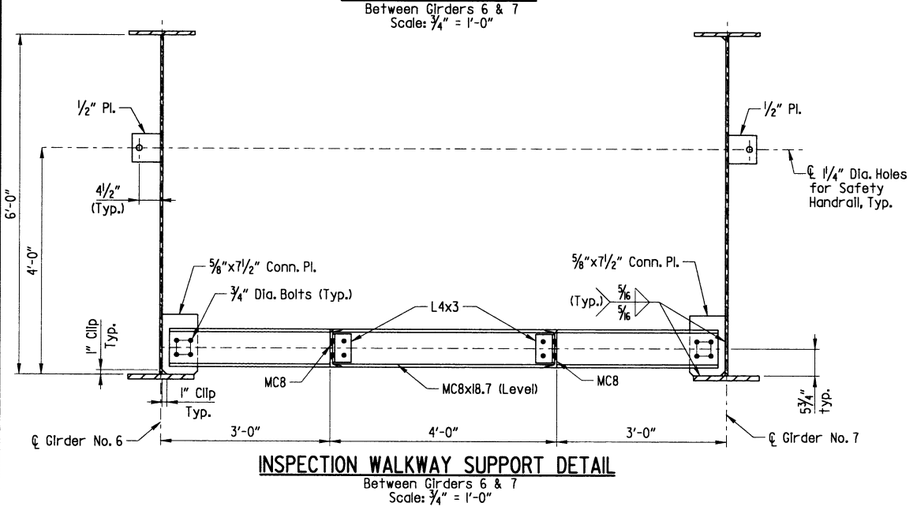
UPPER CROSS FRAME CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"



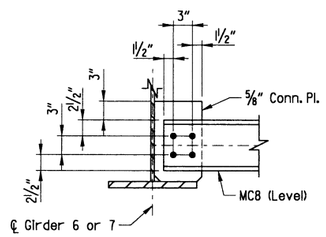
LOWER CROSS FRAME CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"



DETAIL B
Between Girders 6 & 7
Scale: 1" = 1'-0"



INSPECTION WALKWAY SUPPORT DETAIL
Between Girders 6 & 7
Scale: 3/4" = 1'-0"



INSPECTION WALKWAY SUPPORT CONNECTION
Between Girders 6 & 7
Scale: 1" = 1'-0"

Notes:
Loosely install bolts in the center bay between Girder No. 6 and Girder No. 7 if optional longitudinal joint in deck is used. Fully tighten bolts after deck pours are complete.

Bolts in cross frame connections shall be properly installed and tightened in accordance with subsection 807.7.1 of the Standard Specifications.

For Details of Safety Handrails, See Drawing Nos. 56850 to 56854.

For Details of Inspection Walkway, See Drawing Nos. 56841 to 56849.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 7 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

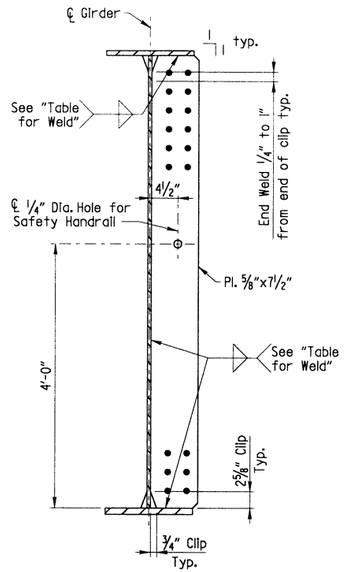
DRAWN BY: EAK DATE: 05/29/2014 FILENAME: bbb0610_sla.dgn
CHECKED BY: SEM DATE: 08/06/2014
DESIGNED BY: DMS DATE: 06/25/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56829

JACOBS

c:\pwworking\ndl\graftenreedjh\d0111635\B2620WhiteRiverBridgeCrossFrames03.dgn
12:56:52 PM
8/29/2016

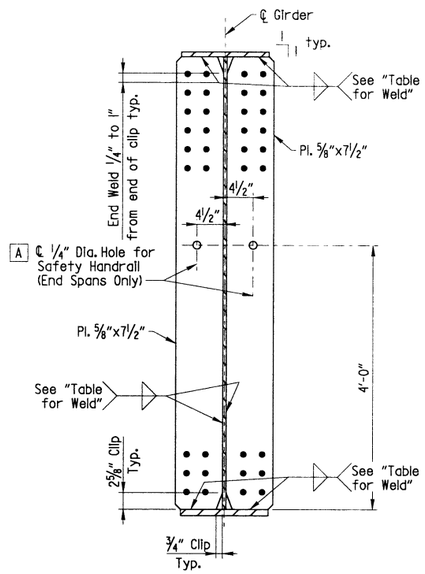
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	157	262
1 07343	-	372' CONT. UNIT	-	56830



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT EXTERIOR GIRDERS

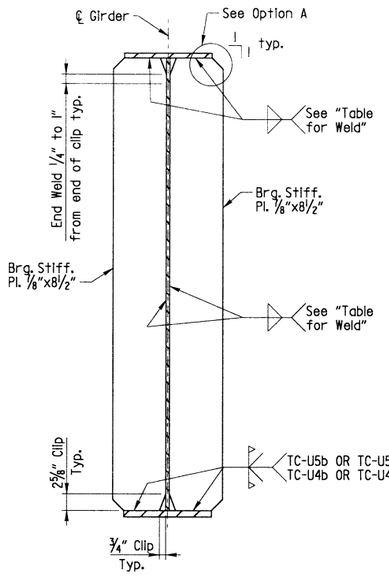
Scale: 1" = 1'-0"



INTERMEDIATE CROSS FRAME CONNECTION PLATE AT INTERIOR GIRDERS

Scale: 1" = 1'-0"

A Holes for Safety Handrail shall be omitted in the interior bay between Girders 6 & 7 within the limits of the Inspection Walkway. See Drawing Nos. 56841 - 56842 and 56850 - 56854.

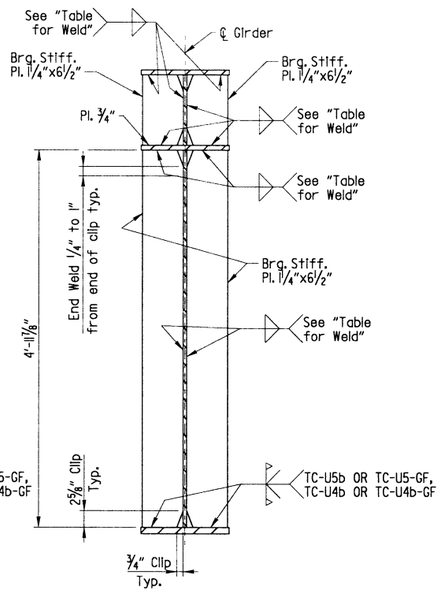


BEARING STIFFENERS

Scale: 1" = 1'-0"

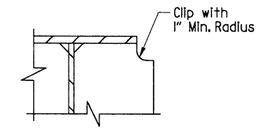
Notes:
Bearing Stiffeners to be fabricated so as to be vertical in their final position.

Bolts in Cross Frame connections shall be properly installed and tightened in accordance with subsection 807.71 except as noted.



BEARING STIFFENERS AT BENT 14 AND 17

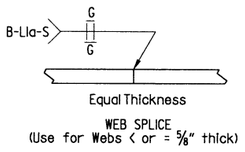
Scale: 1" = 1'-0"



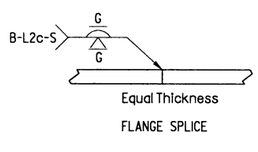
OPTION A

Scale: 1½" = 1'-0"

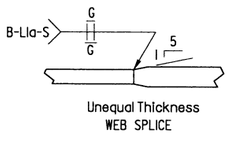
Note:
If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.



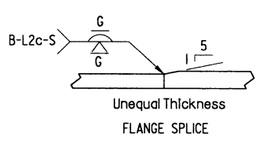
WEB SPLICE
(Use for Webs < or = 5/8" thick)



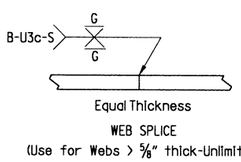
FLANGE SPLICE



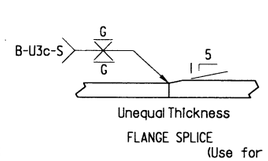
WEB SPLICE



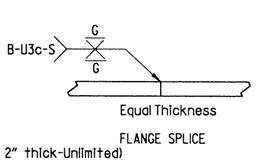
FLANGE SPLICE



WEB SPLICE
(Use for Webs > 5/8" thick-Unlimited)



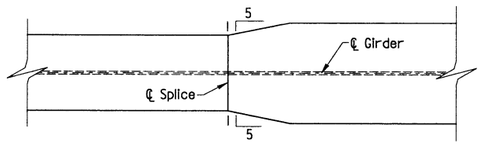
FLANGE SPLICE



FLANGE SPLICE
(Use for Webs 2" thick-Unlimited)

DETAILS OF WELDED SPLICES

(No Scale)



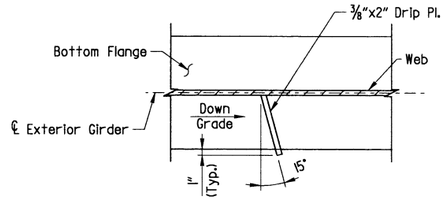
TYPICAL DETAIL FOR UNEQUAL WIDTH FLANGES

(No Scale)

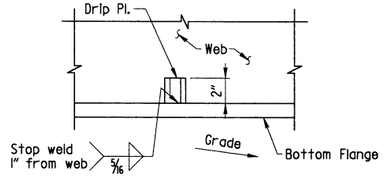
Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To ¾" Inclusive	¼	
Over ¾"	5/16	

Note: when a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.

TABLE FOR WELD



PLAN



ELEVATION

BOTTOM FLANGE DRIP PLATE

Scale: N.T.S.

Bottom flange drip pl. to be welded to the outside flange of the exterior girders. Locate drip pl. 7'-0" from ℄ Bearing on the high side of each bent.

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 8 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 08/04/2014 FILENAME: bbb0610_slb.dgn
CHECKED BY: SEM DATE: 08/08/2014
DESIGNED BY: DMS DATE: 06/25/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56830

JACOBS

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12:56:58 PM
8/29/2016

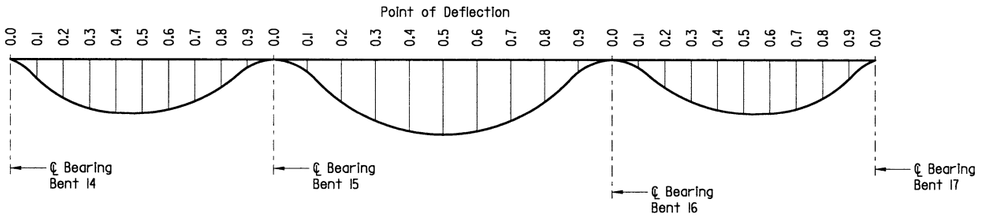
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	158	262
				(1) 07343		372' CONT. UNIT		56831

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

	Point of Deflection	Structural Steel												Structural Steel + Slab											
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12
℄ Brg. Bent 14 to ℄ Brg. Bent 15	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.092	0.094	0.096	0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.096	0.095	0.421	0.444	0.464	0.477	0.485	0.491	0.492	0.488	0.482	0.474	0.463	0.448
	0.2	0.169	0.173	0.176	0.178	0.178	0.178	0.178	0.178	0.179	0.178	0.176	0.174	0.772	0.816	0.850	0.874	0.889	0.899	0.901	0.894	0.884	0.869	0.847	0.819
	0.3	0.220	0.225	0.229	0.231	0.231	0.231	0.232	0.232	0.232	0.232	0.230	0.226	1.004	1.059	1.104	1.133	1.152	1.166	1.170	1.162	1.147	1.128	1.099	1.061
	0.4	0.240	0.246	0.250	0.252	0.252	0.252	0.252	0.253	0.253	0.253	0.250	0.246	1.091	1.153	1.200	1.231	1.251	1.266	1.269	1.261	1.245	1.225	1.192	1.148
	0.5	0.228	0.234	0.237	0.239	0.239	0.239	0.240	0.240	0.240	0.240	0.237	0.234	1.031	1.089	1.132	1.162	1.182	1.196	1.200	1.190	1.176	1.156	1.123	1.081
	0.6	0.189	0.193	0.196	0.197	0.198	0.198	0.198	0.199	0.199	0.198	0.196	0.193	0.847	0.895	0.930	0.953	0.971	0.983	0.985	0.978	0.965	0.947	0.921	0.884
	0.7	0.132	0.135	0.137	0.137	0.138	0.137	0.138	0.138	0.138	0.137	0.136	0.134	0.586	0.619	0.643	0.657	0.670	0.678	0.680	0.674	0.665	0.652	0.634	0.608
	0.8	0.071	0.073	0.074	0.074	0.074	0.074	0.074	0.074	0.074	0.073	0.073	0.071	0.311	0.330	0.343	0.350	0.356	0.361	0.362	0.358	0.353	0.346	0.337	0.321
	0.9	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.021	0.093	0.098	0.101	0.103	0.105	0.107	0.107	0.105	0.104	0.102	0.099	0.094
℄ Brg. Bent 15 to ℄ Brg. Bent 16	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.029	0.030	0.031	0.031	0.032	0.032	0.033	0.033	0.033	0.033	0.033	0.033	0.142	0.150	0.157	0.160	0.164	0.166	0.168	0.168	0.166	0.164	0.159	0.155
	0.2	0.101	0.104	0.107	0.109	0.110	0.111	0.112	0.113	0.113	0.113	0.106	0.111	0.483	0.511	0.532	0.547	0.557	0.565	0.569	0.567	0.562	0.555	0.509	0.520
	0.3	0.179	0.185	0.190	0.193	0.195	0.197	0.198	0.199	0.200	0.200	0.195	0.196	0.847	0.896	0.933	0.958	0.976	0.992	0.997	0.993	0.985	0.972	0.930	0.911
	0.4	0.241	0.249	0.255	0.259	0.262	0.265	0.266	0.268	0.269	0.269	0.265	0.264	1.130	1.194	1.242	1.276	1.302	1.323	1.328	1.323	1.312	1.293	1.252	1.214
	0.5	0.265	0.273	0.280	0.286	0.289	0.292	0.293	0.295	0.297	0.296	0.294	0.291	1.235	1.303	1.355	1.394	1.423	1.448	1.451	1.445	1.435	1.410	1.374	1.324
	0.6	0.241	0.249	0.256	0.261	0.265	0.267	0.269	0.271	0.272	0.272	0.270	0.267	1.118	1.181	1.229	1.264	1.291	1.310	1.317	1.312	1.300	1.280	1.246	1.200
	0.7	0.181	0.188	0.194	0.198	0.201	0.203	0.205	0.206	0.207	0.207	0.206	0.204	0.839	0.888	0.925	0.950	0.970	0.985	0.992	0.987	0.978	0.964	0.939	0.903
	0.8	0.096	0.100	0.104	0.107	0.109	0.111	0.112	0.113	0.114	0.114	0.114	0.112	0.449	0.477	0.498	0.512	0.523	0.533	0.536	0.533	0.529	0.522	0.510	0.487
	0.9	0.027	0.029	0.031	0.032	0.034	0.034	0.035	0.036	0.036	0.036	0.036	0.036	0.131	0.141	0.148	0.152	0.157	0.159	0.161	0.161	0.160	0.158	0.154	0.148
℄ Brg. Bent 16 to ℄ Brg. Bent 17	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.026	0.026	0.025	0.024	0.023	0.022	0.022	0.022	0.022	0.022	0.021	0.021	0.114	0.119	0.122	0.124	0.125	0.126	0.126	0.124	0.123	0.120	0.116	0.111
	0.2	0.081	0.080	0.079	0.077	0.075	0.074	0.073	0.073	0.073	0.072	0.071	0.070	0.359	0.376	0.388	0.395	0.399	0.403	0.403	0.399	0.394	0.386	0.373	0.357
	0.3	0.147	0.147	0.146	0.143	0.140	0.138	0.137	0.137	0.137	0.136	0.134	0.132	0.659	0.692	0.715	0.728	0.737	0.745	0.745	0.738	0.728	0.714	0.692	0.661
	0.4	0.210	0.210	0.209	0.205	0.201	0.198	0.197	0.197	0.197	0.196	0.194	0.191	0.941	0.988	1.021	1.041	1.054	1.064	1.065	1.056	1.042	1.022	0.991	0.948
	0.5	0.253	0.255	0.253	0.248	0.243	0.240	0.238	0.239	0.239	0.238	0.236	0.232	1.134	1.191	1.231	1.255	1.270	1.282	1.282	1.273	1.257	1.233	1.196	1.145
	0.6	0.267	0.270	0.268	0.261	0.256	0.252	0.251	0.252	0.252	0.251	0.249	0.245	1.192	1.254	1.296	1.319	1.335	1.346	1.347	1.338	1.320	1.296	1.257	1.204
	0.7	0.245	0.250	0.247	0.240	0.235	0.232	0.231	0.231	0.231	0.231	0.229	0.225	1.092	1.150	1.188	1.209	1.223	1.234	1.235	1.225	1.209	1.188	1.152	1.104
	0.8	0.189	0.196	0.191	0.184	0.180	0.178	0.177	0.177	0.178	0.177	0.176	0.173	0.838	0.887	0.913	0.927	0.939	0.948	0.947	0.939	0.928	0.911	0.884	0.847
	0.9	0.103	0.110	0.105	0.100	0.098	0.097	0.097	0.097	0.097	0.097	0.096	0.094	0.456	0.486	0.498	0.504	0.511	0.516	0.516	0.512	0.505	0.496	0.482	0.461
	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

	Point of Deflection	Structural Steel + Slab + Parapets + Median Barrier											
		Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11	Girder 12
℄ Brg. Bent 14 to ℄ Brg. Bent 15	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.447	0.470	0.490	0.503	0.511	0.517	0.518	0.514	0.508	0.500	0.490	0.475
	0.2	0.820	0.863	0.897	0.921	0.936	0.946	0.948	0.941	0.932	0.917	0.896	0.869
	0.3	1.066	1.121	1.165	1.194	1.213	1.227	1.232	1.224	1.209	1.191	1.163	1.126
	0.4	1.159	1.220	1.266	1.297	1.318	1.333	1.336	1.328	1.312	1.293	1.261	1.219
	0.5	1.095	1.152	1.195	1.225	1.245	1.259	1.264	1.254	1.240	1.220	1.189	1.148
	0.6	0.900	0.947	0.982	1.005	1.023	1.035	1.037	1.030	1.018	1.000	0.975	0.939
	0.7	0.622	0.655	0.679	0.693	0.706	0.714	0.716	0.710	0.701	0.688	0.671	0.646
	0.8	0.330	0.349	0.361	0.368	0.374	0.380	0.381	0.377	0.372	0.365	0.356	0.341
	0.9	0.098	0.103	0.106	0.108	0.110	0.112	0.112	0.110	0.109	0.107	0.104	0.099
℄ Brg. Bent 15 to ℄ Brg. Bent 16	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.154	0.162	0.169	0.172	0.176	0.178	0.180	0.180	0.178	0.176	0.171	0.167
	0.2	0.520	0.548	0.568	0.583	0.593	0.602	0.606	0.604	0.599	0.592	0.545	0.559
	0.3	0.910	0.959	0.995	1.020	1.038	1.055	1.060	1.056	1.048	1.036	0.994	0.977
	0.4	1.214	1.277	1.324	1.358	1.384	1.406	1.411	1.406	1.396	1.377	1.337	1.302
	0.5	1.327	1.393	1.445	1.484	1.513	1.538	1.542	1.536	1.526	1.502	1.468	1.420
	0.6	1.202	1.264	1.312	1.347	1.374	1.393	1.401	1.396	1.384	1.365	1.332	1.288
	0.7	0.904	0.952	0.989	1.014	1.034	1.049	1.057	1.052	1.043	1.030	1.006	0.971
	0.8	0.486	0.514	0.534	0.548	0.559	0.570	0.573	0.570	0.566	0.559	0.548	0.526
	0.9	0.143	0.153	0.160	0.164	0.169	0.171	0.173	0.173	0.172	0.171	0.167	0.161
℄ Brg. Bent 16 to ℄ Brg. Bent 17	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.119	0.124	0.127	0.129	0.130	0.131	0.131	0.129	0.128	0.125	0.121	0.116
	0.2	0.378	0.395	0.406	0.413	0.417	0.422	0.422	0.418	0.413	0.405	0.392	0.377
	0.3	0.695	0.728	0.751	0.763	0.773	0.781	0.781	0.774	0.764	0.750	0.729	0.699
	0.4	0.994	1.040	1.073	1.093	1.106	1.116	1.117	1.108	1.094	1.075	1.045	1.003
	0.5	1.198	1.254	1.294	1.318	1.333	1.345	1.345	1.337	1.321	1.297	1.262	1.212
	0.6	1.260	1.321	1.362	1.385	1.402	1.413	1.414	1.405	1.387	1.364	1.326	1.275
	0.7	1.154	1.212	1.249	1.270	1.284	1.295	1.297	1.287	1.271	1.251	1.216	1.169
	0.8	0.886	0.934	0.960	0.974	0.986	0.995	0.994	0.986	0.976	0.959	0.933	0.897
	0.9	0.482	0.512	0.524	0.530	0.537	0.542	0.542	0.538	0.531	0.522	0.509	0.488
	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Dead Load Deflections based on removable forms. If non-matching stay-in-place forms are used, ribs shall be filled with a lightweight material positively attached to the forms.



DEAD LOAD DEFLECTION DIAGRAM

Note:
Camber for Dead Load Deflection plus Vertical Curve +/- 1/4" tolerance. Deflections shown are from a chord from ℄ Bearing to ℄ Bearing. Vertical Curve corrections not included.
Negative sign (-) indicates point above curve.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 9 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 07/25/2014 FILENAME: bbb0610_slc.dgn
CHECKED BY: SEM DATE: 07/25/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: NONE
BRIDGE NO. 07343 DRAWING NO. 56831

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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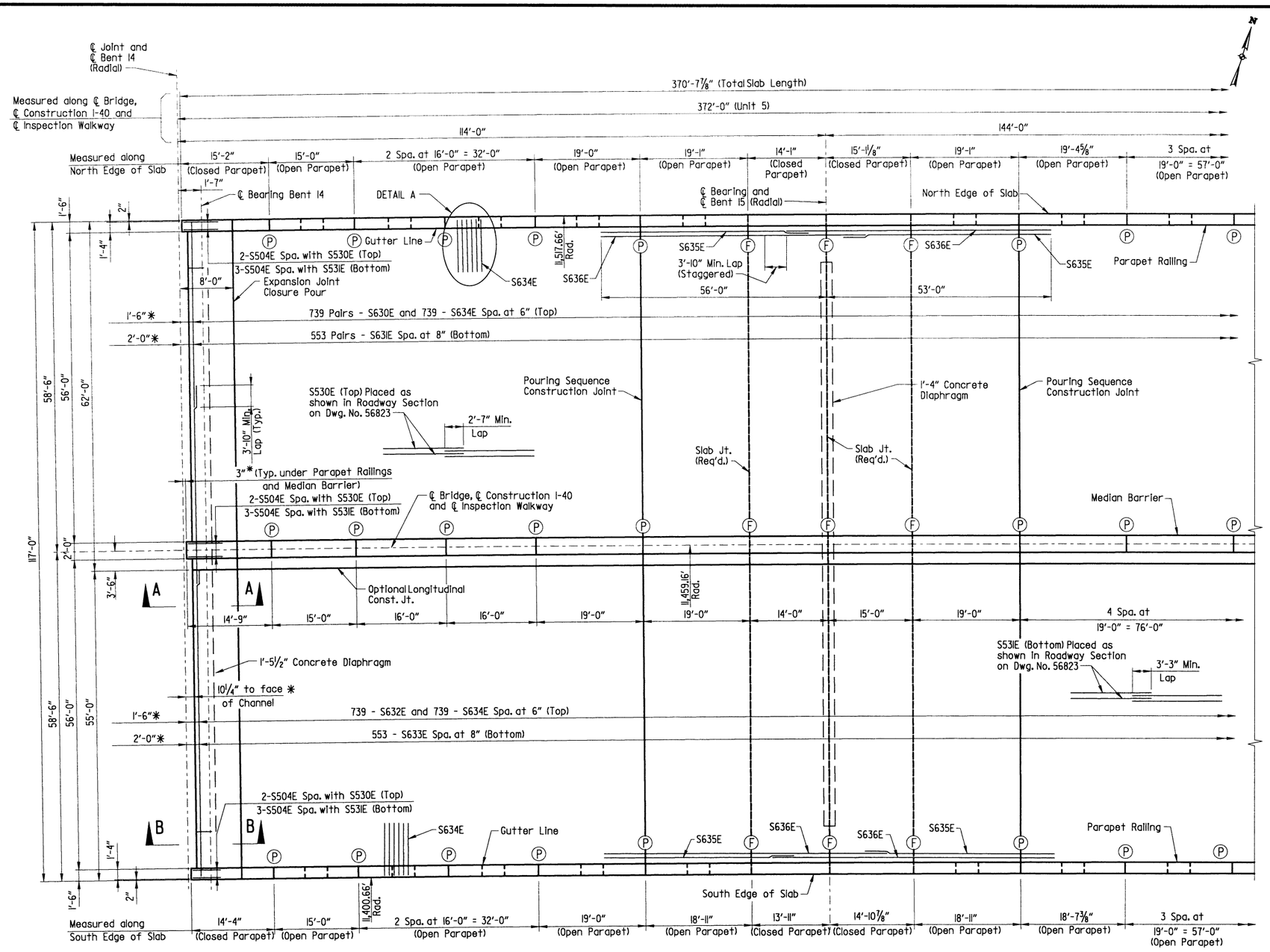
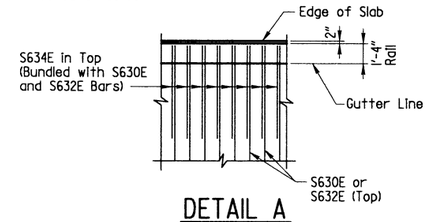
				JOB NO.		BB0610	159	262
				1	07343	- 372' CONT. UNIT	-	56832



*Measured at 60°F.



DETAIL A

REINFORCING PLAN - UNIT 5

No Scale

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Section A-A, B-B, C-C AND D-D, see Dwg. No. 56834.

For Slab Pouring Sequence, see Dwg. No. 56834.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 10 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 04/01/2014 FILENAME: bbb0610_sld.dgn
CHECKED BY: SEM DATE: 01/21/2015
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56832

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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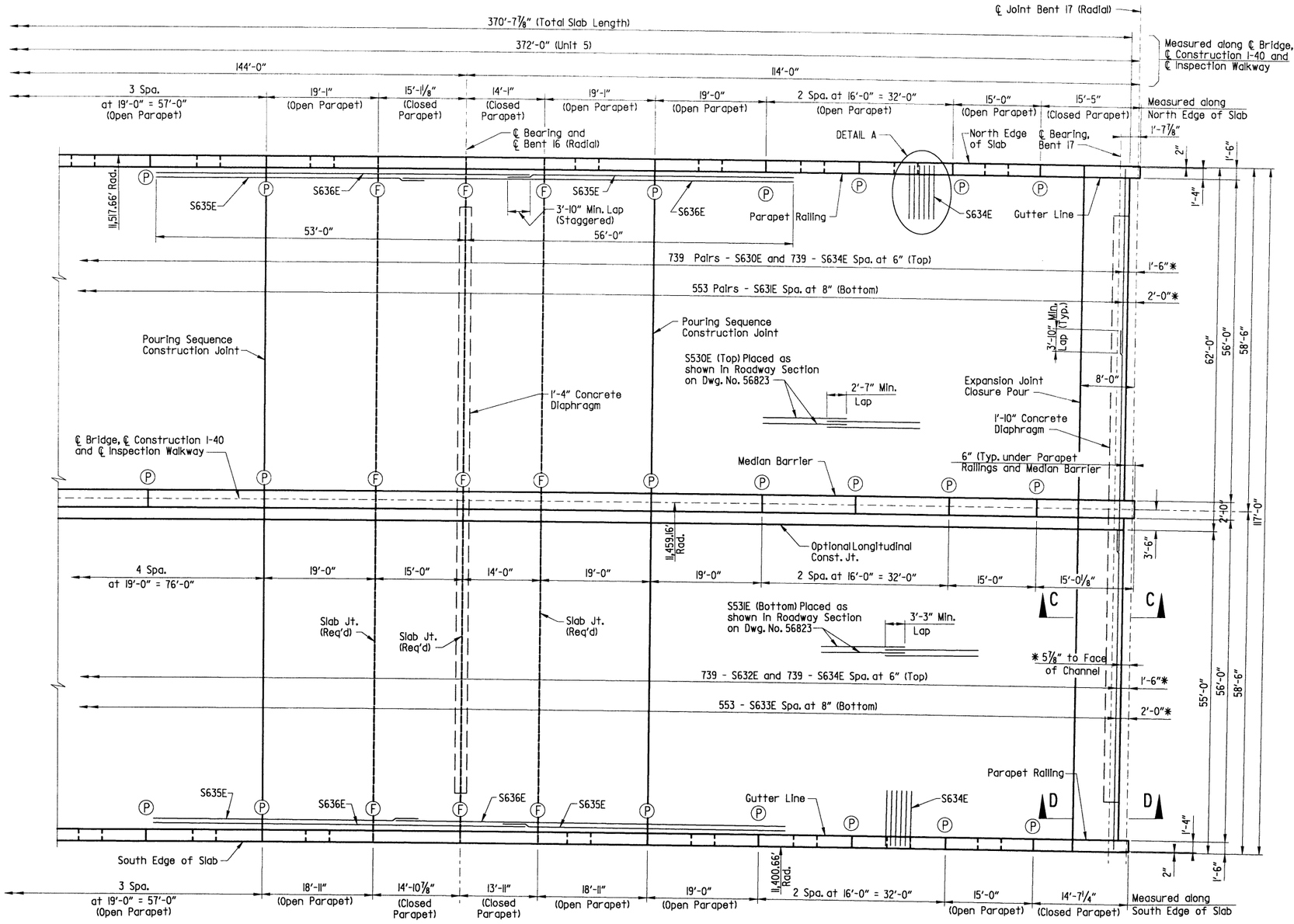
				JOB NO.		BB0610	160	262
				(1) 07343	-	372' CONT. UNIT	-	56833



REINFORCING PLAN - UNIT 5

Scale: 1" = 10'-0"

Ⓟ ℄ Partial Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 1'-6" from top of slab.

Ⓕ ℄ Full Depth Parapet or Median Barrier Joint (1/4 " to 1" Max.) Stop 4" from top of slab.

Note:
Spacing of Transverse Reinforcing is along ℄ Bridge and is radial thru curve.

For Detail A, see Dwg. No. 56832.

For Section A-A, B-B, C-C and D-D, see Dwg. No. 56834.

For Slab Pouring Sequence, see Dwg. No. 56834.

* Measured at 60° F.

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 11 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 04/01/2014 FILENAME: bbb0610_sle.dgn
CHECKED BY: SEM DATE: 01/21/2015
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56833

JACOBS

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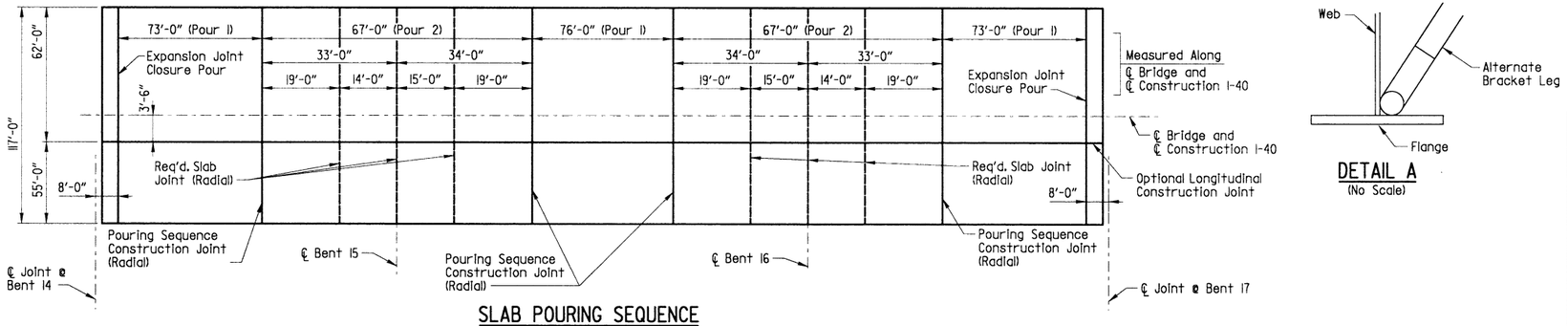
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	161	262
				(1) 07343	-	372' CONT. UNIT	-	56834



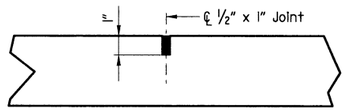
SLAB POURING SEQUENCE

(No Scale)

Note: All concrete diaphragms shall be poured a minimum of 48 hours before the first deck pour. Pours must be placed in sequence shown. No deviations allowed. Pours with the same number may be placed simultaneously or separately. All pour(s) 1 must be completed before pour(s) 2 can be placed. Deflections based on pouring sequence. A minimum of 48 hours shall elapse between the end of a pour and the start of the next pour. Should the Contractor use the Optional Longitudinal Construction Joint, a minimum of 72 hours shall elapse between the end of one pour and the start of the adjacent pours. A minimum of 72 hours shall elapse between the end of the slab pour and the start of the parapet or median barrier pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer.

Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

After all incremental pours on both Units adjacent to Finger Joint at Bent 14 are complete, closure pours on each side of finger joint shall be poured simultaneously. See Drawing No. 56745 for sequence of concrete placement at Bent 17. A minimum of 48 hours shall elapse between the last incremental pour and the closure pours.

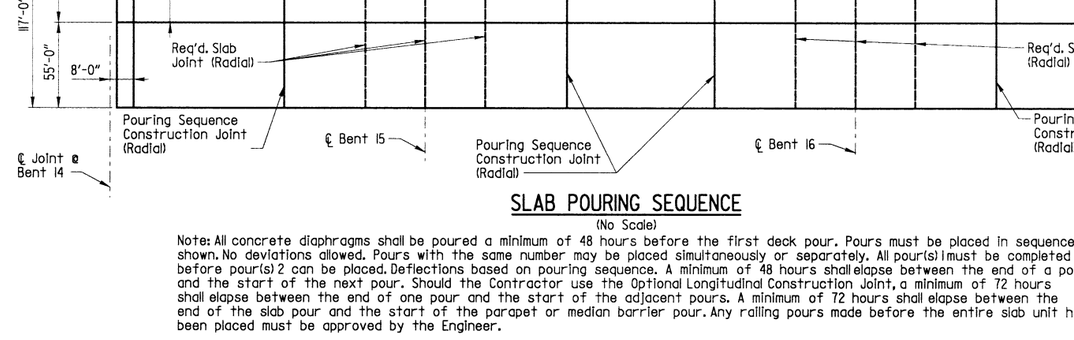


Slab Joints
Use Type 3 or 4 Joint Sealer. See Subsections 501.02 (h)(2) and 501.05 (j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). No joint sealer shall be placed on the deck slab under the parapet railing or median barrier. Slab joints shall align with parapet and median barrier open joints except for slab joint at closure pour at finger joint.

Optional Longitudinal Construction Joint
Use Type 3 or 4 Joint Sealer. See Subsection 501.02(h)(2) and 501.5(j). Backer Rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. This joint shall be formed. Seal must be gray or other color similar to concrete.

SLAB JOINT DETAIL AND OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

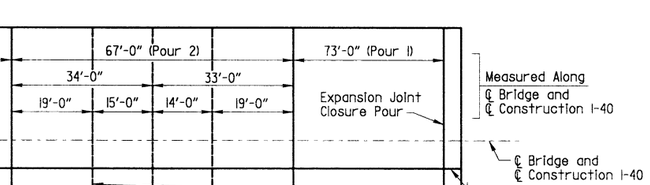
(No Scale)



SCREED RAIL SUPPORT

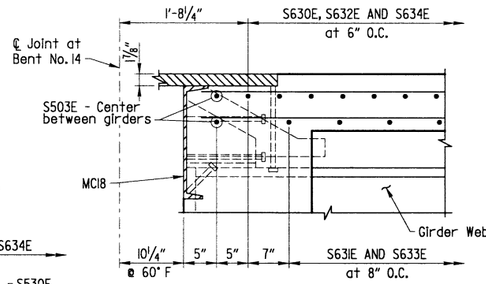
(No Scale)

Note: If a transverse finishing machine is used, the rail shall be supported directly over the exterior girders, or as an alternate, the rail may be supported by the overhang brackets if above the strutting system is used. The strutting system may be omitted if ⅝" x 7½" web stiffeners are welded to the insides of the exterior girders at the location of each bracket or if the alternate bracket arrangement shown is used. The Alternate Bracket arrangement shall extend down to the junction of the web and bottom flange. The stiffener shall conform to the details for Crossframe connection plates shown on Drawing No. 56830.
No direct payment will be made for brackets, timber bracing, supports, or welded stiffeners. Payment shall be subsidiary to "Structural Steel in Plate Girder Spans (M270. Gr. 50W)"



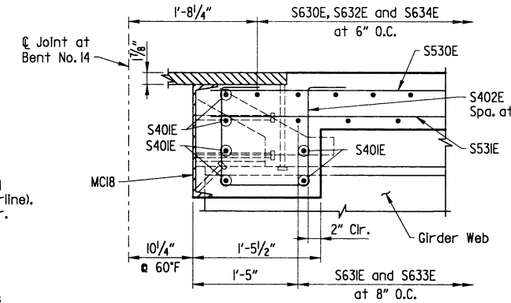
DETAIL A

(No Scale)



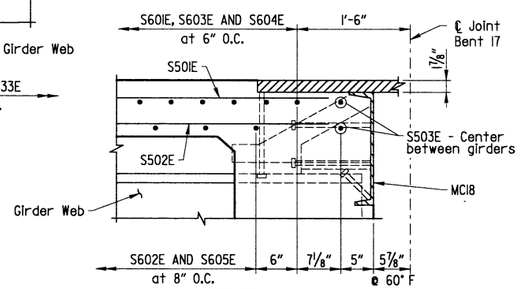
SECTION A-A

(No Scale)



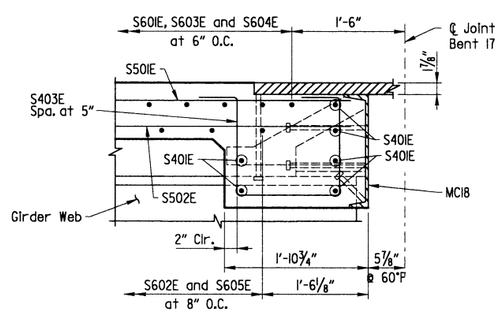
SECTION B-B

(No Scale)
(On Cantilever Only at Bent 14)



SECTION C-C

(No Scale)



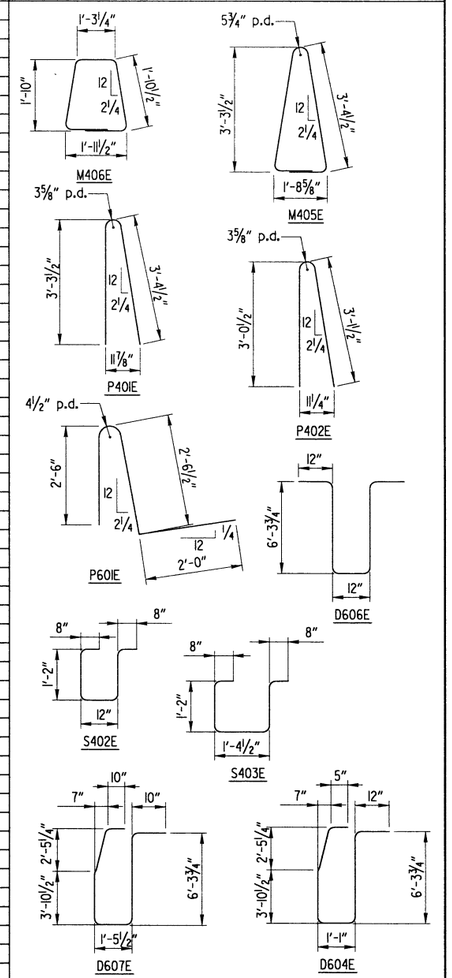
SECTION D-D

(No Scale)
(On Cantilever Bent 17)

BAR LIST - UNIT 5

Mark	No. Required	Length	Pin Dia.
S401E	24	1'-10"	Str.
S402E	10	4'-3"	3"
S403E	10	4'-7½"	3"
S530E	800	39'-5"	Str.
S531E	1310	40'-0"	Str.
S503E	44	9'-7"	Str.
S504E	15	3'-3"	Str.
S630E	1478	34'-9"	Str.
S631E	1106	34'-9"	Str.
S632E	740	54'-10"	Str.
S633E	555	54'-10"	Str.
S634E	1478	10'-7"	Str.
S635E	308	52'-10"	Str.
S636E	308	60'-0"	Str.
P401E	1397	5'-10"	3⅝"
P402E	256	5'-4"	3⅝"
P550E	48	51'-6"	Str.
P551E	24	58'-7"	Str.
P552E	5	14'-0"	Str.
P553E	22	13'-7"	Str.
P554E	22	13'-9"	Str.
P555E	5	14'-3⅛"	Str.
P556E	5	14'-10"	Str.
P557E	22	14'-6¾"	Str.
P558E	20	14'-8"	Str.
P559E	22	14'-9"	Str.
P560E	5	15'-1"	Str.
P561E	40	15'-8"	Str.
P562E	5	18'-3¼"	Str.
P563E	44	18'-7"	Str.
P564E	50	18'-8"	Str.
P565E	44	18'-9"	Str.
P566E	5	19'-0½"	Str.
P601E	1397	7'-3"	4½"
M405E	742	9'-4"	3⅝"
M406E	742	7'-2"	3⅝"
M525E	14	55'-10"	Str.
M526E	16	51'-5"	Str.
M527E	8	58'-3½"	Str.
M528E	6	13'-8"	Str.
M529E	4	14'-5"	Str.
M530E	4	14'-7¾"	Str.
M531E	14	14'-8"	Str.
M532E	16	15'-8"	Str.
M533E	48	18'-8"	Str.
D601E	968	9'-8"	Str.
D602E	8	8'-2"	Str.
D603E	48	5'-6"	Str.
D604E	165	14'-7¼"	4½"
D605E	176	5'-4"	Str.
D606E	330	15'-3"	4½"
D607E	165	15'-2¾"	4½"

Bending Diagrams
Dimensions shown are out to out of bars



Note: All bars designated with an "E" suffix are to be epoxy coated.

⚠1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 12 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 06/01/2014 FILENAME: bbb0610_slf.dgn
CHECKED BY: SGK DATE: 07/01/2014
DESIGNED BY: DS DATE: 03/01/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56834

JACOBS

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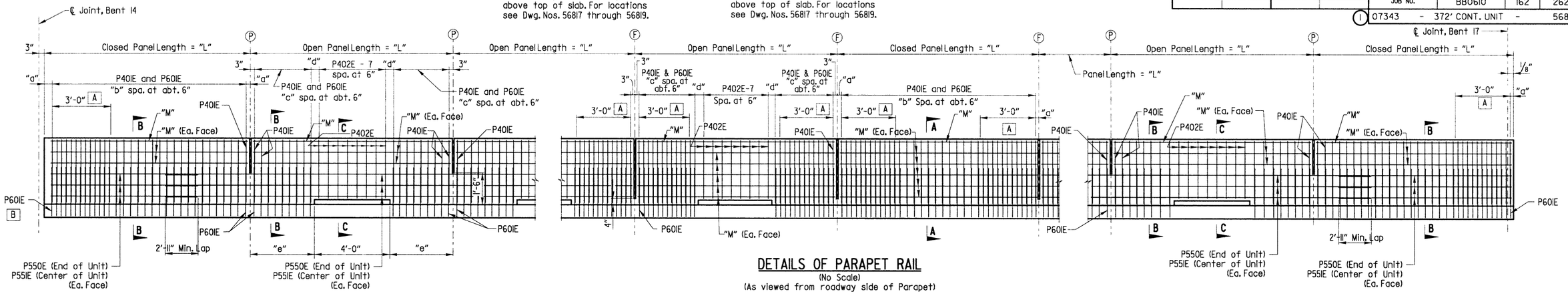
12:57:24 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	162	262
07343	-	372' CONT. UNIT	-	56835

(P) Partial Depth Parapet Joint 1/4" to 1" Max. Open Joint). Stop 1'-6" above top of slab. For locations see Dwg. Nos. 56817 through 56819.

(F) Full Depth Parapet Joint 1/4" to 1" Max. Open Joint). Stop 4" above top of slab. For locations see Dwg. Nos. 56817 through 56819.

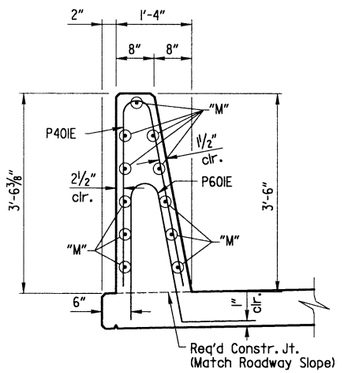


DETAILS OF PARAPET RAIL

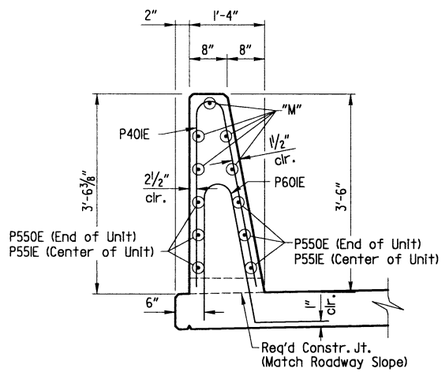
(No Scale)
(As viewed from roadway side of Parapet)

A Provide an additional 6-P401E and 6-P601E at about 3" spacing in the region adjacent to a full depth parapet joint.

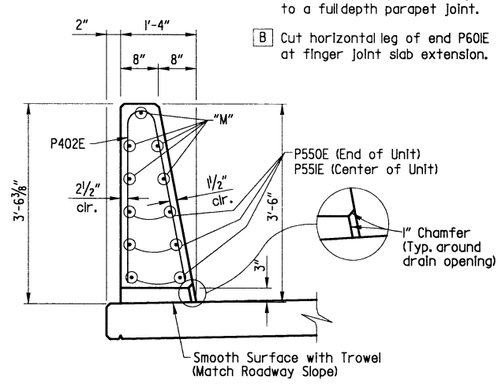
B Cut horizontal leg of end P601E at finger joint slab extension.



SECTION A-A
(No Scale)



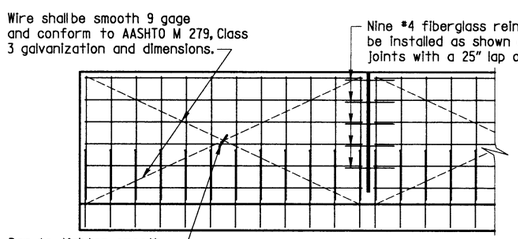
SECTION B-B
(No Scale)



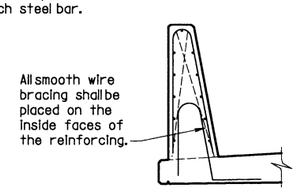
SECTION C-C
(No Scale)

PARAPET RAIL VARIABLES - UNIT 5

Number of Panels	Panel Length "L"	Panel Type	Closed Parapet "a"	Closed Parapet "b"	Open Parapet "c"	Open Parapet "d"	Open Parapet "e"	"M" Bar
1	14'-4"	Closed	5"	27	-	-	-	P552E
2	13'-11"	Closed	2 1/2"	27	-	-	-	P553E
2	14'-1"	Closed	3 1/2"	27	-	-	-	P554E
1	14'-7 1/4"	Closed	3"	28	-	-	-	P555E
1	15'-2"	Closed	4"	29	-	-	-	P556E
2	14'-10 7/8"	Closed	2 1/2"	29	-	-	-	P557E
4	15'-0"	Open	-	-	10	6"	5'-6"	P558E
2	15'-1 1/8"	Closed	3 5/8"	29	-	-	-	P559E
1	15'-5"	Closed	4 7/8"	29	-	-	-	P560E
8	16'-0"	Open	-	-	11	6"	6'-0"	P561E
1	18'-7 3/8"	Open	-	-	14	3 11/16"	7'-3 11/16"	P562E
4	18'-11"	Open	-	-	14	5 1/2"	7'-5 1/2"	P563E
10	19'-0"	Open	-	-	14	6"	7'-6"	P564E
4	19'-1"	Open	-	-	14	6 1/2"	7'-6 1/2"	P565E
1	19'-4 5/8"	Open	-	-	14	8 5/16"	7'-8 5/16"	P566E



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing steel, see parapet details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

(No Scale)

1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 13 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/02/2014 FILENAME: bbb0610_pxl.dgn
CHECKED BY: SEM DATE: 06/03/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56835

JACOBS

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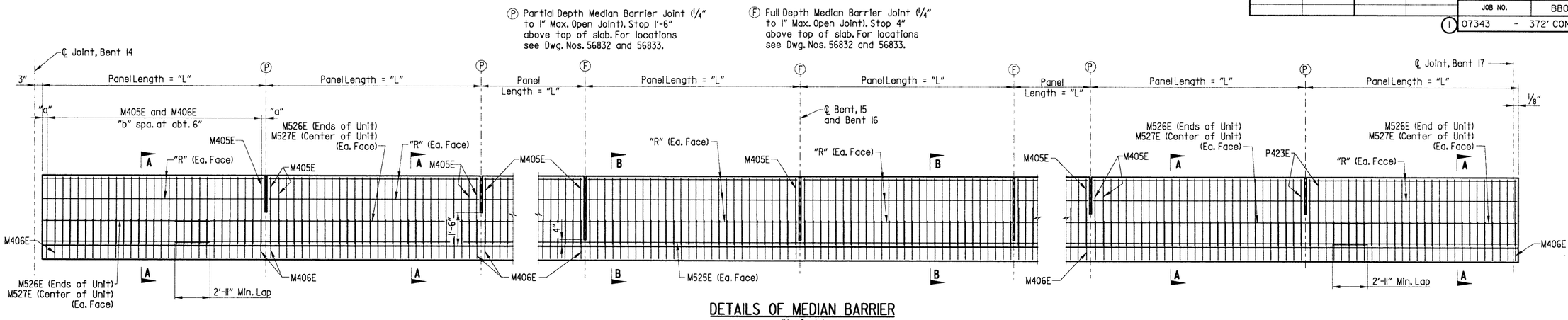
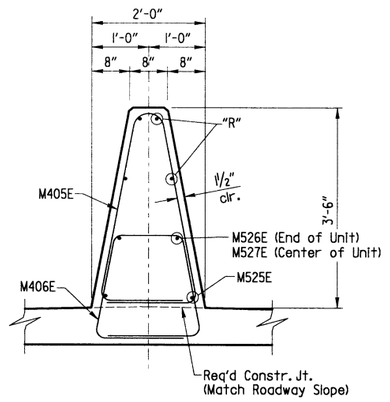
12:57:29 PM
8/29/2016

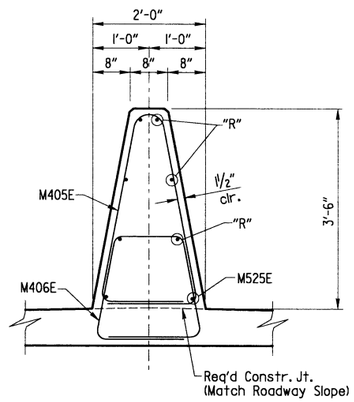
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	163	262
				(1) 07343	-	372' CONT. UNIT	-	56836



DETAILS OF MEDIAN BARRIER
(No Scale)

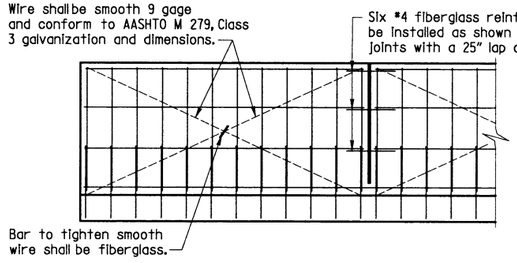


SECTION A-A
(No Scale)

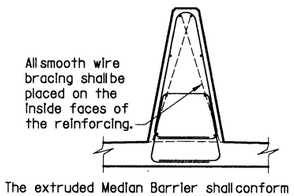


SECTION B-B
(No Scale)

MEDIAN BARRIER VARIABLES UNIT 5				
Number of Panels	Panel Length "L"	"a"	"b"	"R" Bar
2	14'-0"	3"	27	M528E
1	14'-9"	4½"	28	M529E
1	15'-0⅛"	5⅞"	28	M530E
4	15'-0"	3"	29	M531E
4	16'-0"	3"	31	M532E
10	19'-0"	3"	37	M533E



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of ¼". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.



The extruded Median Barrier shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of the Class 2, Rubbed Finish.

For actual placement of reinforcing steel, see Median Barrier details.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE MEDIAN BARRIER
(No Scale)

⚠ Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 14 OF 14
DETAILS OF 372'-0" CONTINUOUS COMPOSITE PLATE GIRDER UNIT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SEM DATE: 04/05/2014 FILENAME: bbb0610_mxl.dgn
CHECKED BY: SGK DATE: 06/05/2014
DESIGNED BY: DMS DATE: 07/09/2014 SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 56836

JACOBS

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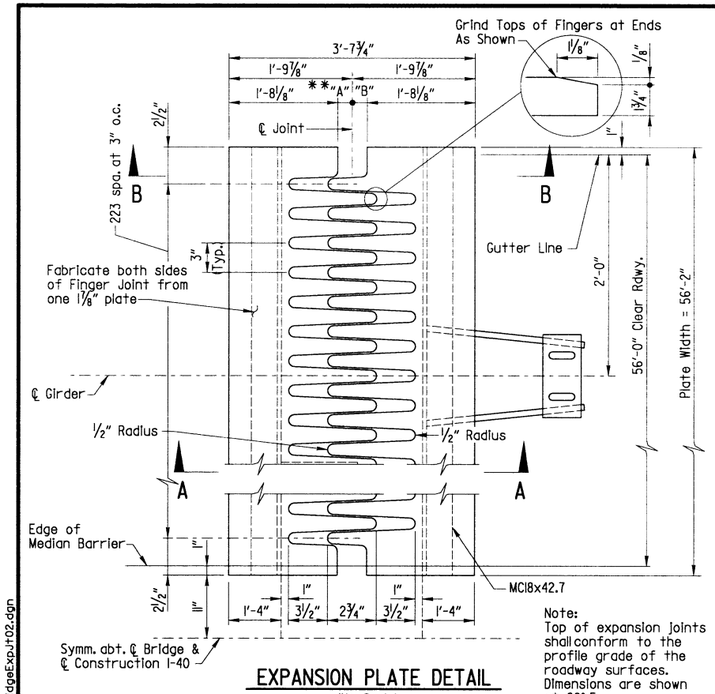
12:57:34 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	164	262
				1 07343	- STRIP SEAL -			56837



EXPANSION PLATE DETAIL

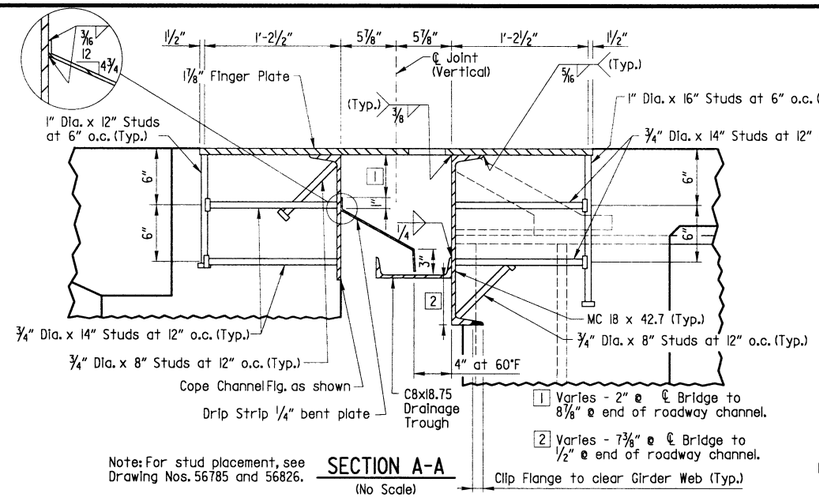
(No Scale)

2 Required per Location.
As shown for End Bent 1
Opposite hand for End Bent 17

Temperature	A	B
40°F	1¾"	2⅛"
60°F	1¾"	1¾"
80°F	1¾"	1⅜"

Note:
Top of expansion joints shall conform to the profile grade of the roadway surfaces. Dimensions are shown at 60° F.

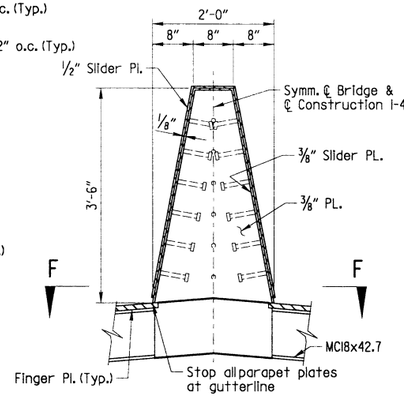
** Before joint closure pours are made, joint shall be set and adjusted for grade. The temperature used to set the joint opening shall be the approximate average air temperature during the preceding 24 hour period. The Engineer shall establish the temperature. Interpolation of the table may be necessary. Installation is limited to 40 degrees F min. and 80 degrees F max.



Note: For stud placement, see Drawing Nos. 56785 and 56826.

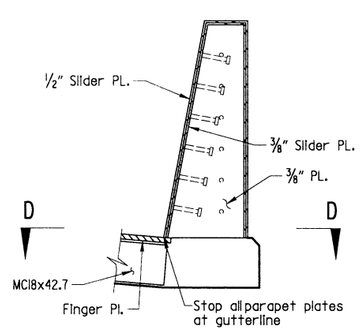
SECTION A-A

(No Scale)



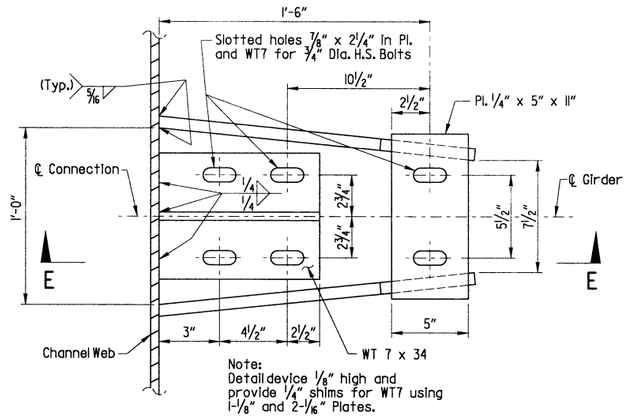
SECTION C-C AT MEDIAN

(No Scale)



SECTION C-C AT PARAPET

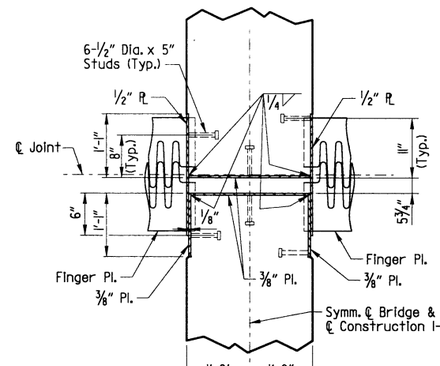
(No Scale)



Note:
Detail device ⅛" high and provide ¼" shims for WT7 using 1-⅛" and 2-1/16" Plates.

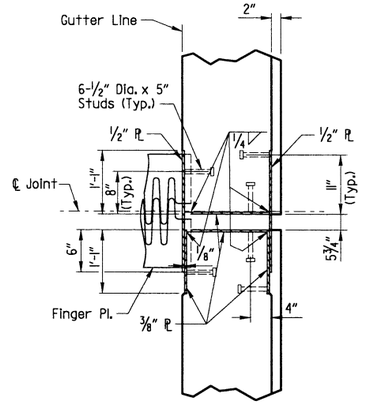
PLAN OF CONNECTION TO GIRDER

(No Scale)



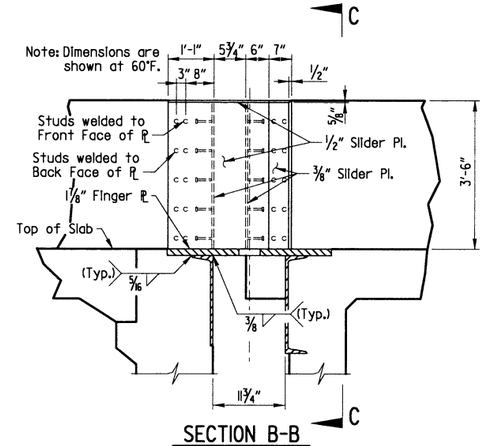
SECTION F-F

(No Scale)



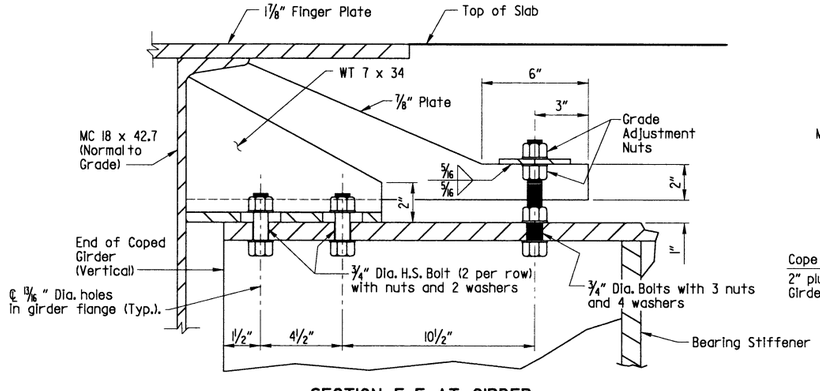
SECTION D-D

(No Scale)



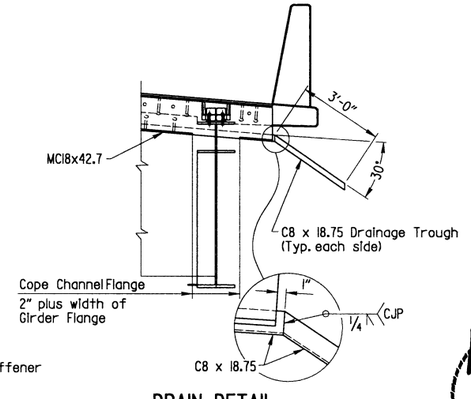
SECTION B-B

(No Scale)



SECTION E-E AT GIRDER

(No Scale)



DRAIN DETAIL

(No Scale)

GENERAL NOTES

All structural steel, except the parapet silder plates, shall be AASHTO M270, Gr. 50W. Parapet silder plates shall be AASHTO M270, Gr. 36 and shall be paid for as "Structural Steel In Plate Girder Spans (M270, Gr. 50W)". The surfaces of the parapet silder plates which will not be in contact with the concrete shall be cleaned and painted in accordance with Section 638, or as directed by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting shall not be paid for directly, but will be considered subsidiary to "Structural Steel In Plate Girder Spans (M270, Gr. 50W)".

All studs shall be granular flux filled, solid fluxed, or equal and automatically end welded to the Plates or channels in accordance with recommendations of the manufacturer.

ALTERNATE NOS. 1 AND 2
DETAILS OF FINGER JOINTS FOR END BENTS 1 AND 17 BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

⚠ 1 Revised sheet to reflect the addition of alternate substructure and expansion joint change at end bent. MAA 7/29/16

DRAWN BY: SEM DATE: 06/30/2016 FILENAME: bbb0610_exl.dgn
CHECKED BY: DMS DATE: 07/01/2016
DESIGNED BY: SSS DATE: 06/28/2016 SCALE: As Noted
BRIDGE NO. 07343 DRAWING NO. 56837

JACOBS

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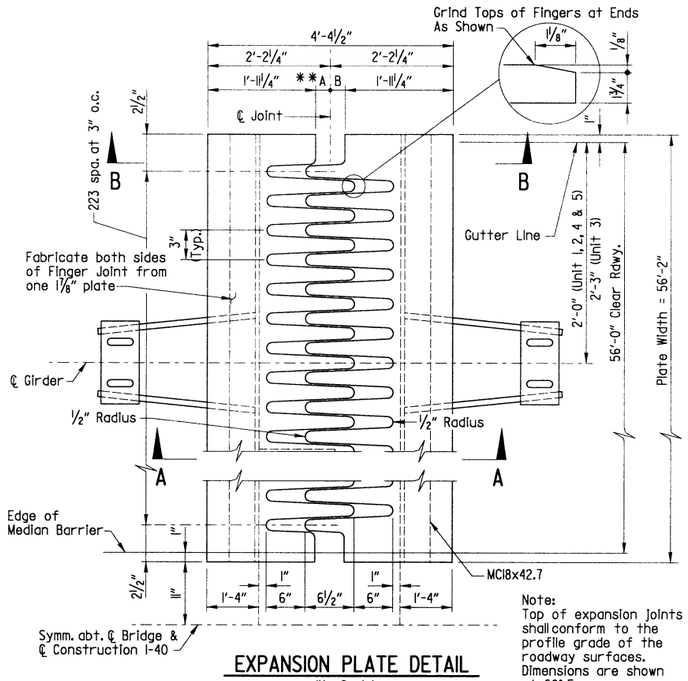
12:57:39 PM
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	165	262
				(1) 07343	-	FINGER JOINT	-	56838



EXPANSION PLATE DETAIL

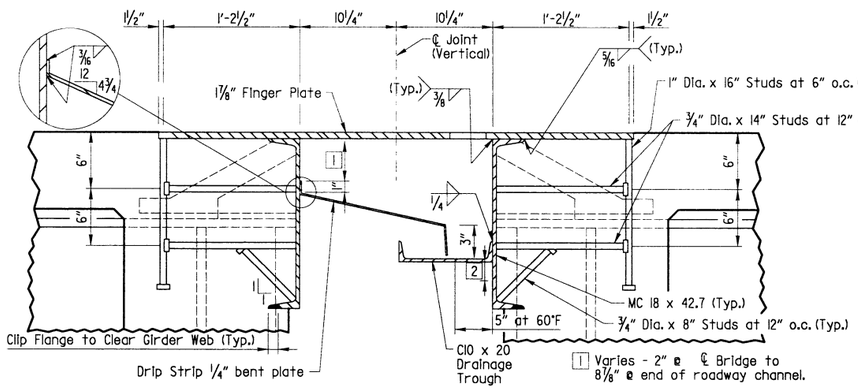
(No Scale)

2 Required per Location.
As shown for bents 5 and 9
Opposite hand for Bents 10 and 14

Temperature	A	B
40°F	3⅝"	3⅞"
60°F	3"	3"
80°F	2⅜"	2⅛"

** Before joint closure pours are made, joint shall be set and adjusted for grade. The temperature used to set the joint opening shall be the approximate average air temperature during the preceding 24 hour period. The Engineer shall establish the temperature. Interpolation of the table may be necessary. Installation is limited to 40 degrees F min. and 80 degrees F max.

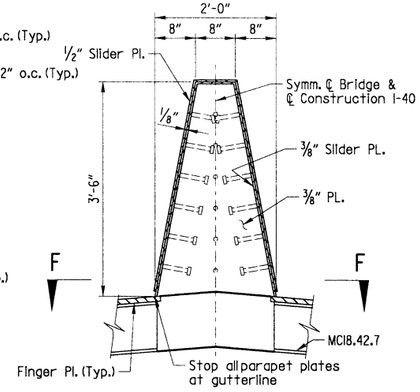
Note:
Top of expansion joints shall conform to the profile grade of the roadway surfaces. Dimensions are shown at 60° F.



Note: For stud placement, see Drawing Nos. 56787, 56805, and 56824.

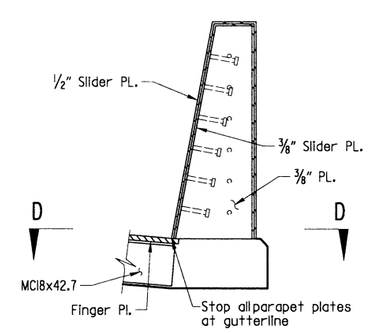
SECTION A-A

(No Scale)



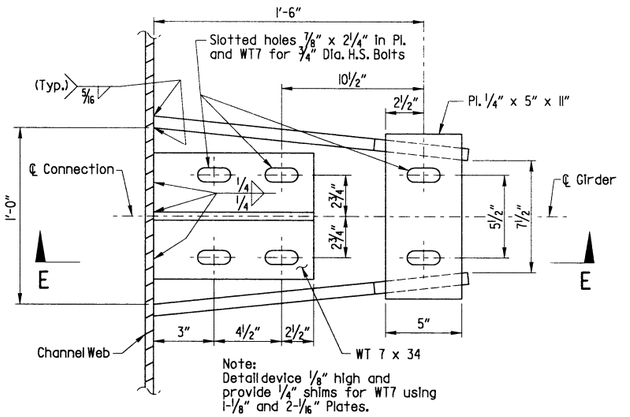
SECTION C-C AT MEDIAN

(No Scale)



SECTION C-C AT PARAPET

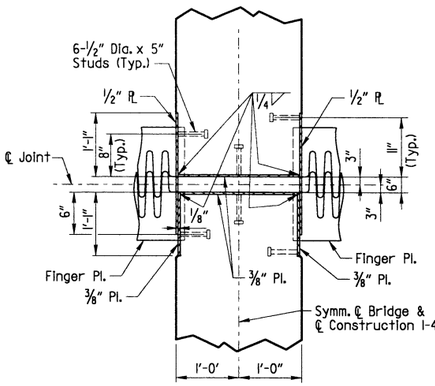
(No Scale)



Note:
Detail device ⅛" high and provide ¼" shims for WT7 using 1-⅛" and 2-1/16" Plates.

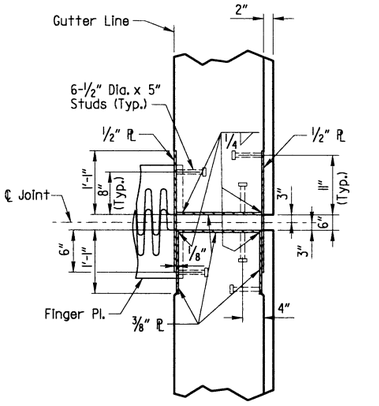
PLAN OF CONNECTION TO GIRDER

(No Scale)



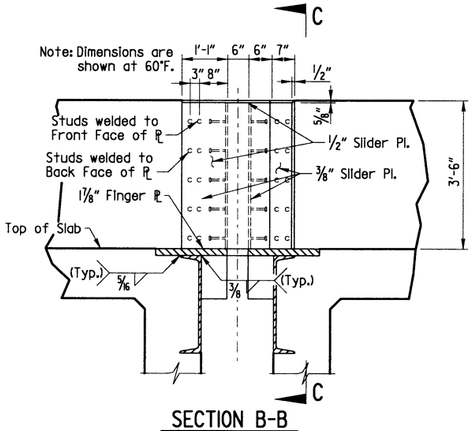
SECTION F-F

(No Scale)



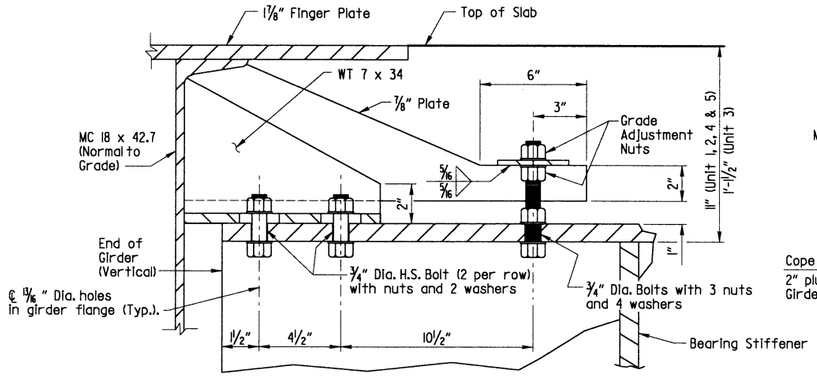
SECTION D-D

(No Scale)



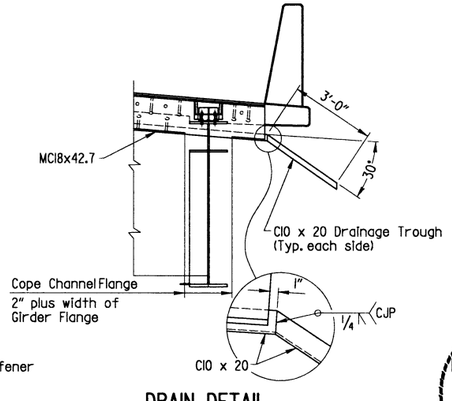
SECTION B-B

(No Scale)



SECTION E-E AT GIRDER

(No Scale)



DRAIN DETAIL

(No Scale)

GENERAL NOTES

All structural steel, except the parapet slider plates, shall be AASHTO M270, Gr. 50W. Parapet slider plates shall be AASHTO M270, Gr. 36 and shall be paid for as "Structural Steel In Plate Girder Spans (M270, Gr. 50W)". The surfaces of the parapet slider plates which will not be in contact with the concrete shall be cleaned and painted in accordance with Section 638, or as directed by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting shall not be paid for directly, but will be considered subsidiary to "Structural Steel In Plate Girder Spans (M270, Gr. 50W)".

All studs shall be granular flux filled, solid fluxed, or equal and automatically end welded to the Plates or channels in accordance with recommendations of the manufacturer.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
DETAILS OF FINGER JOINTS FOR BENTS 5, 9, 10 AND 14 BRIDGE OVER WHITE RIVER

PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SGK	DATE:	04/01/2014	FILENAME:	bbb0610_ex2.dgn
CHECKED BY:	SEM	DATE:	01/21/2015		
DESIGNED BY:	DMS	DATE:	07/09/2014	SCALE:	As Noted

BRIDGE NO. 07343
DRAWING NO. 56838

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	166	262
				(1)	07343 - SEISMIC ISOLATION BEARINGS -			56839

GENERAL NOTES

Seismic Isolation Bearing assemblies and anchor bolts shall be designed in conformance with the AASHTO LRFD Bridge Design Specifications, 6th Edition (2012) with current interims, the AASHTO Guide Specifications for Seismic Isolation Design, 4th Edition, and Special Provision Job BB0610 Seismic Isolation Bearings. Bearings fabrication, delivery, storage, and handling shall be in accordance with Special Provision, Job BB0610 "Seismic Isolation Bearings".

Cross hatched components of the Seismic Isolation Bearings (Isolators) are shown for representative purposes only. A circular lead core elastomeric bearing is required. The actual details and configuration of the components will be dependent upon the specific isolator as furnished by the manufacturer. The isolators provided shall have a capacity sufficient to control all load combination forces, rotations and movements are provided in the isolation bearing design table on this sheet. Horizontal thermal forces are dependent on specific isolator supplied and are not included in the "Table for Seismic Isolation Bearing Design Requirements". The isolator manufacturer shall include applicable thermal forces in bearing design.

Sole plates and masonry plates shall conform to the requirements of AASHTO M 270, Grade 50W.

Swedged anchors with threaded ends shall conform to AASHTO M 314, Grade 105. Headed anchor bolts shall be heavy hex conforming to the requirements of ASTM A325 or ASTM A449, Type 1. For headed anchor bolts, the requirements for rotational capacity test in accordance with Subsection 807.06(b) shall be waived. Threaded coupler nuts shall conform to the requirements of ASTM A563, Grade DH or DH3 or AASHTO M292, Grade 2H. Washers shall conform to ASTM F436. Swedged anchors with threaded ends, headed anchor bolts, coupling nuts and washers shall be hot dip galvanized in accordance with AASHTO M232, Class C or ASTM B695, Class 50. Any damage to the galvanized surfaces shall be repaired in accordance with Subsection 807.88 of the Standard Specifications.

All welding that is to be done during fabrication of isolators shall be detailed on the shop drawings and submitted for approval. All welding shall conform to Subsection 807.26.

The continuous weld connecting the girder bottom flange to the beveled sole plate shall be allowed to cool after each pass. The temperature of the steel adjacent to the elastomer shall not exceed 200°F. Temperature shall be controlled by the welding procedure and monitored by temperature indicating crayons or other devices approved by the engineer. Quenching to accelerate cooling is not permitted.

The size of the longitudinal welds between the bottom flange and the beveled sole plate shall be as shown. The transverse joints between the girder bottom flange and the sole plate shall be filled with an approved non-hardening caulk compound.

The contractor shall protect the isolators from damage due to shear deformation and rotation of the bearing caused by the application of the girder self-weight and deck dead load. The method of protection shall be defined in the bearing installation scheme, including considerations for thermal displacements at the time of installation, to be submitted as a working drawing in accordance with Subsection 105.03 of the Standard Specification.

The fillet weld between the girder bottom flange and the beveled sole plate shall be made after the deck has been poured and the bearing assemblies have been set into final position.

MT indicates Magnetic Particle Testing. MT 10% indicates that for welds 10 foot or greater in length, at least 12 inches in every 10 foot shall be Magnetic Particle Tested. For welds less than 10 foot but greater than 1 foot in length, a minimum of 12 inches of weld shall be Magnetic Particle Tested. For welds 1 foot or less in length, a minimum of 2 inches of weld shall be Magnetic Particle Tested.

If anchor bolts are to be drilled and grouted in place, galvanized sheet metal sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of structural steel, the dry pack shall removed and holes for the anchor bolts shall be accurately drilled into the masonry. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved Resin Anchor System that completely fills the holes. Galvanized sheet metal sleeves will not be paid for directly, but will be considered subsidiary to the item "Seismic Isolation Bearings".

Permitted movement is the maximum one way movement (expansion or contraction) plus 1 inch of tolerance.

Sole plate shall be beveled as necessary to accommodate the vertical geometry of the superstructure. The bottom of the sole plate shall be level. A minimum plate thickness of 1½" shall be maintained.

Sole plates and masonry plates shall be designed and furnished by the bearing manufacturer. Masonry plates shall be designed to bear on the substructure based on the concrete design strength as specified in the plans.

Dimension "H2" represents the assumed height of the bearing assembly under dead load including the sole plate and the masonry plate. The Contractor shall adjust the bearing seat elevations based on the exact height of the bearing assemblies and the sole plate and masonry plate thickness as provided by the bearing manufacturer. Adjustment shall be at no additional cost to the Department.

Bearing seats shall not be poured until the bearings are selected, the bearing working drawings are approved, and the seat elevations have been approved by the Engineer.

Design and final location of the anchor bolts are to be determined by the Contractor based on approved bearing assembly and masonry plate shop drawings. The minimum number of anchor bolts per bearing assembly shall be four. Locations shall be set to avoid conflict and interference with substructure reinforcement, bearing components, and structural steel during installation and tightening of the anchor bolts. Methods of anchor bolt installation shall be clearly depicted on the Contractor's working drawings.

Final location and installation of anchor bolts as determined by the Contractor shall allow for the future removal of the hex headed anchor bolt for replacement of the bearing assembly. Threaded engagement shall be adequate to develop the strength of the bolt.

Masonry plates shall be set such that they will be located at the substructure unit centerline of bearing and the centerline of girder web. Sole plates shall be set such that they will be located at the centerline of girder web and at the centerline of the bearing stiffener unless otherwise approved by the Engineer.

The performance characteristics shown in the "Table for Seismic Isolation Bearing Requirements" was specified by the Engineer to derive satisfactory seismic performance of the global structure system during the design seismic event. The isolation bearing fabricator shall design the bearing to meet these minimum performance characteristics. Where the fabricator's proposed bearing design may vary from these characteristics by more than 10% the Engineer will analyze the global model and advise the fabricator as to whether the proposed revised performance characteristics are acceptable. The Engineer shall have sole judgement of whether or not the proposed characteristics are acceptable.

