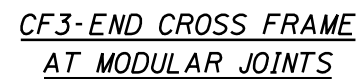
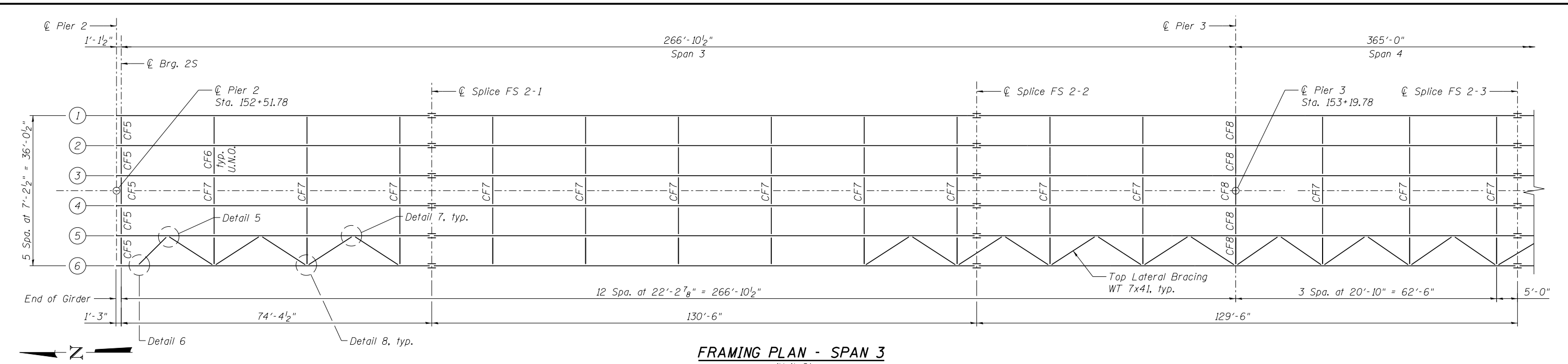


** Weld on near side of $\frac{1}{2}$ " plate.

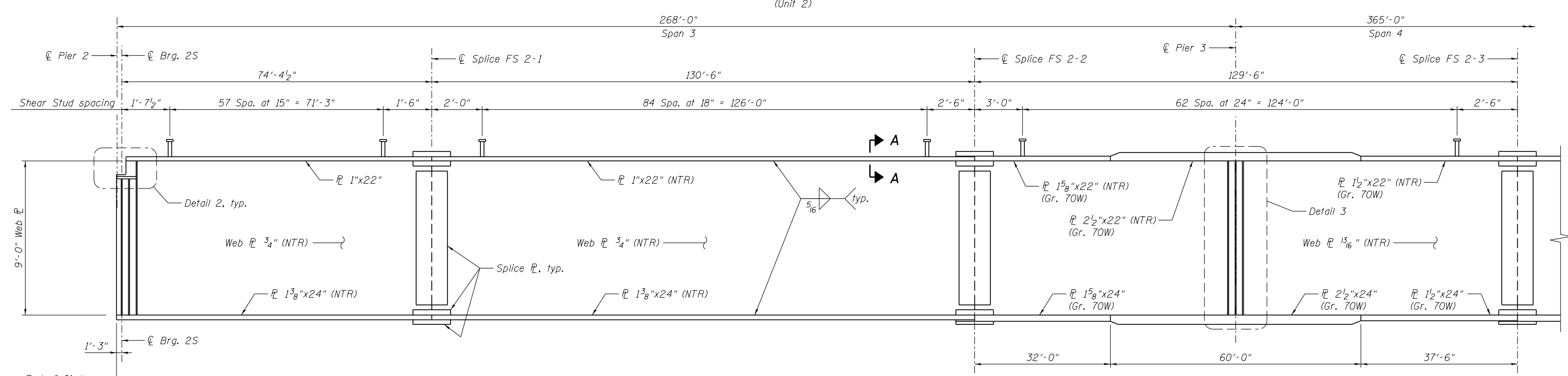


1. All cross frame connectors shall have $1\frac{5}{16}$ " ϕ holes for $3\frac{3}{4}$ " ϕ H.S. bolts. Two hardened washers required for each set of oversized holes.
2. All cross frames shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames at supports may be temporarily disconnected to install bearing anchor bolts.
3. The four circled bolts shown in Interior Cross Frame CF4, shall be high strength AASHTO M253 Type 3, $7\frac{8}{16}$ " ϕ bolts in $1\frac{5}{16}$ " ϕ holes, and shall be located as shown.

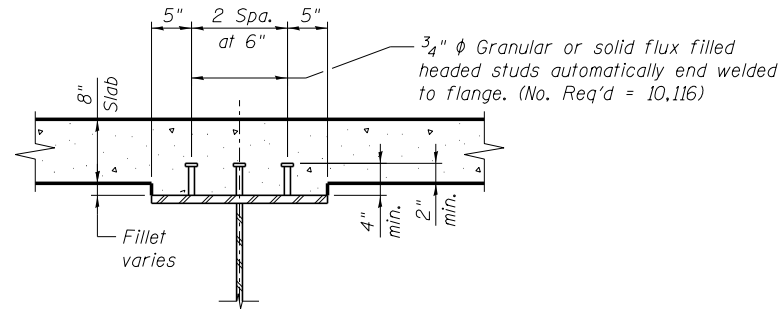




FRAMING PLAN - SPAN 3
(Unit 2)



GIRDER ELEVATION - SPAN 3
(Unit 2)



SECTION A-A

NOTES:

1. All girder webs and flanges shall be AASHTO M270 Grade 50W Steel, unless noted otherwise.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Impact Testing Requirements, Zone 2.
3. See sheet S49 for Details 2 & 3.
4. See sheet S50 for Details 5 thru 8.
5. Adjust location of Shear studs to miss lateral bracing bolts.

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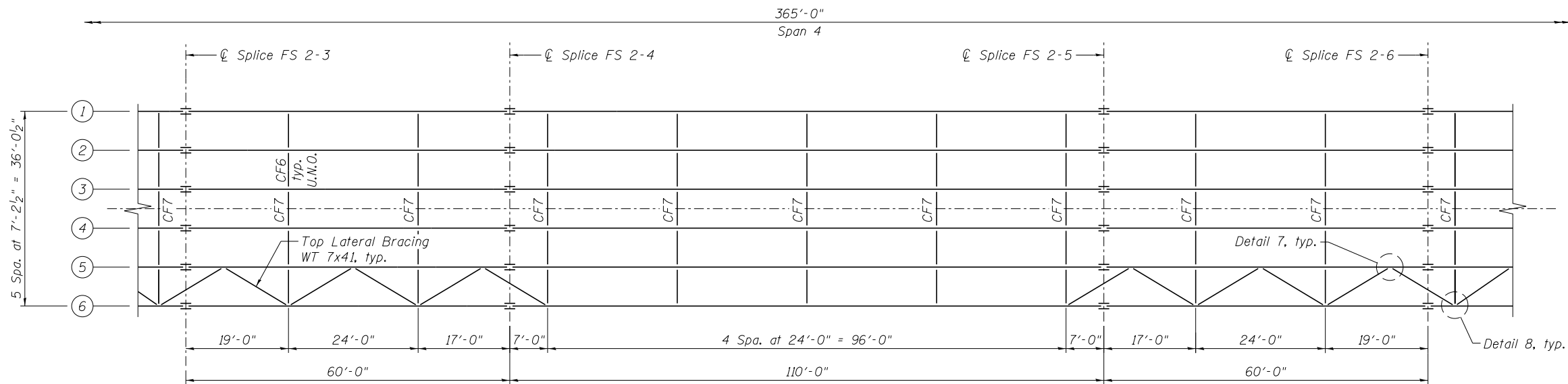
STATE OF ILLINOIS
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FRAMING PLAN AND GIRDER ELEVATION I - UNIT 2
STRUCTURE NO. 078-0047