[A] TABLE FOR SEISMIC ISOLATION BEARING DESIGN REQUIREMENTS

	Description	Units	Bearing Designation																					
			Bent 1	Bent 2	Bent 3	Bent 4	Bent 5W	Bent 5E	Bent 6	Bent 7	Bent 8	Bent 9W	Bent 9E	Pier 1	Pier 2	Bent 10W	Bent 10E	Bent 11	Bent 12	Bent 13	Bent 14W	Bent 14E	Bent 15	Bent 16	Bent 17
	Number of Bearings	Each	12	12	12	12	12	12	12	12	12	12	10	10	10	10	12	12	12	12	12	12	12	12	12
[F]	Estimated Overall Bearing Height (H2)	IN	11.375	13.875	13.875	13.875	11.375	11.375	13.875	13.875	13.875	11.375	13.875	13.875	13.875	13.875	11.375	13.875	13.875	13.875	11.375	11.375	13.875	13.875	11.375
	Maximum Dead Load	KIP	98.77	284.29	278.08	284.30	98.77	98.77	318.08	311.44	318.17	98.7	277.1	983.3	984.3	276.9	98.7	262.47	256.55	262.40	92.44	81.36	243.62	243.57	86.93
[C]	Maximum Live Load	KIP	92.42	148.64	148.64	147.90	92.42	92.42	172.36	174.83	172.06	106.7	152.8	354.7	354.7	152.8	106.7	147.90	148.64	148.64	75.50	72.80	146.01	146.01	93.01
	Minimum Dead Load	KIP	88.98	237.86	232.74	237.90	88.98	88.98	284.30	278.12	284.28	70.5	212.8	775.8	776.0	212.7	70.5	216.25	211.38	216.25	80.58	66.07	188.74	188.53	77.69
[C]	Minimum Live Load	KIP	-13.39	-8.51	-8.51	-8.51	-13.39	-13.39	-18.27	-20.57	-18.33	-14.4	-22.3	-22.5	-22.5	-22.3	-14.4	-8.51	-8.51	-8.51	-15.94	-15.16	-8.09	-8.09	-13.09
	Maximum Live Load Rotation (Longitudinal)	RAD	0.0028	0.0021	0.0021	0.0021	0.0028	0.0028	0.0021	0.0021	0.0021	0.0028	0.0051	0.0030	0.0030	0.0051	0.0028	0.0021	0.0021	0.0021	0.0028	0.0026	0.0019	0.0019	0.0026
	Fabrication Misalignment Rotation	RAD	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
[D]	Horizontal Thermal Displacement (Longitudinal)	IN	2.1	0.3	0.3	1.3	2.6	2.5	1.4	0.6	1.7	2.0	3.1	1.2	1.2	3.1	2.0	1.3	0.5	0.5	1.8	1.5	0.5	0.5	1.4
	Horizontal Thermal Force (Longitudinal)	KIP	13.5	7.3	7.3	15.0	16.0	15.5	15.8	9.7	18.1	13.1	28.9	33.3	33.3	28.9	13.1	15.0	8.9	8.9	12.1	10.6	8.9	8.9	10.1
	Horizontal - Braking Force (Longitudinal)	KIP	0.9	2.6	2.6	1.0	0.9	0.7	3.1	2.5	3.0	0.9	2.0	2.0	2.0	2.0	0.9	0.6	2.5	2.5	1.3	0.4	2.3	2.3	1.0
	Maximum Horizontal Wind on Live Load Force (Transverse)	KIP	0.9	1.1	1.2	1.1	0.9	0.7	3.1	2.5	1.9	0.5	1.3	3.0	3.0	1.3	0.5	1.1	1.2	1.1	0.9	0.6	1.1	1.1	0.8
	Maximum Horizontal Wind on Superstructure Force (Transverse)	KIP	3.1	7.4	8.2	6.7	3.1	3.1	7.0	7.0	7.0	4.6	13.3	31.4	29.6	12.8	4.4	8.1	8.8	7.9	6.5	4.3	6.7	6.7	2.9
	Maximum Horizontal Wind on Live Load Force (Longitudinal)	KIP	0.3	0.4	0.5	0.4	0.3	0.3	1.2	0.9	0.7	0.2	0.5	1.1	1.1	0.5	0.2	0.4	0.5	0.4	0.1	0.1	0.4	0.4	0.3
	Maximum Horizontal Wind on Superstructure Force (Longitudinal)	KIP	1.2	2.8	3.1	2.9	1.2	1.2	2.7	3.0	2.7	1.7	5.1	11.9	11.3	4.9	1.7	3.1	3.3	3.0	2.8	0.7	2.6	2.6	1.1
[E]	Maximum Horizontal Non-Seismic Displacement (Any Direction)	IN	2.1	0.4	0.4	1.3	2.6	2.5	1.5	0.7	1.8	2.0	3.2	1.3	1.2	3.2	2.0	1.3	0.5	0.5	1.9	1.5	0.5	0.5	1.4
	Maximum Seismic Displacement (Any Direction)	IN	2.7	1.6	1.7	2.2	2.4	3.4	2.7	1.8	3.0	3.3	3.7	2.3	2.3	3.6	2.7	2.6	1.8	2.8	4.0	2.7	2.2	1.8	3.2
	Maximum Horizontal Seismic Force (Any Direction)	KIP	25.1	28.9	29.9	34.9	23.8	30.1	38.1	31.2	39.8	29.0	49.5	202.8	202.8	48.0	25.1	36.8	32.2	39.1	35.3	24.5	33.7	31.8	28.5
	Minimum Seismic Characteristic Strength	KIP	11.0	17.0	17.0	17.0	11.0	11.0	17.0	17.0	17.0	11.0	17.0	36.0	36.0	17.0	11.0	17.0	17.0	17.0	11.0	11.0	17.0	17.0	11.0
	Minimum Seismic Elastic Stiffness	KIP/IN	49.0	77.0	77.0	77.0	49.0	49.0	77.0	77.0	77.0	49.0	77.0	189.0	189.0	77.0	49.0	77.0	77.0	77.0	49.0	49.0	77.0	77.0	49.0
	Minimum Post-Elastic Stiffness	KIP/IN	4.9	7.7	7.7	7.7	4.9	4.9	7.7	7.7	7.7	4.9	7.7	18.9	18.9	7.7	4.9	7.7	7.7	7.7	4.9	4.9	7.7	7.7	4.9
	Effective Stiffness, Seismic Loading	KIP/IN	8.9	18.6	17.9	15.3	9.5	8.1	14.0	17.2	13.5	8.2	12.3	34.8	34.8	12.4	8.9	14.3	17.1	13.9	7.6	9.0	15.3	17.0	8.3
	Minimum Energy Dissipated Per Cycle	KIP-IN	109.0	89.0	97.0	135.0	95.0	139.0	167.0	104.0	184.0	134.0	235.0	316.0	316.0	227.0	110.0	157.0	107.0	171.0	166.0	107.0	135.0	107.0	131.0
[B]	Slope at Center Line Bearing	Percent	3.000	3.000	3.000	3.000	3.000	3.000	3.000	2.792	2.206	1.744	1.667	0.612	-0.612	-1.667	-1.744	-2.206	-2.792	-3.000	-3.000	-3.000	-3.000	-3.000	-3.000

[A] Service Limit State

[B] Includes vertical curve and slope of tapered girder.

[C] Includes Dynamic Load Allowance

[D] Per AHTD "General Design and Detailing Policies & Guides", Elastomeric Bearing Design Guidelines - Steel Girders" dated 4/04/2012, deflection is based on 65% of the total temperature range and a load factor of 1.2 is applied.

[E] Maximum Horizontal Non-Seismic Displacement is based on the AASHTO SERVICE I loading combination and conservatively includes Longitudinal and Transverse Wind on Superstructure, Longitudinal and Transverse Wind on Live Load, Longitudinal Braking and Longitudinal Thermal Displacement. A resultant displacement is computed based on those longitudinal and transverse displacements.

[F] Contractor shall submit recommendations for how bearing seats are to be adjusted, for review and approval by the Engineer, should the overall bearing heights vary from those shown.

(1) Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 2
DETAILS OF SEISMIC ISOLATION BEARINGS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 11/19/2014 FILENAME: bbb0610_ex3.dgn
CHECKED BY: SSS DATE: 02/05/2015
DESIGNED BY: CM DATE: 01/20/2015 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56839

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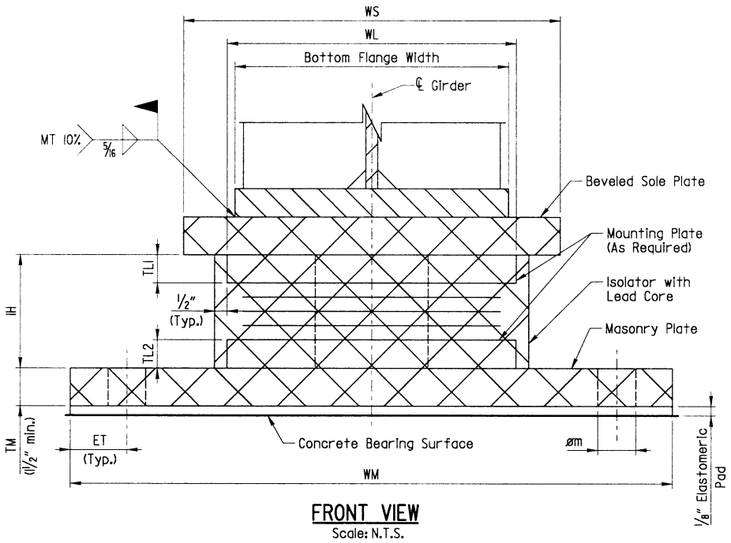
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	167	262

(1) 07343 - SEISMIC ISOLATION BEARINGS - 56840



FRONT VIEW
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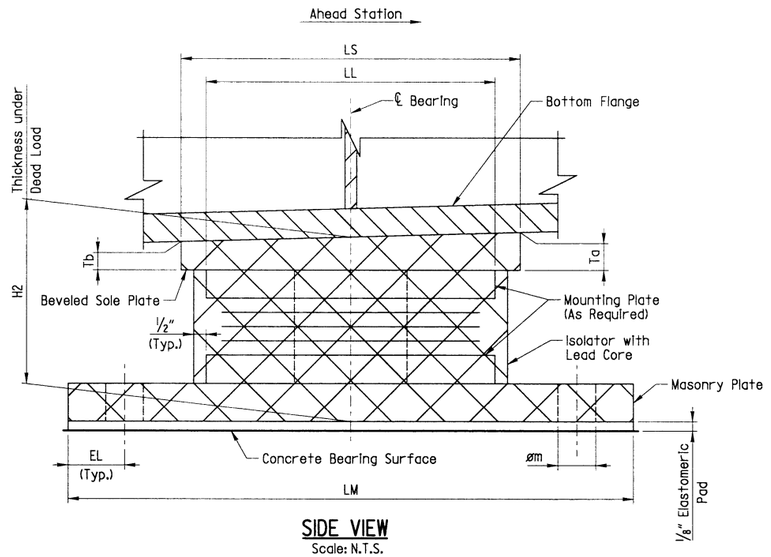
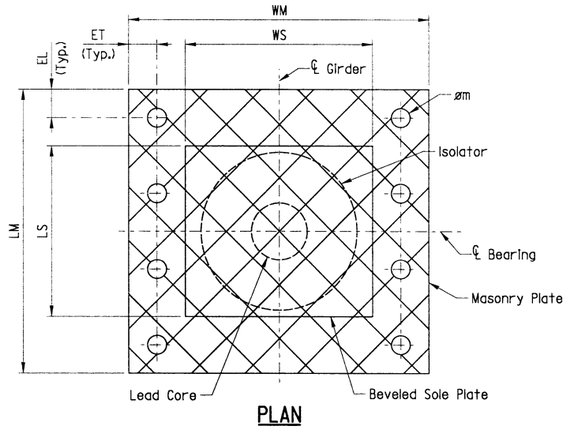


SIDE VIEW
Scale: N.T.S.



PLAN
Scale: N.T.S.

A Service Limit State

B Values to be added and Drawing to be revised after approval of Seismic Isolation Bearing Shop Drawings.

C The threads of the Swedge Anchor Bolts and Hex Headed Anchor Bolts shall engage the Heavy Hex Coupling Nut a distance equal to 1/2 the length of the Coupling Nut supplied.

D Contractor shall submit recommendations for how bearing seats are to be adjusted, for review and approval by the Engineer, should the overall bearing heights vary from those shown in "Table for Seismic Isolation Bearing Design Requirements".

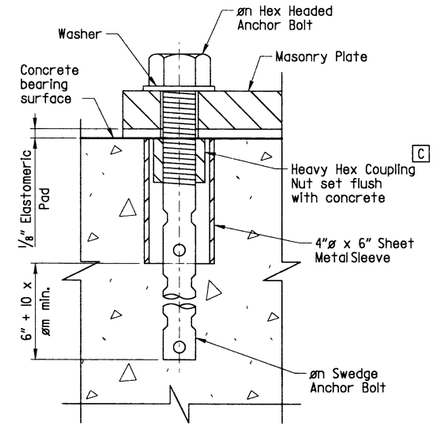
A B AS BUILT ISOLATION BEARING TABLE

	Description	Units	Bearing Designation																						
			Bent 1	Bent 2	Bent 3	Bent 4	Bent 5W	Bent 5E	Bent 6	Bent 7	Bent 8	Bent 9W	Bent 9E	Pier 1	Pier 2	Bent 10W	Bent 10E	Bent 11	Bent 12	Bent 13	Bent 14W	Bent 14E	Bent 15	Bent 16	Bent 17
D	Overall Bearing Height - Under Dead Load (H2)	IN																							
	Isolator Height (IH)	IN																							
	Masonry Plate Thickness (TM)	IN																							
	Masonry Plate Width (WM)	IN																							
	Masonry Plate Length (LM)	IN																							
	Masonry Plate Anchor Bolt Hole Diameter (øm)	IN																							
	Masonry Plate Bolt Long. Edge Distance (EL)	IN																							
	Masonry Plate Bolt Trans. Edge Distance (ET)	IN																							
	Sole Plate Width (WS)	IN																							
	Sole Plate Length (LS)	IN																							
	Sole Plate Ahead Station Thickness (Ta) 1 1/2" Minimum	IN																							
	Sole Plate Back Station Thickness (Tb) 1 1/2" Minimum	IN																							
	Mounting Plate Width (WL)	IN																							
	Mounting Plate Length (LL)	IN																							
	Top Mounting Plate Thickness (TL1) where required	IN																							
	Bottom Mounting Plate Thickness (TL2) where required	IN																							
	Anchor Bolt Diameter (øn)	IN																							
	Bolts Per Bearing	EACH																							
	Minimum Seismic Characteristic Strength	KIP																							
	Minimum Seismic Elastic Stiffness	KIP/IN																							
	Minimum Post-Elastic Stiffness	KIP/IN																							
	Effective Stiffness, Seismic Loading	KIP/IN																							
	Minimum Energy Dissipated Per Cycle	KIP-IN																							

ACCELERATION RESPONSE SPECTRUM

T (sec)	0.01	0.1	0.2	0.3	0.42	0.54	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.5	3.0	4.0	5.0
Sa (g)	0.2580	0.5470	0.5470	0.6320	0.6110	0.5740	0.5080	0.4730	0.3990	0.3530	0.3020	0.2310	0.1950	0.1055	0.0938	0.0845	0.0673	0.0562	0.0420	0.0339

Site-Specific Acceleration Response Spectrum Corresponding to a 7% probability of exceedence in 75 years.



ANCHOR BOLT DETAIL
Scale: N.T.S.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 2
DETAILS OF SEISMIC ISOLATION BEARINGS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 11/19/2014 FILENAME: bbb0610_ex4.dgn
CHECKED BY: SSS DATE: 02/05/215
DESIGNED BY: CM DATE: 01/20/2015 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56840

JACOBS

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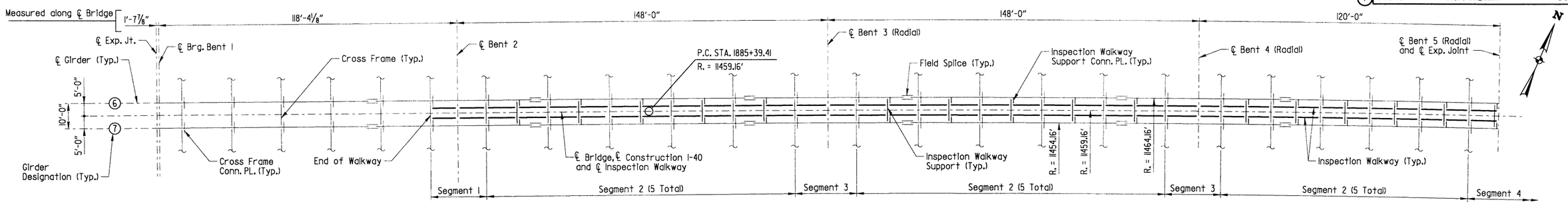
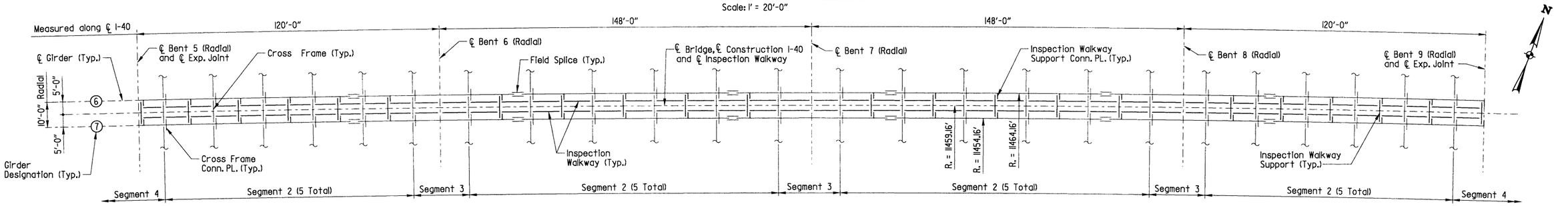
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	168	262
				(1) 07343	-	INSP. WALKWAY	-	56841



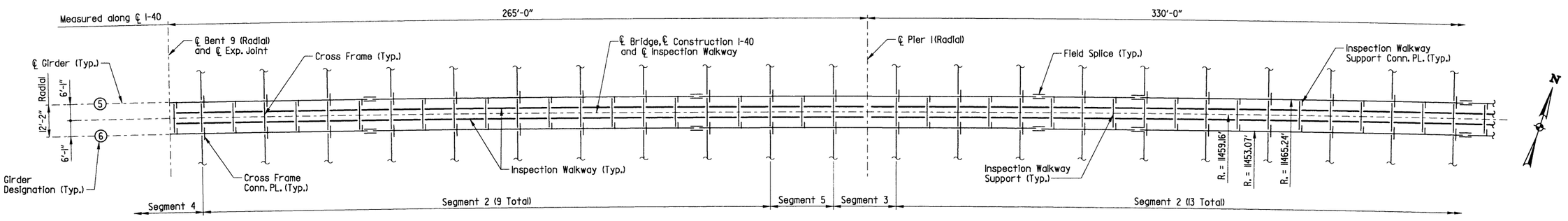
PLAN - INSPECTION WALKWAY UNIT 1

Scale: 1" = 20'-0"



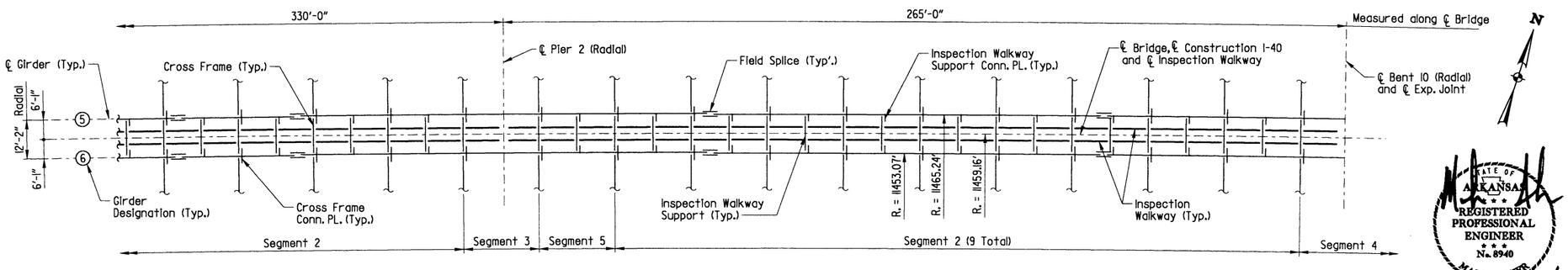
PLAN - INSPECTION WALKWAY UNIT 2

Scale: 1" = 20'-0"



PART PLAN - INSPECTION WALKWAY UNIT 3

Scale: 1" = 20'-0"



PART PLAN - INSPECTION WALKWAY UNIT 3

Scale: 1" = 20'-0"

NOTES:
For Cross Frames and Inspection Walkway Supports, see Sheet Nos. 56843 through 56848.

STATE OF ARKANSAS
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No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	6/5/14	FILENAME:	bbb0610_iwi.dgn
CHECKED BY:	MAA	DATE:	2/9/15		
DESIGNED BY:	SEM	DATE:	8/15/14	SCALE:	AS NOTED
BRIDGE NO. 07343				DRAWING NO. 56841	

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

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7-29-2016			

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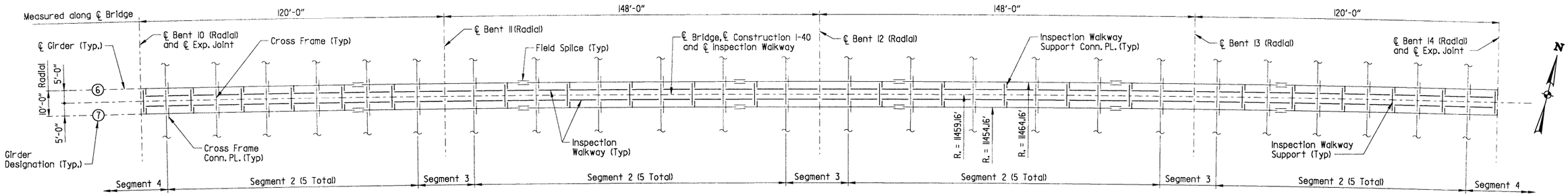
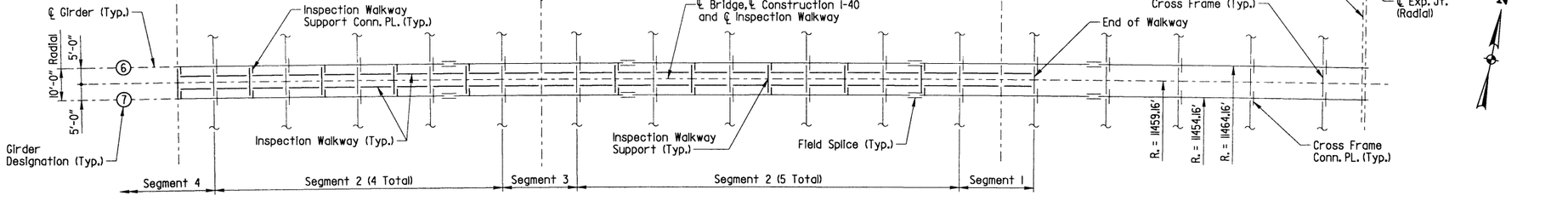
6	ARK.			
JOB NO.		BB0610	169	262
(1) 07343	-	INSP. WALKWAY	-	56842



PLAN - INSPECTION WALKWAY UNIT 4

Scale: 1" = 20'-0"



PLAN - INSPECTION WALKWAY UNIT 5

Scale: 1" = 20'-0"

NOTES:
For Cross Frames and Inspection Walkway Supports, see Sheet Nos. 56843 through 56848.

For Inspection Walkway notes, See Dwg. No. 56844.

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(1) Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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DESIGNED BY: SEM DATE: 8/15/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56842

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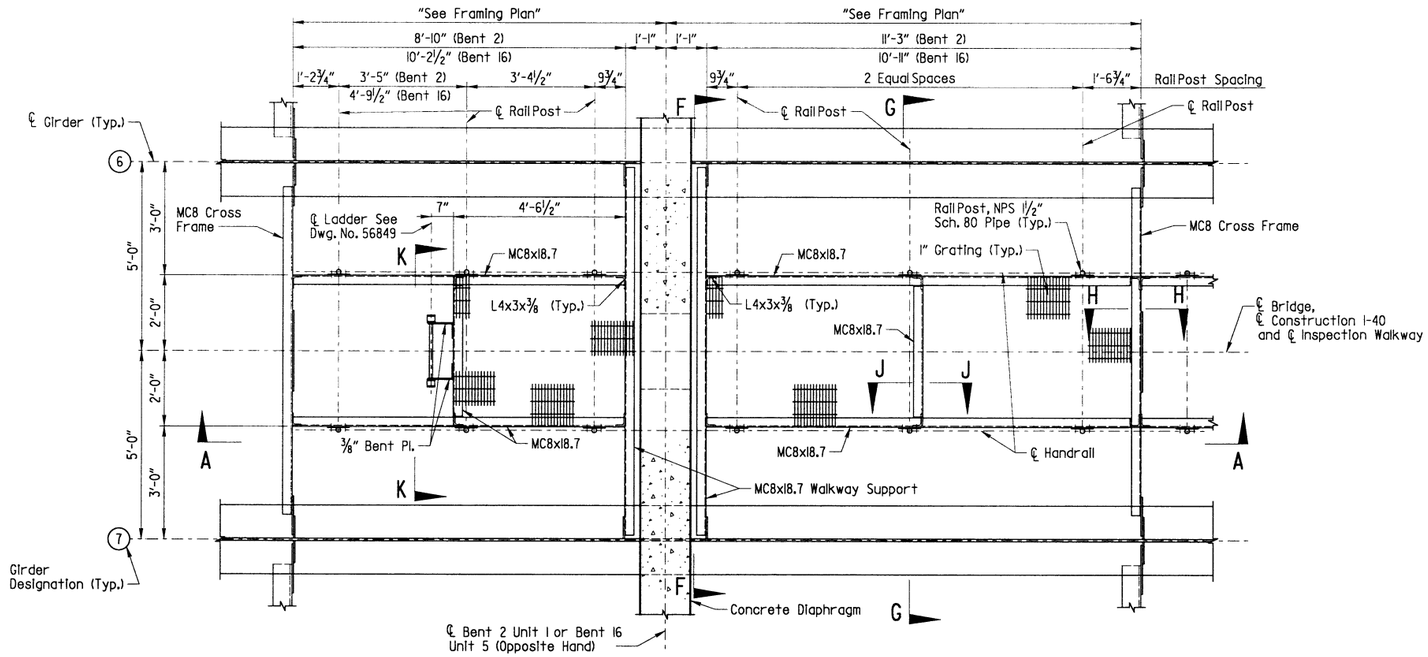
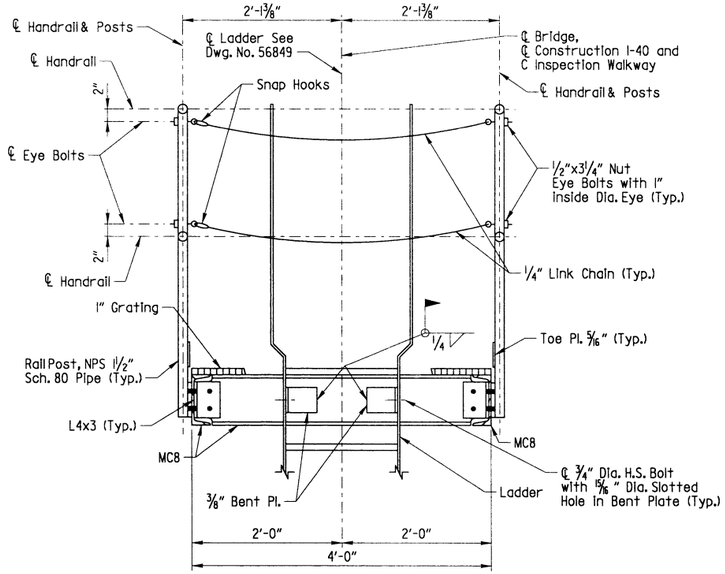


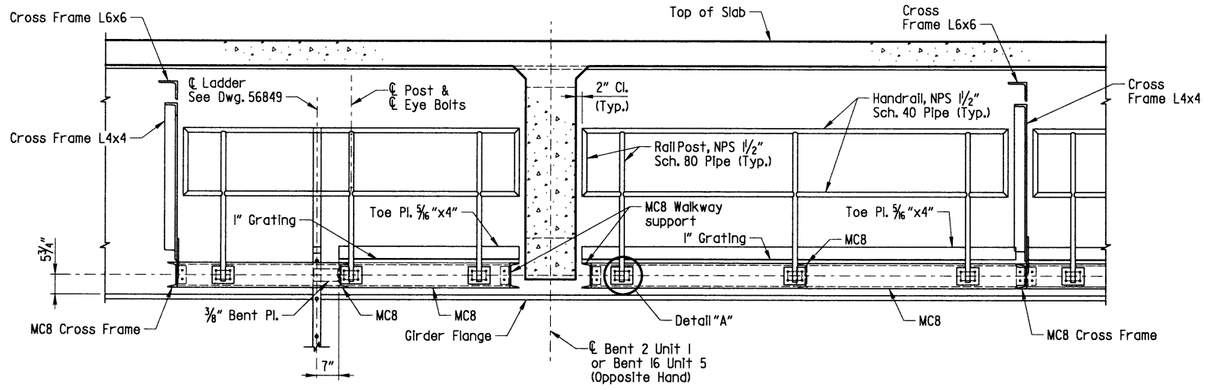
PLAN - SEGMENT 1

Scale: ½" = 1'-0"



SECTION K-K

Scale: 1" = 1'-0"



SECTION A-A

Scale: ½" = 1'-0"

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

Notes:
For Framing Plan of Unit 1, See Drawing No. 56788.

For Framing Plan of Units 2 and 4, See Drawing No. 56789.

For Framing Plan of Unit 3, See Drawings No. 56807 & 56808.

For Framing Plan of Unit 5, See Drawing No. 56827.

For Handrail and Connection Details, See Drawing No. 56848.

For Ladder and Access Platform Details, See Drawing No. 56849.

For Inspection Walkway Notes, See Drawing No. 56844.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
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ALTERNATE NOS. 1 AND 2
SHEET 3 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 11/21/14 FILENAME: bbb0610_lw3.dgn
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DESIGNED BY: SEM DATE: 8/14/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56843

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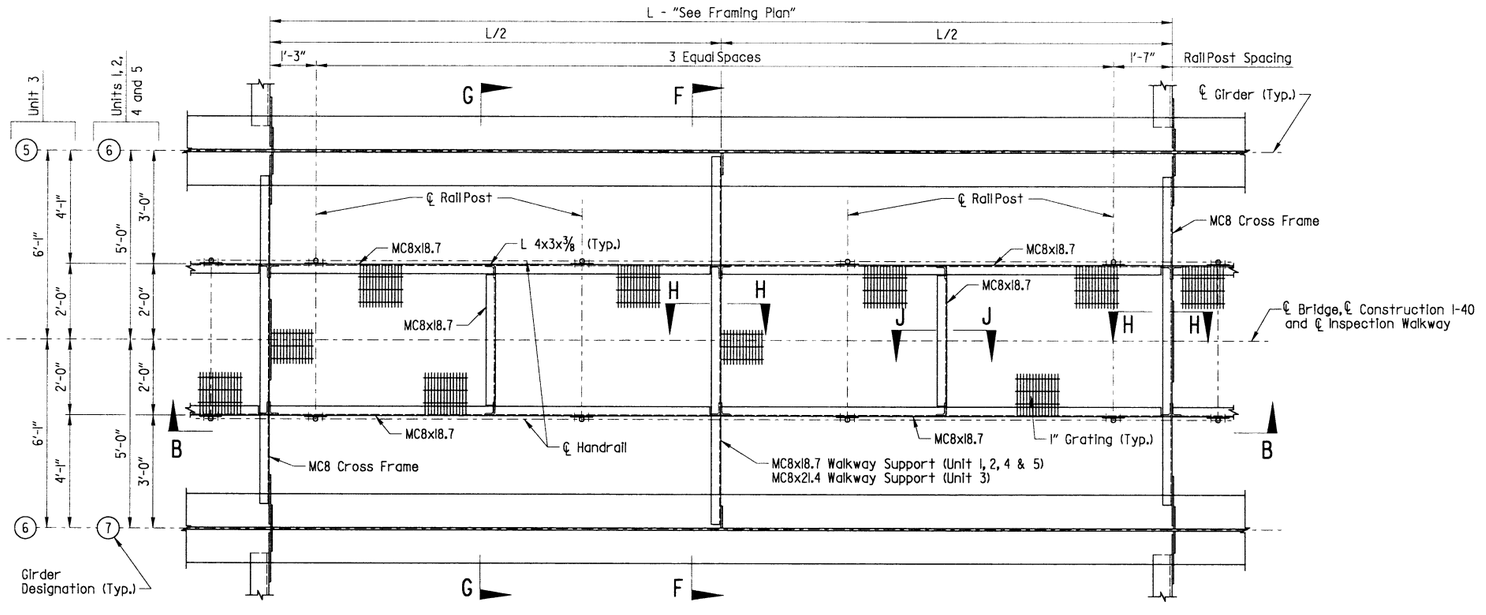
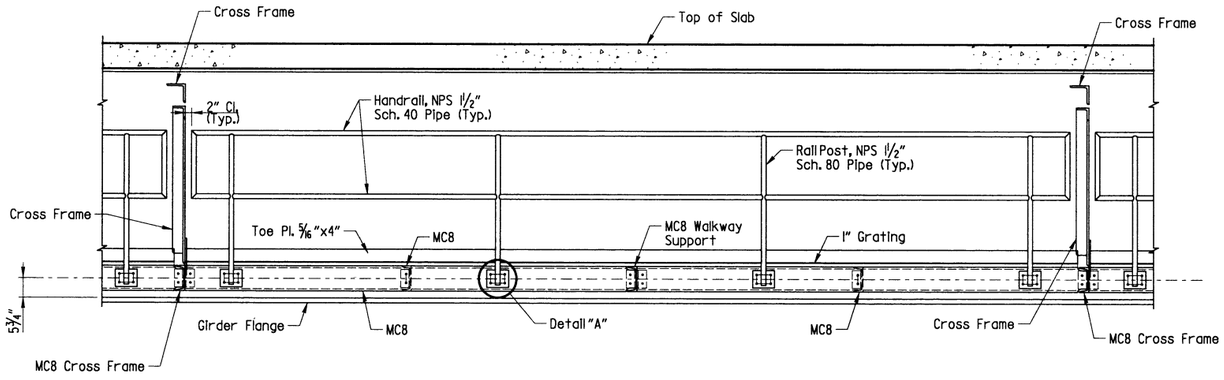


PLAN - SEGMENT 2

Scale: ½" = 1'-0"



SECTION B-B

Scale: ½" = 1'-0"

Notes:
Unless otherwise noted all structural steel in inspection walkway shall conform to the requirements of AASHTO M270, Gr. 50W and Section 807 of the Standard Specifications.

Unless otherwise noted all bolts shall be ¾" diameter High Strength Bolts conforming to the requirements of ASTM A325, Type 3.

Unless otherwise noted all handrail and handrail connections shall conform to the requirements of Section 633 of the Standard Specifications. Handrail posts shall be Schedule 80 steel pipe.

Grating shall be Welded Steel Grating with 1" x 3/16" bearing bars at 1 3/16" on center with cross bars at 4" on center. Grating shall be welded, with a serrated top surface for non-slip purposes. Edges shall be banded with bars ¼" less in height than bearing bars. Banding bars shall be flush with the top of the grating. Grating shall be handled and stored to prevent damage, and any grating section with bent or otherwise damaged bars or parts shall not be installed in the work.

Grating shall be attached to the framing in accordance with the manufacturer recommendations.

The ladder shall conform to the requirements of AASHTO M270, GR. 36 and Section 807 of the Standard Specifications.

All grating and ladder components shall be galvanized in accordance with AASHTO M 111 or ASTM A 123 after fabrication. All galvanizing will not be paid for directly, but will be subsidiary to the pay item "Structural Steel in Plate Girder Spans (M270, Gr. 50W).

Threaded inserts shall have a Concrete Pull-Out Strength (Ultimate Load) of at least 5,000 lbs. in 3,000 psi concrete. Threaded inserts shall be installed in accordance with manufacturer's recommendations and will not be paid for directly, but will be subsidiary to the pay item "Structural Steel in Plate Girder Spans (M270, Gr. 50W).

Inspection walkway including structural steel, bolts, nuts, washers, grating, handrail and ladder shall be included in the unit structural steel quantities.

Notes:
For Framing Plan of Unit 1, See Drawing No. 56788.

For Framing Plan of Units 2 and 4, See Drawing No. 56789.

For Framing Plan of Unit 3, See Drawings No. 56807 & 56808.

For Framing Plan of Unit 5, See Drawing No. 56827.

For Handrail and Connection Details, See Drawing No. 56848.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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DESIGNED BY: SEM DATE: 8/15/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56844

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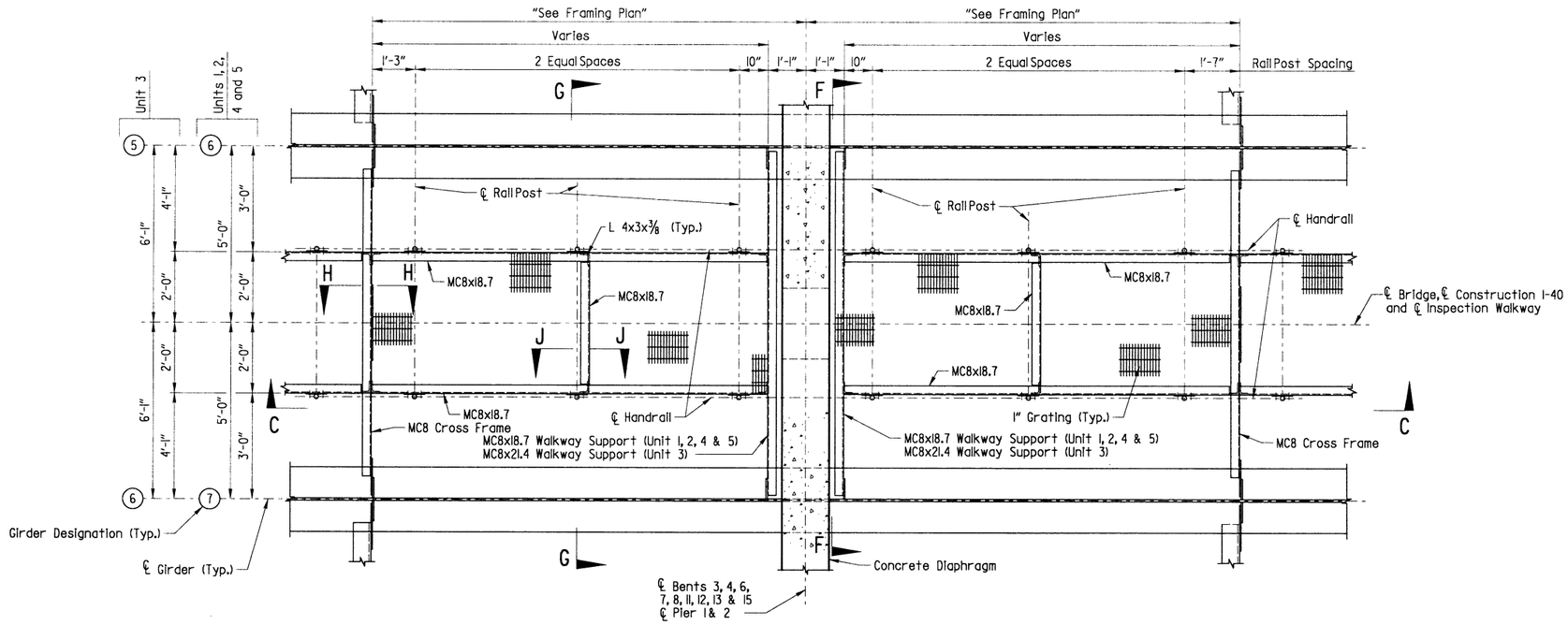
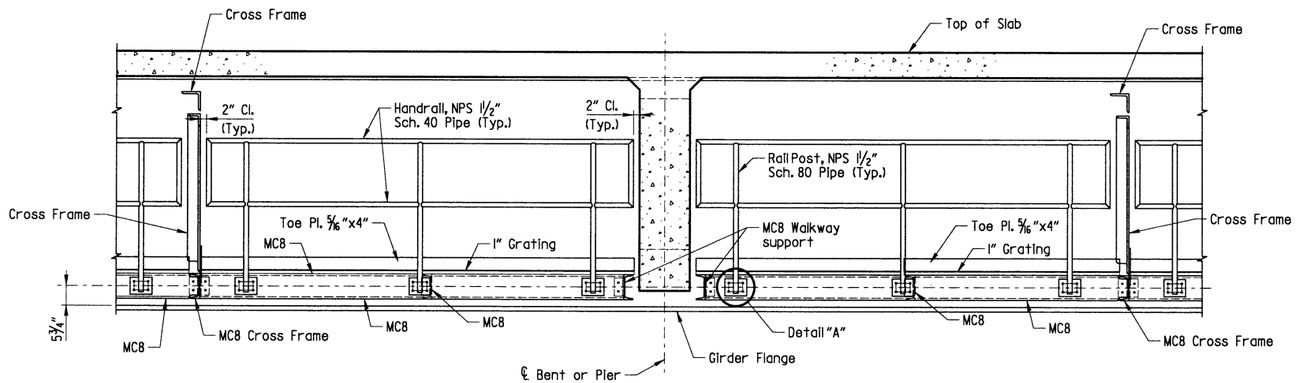


PLAN - SEGMENT 3

Scale: ½" = 1'-0"



SECTION C-C

Scale: ½" = 1'-0"

Notes:
For Framing Plan of Unit 1, See Drawing No. 56788.

For Framing Plan of Units 2 and 4, See Drawing No. 56789.

For Framing Plan of Unit 3, See Drawings No. 56807 & 56808.

For Framing Plan of Unit 5, See Drawing No. 56827.

For Handrail and Connection Details, See Drawing No. 56848.

For Inspection Walkway Notes, See Drawing No. 56844.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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DESIGNED BY: SEM DATE: 8/14/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56845

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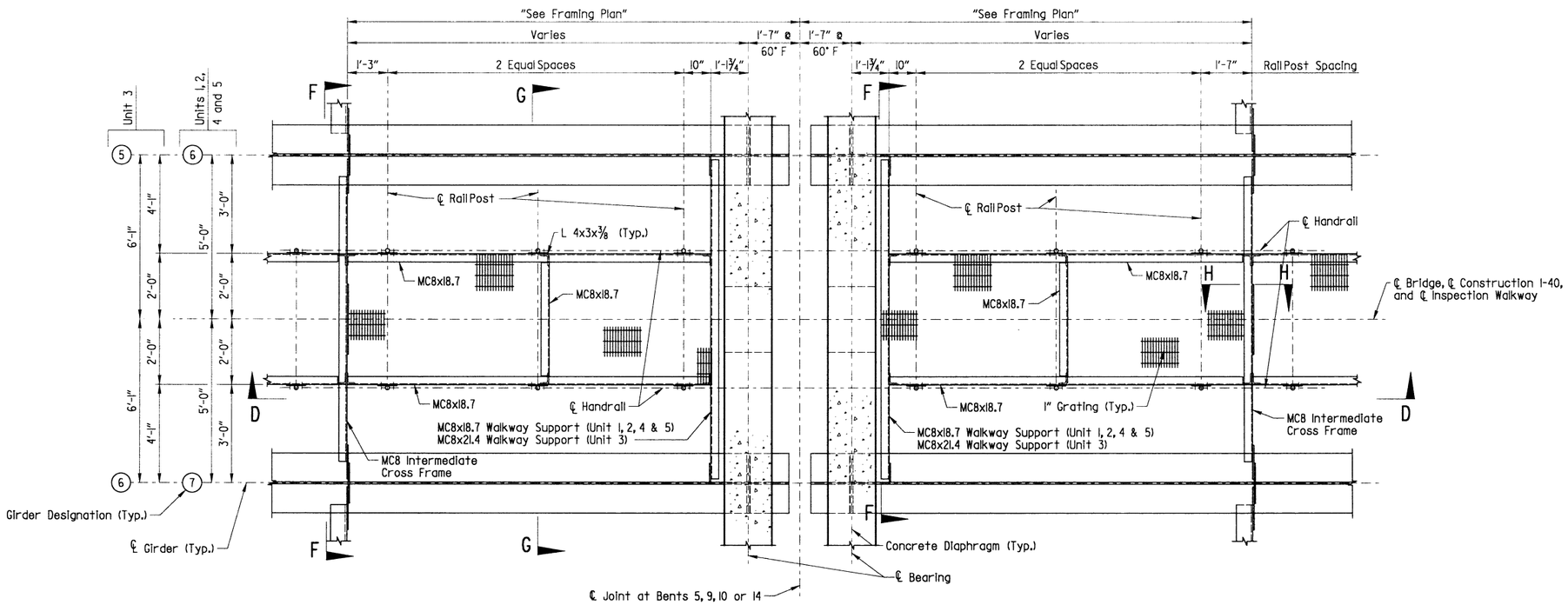
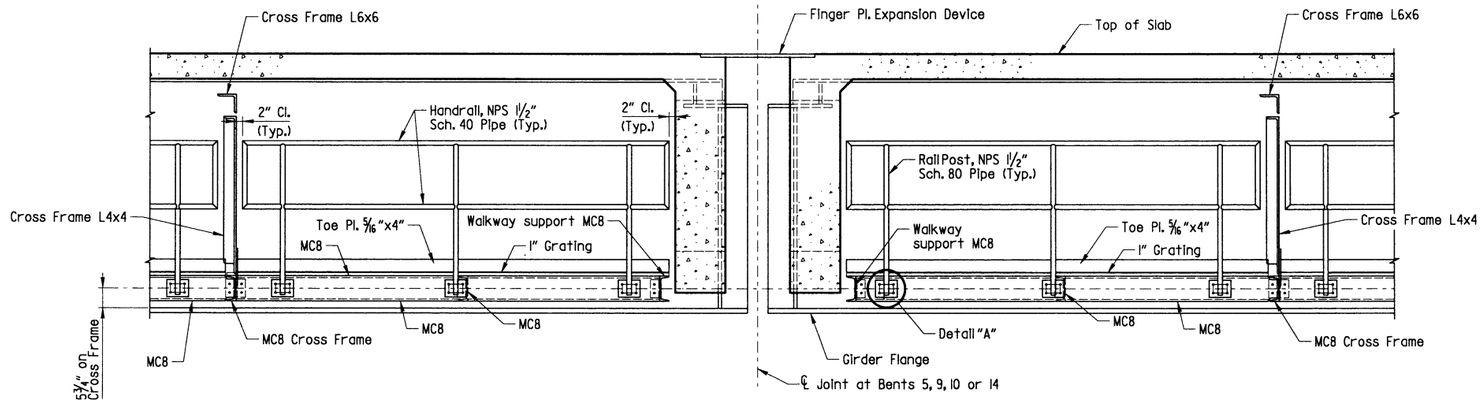


PLAN - SEGMENT 4

Scale: ½" = 1'-0"



SECTION D-D

Scale: ½" = 1'-0"

(Shown for Bents 5 and 14. Bents 9 and 10 similar.)

Notes:
For Framing Plan of Unit 1, See Drawing No. 56788.

For Framing Plan of Units 2 and 4, See Drawing No. 56789.

For Framing Plan of Unit 3, See Drawings No. 56807 & 56808.

For Framing Plan of Unit 5, See Drawing No. 56827.

For Handrail and Connection Details, See Drawing No. 56848.

For Inspection Walkway Notes, See Drawing No. 56844.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
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No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 6 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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CHECKED BY: MAA DATE: 2/9/15
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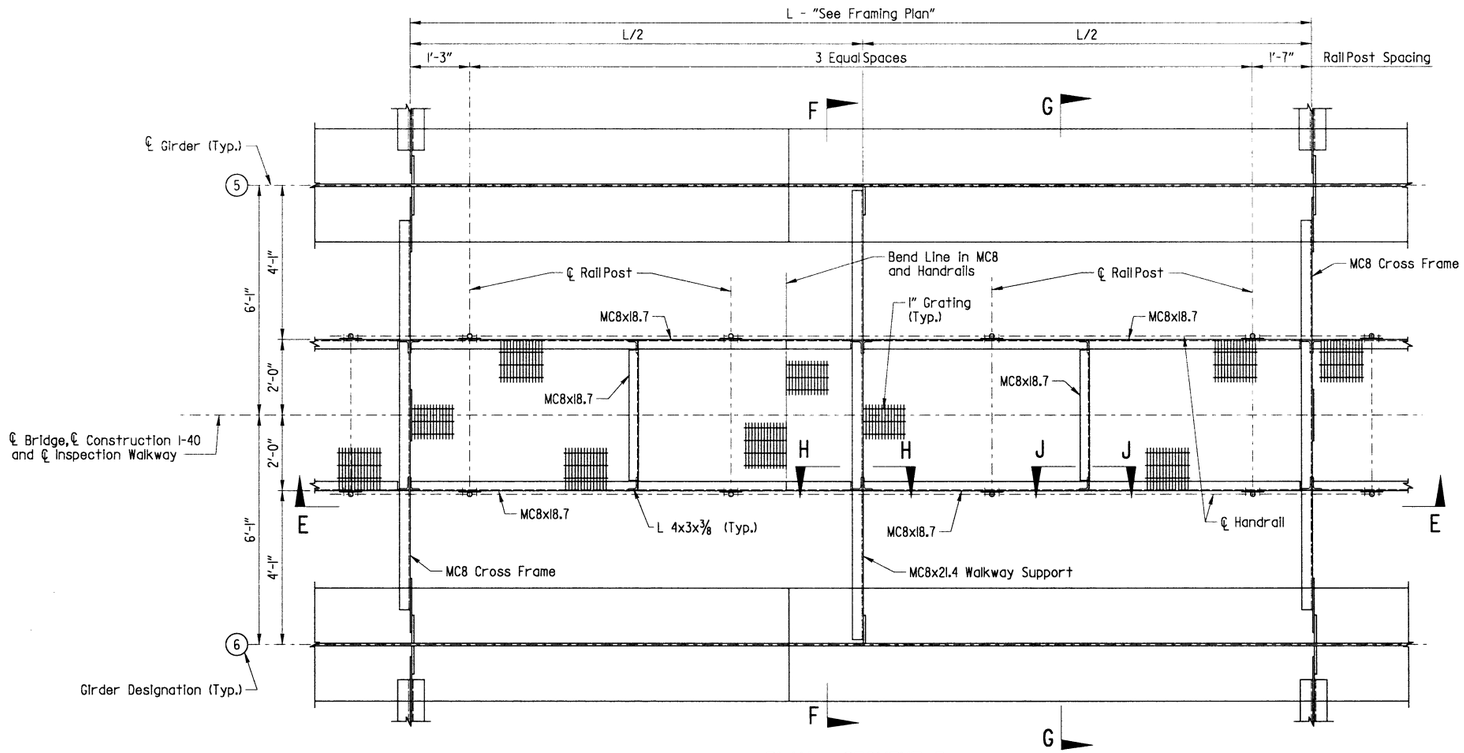
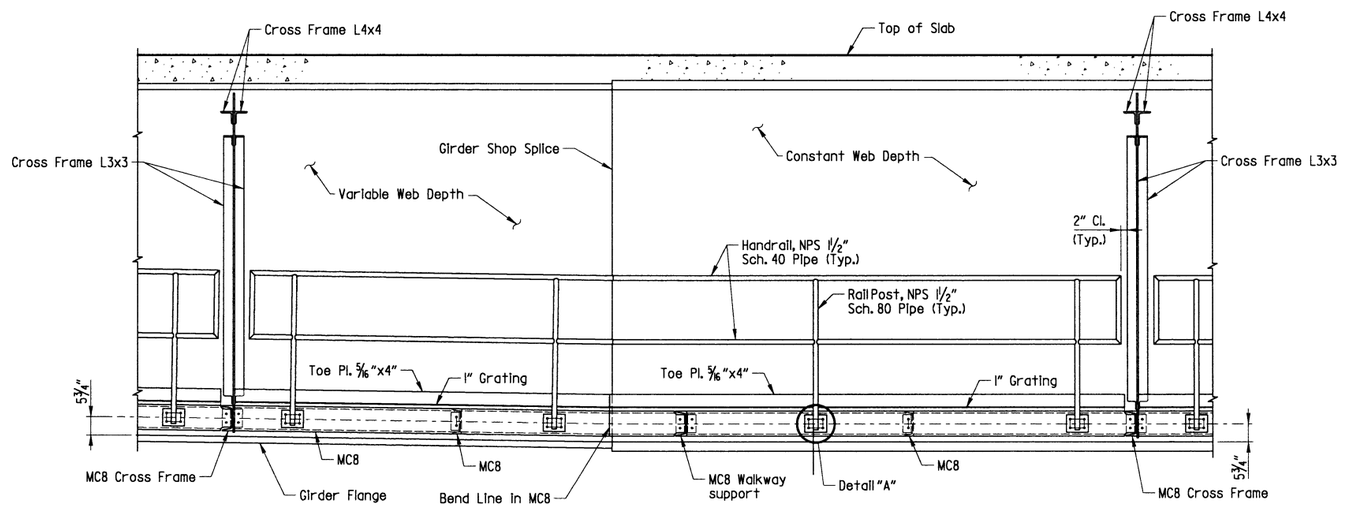


PLAN - SEGMENT 5

Scale: 1/2" = 1'-0"



SECTION E-E

Scale: 1/2" = 1'-0"

Notes:

For Framing Plan of Unit 3, See Drawings No. 56807 & 56808.

For Handrail and Connection Details, See Drawing No. 56848.

For Inspection Walkway Notes, See Drawing No. 56844.

STATE OF ARKANSAS
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No. 8940
MARK ASHER
8/29/16

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ALTERNATE NOS. 1 AND 2
SHEET 7 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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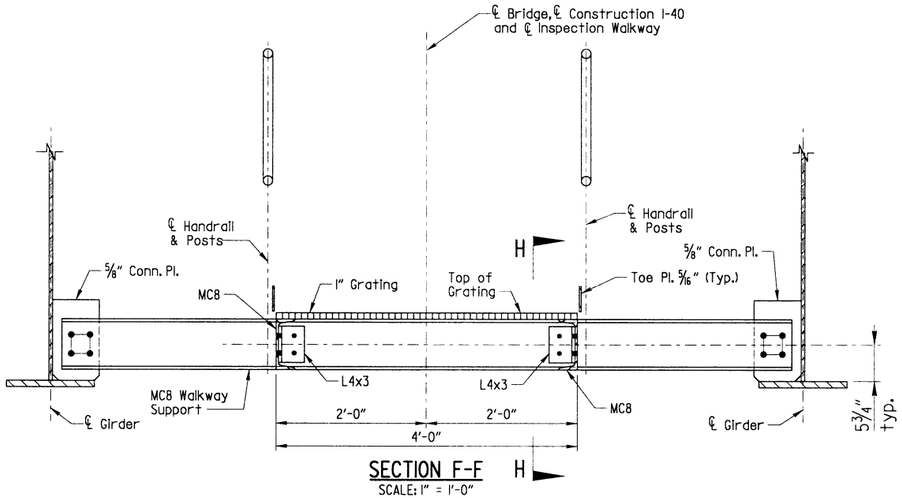
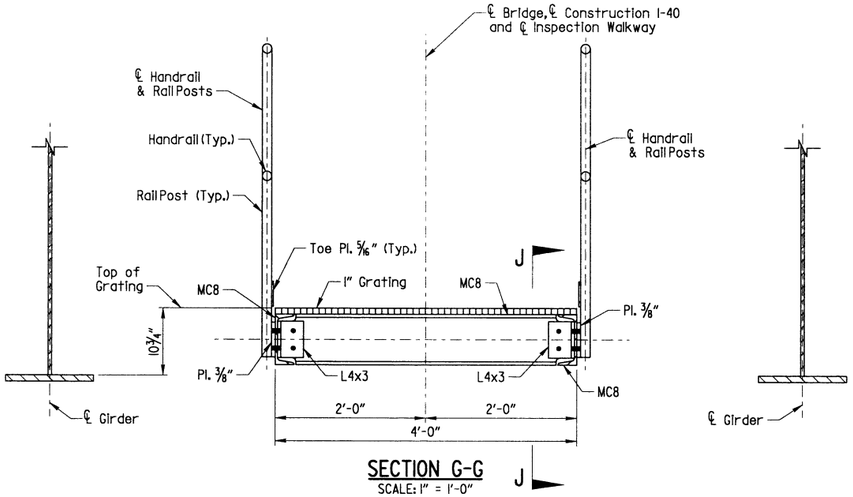


SECTION F-F
SCALE: 1" = 1'-0"



SECTION G-G
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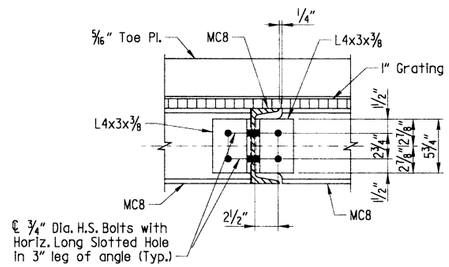
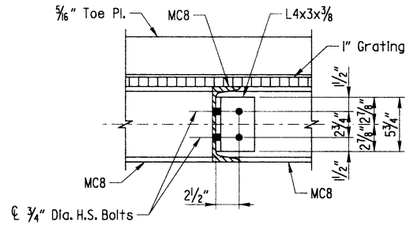
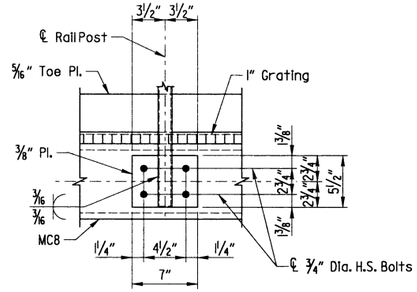


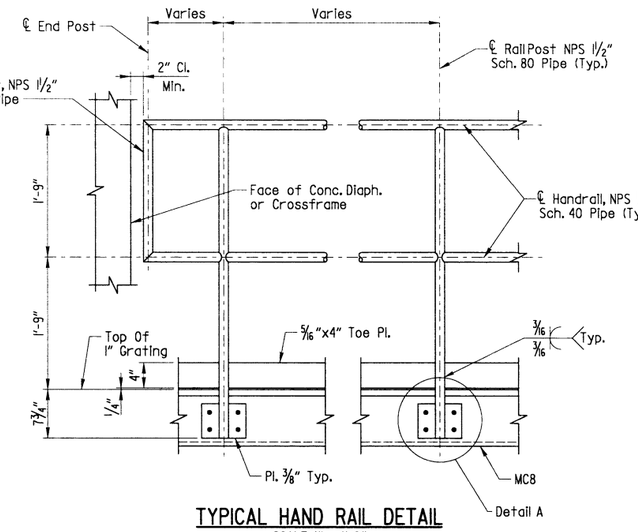
SECTION H-H
SCALE: 1 1/2" = 1'-0"



SECTION J-J
SCALE: 1 1/2" = 1'-0"



DETAIL "A"
SCALE: 1 1/2" = 1'-0"



TYPICAL HAND RAIL DETAIL
SCALE: 1" = 1'-0"

NOTES:
For Cross Frames and Inspection Walkway Supports, See Framing Plans.

For Inspection Walkway Notes, See Drawing No. 56844.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
MARK A. ASHER
REGISTERED PROFESSIONAL ENGINEER
No. 8940
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 8 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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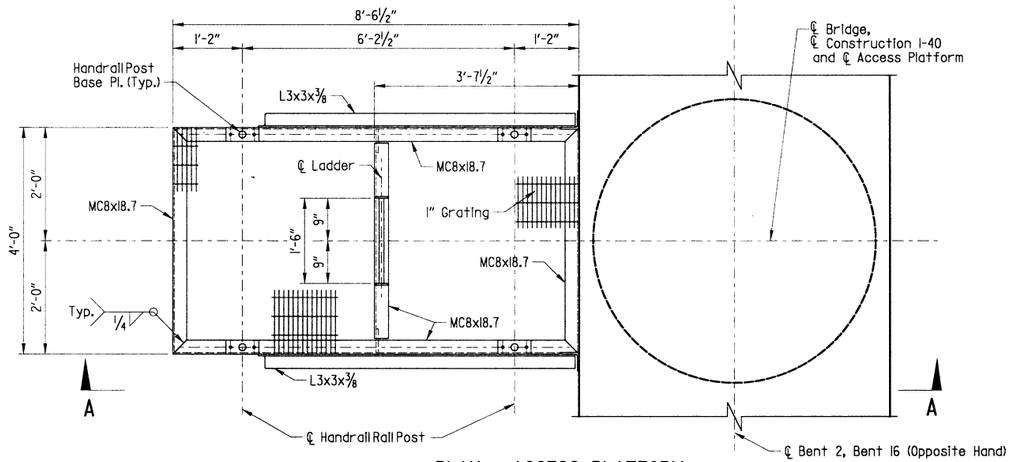
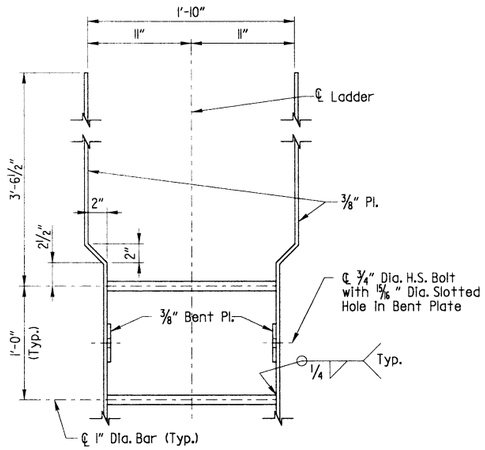


PLAN - ACCESS PLATFORM

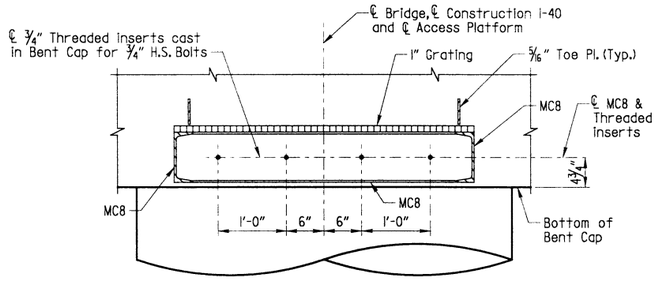
Scale: ¾" = 1'-0"

Note: Platform at Bent 2 shown.
Platform at Bent 16 opposite hand.



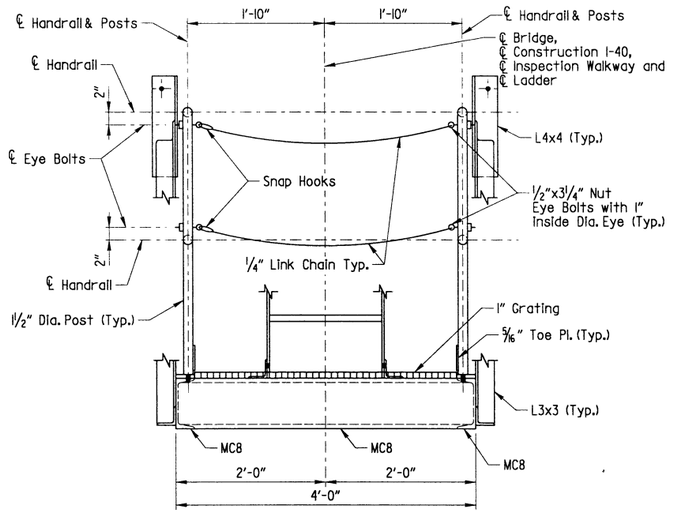
LADDER DETAIL

Scale: 1½" = 1'-0"



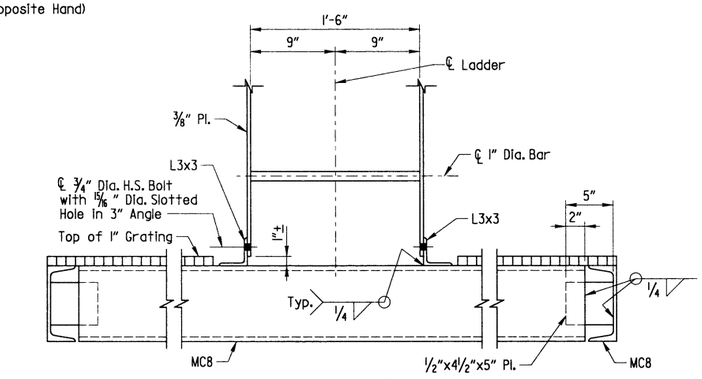
SECTION C-C

Scale: 1" = 1'-0"



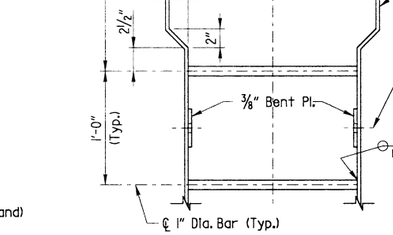
VIEW D-D

Scale: 1" = 1'-0"



SECTION B-B

Scale: 1½" = 1'-0"

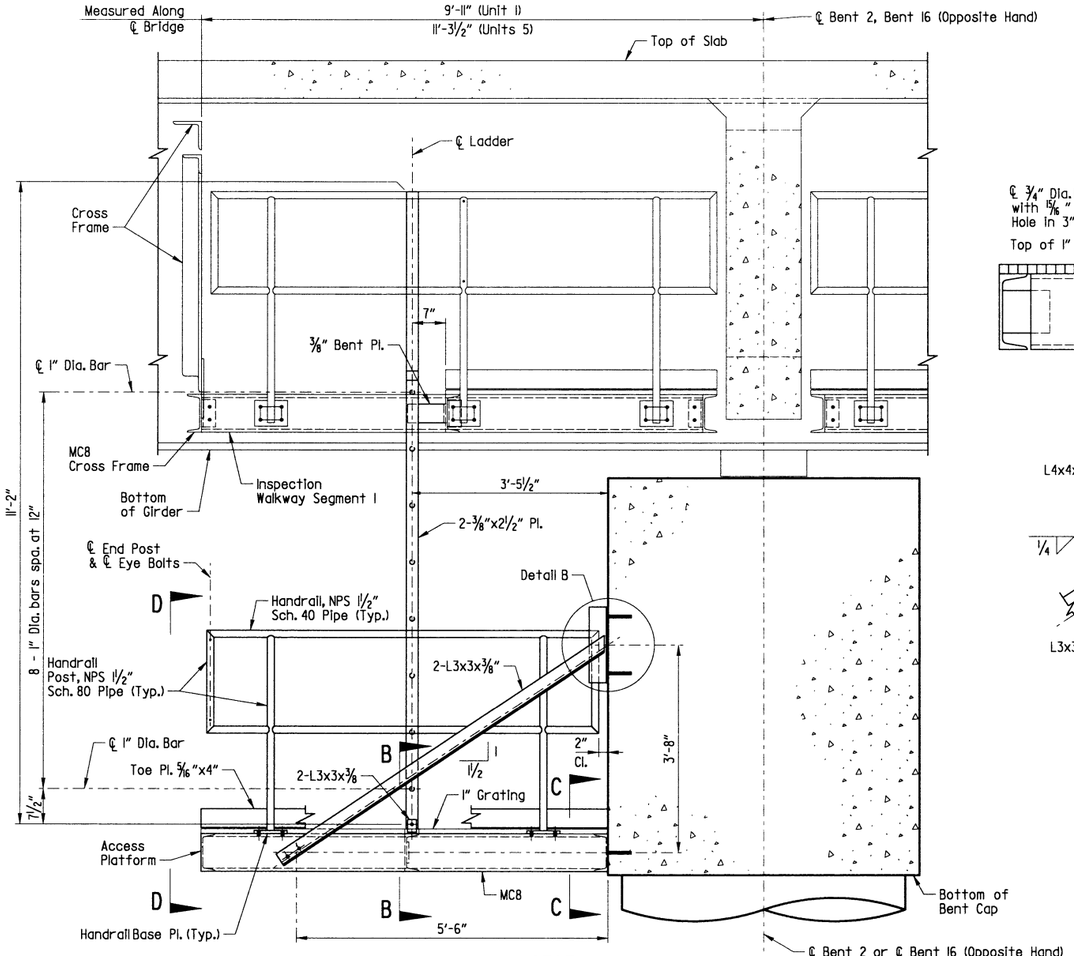


DETAIL B

Scale: 1½" = 1'-0"

HANDRAIL BASE PLATE

Scale: 3" = 1'-0"



SECTION A-A

Scale: ¾" = 1'-0"

Notes:
For Framing Plan of Unit 1, See Drawing No. 56788.

For Framing Plan of Unit 5, See Drawing No. 56827.

For Handrail and Connection Details, See Drawing No. 56848.

For Inspection Walkway Notes, See Drawing No. 56844

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 9 OF 9
DETAILS OF INSPECTION WALKWAY
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	11/20/14	FILENAME:	bbb0610_iw9.dgn
CHECKED BY:	MAA	DATE:	2/9/15		
DESIGNED BY:	JOS	DATE:	1/10/15	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 56849		

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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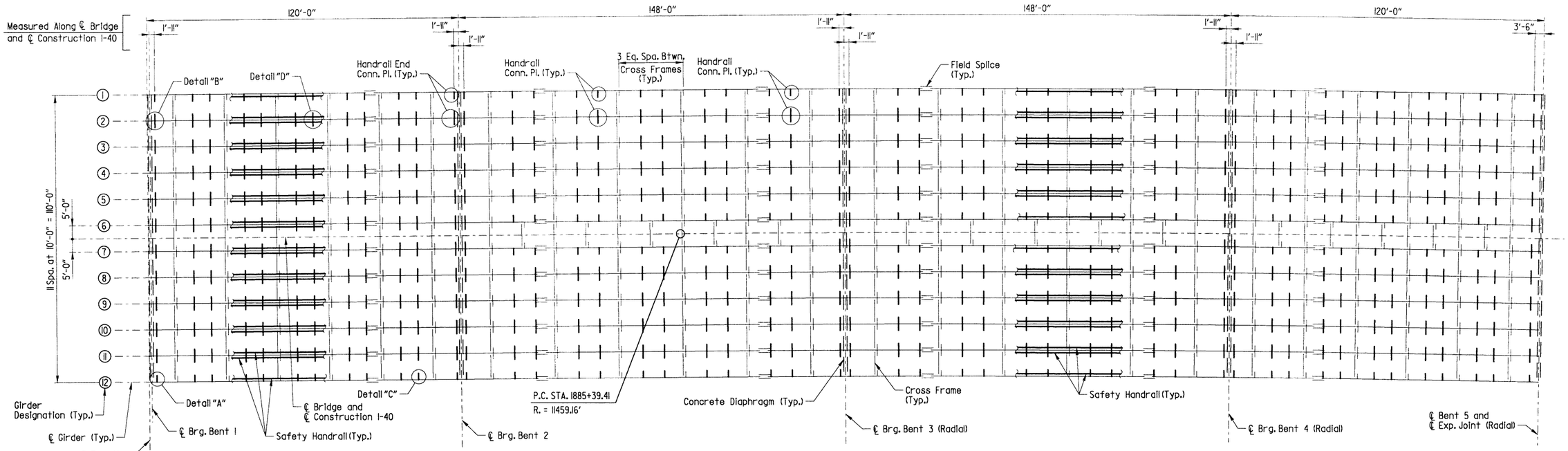
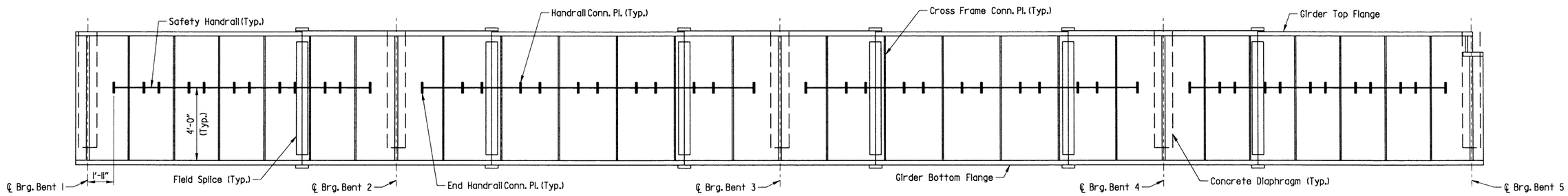
				JOB NO.		BB0610	177	262
				(1) 07343		- HANDRAILS -		56850



LOCATION OF PLATES FOR SAFETY HANDRAIL - UNIT 1 (SHOWN) UNITS 2 AND 4 (SIMILAR)

Scale: 1" = 20'-0"



GIRDER ELEVATION FOR SAFETY HANDRAIL - UNIT 1 (SHOWN) UNITS 2 AND 4 (SIMILAR)

Scale: No Scale

Note: For Cross Frame spacing see Dwg. No. 56788 & 56800.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 5
DETAILS OF SAFETY HANDRAILS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/20/14 FILENAME: bbb0610_shl.dgn
CHECKED BY: JOS DATE: 10/06/14
DESIGNED BY: MJS DATE: 06/12/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56850

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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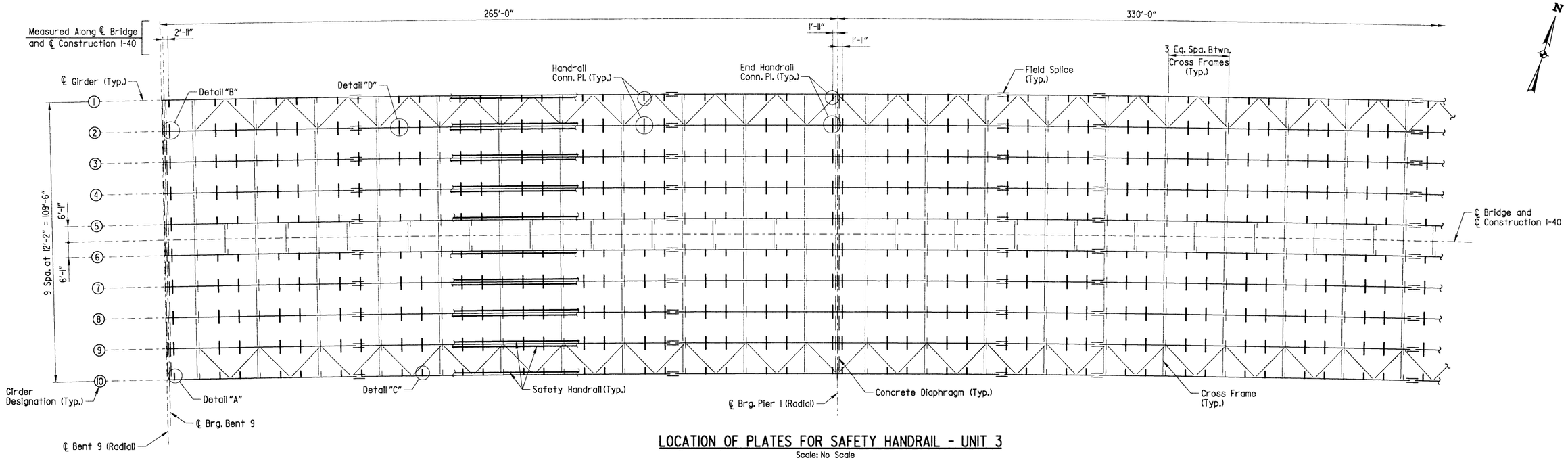
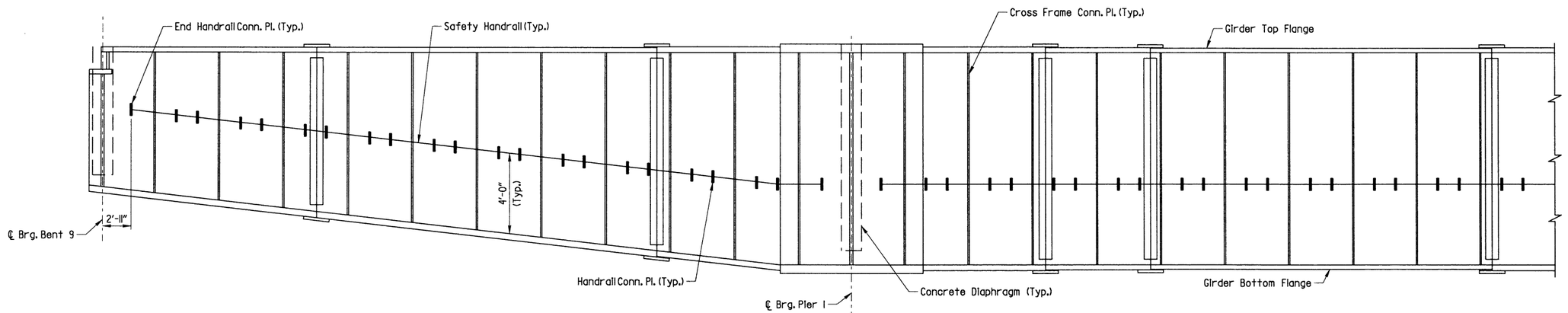
				JOB NO.		BB0610	178	262
				07343	-	HANDRAILS	-	56851



LOCATION OF PLATES FOR SAFETY HANDRAIL - UNIT 3

Scale: No Scale



GIRDER ELEVATION FOR SAFETY HANDRAIL - UNIT 3

Scale: No Scale

Note: For Cross Frame spacing see Dwg. No. 56807 & 56808.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 5
DETAILS OF SAFETY HANDRAILS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/20/14 FILENAME: bbb0610_sh2.dgn
CHECKED BY: JOS DATE: 10/06/14
DESIGNED BY: MJS DATE: 06/12/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56851

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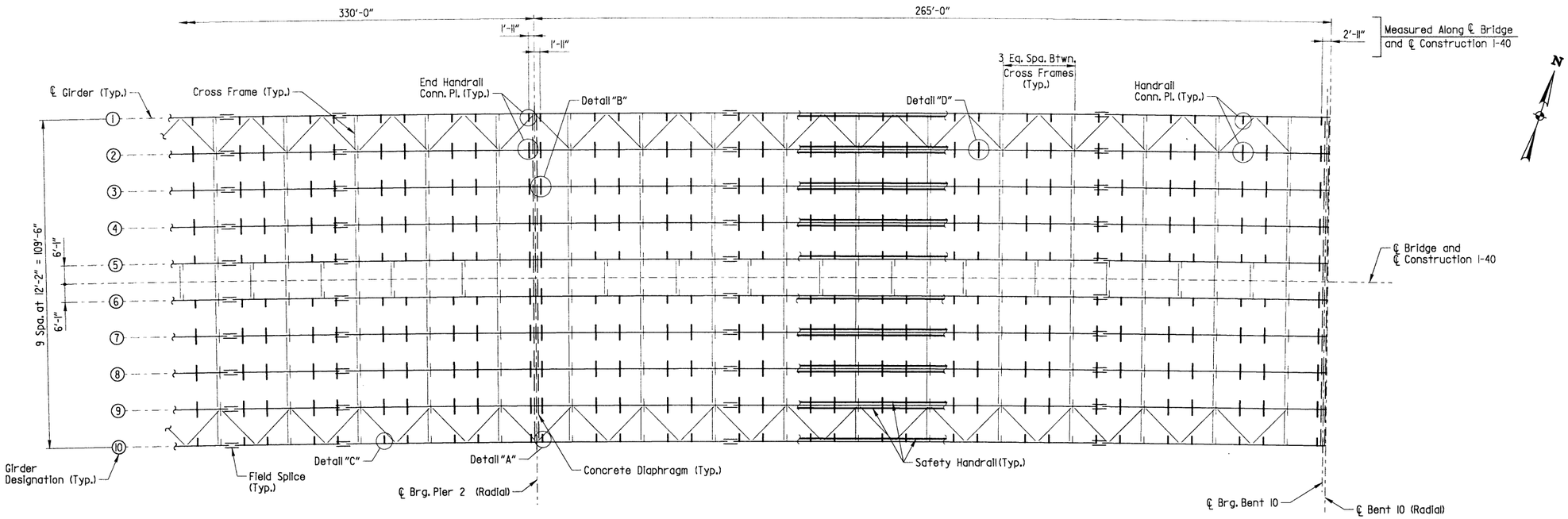
8/29/2016

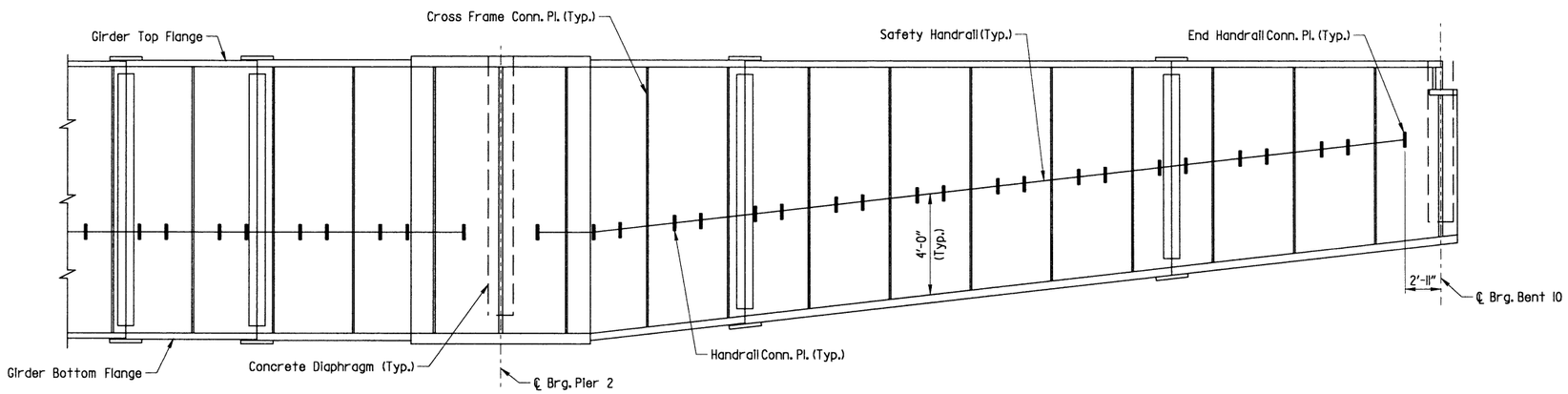
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	179	262
1	07343	- HANDRAILS	-	56852



LOCATION OF PLATES FOR SAFETY HANDRAIL - UNIT 3

Scale: 1" = 20'-0"



GIRDER ELEVATION FOR SAFETY HANDRAIL - UNIT 3

Scale: No Scale

Note: For Cross Frame spacing see Dwg. No. 56807 & 56808.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 3 OF 5
DETAILS OF SAFETY HANDRAILS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/20/14 FILENAME: bbb0610_sh3.dgn
CHECKED BY: JOS DATE: 10/06/14
DESIGNED BY: MJS DATE: 06/12/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56852

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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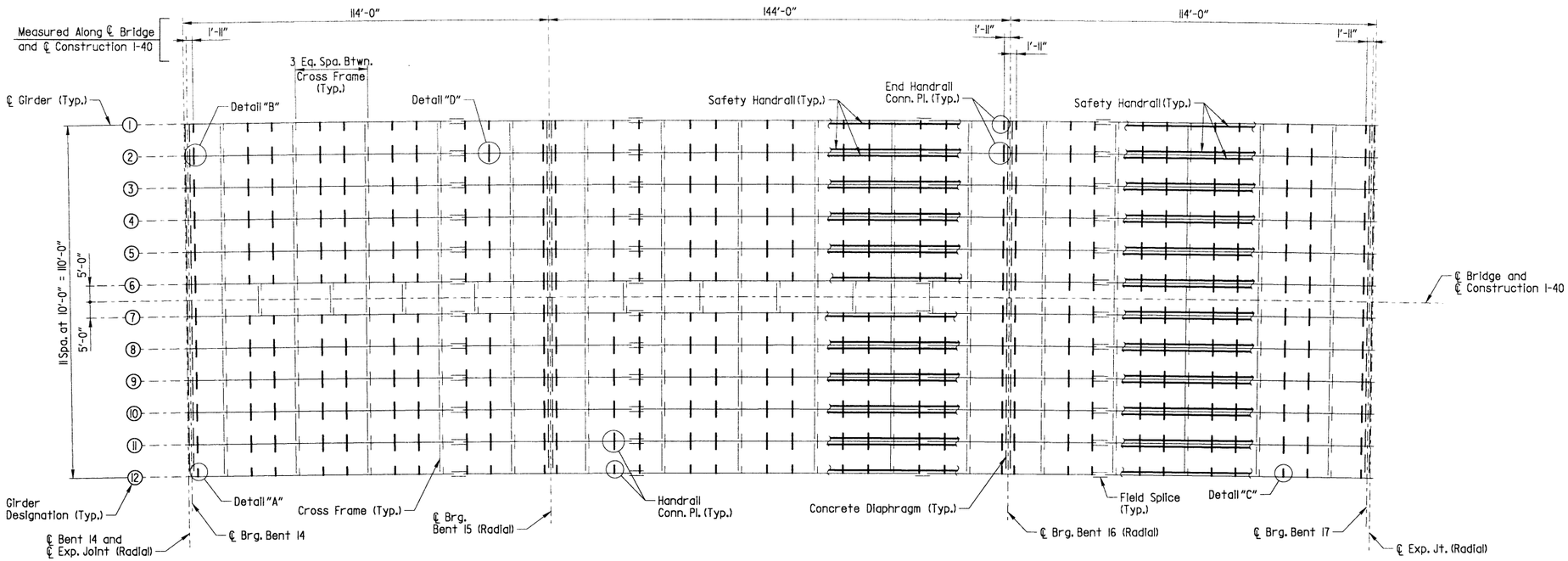
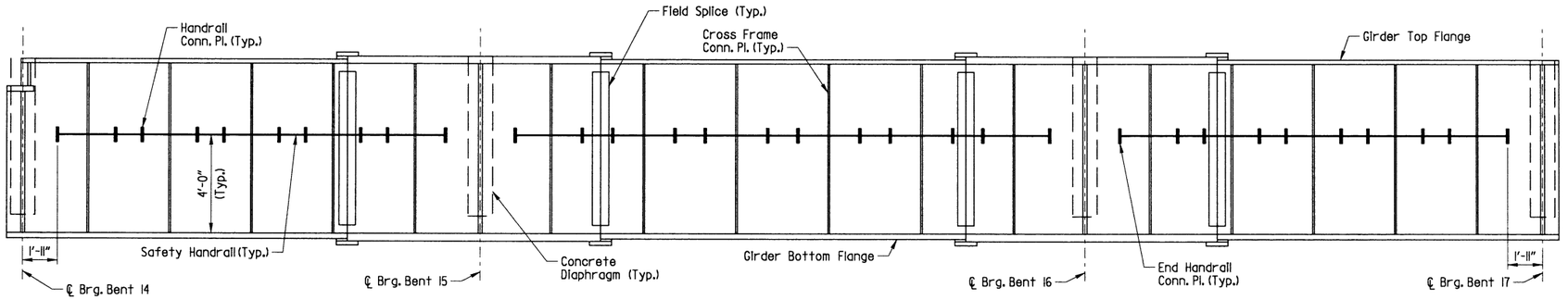


LOCATION OF PLATES FOR SAFETY HANDRAIL - UNIT 5

Scale: 1" = 20'-0"



GIRDER ELEVATION FOR SAFETY HANDRAIL - UNIT 5

Scale: No Scale

Note: For Cross Frame spacing see Dwg. No. ??.