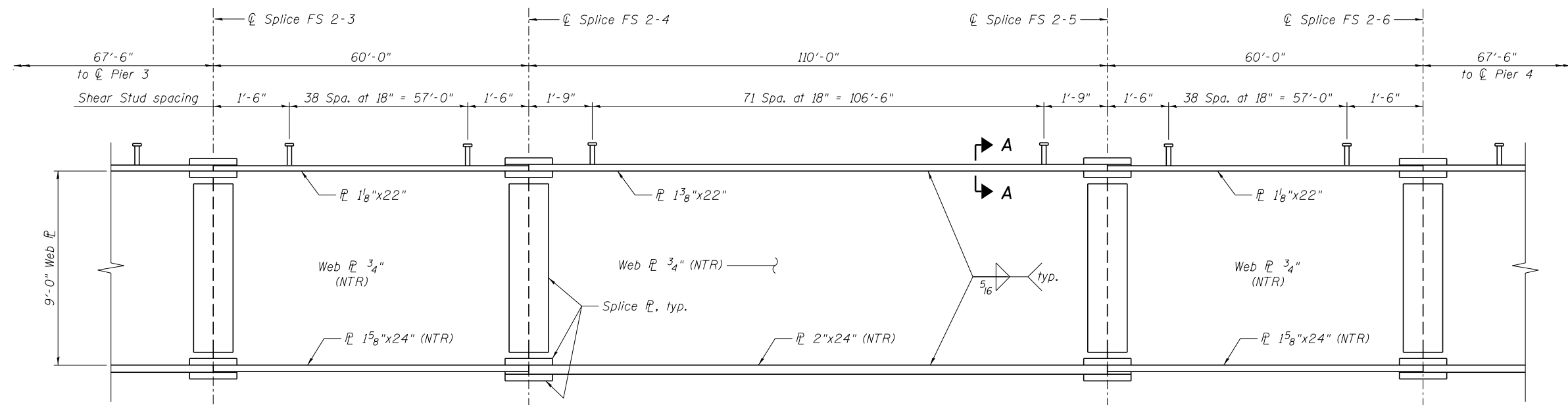
SHEET NO. S46 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	203
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

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FRAMING PLAN - PARTIAL SPAN 4
(Unit 2)



GIRDER ELEVATION - PARTIAL SPAN 4
(Unit 2)

NOTE:

1. See Sheet 46 for notes.



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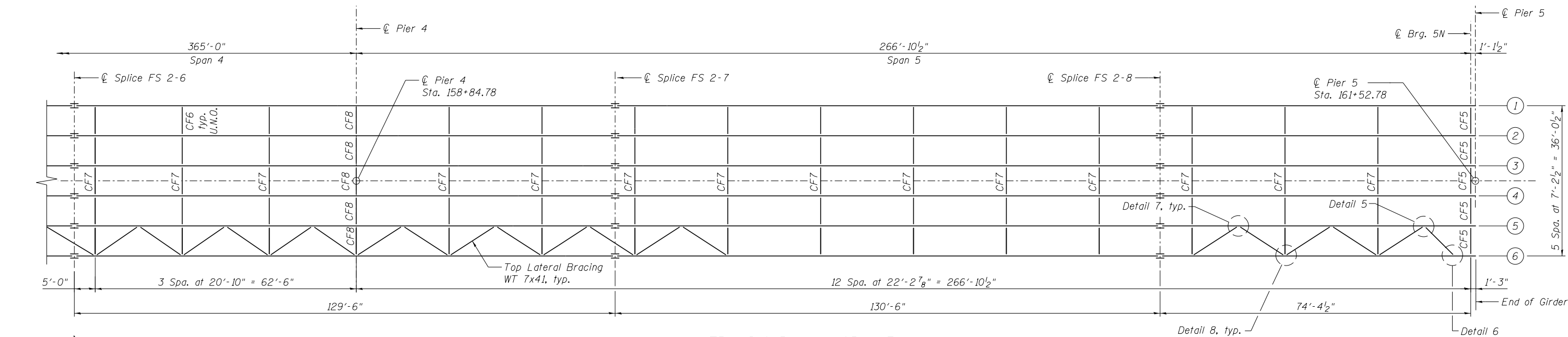
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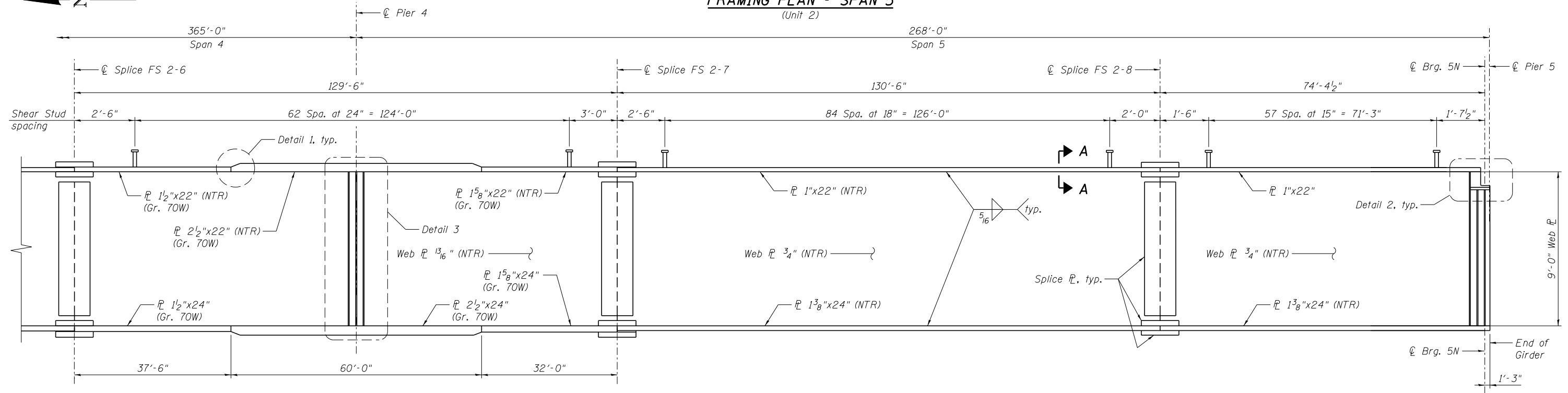
FRAMING PLAN AND GIRDER ELEVATION II - UNIT 2
STRUCTURE NO. 078-0047

SHEET NO. S47 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	204
		CONTRACT NO. 66A69		
		ILLINOIS FED. AID PROJECT		



FRAMING PLAN - SPAN 5
(Unit 2)



GIRDER ELEVATION - SPAN 5
(Unit 2)

NOTE:

1. See Sheet 46 for notes.



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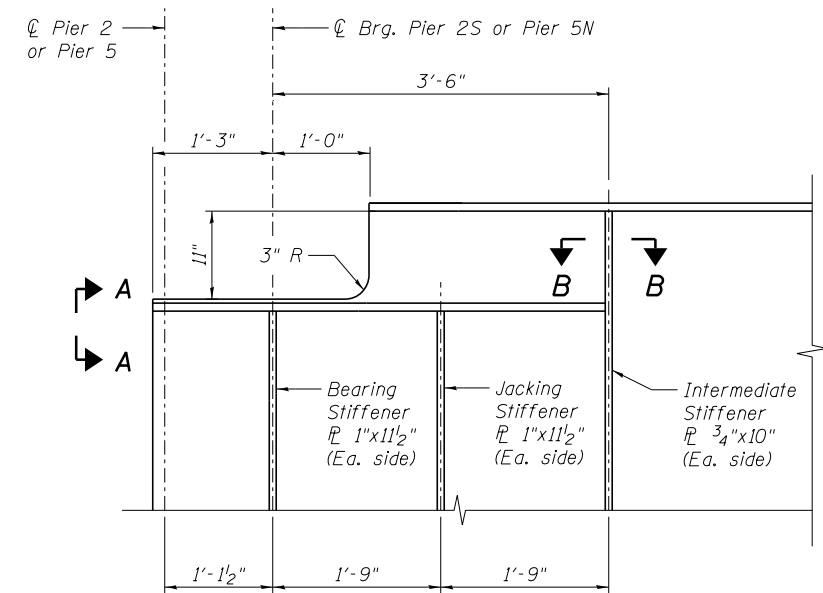
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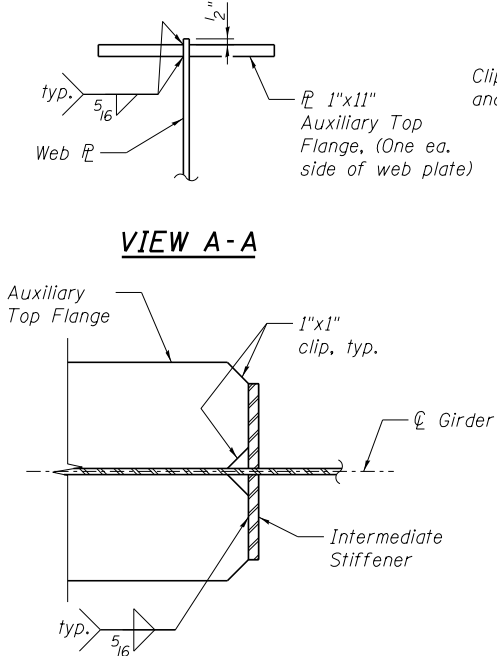
FRAMING PLAN AND GIRDER ELEVATION III - UNIT 2
STRUCTURE NO. 078-0047

SHEET NO. S48 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	205
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



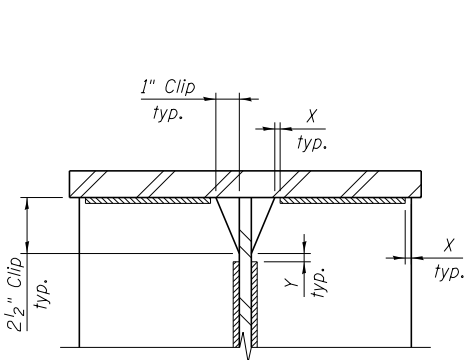
DETAIL 2



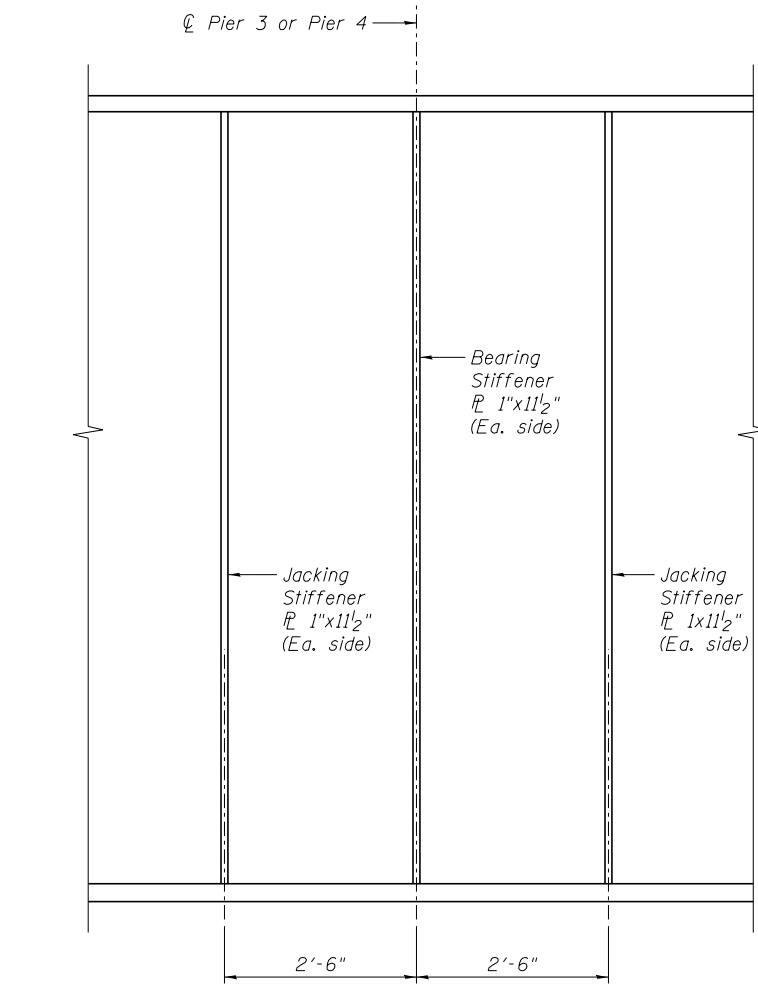
SECTION B-B

BEARING & JACKING STIFFENERS
(No. plates required = 72)

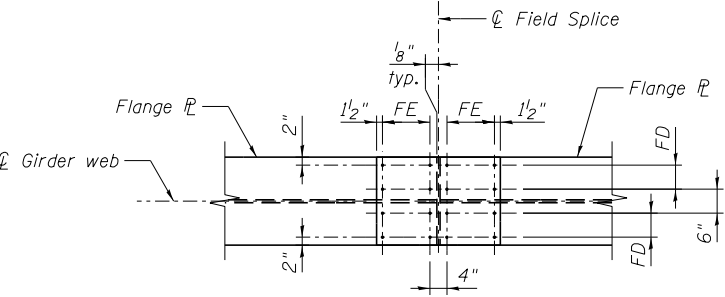
CONNECTION PLATE AND
INTERMEDIATE STIFFENER
(No. plates required = 394)