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 4 OF 5
DETAILS OF SAFETY HANDRAILS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/24/14 FILENAME: bbb0610_sh4.dgn
CHECKED BY: JOS DATE: 10/06/14
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BRIDGE NO. 07343 DRAWING NO. 56853

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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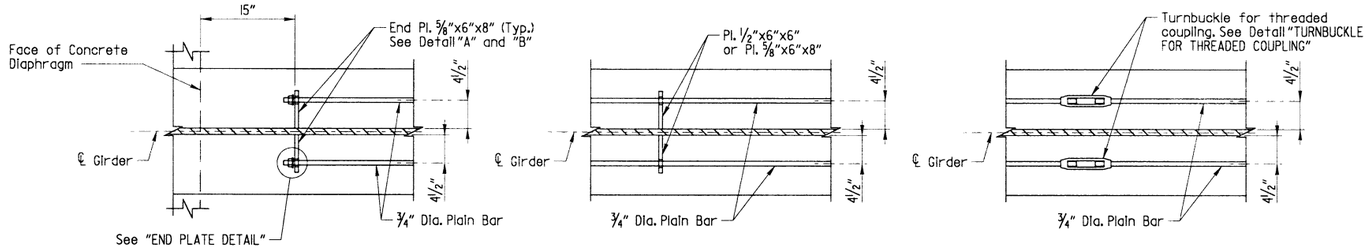


HANDRAIL END CONNECTION PLATE

HANDRAIL CONNECTION PLATE

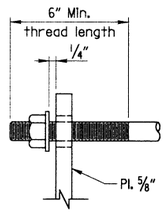
DETAILS OF FIELD ERECTED SAFETY HANDRAILS

Scale: No Scale

Unless otherwise noted, all structural steel in safety handrails shall conform to the requirements of AASHTO M270, GR. 36 and Section 807.

Structural steel, including 3/4" Dia. plain bar and support plates, shall be included in the structural steel quantities. Turnbuckle shall not be paid for directly but shall be subsidiary to the Item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

The 3/4" Dia. plain bar, turnbuckles and accessories shall be galvanized according to AASHTO M232, Class C or ASTM B695, Class 50. All galvanizing will not be paid for directly, but will be subsidiary to the Item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".



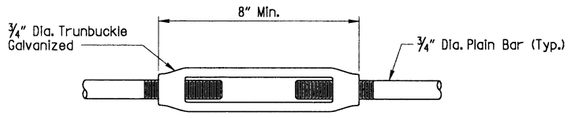
END PLATE DETAIL

Scale: No Scale

3/4" Dia. Heavy hex nut with standard washer. After gap has been set, tack weld heavy hex nut to plain bar.

Gap width shall be set after slab has been poured.

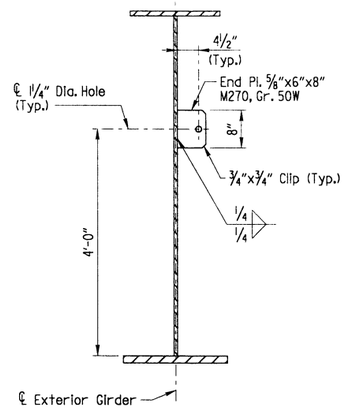
All safety handrails shall be 3/4" Dia. plain bars made continuous by using turnbuckle coupling.



Turnbuckle to conform to ASTM F1145.

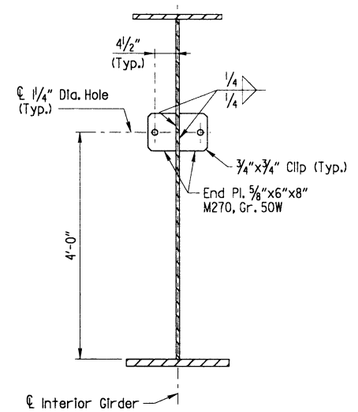
TURNBUCKLE FOR THREADED COUPLING

Scale: No Scale



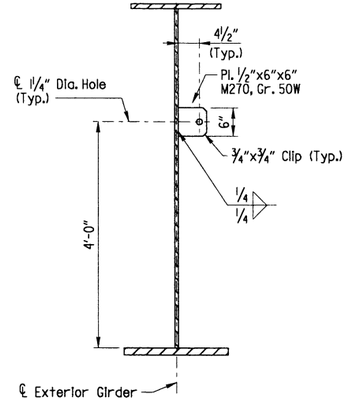
DETAIL "A"

Scale: 3/4" = 1'-0"



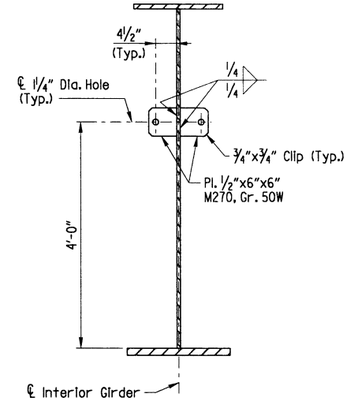
DETAIL "B"

Scale: 3/4" = 1'-0"



DETAIL "C"

Scale: 3/4" = 1'-0"



DETAIL "D"

Scale: 3/4" = 1'-0"

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
SHEET 5 OF 5
DETAILS OF SAFETY HANDRAILS
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 06/25/14 FILENAME: bbb0610_sh5.dgn
CHECKED BY: JOS DATE: 10/07/14
DESIGNED BY: MJS DATE: 06/12/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56854

JACOBS

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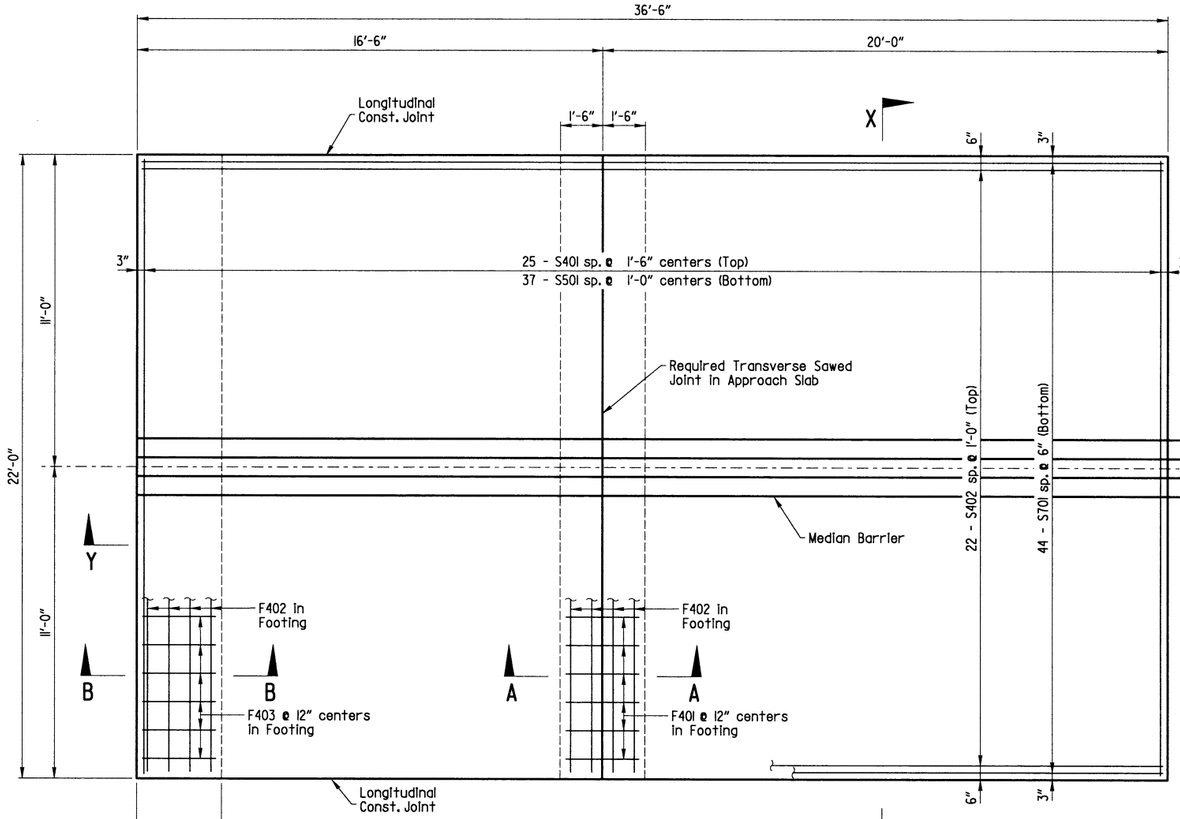
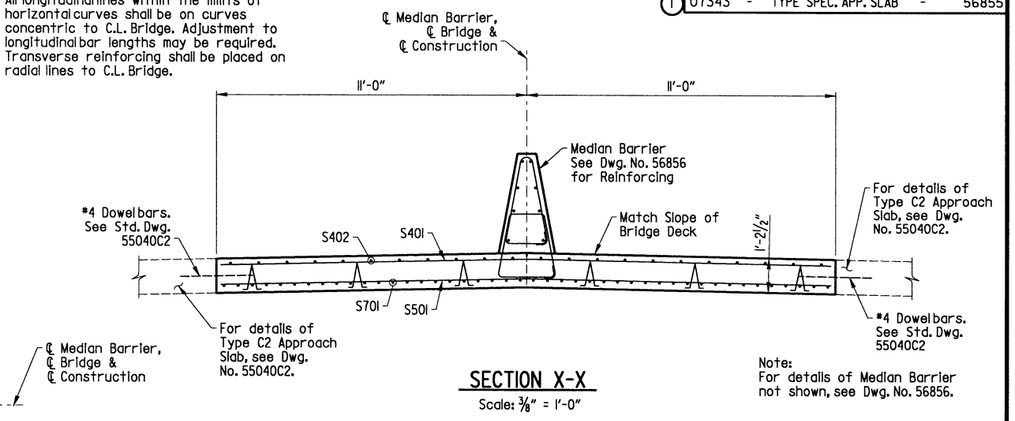
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	182	262
				(1) 07343 - TYPE SPEC. APP. SLAB -				56855

Notes:
The surface finish for the Approach Slabs shall match that used on the bridge deck.

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.



PLAN OF APPROACH SLAB
Scale: 3/8" = 1'-0"



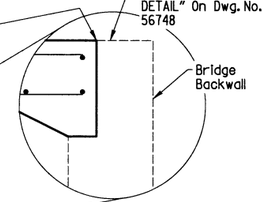
SECTION X-X
Scale: 3/8" = 1'-0"

Note:
For details of Median Barrier not shown, see Dwg. No. 56856.

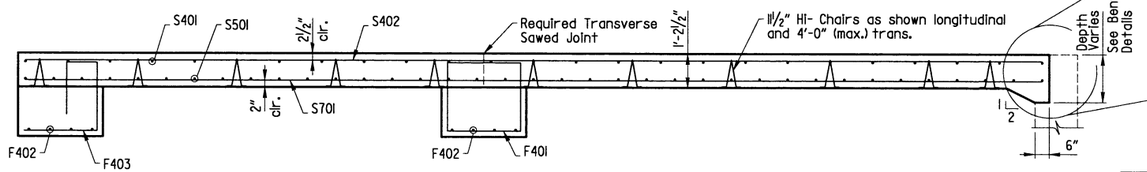
Y

Front Face of Bridge Backwall

½" x 1" Poured Joint Sealer (Type 3 or 4) per Subsection 501.02(h)(2). Backer Rod is required.



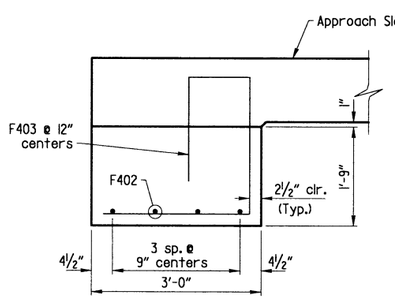
X



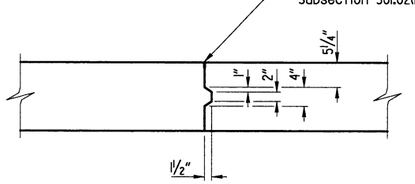
SECTION Y-Y
Scale: 3/8" = 1'-0"

BAR LIST FOR ONE TYPE SPECIAL APPROACH SLAB

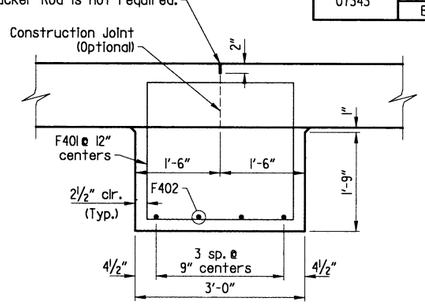
Mark	No. Req'd.	Length	Pin. Dia.	BENDING DIAGRAMS (Dimensions are shown out to out of bar)
S401	25	21'-8"	Str.	
S402	22	36'-2"	Str.	
S501	37	21'-8"	Str.	
S701	44	36'-2"	Str.	
F401	22	10'-4"	2"	
F402	8	21'-8"	Str.	
F403	22	7'-8"	2"	



SECTION B-B
Scale: 3/4" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT
No Scale



SECTION A-A
Scale: 3/4" = 1'-0"

QUANTITIES FOR ONE TYPE SPECIAL APPROACH SLAB
(Includes Median Barrier)

Bridge	Bent	Reinforcing Steel (lbs.)	Epoxy-Coated Reinforcing Steel (lbs.)	Concrete (cubic yds) T=14½"	
07343	Bent 1	5,362	1,067	51.40	*
	Bent 17	5,362	1,067	51.40	*

GENERAL NOTES

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504 of the Standard Specifications.

* Includes 6.48 Cubic Yards for the Median Barrier.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NOS. 1 AND 2
SHEET 1 OF 2
DETAILS OF TYPE SPECIAL APPROACH SLAB
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/5/14 FILENAME: bbb0610_asi.dgn
CHECKED BY: CJC DATE: 6/9/14
DESIGNED BY: LHG DATE: 6/5/14 SCALE: As Noted
BRIDGE NO. 07343 DRAWING NO. 56855

JACOBS

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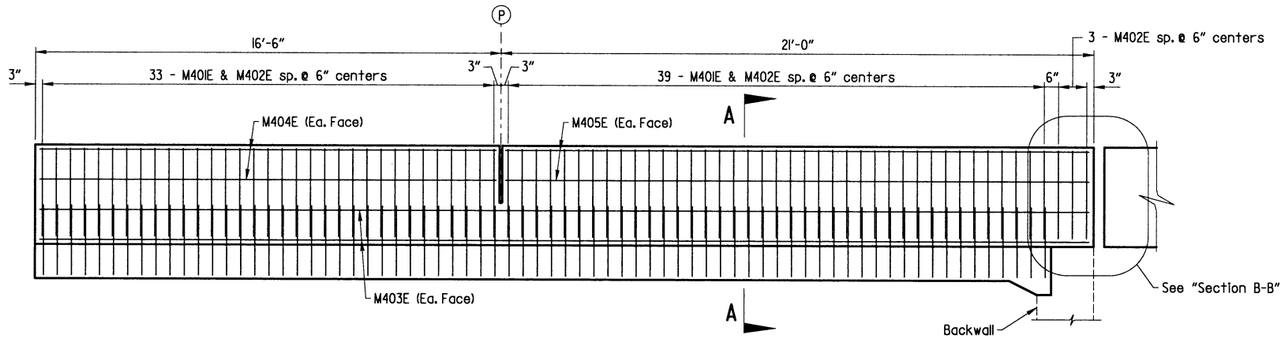
8/26/2016 10:55:20 AM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	183	262
				(1) 07343 - TYPE SPEC. APP. SLAB -				56856



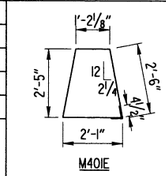
(P) Indicates partial Depth Joint in Median Barrier Stopped 1'-6" from top of Approach Slab.

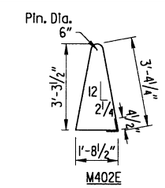
ELEVATION - MEDIAN BARRIER ON APPROACH SLAB

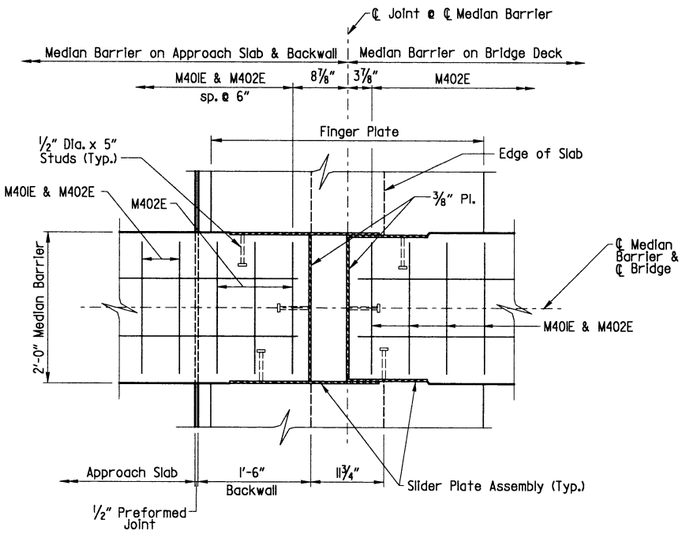
Scale: 3/8" = 1'-0"

BAR LIST FOR ONE MEDIAN BARRIER ON APPROACH SLAB

Mark	No. Req'd.	Length	Pin. Dia.	BENDING DIAGRAMS (Dimensions are shown out to out of bar)
M401E	73	8'-8"	2"	
M402E	75	8'-11"	2"	
M403E	4	37'-2"	Str.	
M404E	4	16'-2"	Str.	
M405E	4	20'-8"	Str.	

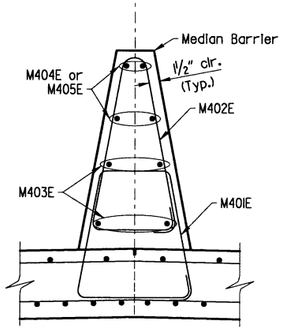






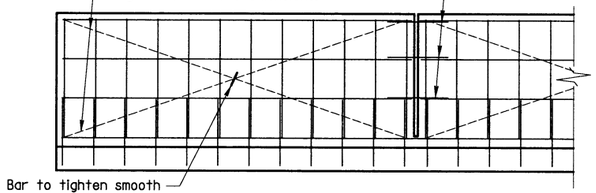
SECTION B-B

No Scale



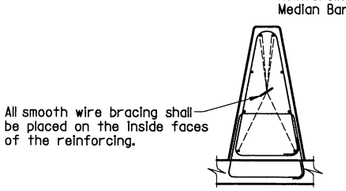
SECTION A-A

Scale: 3/4" = 1'-0"



All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing, all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

For actual placement of Reinforcing Steel, see Median Barrier Details.



The extruded median barrier shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE MEDIAN RAIL

(No Scale)

GENERAL NOTES

CONCRETE: All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi.

REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 or M322 Type A. Mill test reports shall be submitted.

All structural steel for the Median Barrier Slider Plates, Bent Studs, and Slider Plate Anchors shall be AASHTO M270, Gr. 50W unless otherwise noted. Structural steel completely embedded in concrete need not be painted.

All structural steel for the Median Barrier Slider Plates and Bent Studs shall be paid for as "STRUCTURAL STEEL IN GIRDER SPANS (M270, Gr. 50W)".

Details of the Proposed Slider Plate Assembly for the Median Barrier shall be submitted to and approved by the Engineer prior to fabrication of the structural steel at the expansion device.

⚠ Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
SHEET 2 OF 2
DETAILS OF TYPE SPECIAL APPROACH SLAB BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 6/12/14 FILENAME: bbb0610_as2.dgn
CHECKED BY: CJC DATE: 6/16/14
DESIGNED BY: LHG DATE: 6/12/14 SCALE: As Noted
BRIDGE NO. 07343 DRAWING NO. 56856

JACOBS

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8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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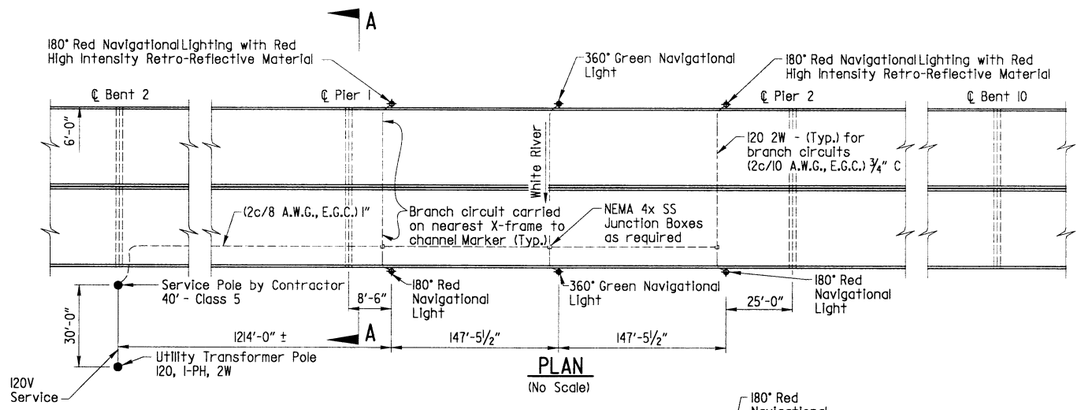
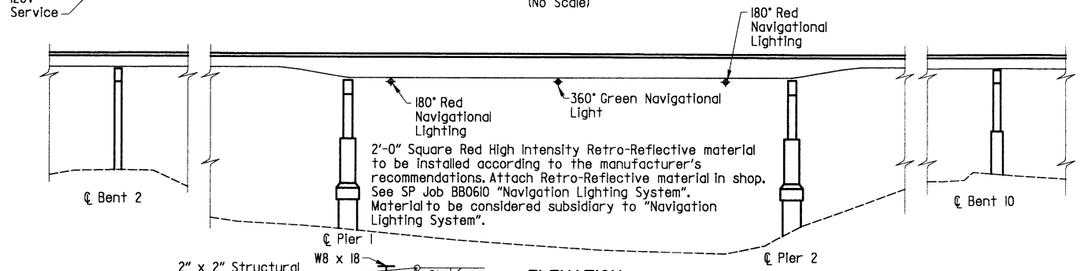
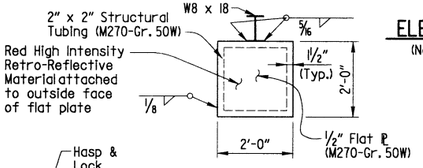
				JOB NO.		BB0610	184	262
				① 07343	-	NAV. LIGHTING	-	56857



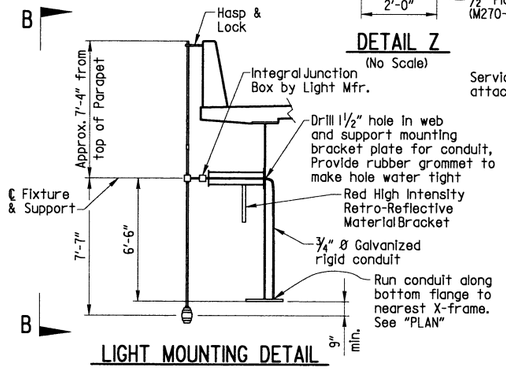
PLAN
(No Scale)



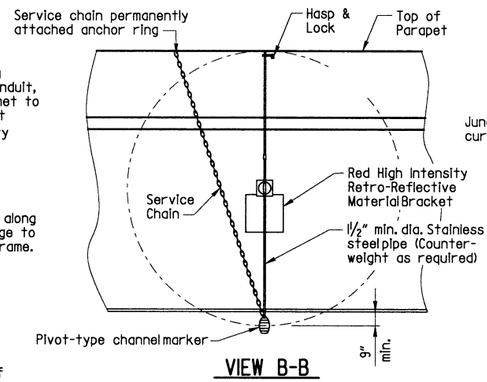
ELEVATION
(No Scale)



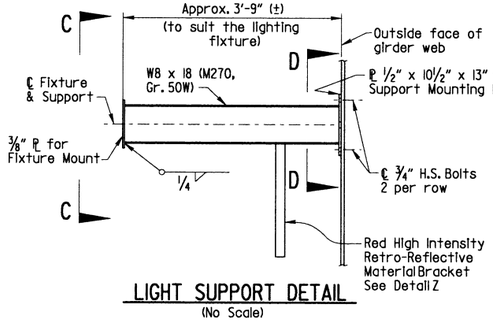
DETAIL Z
(No Scale)



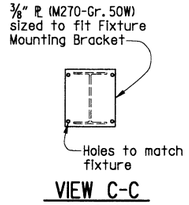
LIGHT MOUNTING DETAIL
(No Scale)



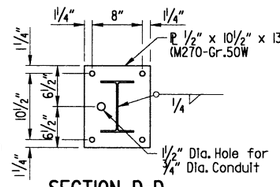
VIEW B-B
(No Scale)



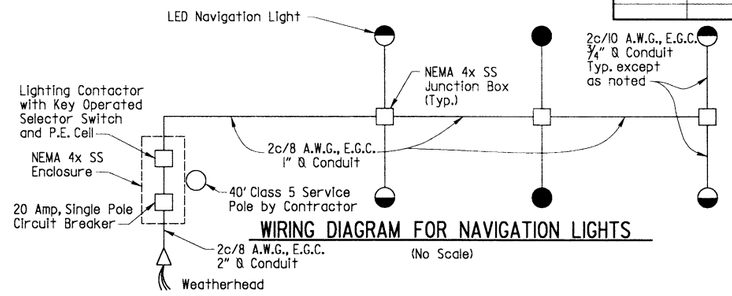
LIGHT SUPPORT DETAIL
(No Scale)



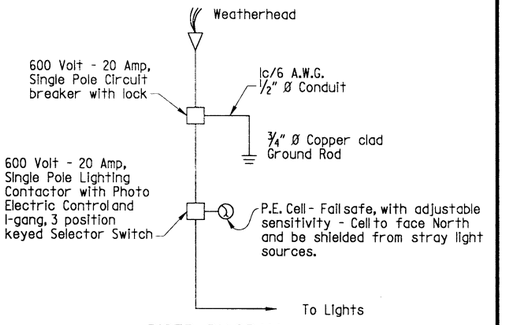
VIEW C-C
(No Scale)



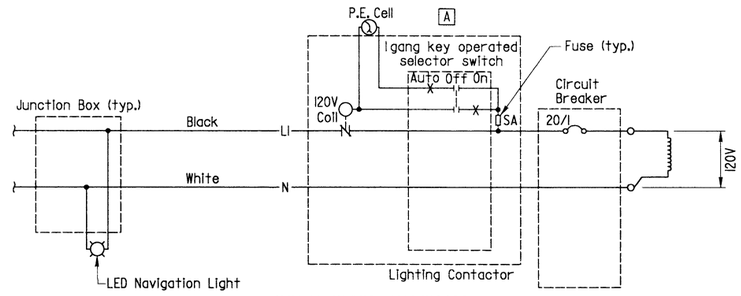
SECTION D-D
(No Scale)



WIRING DIAGRAM FOR NAVIGATION LIGHTS
(No Scale)



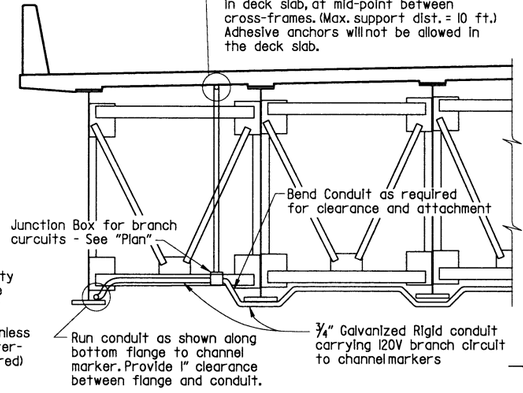
RISER DIAGRAM
(No Scale)



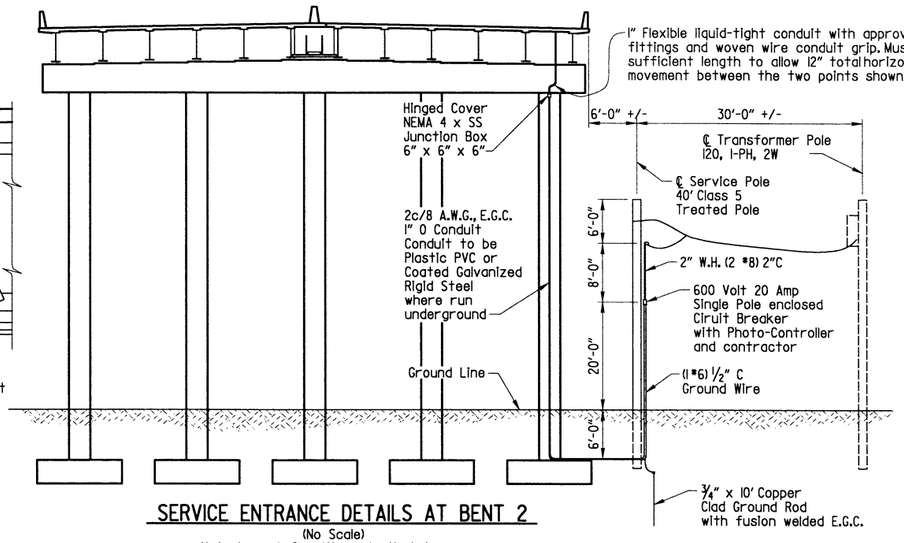
CONNECTION DIAGRAM
(No Scale)

A Provide keyed On/Off/Auto selector switch to allow manual control of the lighting contactor.

¾" Galvanized Rigid conduit under slab as shown carrying 120V Supply. Conduit supported by top cross-frame angle with hanger support, embedded in deck slab, at mid-point between cross-frames. (Max. support dist. = 10 ft.) Adhesive anchors will not be allowed in the deck slab.



SECTION A-A
(No Scale)



SERVICE ENTRANCE DETAILS AT BENT 2
(No Scale)
Note: Layout for Alternate No. 1 shown, layout for Alternate No. 2 utilizes Drilled Shafts.

NOTES

All wires shall be run in galvanized, rigid steel conduits unless otherwise noted, and except where flexible, liquid tight conduit is used.

All conduit and junction boxes shall have weather proof covers.

All conduit runs and all structural steel shall be made electrically continuous by approved grounding.

Expansion fittings shall be weather proof O.Z. Electrical Co. type "EXE" (or approved equal) with external bonding jumper.

For additional information refer to SP Job BB0610 "Navigational Lighting System".

The navigational lighting system shall be Tideland MaxLumina Marine Signal Lanter ML-155 with Tideland MaxIHAL0-60 II with AC adaptor or approved equal.

The use of manufacturer's name is intended to indicate only the type and quality of product to be furnished. Other manufacturer's products providing equal standards of performance and quality will be considered acceptable subject to the approval of the Engineer.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NOS. 1 AND 2
DETAILS OF NAVIGATIONAL LIGHTING BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	02/05/2015	FILENAME:	bbb0610_nll.dgn
CHECKED BY:	MH	DATE:	02/06/2015		
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BRIDGE NO. 07343				DRAWING NO. 56857	

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

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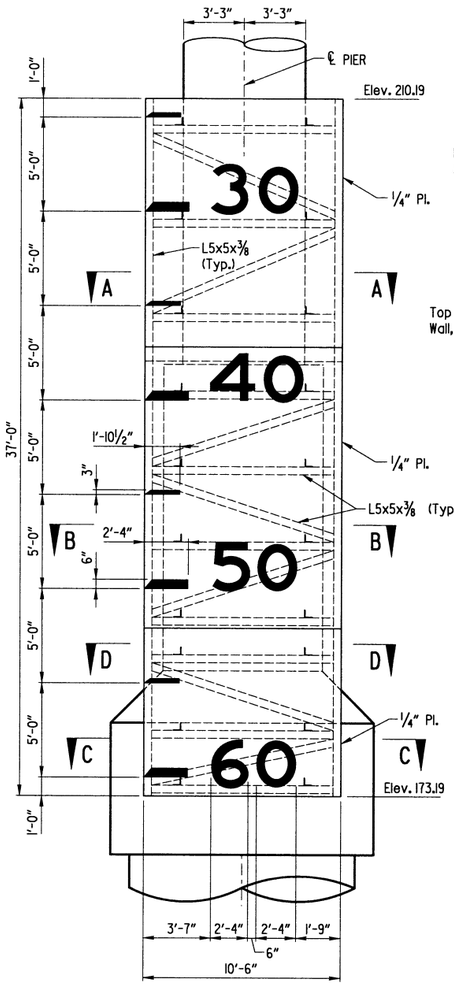
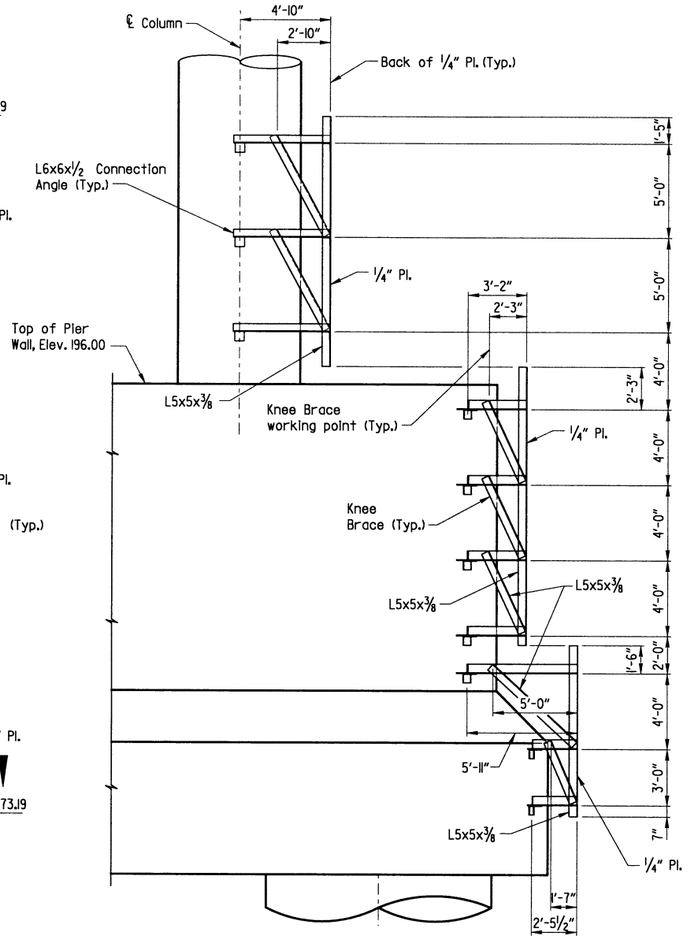
				JOB NO.		BB0610	185	262
				1	07343	- CLEARANCE GAUGE -		56858



ELEVATION

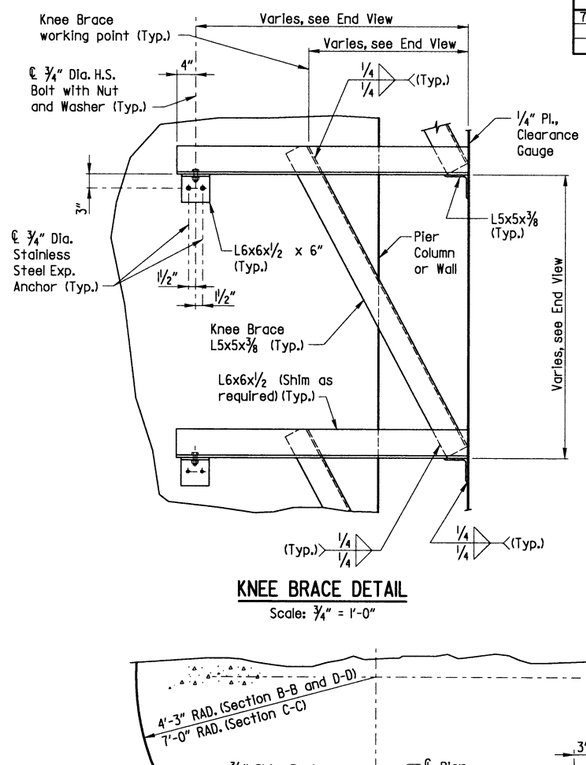
(No Scale)

Pier 1 - Upstream Side
Pier 2 - Downstream Side



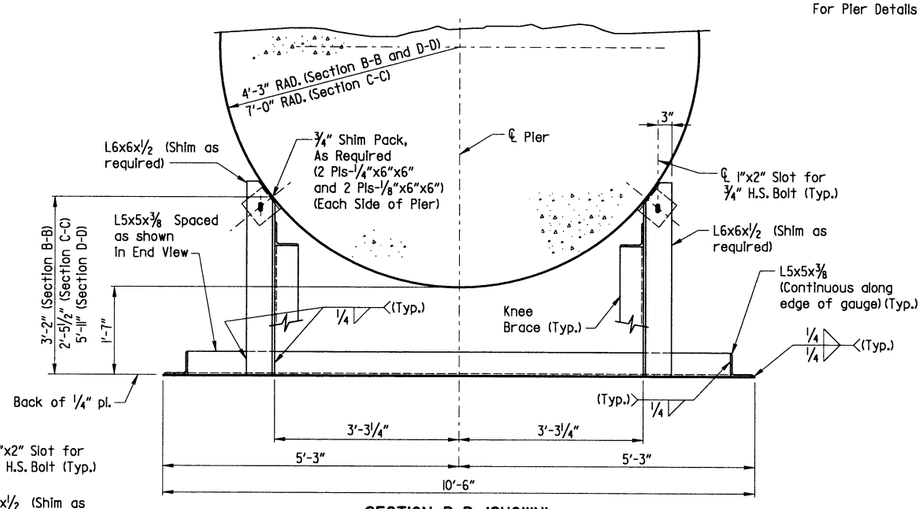
END VIEW

Scale: 1/4" = 1'-0"



KNEE BRACE DETAIL

Scale: 3/4" = 1'-0"

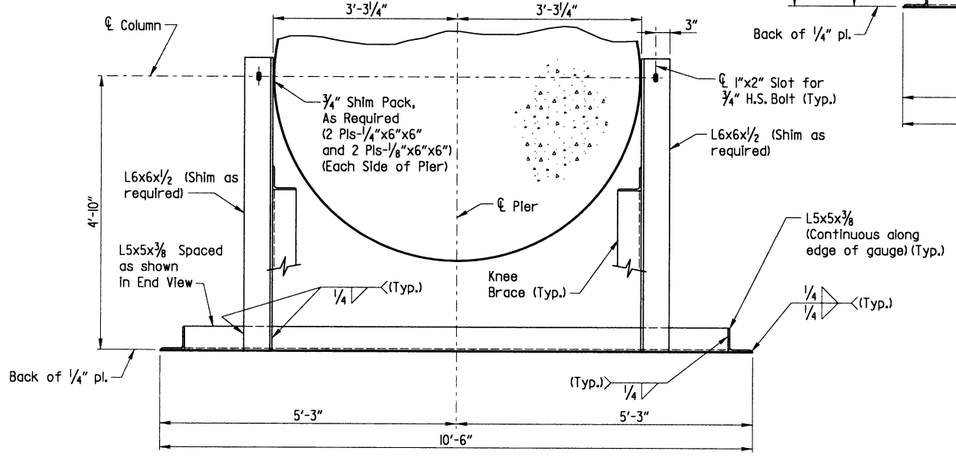


SECTION B-B (SHOWN)

Scale: 3/4" = 1'-0"

SECTION C-C AND D-D (SIMILAR)

(Except as Noted)



SECTION A-A

Scale: 3/4" = 1'-0"

Notes:
Numerals on Clearance Gauge shall be 30 inch high, Series E, as shown in Standard Alphabets for Highway Signs, published by The Federal Highway Administration, U.S. Department of Transportation.

All Structural steel shall be ASTM M270, Gr. 36 and shall be fabricated according to Section 807. The 1/4" plate and support bracing shall be cleaned in accordance with Subsection 807.84(b). The finish coat shall be white. The paint for the numerals and the foot marks shall be black. All coats of paint will be applied in the shop. Painting shall be in conformance with Subsection 807.75. See SP Job BB0610 "CLEARANCE GAUGES" for method of measurement and payment.

Anchors shall be installed according to the Manufacturer's Specifications and shall have the following ultimate capacities:

Shear 10,000 lbs. Tension 9,000 lbs.

Anchors may be cast into place or drilled and grouted into place. If anchors are drilled and grouted into place, the anchors shall be set and fixed using a QPL Approved Epoxy or Non-shrink Grout that completely fills the holes.

Stainless Steel shall be ASTM A193 or A320, Gr. B 8.

Clearance Gauges to be installed before erection of superstructure begins.

For Pier Details See Drawing No. 56765-56769.

1 Revised sheet to reflect the addition of alternate substructure and modified clearance gauge for foundation change. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
DETAILS OF CLEARANCE GAUGES
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SGK	DATE:	6/17/14	FILENAME:	bbb0610_cgl.dgn
CHECKED BY:	SSS	DATE:	7/20/16		
DESIGNED BY:	CGW	DATE:	6/16/14	SCALE:	AS SHOWN
BRIDGE NO. 07343			DRAWING NO. 56858		

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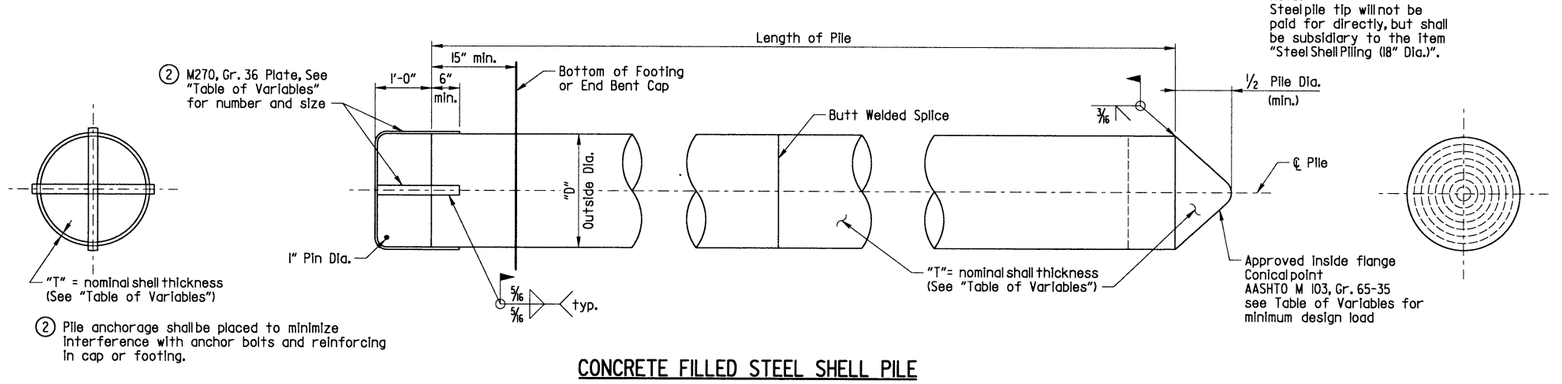
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

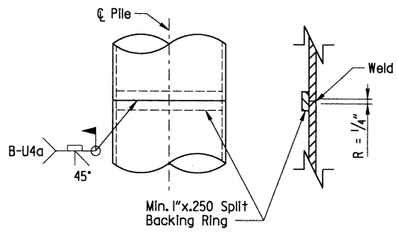
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	186	262
(1) 07343	- STEEL SHELL PILES	-		56859



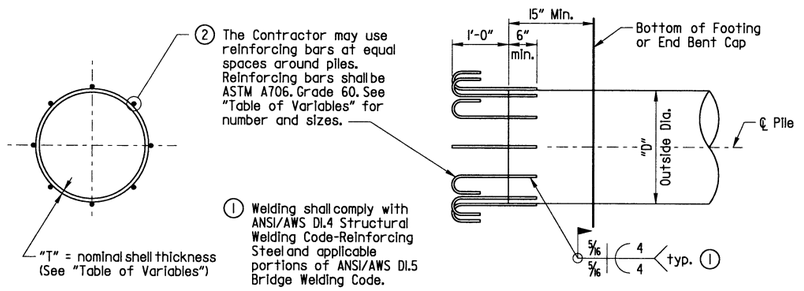
Note:
Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling (18" Dia.)".

(2) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

CONCRETE FILLED STEEL SHELL PILE

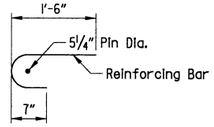


TYPICAL SPLICE DETAILS



ALTERNATE PILE ANCHORAGE DETAIL

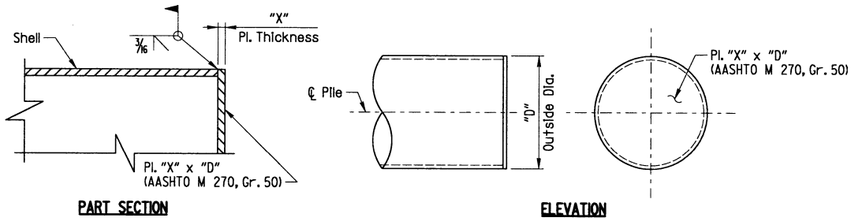
Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.



HOOKED BAR DETAIL

TABLE OF VARIABLES

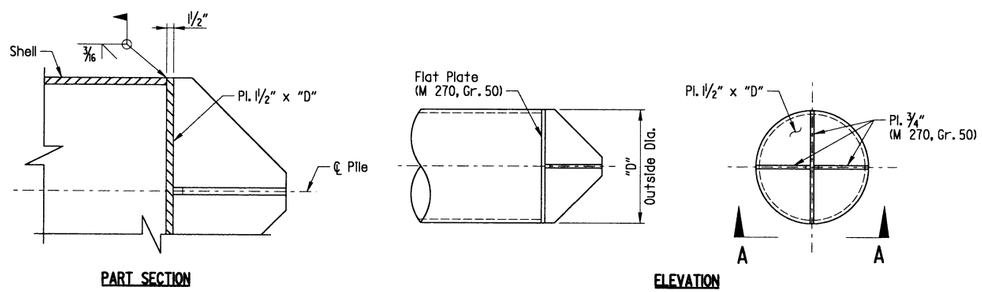
BRIDGE NUMBER	OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	PLATE THICKNESS "X"	PILE STRAPS		MINIMUM CONICAL TIP DESIGN LOAD (KIPS)
				PLATE	REINFORCING	
07343	18"	0.50"	2 1/2"	2 @ 1/2"x2 1/2"	8-#7	1,114



PART SECTION ELEVATION

ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.



PART SECTION ELEVATION VIEW A-A

ALTERNATE VANED TIP DETAIL

⚠1 Revised sheet to reflect the addition of alternate substructure. MAA 7/29/16

GENERAL NOTES FOR CONCRETE FILLED STEEL SHELL PILES

Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi).

Concrete used for filling of steel shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

See Bridge Layout for size and estimated length of steel shell piles and for additional driving information.

Concrete, structural steel, and reinforcing steel (including welding) will not be paid for separately, but will be considered subsidiary to the item "Steel Shell Piling (18" Dia.)".

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 15927 CHARLES G. WISE

8/24/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NOS. 1 AND 2
DETAILS OF CONCRETE FILLED STEEL SHELL PILES
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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CHECKED BY: DS DATE: 1/22/15
DESIGNED BY: CGW DATE: 8/25/14 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 56859

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	187	262
				(1) 07343		- LAYOUT -		58931

Note: For R/W Data, See Roadway Plans.

Existing R/W

Approx. 6 miles to State Hwy. 11 Interchange

Tangent Distance 1.60'

Existing Fence to be removed.

Place Type Special Approach Slab, Type C2 Approach Slab and Type C ("W" = 10'-0") Approach Gutters on this end of bridge. See Dwg. No. 56855, 56856, 55040C2 and 55030C.

Note: Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bent 1 & 2 are square. Bent 3 is aligned radially.

1'-6" Dumped Riprap on top of Filter Blanket Top of Riprap Elev. 203.0 except as shown. See Location Sketch Drawing No. 58936.

Type C2 Approach Slab

Fiber Optic Cable to be relocated by others.

Existing 4" Water Line to be relocated. See Water Line Plans.

P.T. 1883+39.41

P.C. 1885+39.41

Boring No. 4

Boring No. 6

Toe of Fill Slope

N 66°08'47" E

2% X-Slope

1'-4" Parapet Rail

56'-0" Clear Roadway

2'-0" Median Barrier

117'-0" out to out

℄ Bridge & ℄ Construction I-40

Longitudinal Construction Joint (Optional)

2'-0" Concrete Median Barrier

Type Special Approach Slab

Type C2 Approach Slab

Shoring A

See Drawing No. 58936 for "Details of End Bent Removal"

Boring No. 5

Type C Approach Gutter (Typ.)

Toe of Fill Slope

Existing ℄ I-40

Existing Br. No. 03713 to be removed.

Existing work road.

Existing Signs

Use-in-place existing embankment (Typ.)

Existing Overhead Electric

Proposed 4" Water Line Relocation. See Water Line Plans

Existing 4" Sewer Line

Existing 4" Water Line

STA. 1887+00

MATCH LINE

PLAN

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

Begin Bridge Sta. 1883+41.01 Elev. 212.64

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 1

℄ 3½" Finger Joint

Guardrail See Rdwy. Plans

Slope Intercept Sta. 1883+20.01 Elev. 212.01

Concrete Parapet Railing

Low Steel to Design High Water = 19.75'

Working Point to Low Steel = 8'-1⅜""

℄ Bent 2 Sta. 1884+63.00 Elev. 216.30

℄ Bent 3 Sta. 1886+11.00 Elev. 220.74

+3.00% Grade

Proposed Grade Line ℄ ℄ Bridge and ℄ Construction I-40

Historical High Water Elevation 192.9 (Backwater)

Design High Water Elevation 184.9

2% Flow Level Elevation 182.2

Existing Ground Line along ℄ Bridge and ℄ Construction I-40

69' Piles

Elev. 171.9

Elev. 167.57

Elev. 167.43

Elev. 171.7

8' dia. Drilled Shaft with Permanent Casing

Bott. of Drilled Shaft Elev. 121.57

Bott. of Drilled Shaft Elev. 121.43

8' dia. Drilled Shaft with Permanent Casing Elev. 171.0

Boring No. 4 Sta. 1883+83, 60 Ft. Lt.

Boring No. 5 Sta. 1884+63, 60 Ft. Rt.

Boring No. 6 Sta. 1886+11, 60 Ft. Lt.

STA. 1887+00

MATCH LINE

ELEVATION

Bent No.	℄ Deck ⊗ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
2	9'-3¾"
3	9'-3¾"

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

A See SP Job BB0610 "Shoring".

B See SP Job BB0610 "Geosynthetic Internal Reinforced Embankment Construction".

Note: For "Boring Legend" and "Hydraulic Data", see Drawing No. 58936. For "General Notes", see Drawing No. 58937.

Bent ① Bent ② Bent ③

Curve Data

℄ Construction HORIZONTAL CURVE DATA

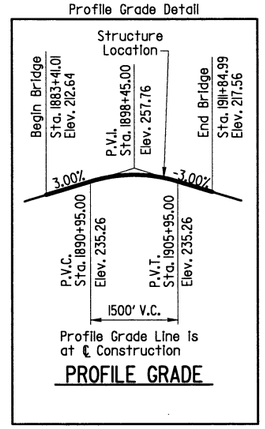
PI = 1876+00.22
R = 11,459.16'
Δ = 7°24'08" Lt.
D = 0°30'00"
T = 741.26'
L = 1480.45'
PC = 1868+58.96
PT = 1883+39.41
e = Normal Crown

Curve Data

℄ Construction HORIZONTAL CURVE DATA

PI = 1900+28.15
R = 11,459.16'
Δ = 14°48'16" Rt.
D = 0°30'00"
T = 1488.74'
L = 2960.90'
PC = 1885+39.41
PT = 1915+00.31
e = Normal Crown

Profile Grade Detail



Profile Grade Line is at ℄ Construction

PROFILE GRADE

BORING BLOW COUNTS

Boring No. 4
℄ Construction I-40
Sta. 1883+83, 60' Lt.

0.5-1.5,	N=9
4.5-5.5,	N=13
9.0-10.0,	N=23
14.0-15.0,	N=22
19.0-20.0	N=23
24.0-25.0,	N=26
29.0-30.0,	N=45
33.0-34.0,	N=50
38.0-39.0,	N=50 (9")
43.0-44.0,	N=50 (8")
48.5-49.5,	N=50 (9")
53.0-53.5,	N=50 (6")
58.0-59.0,	N=50 (8")
68.0-68.5,	N=50 (6")
78.5-79.5,	N=80 (9")
88.5-89.5,	N=50 (7")
99.5-100.0,	N=50 (6")

Boring No. 6
℄ Construction I-40
Sta. 1886+11, 60' Lt.

0.5-1.5,	N=5
4.5-5.5,	N=12
9.0-10.0,	N=9
14.0-15.0,	N=14
19.0-20.0	N=25
24.0-25.0,	N=37
29.0-30.0,	N=44
34.0-35.0,	N=50 (11")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=72
49.0-50.0,	N=50 (10")
54.0-55.0,	N=50 (9")
59.0-59.5,	N=50 (7")
68.5-69.0,	N=80 (3")
78.5-79.0,	N=70 (6")
88.5-89.0,	N=70 (5")
99.0-100.0,	N=70 (5")

Boring No. 5
℄ Construction I-40
Sta. 1884+63, 60' Rt.

0.5-1.5,	N=9
4.5-5.5,	N=8
9.0-10.0,	N=10
14.0-15.0,	N=27
19.0-20.0	N=35
24.0-25.0,	N=50 (10")
29.0-30.0,	N=50 (8")
34.0-35.0,	N=29
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (9")
54.0-54.5,	N=70 (3")
58.5-59.0,	N=50 (6")
68.5-69.5,	N=50 (11")
78.5-79.5,	N=70 (9")
88.5-89.5,	N=50 (8")
95.0-95.5,	N=70 (6")

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

ALTERNATE NO. 2
SHEET 1 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
CHRISTOPHER J. CRISWELL
REGISTERED PROFESSIONAL ENGINEER
No. 11628
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHC DATE: 12/16/13 FILENAME: bbb0610s_lxl.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/22/16 SCALE: 1" = 30'-0"
BRIDGE NO. 07343 DRAWING NO. 58931

JACOBS

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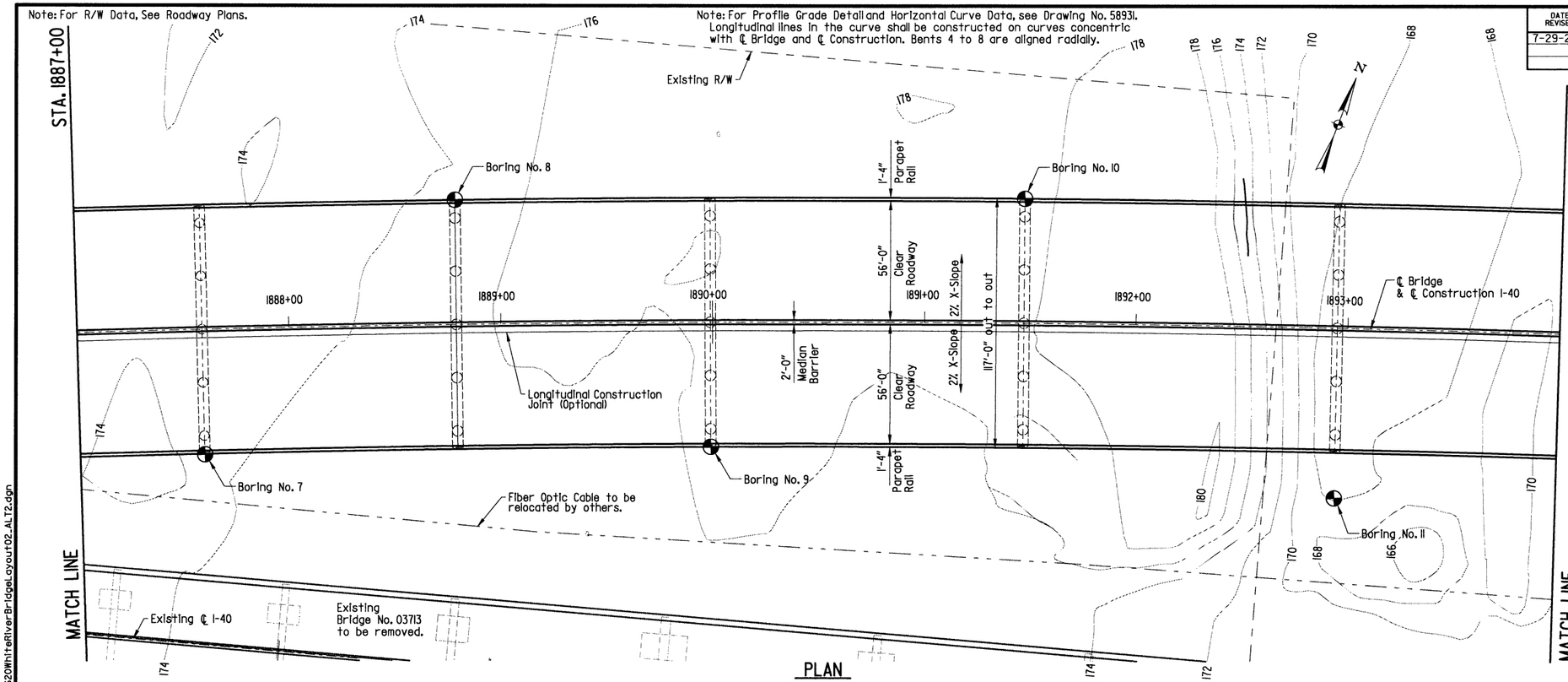
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	188	262
(1) 07343	-	LAYOUT	-	58932

Note: For R/W Data, See Roadway Plans.

Note: For Profile Grade Detail and Horizontal Curve Data, see Drawing No. 58931. Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bents 4 to 8 are aligned radially.

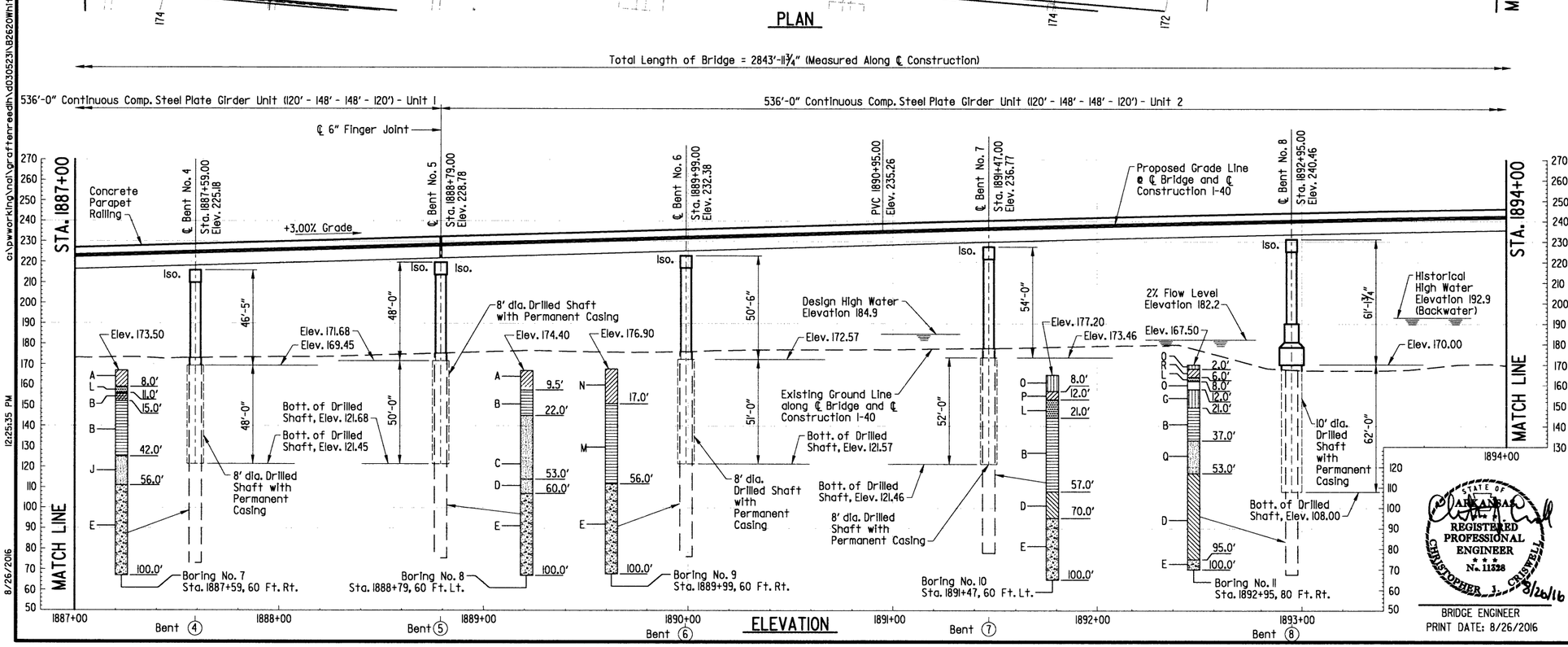


PLAN

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 1

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 2



ELEVATION

Bent No.	℄ Deck @ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
4	9'-3¾"
5	9'-1⅞"
6	9'-3¾"
7	9'-3¾"
8	9'-3¾"

BORING BLOW COUNTS

Boring No. 7
℄ Construction I-40
Sta. 1887+59, 60' Rt.

0.5-1.5,	N=7
4.5-5.5,	N=9
9.0-10.0,	N=6
14.0-15.0,	N=14
19.0-20.0,	N=27
24.0-25.0,	N=44
29.0-30.0,	N=50
34.0-35.0,	N=50 (9")
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (8")
49.0-50.0,	N=50 (11")
54.0-55.0,	N=80 (8")
59.0-60.0,	N=80 (8")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (6")
99.0-100.0,	N=80 (6")

Boring No. 8
℄ Construction I-40
Sta. 1888+79, 60' Lt.

0.5-1.5,	N=10
4.5-5.5,	N=14
9.0-10.0,	N=16
14.0-15.0,	N=10
19.0-20.0,	N=21
24.0-25.0,	N=52
29.0-30.0,	N=50 (11")
34.0-35.0,	N=50 (8")
39.0-40.0,	N=50 (11")
44.0-45.0,	N=50
49.0-50.0,	N=49
54.0-55.0,	N=50 (10")
58.5-59.5,	N=50 (9")
69.0-70.0,	N=70 (9")
78.5-79.5,	N=90 (9")
88.5-89.5,	N=70 (8")
99.0-100.0,	N=70 (8")

Boring No. 9
℄ Construction I-40
Sta. 1889+99, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=12
9.0-10.0,	N=12
14.0-15.0,	N=9
19.0-20.0,	N=16
24.0-25.0,	N=22
29.0-30.0,	N=42
34.0-35.0,	N=50 (9")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (10")
54.0-55.0,	N=80 (8")
58.5-59.5,	N=70 (9")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=70 (10")
88.5-89.5,	N=70 (8")
99.5-100.0,	N=70 (6")

Boring No. 10
℄ Construction I-40
Sta. 1891+47, 60' Lt.

0.5-1.5,	N=9
2.5-3.5,	N=10
4.5-5.5,	N=9
6.5-7.5	N=10
9.0-10.0,	N=13
14.0-15.0,	N=6
19.0-20.0,	N=5
24.0-25.0,	N=20
29.0-30.0,	N=45
34.0-35.0,	N=50 (10")
39.0-40.0,	N=50 (10")
44.0-45.0,	N=40
49.0-50.0,	N=50 (8")
54.0-55.0,	N=50
58.5-59.5,	N=80 (8")
68.5-69.5,	N=80 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (7")
99.0-100.0,	N=80 (7")

Boring No. 11
℄ Construction I-40
Sta. 1892+95, 80' Rt.

0.5-1.5,	N=8
2.5-3.5,	N=9
4.5-5.5,	N=8
6.5-7.5	N=6
9.0-10.0,	N=7
14.0-15.0,	N=26
19.0-20.0,	N=25
24.0-25.0,	N=20
29.0-30.0,	N=40
34.0-35.0,	N=50 (11")
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (8")
49.0-50.0,	N=70 (8")
54.0-55.0,	N=70 (8")
58.5-59.5,	N=80 (8")
68.5-69.5,	N=80 (7")
78.5-79.5,	N=80 (8")
88.5-89.5,	N=80 (10")
99.5-100.0,	N=80 (6")

Note: For "Boring Legend" and "Hydraulic Data", see Drawing No. 58936. For "General Notes", see Drawing No. 58937.

Note:
Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

ALTERNATE NO. 2
SHEET 2 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. CRISWELL
No. 11528
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY:	LHG	DATE:	12/30/13	FILENAME:	bbb0610s_lx2.dgn
CHECKED BY:	CJC	DATE:	7/28/16		
DESIGNED BY:	STL	DATE:	6/16/16	SCALE:	1" = 30'-0"
BRIDGE NO. 07343			DRAWING NO. 58932		

JACOBS

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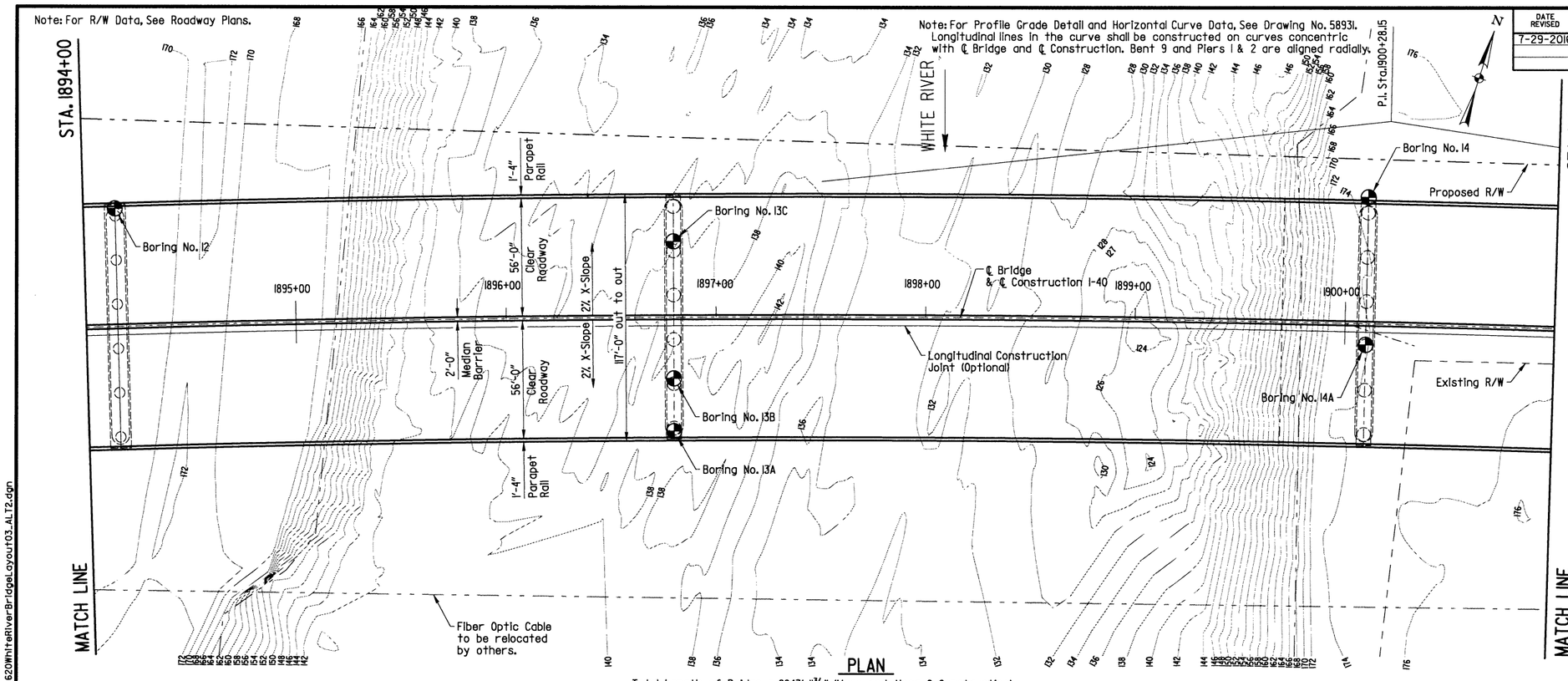
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	189	262
(1) 07343		- LAYOUT -		58933

Note: For R/W Data, See Roadway Plans.

Note: For Profile Grade Detail and Horizontal Curve Data, See Drawing No. 58931. Longitudinal lines in the curve shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bent 9 and Piers 1 & 2 are aligned radially.



BORING BLOW COUNTS

Boring No. 12
℄ Construction I-40
Sta. 1894+15, 60' Lt.

0.5-1.5,	N=2
2.5-3.5,	N=2
4.5-5.5,	N=3
6.5-7.5,	N=3
9.0-10.0	N=18
14.0-15.0,	N=18
19.0-20.0,	N=29
24.0-25.0,	N=29
29.0-30.0,	N=46
34.0-35.0,	N=55
39.0-40.0	N=50 (11")
44.0-45.0	N=32
49.0-50.0,	N=45
54.0-55.0,	N=50 (11")
58.5-59.5,	N=70 (10")
68.5-69.5,	N=70 (8")
78.5-79.5,	N=80 (7")
88.5-89.5,	N=80 (7")
97.5-98.5,	N=80 (5")
107.5-108.5,	N=80 (8")

Boring No. 13A
℄ Construction I-40
Sta. 1896+80, 50' Rt.

0.5-1.5,	N=50 (8")
9.0-10.0,	N=45
19.0-20.0,	N=36
29.0-30.0,	N=50 (10")
38.5-39.5	N=100 (7")
49.0-50.0,	N=100 (8")
51.5-52.5,	N=50 (8")
59.0-60.0,	N=100 (7")
68.0-69.0,	N=100 (5")
79.0-80.0,	N=105 (7")
88.5-89.5,	N=100 (7")

Boring No. 13B
℄ Construction I-40
Sta. 1896+80, 25' Rt.

8.0-9.0,	N=17
17.5-18.5,	N=31
22.0-23.0,	N=35
26.0-27.0,	N=50 (9")
31.0-32.0,	N=50 (7")
36.0-37.0,	N=50 (7")
41.0-42.0,	N=50 (11")
46.0-47.0,	N=50 (7")
56.0-57.0,	N=50 (8")
66.0-67.0,	N=50 (8")
76.0-77.0,	N=50 (6")
85.0-86.0,	N=50 (8")
95.0-96.0,	N=50 (9")
103.0-104.0,	N=50 (8")
114.0-115.0,	N=37 (6")
115.0-116.0,	N=26 (6")
126.0-127.0,	N=50 (7")
136.0-137.0,	N=50 (8")
146.0-147.0,	N=50 (11")
155.0-156.0,	N=50 (4")

Boring No. 13C
℄ Construction I-40
Sta. 1896+80, 40' Lt.

10.0-11.0,	N=12
15.0-16.0,	N=50 (11")
20.0-21.0,	N=50 (8")
25.0-26.0,	N=48
30.0-31.0,	N=50 (7")
36.0-37.0,	N=50 (7")
40.0-41.0,	N=50 (7")
45.0-46.0,	N=50 (6")
55.0-56.0,	N=50 (7")
65.0-66.0,	N=50 (9")
75.0-76.0,	N=50 (6")
85.0-86.0,	N=50 (6")
95.0-96.0,	N=50 (6")
115.0-116.0,	N=50 (9")
135.0-136.0,	N=50 (7")
145.0-146.0,	N=50 (7")
155.0-156.0,	N=50 (6")
165.0-166.0,	N=50 (5")
175.0-176.0,	N=50 (6")
185.0-186.0,	N=50 (4")
195.0-196.0,	N=50 (6")
205.0-206.0,	N=50 (5")
215.0-216.0,	N=50 (6")

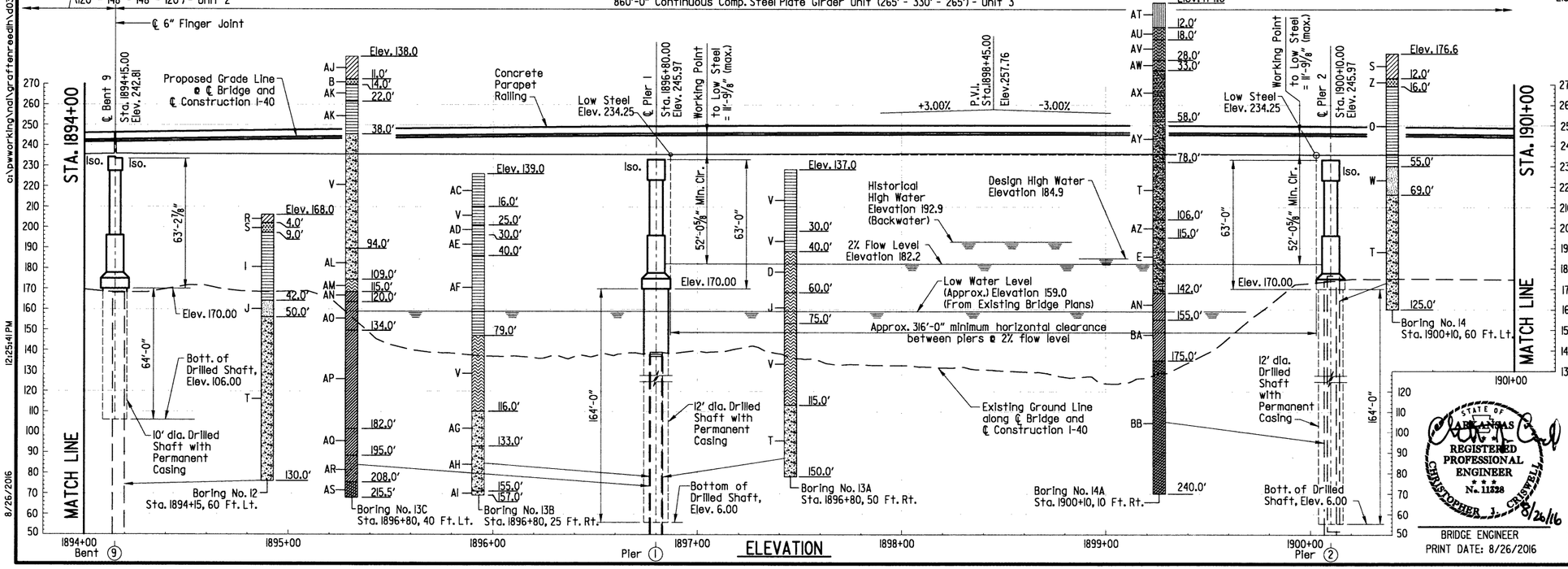
Boring No. 14
℄ Construction I-40
Sta. 1900+10, 60' Lt.