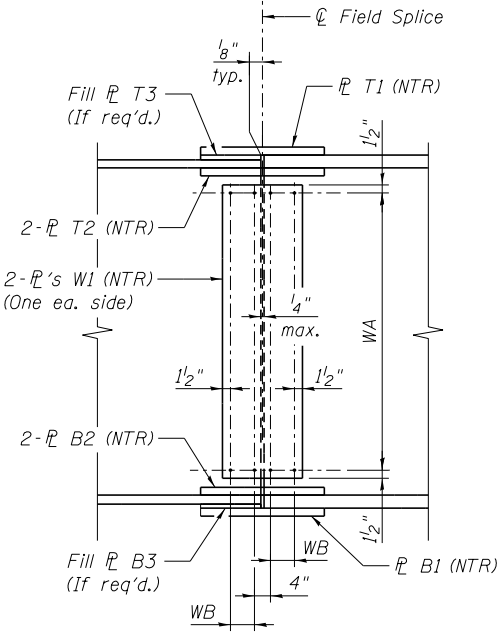
DETAIL 4
Weld Termination:
"X" = End weld 1/4" (± 1/8")
from end of plate or flange
"Y" = End weld 1/2" (± 1/4")
from end of plate
(Typical top & bottom flanges)



DETAIL 3



FLANGE SPLICE
(Top and bottom flange)



ELEVATION

(Field Splices 2-1, 2-2, 2-4 & 2-6 as shown)
(Field Splices 2-3, 2-5, 2-7 & 2-8, opp. hand)

Field Splice	Web	Top Flange			Bottom Flange		
	Splice PL	Splice PL		Filler PL	Splice PL		Filler PL
	W1	T1	T2	T3	B1	B2	B3
2-1 or 2-8	7/16"x25"x8'-8 1/2"	5/8"x22"x2'-7"	5/8"x10"x2'-7"	—	3/4"x24"x5'-7"	3/4"x11"x5'-7"	—
2-2 or 2-7	7/16"x19"x8'-9"	5/8"x22"x4'-1"	5/8"x10"x4'-1"	5/8"x22"x2'-0 3/8"	3/4"x24"x3'-7"	3/4"x11"x3'-7"	1/4"x24"x1'-9 3/8"
2-3 or 2-6	7/16"x19"x8'-9"	5/8"x22"x2'-7"	5/8"x10"x2'-7"	3/8"x22"x1'-3 3/8"	3/4"x24"x3'-1"	3/4"x11"x3'-1"	—
2-4 or 2-5	7/16"x25"x8'-8 1/2"	5/8"x22"x2'-7"	5/8"x10"x2'-7"	1/4"x22"x1'-3 3/8"	7/8"x24"x6'-7"	7/8"x11"x6'-7"	3/8"x24"x3'-3 3/8"

Field Splice	Web - Bolt Spacing		Top Flange - Bolt Spacing		Bott. Flange - Bolt Spacing	
	WA	WB	FD	FE	FD	FE
2-1 or 2-8	29 Spa. at 3 1/2"	3 Spa. at 3"	2 Spa. at 3"	4 Spa. at 3"	7"	10 Spa. at 3"
2-2 or 2-7	34 Spa. at 3"	2 Spa. at 3"	6"	7 Spa. at 3"	2 Spa. at 3 1/2"	6 Spa. at 3"
2-3 or 2-6	34 Spa. at 3"	2 Spa. at 3"	2 Spa. at 3"	4 Spa. at 3"	2 Spa. at 3 1/2"	5 Spa. at 3"
2-4 or 2-5	29 Spa. at 3 1/2"	3 Spa. at 3"	2 Spa. at 3"	4 Spa. at 3"	7"	12 Spa. at 3"

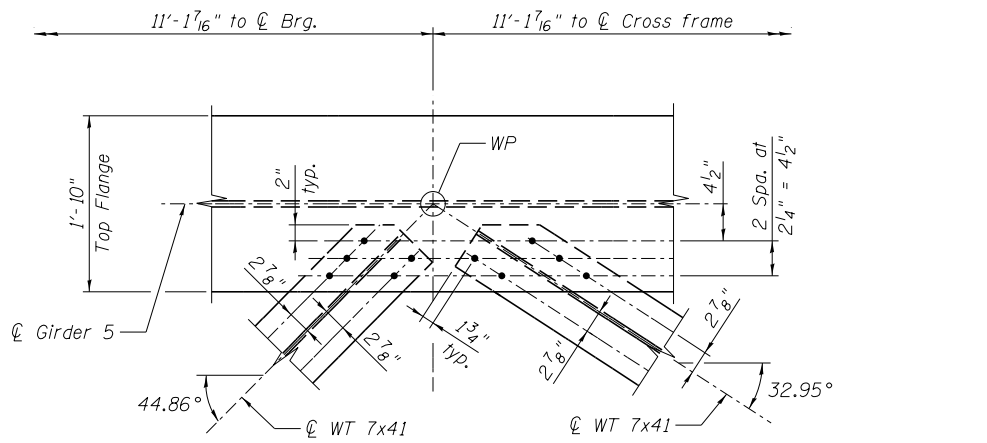
- NOTES:**
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Impact Testing Requirements, Zone 2.
 - All Splice Plates shall be AASHTO M270 Grade 50W steel, unless otherwise noted.

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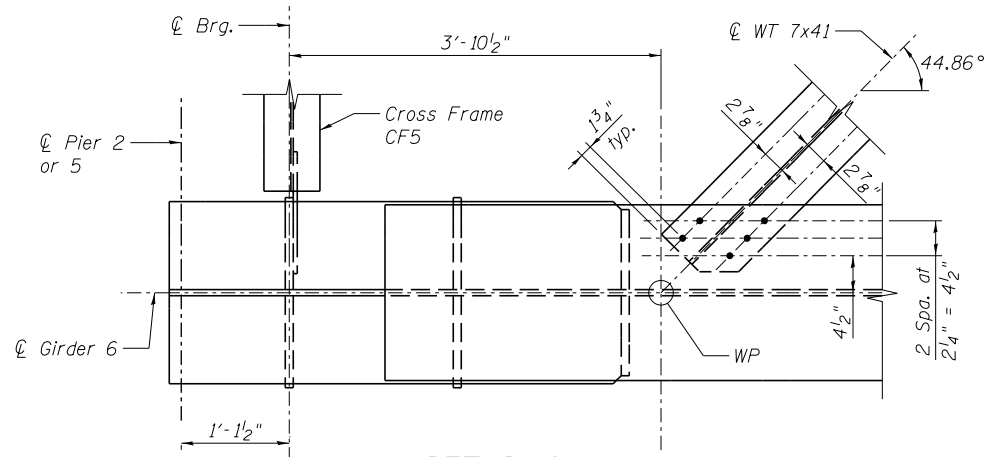
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				CONTRACT NO. 66A69		ILLINOIS FED. AID PROJECT		