0.5-1.5,	N=2
2.5-3.5,	N=7
4.5-5.5,	N=5
6.5-7.5,	N=4
9.0-10.0	N=8
14.0-15.0,	N=6
19.0-20.0,	N=5
24.0-25.0,	N=14
29.0-30.0,	N=32
34.0-35.0,	N=36
39.0-40.0,	N=40
44.0-45.0,	N=41
49.0-50.0,	N=45
58.0-59.0,	N=50 (11")
68.0-69.0,	N=50 (11")
78.0-79.0,	N=50 (10")
88.0-89.0,	N=50 (6")
97.0-98.0,	N=50 (7")
108.0-109.0,	N=50 (6")
118.0-119.0,	N=50 (4")

Boring No. 14A
℄ Construction I-40
Sta. 1900+10, 10' Rt.

0.5-1.5,	N=4
2.0-3.0,	N=11
4.5-5.5,	N=10
6.5-7.5,	N=7
9.0-10.0	N=3
14.0-15.0,	N=5
19.0-20.0,	N=4
24.0-25.0,	N=12
29.0-30.0,	N=6
34.0-35.0,	N=25
39.0-40.0,	N=26
44.0-45.0,	N=23
49.0-50.0,	N=50 (10")
58.0-59.0,	N=50 (11")
68.0-69.0,	N=50 (6")
78.0-79.0,	N=50 (7")
88.0-89.0,	N=50 (4")
98.0-99.0,	N=50 (7")
108.0-109.0,	N=50 (5")
118.0-119.0,	N=50 (4")
128.0-129.0,	N=50 (4")
138.0-139.0,	N=50 (4")
149.0-150.0,	N=50 (8")
169.5-170.5,	N=50 (6")
178.0-179.0,	N=50 (5")
189.0-190.0,	N=50 (7")
199.5-200.5,	N=50 (6")
209.5-210.5,	N=50 (5")
219.0-220.0,	N=50 (8")
229.5-230.5,	N=50 (4")
239.0-240.0,	N=50 (6")

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16



Note: For "Boring Legend" and "Hydraulic Data", See Drawing No. 58936. For "General Notes", see Drawing No. 58937.

Bent or Pier No.	℄ Deck @ ℄ Bent or Pier & ℄ Bridge (Working Point) to Low Side Top of Cap
Bent 9	9'-6⅞"
Pier 1	12'-11⅝"
Pier 2	12'-11⅝"

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

ALTERNATE NO. 2
SHEET 3 OF 7
LAYOUT OF BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
CHRISTOPHER J. CRISTELLI
REGISTERED PROFESSIONAL ENGINEER
No. 11528
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY: LHG DATE: 12/16/13
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/2/16
BRIDGE NO. 07343
FILENAME: bbb0610s_lx3.dgn
SCALE: 1" = 30'-0"
DRAWING NO. 58933

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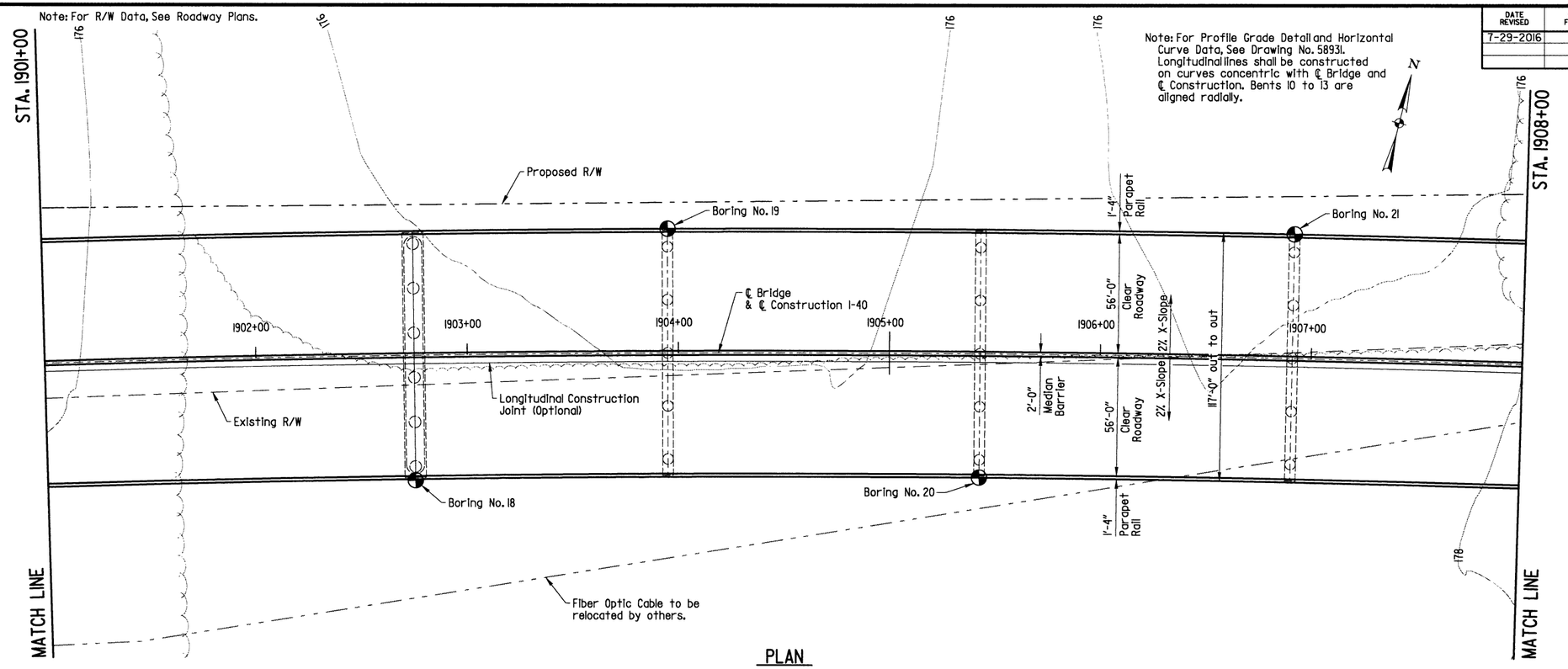
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	190	262
(1) 07343		- LAYOUT -		58934

Note: For R/W Data, See Roadway Plans.

Note: For Profile Grade Detail and Horizontal Curve Data, See Drawing No. 58931. Longitudinal lines shall be constructed on curves concentric with ℄ Bridge and ℄ Construction. Bents 10 to 13 are aligned radially.

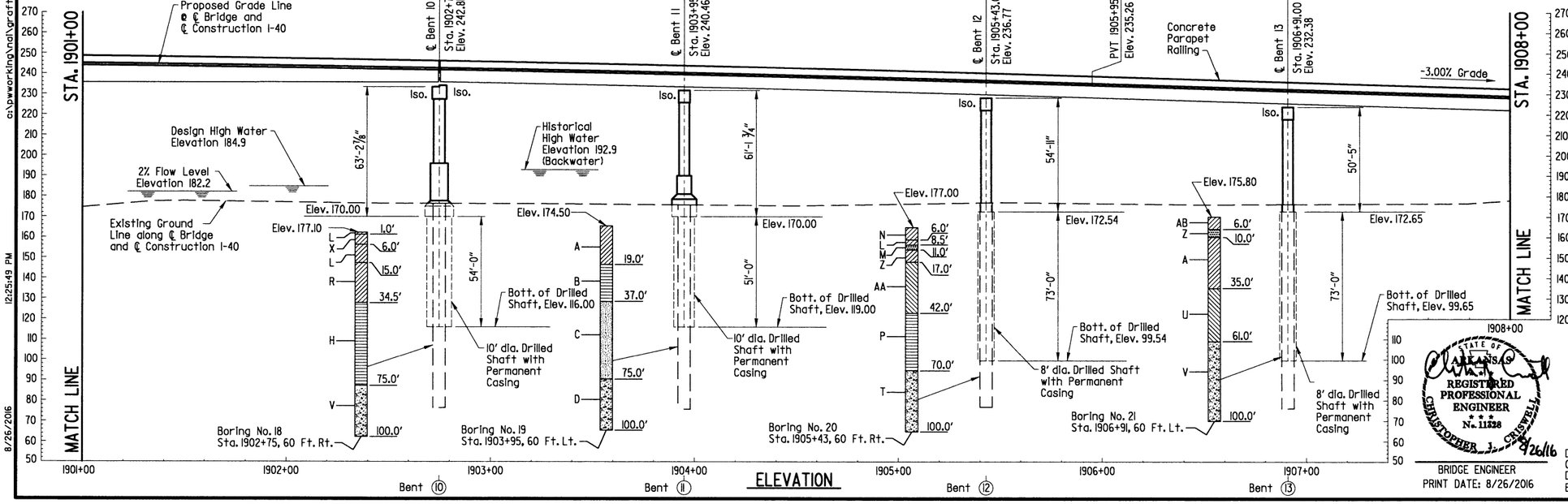


PLAN

Total Length of Bridge = 2843'-11¾" (Measured Along ℄ Construction)

860'-0" Continuous Comp. Steel Plate Girder Unit (265' - 330' - 265') - Unit 3

536'-0" Continuous Comp. Steel Plate Girder Unit (120' - 148' - 148' - 120') - Unit 4



ELEVATION

BORING BLOW COUNTS

Boring No. 18
℄ Construction I-40
Sta. 1902+75, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=16
9.0-10.0	N=9
14.0-15.0,	N=4
19.0-20.0,	N=3
24.0-25.0,	N=8
29.0-30.0,	N=21
33.5-34.5,	N=44
38.5-39.5,	N=50 (11")
43.5-44.5,	N=50 (11")
48.5-49.5,	N=50 (10")
58.5-59.5	N=50 (10")
68.5-69.5,	N=50 (9")
78.5-79.5,	N=50 (9")
88.5-89.0,	N=50 (7")
95.0-95.5,	N=50 (6")

Boring No. 19
℄ Construction I-40
Sta. 1903+95, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=13
9.0-10.0,	N=9
14.0-15.0,	N=7
19.0-20.0,	N=23
24.0-25.0,	N=43
29.0-30.0,	N=48
34.0-35.0,	N=55
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50 (10")
49.0-50.0,	N=50 (10")
59.0-60.0,	N=50 (9")
69.0-70.0,	N=50 (10")
79.0-80.0,	N=50 (9")

Boring No. 20
℄ Construction I-40
Sta. 1905+43, 60' Rt.

0.5-1.5,	N=10
4.5-5.5,	N=14
9.0-10.0	N=14
24.0-25.0,	N=15
29.0-30.0,	N=13
34.0-35.0,	N=9
39.0-40.0,	N=8
44.0-45.0,	N=50
49.0-50.0,	N=50
58.5-59.5	N=50 (11")
68.5-69.5,	N=50 (10")
78.5-79.5,	N=50 (9")
88.5-89.5,	N=50 (8")
99.5-100.0,	N=50 (6")

Boring No. 21
℄ Construction I-40
Sta. 1906+91, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=11
6.5-7.5,	N=7
9.0-10.0,	N=3
14.0-15.0,	N=8
19.0-20.0,	N=7
24.0-25.0,	N=6
28.5-29.5,	N=5
34.0-35.0,	N=4
35.0-36.0,	N=20
39.0-40.0,	N=50 (9")
44.0-45.0,	N=50
49.0-50.0,	N=50 (10")
58.5-59.5,	N=50 (10")
68.5-69.5,	N=50 (9")
78.5-79.5,	N=50 (8")
87.5-88.0,	N=50 (7")
95.0-95.5,	N=50 (7")

Note:
For "Boring Legend" and "Hydraulic Data", See Drawing No. 58936. For "General Notes", See Drawing No. 58937.

Bent No.	℄ Deck ⊕ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
10	9'-6⅝"
11	9'-3¾"
12	9'-3¾"
13	9'-3¾"

Note: Stations and elevations are along ℄ Bridge ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

ALTERNATE NO. 2
SHEET 4 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS — CHRISTOPHER J. CRISWELL — REGISTERED PROFESSIONAL ENGINEER — No. 11328 — 8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

DRAWN BY:	LHG	DATE:	12/16/13	FILENAME:	bbb0610s_lx4.dgn
CHECKED BY:	CJC	DATE:	7/28/16		
DESIGNED BY:	STL	DATE:	6/2/16	SCALE:	1" = 30'-0"
BRIDGE NO. 07343			DRAWING NO. 58934		

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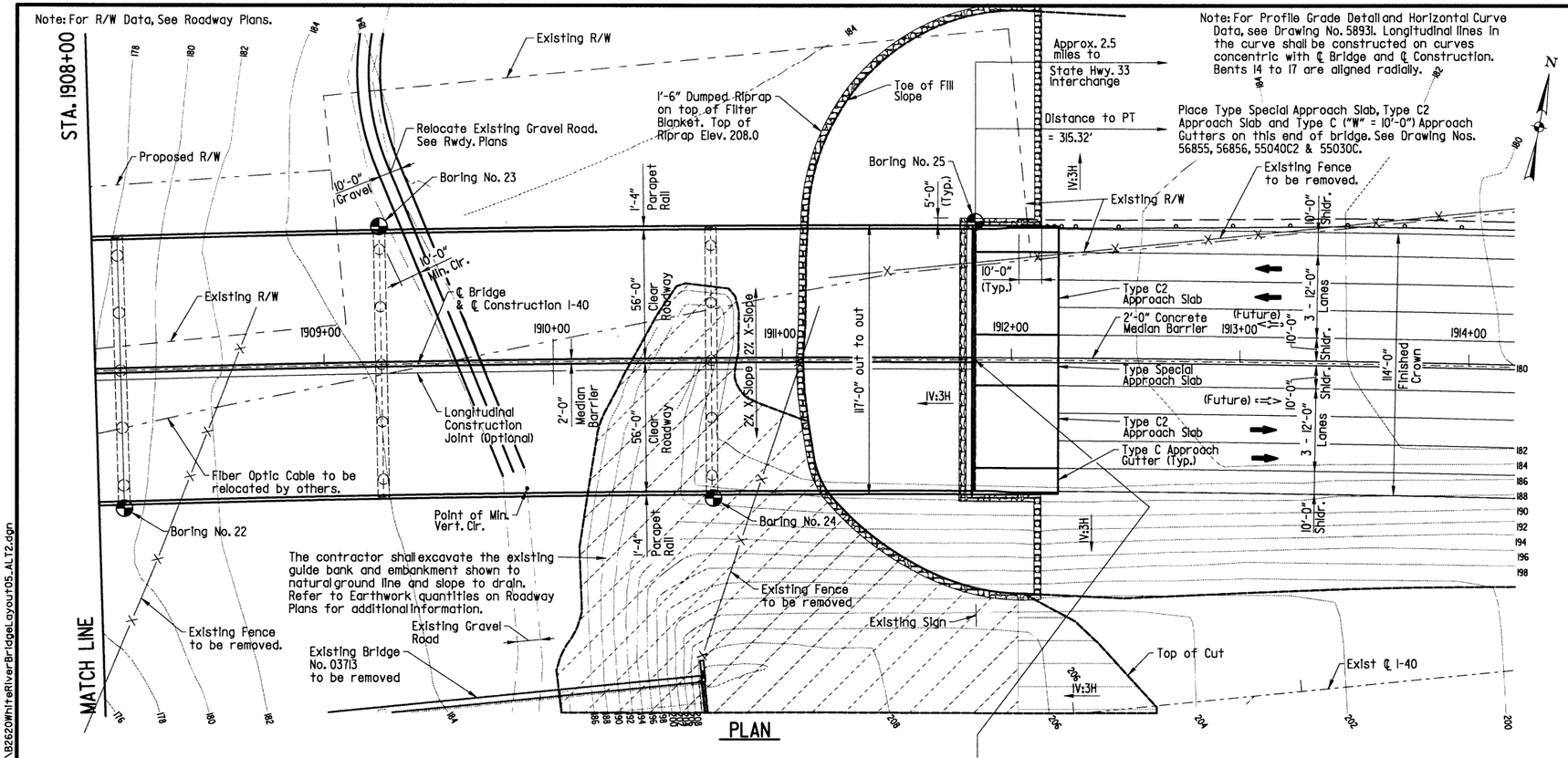
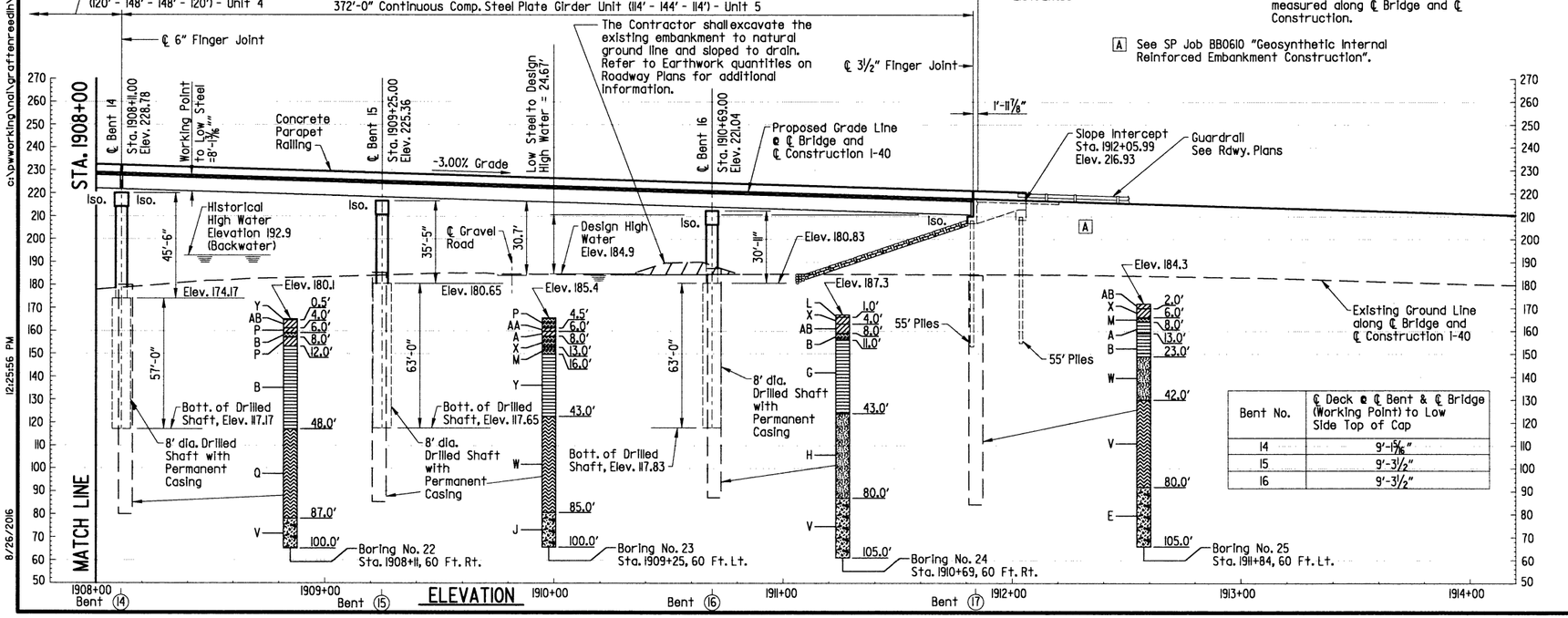
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	191	262
				(1) 07343		- LAYOUT -		58935

Note: For R/W Data, See Roadway Plans.





Bent No.	℄ Deck ⊕ ℄ Bent & ℄ Bridge (Working Point) to Low Side Top of Cap
14	9'-1⅝"
15	9'-3½"
16	9'-3½"

Note: Stations and elevations are along ℄ Bridge and ℄ Construction. Total bridge length and span lengths are measured along ℄ Bridge and ℄ Construction.

A See SP Job BB0610 "Geosynthetic Internal Reinforced Embankment Construction".

BORING BLOW COUNTS

Boring No. 22
℄ Construction I-40
Sta. 1908+11, 60' Rt.

0.5-1.5,	N=6
4.5-5.5,	N=10
9.0-10.0	N=14
14.0-15.0,	N=10
19.0-20.0,	N=20
24.0-25.0,	N=50 (10")
29.0-30.0,	N=47
33.5-34.5,	N=50 (10")
38.5-39.5,	N=50 (9")
44.0-45.0,	N=50
48.0-49.0,	N=50 (10")
59.0-60.0	N=65
68.0-69.0,	N=50 (11")
78.0-79.0,	N=50 (8")
88.0-88.5,	N=50 (5")
95.0-95.5,	N=50 (4")

Boring No. 23
℄ Construction I-40
Sta. 1909+25, 60' Lt.

0.5-1.5,	N=15
2.5-3.5,	N=20
4.5-5.5,	N=11
9.0-10.0	N=22
14.0-15.0,	N=10
19.0-20.0,	N=6
24.0-25.0,	N=50 (10")
29.0-30.0,	N=43
34.0-35.0,	N=50 (7")
39.0-40.0,	N=50
44.0-45.0,	N=40
49.0-50.0,	N=50 (11")
59.0-59.5	N=50 (7")
68.5-69.5,	N=50
78.5-79.5,	N=50 (10")
88.5-89.0,	N=25
95.0-95.5,	N=50 (2")

Boring No. 24
℄ Construction I-40
Sta. 1910+69, 60' Rt.

0.5-1.5,	N=8
4.5-5.5,	N=27
9.0-10.0	N=28
14.0-15.0,	N=28
19.0-20.0,	N=38
24.0-25.0,	N=50
29.0-30.0,	N=50
34.0-35.0,	N=32
39.0-40.0,	N=46
44.0-45.0,	N=50 (8")
49.0-50.0,	N=50 (10")
54.0-55.0	N=50 (8")
64.0-65.0,	N=50 (8")
74.0-75.0,	N=50 (8")
84.0-84.5,	N=50 (4")
94.0-94.5,	N=50 (6")
104.5-105.0,	N=50 (5")

Boring No. 25
℄ Construction I-40
Sta. 1911+84, 60' Lt.

0.5-1.5,	N=8
4.5-5.5,	N=16
9.0-10.0	N=16
14.0-15.0,	N=21
19.0-20.0,	N=27
24.0-25.0,	N=35
29.0-30.0,	N=38
34.0-35.0,	N=59
39.0-40.0,	N=50 (11")
44.0-45.0,	N=50 (11")
49.0-50.0,	N=50 (10")
54.0-55.0	N=50 (8")
64.0-65.0,	N=50 (11")
74.0-74.5,	N=50 (3")
84.0-84.5,	N=50 (4")
94.0-94.5,	N=50 (5")
104.5-105.0,	N=50 (4")

Note: For "Boring Legend" and "Hydraulic Data", See Drawing No. 58936. For "General Notes", See Drawing No. 58937.

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER J. CRISWELL
No. 11228
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 5 OF 7
LAYOUT OF BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 12/16/13 FILENAME: bbb0610s_lx5.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/24/16 SCALE: 1" = 30'-0"
BRIDGE NO. 07343 DRAWING NO. 58935

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	192	262
				(1) 07343		- LAYOUT -		58936

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY (YEARS)	TOTAL DISCHARGE (CFS) (2)	DISCHARGE THROUGH BRIDGE OPENING (CFS)	(1) NATURAL WATER SURFACE ELEVATION (ft)	WATER SURFACE ELEVATION WITH BACKWATER (ft)
DESIGN	50	195,000	182,900	184.80	184.92
BASE	100	227,000	212,400	186.71	186.85
EXTREME	500	300,000	275,200	190.62	190.74
OVERTOPPING	>500	-	-	-	-

(1) Unconstricted water surface without existing or proposed structure and roadway approaches.

(2) Includes main river bridge (Br. No. 07343) and relief structures.

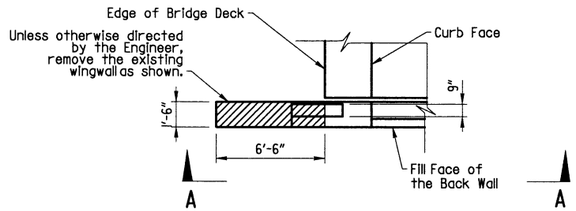
Q100 backwater elevation for existing structure = 186.86 feet.

Proposed Low Bridge Member Elev. = 204.53 feet.

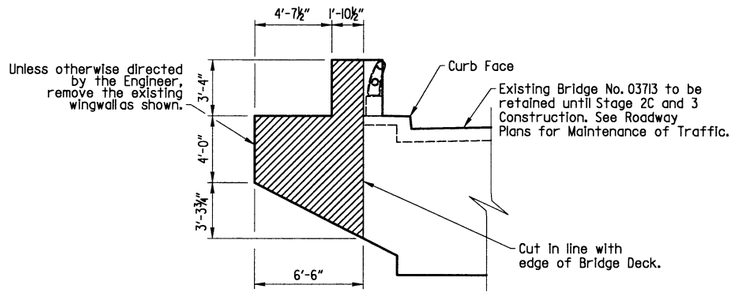
Drainage Area = 23,464 sq. miles

Historical H.W. Elev. = 192.9 feet (May 2011) (Backwater)

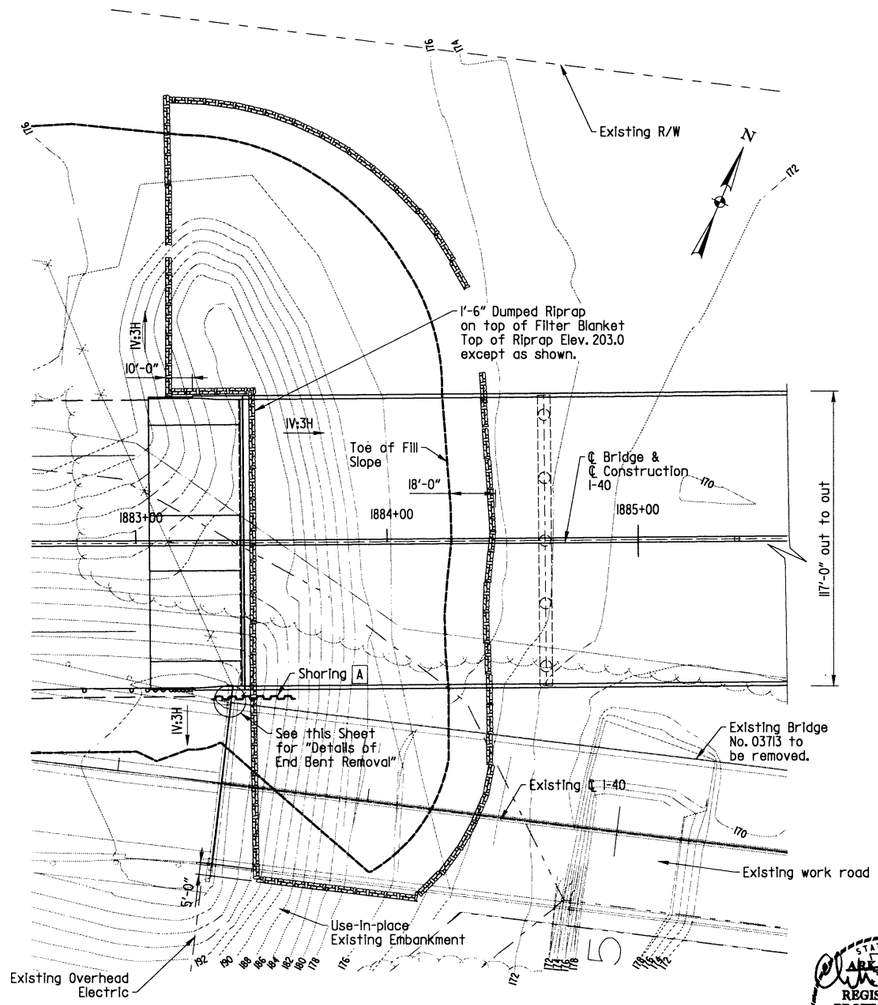
Historical H.W. Elev. = 189.5 feet (April 1927) (Headwater)



PARTIAL PLAN BENT 1
(Left Side Looking Ahead)



PARTIAL ELEVATION A-A BENT 1
(Left Side Looking Ahead)



A See SP Job BB0610 "Shoring".

LOCATION SKETCH

BORING LEGEND

A	-	Firm gray and brown silty clay with silt pockets and ferrous nodules and stains
B	-	Medium dense gray and brown silty fine sand
C	-	Dense gray fine sand, slightly silty
D	-	Dense to very dense gray fine to medium sand with some fine to coarse gravel
E	-	Dense to very dense gray sandy fine to coarse gravel
F	-	Loose gray and brown fine sandy silt, slightly clayey, wet
G	-	Medium dense reddish tan and tan silty fine sand
H	-	Dense to very dense gray and tan fine sand, slightly silty
I	-	Medium dense gray fine to medium sand, slightly silty with occasional organic inclusions
J	-	Dense to very dense gray silty fine to coarse sand with some fine to course gravel
K	-	Soft gray & brown clay, slightly silty with ferrous stains & nodules
L	-	Soft brown clayey silt with occasional clay pockets
M	-	Medium dense brown silty fine sand with occasional clay pockets
N	-	Firm brown silty clay with ferrous stains and nodules
O	-	Loose brown fine sandy silt with silty clay seams and layers
P	-	Stiff gray and brown silty clay with ferrous stains and nodules
Q	-	Dense to very dense gray fine to medium sand
R	-	Very soft gray and brown silty clay with occasional silt pockets and seams
S	-	Very soft brown clayey silt with silty clay seams
T	-	Dense to very dense gray sandy fine to course gravel with occasional fine to medium sand seams and layers
U	-	Medium dense brown and gray silty fine sand with trace fine to coarse gravel
V	-	Dense brown & gray fine to coarse sand with fine to coarse gravel
W	-	Dense brownish gray fine to medium sand, slightly silty
X	-	Stiff brown clay
Y	-	Loose dark gray and brown silty fine sand with numerous organic inclusions
Z	-	Soft to firm brown and gray silty sand
AA	-	Stiff gray clay
AB	-	Firm tan and brown clay
AC	-	Loose brown fine sand, medium dense, with clay layer
AD	-	Dense to very dense brownish gray fine to coarse sand with a little fine gravel
AE	-	Dense to very dense brown fine to coarse sand, slightly silty with a little fine to coarse gravel
AF	-	Dense to very dense brownish gray sandy fine gravel
AG	-	Very stiff light gray silty clay with a little fine to coarse gravel with occasional interbedded fine to coarse gravel seams and layers
AH	-	Hard brownish gray clay, slightly blocky with some fine to coarse gravel and occasional lignite inclusions
AI	-	Hard greenish gray silty clay with fine sand pockets and inclusions
AJ	-	Very soft to soft gray silty clay, wet, stiff
AK	-	Dense to very dense brownish gray fine sand, slightly silty with a trace fine gravel, fine to medium sand
AL	-	Dense to very dense gray fine to coarse sand with some fine gravel
AM	-	Very stiff to hard gray silty clay
AN	-	Hard brownish gray clay, slightly blocky
AO	-	Hard light gray clay
AP	-	Hard greenish gray clay, blocky with silty fine sand partings and occasional lignite inclusions, some clayey fine sand seams
AQ	-	Hard light grayish green clay
AR	-	Dense to very dense greenish gray fine sandy clay with some clay seams and lignite inclusions, interbedded fine sand partings and clay seams
AS	-	Hard greenish gray silty clay, blocky with fine sand partings and occasional clayey fine sand seams
AT	-	Very soft to soft brown and gray silty clay, slightly sandy with silt partings, organic inclusions and organic stains, damp
AU	-	Loose grayish brown silty fine sand with ferrous stains
AV	-	Very loose to loose gray silty fine sand with interbedded silty clay seams and layers
AW	-	Loose gray silty fine sand
AX	-	Medium dense grayish brown fine sand, slightly silty
AY	-	Dense to very dense gray fine to coarse sand with fine to coarse gravel and occasional organic inclusions
AZ	-	Dense to very dense brownish gray fine to medium sand with a little fine to coarse gravel
BA	-	Hard light gray silty clay, blocky
BB	-	Hard brownish gray fine sandy clay with fine sand partings and pockets and organic stains

DETAILS OF END BENT REMOVAL

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11238
CHRISTOPHER J. CRISWELL
9/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 6 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: LHG DATE: 12/16/13 FILENAME: bbb0610s_lx6.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/2/16 SCALE: No Scale
BRIDGE NO. 07343 DRAWING NO. 58936

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	193	262
				(1) 07343		- LAYOUT -		58937

GENERAL NOTES

BENCH MARKS:
TBM 901 - CH SQ Cut S-W Corner BR White River Bridge, 134.52' right of Sta. 1883+26.66, Elev. 204.34.
TBM 902 - Cut CQ NE Bridge Corner, 131.07' right of Sta. 1910+64.07, Elev. 211.56.

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted on the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 6th Edition (2012) with current Interims, and AASHTO Guide Specifications and Commentary for Vessel Collision Design of Highway Bridges, 2nd Edition (2009) with 2010 Interims.

LIVE LOADING: HL-93
OPERATIONAL IMPORTANCE: Essential (with substructure response modification factors for Critical Operational Importance).

SEISMIC ZONE: 2 S_{DI} = 0.29 SITE CLASS: D

MATERIALS AND STRENGTHS:

Class S (AE) Concrete (superstructure)	f'c = 4,000 psi
Class S Concrete (substructure)	f'c = 3,500 psi
Class B Concrete (substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322, Type A, Gr. 60)	fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 and 17 shall be 18" diameter concrete filled steel shell piles and shall be driven to the minimum ultimate bearing capacity shown in the "Steel Shell Piling" table. All piles shall be driven with an approved air, steam, or diesel hammer. Piling in Bents 1 and 17 shall be driven after embankment to the bottom of the cap is in place. Piling in Bents 1 and 17 shall be driven to the tip elevation shown in the "Steel Shell Piling" table or lower. Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. No additional payment will be made for cut-off or build-up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g).

The driving system approval and the ultimate bearing capacity determination for all piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". It is estimated that the minimum rated hammer energy required to obtain the minimum ultimate bearing capacity will be as shown in the "Steel Shell Piling" table.

Water jetting, preboring, or other methods as approved by the Engineer may be required to achieve the specified minimum tip elevation. Any cost associated with achieving the minimum tip elevation will be considered incidental to the item "Steel Shell Piling (18" dia.)".

DRILLED SHAFTS: Foundations for Bents 2 through 16 and Piers 1 and 2 shall consist of drilled shafts. All drilled shafts shall be founded to the minimum tip elevations shown on the plans. No adjustments to plan tip elevations shall be made without prior approval of the Engineer. Methods of construction of the drilled shafts shall be in accordance with SP Job BB0610 "Drilled Shaft Foundations".

CROSSHOLE SONIC LOGGING: Nondestructive testing shall be performed in accordance with SP Job BB0610 "Nondestructive Testing of Drilled Shafts".

EXISTING BRIDGE: Existing Bridge No. 03713 (log mile 199.48) is 65.5 feet wide and 2700.5 feet long and consists of continuous, composite plate girder units. Superstructure is supported by concrete substructure. The existing bridge is located approximately 217 feet downstream from the proposed new bridge. Half size sheets (Drawings Nos. 13199 through 13235) of the existing bridge may be obtained from the Construction Contract Procurement Section of the Program Management Division.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, existing Bridge No. 03713 shall be removed in accordance with Section 205 of the Standard Specifications. All material from the existing bridge shall become the property of the Contractor with the exception of the lenses in the navigational lights which will remain the property of AHTD District 6. The Contractor shall coordinate with the Engineer regarding temporary storage and on-site loading onto Department equipment. This work will be considered subsidiary to the item "Removal of Existing Bridge Structure (Site No. 1)".

MAINTENANCE OF TRAFFIC: See Roadway Plans.

DETAIL DRAWINGS:

	DRAWING NOS.
Schedule of Bridge Quantities	56731A
Layout of Bridge over White River	58931 - 58937
Hydrograph of White River	56739 & 56739A
Foundation Layout	58938 - 58942
End Bents 1 & 17	56745 - 56748
Intermediate Bents 2-8 & 11-16	58943 - 58954 & 58955 - 58964
Bents 9 & 10	56761 - 56764 & 56770 - 56773
Piers 1 & 2	56765 - 56769
536'-0" Continuous Composite Plate Girder Unit - Units 1, 2 and 4	56784 - 56803
860'-0" Continuous Composite Plate Girder Unit - Unit 3	56804 - 56822
372'-0" Continuous Composite Plate Girder Unit - Unit 5	56823 - 56836
Details of Finger Joints	56837 - 56838
Seismic Isolation Bearings	56839 - 56840
Details of Inspection Walkway	56841 - 56849
Details of Safety Handrail	56850 - 56854
Details of Type Special Approach Slab	56855 - 56856
Details of Navigational Lighting	56857
Details of Clearance Gauges	56858
Details of Concrete Filled Steel Shell Piles	56859

Steel Shell Piling

Bent/Pier	Minimum Pile Tip Elevation	Estimated Production Pile Length	Minimum Ultimate Bearing Capacity	Hammer Energy
		feet	tons/pile	ft-kips
End Bent 1	133	69	210.0	66.2
Bent 2	-	-	-	-
Bent 3	-	-	-	-
Bent 4	-	-	-	-
Bent 5	-	-	-	-
Bent 6	-	-	-	-
Bent 7	-	-	-	-
Bent 8	-	-	-	-
Bent 9	-	-	-	-
Pier 1	-	-	-	-
Pier 2	-	-	-	-
Bent 10	-	-	-	-
Bent 11	-	-	-	-
Bent 12	-	-	-	-
Bent 13	-	-	-	-
Bent 14	-	-	-	-
Bent 15	-	-	-	-
Bent 16	-	-	-	-
End Bent 17	152	55	240.0	66.2

SUPERSTRUCTURE GENERAL NOTES

STRUCTURAL STEEL: All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted. All structural steel shall be paid for as "Structural Steel in Plate Girder Spans (M270, Gr. 50W)". Structural Steel completely embedded in concrete may be AASHTO M270 Gr. 36. or Gr. 50 unless otherwise noted. All exposed surfaces shall be cleaned in accordance with Subsection 807.84 unless noted otherwise.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Girders, including all field splice plates and crossframe members, are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Steel plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

All girders shall be assembled in the shop as specified in Subsection 807.54(b)(2) and blocked in their true position with webs horizontal. The camber, length of sections, distance between bearings, and openings of joints shall be measured with the girders in their true position and this information shall become a part of the permanent records of this job. The component parts shall be match marked in this assembly and these marks shall be shown on the erection diagram. All girder dimensions are based on a temperature of 60° F. A tolerance of +/- 1/4" is allowed for camber.

Girder webs may be made by shop splicing with a minimum length of 25 feet for sections. Flange plates longer than 50 feet may be made by shop splicing with a minimum length of 25 feet for sections. No additional payment for these splice welds will be made. Material specifications and location of shop welded splices, if any, shall be shown on shop drawings.

Field connections shall be bolted with high strength bolts. For 3/4" bolts: Open holes = 15/16 " unless otherwise noted. Bolt spacing = 2 1/2" unless otherwise noted. Minimum edge distance = 1 1/4" unless otherwise noted. For 7/8" Bolts: Open holes = 15/16 " unless otherwise noted. Bolt spacing = 3" unless otherwise noted. Minimum edge distance = 1 1/2" unless otherwise noted. For 1" bolts: Open holes = 1 1/16" unless otherwise noted. Bolt spacing = 3 1/2" unless otherwise noted. Minimum edge distance = 1 3/4" unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior girder webs and on the bottom of girder flanges.

Oversized holes may be used in center bay of all units if optional longitudinal joint in deck is used. Holes for 1" high strength bolts in crossframes may be 1 1/4" diameter if a washer is supplied for use under both the nut and head of the bolt. Holes for 3/4" high strength bolts in expansion devices may be 15/16 " diameter if a washer is supplied for use under both the nut and the head of the bolt.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether permanent or temporary, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Groove welds in main plate girder members shall be Quality Control (Q.C.) tested by nondestructive testing, as required in Subsection 807.23(b). Fillet welds at flange to web plate connections shall be Q.C. tested by the magnetic particle method. All Quality Control (Q.C.) testing shall be considered subsidiary to the item "Structural Steel in Plate Girder Spans (M270, Gr. 50W)".

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, submitted and approval secured before fabrication is begun.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with the recommendations of the manufacturer.

Crossframes shall be installed as girders are erected unless otherwise noted. All bolts in crossframes and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring concrete deck, except as noted.

All seismic isolation bearings shall be seated in accordance with the recommendations of the bearing manufacturer. This work and material will not be paid for directly but will be considered subsidiary to the item "Seismic Isolation Bearings".

REINFORCING STEEL: All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports. The reinforcing steel shall be accurately located in the forms and firmly held in place by wire supports, sufficient in number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item of "Epoxy Coated Reinforcing Steel (Grade 60)".

CONCRETE: Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless otherwise noted. The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 and Drawing No. 56794, 56795, 56815, and 56831 for allowable modifications and for tolerances when permanent steel bridge deck forms are used. Concrete in bridge superstructure shall be placed, consolidated, and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class S Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. Use of a longitudinal screed is not permitted on any span of the bridge deck with horizontal curvature. A minimum of 72 hours shall elapse between completion of the bridge deck and the pouring of the parapet railing or median barrier. Any railing or barrier pours made before the entire slab has been placed and cured must be approved by the Engineer.

CLASS I PROTECTIVE SURFACE TREATMENT: Class I Protective Surface Treatment shall be applied to the roadway surface, to the roadway face and top of concrete parapet rail, and to each face and top of the median barrier.

(1) Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11328 CHRISTOPHER J. CRISWELL 8/24/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 7 OF 7
LAYOUT OF
BRIDGE OVER WHITE RIVER
WHITE RIVER STR. & APPRS. (F)
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JOS DATE: 4/19/14 FILENAME: bbb0610s_gnl.dgn
CHECKED BY: CJC DATE: 7/28/16
DESIGNED BY: STL DATE: 6/2/16 SCALE: NONE
BRIDGE NO. 07343 DRAWING NO. 58937

JACOBS

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8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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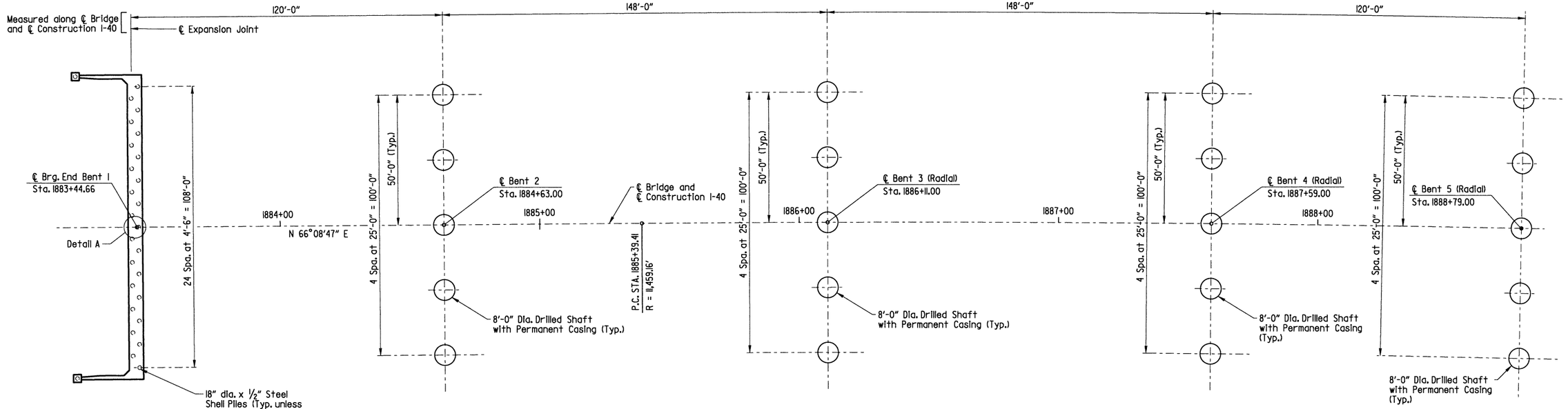
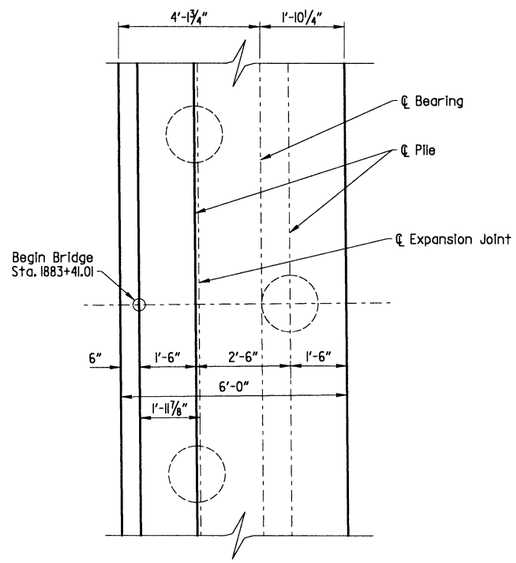
				JOB NO.		BB0610	194	262
				07343	-	FOUNDATION LAYOUT	-	58938



Note:
For Details of Steel Shell Piles,
See Drawing No. 56859.

FOUNDATION LAYOUT - UNIT 1

Scale: 1" = 20'-0"



DETAIL A

No Scale

Curve Data	
℄ Construction HORIZONTAL CURVE DATA	
PI =	1876+00.22
R =	11,459.16'
△ =	7°24'08" Lt.
D =	0°30'00"
T =	741.26'
L =	1480.45'
PC =	1868+58.96
PT =	1883+39.41
e =	Normal Crown

Curve Data	
℄ Construction HORIZONTAL CURVE DATA	
PI =	1900+28.15
R =	11,459.16'
△ =	14°48'16" Rt.
D =	0°30'00"
T =	1488.74'
L =	2960.90'
PC =	1885+39.41
PT =	1915+00.31
e =	Normal Crown

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11328
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 1 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014 FILENAME: bbb0610s_fll.dgn
CHECKED BY: CJC DATE: 7/28/2016
DESIGNED BY: --- DATE: ---
SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58938

JACOBS

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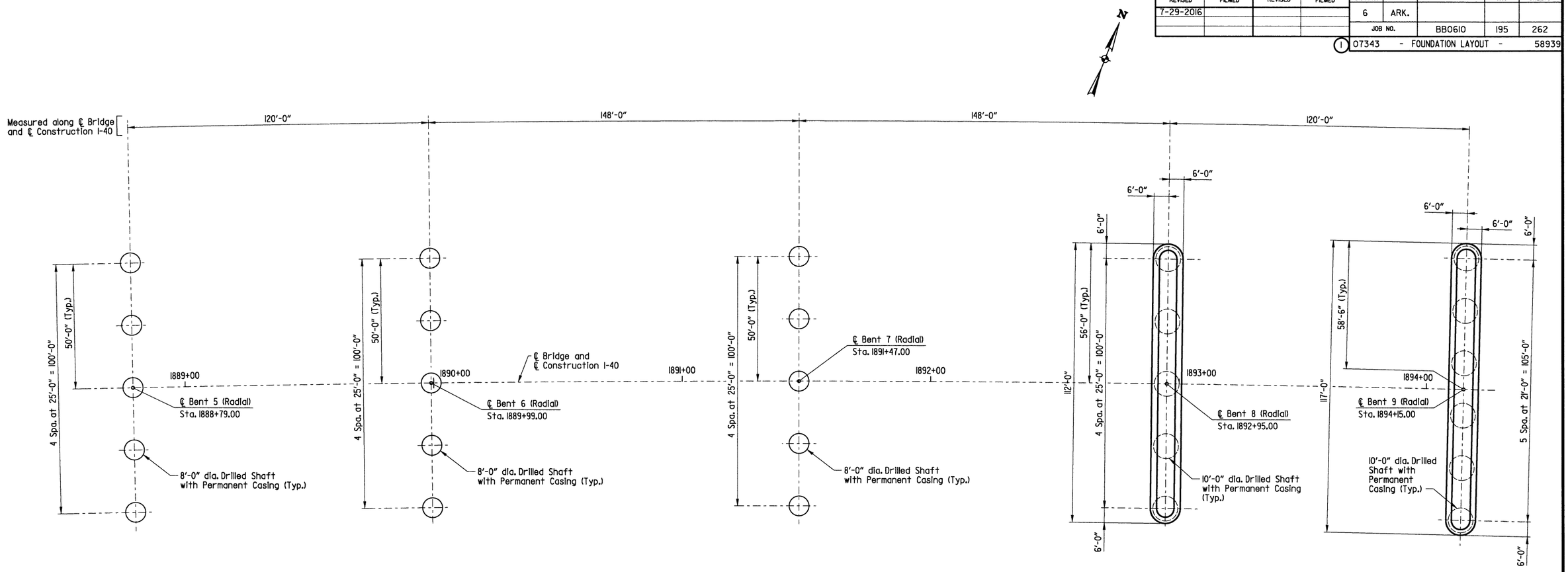
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	195	262
1	07343	- FOUNDATION LAYOUT -		58939



FOUNDATION LAYOUT - UNIT 2

Scale: 1" = 20'-0"

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
CHRISTOPHER J. CRISWELL
REGISTERED PROFESSIONAL ENGINEER
No. 11328
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 2 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	4/4/2014	FILENAME:	bbb0610s_fl2.dgn
CHECKED BY:	CJC	DATE:	7/28/2016		
DESIGNED BY:	---	DATE:	---	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 58939		

JACOBS

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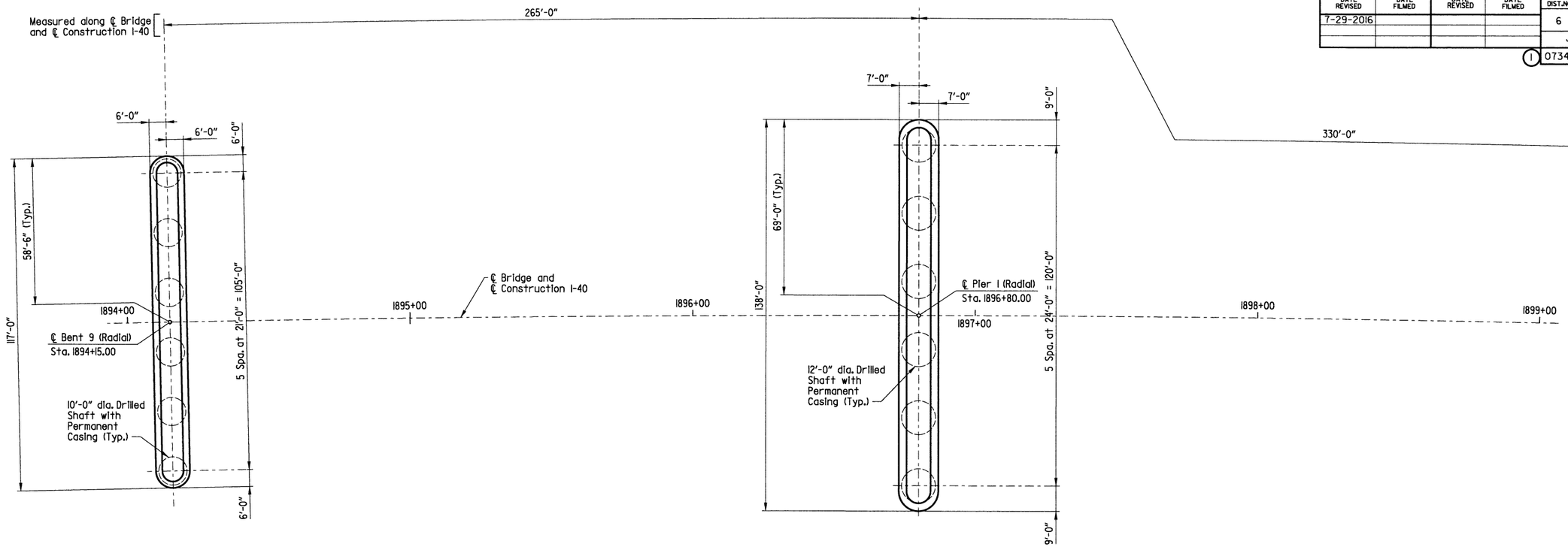
8/26/2016

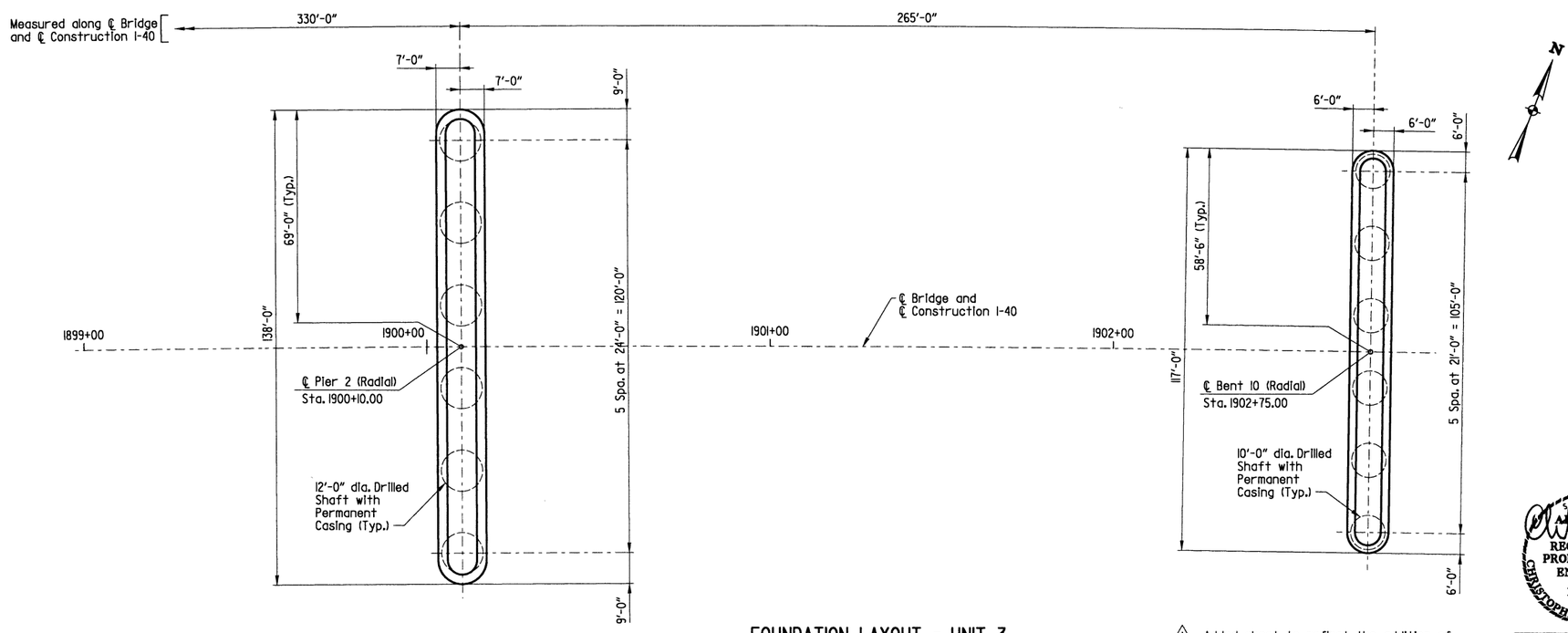
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	196	262
07343	-	FOUNDATION LAYOUT	-	58940



FOUNDATION LAYOUT - UNIT 3

Scale: 1" = 20'-0"



FOUNDATION LAYOUT - UNIT 3

Scale: 1" = 20'-0"

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11328
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 3 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	CLS	DATE:	4/4/2014	FILENAME:	bbb0610s_fl3.dgn
CHECKED BY:	CJC	DATE:	7/28/2016		
DESIGNED BY:	---	DATE:	---	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 58940		

JACOBS

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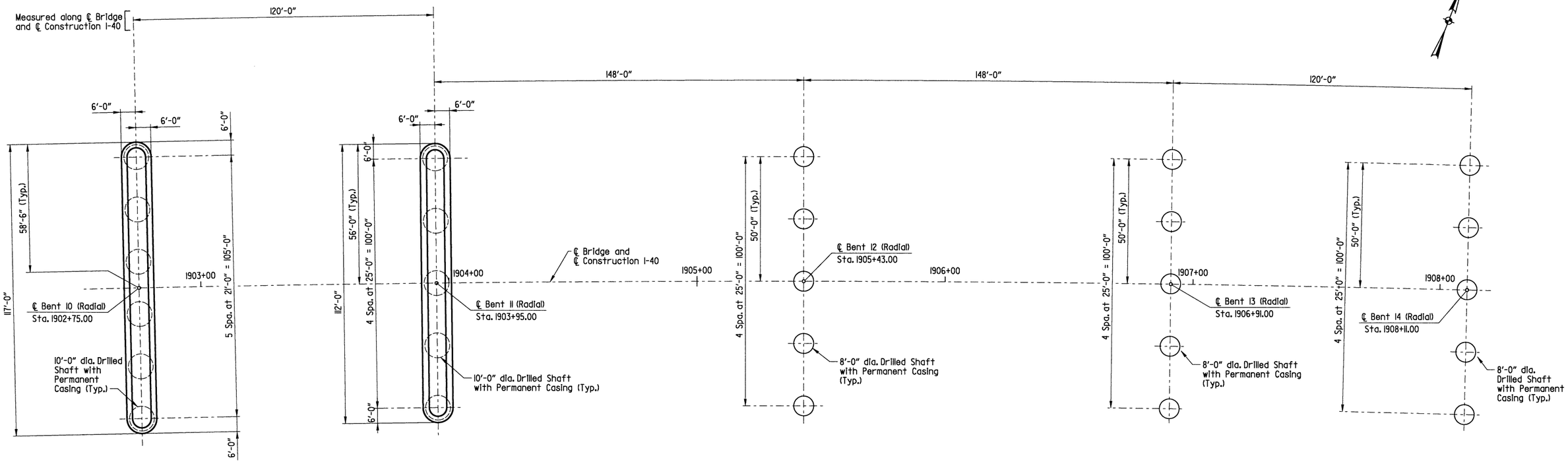
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	197	262
1	07343 - FOUNDATION LAYOUT -			58941



FOUNDATION LAYOUT - UNIT 4

Scale: 1" = 20'-0"

⚠1 Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11328
CHRISTOPHER J. CRISTELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 4 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014 FILENAME: bbb0610s_fl4.dgn
CHECKED BY: CJC DATE: 7/28/2016
DESIGNED BY: --- DATE: ---
SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58941

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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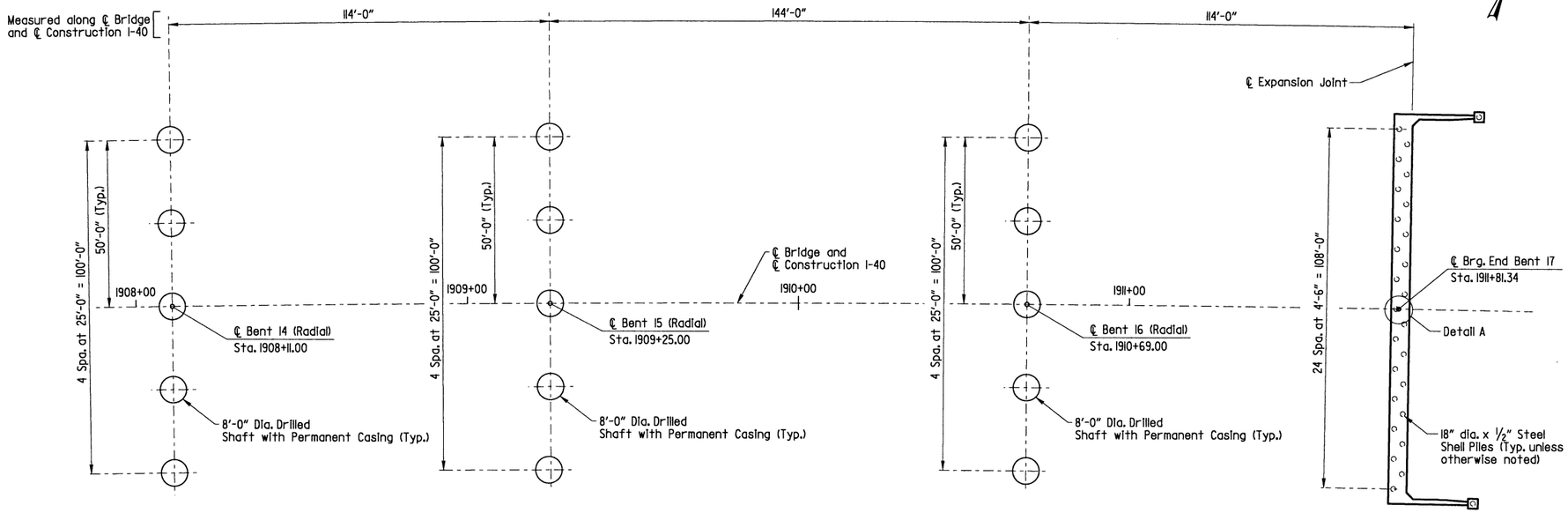
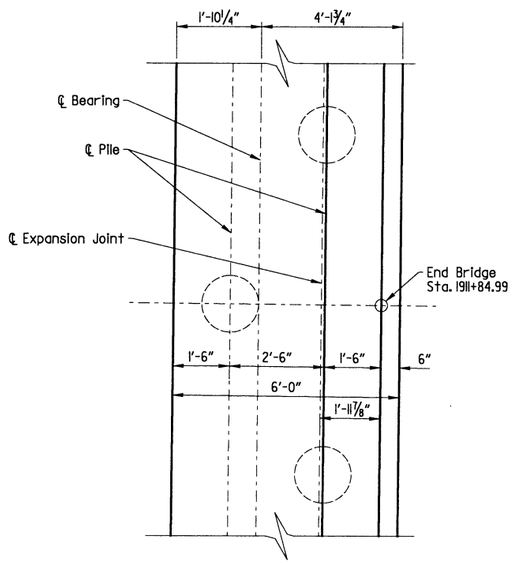
				JOB NO.		BB0610	198	262
				(1) 07343	-	FOUNDATION LAYOUT	-	58942



FOUNDATION LAYOUT - UNIT 5

Scale: 1" = 20'-0"

Note:
For Details of Steel Shell Piles,
See Drawing No. 56859.



DETAIL A

No Scale

⚠ Added sheet to reflect the addition of alternate substructure. CJC 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11328
CHRISTOPHER J. CRISWELL
8/26/16

BRIDGE ENGINEER
PRINT DATE: 8/26/2016

ALTERNATE NO. 2
SHEET 5 OF 5
FOUNDATION LAYOUT
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CLS DATE: 4/4/2014
CHECKED BY: CJC DATE: 7/28/2016
DESIGNED BY: --- DATE: ---
FILENAME: bbb0610s_f15.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 58942

JACOBS

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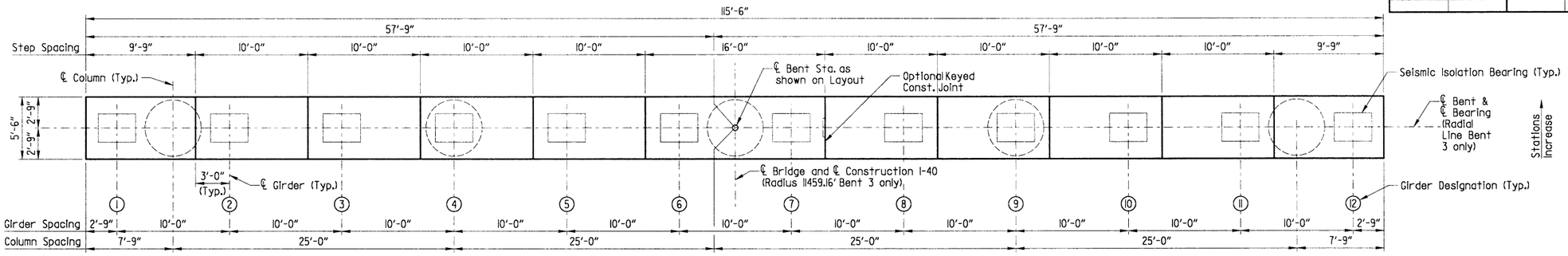
8/26/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	199	262
07343	-	INTERMEDIATE BENTS	-	58943



PLAN

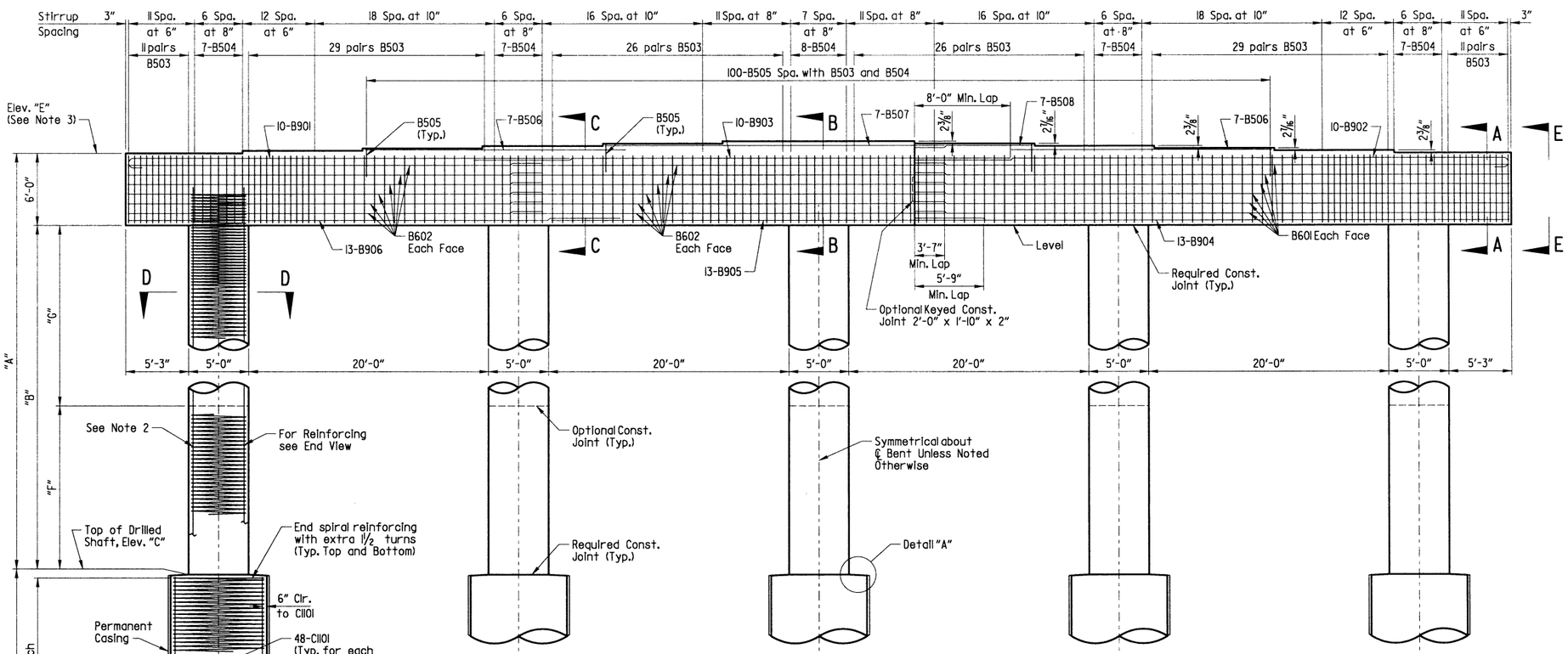
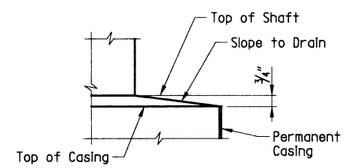


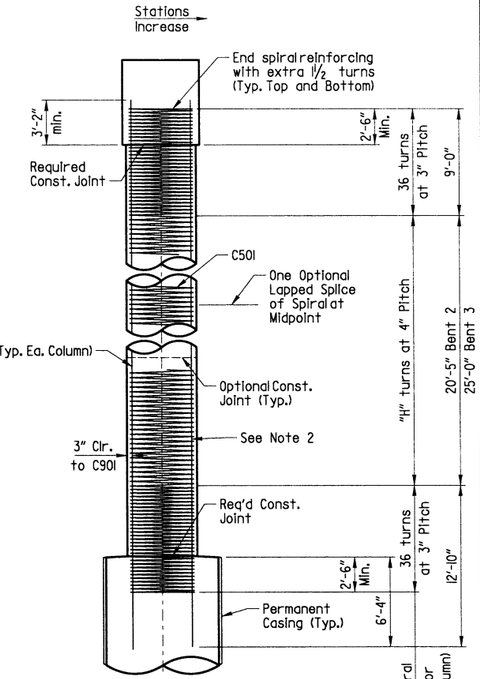
TABLE OF VARIABLES		
VARIABLE	BENT 2	BENT 3
"A"	39'-5"	44'-0"
"B"	33'-5"	38'-0"
Elev. "C"	167.57	167.43
Elev. "E"	206.99	211.43
"F"	15'-0"	17'-3"
"G"	18'-5"	20'-9"
"H"	61	75
"J"	1946'-7"	2146'-10"
"K"	42'-11"	47'-6"
Elev. "L"	121.57	121.43
"M"	45'-8"	45'-8"
"N"	3103'-6"	3103'-6"

ELEVATION

(Looking Ahead Station)



DETAIL "A"



END VIEW

Drilled Shaft Reinforcement not shown for clarity.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

Notes:

1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58944.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENTS 2 & 3
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/28/2014
CHECKED BY: DMS DATE: 06/24/2016
DESIGNED BY: CAS DATE: 10/28/2014
FILENAME: bbb0610s_b21.dgn
SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343
DRAWING NO. 58943

JACOBS

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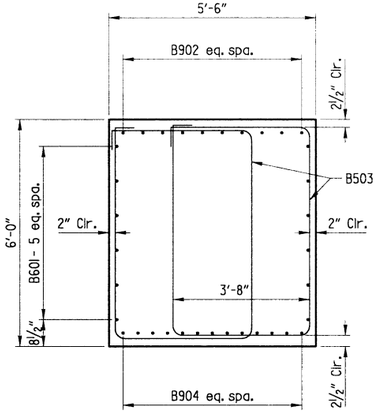
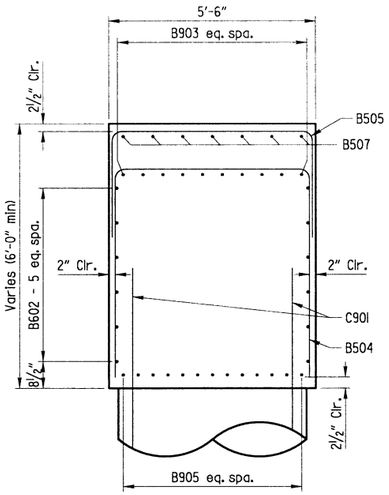
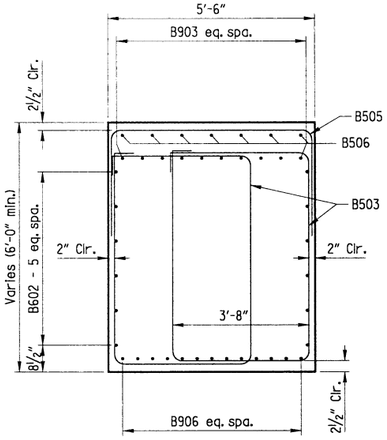
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	200	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58944



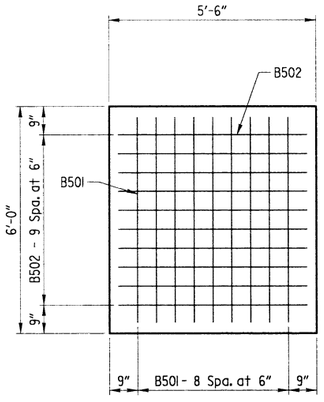
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"

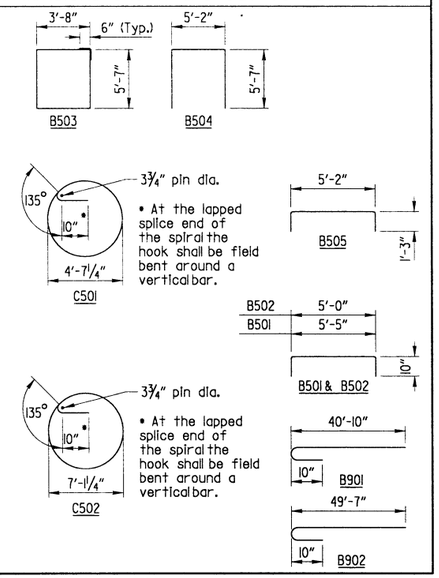
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	264	19'-0"	2½"
B504	36	16'-2"	2½"
B505	100	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	"J"	Spiral
C502	5	"N"	Spiral
C901	145	"K"	Str.
C1101	240	"M"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



For table of variables, see Drawing No. 58943.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

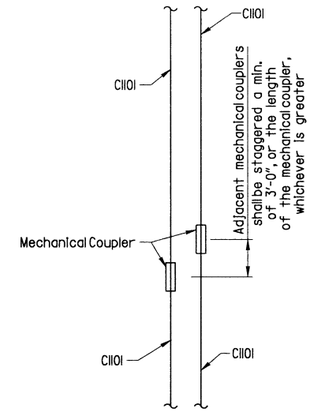
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.



DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

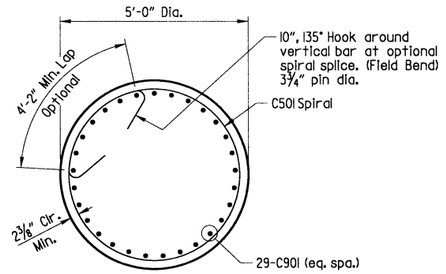
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

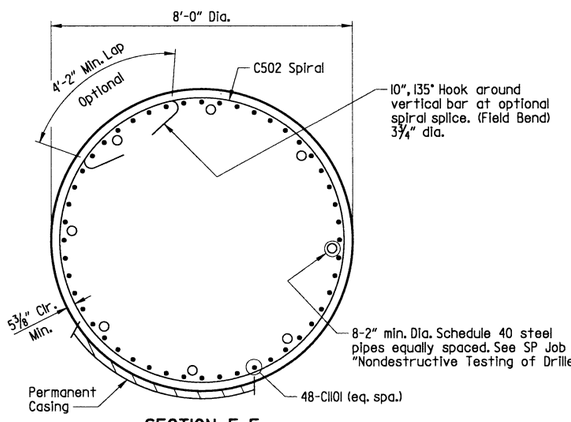
The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (96" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.

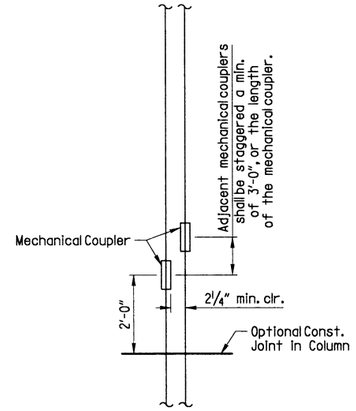


SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENTS 2 & 3
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

DRAWN BY: SEM DATE: 06/22/2016 FILENAME: bbb0610s_b22.dgn
CHECKED BY: DMS DATE: 06/29/2016
DESIGNED BY: CAS DATE: 10/29/2014 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58944

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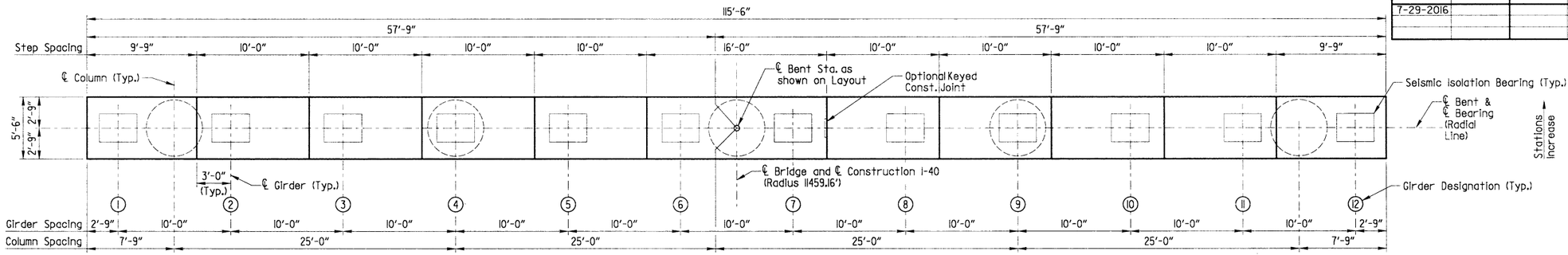
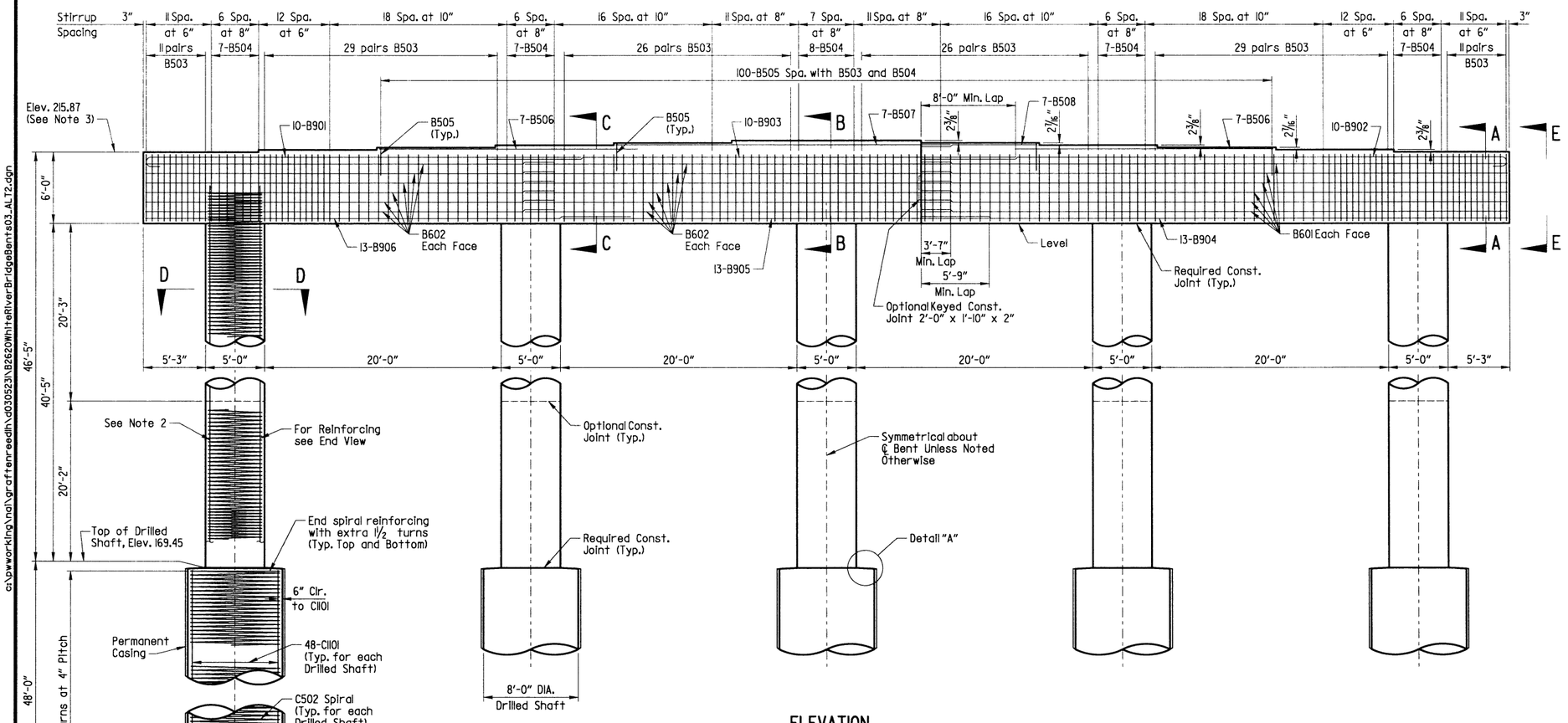
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

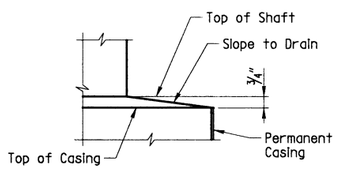
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	201	262
07343	-	INTERMEDIATE BENTS	-	58945



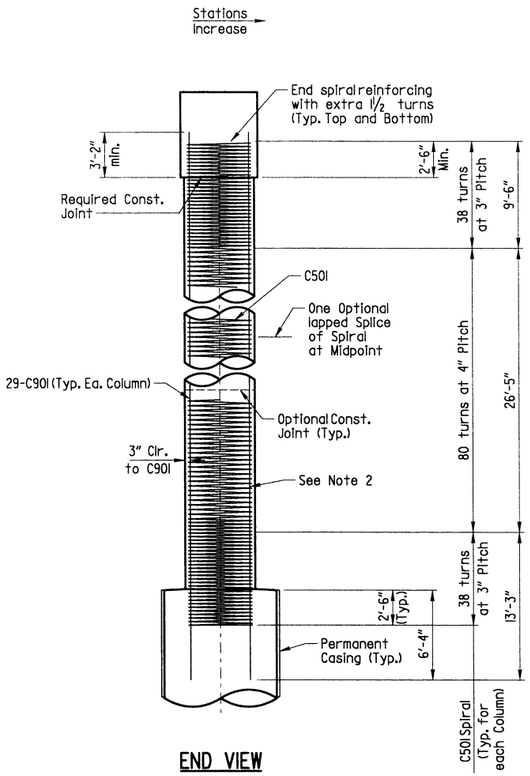
PLAN



ELEVATION
(Looking Ahead Station)



DETAIL "A"



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58946.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENT 4
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	10/28/2014	FILENAME:	bbb0610s_b41.dgn
CHECKED BY:	DMS	DATE:	06/29/2016		
DESIGNED BY:	CAS	DATE:	12/19/2014	SCALE:	3/16" = 1'-0"
BRIDGE NO. 07343			DRAWING NO. 58945		

JACOBS

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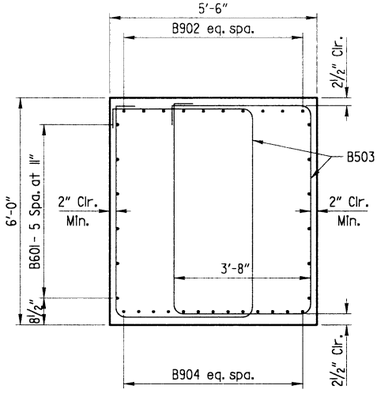
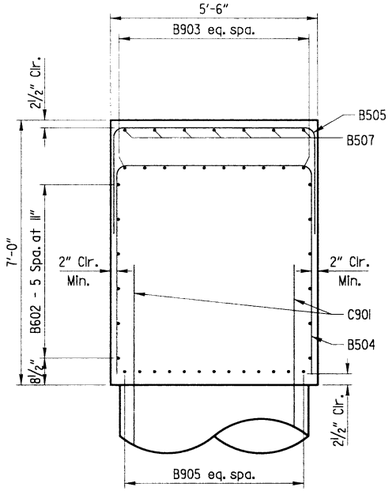


SECTION A-A

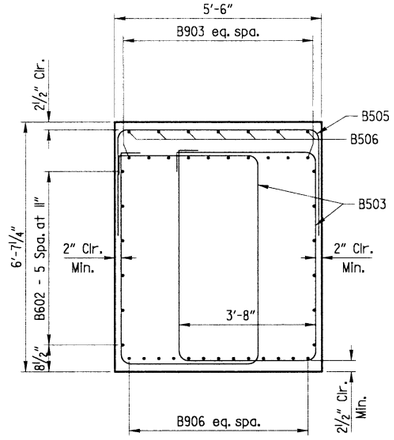
Scale: ½" = 1'-0"



SECTION B-B

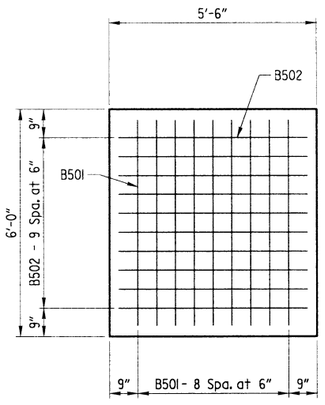
Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.



SECTION C-C

Scale: ½" = 1'-0"



SECTION E-E

Scale: ½" = 1'-0"

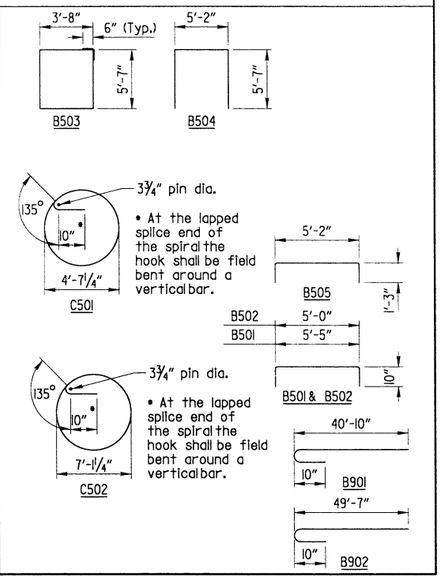
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10	2½"
B502	20	6'-5"	2½"
B503	264	19'-0"	2½"
B504	36	16'-2"	2½"
B505	100	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	2275'-6"	Spiral
(1) C502	5	3236'-5"	Spiral
(1) C901	145	49'-11"	Str.
C1101	240	47'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

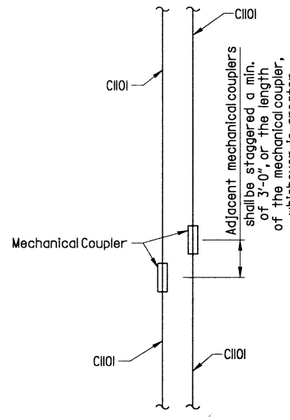
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

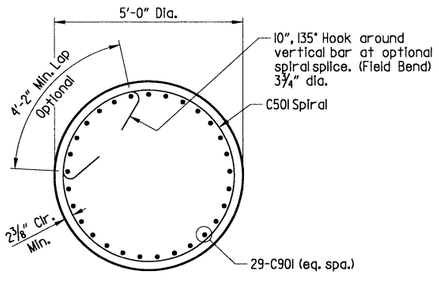
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

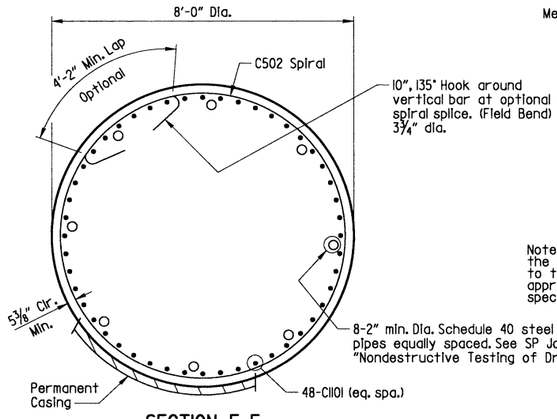
The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT" (96"Dia.). The couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION D-D

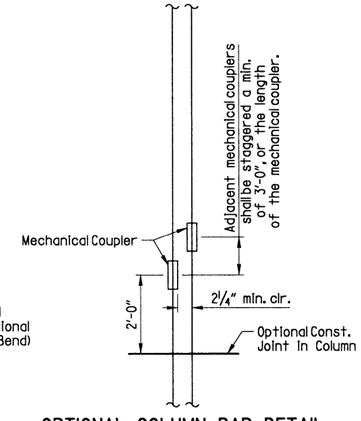
Scale: ½" = 1'-0"



SECTION F-F

Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL

Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENT 4
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

DRAWN BY: EAK DATE: 10/29/2014
CHECKED BY: DMS DATE: 06/29/2016
DESIGNED BY: CAS DATE: 12/19/2014
FILENAME: bbb0610s_b42.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 58946

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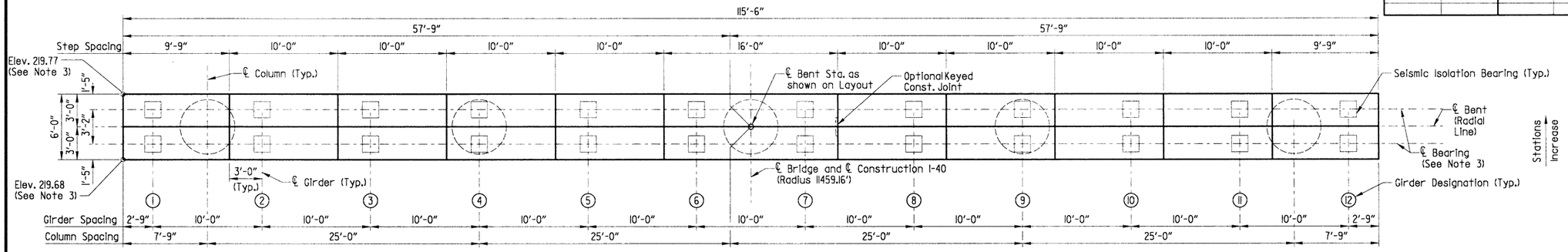
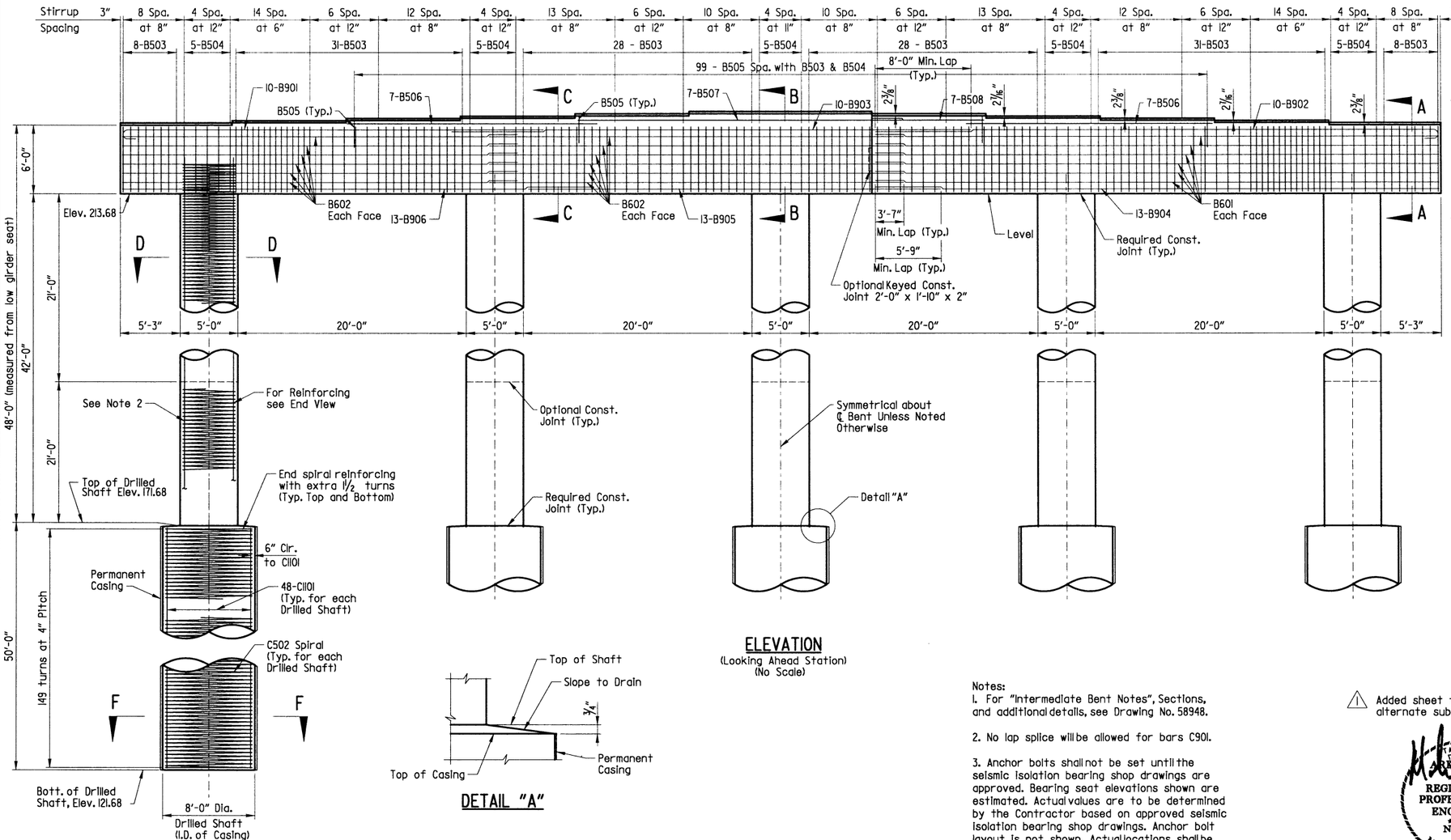
				(1) 07343	-	INTERMEDIATE BENTS	-	58947

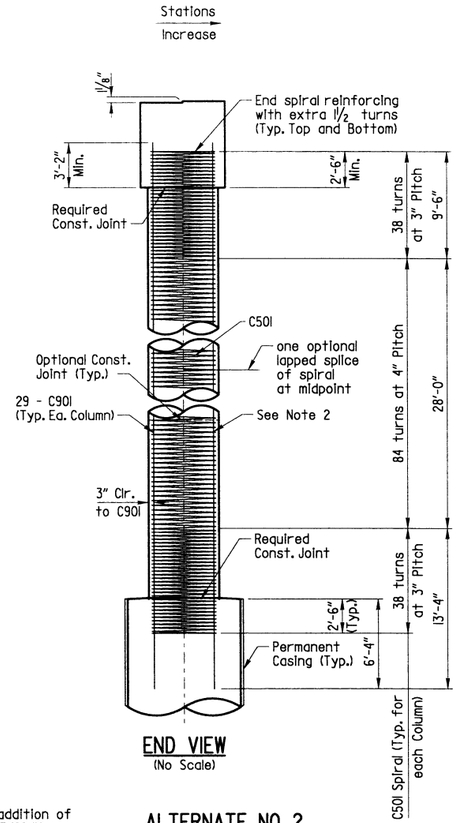


PLAN
(No Scale)



ELEVATION
(Looking Ahead Station)
(No Scale)

DETAIL "A"



END VIEW
(No Scale)

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58948.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENT 5
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	10/15/14	FILENAME:	bbb0610s_b51.dgn
CHECKED BY:	DMS	DATE:	06/27/16		
DESIGNED BY:	SSS	DATE:	06/22/16	SCALE:	No Scale
BRIDGE NO. 07343			DRAWING NO. 58947		

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
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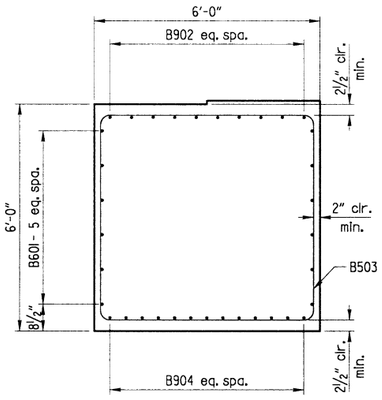
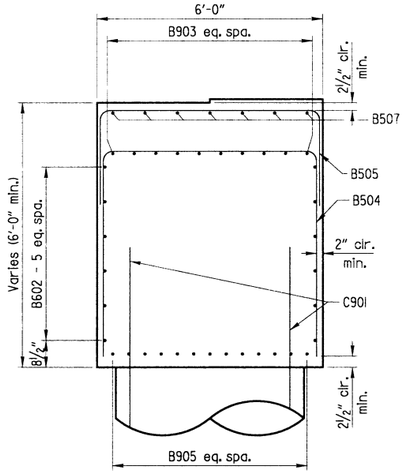
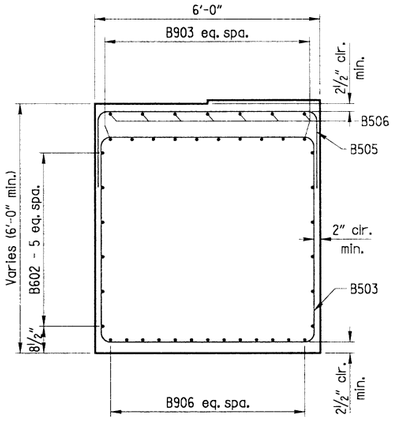
(1) 07343	-	INTERMEDIATE BENTS	-	58948



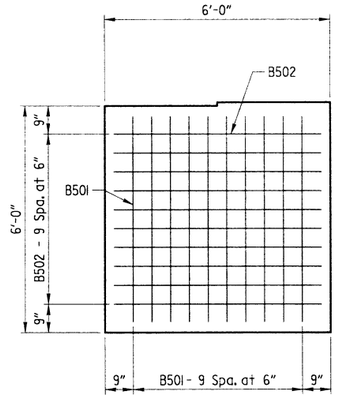
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bars C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"

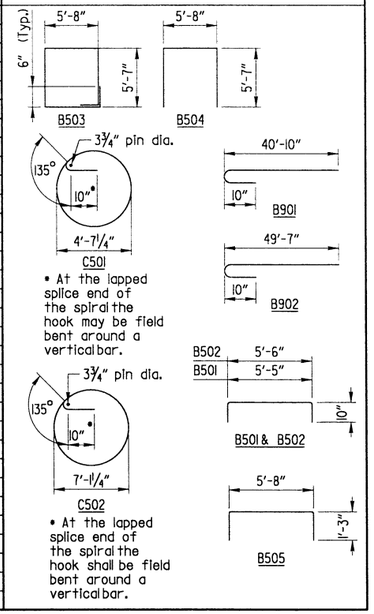
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

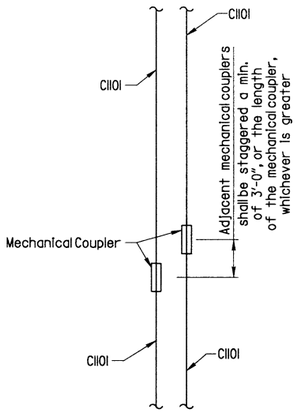
(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	20	6'-11"	2½"
B502	20	7'-0"	2½"
B503	134	23'-0"	2½"
B504	25	16'-8"	2½"
B505	99	8'-0"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	2332'-9"	Spiral
(1) C502	5	3369'-5"	Spiral
C901	145	51'-5"	Str.
(1) C1101	240	49'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars





DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

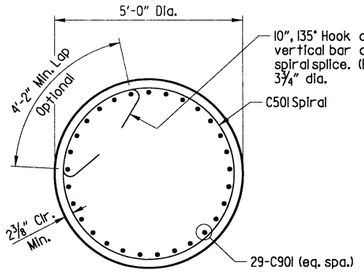
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

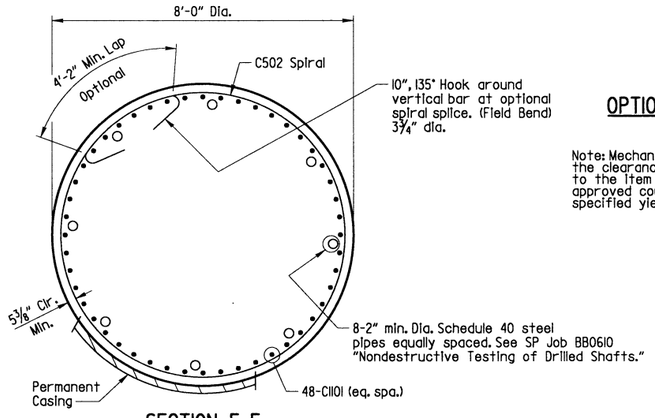
The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT" (96" dia.). The couplers shall develop at least 125% of the specified yield strength of the bar.

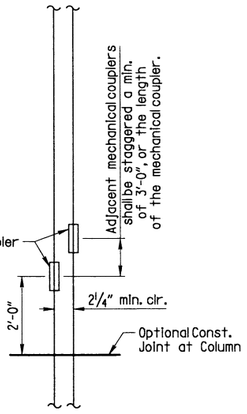


SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENT 5
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	10/15/14	FILENAME:	bbb0610s_b52.dgn
CHECKED BY:	DMS	DATE:	06/29/16		
DESIGNED BY:	CGW	DATE:	01/22/15	SCALE:	AS NOTED
BRIDGE NO. 07343			DRAWING NO. 58948		

JACOBS

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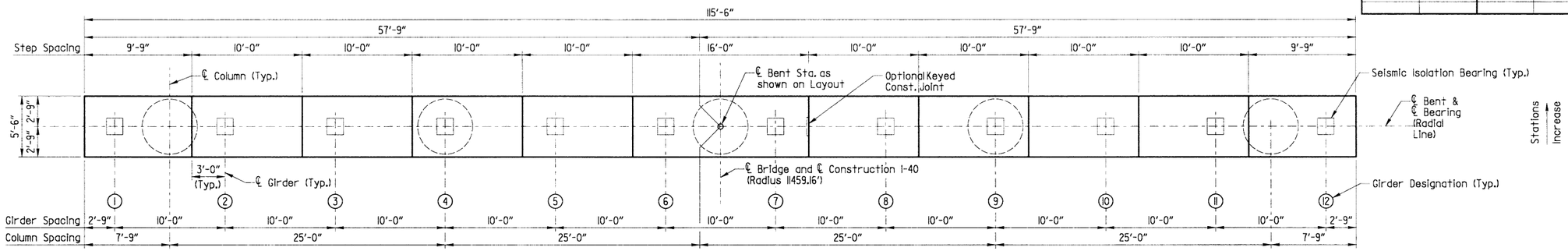
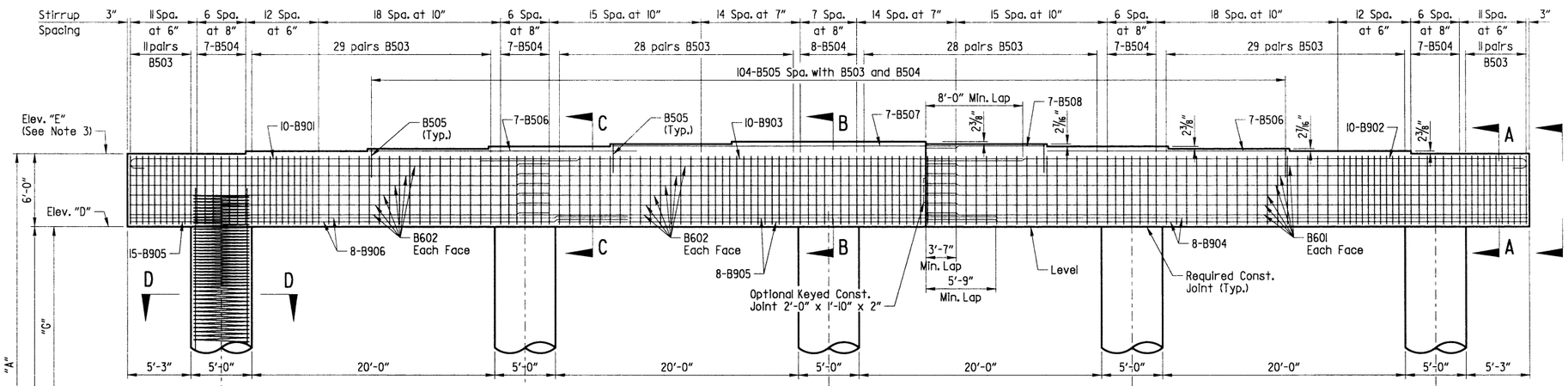
8/29/2016 10:00:00 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

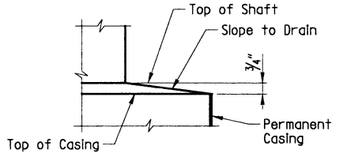
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	205	262
(1) 07343	-	INTERMEDIATE BENTS	-	58949



PLAN

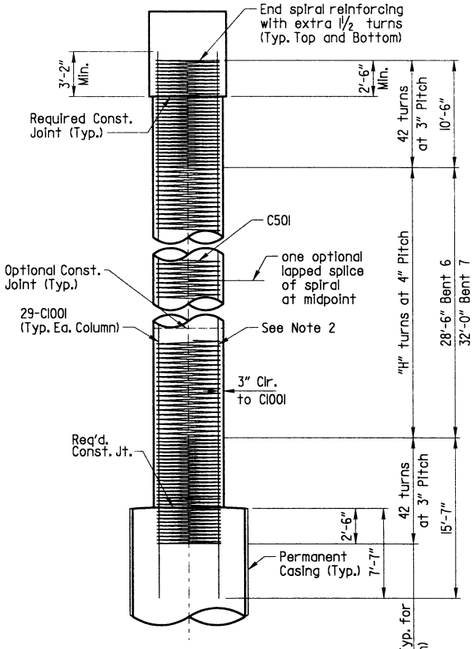


ELEVATION
(Looking Ahead Station)



DETAIL "A"

TABLE OF VARIABLES		
VARIABLE	BENT 6	BENT 7
"A"	50'-6"	54'-0"
"B"	44'-6"	48'-0"
Elev. "C"	172.57	173.46
Elev. "D"	217.07	221.46
Elev. "E"	223.07	227.46
"F"	22'-3"	24'-0"
"G"	22'-3"	24'-0"
"H"	86	96
"J"	2475'-9"	2618'-9"
"K"	50'-8"	51'-8"
"L"	51'-0"	52'-0"
"M"	152	155
"N"	55'-3"	58'-9"
"P"	3435'-10"	3502'-4"
Elev. "Q"	121.57	121.46



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58950.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENTS 6 & 7
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	LHG	DATE:	10/14/15	FILENAME:	bbb0610s_b61.dgn
CHECKED BY:	DMS	DATE:	06/28/16		
DESIGNED BY:	SSS	DATE:	06/22/16	SCALE:	3/16" = 1'-0"
BRIDGE NO. 07343				DRAWING NO.	58949

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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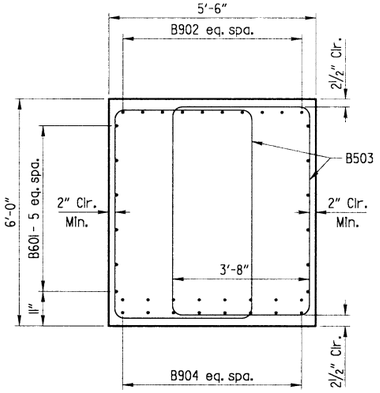
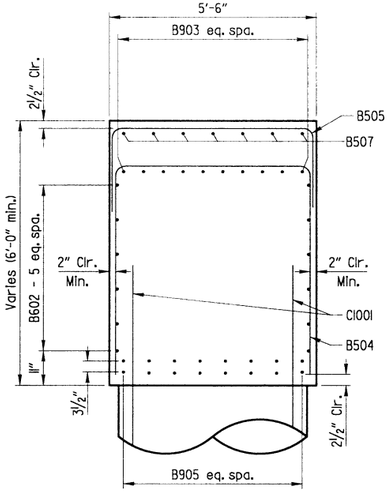
				JOB NO.		BB0610	206	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58950

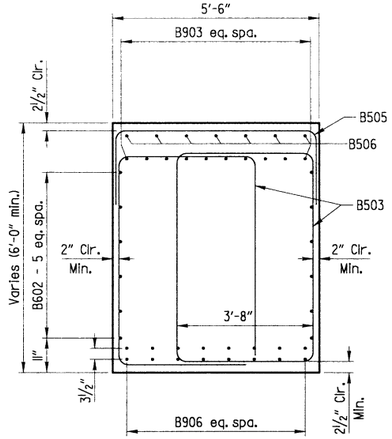


SECTION A-A
Scale: ½" = 1'-0"

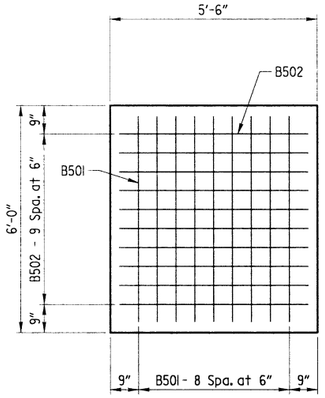


SECTION B-B
Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"

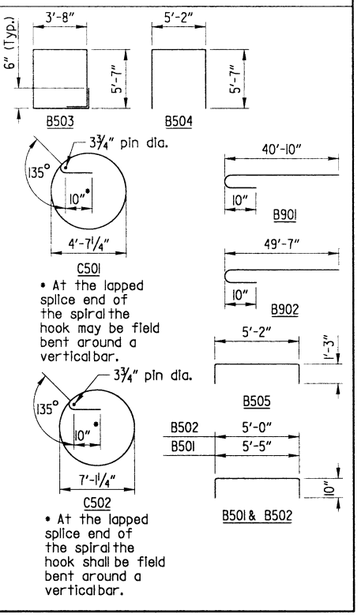
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

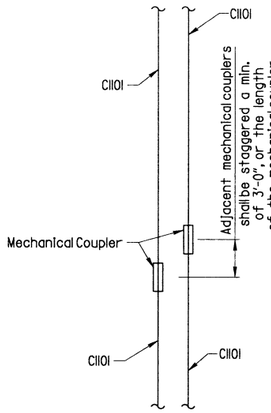
(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-11"	2½"
B502	20	6'-6"	2½"
B503	272	19'-0"	2½"
B504	36	16'-1"	2½"
B505	104	7'-5"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	16	49'-7"	Str.
B905	16	36'-1"	Str.
B906	16	41'-0"	Str.
C501	5	J	Spiral
(1) C502	5	P	Spiral
(1) C1001	145	N	Str.
C1101	240	K	Str.

Bending Diagrams
Dimensions shown are out to out of bars





DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

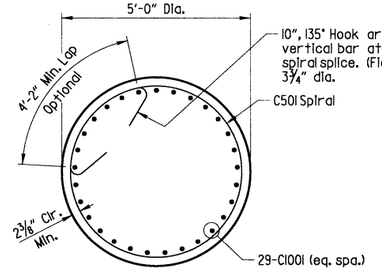
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

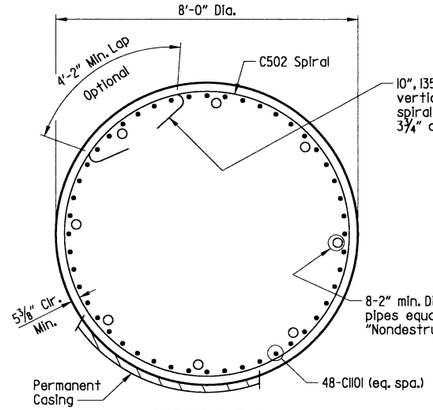
The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the Item "DRILLED SHAFT" (96" Dia.). The couplers shall develop at least 125% of the specified yield strength of the bar.

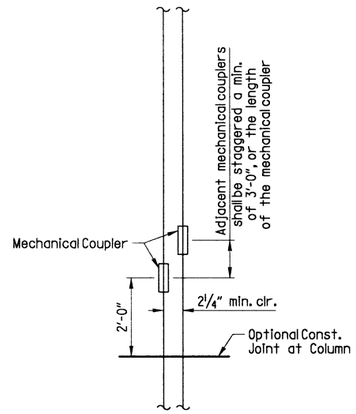


SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the Item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENTS 6 & 7
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

DRAWN BY: LHC DATE: 10/15/14 FILENAME: bbb0610s_b62.dgn
CHECKED BY: DMS DATE: 06/29/16
DESIGNED BY: SSS DATE: 06/28/16 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58950

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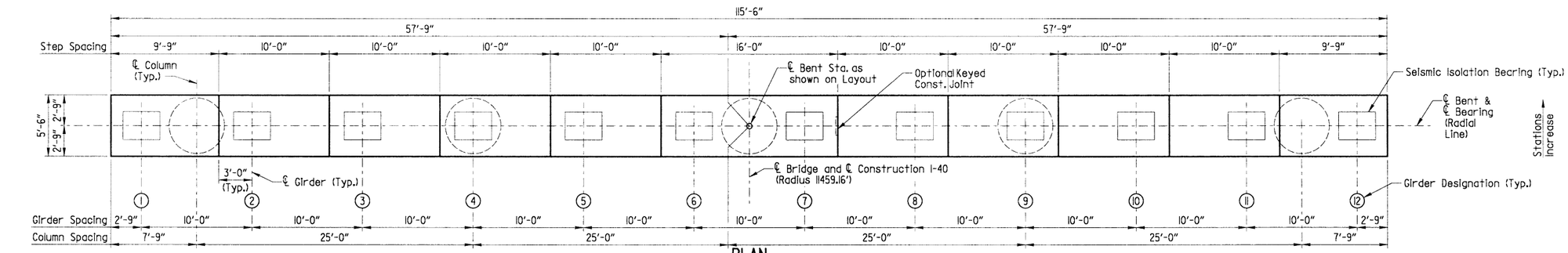
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	207	262
(1) 07343	-	INTERMEDIATE BENTS	-	58951



PLAN
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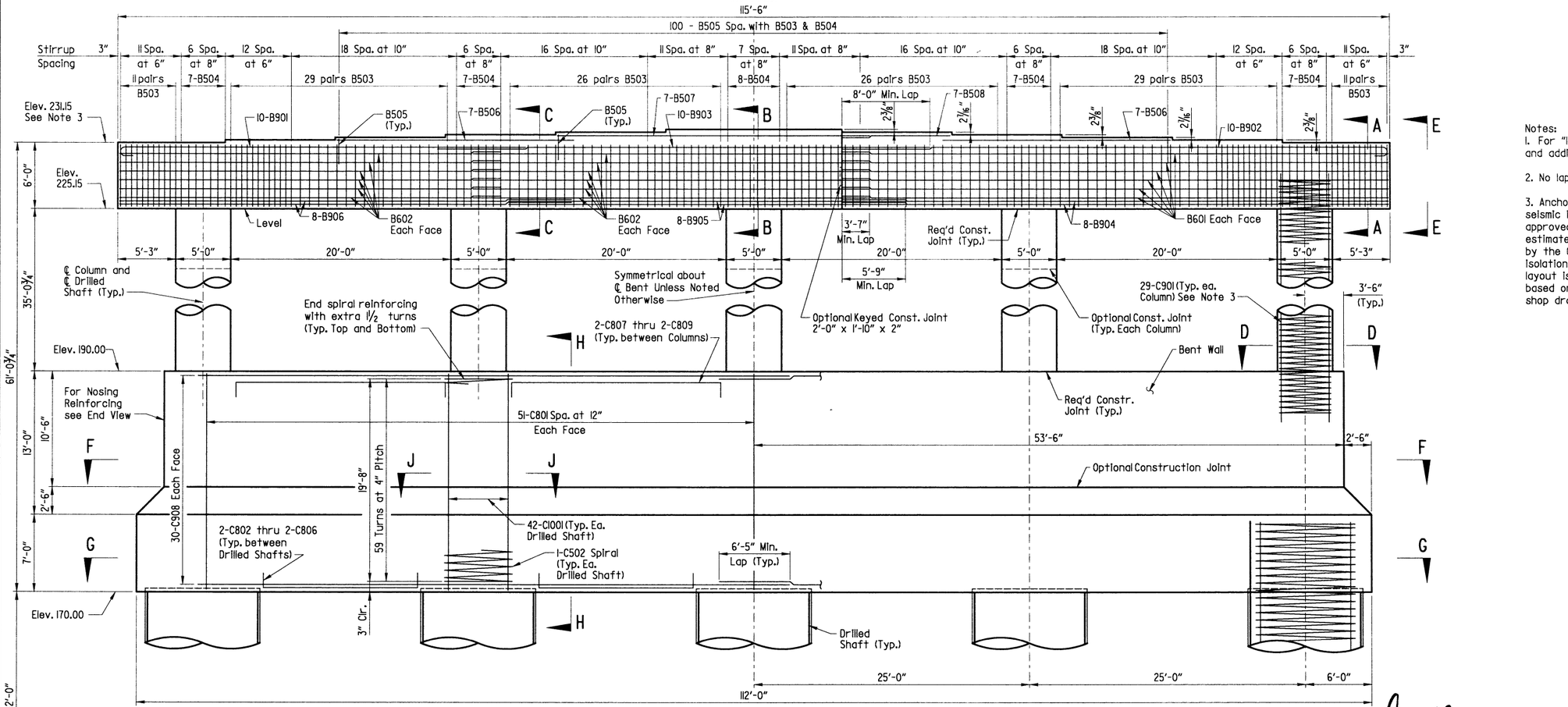
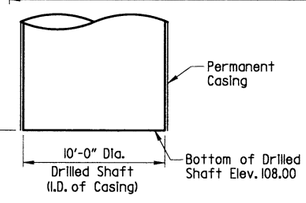


ELEVATION
(Looking Ahead Station)
(No Scale)



Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58952.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/21/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

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CHECKED BY: JOS DATE: 07/13/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: No Scale
BRIDGE NO. 07343 DRAWING NO. 58951

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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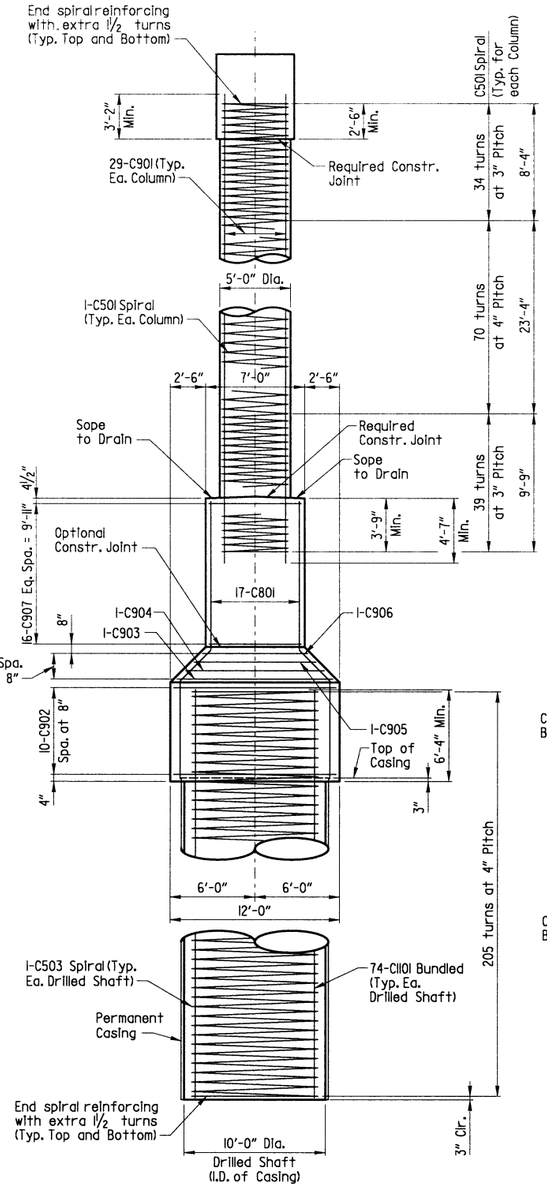
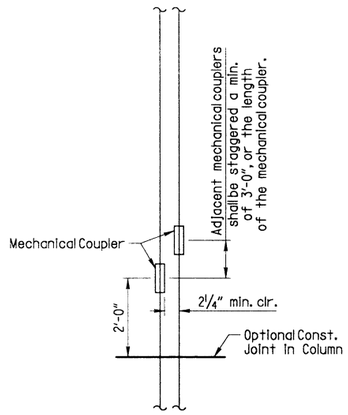
				(1) 07343	-	INTERMEDIATE BENTS	-	58952



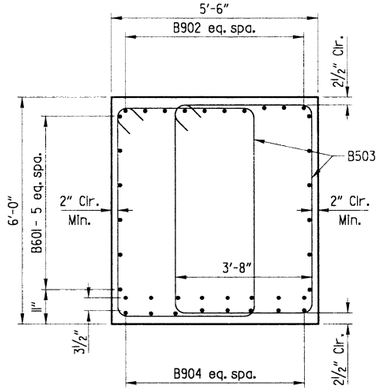
END VIEW



OPTIONAL COLUMN BAR DETAIL

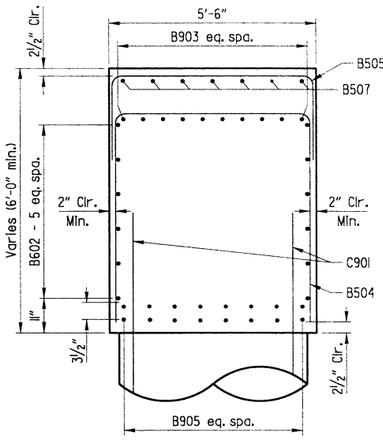
Scale: No Scale

Note: Mechanical couplers in the Column shall maintain the clearances shown. Their payment shall be subsidiary to the Item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION A-A

Scale: ½" = 1'-0"



SECTION B-B

Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.

INTERMEDIATE BENT NOTES:

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the bent wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

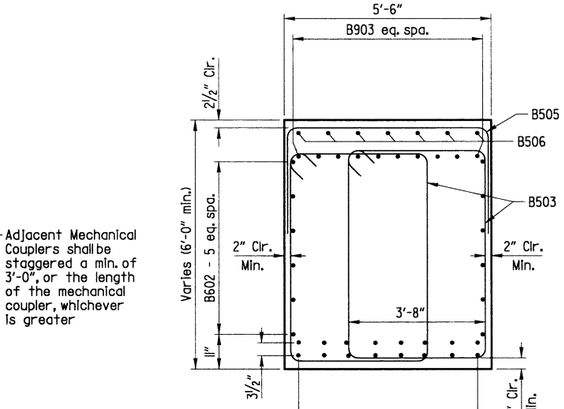
Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A, with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum dia. of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needing for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom ¼ of the column height or top 15' of the bent wall.

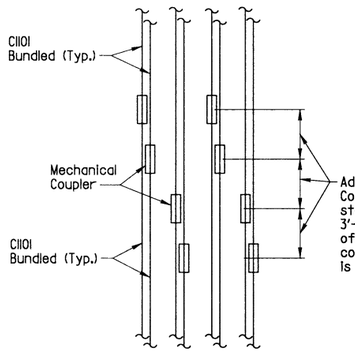
Spirals in spiral reinforcement shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tall around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tall around a vertical bar.



SECTION C-C

Scale: ½" = 1'-0"



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

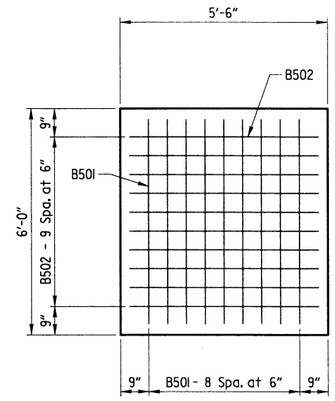
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

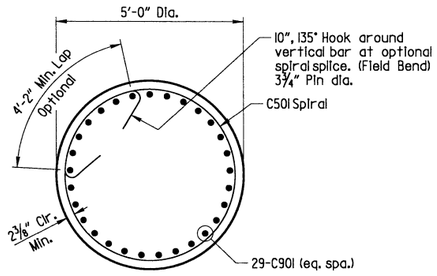
Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the Item "DRILLED SHAFT" (120" Dia.). The couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION E-E

Scale: ½" = 1'-0"

End cap reinforcement shown, see Section A-A for similar reinforcement not shown.



SECTION D-D

Scale: ½" = 1'-0"

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 8/29/16

BRIDGE ENGINEER

PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/23/2016 FILENAME: bbb0610s_b82.dgn
CHECKED BY: JOS DATE: 07/12/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58952

JACOBS

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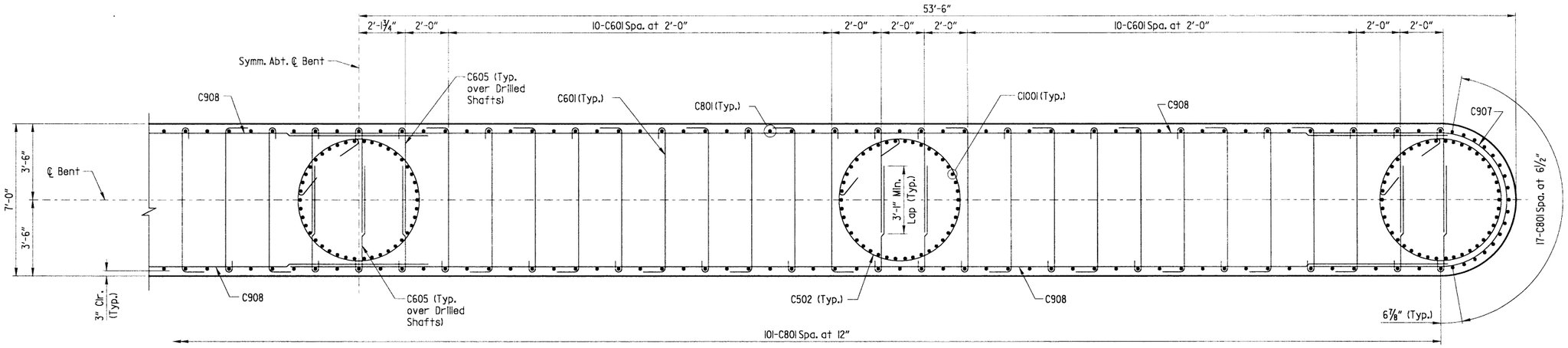
8/29/2016

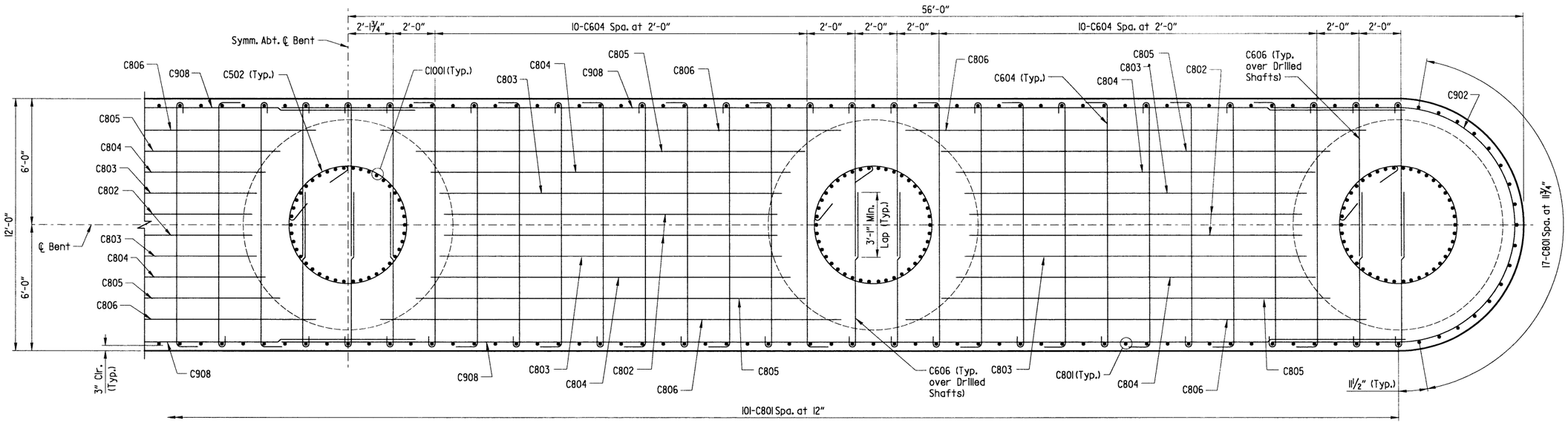
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	209	262
07343	-	INTERMEDIATE BENTS	-	58953



SECTION F-F

Scale ⅜" = 1'-0"



SECTION G-G

Scale ⅜" = 1'-0"

Note: Drilled Shaft reinforcing not shown for clarity.

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 3 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SGK	DATE:	06/23/2016
CHECKED BY:	JOS	DATE:	07/13/2016
DESIGNED BY:	SSS	DATE:	06/16/2016
BRIDGE NO. 07343		DRAWING NO.	58953

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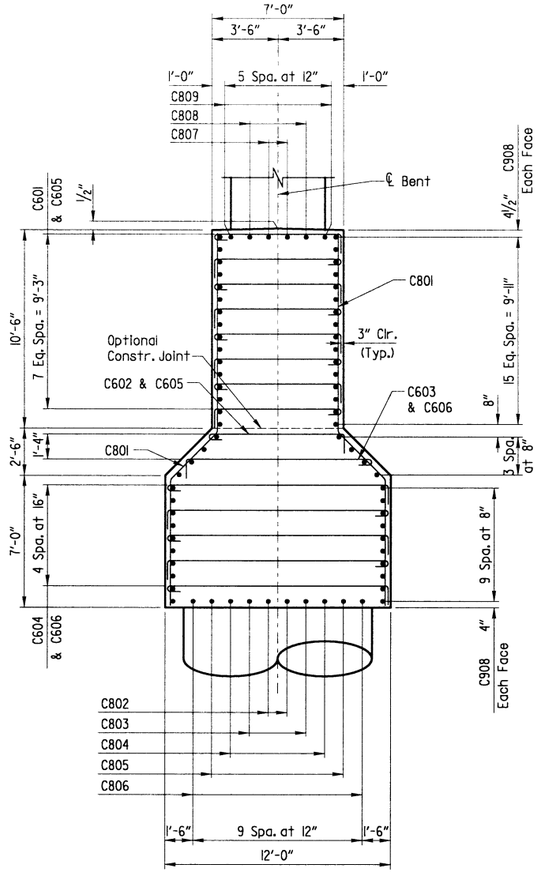
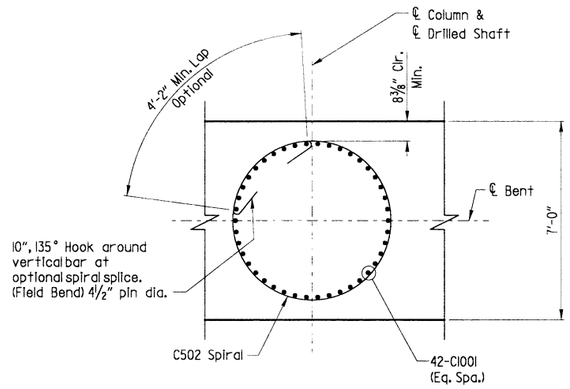


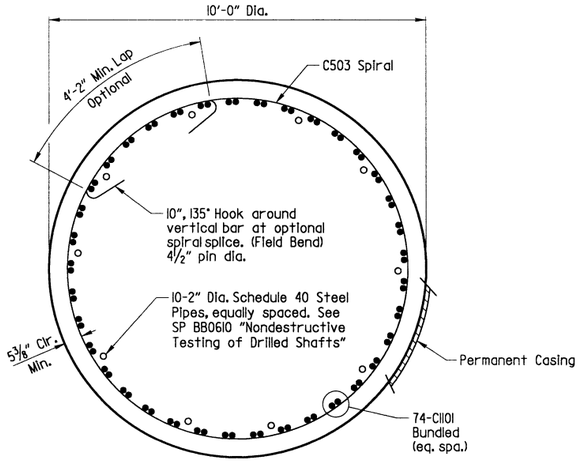
SECTION H-H

SCALE 1/4" = 1'-0"



SECTION J-J

Scale ⅜" = 1'-0"



SECTION THRU DRILLED SHAFT

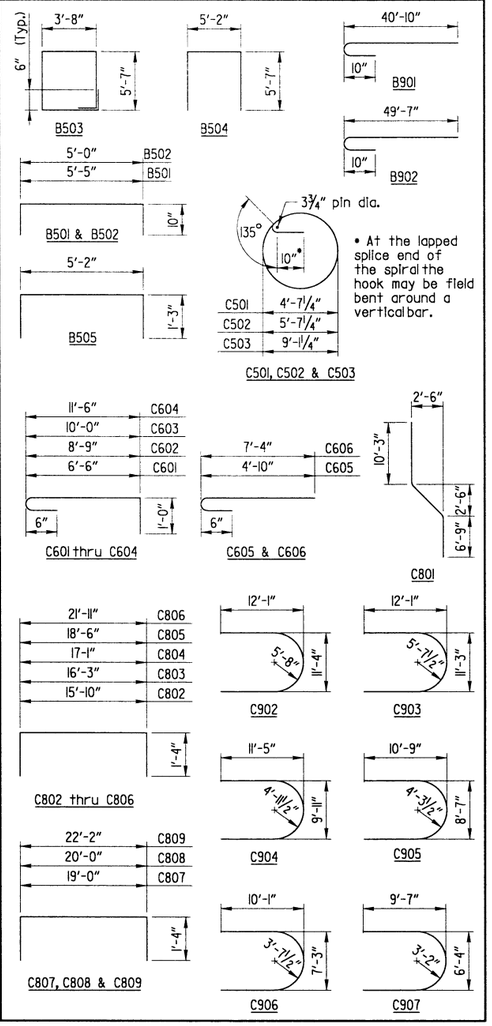
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-11"	2½"
B502	20	6'-6"	2½"
B503	264	19'-0"	2½"
B504	36	16'-1"	2½"
B505	100	7'-5"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	16	49'-7"	Str.
B905	16	36'-1"	Str.
B906	16	41'-0"	Str.
C501	5	2090'-0"	Spiral
C502	5	1091'-7"	Spiral
C503	5	5916'-11"	Spiral
C601	320	8'-0"	4½"
C602	40	10'-4"	4½"
C603	40	11'-7"	4½"
C604	200	13'-1"	4½"
C605	198	5'-6"	4½"
C606	132	8'-0"	4½"
C801	236	20'-6"	6"
C802	8	18'-1"	6"
C803	8	18'-6"	6"
C804	8	19'-4"	6"
C805	8	20'-9"	6"
C806	8	24'-2"	6"
C807	8	21'-3"	6"
C808	8	22'-3"	6"
C809	8	24'-5"	6"
C901	145	42'-10"	Str.
C902	20	30'-8"	---
C903	2	30'-6"	---
C904	2	28'-5"	---
C905	2	26'-4"	---
C906	2	24'-3"	---
C907	32	22'-9"	---
C908	120	53'-3"	Str.
C1001	210	19'-6"	Str.
(1) C1101	370	68'-2"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

△1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 4 OF 4
DETAILS OF BENT 8
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/23/2016 FILENAME: bbb0610s_b84.dgn
CHECKED BY: JOS DATE: 07/13/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58954

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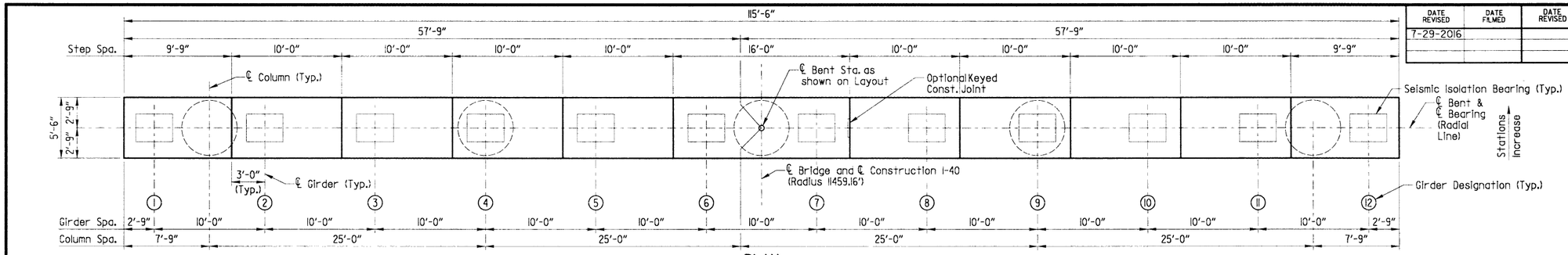
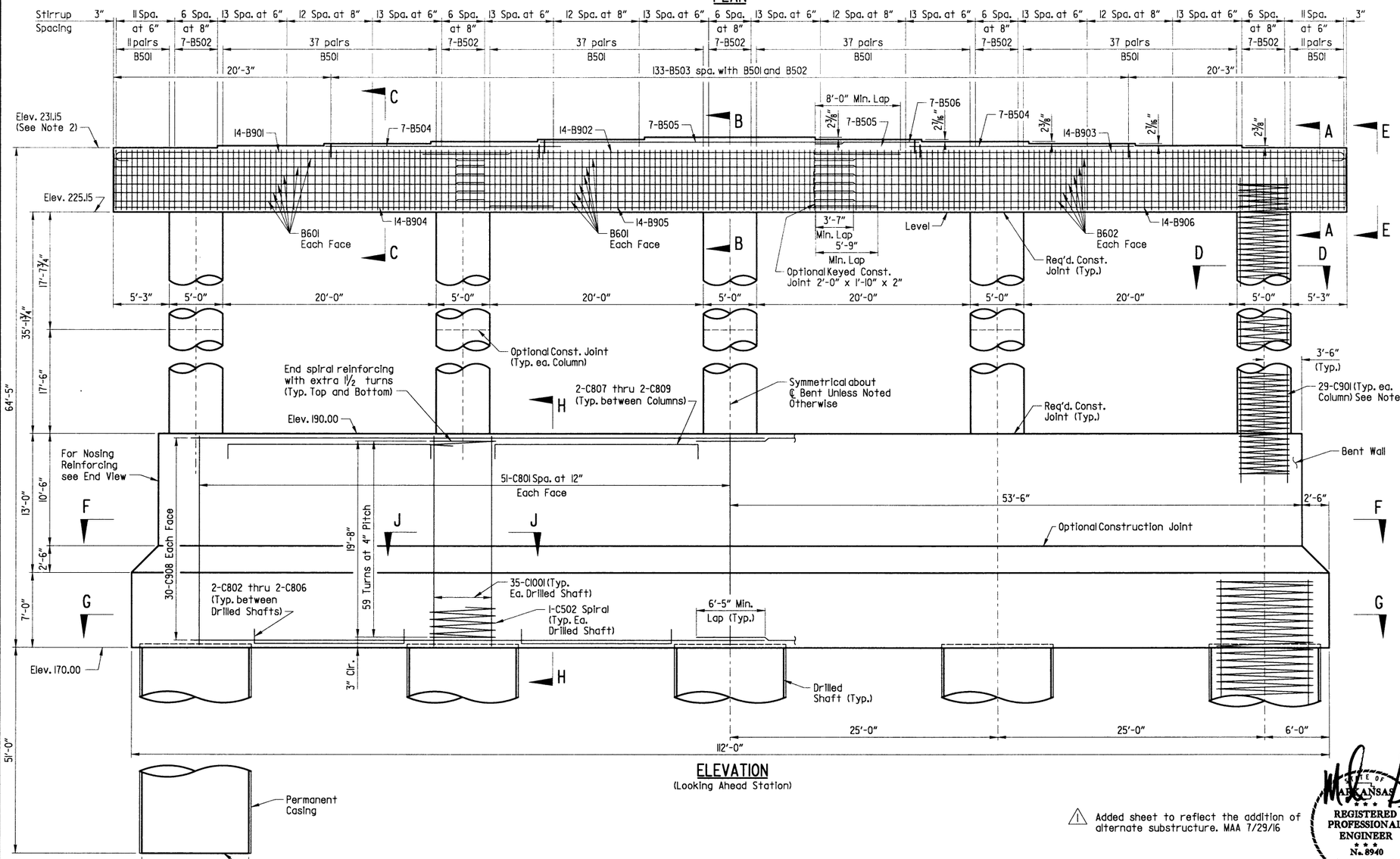
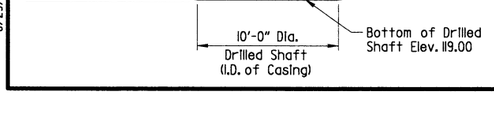


PLAN



ELEVATION
(Looking Ahead Station)



Notes:
1. For "Intermediate Bent Notes", and additional details, see Drawing No. 58958.
2. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.
3. No lap splice will be allowed for bars C901.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 4
DETAILS OF BENT 11
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/27/2016 FILENAME: bbb0610s_bbi.dgn
CHECKED BY: JOS DATE: 06/28/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 58955

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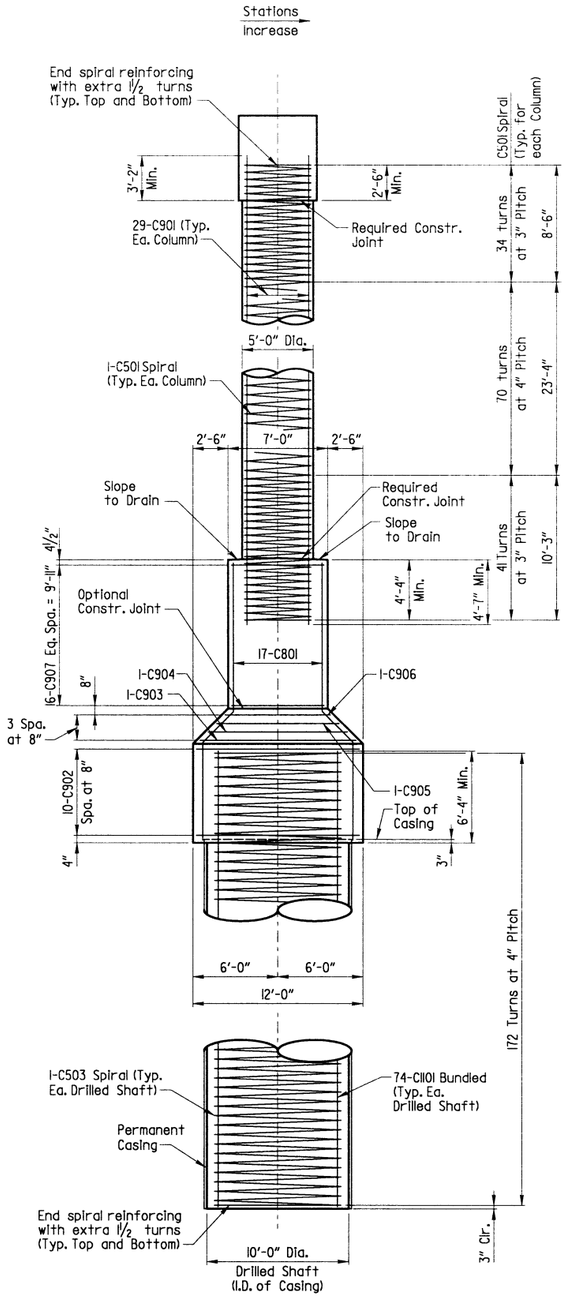
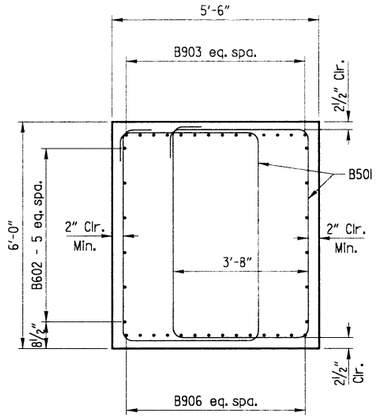
				JOB NO.		BB0610	212	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58956

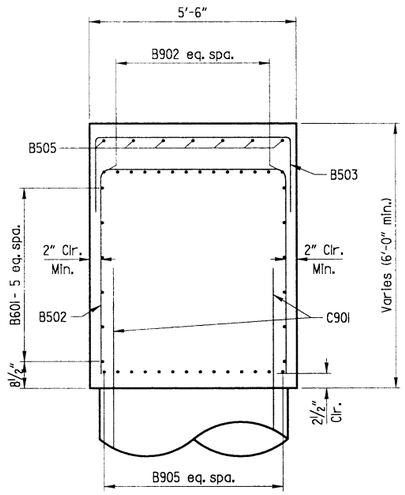


END VIEW



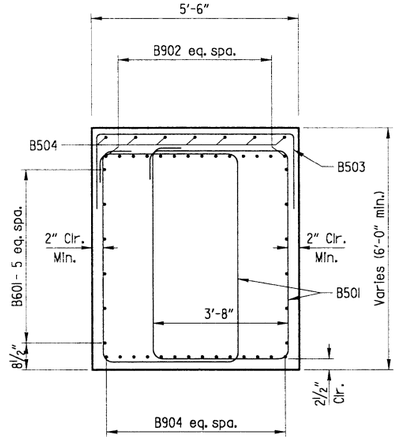
SECTION A-A

Scale: ½" = 1'-0"



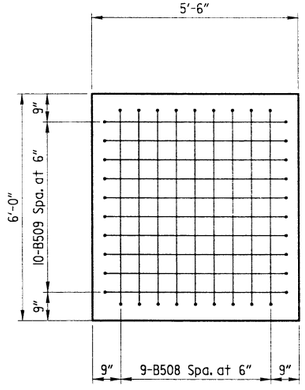
SECTION B-B

Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



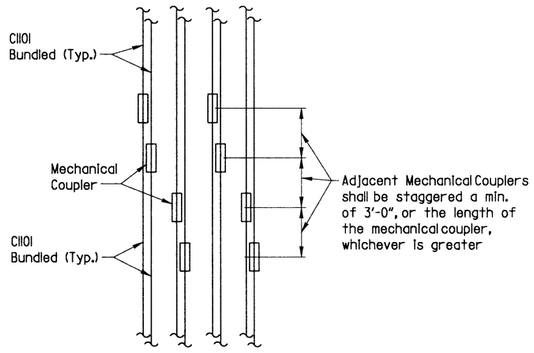
SECTION C-C

Scale: ½" = 1'-0"



VIEW E-E

Scale: ½" = 1'-0"



DRILLED SHAFT BAR SPLICE DETAIL

Scale: No Scale

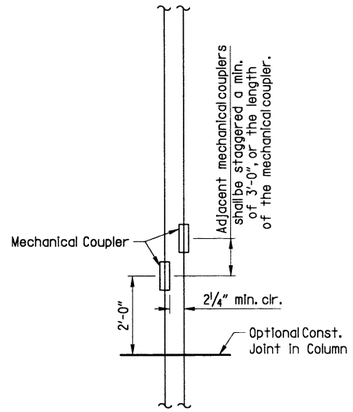
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

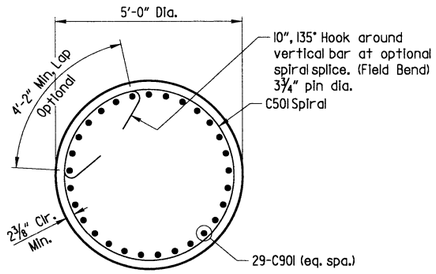
Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT" (120" Dia.). The couplers shall develop at least 125% of the specified yield strength of the bar.



OPTIONAL COLUMN BAR DETAIL

Scale: No Scale

Note: Mechanical couplers in the Column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION D-D

Scale: ½" = 1'-0"

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 4
DETAILS OF BENT II
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/23/16 FILENAME: bbb0610s_bb2.dgn
CHECKED BY: JOS DATE: 06/28/2016
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BRIDGE NO. 07343 DRAWING NO. 58956

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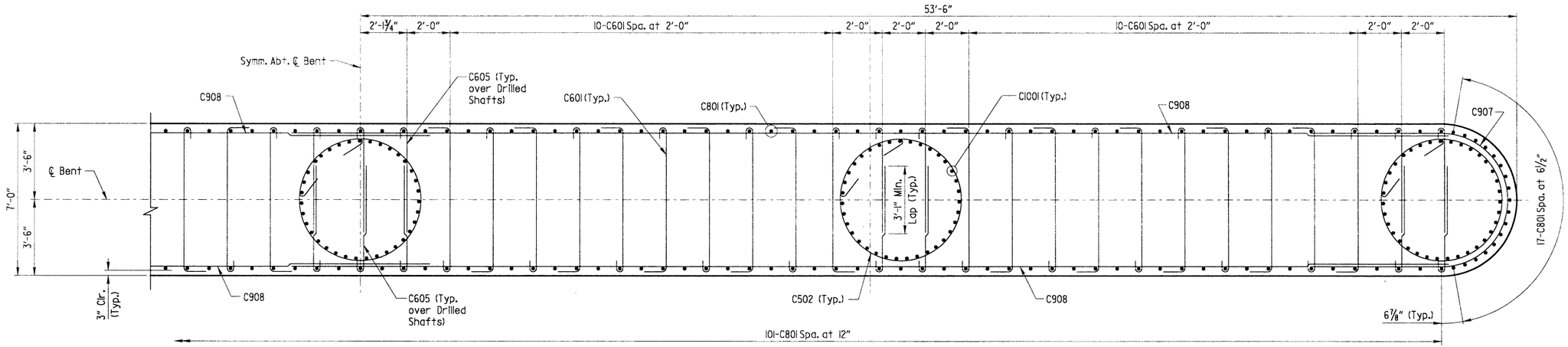
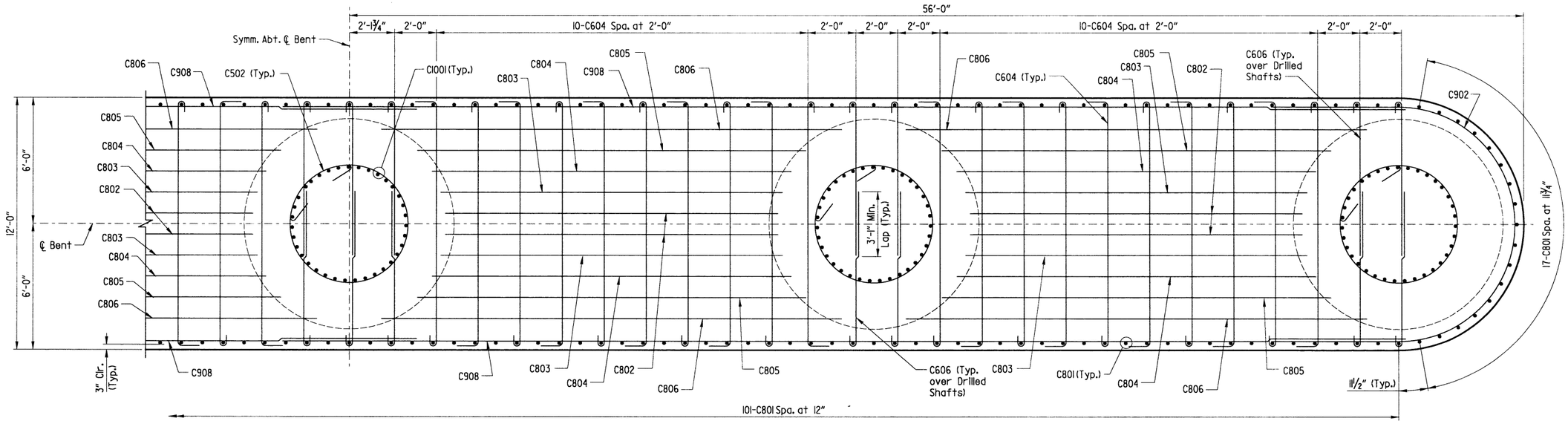


SECTION F-F

Scale ⅜" = 1'-0"



SECTION G-G

Scale ⅜" = 1'-0"

Note: Drilled Shaft Reinforcing not shown for clarity.

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 3 OF 4
DETAILS OF BENT II
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/23/2016 FILENAME: bbb0610s_bb3.dgn
CHECKED BY: JOS DATE: 06/28/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58957

JACOBS

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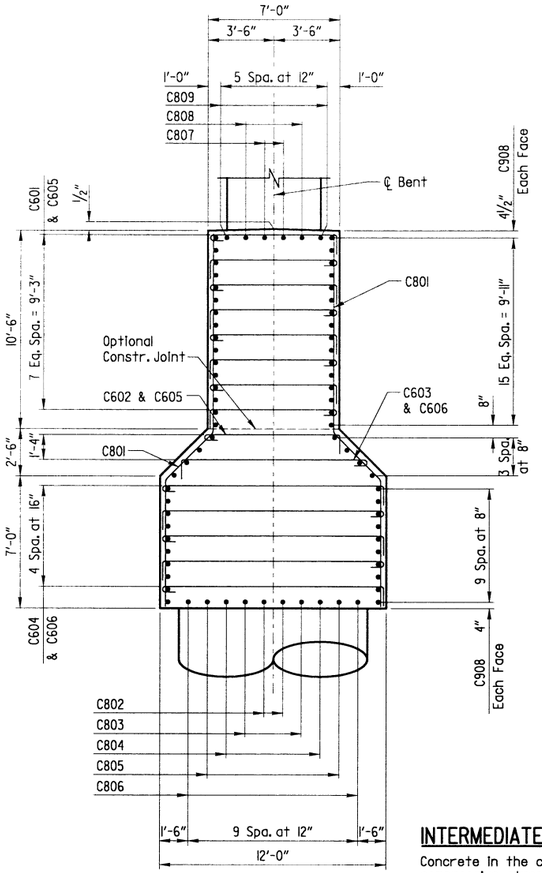
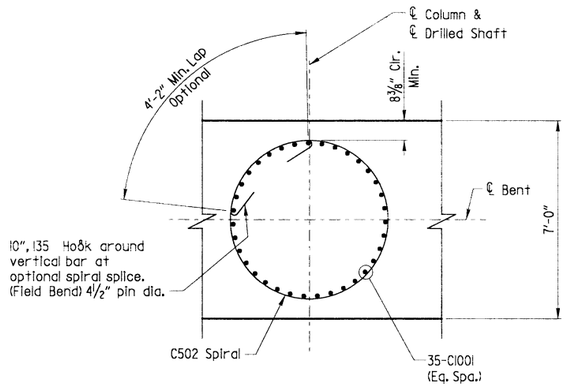
8/29/2016 10:00:50 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	214	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58958



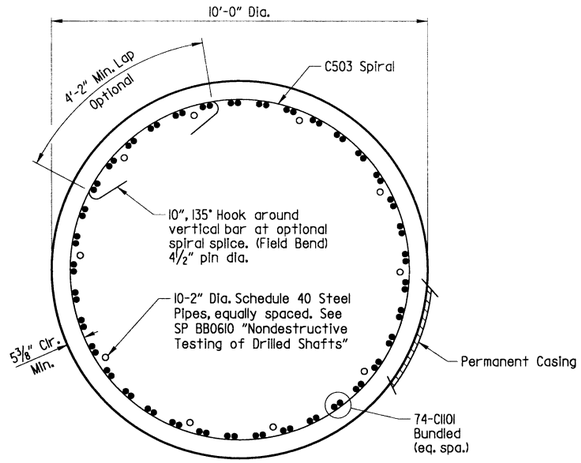
SECTION H-H

SCALE 1/4" = 1'-0"



SECTION J-J

Scale 3/8" = 1'-0"



SECTION THRU DRILLED SHAFT

Scale: 1/2" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.

INTERMEDIATE BENT NOTES

Concrete in the cap and columns shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". Concrete in the bent wall shall be Class "B" with a minimum 90 day compressive strength, f'c = 3,500 psi meeting the requirements of SP Job BB0610 "Class B Concrete - Bridge", "Class B Concrete for Structures", and Section 802. All Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report, Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to use a different number of spiral lapped splices per column. In no case shall a spiral be lapped within the top or bottom 1/4 of the column height or top 15' of the bent wall.

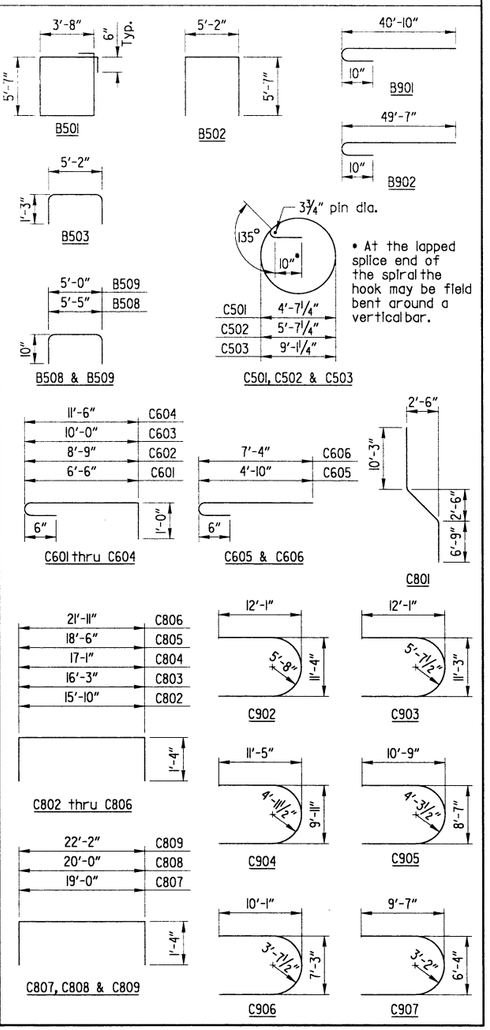
Spirals in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcement at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1 1/2 turns and a 135° hook with a 10" tail around a vertical bar.