SHEET NO. S49 OF S119 SHEETS



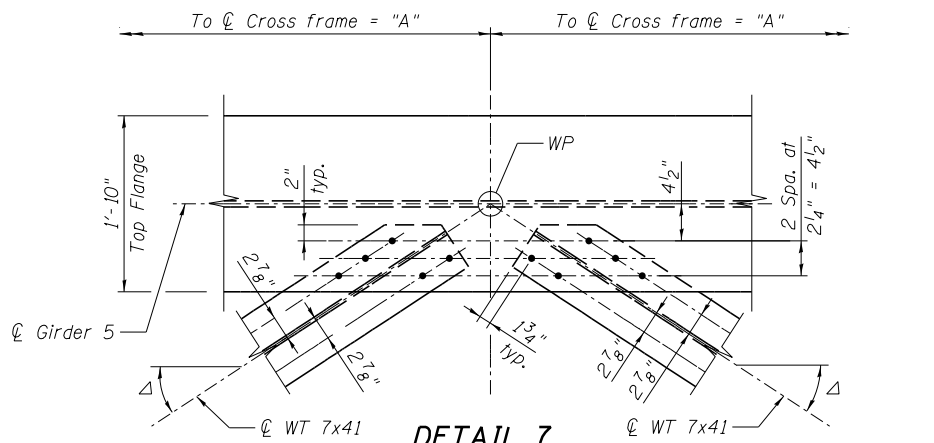
DETAIL 5

(Detail as shown near Pier 2)
(Detail opp. hand near Pier 5)



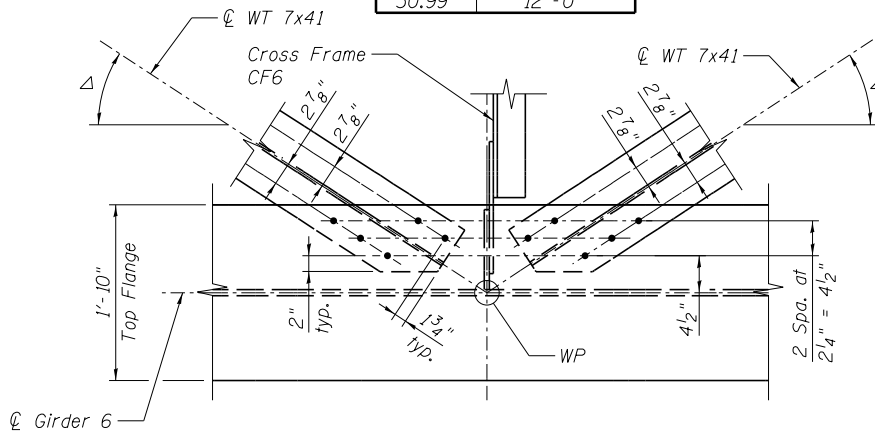
DETAIL 6

(Connection near Pier 2, shown)
(Connection near Pier 5, opp. hand)



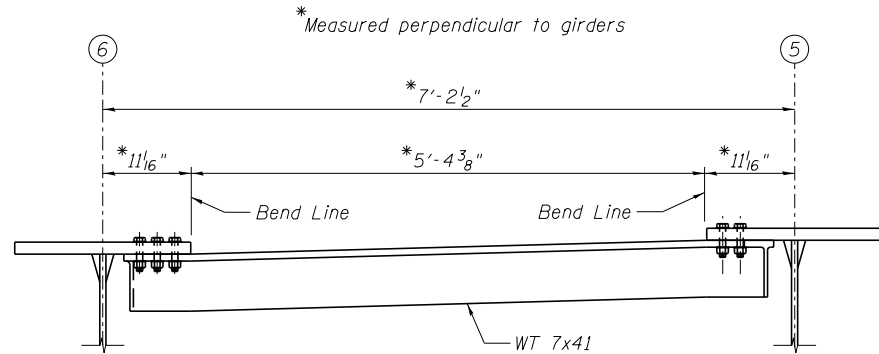
DETAIL 7

Δ	Dimension "A"
32.95°	11'-1 7/16"
34.68°	10'-5"
30.99°	12'-0"



DETAIL 8

(Connection at Standard
Cross Frame)



TOP LATERAL BRACING SECTION

NOTE:

- All lateral bracing connections shall use 1" ϕ bolts in 1 1/8" ϕ holes.
- All bolts for lateral bracing connections shall be sized to exclude threads from shear planes.
- Lateral Bracing members shall be bent as shown in the Section above to accommodate the difference in elevations of adjacent girders.
- See Sheet 46 for additional notes.



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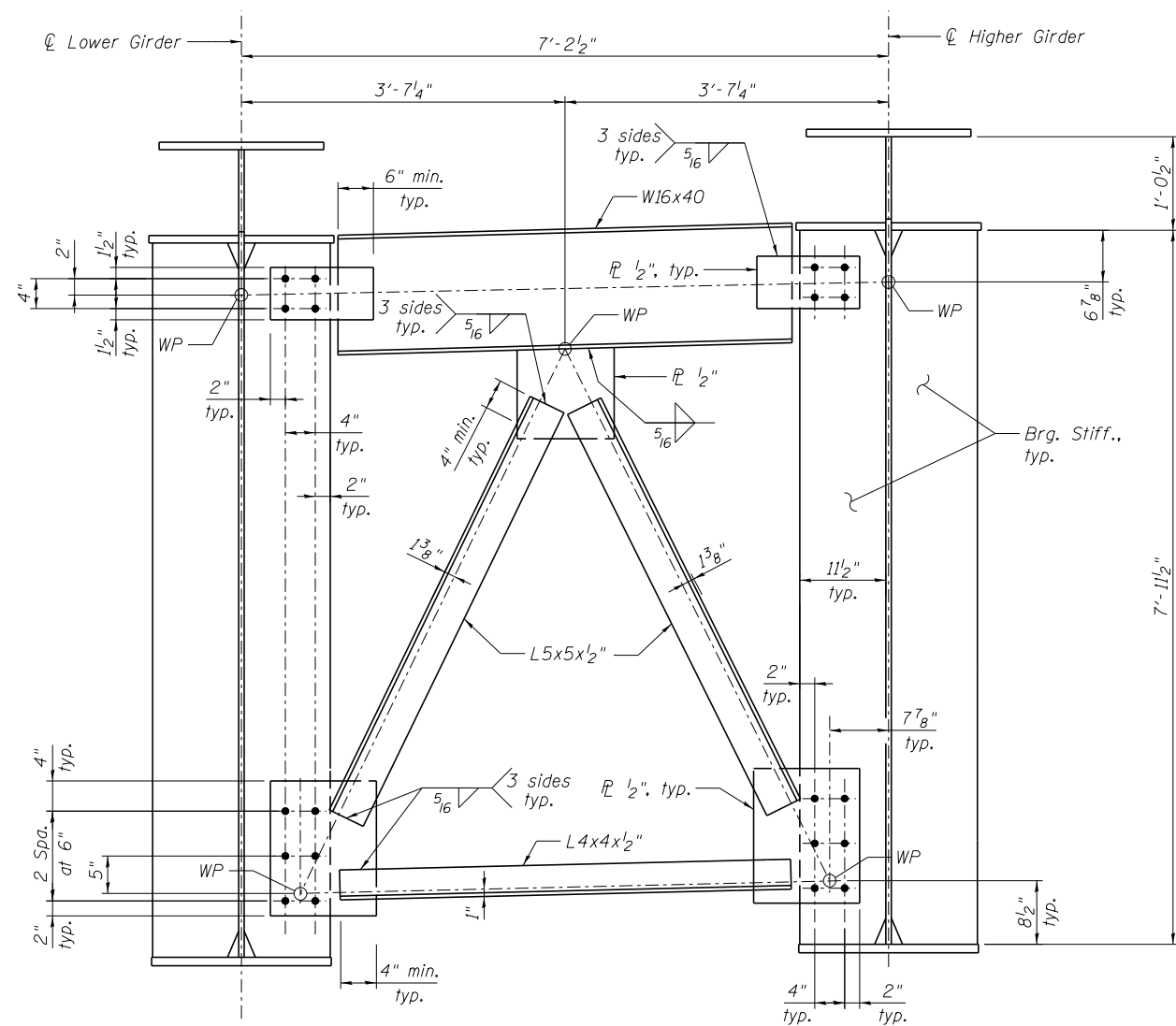
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