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	340	19'-0"	2 1/2"
B502	35	16'-2"	2 1/2"
B503	133	7'-6"	2 1/2"
B504	14	21'-6"	Str.
B505	7	29'-10"	Str.
B506	7	9'-10"	Str.
B508	18	6'-10"	2 1/2"
B509	20	6'-5"	2 1/2"
B601	24	36'-5"	Str.
B602	12	49'-7"	Str.
B901	14	42'-1"	9"
B902	14	40'-10"	Str.
B903	14	50'-10"	9"
B904	14	41'-0"	Str.
B905	14	36'-1"	Str.
B906	14	49'-7"	Str.
C501	5	2118'-8"	Spiral
C502	5	1091'-7"	Spiral
C503	5	4978'-6"	Spiral
C601	320	8'-0"	4 1/2"
C602	40	10'-4"	4 1/2"
C603	40	11'-7"	4 1/2"
C604	200	13'-1"	4 1/2"
C605	198	5'-6"	4 1/2"
C606	132	8'-0"	4 1/2"
C801	236	20'-6"	6"
C802	8	18'-1"	6"
C803	8	18'-6"	6"
C804	8	19'-4"	6"
C805	8	20'-9"	6"
C806	8	24'-2"	6"
C807	8	21'-3"	6"
C808	8	22'-3"	6"
C809	8	24'-5"	6"
C901	145	42'-10"	Str.
C902	20	30'-8"	---
C903	2	30'-6"	---
C904	2	28'-5"	---
C905	2	26'-4"	---
C906	2	24'-3"	---
C907	32	22'-9"	---
C908	120	53'-3"	Str.
C1001	175	19'-6"	Str.
(1) C1101	370	57'-2"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

⚠ Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 4 OF 4
DETAILS OF BENT II
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: SGK DATE: 06/23/2016 FILENAME: bbb0610s_bb4.dgn
CHECKED BY: JOS DATE: 07/13/2016
DESIGNED BY: SSS DATE: 06/16/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58958

JACOBS

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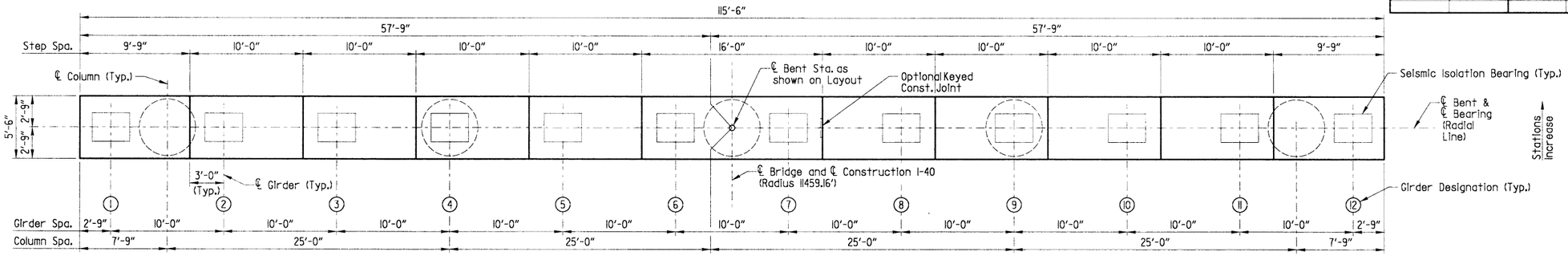
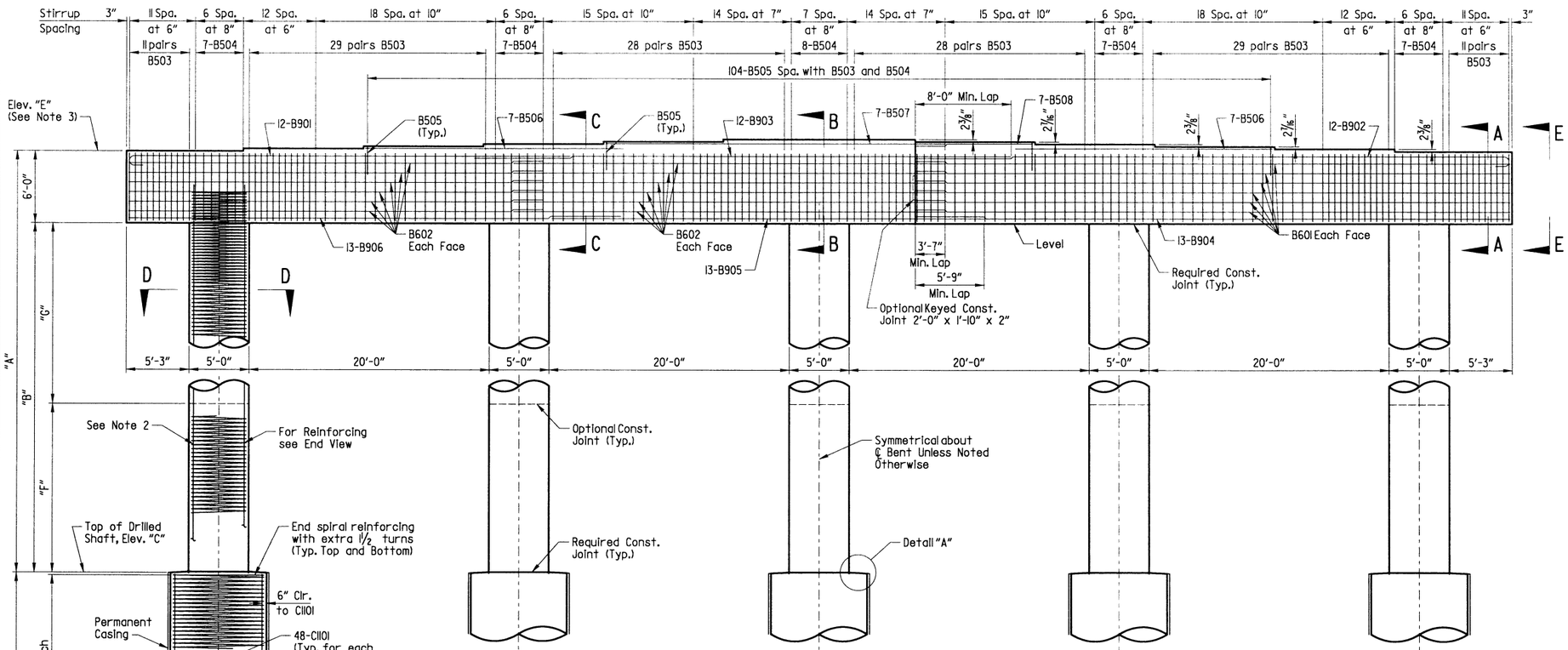
8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

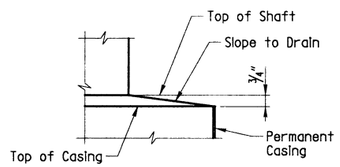
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	215	262
(1) 07343	-	INTERMEDIATE BENTS	-	58959



PLAN

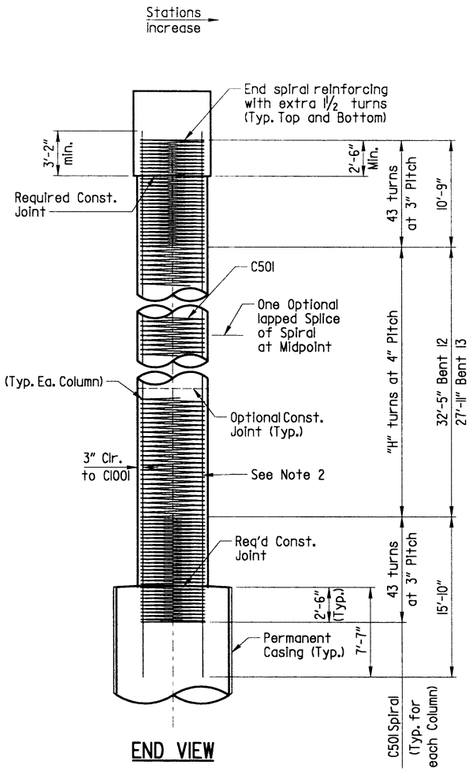


ELEVATION
(Looking Ahead Station)



DETAIL "A"

TABLE OF VARIABLES		
VARIABLE	BENT 12	BENT 13
"A"	54'-11"	50'-5"
"B"	48'-11"	44'-5"
Elev. "C"	172.54	172.65
Elev. "E"	227.46	223.07
"F"	24'-6"	22'-6"
"G"	24'-5"	22'-11"
"H"	98	84
"J"	2675'-11"	2475'-9"
"K"	59'-8"	55'-2"
"L"	99.54	99.65
"M"	72'-8"	72'-8"
"N"	4898'-1"	4898'-1"



END VIEW

Notes:
1. For "Intermediate Bent Notes, Sections, and additional details, see Drawing No. 58960.

2. No lap splice will be allowed for bars C1001.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENTS 12 & 13
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/28/2014
CHECKED BY: DMS DATE: 06/28/2016
DESIGNED BY: SSS DATE: 06/28/2016
FILENAME: bbb0610s_bcl.dgn
SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343
DRAWING NO. 58959

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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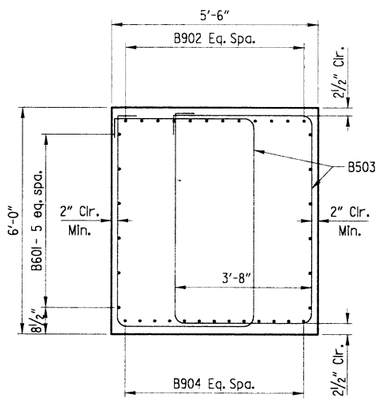
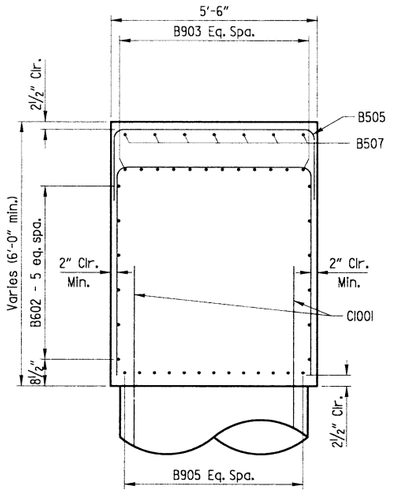
				JOB NO.		BB0610	216	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58960

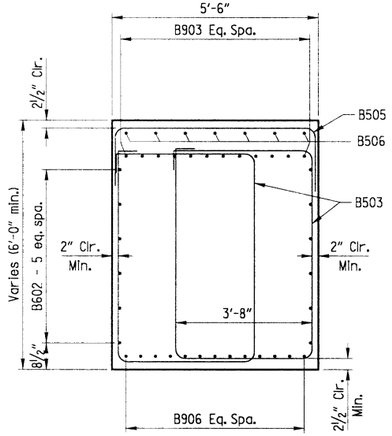


SECTION A-A
Scale: ½" = 1'-0"

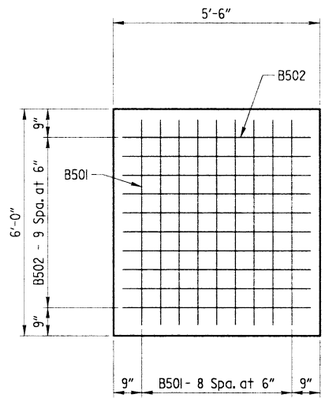


SECTION B-B
Scale: ½" = 1'-0"

Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



SECTION E-E
Scale: ½" = 1'-0"

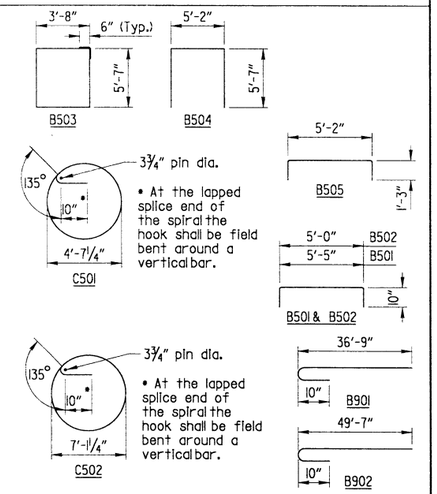
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	272	19'-0"	2½"
B504	36	16'-2"	2½"
B505	104	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	12	42'-1"	9"
B902	12	50'-10"	9"
B903	12	40'-10"	Str.
B904	13	49'-7"	Str.
B905	13	36'-1"	Str.
B906	13	41'-0"	Str.
C501	5	"J"	Spiral
C502	5	"N"	Spiral
(1) C1001	145	"K"	Str.
(1) C1101	240	"M"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



Note: For table of variables, see Drawing No. 58959.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shallbe Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

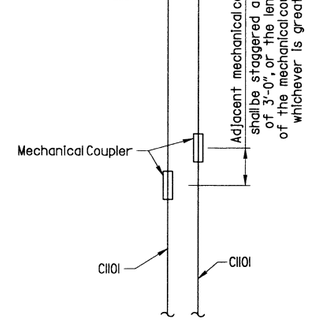
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.



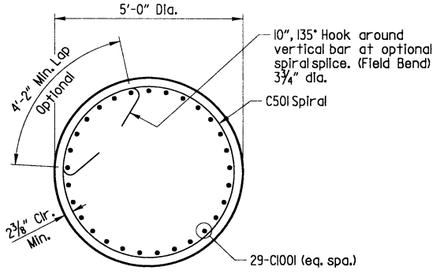
DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

MECHANICAL COUPLER AND SPLICE NOTES:

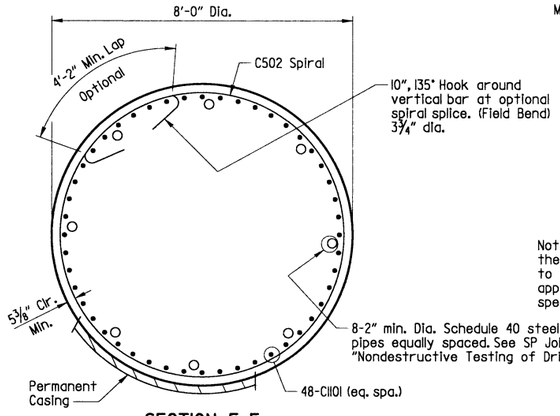
Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.
The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (96" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.

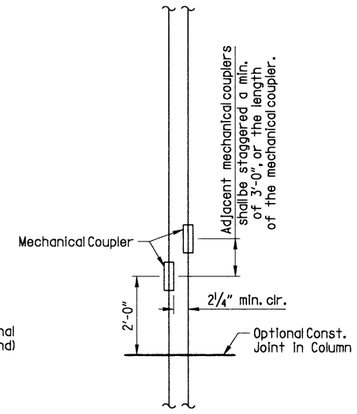


SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
8/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENTS 12 & 13
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610s_bc2.dgn
CHECKED BY: DMS DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/29/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58960

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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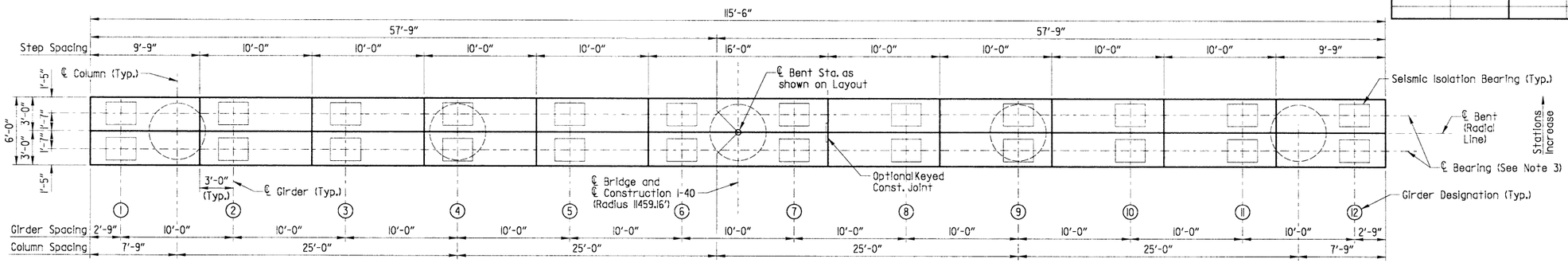
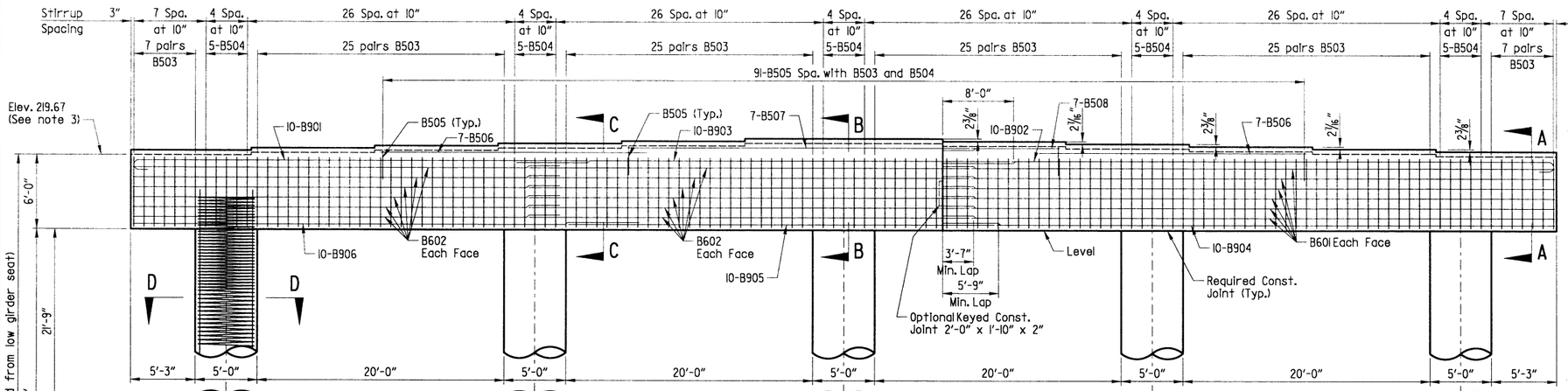
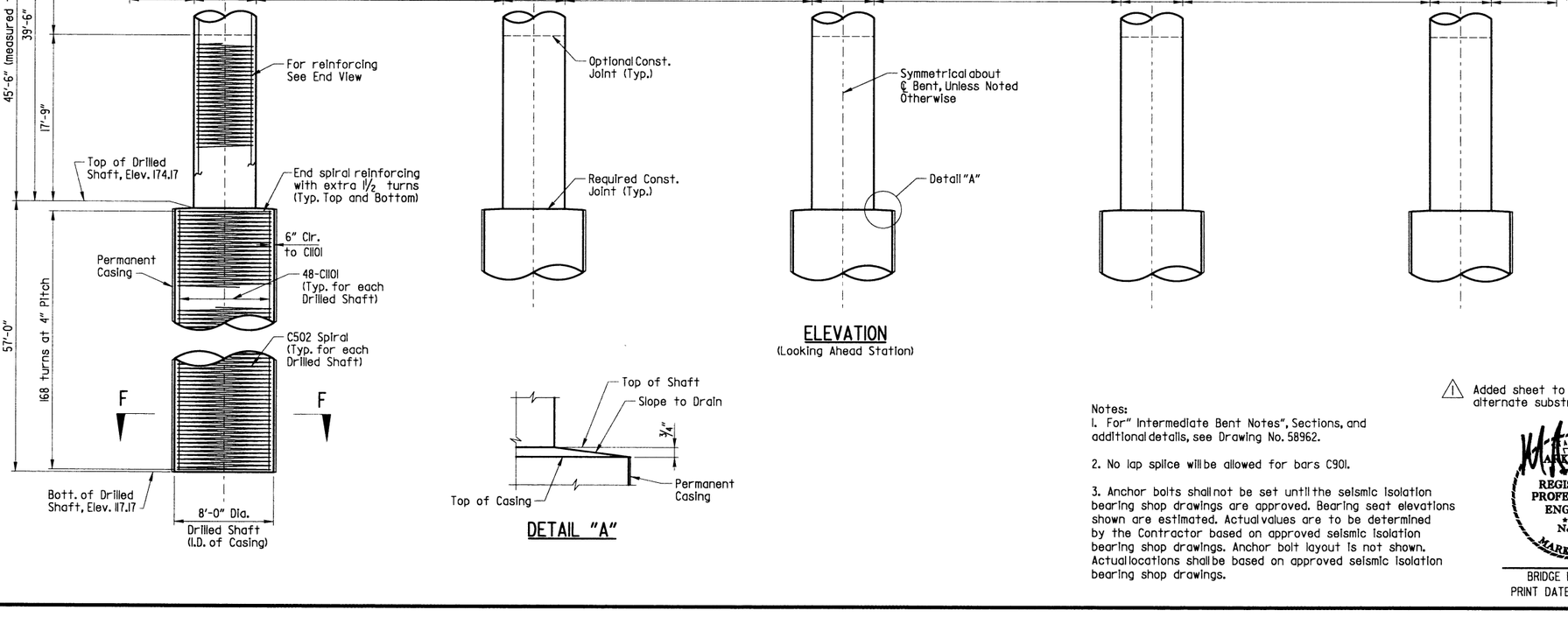
				JOB NO.		BB0610	217	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58961



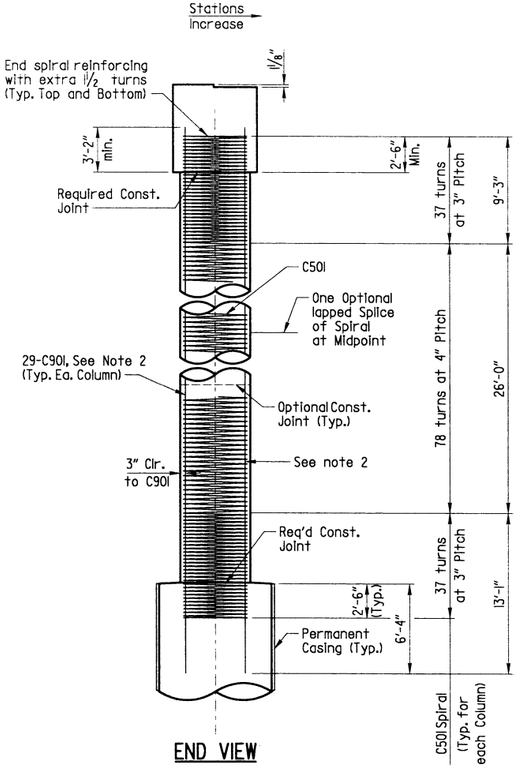
PLAN





ELEVATION
(Looking Ahead Station)

DETAIL "A"



END VIEW

Notes:
1. For" Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58962.

2. No lap splice will be allowed for bars C901.

3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

⚠1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8940 MARK ASHER 7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENT 14
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	EAK	DATE:	01/30/2015	FILENAME:	bbb0610s_bei.dgn
CHECKED BY:	DMS	DATE:	06/27/2016		
DESIGNED BY:	SSS	DATE:	06/29/2016	SCALE:	3/16" = 1'-0"
BRIDGE NO. 07343			DRAWING NO. 58961		

JACOBS

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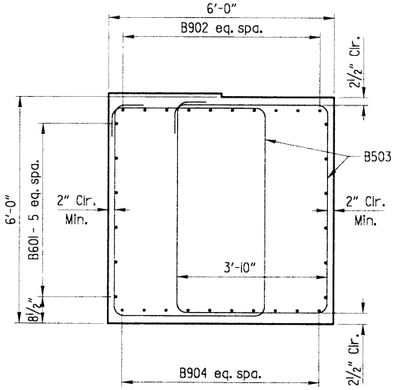
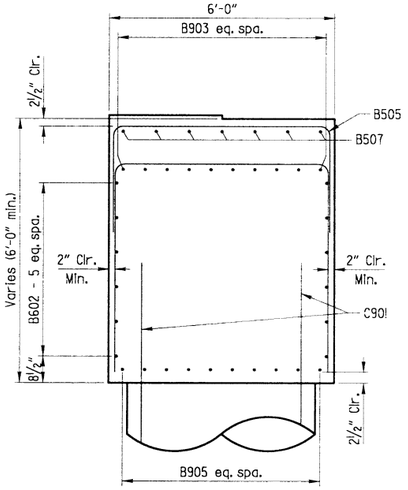
8/29/2016

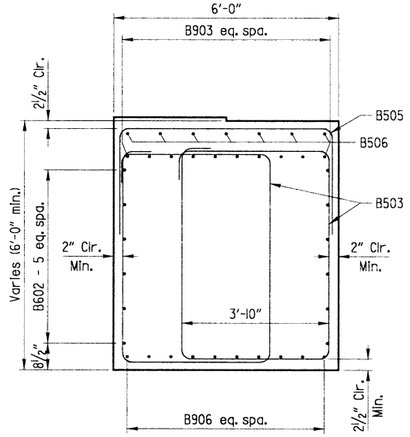
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
7-29-2016				6	ARK.			
				JOB NO.		BB0610	218	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58962



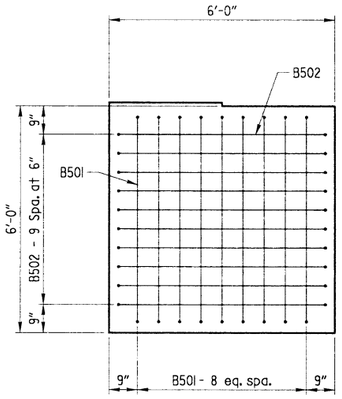
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



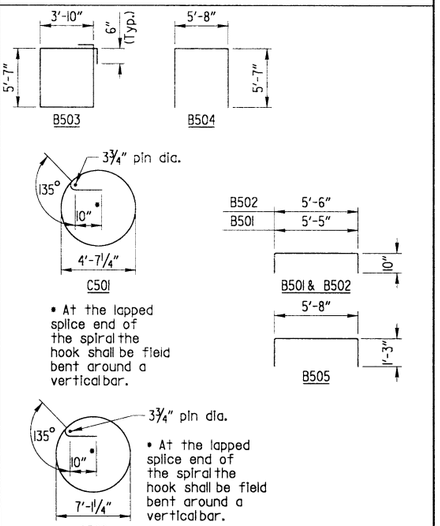
SECTION E-E
Scale: ½" = 1'-0"
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

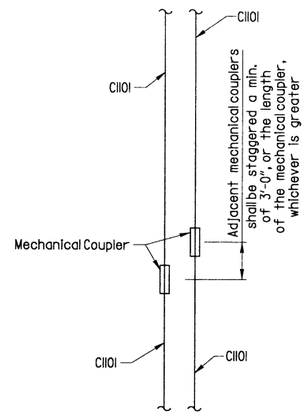
(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	228	19'-4"	2½"
B504	25	16'-7"	2½"
B505	91	8'-0"	2½"
B506	14	2'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B509	7	9'-10"	Str.
B601	12	49'-5"	Str.
B602	24	36'-5"	Str.
B901	10	42'-1"	9"
B902	10	50'-10"	9"
B903	10	40'-10"	Str.
B904	10	49'-7"	Str.
B905	10	36'-1"	Str.
B906	10	41'-0"	Str.
C501	5	2218'-4"	Spiral
(1) C502	5	3834'-7"	Spiral
C901	145	48'-5"	Str.
(1) C1101	240	56'-8"	Str.

Bending Diagrams
Dimensions shown are out to out of bars





DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

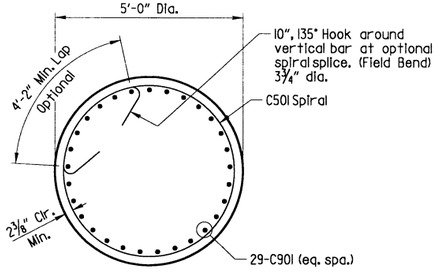
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

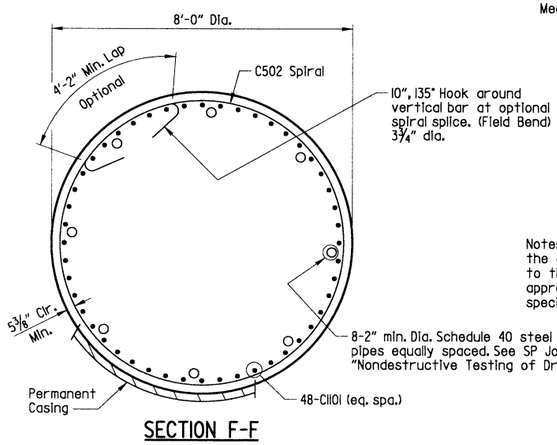
The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

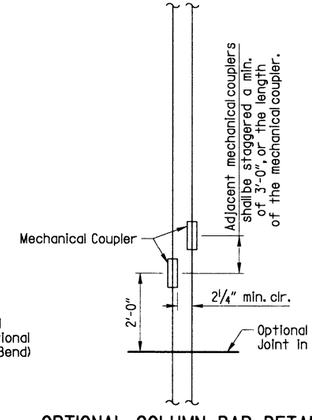
Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (96" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.



SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"
Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16

BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENT 14
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014 FILENAME: bbb0610s_be2.dgn
CHECKED BY: DMS DATE: 06/29/2016
DESIGNED BY: SSS DATE: 06/29/2016 SCALE: AS NOTED
BRIDGE NO. 07343 DRAWING NO. 58962

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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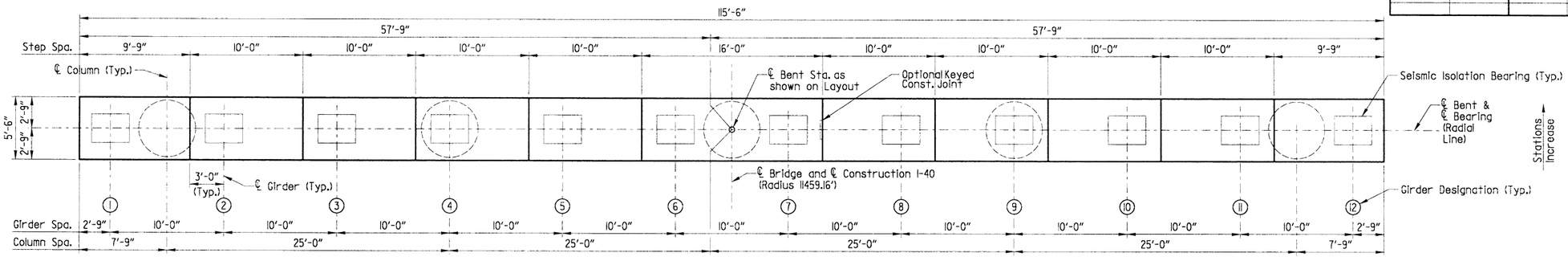
				JOB NO.		BB0610	219	262
				1	07343 - INTERMEDIATE BENTS -			58963



PLAN

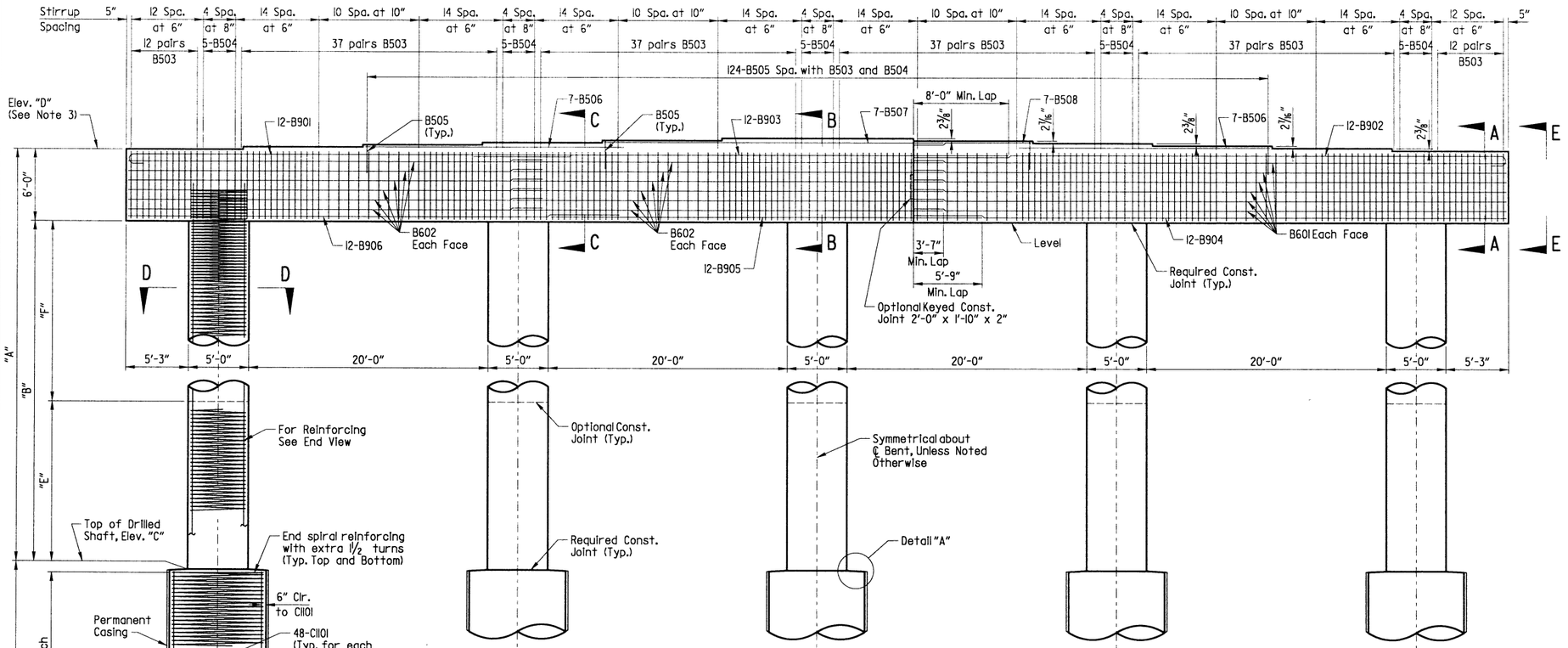
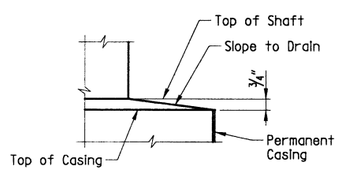
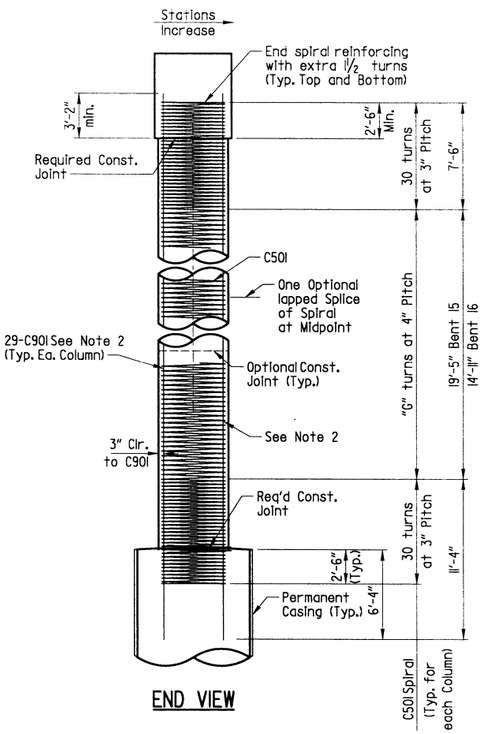


TABLE OF VARIABLES		
Variable	BENT 15	BENT 16
"A"	35'-5"	30'-11"
"B"	29'-5"	24'-11"
Elev. "C"	180.65	180.83
Elev. "D"	216.07	211.75
"E"	15'-0"	13'-0"
"F"	14'-5"	11'-11"
"G"	58	45
"J"	1732'-1"	1546'-2"
"K"	38'-11"	34'-5"
"L"	117.65	117.83
"M"	62'-8"	62'-8"
"N"	4233'-5"	4233'-5"

ELEVATION
(Looking Ahead Station)



DETAIL "A"



END VIEW

Notes:
1. For "Intermediate Bent Notes", Sections, and additional details, see Drawing No. 58964.
2. No lap splice will be allowed for bars C901.
3. Anchor bolts shall not be set until the seismic isolation bearing shop drawings are approved. Bearing seat elevations shown are estimated. Actual values are to be determined by the Contractor based on approved seismic isolation bearing shop drawings. Anchor bolt layout is not shown. Actual locations shall be based on approved seismic isolation bearing shop drawings.

1 Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 1 OF 2
DETAILS OF BENTS 15 & 16
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/24/2014 FILENAME: bbb0610s_bfl.dgn
CHECKED BY: DMS DATE: 06/25/2016
DESIGNED BY: SSS DATE: 06/24/2016 SCALE: 3/16" = 1'-0"
BRIDGE NO. 07343 DRAWING NO. 58963

JACOBS

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8/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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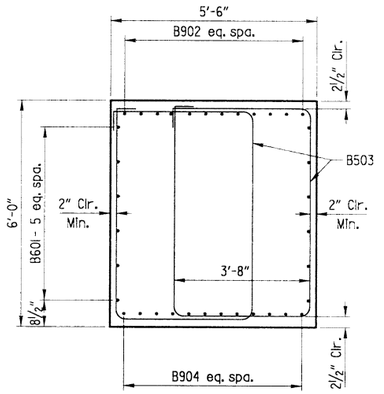
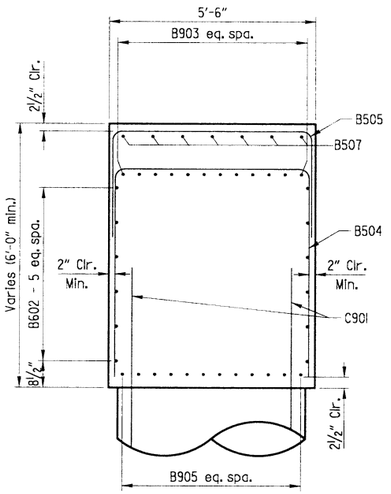
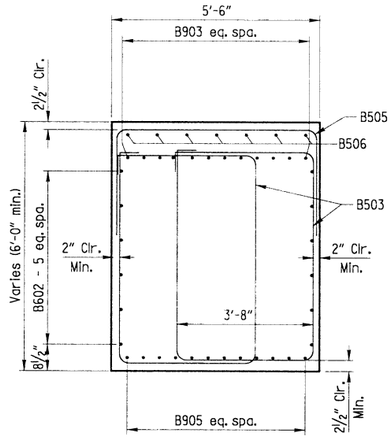
				JOB NO.		BB0610	220	262
				(1) 07343	-	INTERMEDIATE BENTS	-	58964



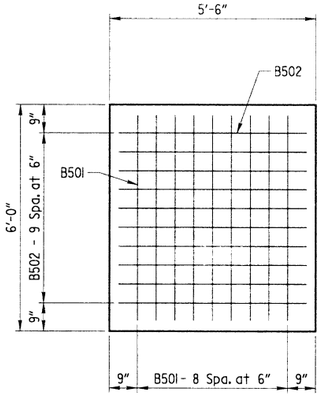
SECTION A-A
Scale: ½" = 1'-0"



SECTION B-B
Scale: ½" = 1'-0"
Note: Spiral bar C501 not shown for clarity.



SECTION C-C
Scale: ½" = 1'-0"



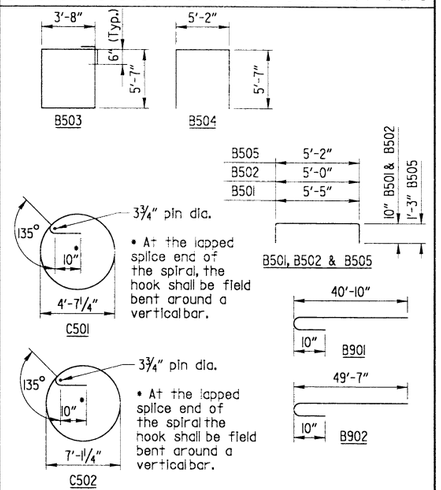
VIEW E-E
Scale: ½" = 1'-0"
End cap reinforcement shown, see Section A-A for similar reinforcement not shown.

(1) Non-pay item - Subsidiary to SP Job BB0610 "Drilled Shaft Foundations"

BAR LIST - PER BENT

Mark	No. Req'd	Length	Pin Dia.
B501	18	6'-10"	2½"
B502	20	6'-5"	2½"
B503	344	19'-0"	2½"
B504	25	16'-2"	2½"
B505	124	7'-6"	2½"
B506	14	21'-6"	Str.
B507	7	29'-10"	Str.
B508	7	9'-10"	Str.
B601	12	49'-7"	Str.
B602	24	36'-5"	Str.
B901	12	42'-1"	9"
B902	12	50'-10"	9"
B903	12	40'-10"	Str.
B904	12	49'-7"	Str.
B905	12	36'-1"	Str.
B906	12	41'-0"	Str.
C501	5	"J"	Spiral
C502	5	"N"	Spiral
C901	145	"K"	Str.
(1) C1101	240	"M"	Str.

Bending Diagrams
Dimensions shown are out to out of bars



Note: For table of variables, see Drawing No. 58963.

INTERMEDIATE BENT NOTES

All concrete in cap and columns shall be Class "S" with a minimum 28 day compressive strength, f'c = 3,500 psi. Class "S" Concrete shall be poured in the dry and all exposed corners to be chamfered ¾" unless otherwise noted. Concrete in the Drilled Shafts shall be Class "S" as modified by SP Job BB0610 "Drilled Shaft Foundations". All reinforcing steel shall conform to AASHTO M31 or M322, Type A, with mill test report. Grade 60 (yield strength = 60,000 psi.).

If anchor bolts are drilled into cap, top reinforcing bars shall be properly placed to avoid damage.

For additional information see layout.

Spiral reinforcing shall be plain round or deformed steel bars meeting the requirements of AASHTO M31 or M322, Type A with mill test report (Grade 60) or shall be cold drawn wire meeting the requirements of AASHTO M32 or M225 (Grade 70) with a minimum diameter of 0.625".

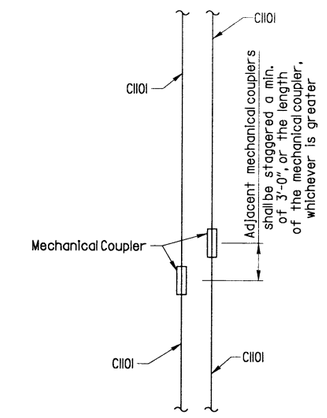
Spiral reinforcement shall be paid for at the contract unit price bid per pound for "Reinforcing Steel-Bridge (Grade 60)". No additional payment shall be made for spacers, optional splices, or bracing needed for assembly, shipping, handling, or erecting.

Contractor may elect to lap splice the spiral reinforcing. In no case shall a spiral be lapped within 6'-6" of the top or bottom of the column.

Splices in spiral reinforcing shall be lapped a minimum of 80 bar diameters.

Spiral reinforcing at lapped splices shall be terminated by a 135° hook with a 10" tail around a vertical bar. Hook may be field bent. Ends of spirals not lapped shall be terminated with 1½ turns and a 135° hook with a 10" tail around a vertical bar.

The column reinforcing cage, consisting of bars C501 and C901 may be placed before or after concrete placement in the shafts is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.



DRILLED SHAFT BAR SPLICE DETAIL
Scale: No Scale

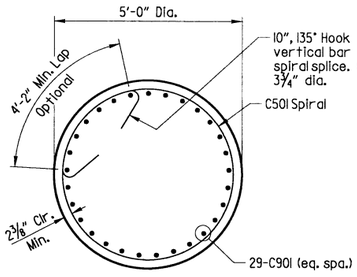
MECHANICAL COUPLER AND SPLICE NOTES:

Contractor shall be required to use Mechanical couplers to splice reinforcing bars whose lengths given in the Bar List exceeds 60'-0". The bars shall be assembled as shown in "DRILLED SHAFT BAR SPLICE DETAIL".

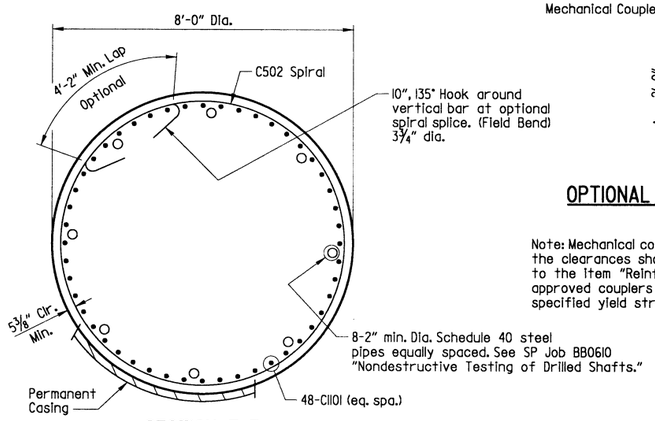
The contractor may choose location of splices for convenience so long as no bar to be spliced is less than 5'-0" in length and no closer than 10'-0" from top of shaft.

The contractor may also elect to splice bars whose lengths are less than 60'-0" to provide ease of construction so long as the previously mentioned requirements are met.

Mechanical couplers shall conform to the requirements of SP JOB BB0610 "SPLICING REINFORCING STEEL" and shall maintain the clearances shown in "DRILLED SHAFT BAR SPLICE DETAIL". Not more than alternate bars shall be spliced at a given location. Payment for mechanical couplers shall be subsidiary to the item "DRILLED SHAFT (96" Dia.)". The couplers shall develop at least 125% of the specified yield strength of the bar.

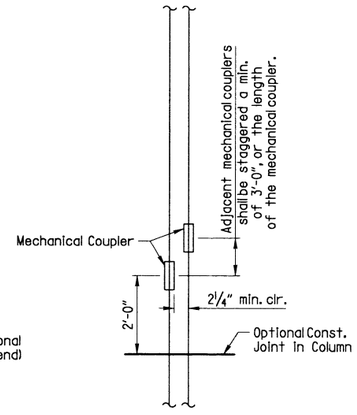


SECTION D-D
Scale: ½" = 1'-0"



SECTION F-F
Scale: ½" = 1'-0"

Note: Crosshole Sonic Logging tubes to be located by nearest longitudinal bar while maintaining required minimum clearance with longitudinal steel.



OPTIONAL COLUMN BAR DETAIL
Scale: No Scale

Note: Mechanical couplers in the column shall maintain the clearances shown. Their payment shall be subsidiary to the item "Reinforcing Steel-Bridge (Grade 60)". The QPL approved couplers shall develop at least 125% of the specified yield strength of the bar.

(1) Added sheet to reflect the addition of alternate substructure. MAA 7/29/16

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8940
MARK ASHER
7/29/16
BRIDGE ENGINEER
PRINT DATE: 8/29/2016

ALTERNATE NO. 2
SHEET 2 OF 2
DETAILS OF BENTS 15 & 16
BRIDGE OVER WHITE RIVER
PRAIRIE COUNTY
ROUTE 40 SECTION 42
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: EAK DATE: 10/29/2014
CHECKED BY: DMS DATE: 06/30/2016
DESIGNED BY: SSS DATE: 06/29/2016
FILENAME: bbb0610s_bf2.dgn
SCALE: AS NOTED
BRIDGE NO. 07343
DRAWING NO. 58964

JACOBS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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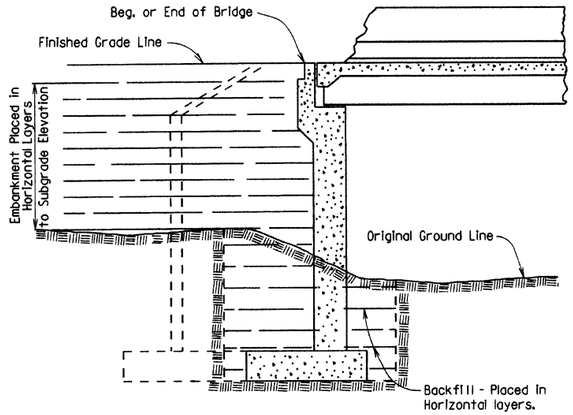
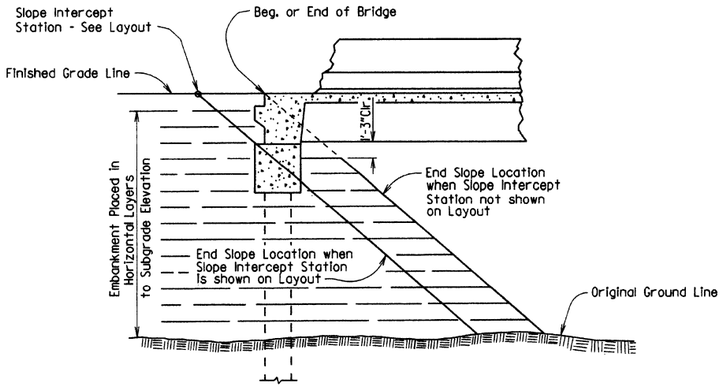
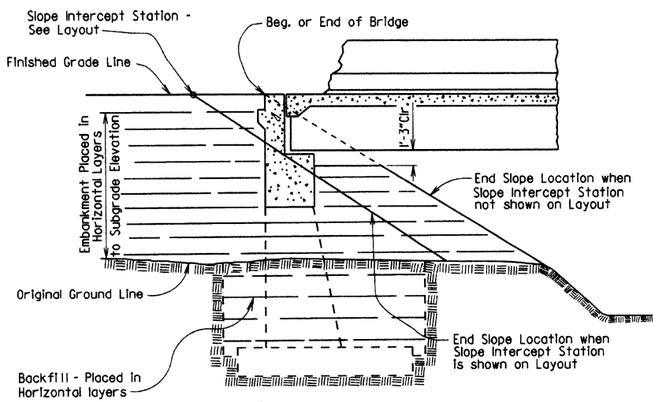


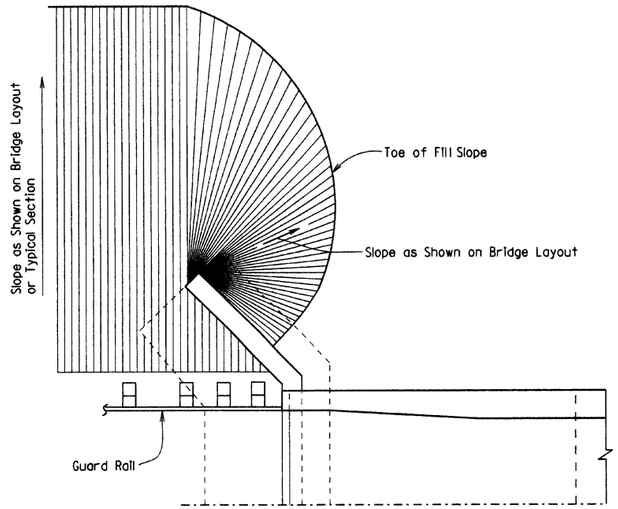
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



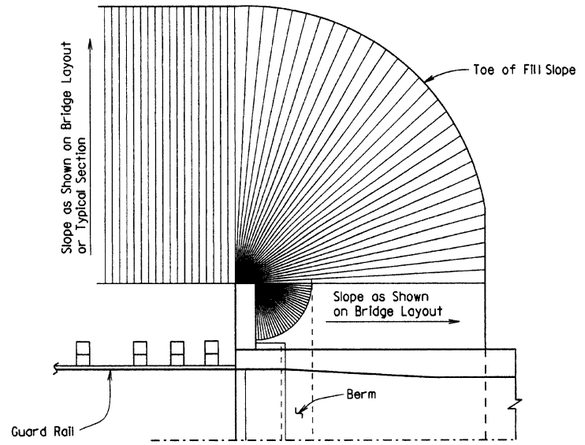
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



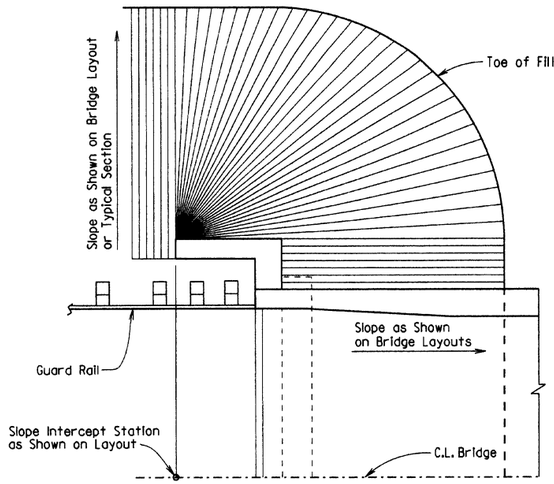
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



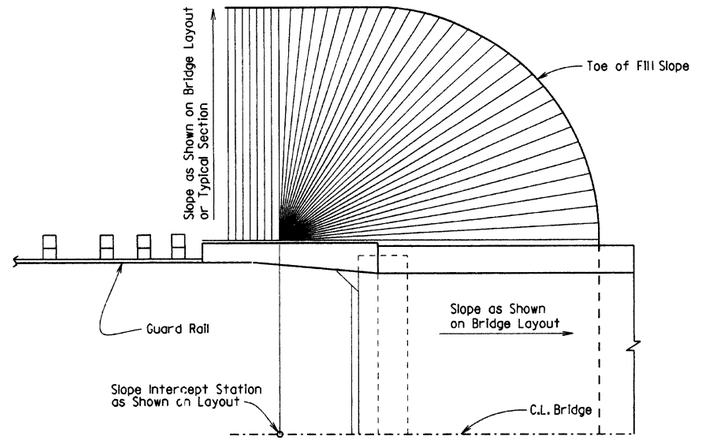
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

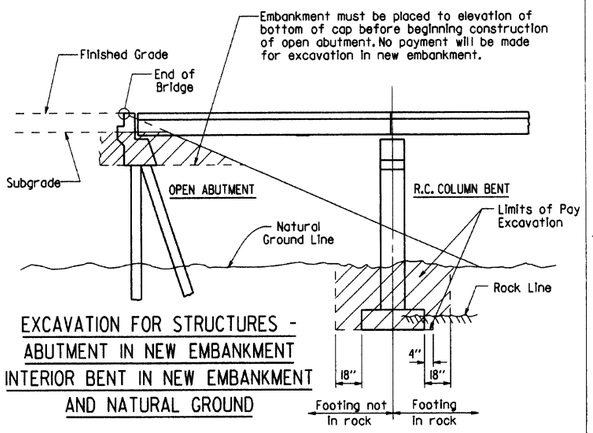
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

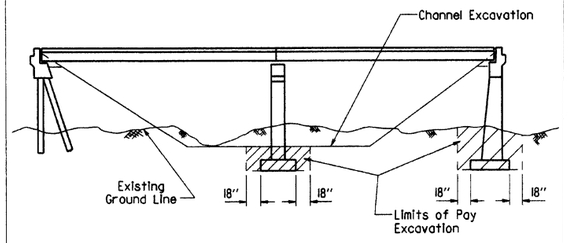
DRAWING NO. 55000

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		22	
				JOB NO.				

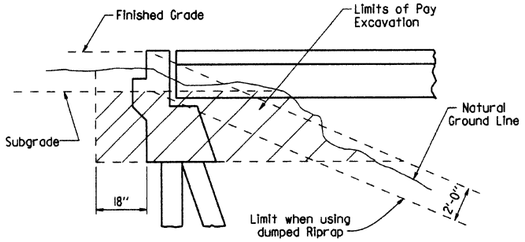
(1) RIPRAP & EXCAV. 55001



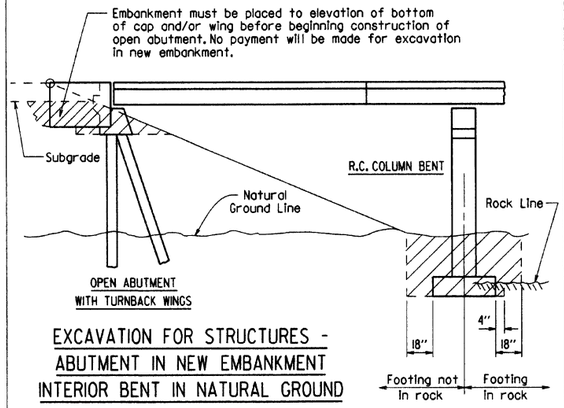
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



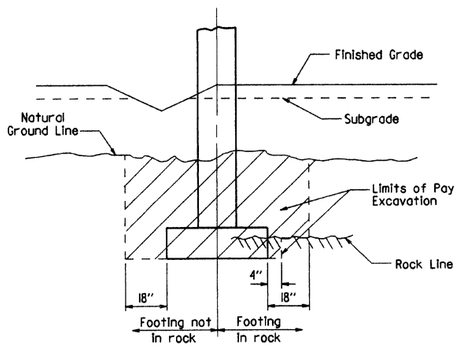
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



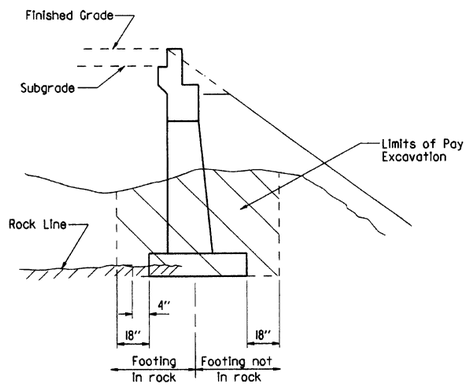
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



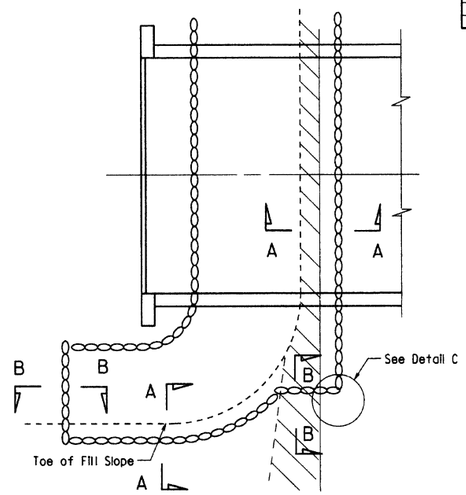
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



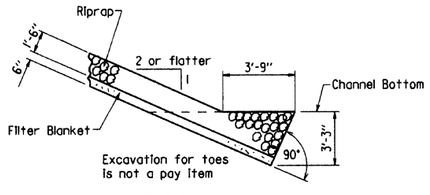
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

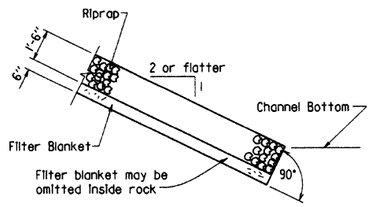


PLAN OF DUMPED RIPRAP



SECTION A-A

(Toe Excavation in Soil)



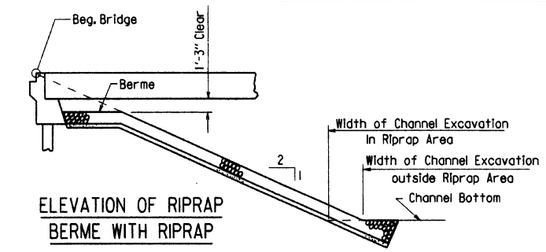
SECTION A-A

(Toe Excavation in Rock)

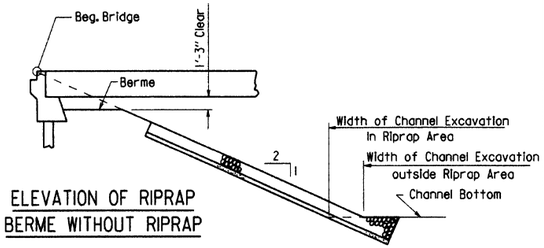
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

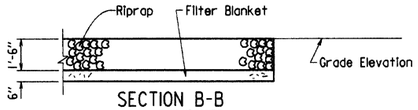
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



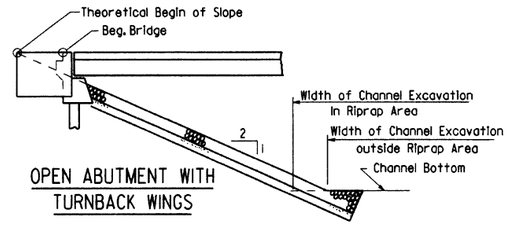
ELEVATION OF RIPRAP BERME WITH RIPRAP



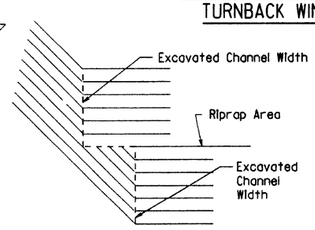
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

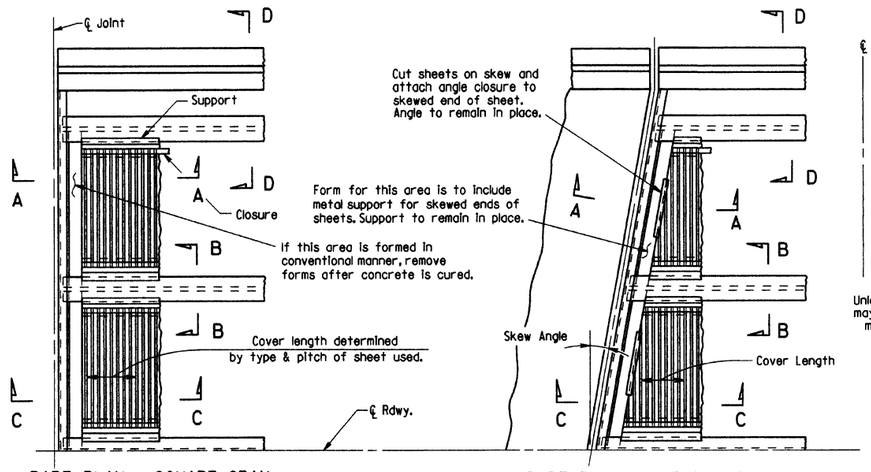
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b5500l.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.		223	
				JOB NO.				
				① BRIDGE DECK FORMS		55005		

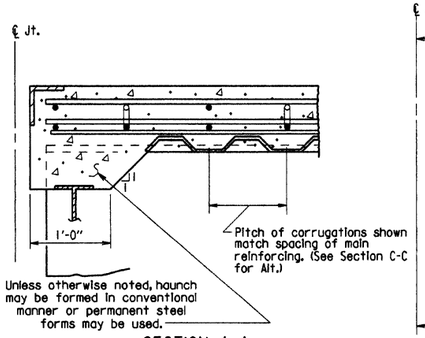


PART PLAN - SQUARE SPAN

⅜" = 1'-0"

PART PLAN - SKEWED SPAN

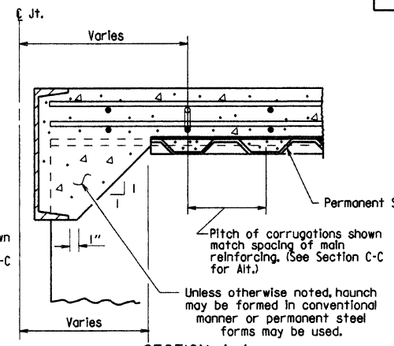
⅜" = 1'-0"



SECTION A-A

N.T.S.

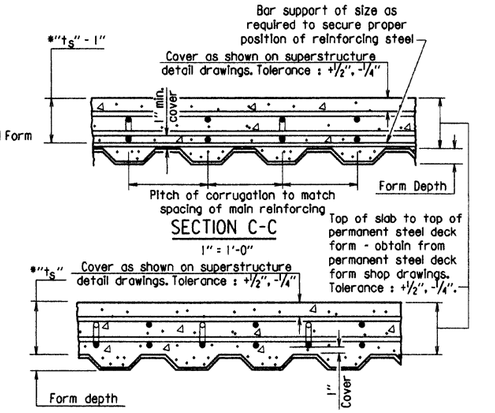
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



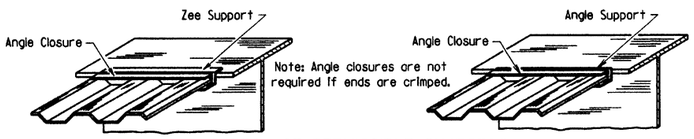
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

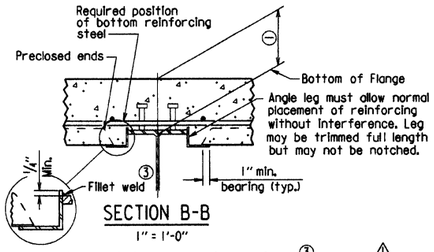
1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

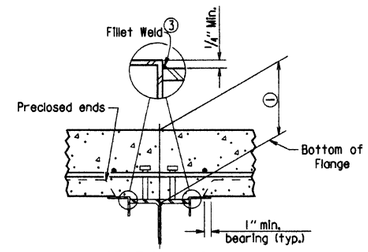


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

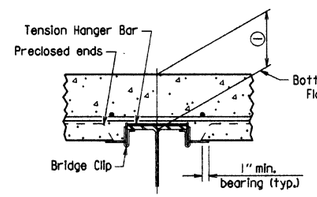
③ ⚠ Minimum weld: ⅛" x 1" @ 18". More weld may be required; maximum length per weld = 1½" (typ.)



SECTION B-B

1" = 1'-0"

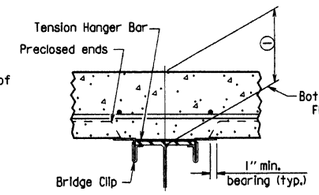
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

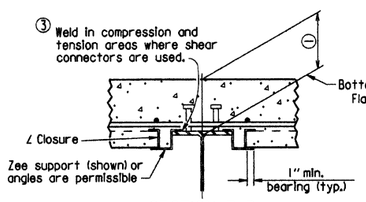
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

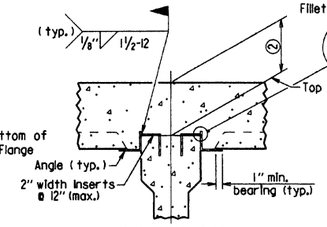
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

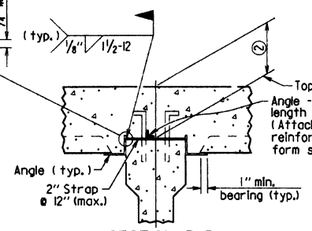


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

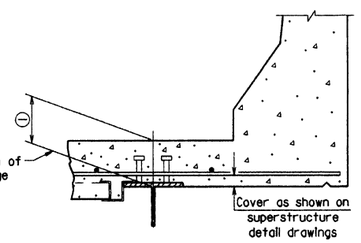


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1¾" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

*t_s = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition), with applicable Supplemental Specifications and Special Provisions.

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE

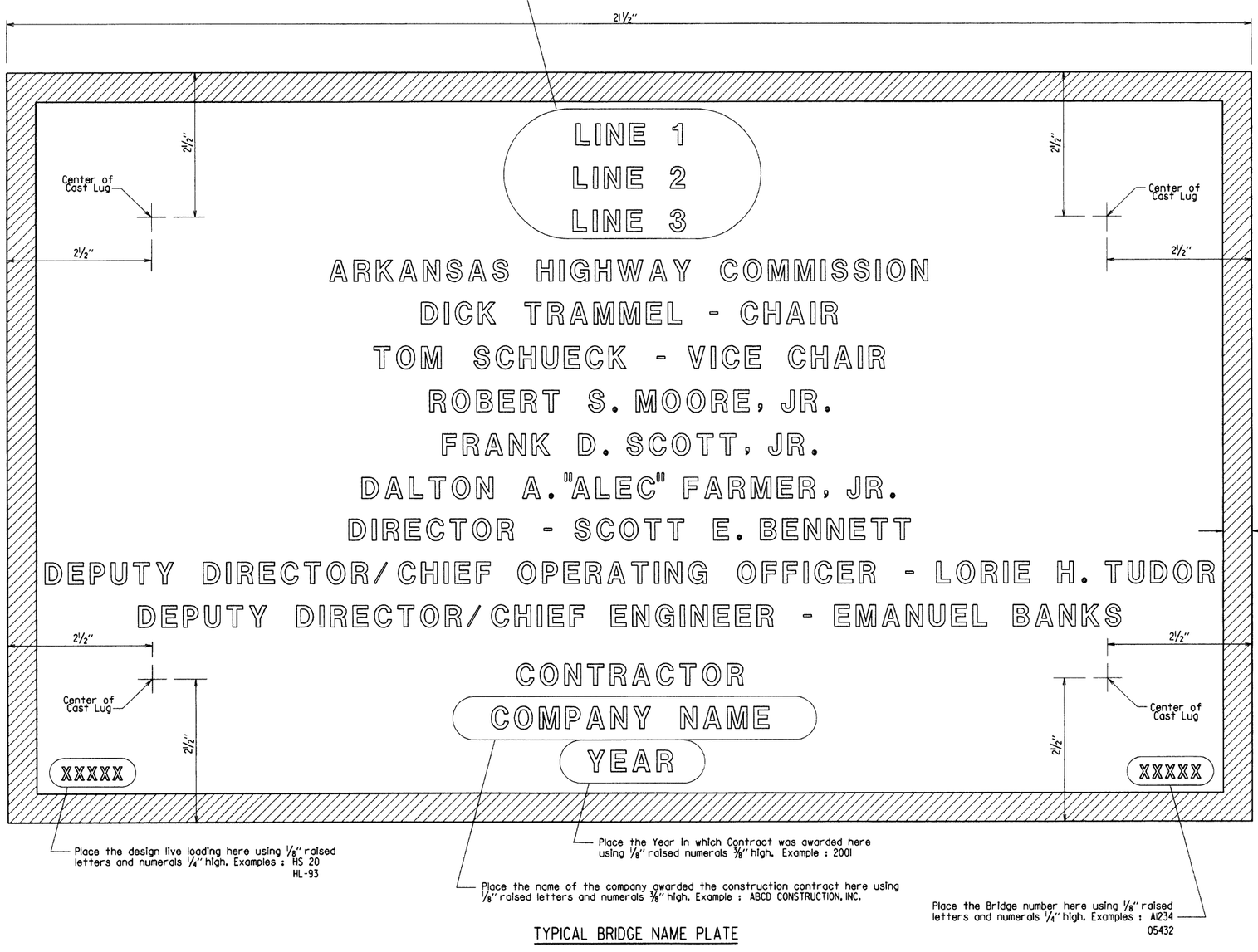
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14				6	ARK.		224	
1-14-15				JOB NO.				
				① TYPE D NAME PLATE			55010	

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



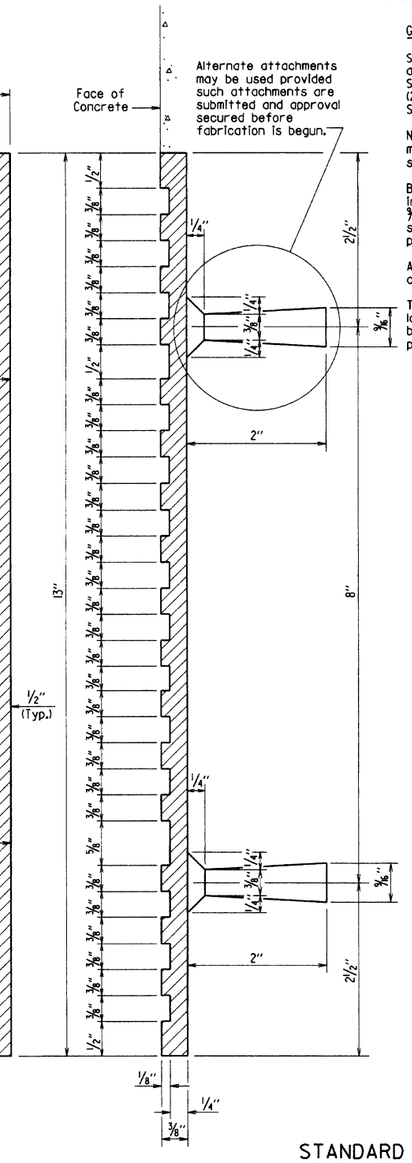
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 7/8" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

⚠2 Revised Chair and Vice Chair Added New Commissioner
1-14-15 KDH Checked By: CRE

⚠1 Revised Deputy Director/ Chief Engineer
Added Deputy Director/ Chief Operating Officer
12-1-14 KDH Checked By: CRE

STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION

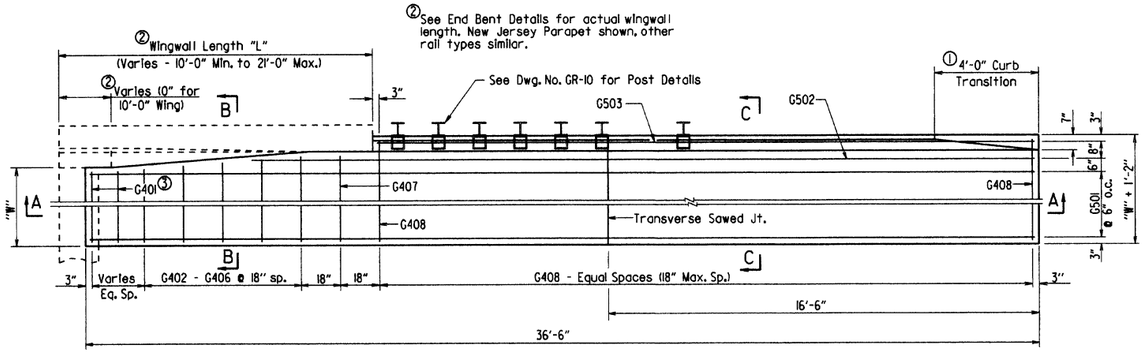
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

DRAWING NO. 55010

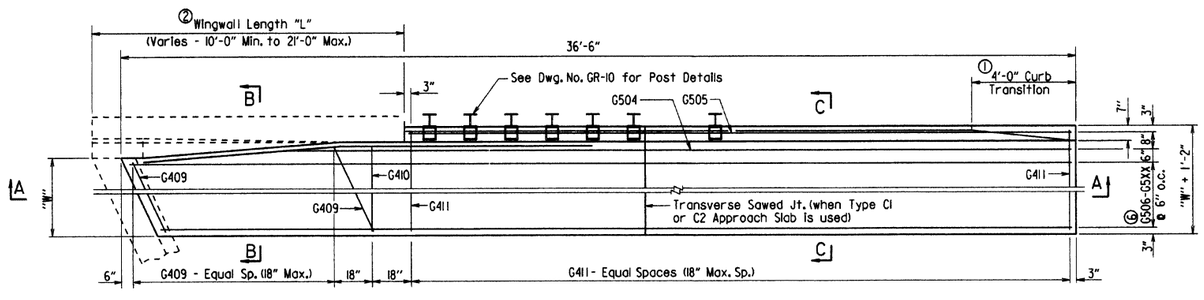
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		225	
				JOB NO.				

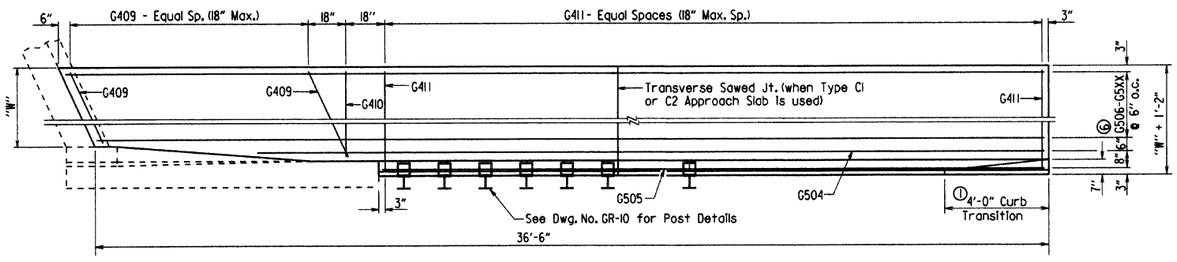
① TYPE C GUTTERS 55030C



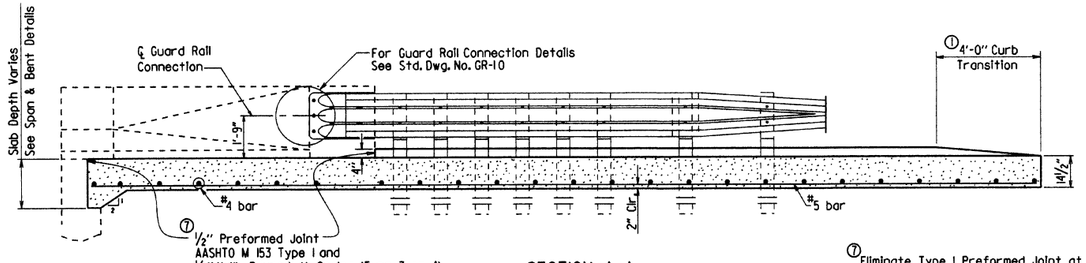
③Provide G401 bars @ 18" max. spacing. Number of G401 bars vary with wingwall length. No G401 bars required for 10'-0" wingwalls.

HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE





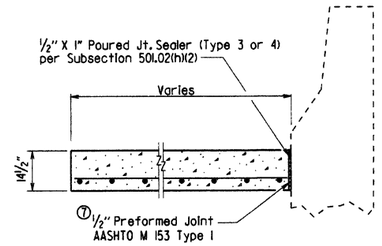
PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE



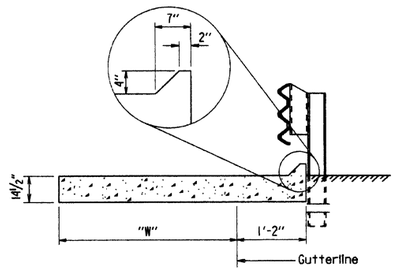
SECTION A-A

①Construct gutter curb with height-transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height-transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.



SECTION B-B
N.T.S.



SECTION C-C
N.T.S.

BAR LIST FOR ONE TYPE C GUTTER

	Mark	No. Req'd. for Width "W" 4'-0"	6'-0"	8'-0"	10'-0"	Length
Square Bridge	G401	④	④	④	④	"W"- 4"
	G402-G406	1 each	1 each	1 each	1 each	"W"-3" to "W"+2"
	G407	1	1	1	1	"W"+3"
	G408	④	④	④	④	"W"+ 10"
	G501	8	12	16	20	36'-2"
	G502	1	1	1	1	(41'-11") - "L"
	G503	1	1	1	1	(37'-2") - "L"
Skewed Bridge	G409	④	④	④	④	⑤
	G410	1	1	1	1	"W"+3"
	G411	④	④	④	④	"W"+ 10"
	G504	1	1	1	1	⑤
	G505	1	1	1	1	⑤
	G506 - G5XX ⑥	1 each	1 each	1 each	1 each	⑤

④No. Req'd. varies with Skew and Wingwall Length.

⑤Bar Lengths vary with Skew and Wingwall Length.

⑥G513 for "W" = 4'
G517 for "W" = 6'
G521 for "W" = 8'
G525 for "W" = 10'

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

(FOR INFORMATION ONLY)

"W" Width (ft.)	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
4	445	8.30
6	630	11.55
8	810	14.80
10	995	18.10

Quantities are based on "L" = 10'-0".

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

⑦Eliminate Type I Preformed Joint at end bent backwall and at face of wingwalls when gutters used with Type C2 Approach Slabs. Poured joint sealer is required, however backer rod shall be eliminated.

GENERAL NOTES

All concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

STANDARD DETAILS FOR TYPE C APPROACH GUTTERS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55030c.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: ⅜" = 1'-0" or As Shown
DESIGNED BY: STD. DATE:

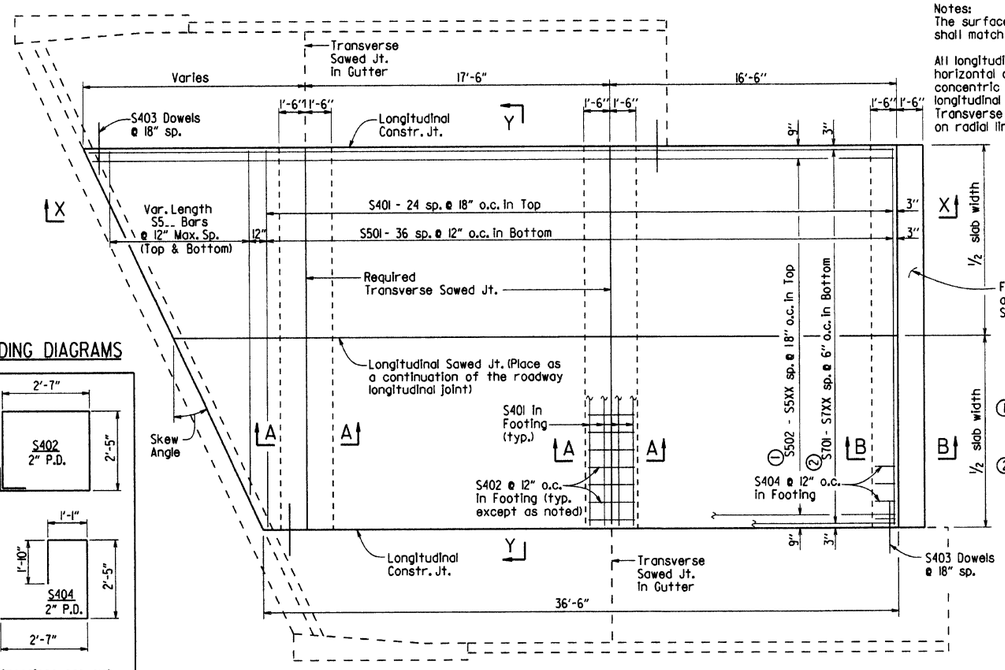
DRAWING NO. 55030C

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		226	
				JOB NO.				

TYPE C2 APPROACH SLAB 55040C2

Notes:
The surface finish for Approach Slabs shall match that used on the bridge deck.

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.



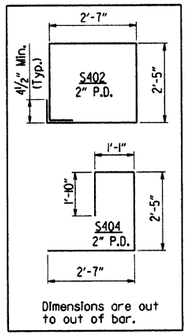
① S5XX = S511 for 15'-0" Width
= S517 for 24'-0" Width
= S525 for 36'-0" Width

② S7XX = S730 for 15'-0" Width
= S748 for 24'-0" Width
= S772 for 36'-0" Width

PLAN - SKEWED APPROACH SLAB WITH APPROACH GUTTERS

1/4" = 1'-0"

BENDING DIAGRAMS



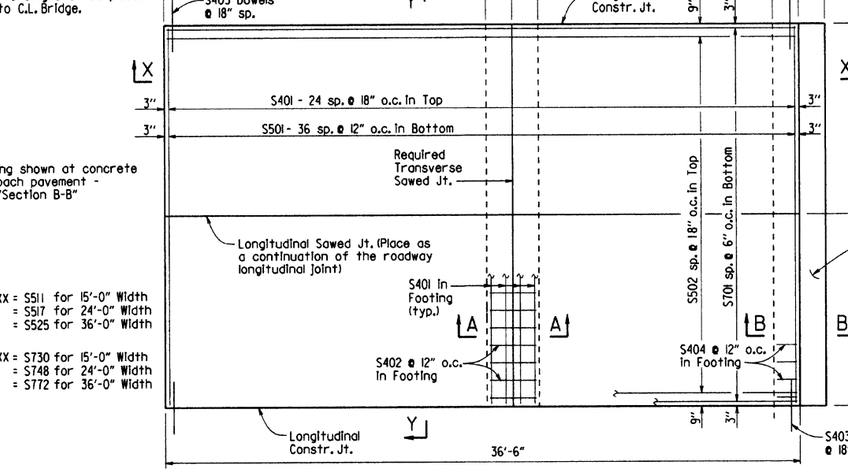
Dimensions are out to out of bar.