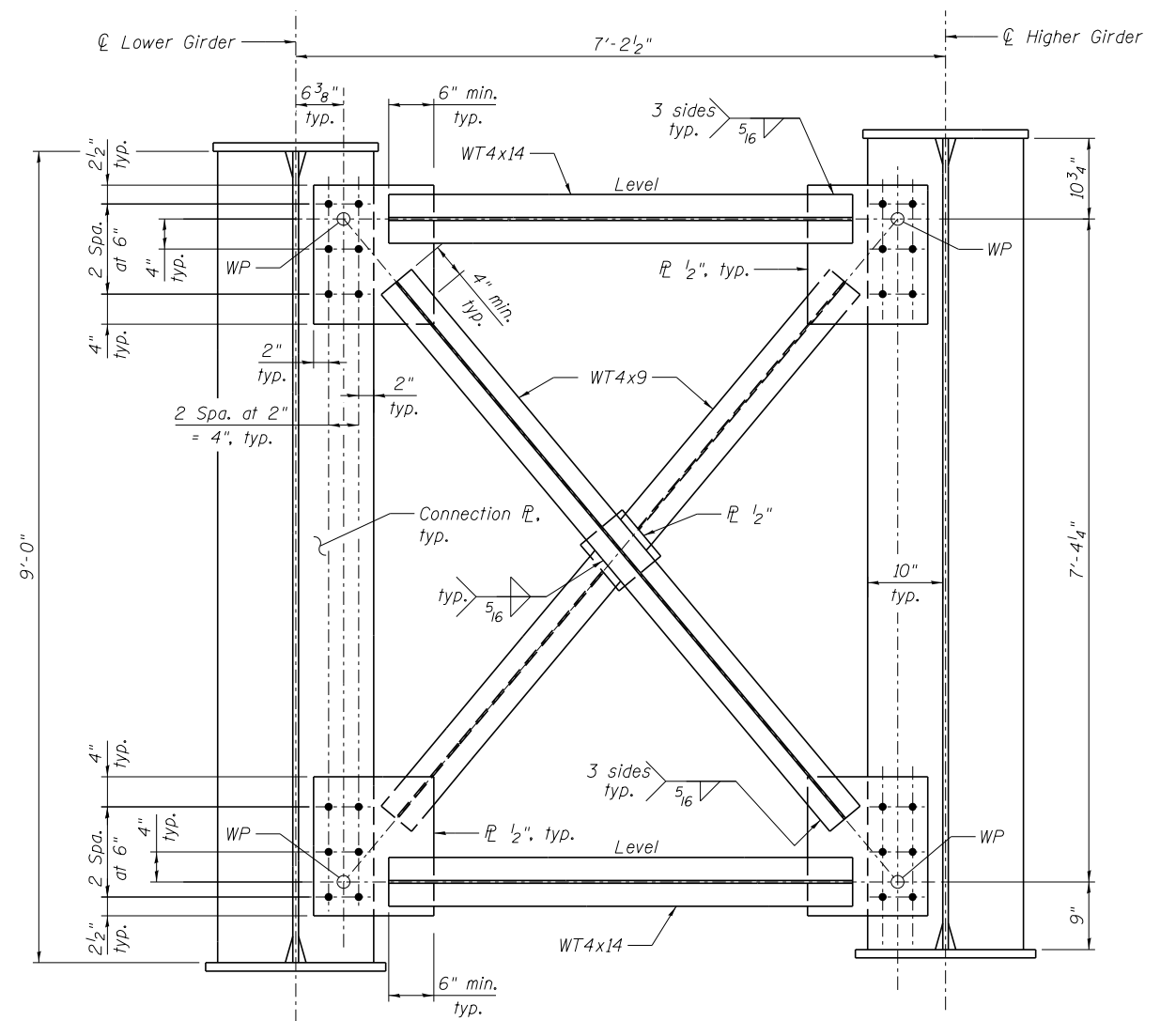
**FRAMING DETAILS II - UNIT 2
STRUCTURE NO. 078-0047**

SHEET NO. S50 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	207
		CONTRACT NO. 66A69		
ILLINOIS FED. AID PROJECT				



END CROSS FRAME - CF5
(10 Req'd.)



INTERIOR CROSS FRAME - CF6
(148 Req'd.)

NOTES:

1. All cross frame members and gusset plates shall comply with NTR.
2. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Impact Testing Requirements, Zone 2.
3. All cross frame members and gusset plates shall conform to AASHTO M270 Grade 50W steel.
4. All cross frames shall be installed as steel is erected and secured with erection pins and bolts, except as noted otherwise. Individual Cross Frames at supports may be temporarily disconnected to install bearing anchor rods.



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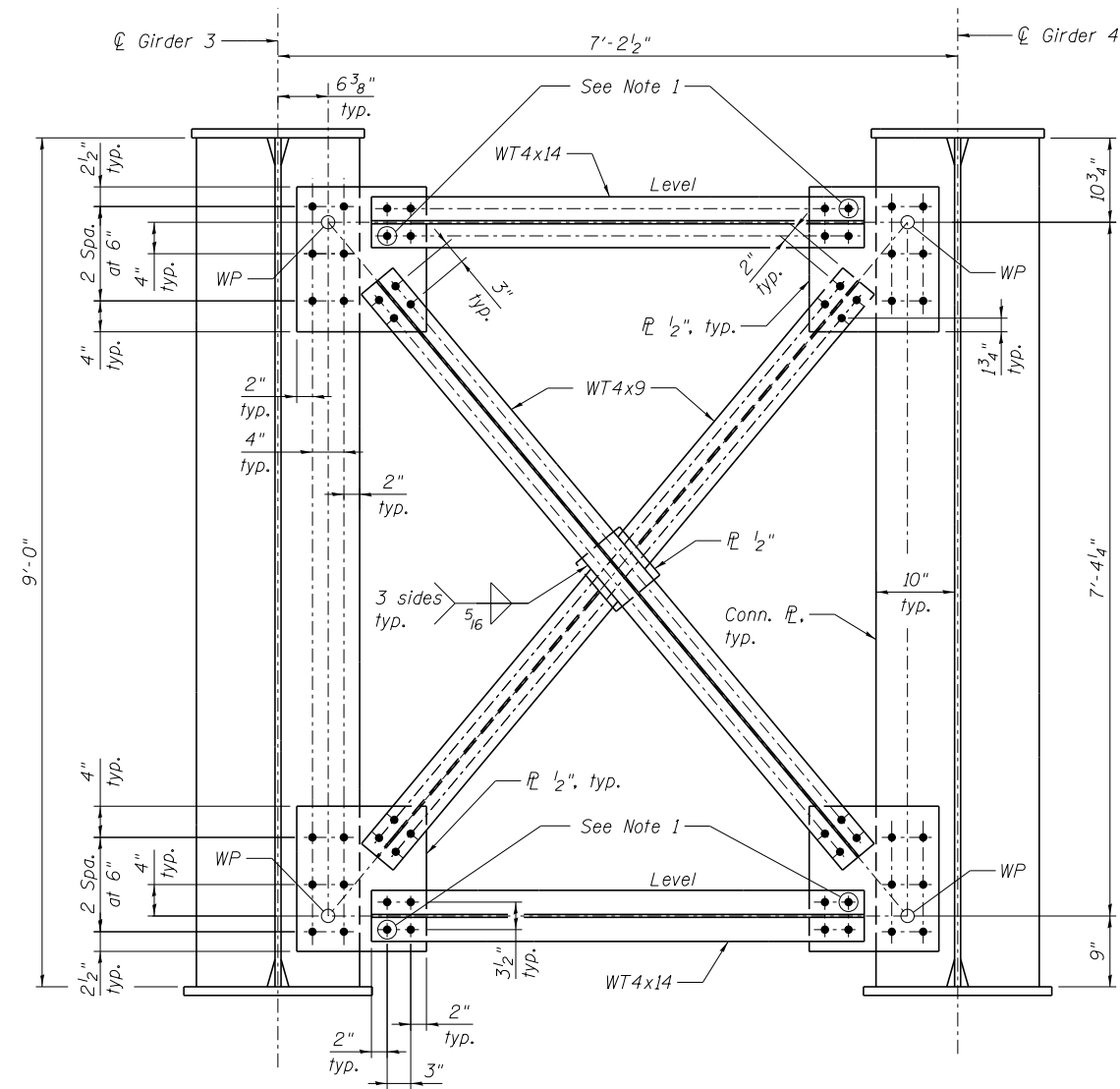
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STATE OF ILLINOIS
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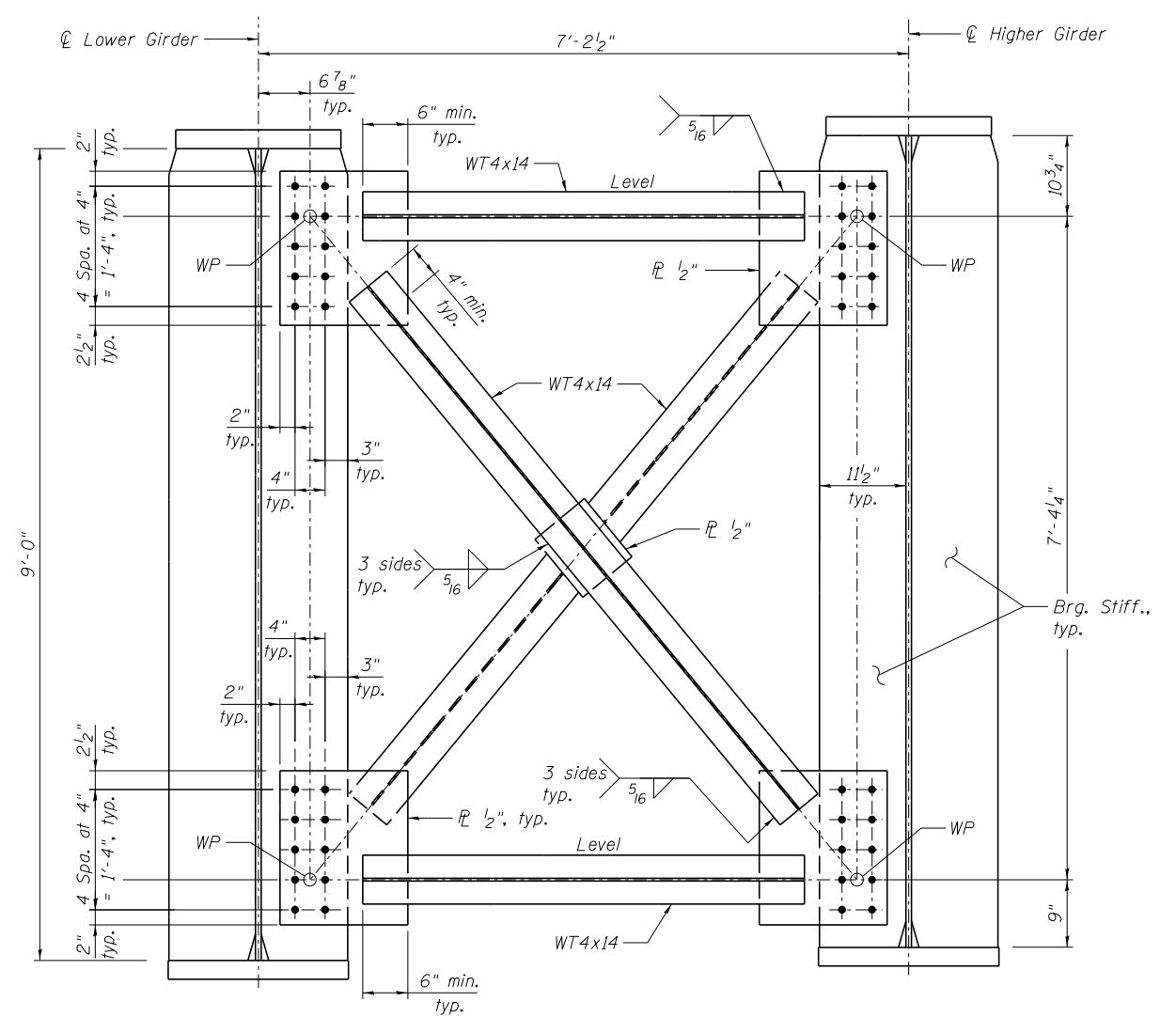
FRAMING DETAILS III - UNIT 2
STRUCTURE NO. 078-0047

SHEET NO. S51 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	208
		CONTRACT NO. 66A69		
		ILLINOIS FED. AID PROJECT		



INTERIOR CROSS FRAME - CF7
(37 Req'd.)



PIER CROSS FRAME - CF8
(10 Req'd.)

NOTE:

1. The four circled bolts shown in Interior Cross Frame CF7, shall be high strength AASHTO M253 Type 3, 1" ϕ bolts in 1 1/6" ϕ holes, and shall be located as shown.
2. For additional notes see Sheet S51.