BAR LIST

(Square & Skewed Approach Slabs)

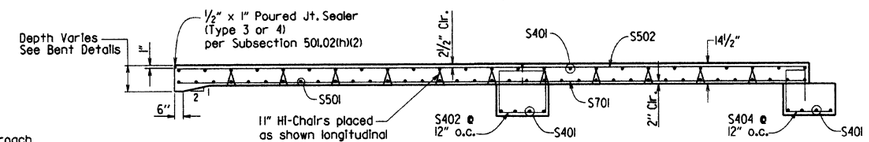
	Mark	Square No. Req'd.	Square Length	Skewed No. Req'd.	Skewed Length
15'-0" Slab Width	S401	33	14'-8"	37	14'-8"
	S402	15	10'-4"	30	10'-4"
	S403	50	3'-0"	*	3'-0"
	S404	15	7'-8"	15	7'-8"
	S501	37	14'-8"	37	14'-8"
	S502	10	36'-2"	—	—
	S502 - S511	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 14.25'(tan skew angle)
	S5_ _	—	—	2 Ea.	14.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	30	36'-2"	—	—
	S701 - S730	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 14.75'(tan skew angle)
24'-0" Slab Width	S401	33	23'-8"	37	23'-8"
	S402	24	10'-4"	48	10'-4"
	S403	50	3'-0"	*	3'-0"
	S404	24	7'-8"	24	7'-8"
	S501	37	23'-8"	37	23'-8"
	S502	16	36'-2"	—	—
	S502 - S517	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 23.25'(tan skew angle)
	S5_ _	—	—	2 Ea.	23.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	48	36'-2"	—	—
	S701 - S748	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 23.75'(tan skew angle)
36'-0" Slab Width	S401	33	35'-8"	37	35'-8"
	S402	36	10'-4"	72	10'-4"
	S403	50	3'-0"	*	3'-0"
	S404	36	7'-8"	36	7'-8"
	S501	37	35'-8"	37	35'-8"
	S502	24	36'-2"	—	—
	S502 - S525	—	—	1 Ea.	36.1' + 0.75'(tan skew angle) to 36.1' + 35.25'(tan skew angle)
	S5_ _	—	—	2 Ea.	35.7' - 0.75'/(tan skew angle) to 2'-0" Min.
	S701	72	36'-2"	—	—
	S701 - S772	—	—	1 Ea.	36.1' + 0.25'(tan skew angle) to 36.1' + 35.75'(tan skew angle)

*Varies with skew angle



PLAN - SQUARE APPROACH SLAB

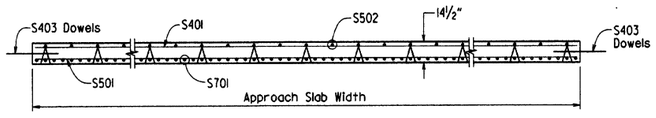
1/4" = 1'-0"



SECTION X-X

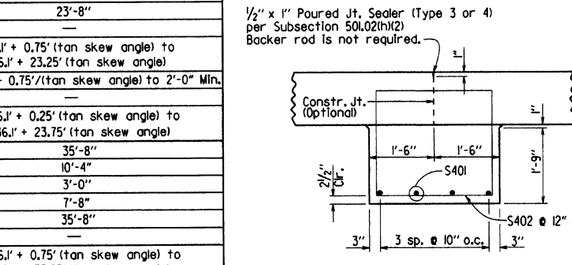
SQUARE APPROACH SLAB SHOWN

1/4" = 1'-0"



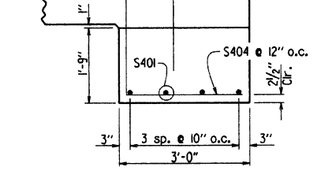
SECTION Y-Y

N.T.S.



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

¾" = 1'-0"



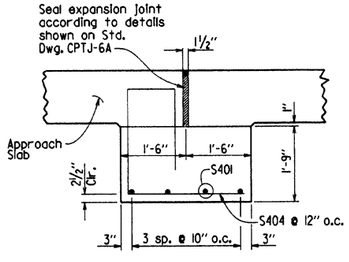
SECTION B-B

AT ASPHALT APPROACH PAVEMENT

N.T.S.

SECTION A-A

N.T.S.



SECTION B-B

AT CONCRETE APPROACH PAVEMENT

N.T.S.

TABLE OF QUANTITIES FOR ONE SQUARE APPROACH SLAB

(FOR INFORMATION ONLY)

Slab Width	Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
15'-0"	3765	30.75
24'-0"	5980	49.15
36'-0"	8925	73.75

GENERAL NOTES

This drawing shall be used for Approach Slabs in Seismic Performance Zones 2, 3 & 4 and for the maximum skew angles shown below:

15'-0" Slab Width: Maximum Skew Angle = 50°
24'-0" Slab Width: Maximum Skew Angle = 40°
36'-0" Slab Width: Maximum Skew Angle = 30°

All concrete shall be Class S (AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Slabs will be measured and paid for in accordance with Section 504.

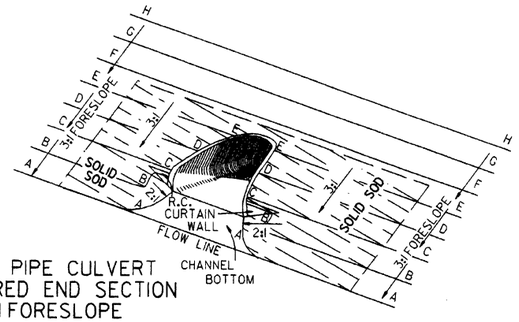
STANDARD DETAILS FOR TYPE C2 APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION

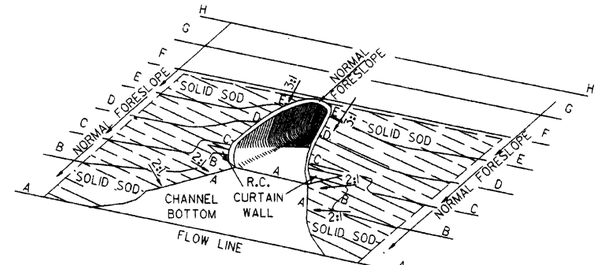
LITTLE ROCK, ARK.

DRAWN BY: A.M.S. DATE: 2/27/2014 FILENAME: b55040c2.dgn
CHECKED BY: K.W.Y. DATE: 2/27/2014 SCALE: AS SHOWN
DESIGNED BY: STD. DATE:

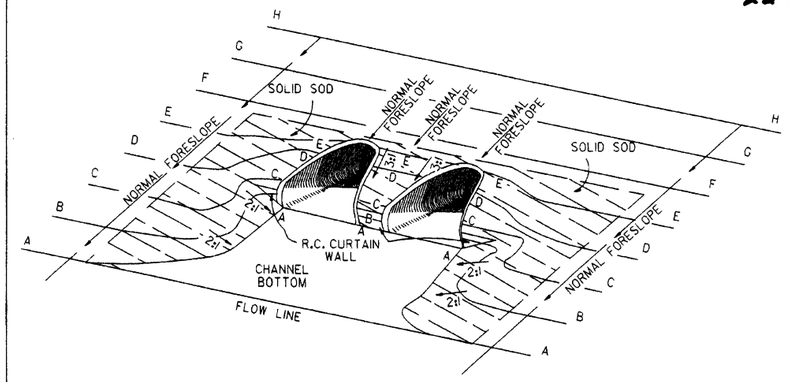
DRAWING NO. 55040C2



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

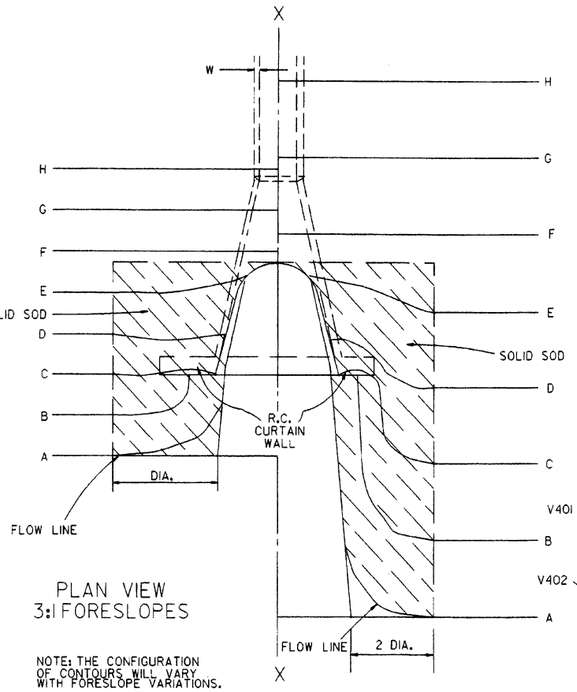
PIPE DIA.	H_1	L_1	L	L (DBL.) / 2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

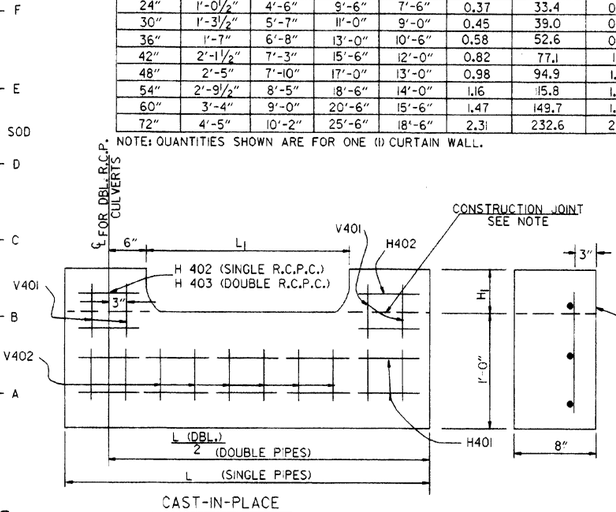
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

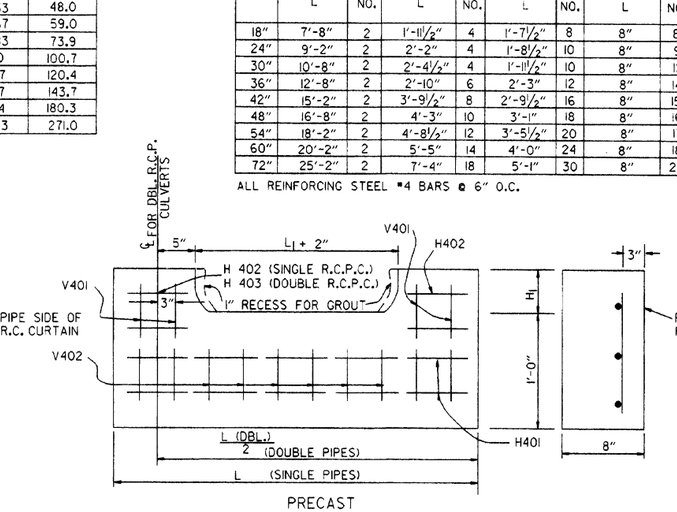
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



CAST-IN-PLACE

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT. WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2) OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

R.C. CURTAIN WALL DETAILS

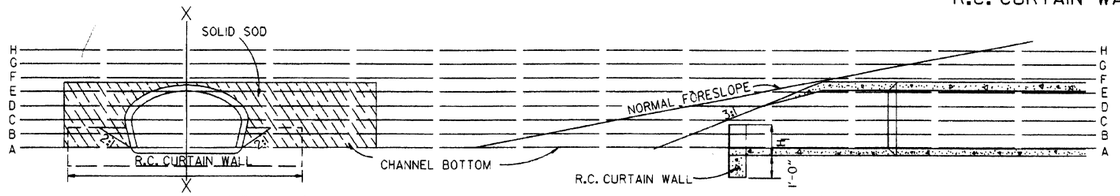
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	4:1	6:1	DOUBLE R.C.P.C. 3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 × 3 W10 × W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

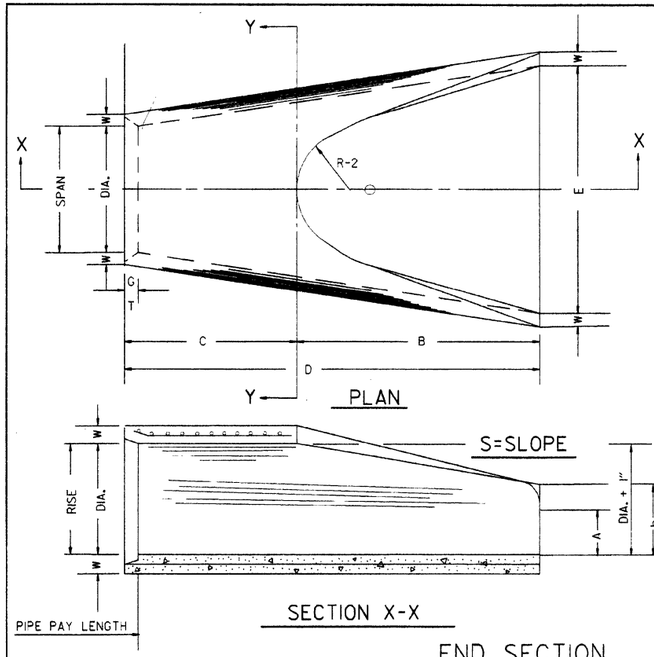
SECTIONAL VIEW "X-X"

DATE	REVISION	FILMED
10-18-96	ADDED NOTE TO SOLID SODDING	10-18-96
10-12-95	CORRECTED SPELLING	
11- 3-94	ADDED GENERAL NOTE NO. 4	
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.	
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES	
5-15-80	ADDED PRECAST WALL & GENERAL NOTES	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

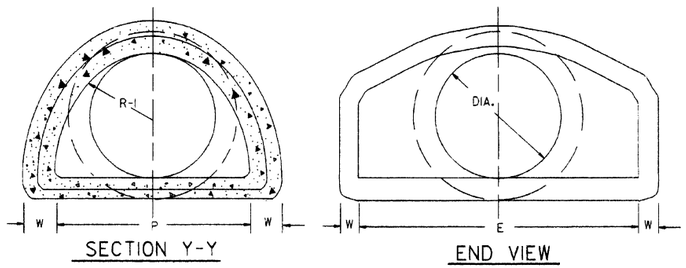
STANDARD DRAWING FES-1



END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. ± 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-11½"	4'-0"	3:1	25"	33⅜"	16⅝"	14"	2½"	1600	1'-11½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47⅛"	24⅝"	20"	3½"	4100	1'-8"
42"	4½"	1'-5"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅜"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36⅛"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77⅛"	38⅝"	24"	5"	13250	4'-6"

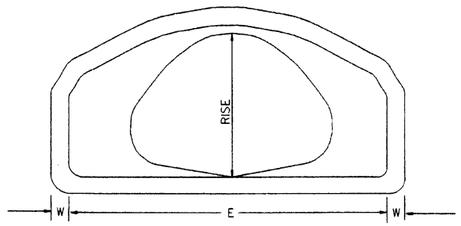


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

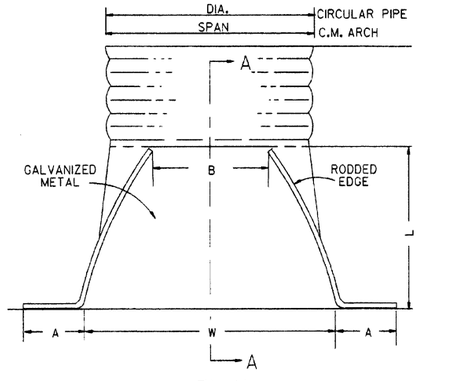
ARCH PIPE

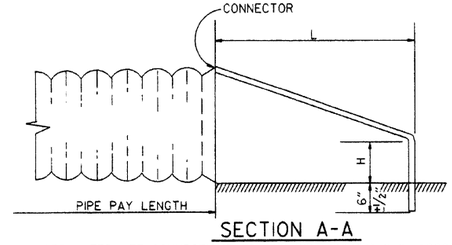
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2⅛:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2⅛:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2⅛:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36⅜"	15"	2½"	2⅛:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47⅜"	20"	3"	2⅛:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54⅝"	22"	3½"	2⅛:1
42	51⅛	51	31⅜	31	4½"	11½"	4'-7"	1'-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2⅛:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70⅝"	24"	4¼"	2⅛:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-1¼"	8'-2"	8'-6"	72⅛"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77⅛"	24"	5"	2¼:1

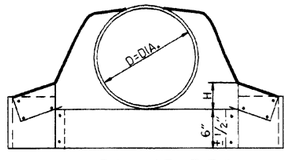
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



END VIEW
CONCRETE ARCH PIPE



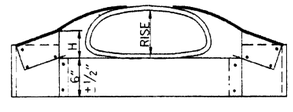




CIRCULAR PIPE

CIRCULAR PIPE

D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1



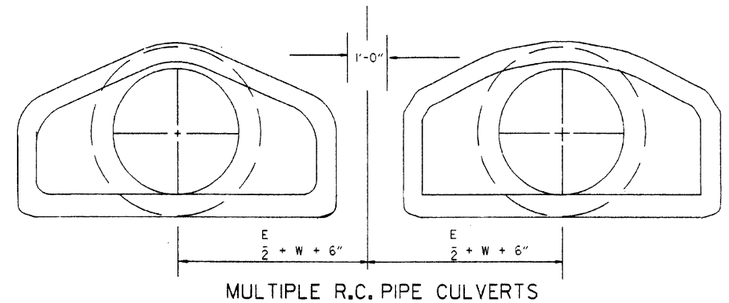
C.M. ARCH PIPE

C.M. ARCH PIPE

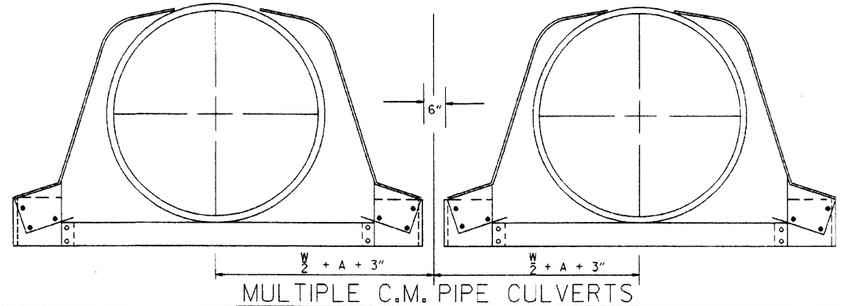
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

NOTE: ALTERNATE CONNECTIONS TO THE PIPE CULVERTS, IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICES, MAY BE MADE SUBJECT TO THE APPROVAL OF THE ENGINEER.

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



MULTIPLE C.M. PIPE CULVERTS

DATE	REVISION	FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	664-5-15-80
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	752-7-14-78
8-22-75	ADDED MULTIPLE PIPE CULVERTS	517-8-22-75
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	500-12-5-74
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	627-5-24-73
10-2-72	REVISED AND REDRAWN	760-10-2-72

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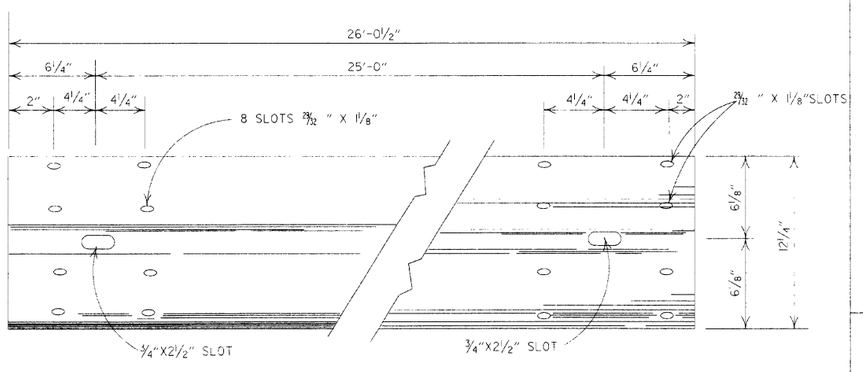
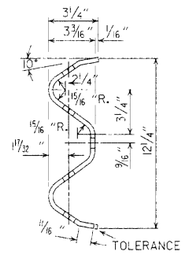
FLARED END SECTION

STANDARD DRAWING FES-2

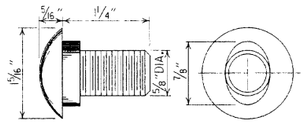
stdfes2.dgn



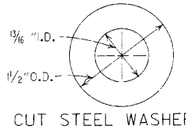


DETAILS OF
W-BEAM GUARD RAIL

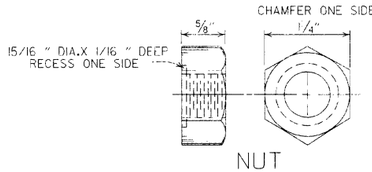
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



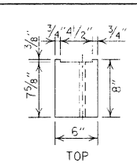
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

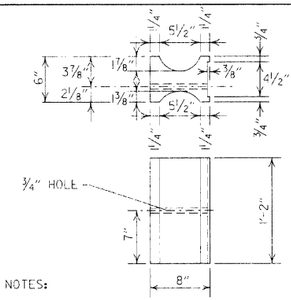


NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

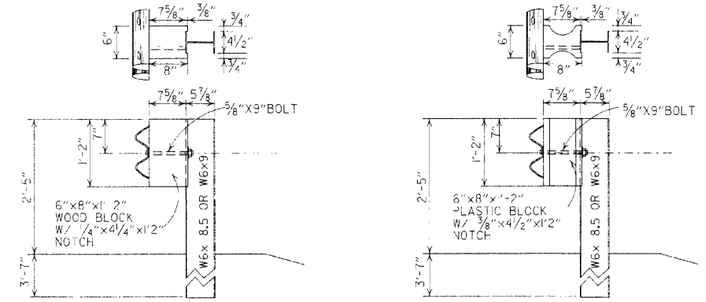
WOOD BLOCKOUT
(W-BEAM)



NOTES:
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT
(W-BEAM)

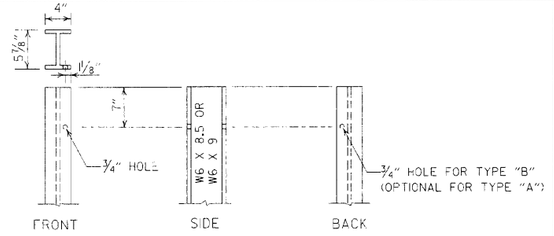
HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



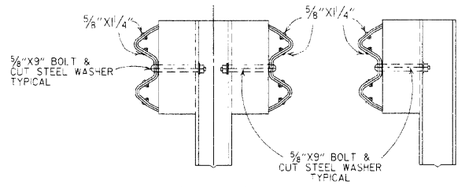
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.

POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS
(W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO.1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO.1 1350 f SOUTHERN PINE.

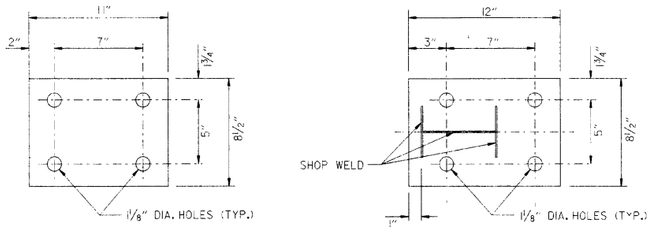
CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE. REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-9	REVISED WASHER NOTE	8-15-9
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

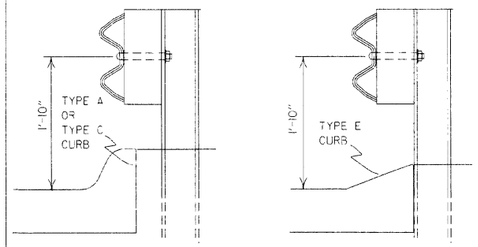
STANDARD DRAWING GR-8



WASHER PLATE

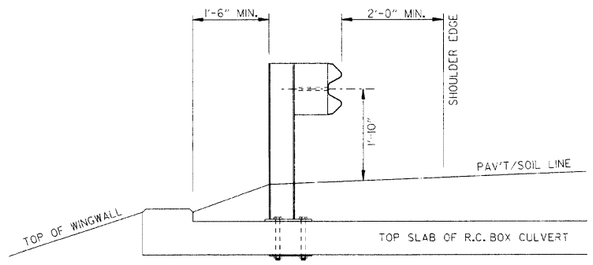
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

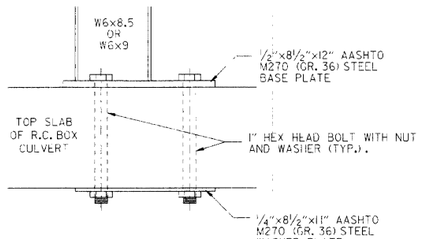


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

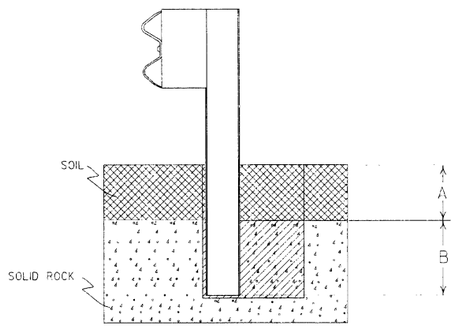


SECTION A-A

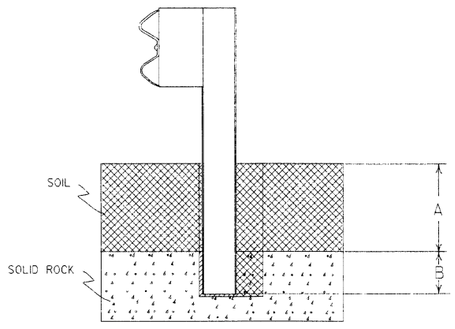


DETAIL OF CONNECTION

Case 1

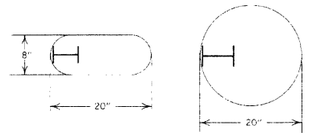


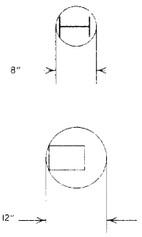
Case 2



Plan View Steel Posts

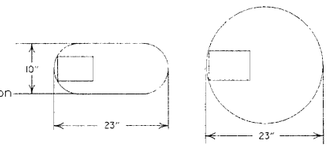
Either hole configuration acceptable





Plan View Wood Posts

Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

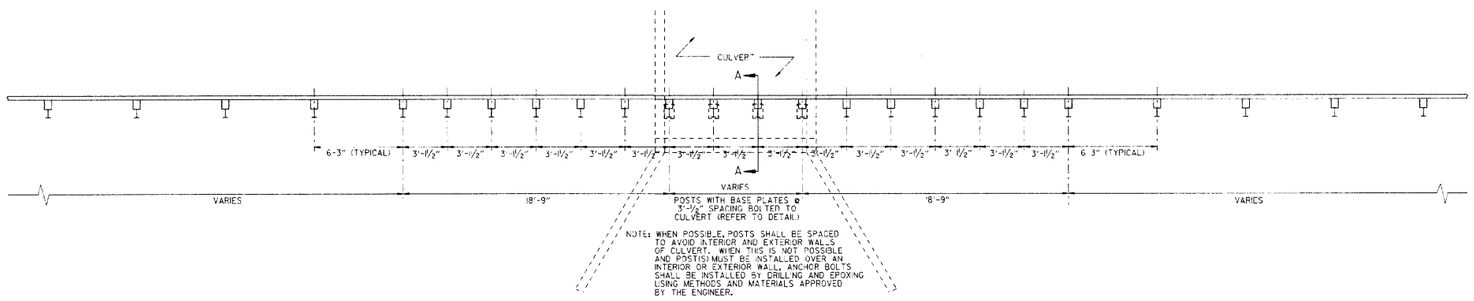
Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

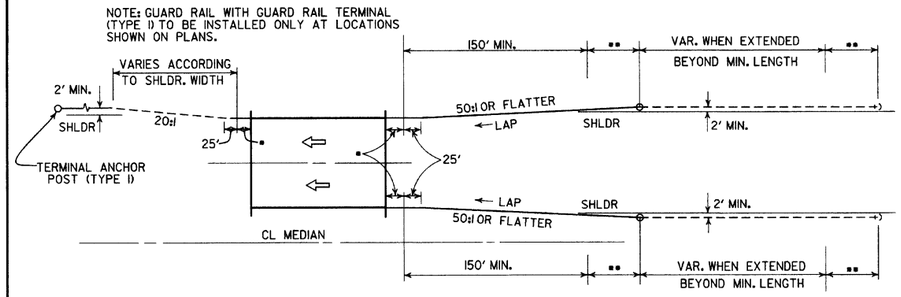
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
1-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT. ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULV'T. DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
1-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
1-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

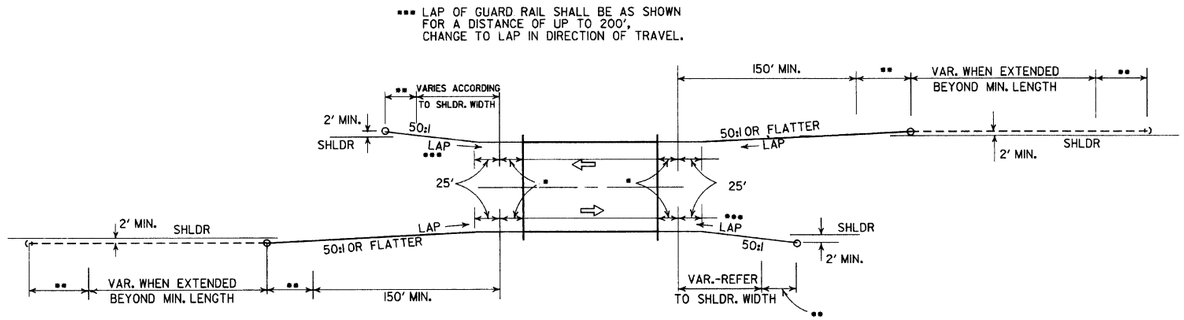
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8A

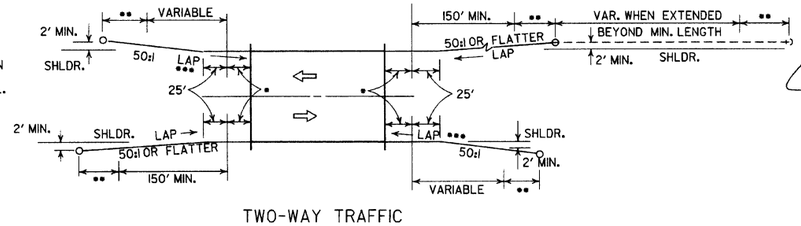


ONE-WAY TRAFFIC

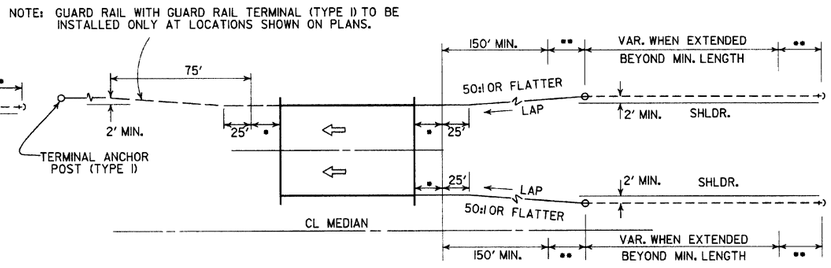


TWO-WAY TRAFFIC

METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)



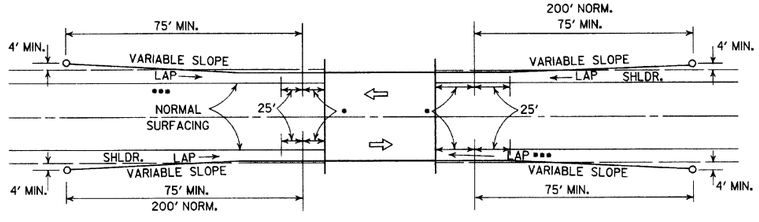
TWO-WAY TRAFFIC



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



LEGEND

- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

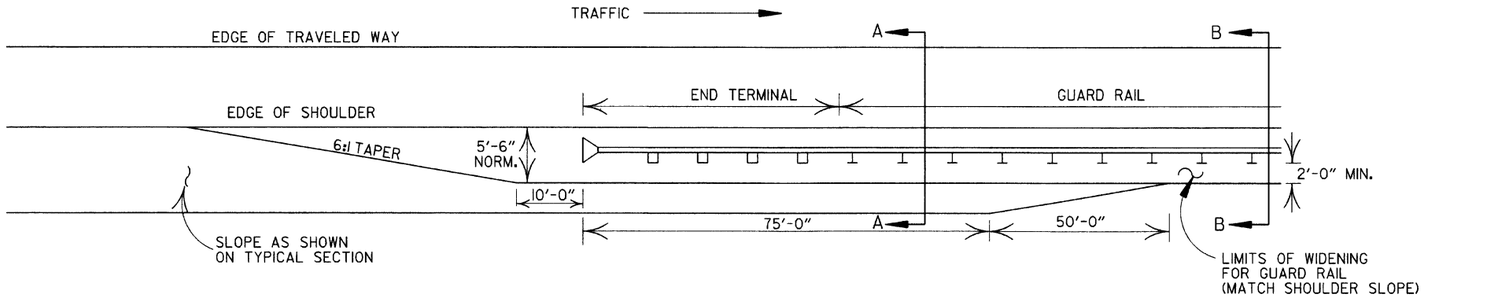
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

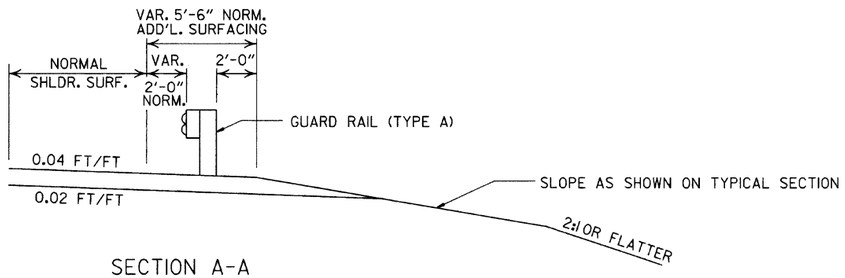
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

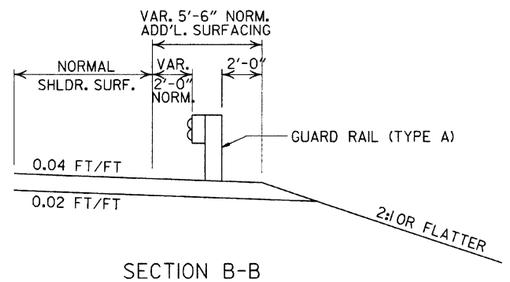
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





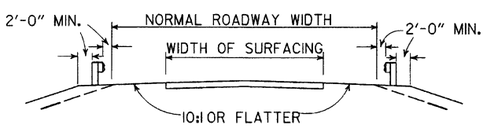
SECTION A-A



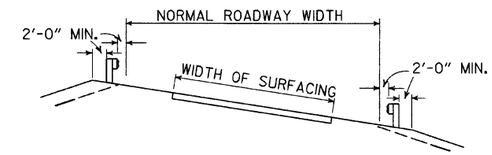
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

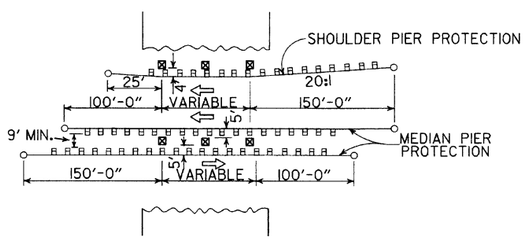


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



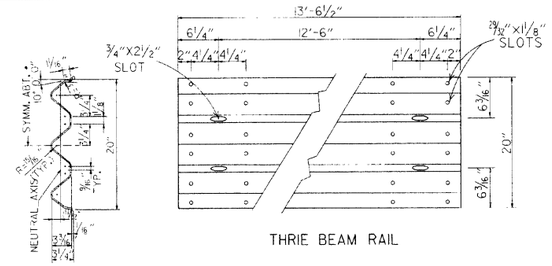
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

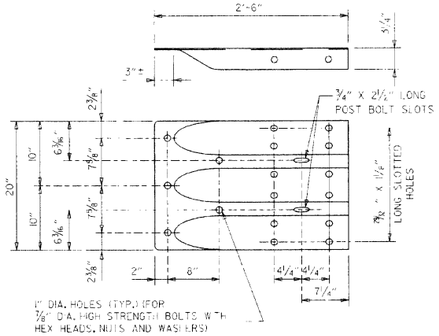
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

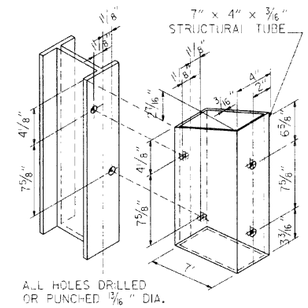


THRIE BEAM RAIL

SECTION THRU THRIE BEAM RAIL

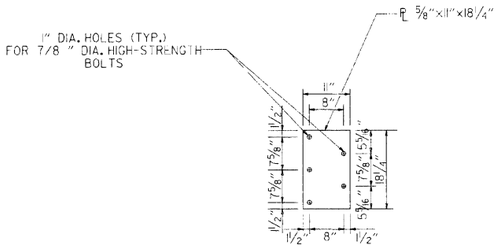


SPECIAL END SHOE



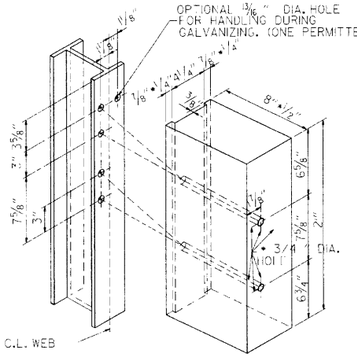
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL

ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.



CONNECTOR PLATE

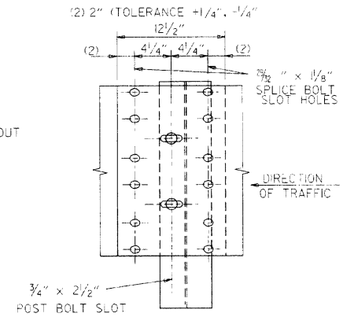
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.9 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



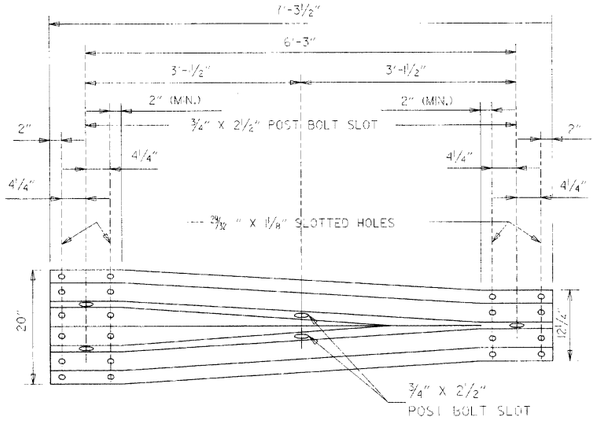
ALL HOLES ⅜" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

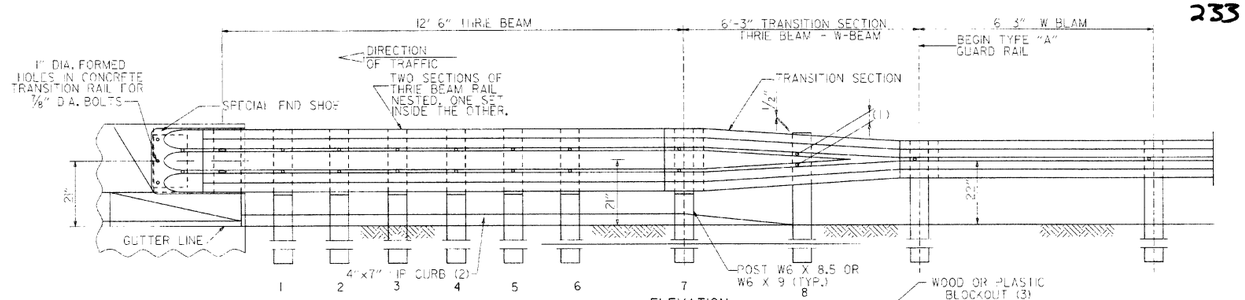
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION



NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 #) OR NO. 1 1350 # SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

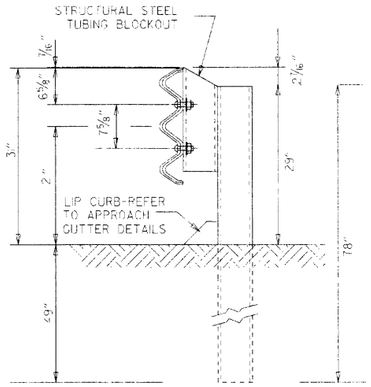
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

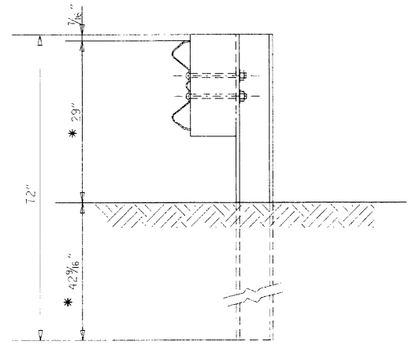
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

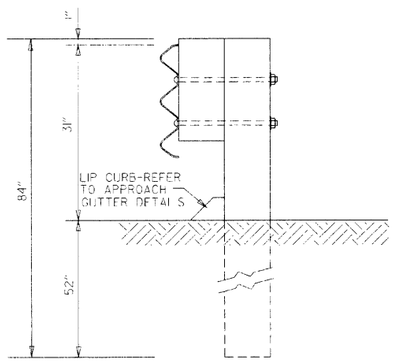


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

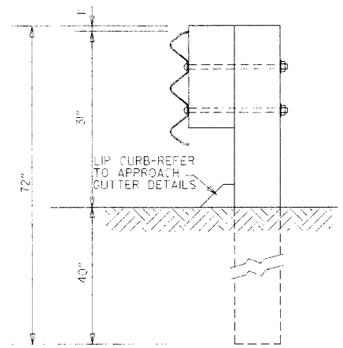


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

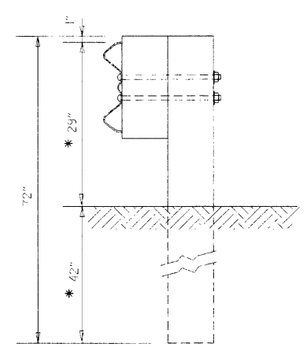
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7# (1400 #) OR NO.1 (1350 #) SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
4-23-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 7/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

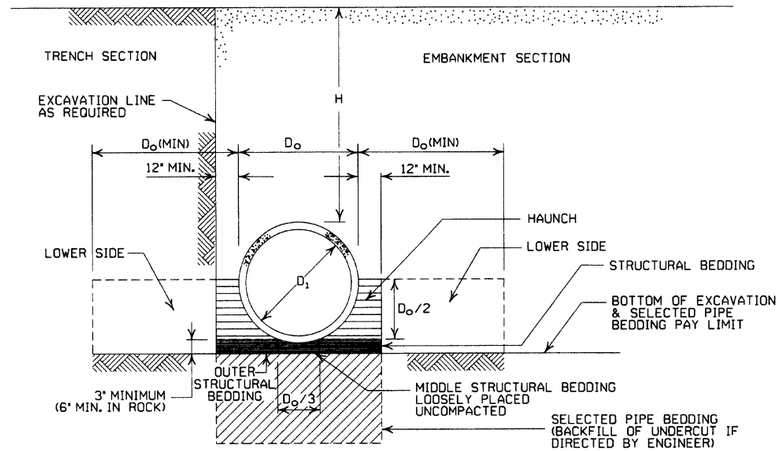
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

*SM-3 WILL NOT BE ALLOWED.

**MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)		MAX. HEIGHT OF FILL, "H" (FT.)
				INSTALLATION		INSTALLATION		INSTALLATION		INSTALLATION
				TYPE 1		TYPE 1		TYPE 1		TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2		15	0.060	2		15
18	21x15	3	0.064	2		15	0.060	2		15
21	24x18	3	0.064	2.25		15	0.060	2.25		15
24	28x20	3	0.064	2.5		15	0.075	2.5		15
30	35x24	3	0.079	3		12	0.075	3		12
36	42x29	3½	0.079	3		12	0.105	3		12
42	49x33	4	0.079	3		12	0.105	3		12
48	57x38	5	0.109	3		13	0.135	3		13
54	64x43	6	0.109	3		14	0.135	3		14
60	71x47	7	0.138	3		15	0.164	3		15
66	77x52	8	0.168	3		15				
72	83x57	9	0.168	3		15				
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15			
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

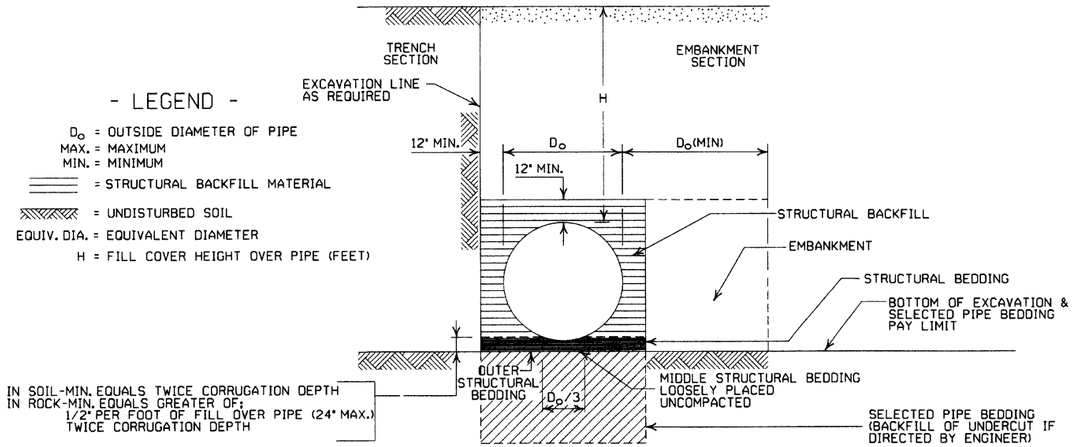
③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
= STRUCTURAL BACKFILL MATERIAL
= UNDISTURBED SOIL
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

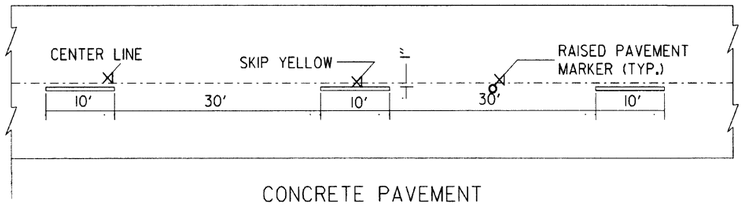
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

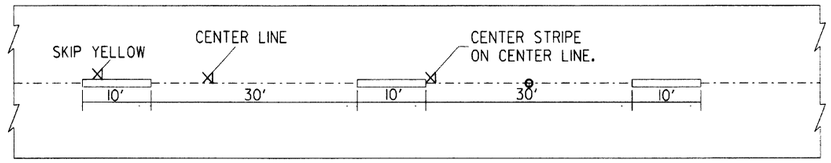
METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

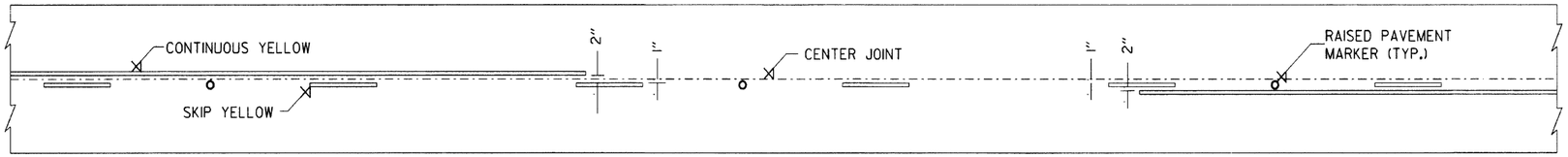


CONCRETE PAVEMENT

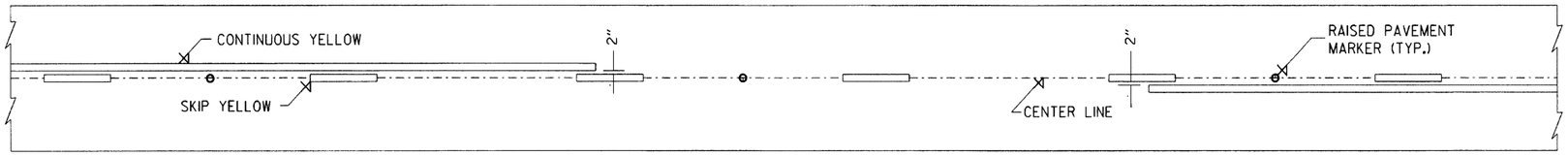


ASPHALT PAVEMENT

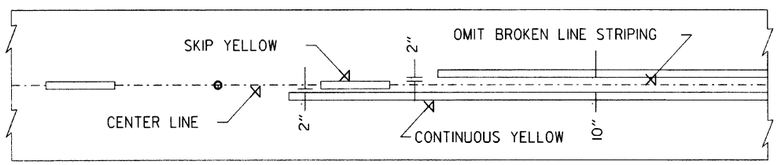
BROKEN LINE STRIPING



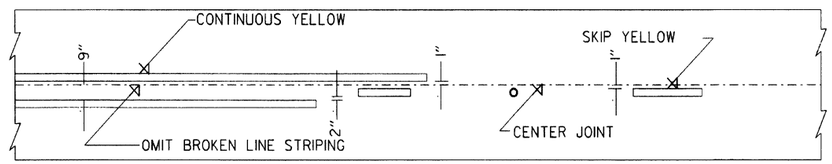
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

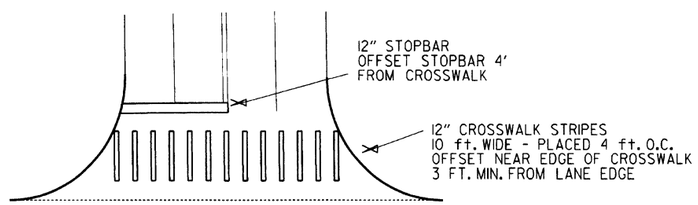


ASPHALT PAVEMENT



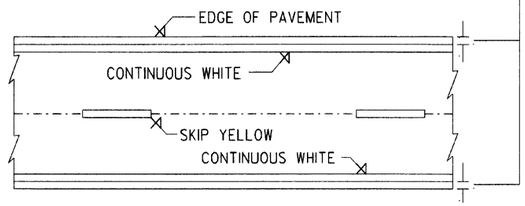
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

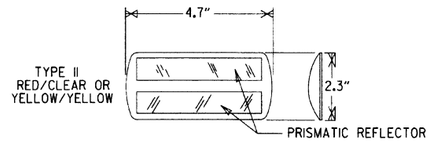


CROSSWALK AND STOPBAR DETAILS

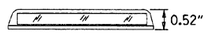
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

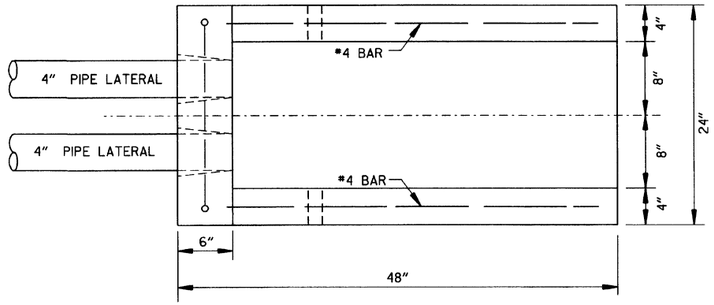
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

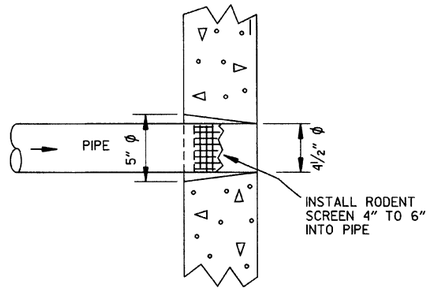
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

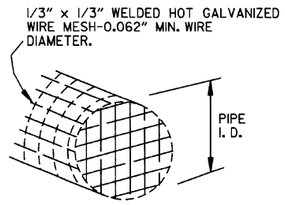
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



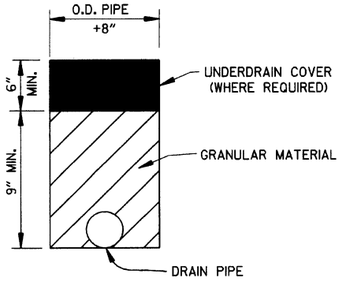
PLAN VIEW

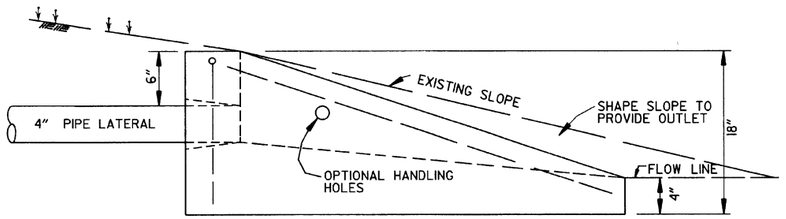


DETAIL OF HOLE FOR 4" PIPE

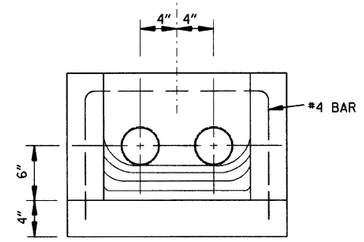


DETAIL OF RODENT SCREEN

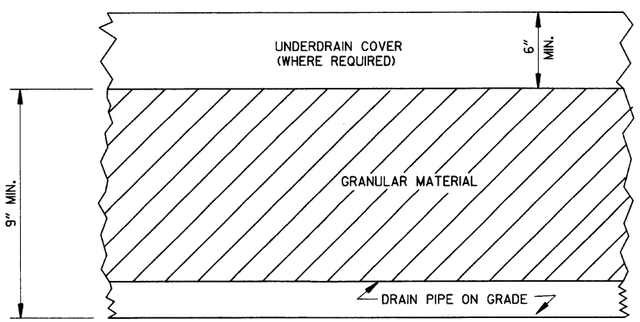




SIDE VIEW

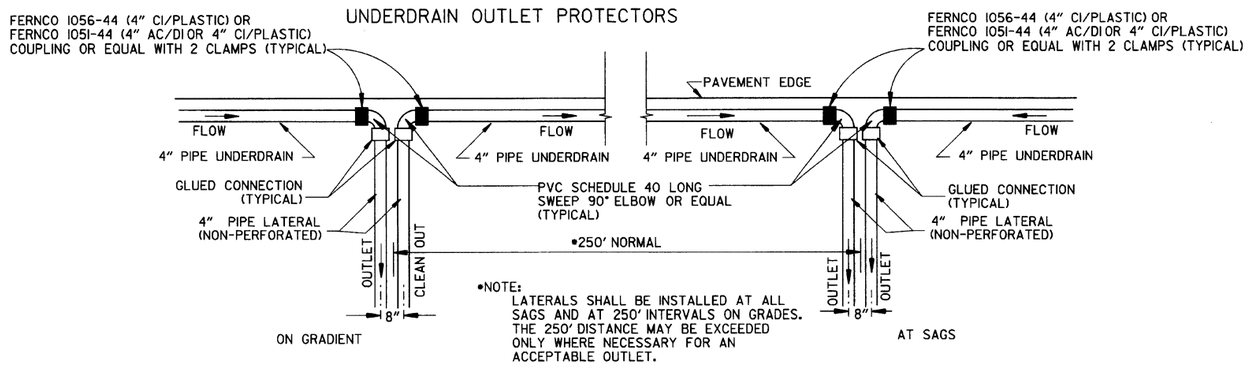


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			40 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*		
0° 30'	N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*		
0° 45'	N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*		
1° 00'	N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*		
1° 15'	N.C.*			R.C.*			R.C.*			R.C.*			R.C.*			R.C.*			R.C.*		
1° 30'	N.C.*			0.021			0.021			0.022			0.023			0.025			0.028		
1° 45'	N.C.*			0.025			0.026			0.032			0.030			0.033	250		0.037	275	
2° 00'	R.C.*			0.028	175		0.031	200		0.037	225		0.037	250		0.041		350	0.046		350
2° 15'	R.C.*			0.031			0.036			0.043			0.043		350	0.048			0.054		
2° 30'	0.021			0.034			0.040			0.048			0.049			0.055			0.062		
2° 45'	0.023			0.037			0.045			0.053			0.055			0.062			0.070		
3° 00'	0.025			0.040			0.049			0.058			0.061			0.069	265		0.078	300	
3° 15'	0.027	150		0.043		250	0.053		300	0.063			0.067			0.075	280		0.085	315	400
3° 30'	0.029			0.046			0.057			0.067	230		0.072	260		0.081	300		0.091	335	
3° 45'	0.031		250	0.049			0.061			0.072	245		0.077	275		0.087	315		0.098	350	
4° 00'	0.033			0.051			0.065	205		0.076	255		0.082	295	400	0.093	340	400	0.104	380	450
4° 30'	0.037			0.056			0.069	215		0.080	265		0.086	305		0.098	345		0.110	395	
5° 00'	0.040			0.061			0.072	225		0.083	270		0.090	315		0.099	350		0.116	420	
5° 30'	0.043			0.066	185		0.078	240		0.087	280		0.093	315							
6° 00'	0.046			0.070	190		0.083	250		0.091	295		0.098	320							
6° 30'	0.050			0.074	200		0.088	260		0.094	300	400									
7° 00'	0.053			0.078	210		0.092	270		0.096	305										
7° 30'	0.056			0.081	215		0.095	280	350	0.100	315										
8° 00'	0.058			0.084	220		0.098	285													
8° 30'	0.061			0.087	225	300	0.099	290													
9° 00'	0.063			0.089	230		0.100	290													
10° 00'	0.068	160		0.094	235																
11° 00'	0.072	170		0.097	250																
12° 00'	0.076	175		0.099	250																
13° 00'	0.080	180		0.100	250																
14° 00'	0.083	190																			
15° 00'	0.086	195																			
16° 00'	0.089	200																			
17° 00'	0.091	200																			
18° 00'	0.093	205																			
19° 00'	0.095	210																			
20° 00'	0.097	215	300																		
21° 00'	0.098	215																			
22° 00'	0.099	215																			
23° 00'	0.099	215																			
24° 00'	0.100	220																			

D MAX = 24° 45' | D MAX = 13° 15' | D MAX = 8° 15' | D MAX = 6° 30' | D MAX = 5° 15' | D MAX = 4° 15' | D MAX = 3° 30'

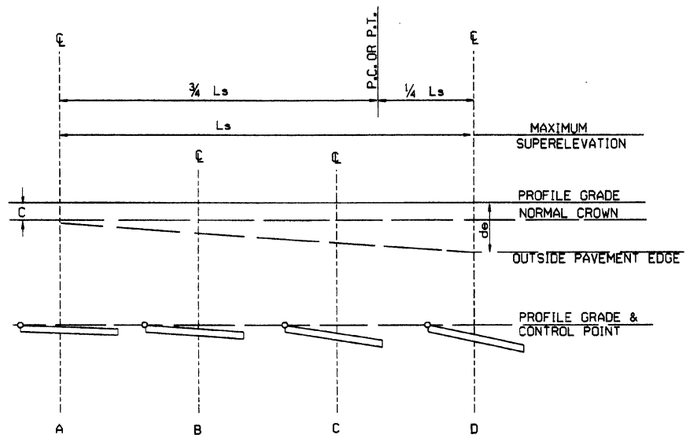
GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%

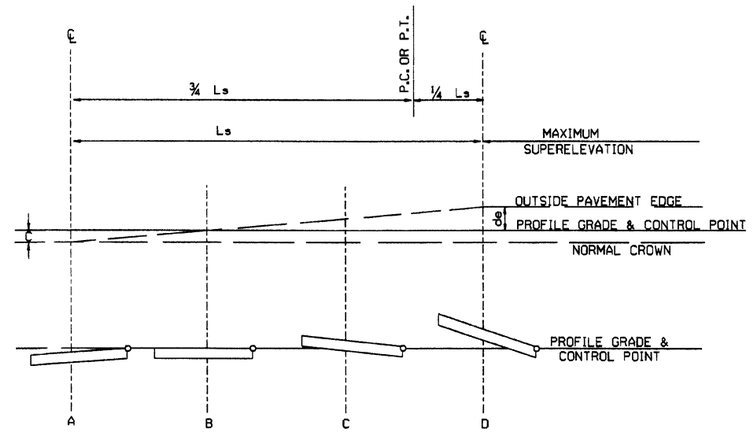
ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
S - SUPERELEVATION
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT
e - MAXIMUM RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

01-09-87	ISSUED	578-1-15-87
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

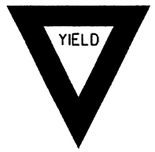
TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

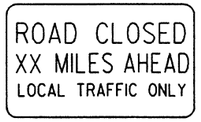
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

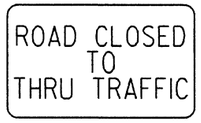
48"X30"

R11-3A



60"X30"

R11-4



60"X30"

RSP-1

48"X30"

W1-1

STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

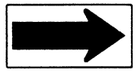
W1-3

STD. 48"X48"

W1-4

STD. 48"X48"

W1-6



STD. 48"X24"
SPECIAL 60"X30"

W1-8

STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2

STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

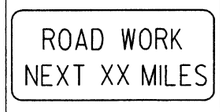
W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

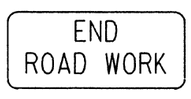
STD. 36"X36"
FWY. 48"X48"

G20-1



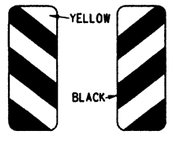
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

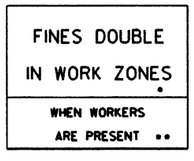
M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"
• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT, HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

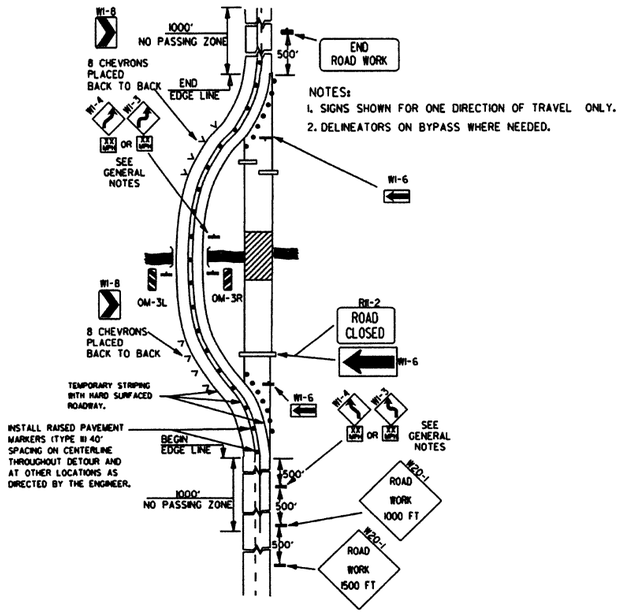
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

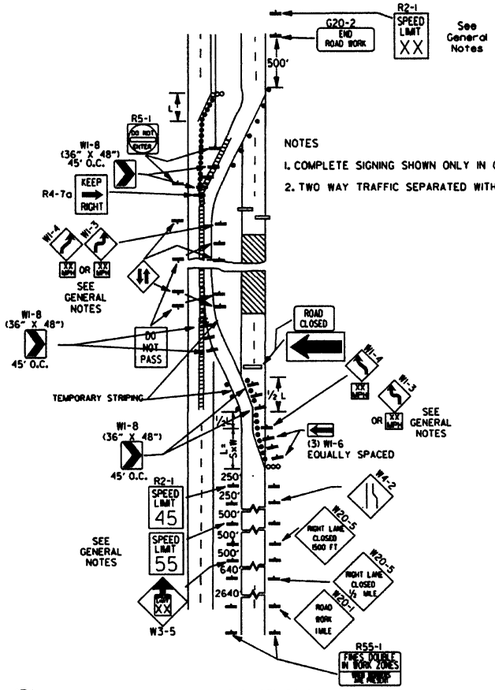
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



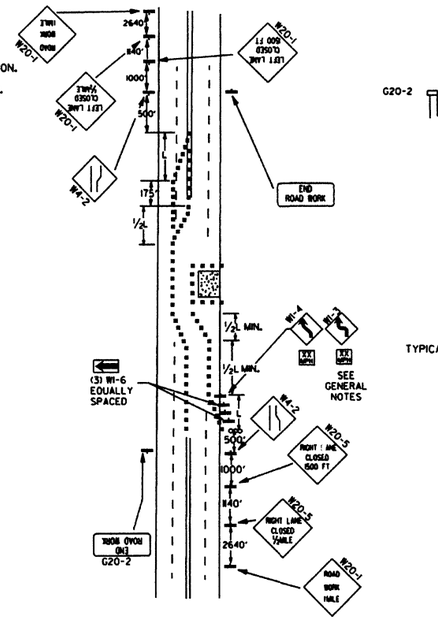
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.

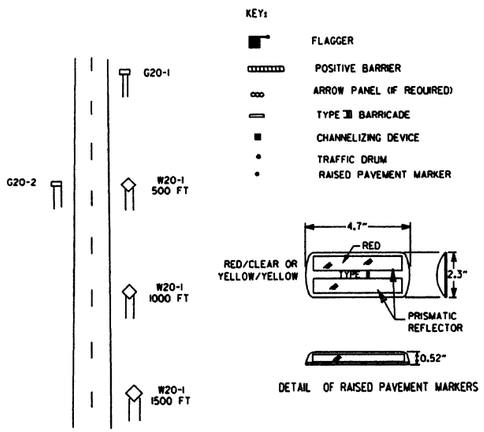


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

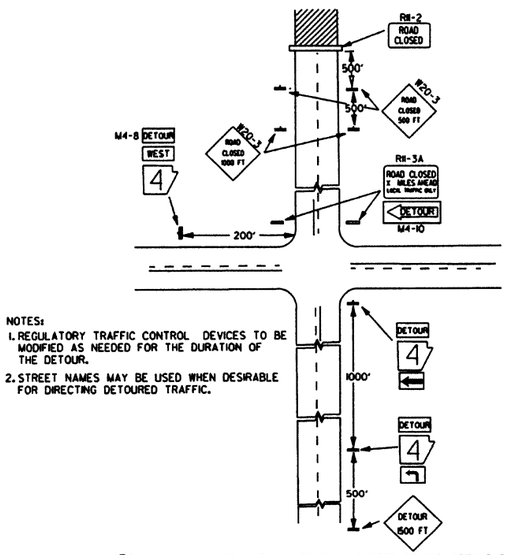
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

W= WIDTH OF OFFSET.

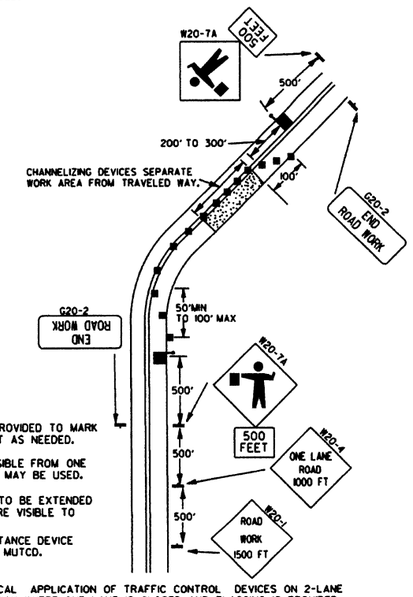
GENERAL NOTES:

1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



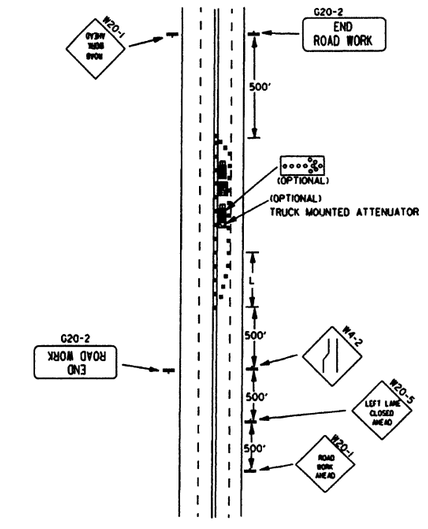
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



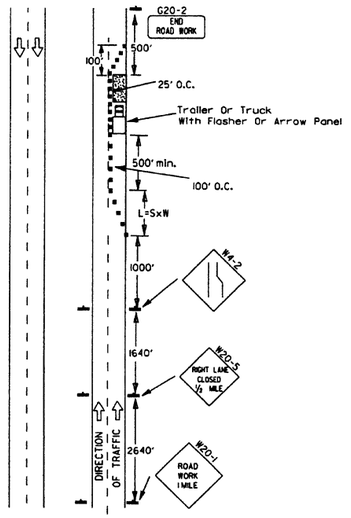
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-8-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
8-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

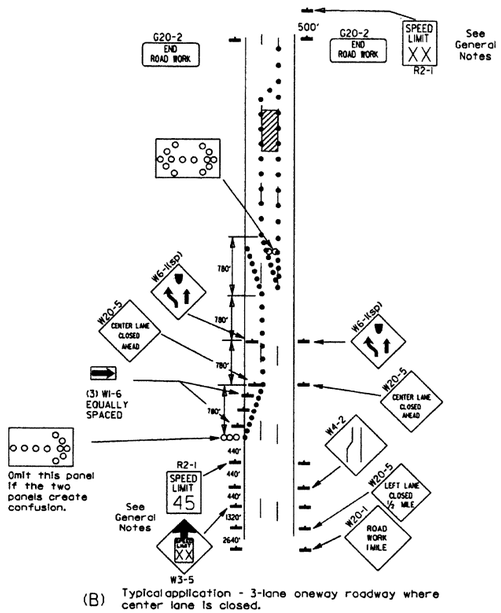
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

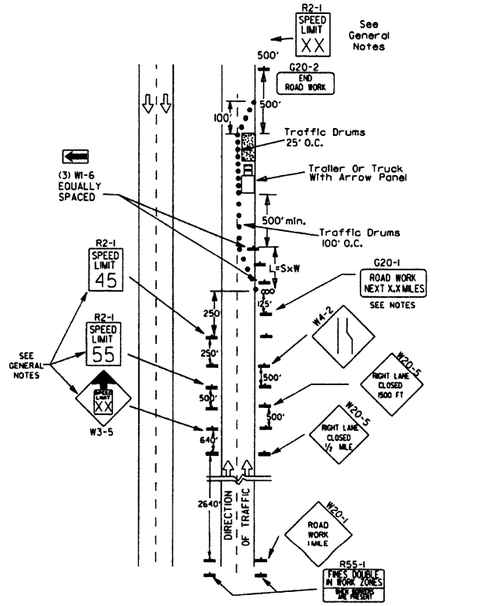
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operatipns of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

KEY:

ooo Arrow Panel (if Required)

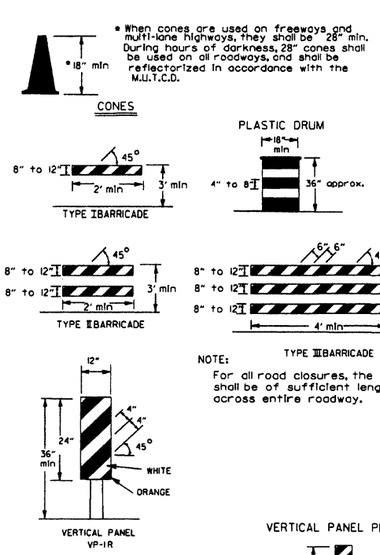
■ Channelizing Device

● Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

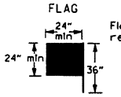
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

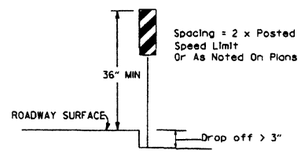
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

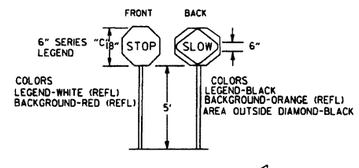


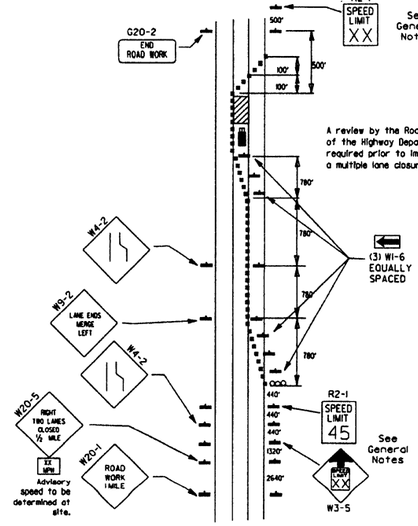
Flag shall be of good grade red material

VERTICAL PANEL PLACEMENT



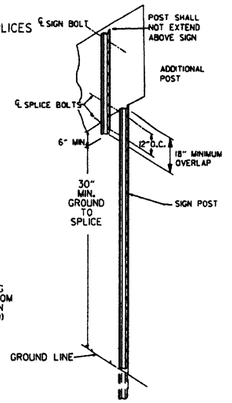
STOP SLOW PADDLE





(D) Typical application - closing multiple lanes of a multilane highway.

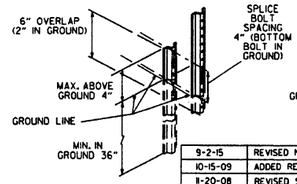
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

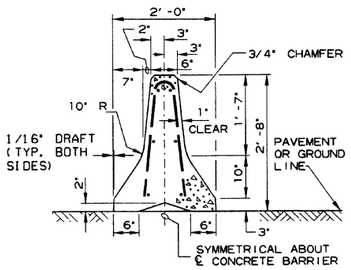
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

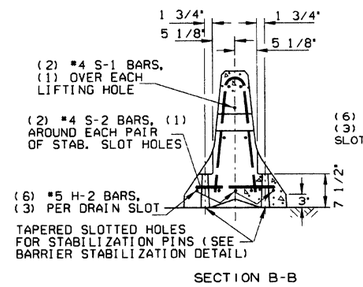
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

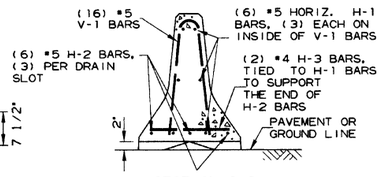
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR, 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"



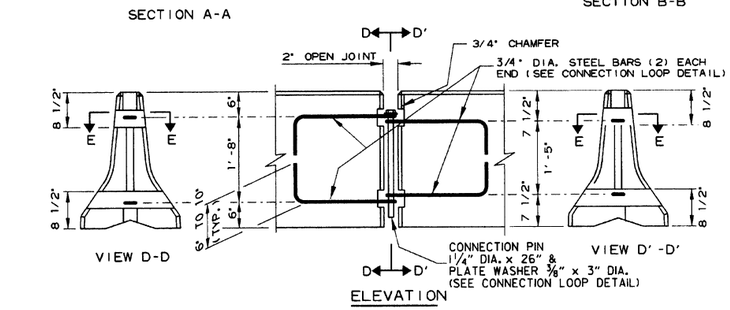
SECTION A-A

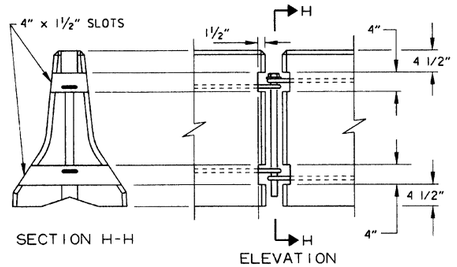


SECTION B-B

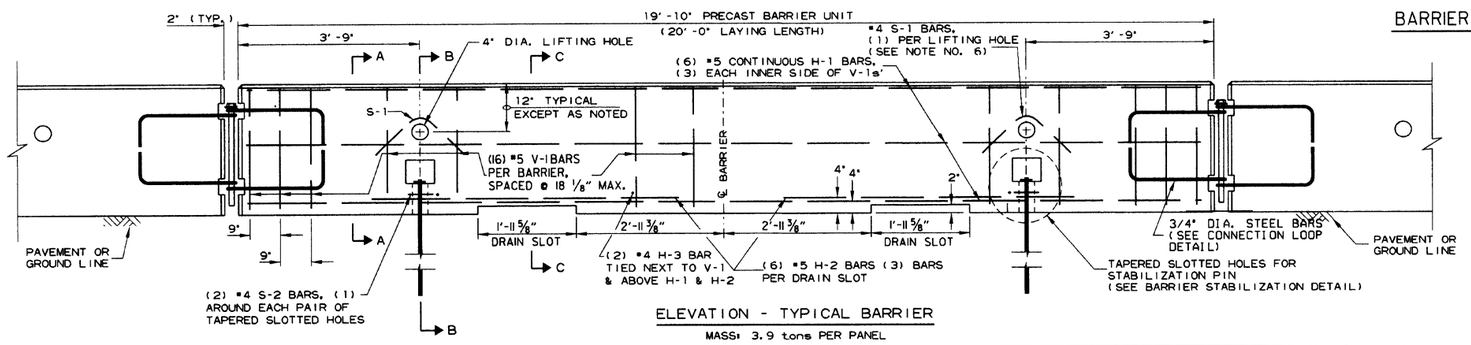


SECTION C-C



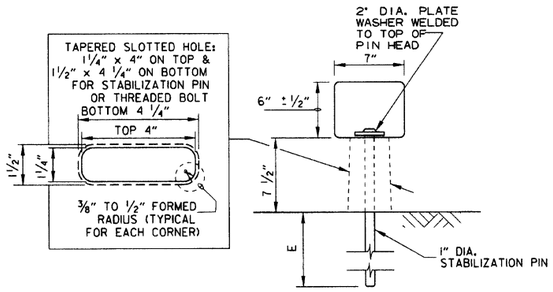


BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

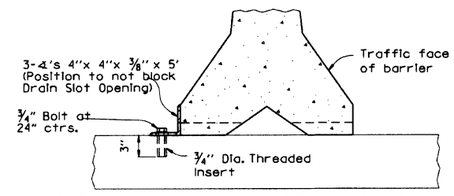
MASS: 3.9 tons PER PANEL



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

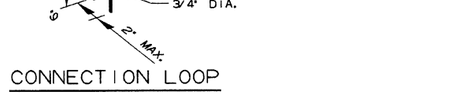
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



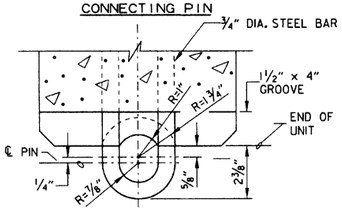
NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS

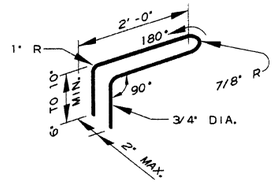


CONNECTING PIN



SECTION E-E

CONNECTION DETAILS



CONNECTION LOOP

General Notes

(1) The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

(2) Materials shall meet the following minimum requirements:
Concrete: 2500 psi compressive strength at 28 days.
Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

In applications where barrier wall is within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

(3) Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

(4) Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

(5) Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

(6) A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

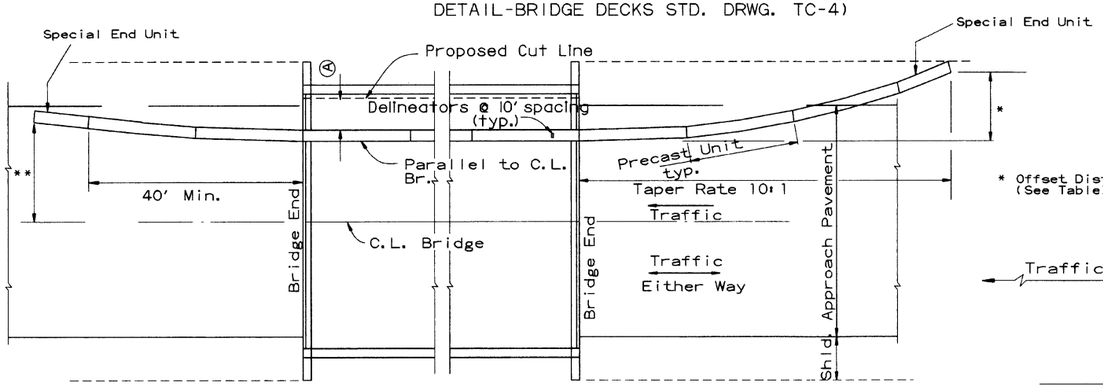
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

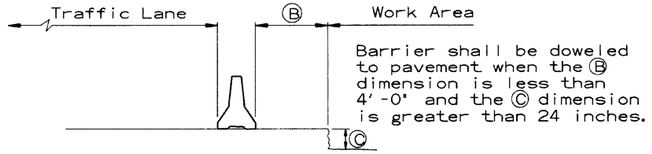
STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

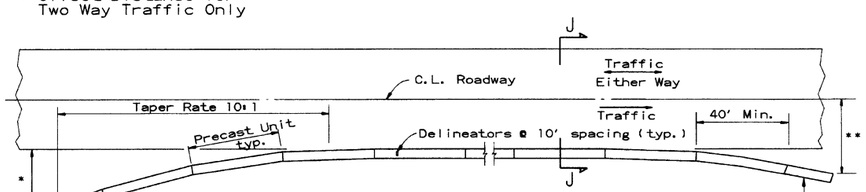


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

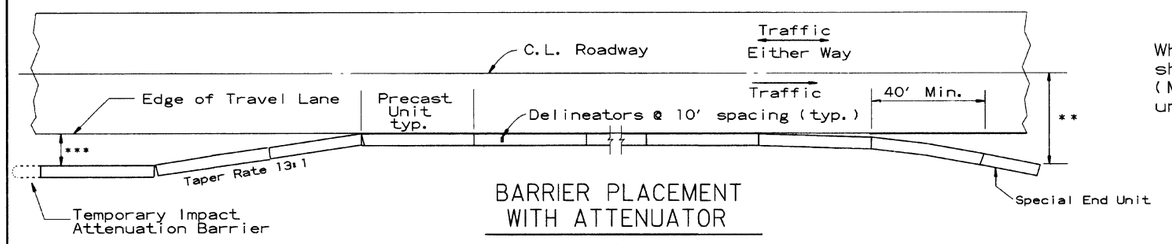
** Offset Distance For Two Way Traffic Only

* Offset Distance (See Table)

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

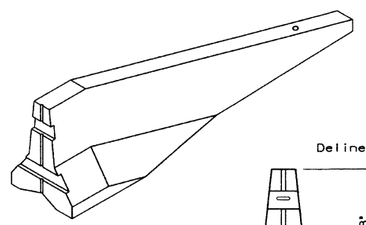


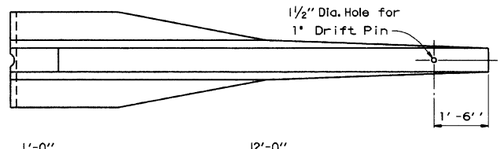
BARRIER PLACEMENT WITH ATTENUATOR

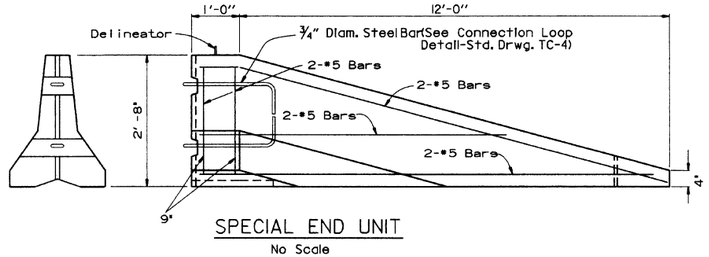
No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only







SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

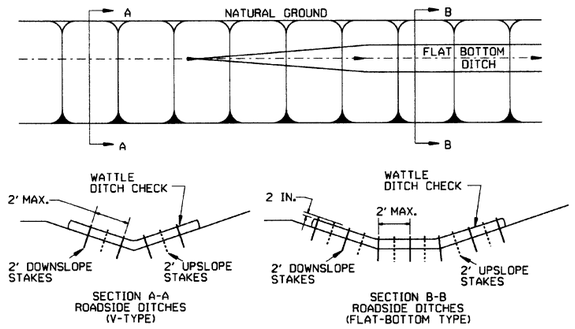
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

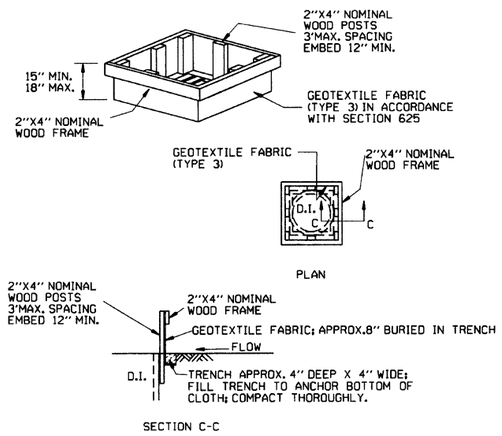
STANDARD DRAWING TC-5

GENERAL NOTES

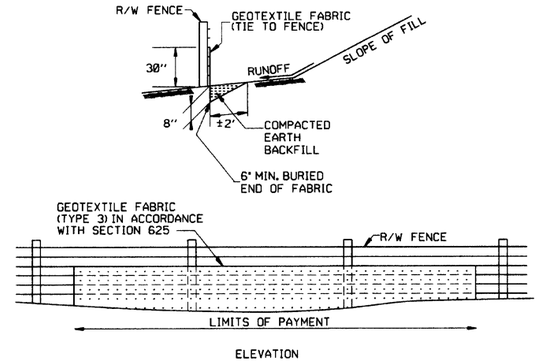
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

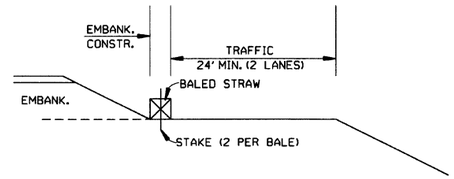
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

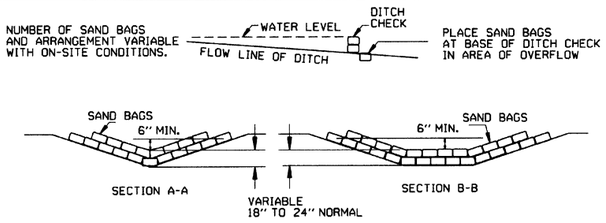
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

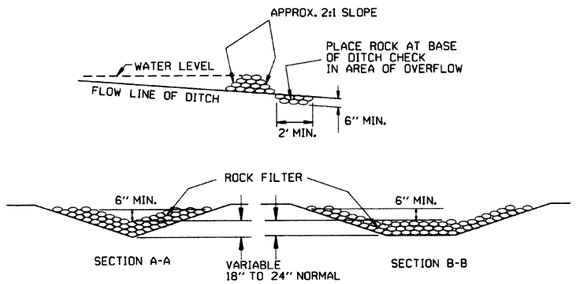
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



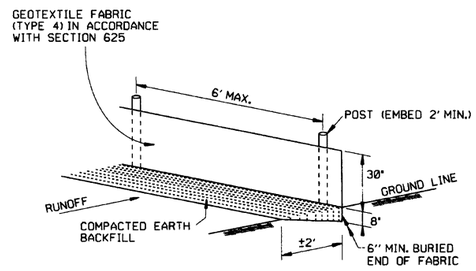
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

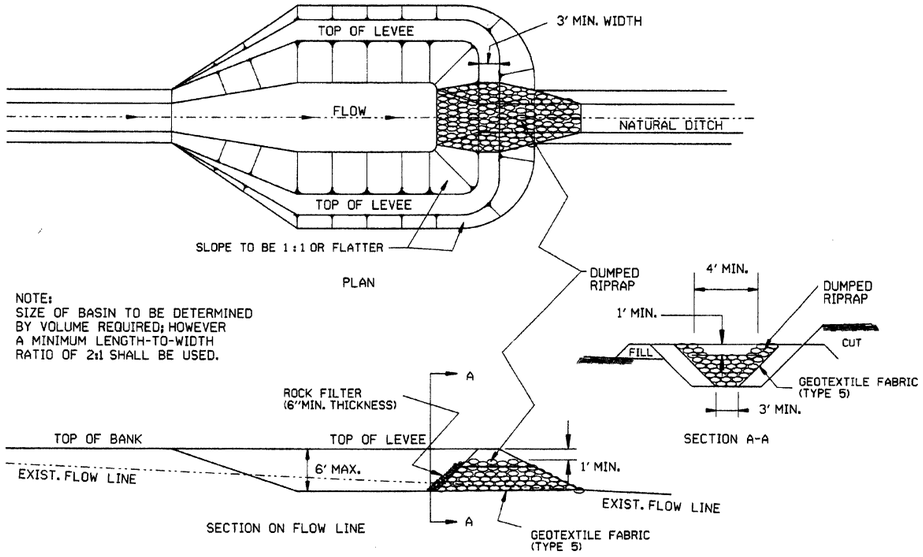
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

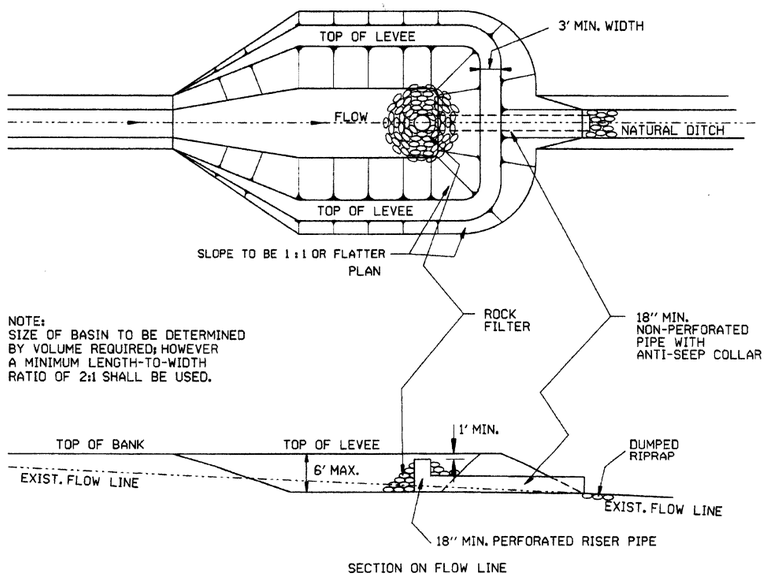
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

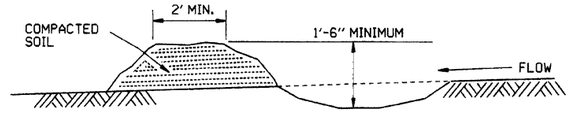
STANDARD DRAWING TEC-1



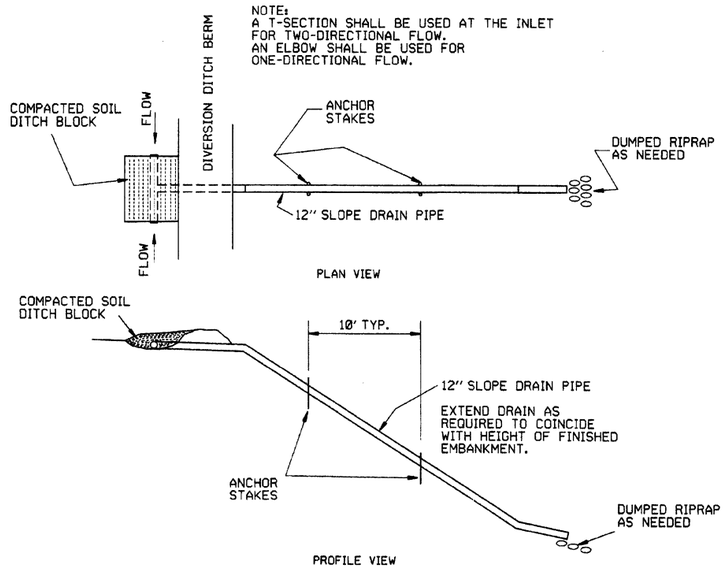
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



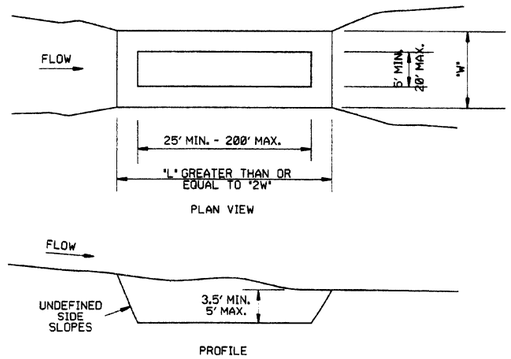
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

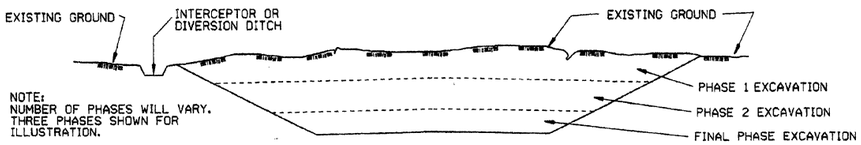
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



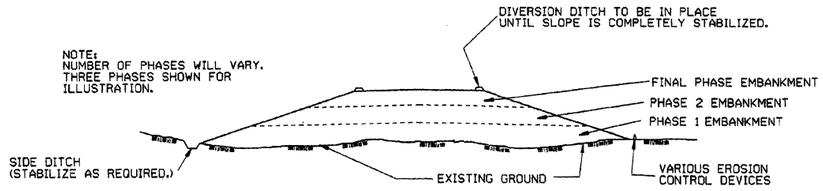
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES, CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

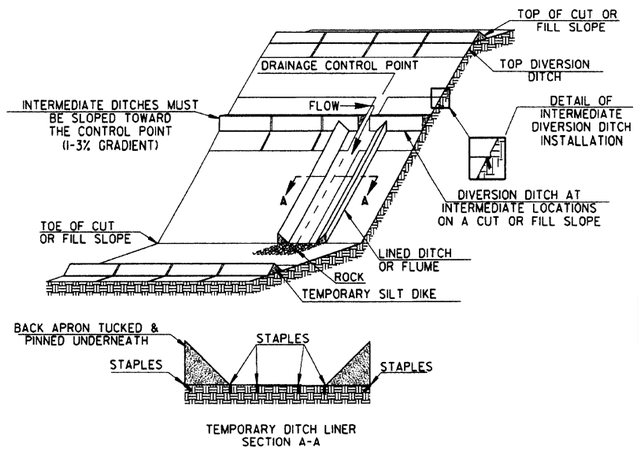
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

DATE	REVISION	FILMED
11-23-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

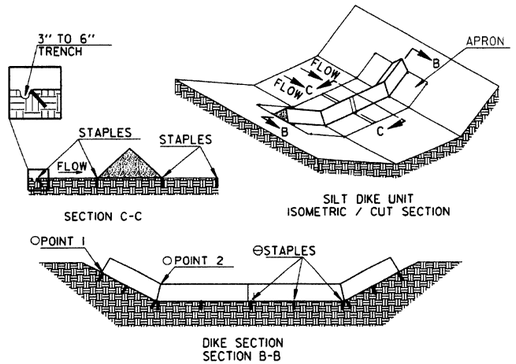
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3



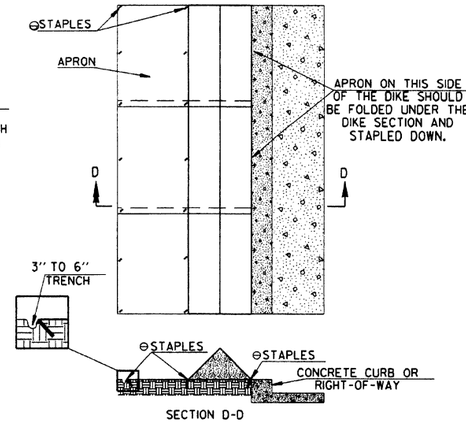
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



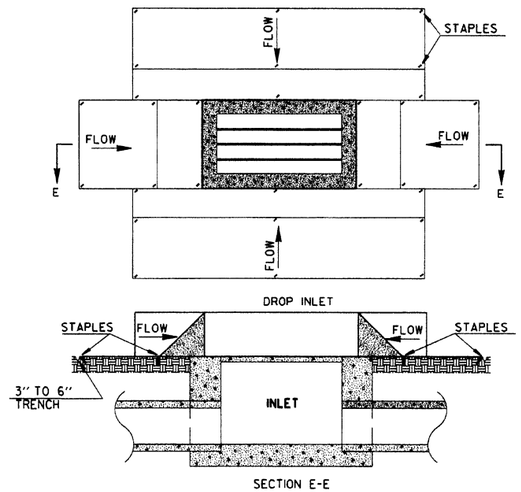
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

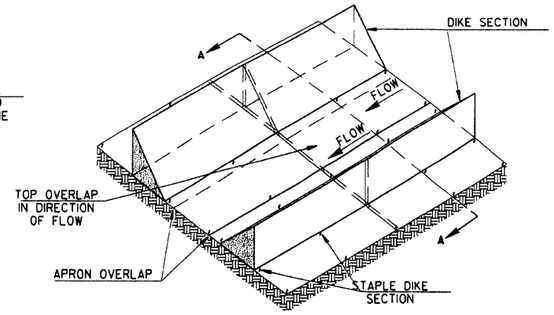
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

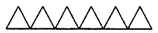
1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



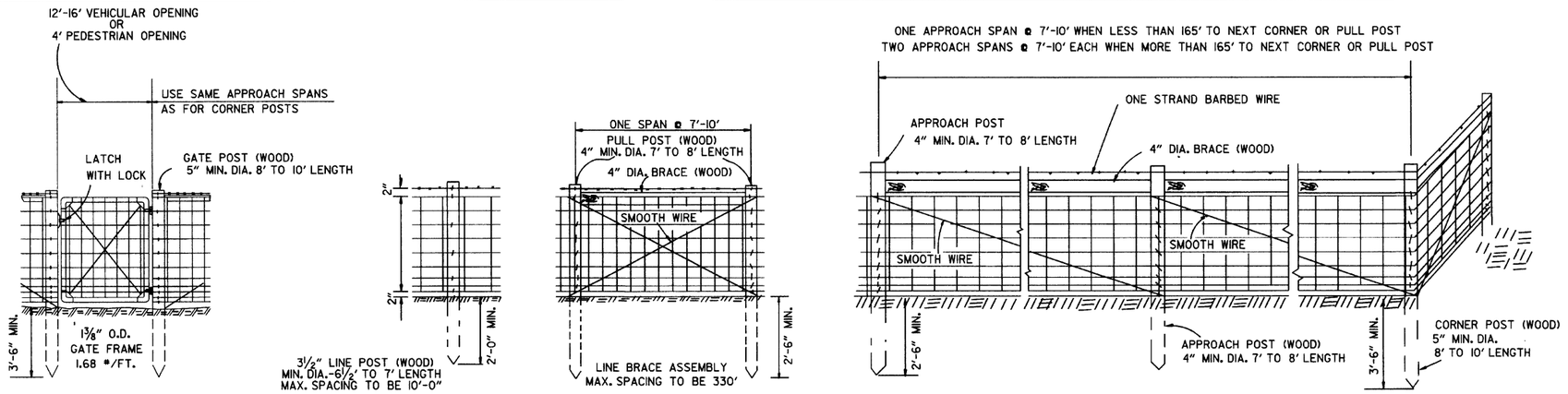
NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

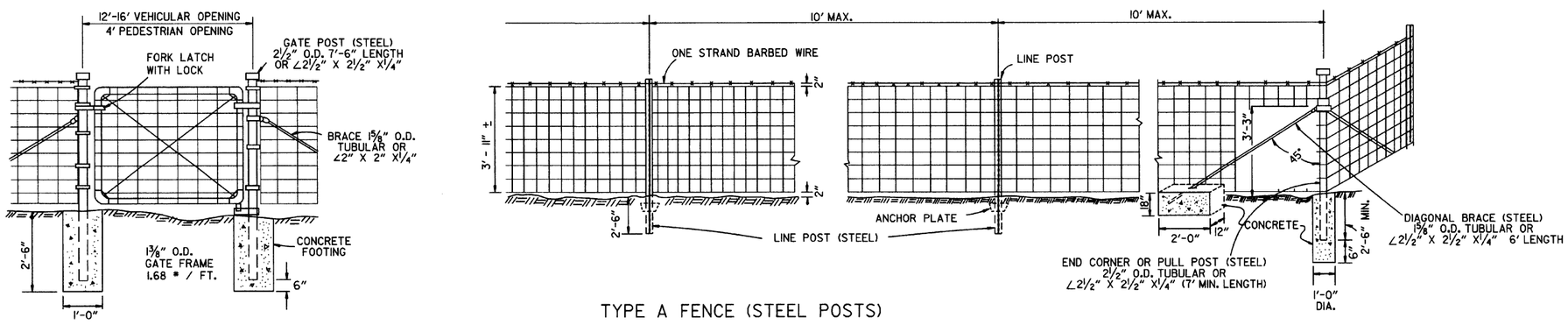
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4

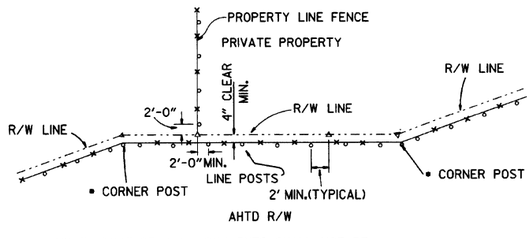


NOTE: STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.

TYPE A FENCE (WOOD POSTS)



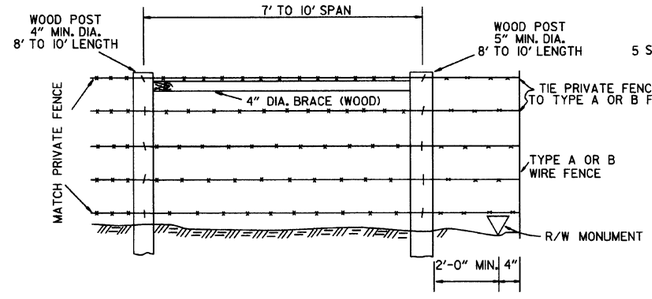
TYPE A FENCE (STEEL POSTS)



•NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

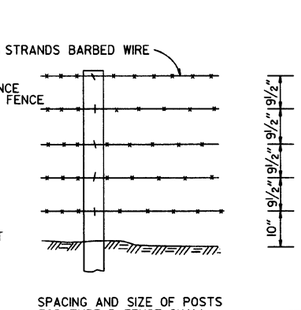
△ - R/W MONUMENTS
○ - FENCE POSTS

RIGHT-OF-WAY FENCE LOCATION



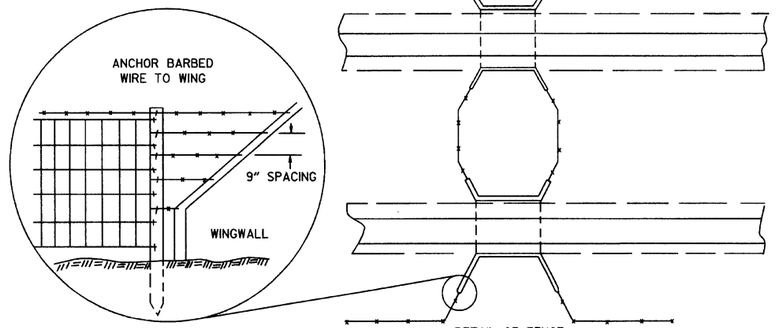
WHERE EXISTING PRIVATE FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN WITH TYPE A FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

PRIVATE FENCE TERMINAL INSTALLATION



SPACING AND SIZE OF POSTS FOR TYPE B FENCE SHALL BE THE SAME AS TYPE A FENCE.

TYPE B FENCE



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)

GENERAL NOTES:

STEEL LINE POSTS SHALL BE GALVANIZED, 7 FT. IN LENGTH.

TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK).

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF WOOD LINE POSTS OF 7' LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

GATE HINGES AND LATCHES WITH LOCKS TO BE OF A TYPE APPROVED BY THE ENGINEER. DRIVEWAY GATES, EITHER SINGLE 12' OR 16' OR DOUBLE 6' TO 8' OPENINGS OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE FOR USE BY MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF BANK TO THE BRIDGE STRUCTURE, A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFIEICNT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO THE BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE "WESTERN UNION METHOD" AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE "EYE METHOD": AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRE A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

DATE	REVISION	DATE FILMED
8-22-02	REVISED GENERAL NOTES	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-22-95	REVISED R-O-W LOCATION DETAIL	
6-2-94	ADDED CORNER POST NOTE	6-2-94
8-5-93	REVISED R-O-W LOCATION DETAIL	8-5-93
10-1-92	ADDED STAPLE NOTE	
8-2-90	REV'D PULL POST LENGTH	
11-30-89	DELETED CLASS CONC.	
7-15-88	ADDED SPLICE NOTES	
7-15-88	ADDED HEIGHT DIMENSION	
4-3-87	REVISED VARIOUS NOTES	
	AND GENERAL NOTES	
11-1-84	MAX. POST SPACING	
1-4-83	MIN. DIA. LINE POST	
10-2-72	REVISED & REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE A AND B

STANDARD DRAWING WF-1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	250	262

(2) CROSS SECTIONS

END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
20	324		
		74	1076
20	257		
		83	672
25	106		
		26	81
9	0		
		0	0

STA. 1868+58.96 TO STA. 1871+00

JACOBS

c:\pwworking\ndal\rayr1\d0111634\WL_XM2620-Cross-Section1.dgn
10:11:53 AM
7/29/2016
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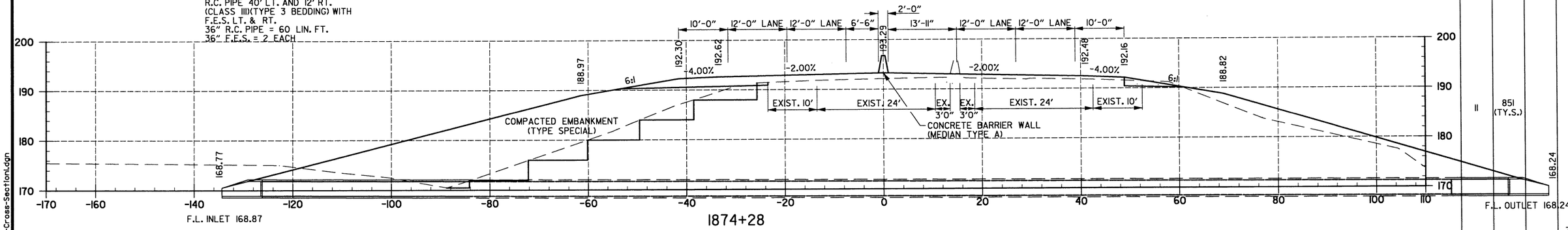
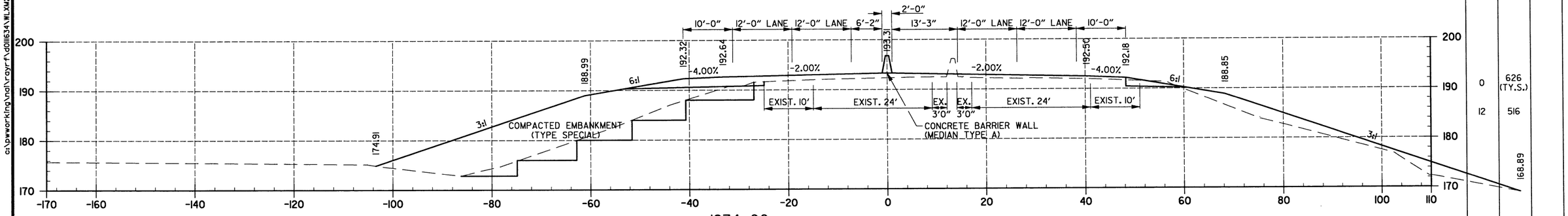
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

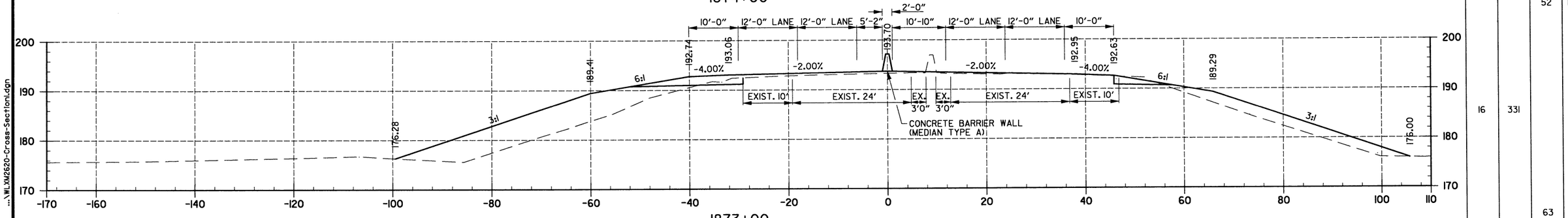
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	251	262

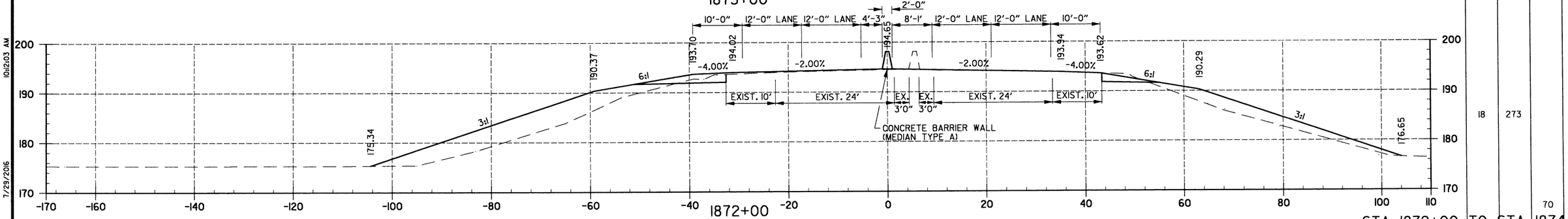
(2) CROSS SECTIONS

STA. 1874+28 IN PLACE
36"x202' R.C. PIPE CULVERT
10° LT. FWD. SKEW
WITH HDWLS. LT. & RT.
REMOVE HDWLS. LT. & RT. AND EXTEND
R.C. PIPE 40' LT. AND 12' RT.
(CLASS III)(TYPE 3 BEDDING) WITH
F.E.S. LT. & RT.
36" R.C. PIPE = 60 LIN. FT.
36" F.E.S. = 2 EACH







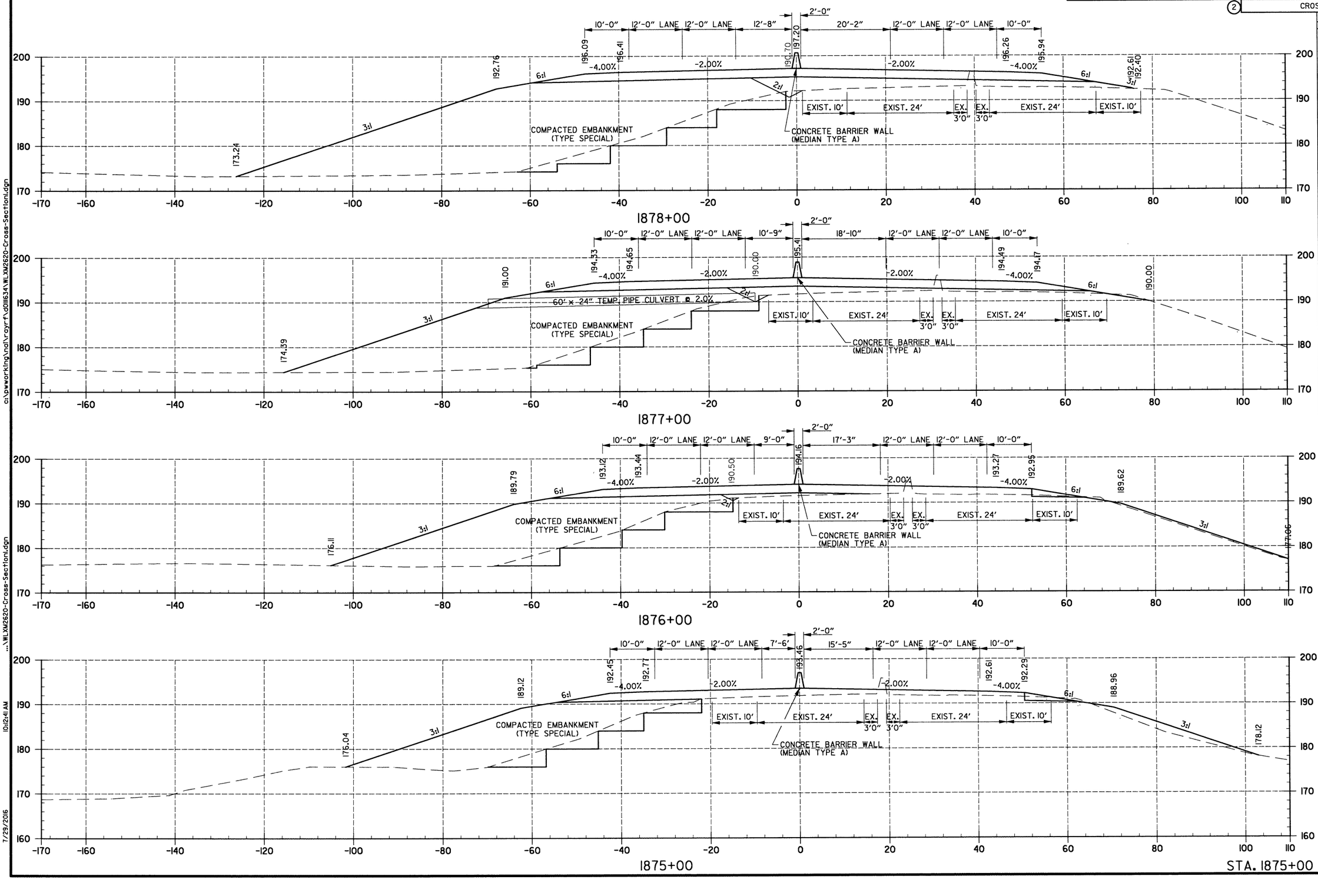


	END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	252	262

(2) CROSS SECTIONS



END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
0	1593 (TY.S.)		
		6	5002 (TY.S.)
3	1108 (TY.S.)		
		15	3454 (TY.S.)
5	757 (TY.S.)		
		28	2537 (TY.S.)
10	613 (TY.S.)		
		28	1952 (TY.S.)

STA. 1875+00 TO STA. 1878+00

JACOBS

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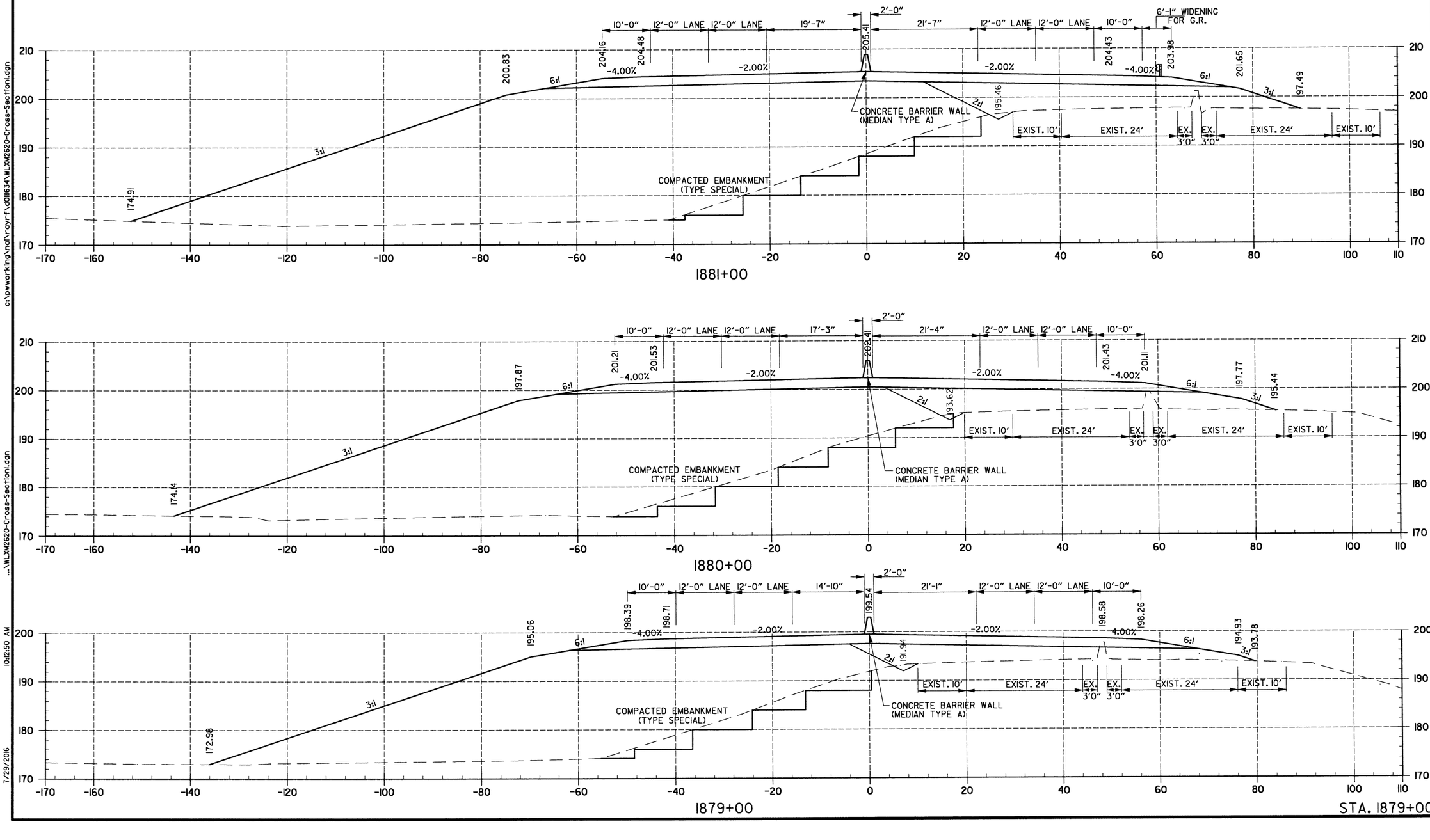
7/29/2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	253	262

(2) CROSS SECTIONS



	END AREA (S.F.)		VOLUME (C.Y.)	
	CUT	FILL	CUT	FILL
	0	3532 (TY.S.)	0	11746 (TY.S.)
	0	2811 (TY.S.)	0	9161 (TY.S.)
	0	2136 (TY.S.)	0	6906 (TY.S.)

STA. 1879+00 TO STA. 1881+00

JACOBS

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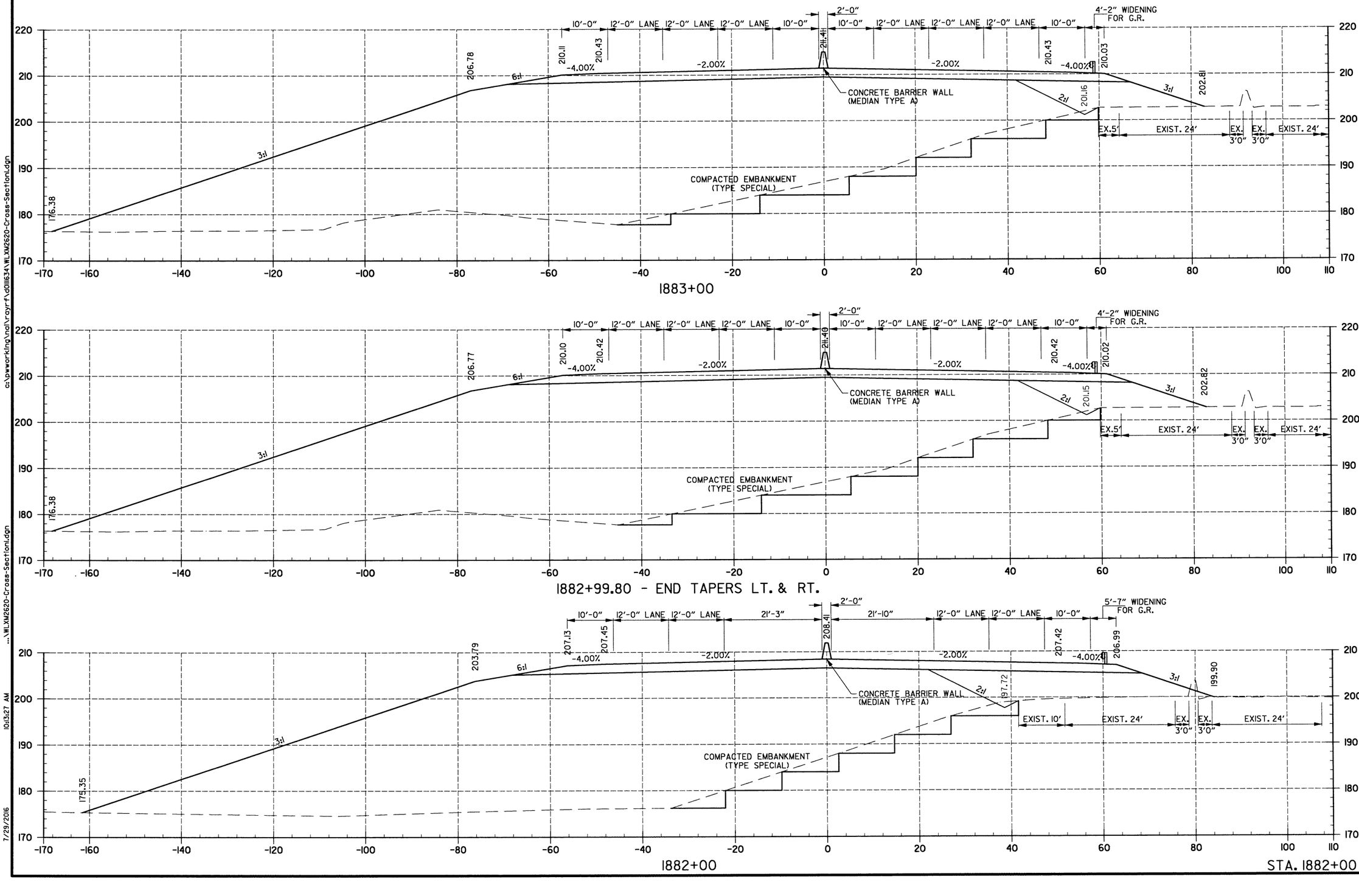
6	ARK.			
JOB NO.		BB0610	254	262

(2) CROSS SECTIONS



END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
0	4537 (TY.S.)	0	34 (TY.S.)
0	4532 (TY.S.)		
		0	16066 (TY.S.)
0	4161 (TY.S.)		
		0	14246 (TY.S.)

STA. 1882+00 TO STA. 1883+00

JACOBS

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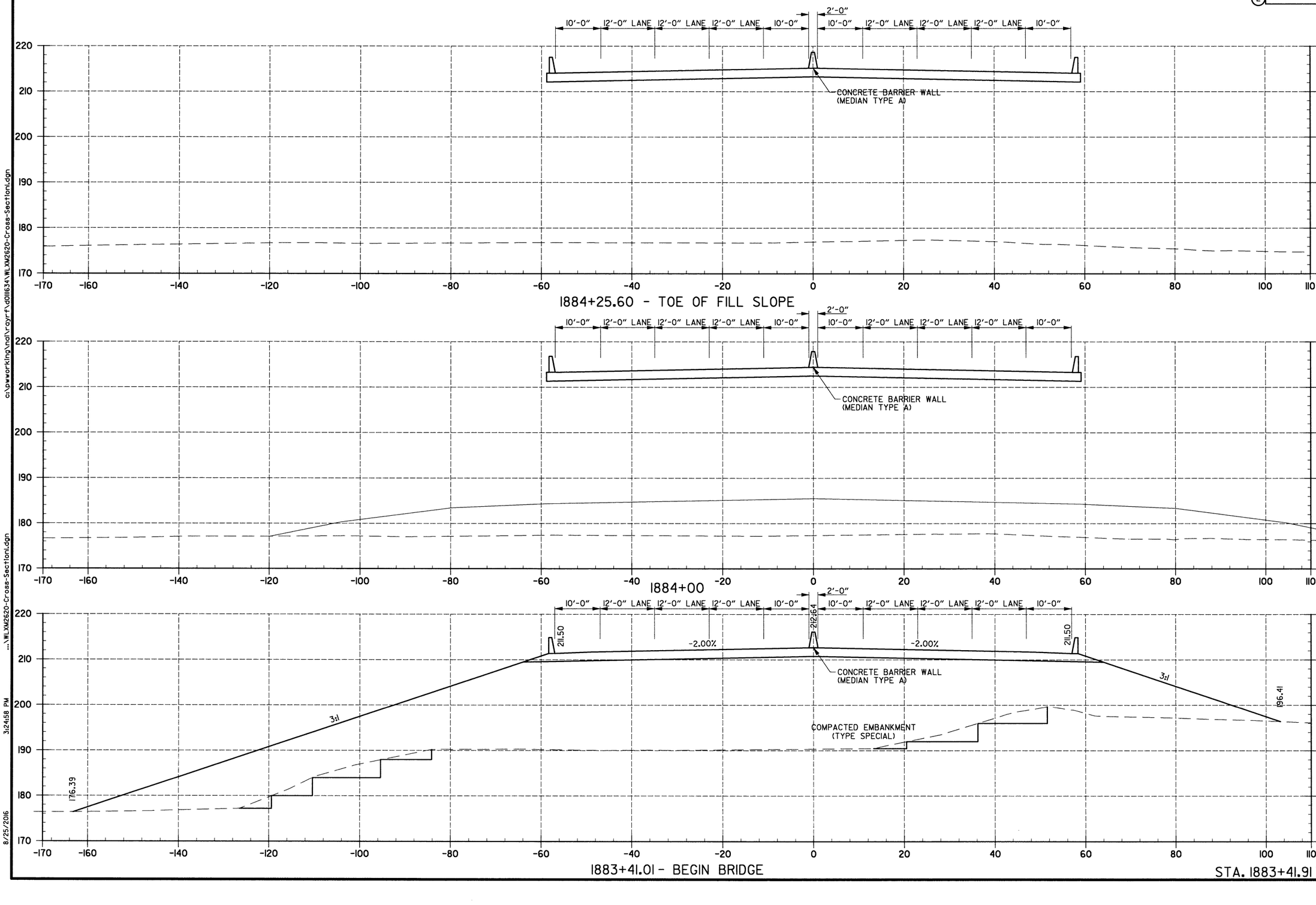
6	ARK.			
JOB NO.		BB0610	255	262

(2) CROSS SECTIONS



END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
0	0		
		0	699 (TY.S.)
0	1475 (TY.S.)		
		0	5482 (TY.S.)
0	3622 (TY.S.)		
		0	6334 (TY.S.)

STA. 1883+41.91 TO STA. 1884+25.60

JACOBS

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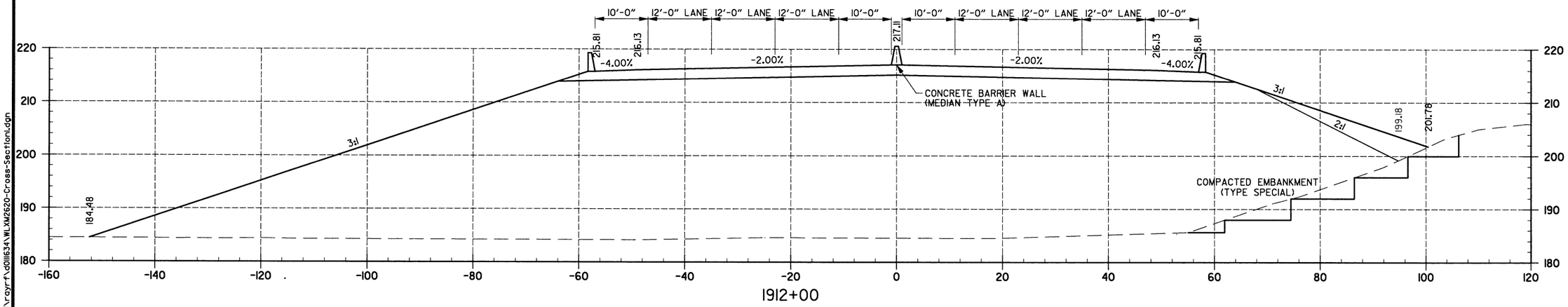
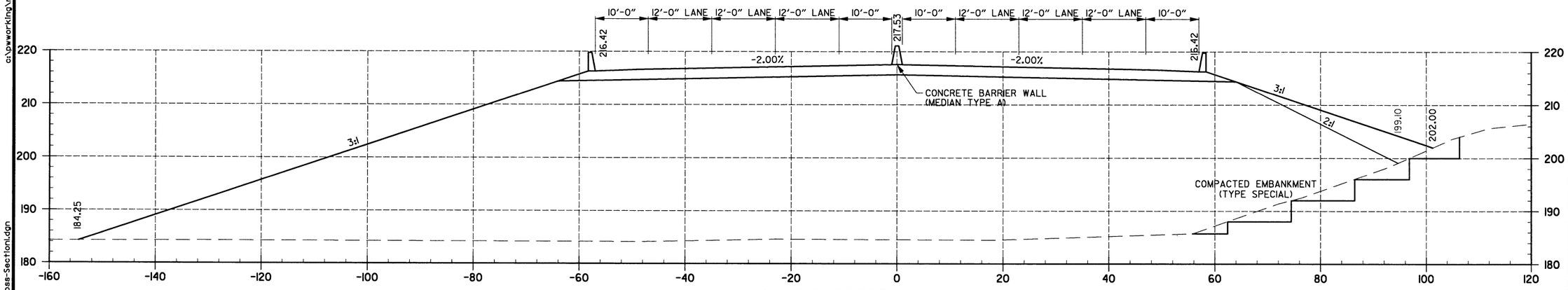
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
7-29-2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	256	262

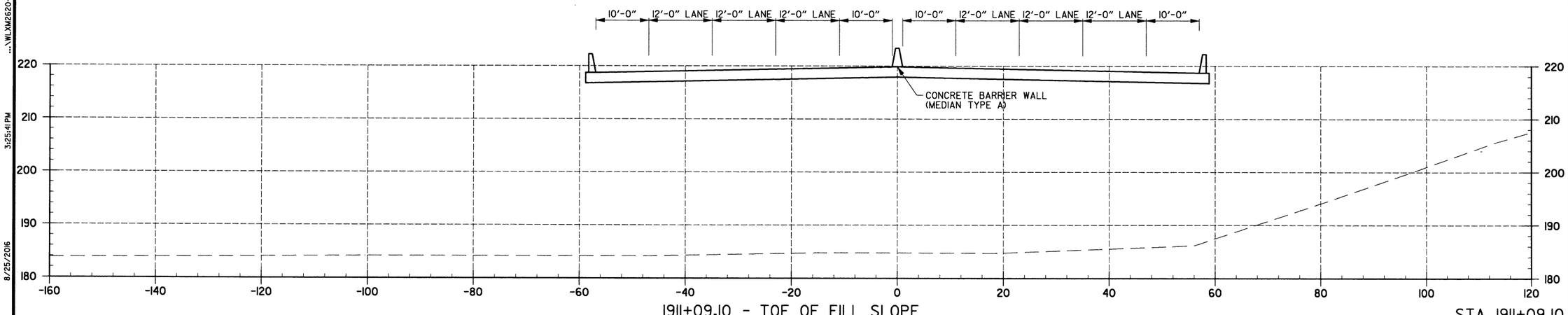
(2) CROSS SECTIONS



1912+00



1911+84.99 - END BRIDGE



1911+09.10 - TOE OF FILL SLOPE

	END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
	0	5695 (TY.S.)	0	3395 (TY.S.)
	0	5822 (TY.S.)	0	8084 (TY.S.)
	0	0 (TY.S.)	0	0 (TY.S.)

STA. 1911+09.10 TO STA. 1912+00

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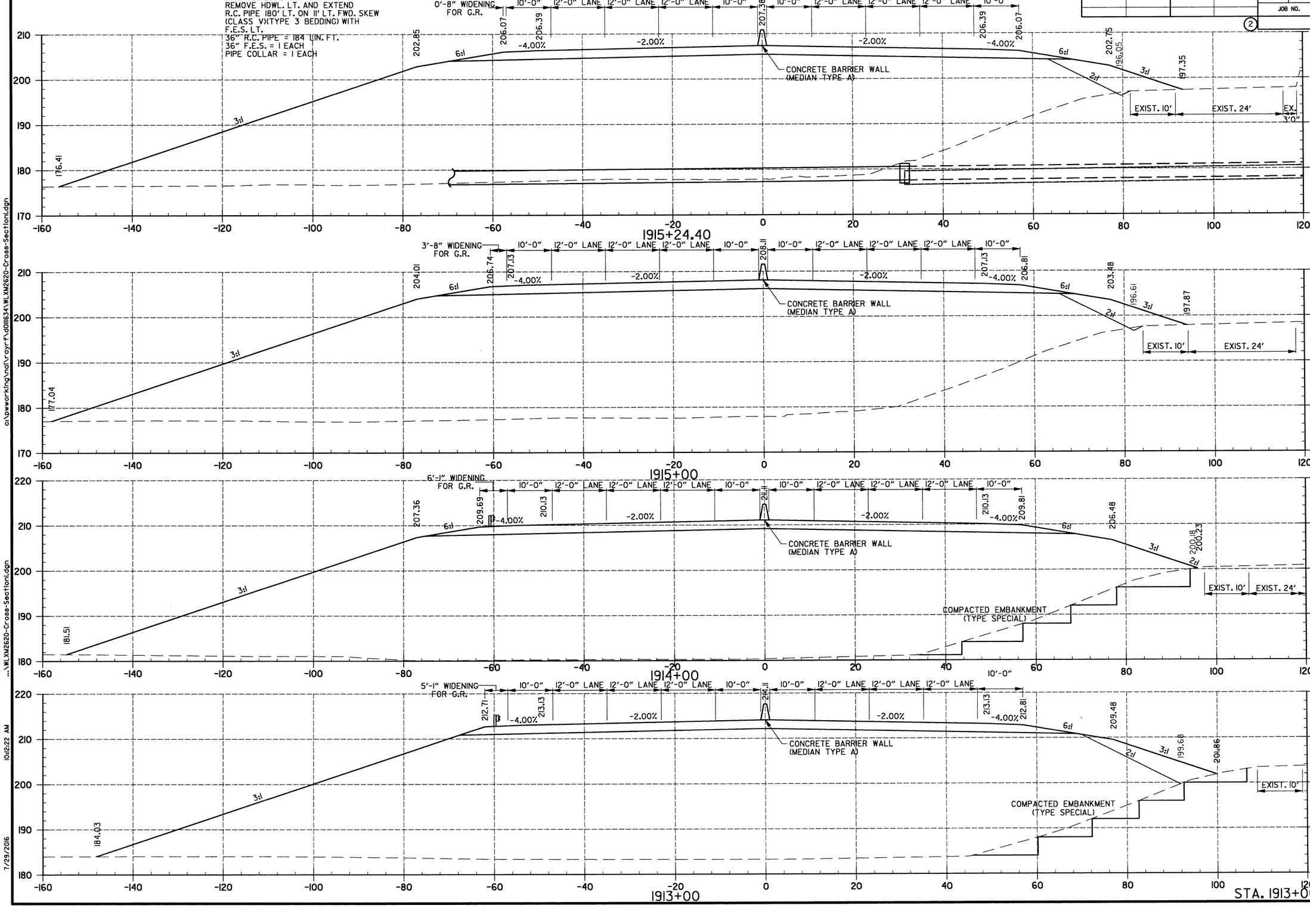
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	257	262

CROSS SECTIONS

STA. 1915+24.4 IN PLACE
36"x171' R.C. PIPE CULVERT
WITH HDWLS. LT. & RT.
REMOVE HDWL. LT. AND EXTEND
R.C. PIPE 180' LT. ON 11° LT. FWD. SKEW
(CLASS V)(TYPE 3 BEDDING) WITH
F.E.S. LT.
36" R.C. PIPE = 184 LIN. FT.
36" F.E.S. = 1 EACH
PIPE COLLAR = 1 EACH



END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
0	4671		
		0	4314
0	4876		
		0	18507
0	5118		
0	5238 (TY.S.)		
		0	19452 (TY.S.)
0	5266 (TY.S.)		
		0	20298 (TY.S.)

STA. 1913+00 TO STA. 1915+24.40

JACOBS

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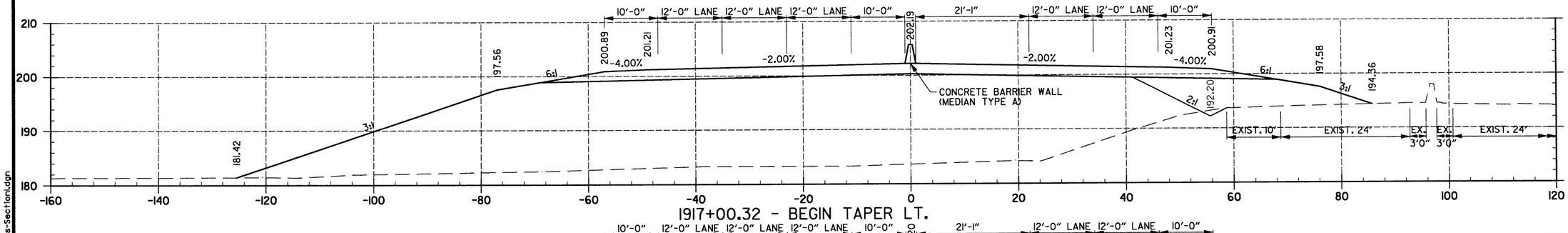
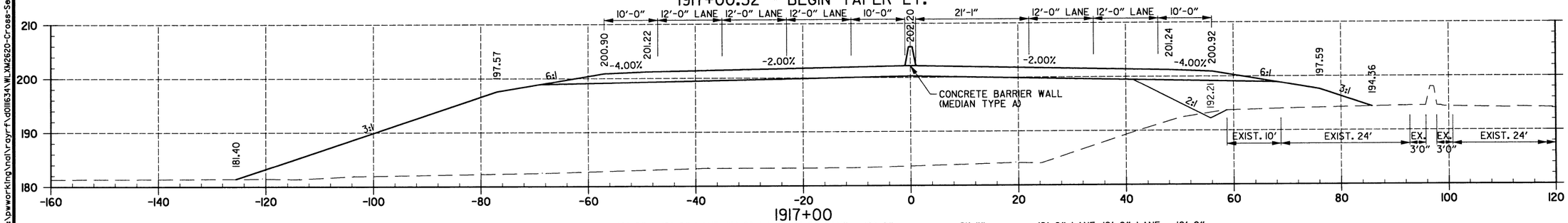
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	258	262

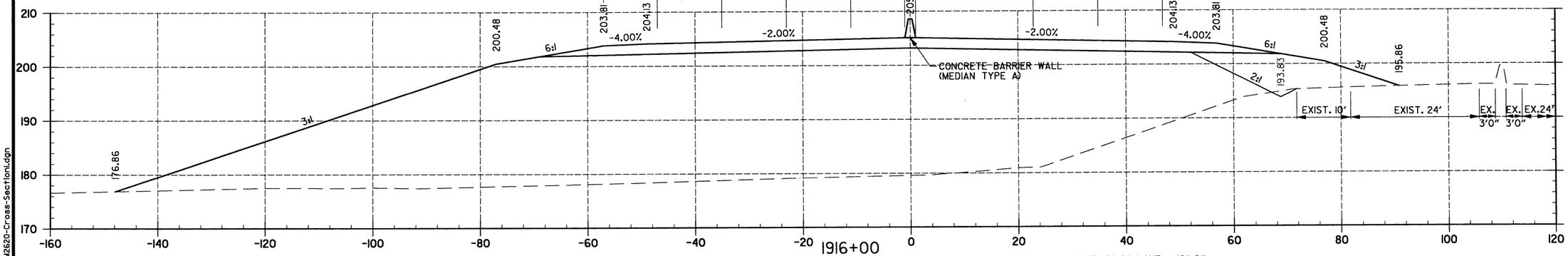
(2) CROSS SECTIONS



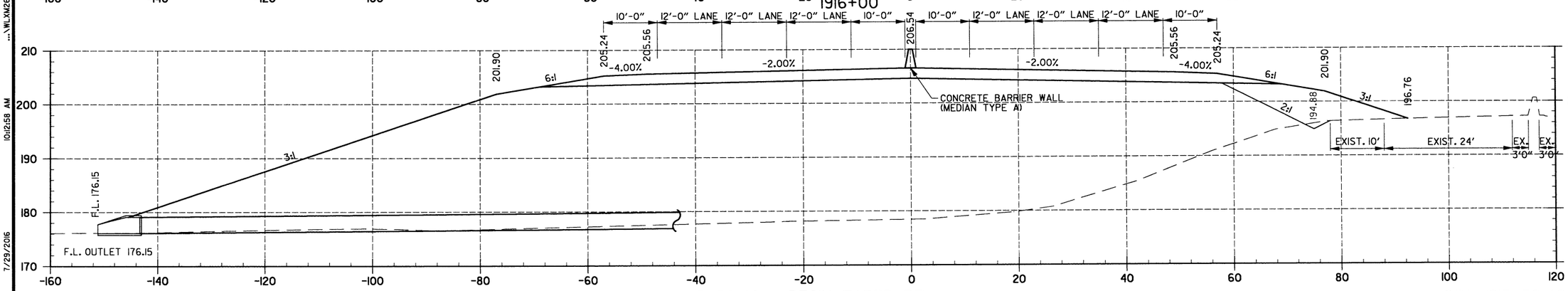
1917+00.32 - BEGIN TAPER LT.



1917+00



1916+00



1915+52.46 - BEGIN TAPER RT.

END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
0	2464		
		0	29
0	2468		
		0	11739
0	3871		
		0	7284
0	4403		
		0	4715

STA. 1915+52.46 TO STA. 1917+00.32

JACOBS

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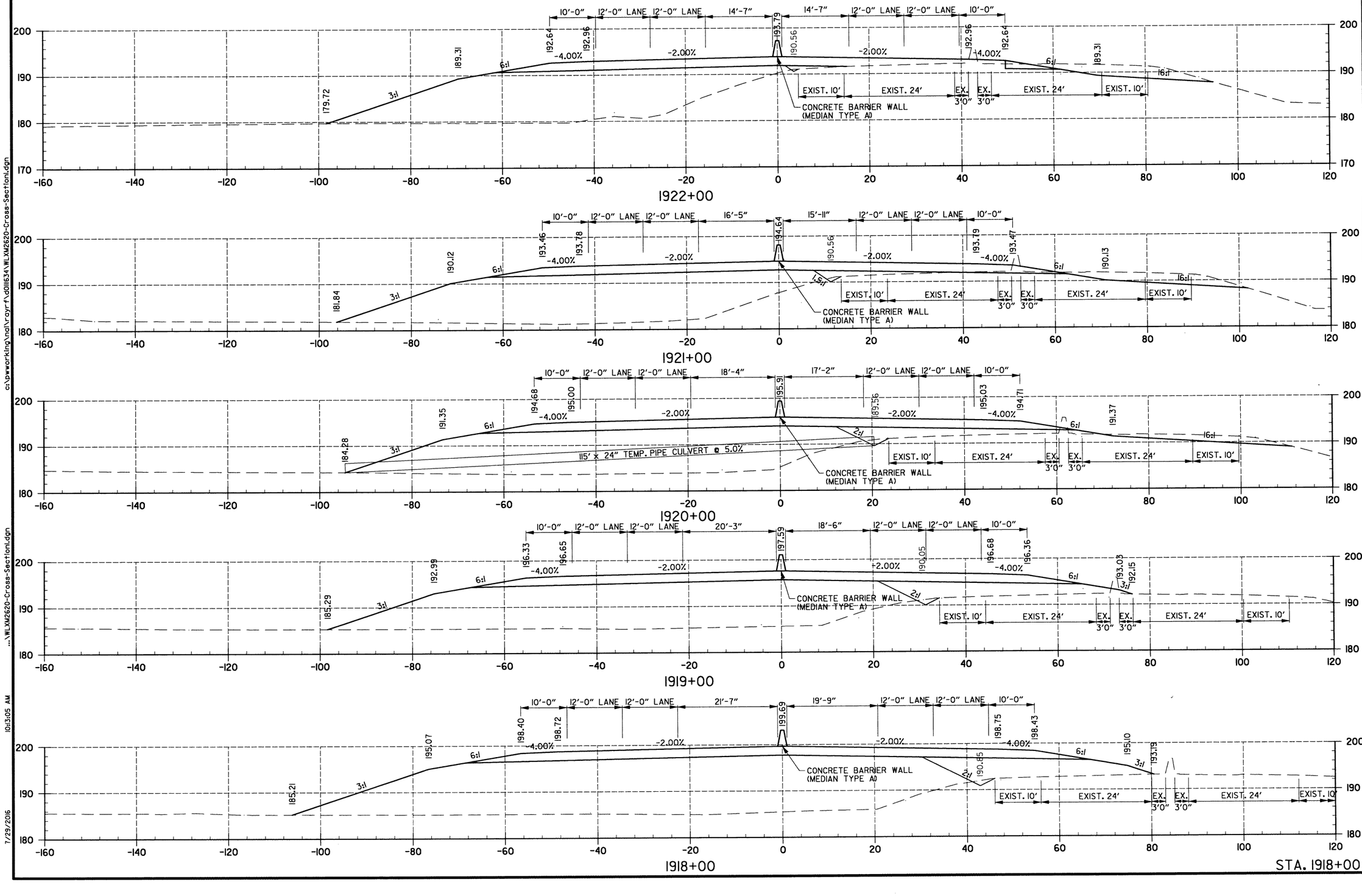
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	259	262

(2) CROSS SECTIONS



END AREA (S.F.) CUT	END AREA (S.F.) FILL	VOLUME (C.Y.) CUT	VOLUME (C.Y.) FILL
100	760		
		315	2974
70	846		
		204	3289
40	930		
		74	3835
0	1141		
		0	5057
0	1590		
		0	7483

STA. 1918+00 TO STA. 1922+00

JACOBS

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7/29/2016

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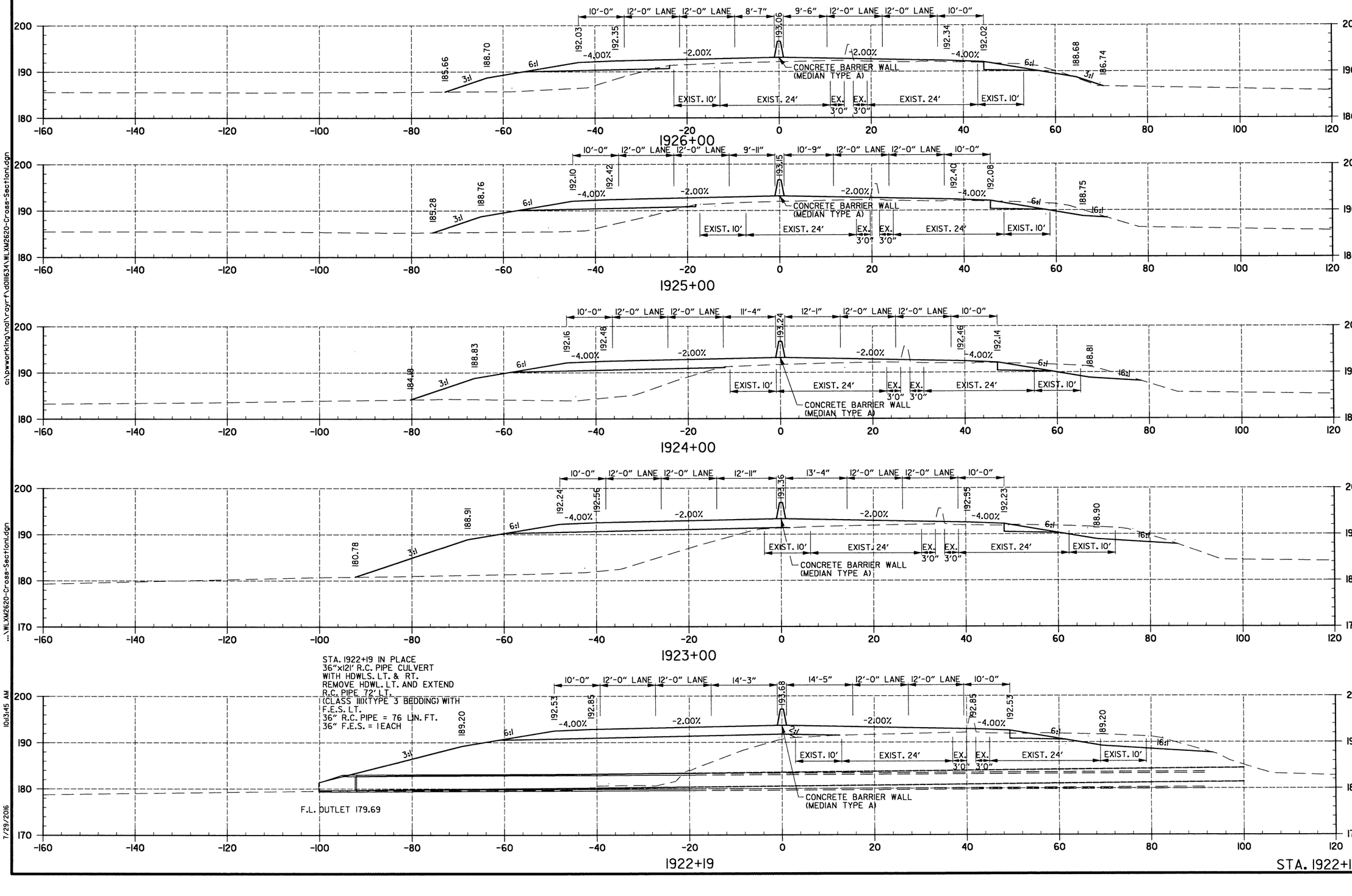
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0610	260	262

(2) CROSS SECTIONS



	END AREA (S.F.)		VOLUME (C.Y.)	
	CUT	FILL	CUT	FILL
1926+00	22	126		
			104	554
1925+00	34	173		
			154	852
1924+00	49	287		
			217	1472
1923+00	68	508		
			215	1935
1922+19	75	782		
			62	543

STA. 1922+19 TO STA. 1926+00

JACOBS

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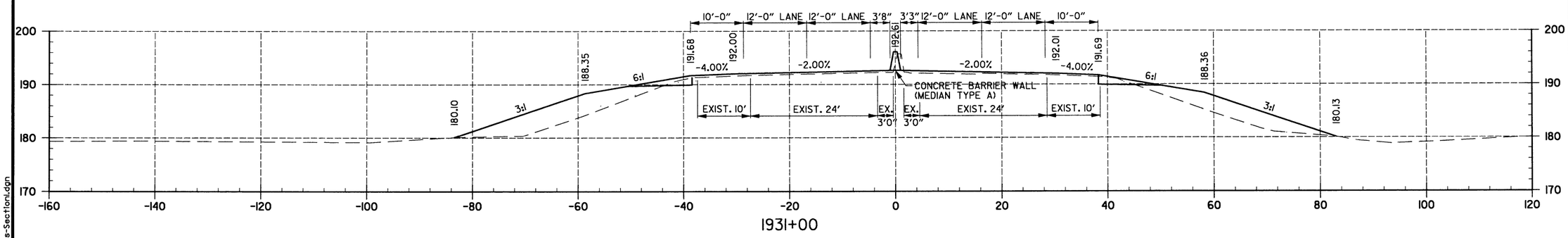
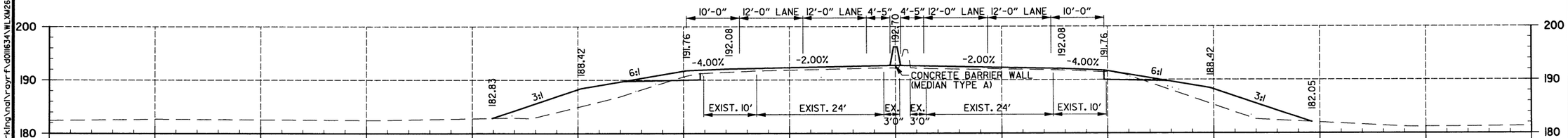
				6	ARK.			
				JOB NO.		BB0610	261	262

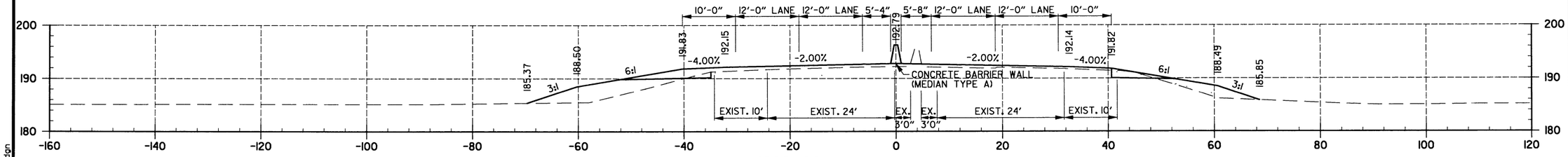
(2) CROSS SECTIONS



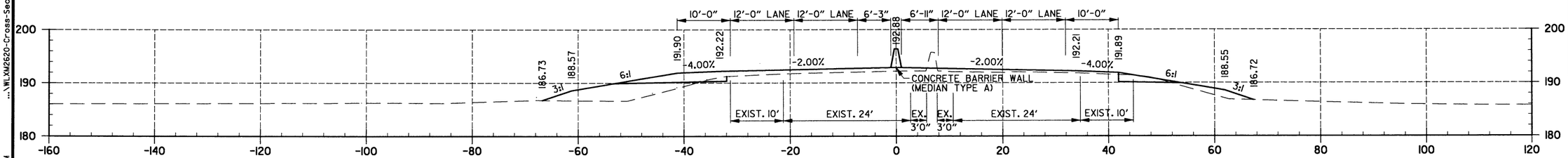
1931+00



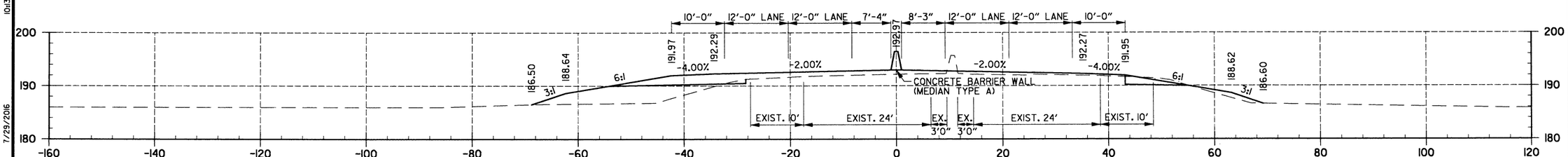
1930+00



1929+00



1928+00



1927+00

	END AREA (S.F.)		VOLUME (C.Y.)	
	CUT	FILL	CUT	FILL
	10	190		
			39	602
	11	135		
			41	404
	11	83		
			43	285
	12	71		
			44	293
	12	87		
			63	394

STA. 1927+00 TO STA. 1931+00

JACOBS

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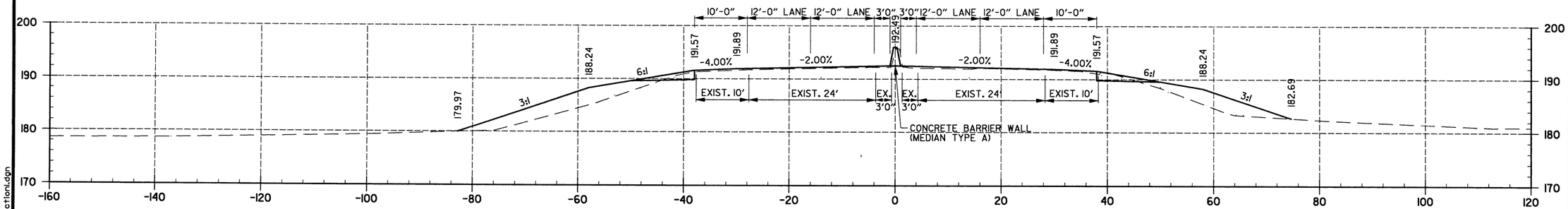
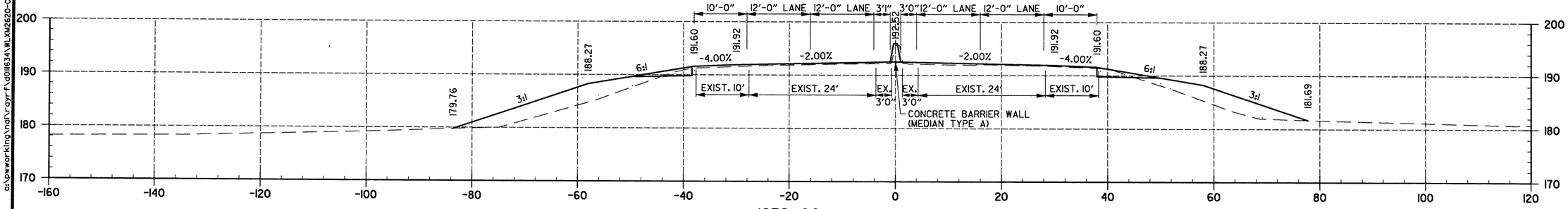
				6	ARK.			
				JOB NO.		BB0610	262	262

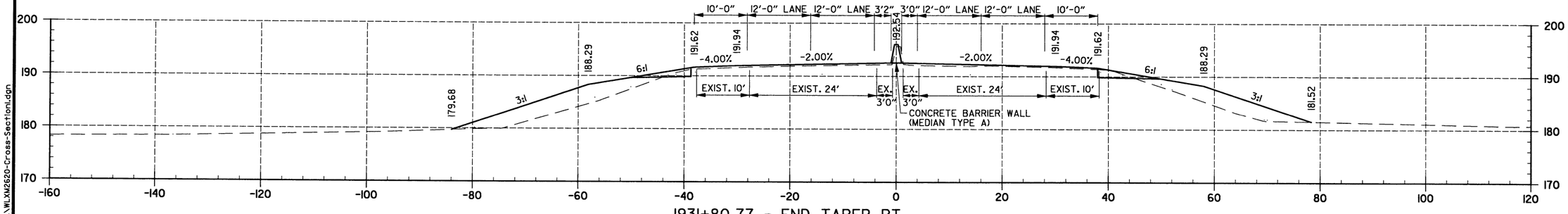
(2) CROSS SECTIONS



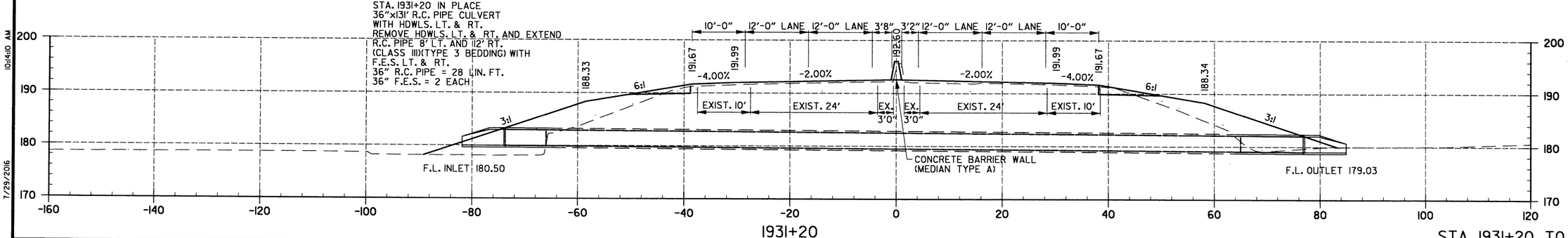
1932+40.53 - END TAPER LT. END JOB



1932+00



1931+80.77 - END TAPER RT.



1931+20

	END AREA (S.F.)		VOLUME (C.Y.)	
	CUT	FILL	CUT	FILL
	12	134		
			18	218
	12	157		
			8	115
	11	166		
			24	487
	10	267		
			7	169

STA. 1931+20 TO STA. 1932+40.53

JACOBS

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