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		CHECKED - HMA	REVISED -

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FRAMING DETAILS IV - UNIT 2
STRUCTURE NO. 078-0047

SHEET NO. S52 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	209
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

EXTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 3	Pier 3	0.5 Sp. 4	Pier 4	0.6 Sp. 5
I_s	(in ⁴)	240,081	436,021	308,321	436,021	240,081
$I_c(n)$	(in ⁴)	437,527	648,878	530,761	648,878	437,527
$I_c(3n)$	(in ⁴)	326,625	522,786	402,885	522,786	326,625
$I_c(cr)$	(in ⁴)	-----	462,359	-----	462,359	-----
S_s	(in ³)	4715	7908	6190	7908	4715
$S_c(n)$	(in ³)	5932	9003	7468	9003	5932
$S_c(3n)$	(in ³)	5360	8426	6845	8426	5360
$S_c(cr)$	(in ³)	-----	8077	-----	8077	-----
$DC1$	(k/')	1.27	1.52	1.36	1.52	1.27
M_{DC1}	('k)	5350	15251	7894	15251	5350
$DC2$	(k/')	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	699	1817	962	1817	699
DW	(k/')	0.33	0.33	0.33	0.33	0.33
M_{DW}	('k)	1394	3624	1919	3624	1394
$M_{\ell} + IM$	('k)	6272	8195	7407	8195	6272
M_u (Strength I)	('k)	20628	41,112	26,911	41,112	20628
$\phi_r M_n$	('k)	-----	-----	-----	-----	-----
f_s DC1	(ksi)	13.6	23.1	15.3	23.1	13.6
f_s DC2	(ksi)	1.6	2.7	1.7	2.7	1.6
f_s DW	(ksi)	3.1	5.4	3.4	5.4	3.1
f_s ($\ell+IM$)	(ksi)	12.7	12.2	11.9	12.2	12.7
f_s (Service II)	(ksi)	34.8	47.1	35.8	47.1	34.8
$0.95R_nF_yf$	(ksi)	47.5	65.0	47.5	65.0	47.5
f_s (Total)(Strength I)	(ksi)	45.9	61.7	47.1	61.7	45.9
$\phi_r F_n$	(ksi)	50.0	67.3	50.0	67.3	50.0
V_r	(k)	34.9	35.3	30.1	35.3	34.9

EXTERIOR GIRDER REACTION TABLE					
		Pier 2	Pier 3	Pier 4	Pier 5
R_{DC1}	(k)	128.2	504.9	504.9	128.2
R_{DC2}	(k)	15.5	59.6	59.6	15.5
R_{DW}	(k)	30.8	118.8	118.8	30.8
$R_{\ell} + IM$	(k)	116.5	266.3	266.3	116.5
R_{Total}	(k)	291.0	949.6	949.6	291.0

All reactions are unfactored.

Live Load + Impact Distribution Factors (Exterior Girder)											
Span/Support	Positive Moment			Negative Moment			Shear			Reactions	Deflection
	1 Lane	Design	Fatigue	1 Lane	Design	Fatigue	1 Lane	Design	Fatigue	Design	Design
Pier 2	--	--	--	--	--	--	0.51	0.67	0.51	0.69	--
Span 3	0.46	0.66	0.47	--	--	--	--	--	--	--	0.425
Pier 3	--	--	--	0.46	0.65	0.46	0.54	0.70	0.55	0.69	--
Span 4	0.46	0.66	0.47	--	--	--	--	--	--	--	0.425
Pier 4	--	--	--	0.46	0.65	0.46	0.54	0.70	0.55	0.69	--
Span 5	0.46	0.66	0.47	--	--	--	--	--	--	--	0.425
Pier 5	--	--	--	--	--	--	0.51	0.67	0.51	0.69	--

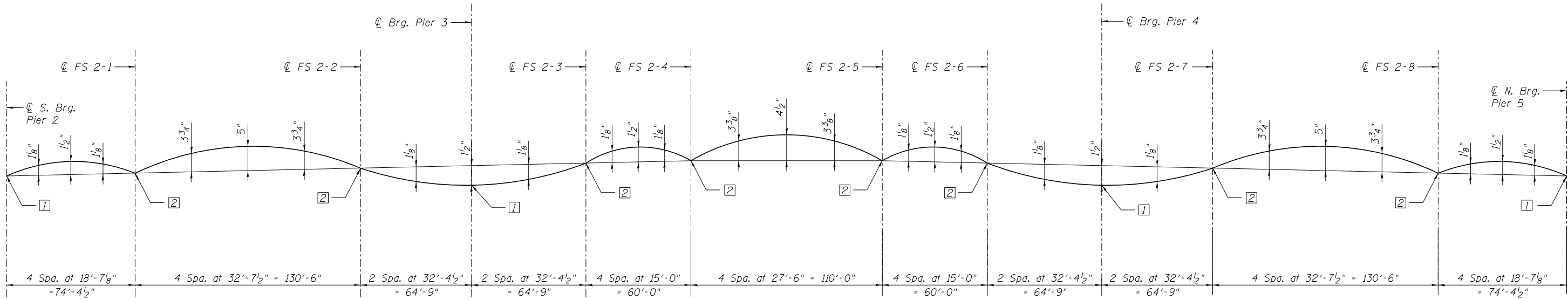
Live Load + Impact Distribution Factors (Interior Girder)											
Span/Support	Positive Moment			Negative Moment			Shear			Reactions	Deflection
	1 Lane	Design	Fatigue	1 Lane	Design	Fatigue	1 Lane	Design	Fatigue	Design	Design
Pier 2	--	--	--	--	--	--	0.42	0.62	0.43	0.61	--
Span 3	0.34	0.53	0.33	--	--	--	--	--	--	--	0.425
Pier 3	--	--	--	0.33	0.51	0.31	0.43	0.65	0.49	0.60	--
Span 4	0.34	0.53	0.33	--	--	--	--	--	--	--	0.425
Pier 4	--	--	--	0.33	0.51	0.31	0.43	0.65	0.49	0.60	--
Span 5	0.34	0.53	0.33	--	--	--	--	--	--	--	0.425
Pier 5	--	--	--	--	--	--	0.42	0.62	0.43	0.61	--

Distribution Factors calculated from unfactored loads.

- I_s , S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $DC1$: Un-factored non-composite dead load (kips/ft.).
- M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_{\ell} + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\ell} + IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f_s $DC1$: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
- M_{DC1} / S_{nc}
- f_s $DC2$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
- $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
- f_s DW : Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
- $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
- f_s ($\ell + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
- $M_{\ell} + IM / S_c(n)$ or $M_{\ell} + IM / S_c(cr)$ as applicable.
- f_s (Service II): Sum of stresses as computed below (ksi).
- $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(\ell + IM)$
- $0.95R_n F_y r$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
- $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s \ell + IM$
- $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	210
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		



1 Final top of web elevations
2 Theoretical web elevations before dead load deflection

CAMBER DIAGRAM

TOP OF WEB ELEVATIONS

Location	☉ Brg. 2S	FS 2-1	FS 2-2	☉ Brg. Pier 3	FS 2-3	FS 2-4	FS 2-5	FS 2-6	☉ Brg. Pier 4	FS 2-7	FS 2-8	☉ Brg. 5N
Girder 1	504.32	507.69	511.12	512.21	513.65	514.66	514.68	513.66	512.21	511.12	507.69	504.32
Girder 2	504.46	507.83	511.27	512.35	513.80	514.81	514.82	513.80	512.36	511.27	507.83	504.46
Girder 3	504.57	507.94	511.38	512.46	513.91	514.92	514.93	513.91	512.47	511.38	507.94	504.57
Girder 4	504.57	507.94	511.38	512.46	513.91	514.92	514.93	513.91	512.47	511.38	507.94	504.57
Girder 5	504.46	507.83	511.26	512.35	513.80	514.81	514.82	513.80	512.36	511.27	507.83	504.46
Girder 6	504.32	507.69	511.12	512.21	513.65	514.67	514.68	513.66	512.21	511.12	507.69	504.32

For fabricator use only.

NOTES:

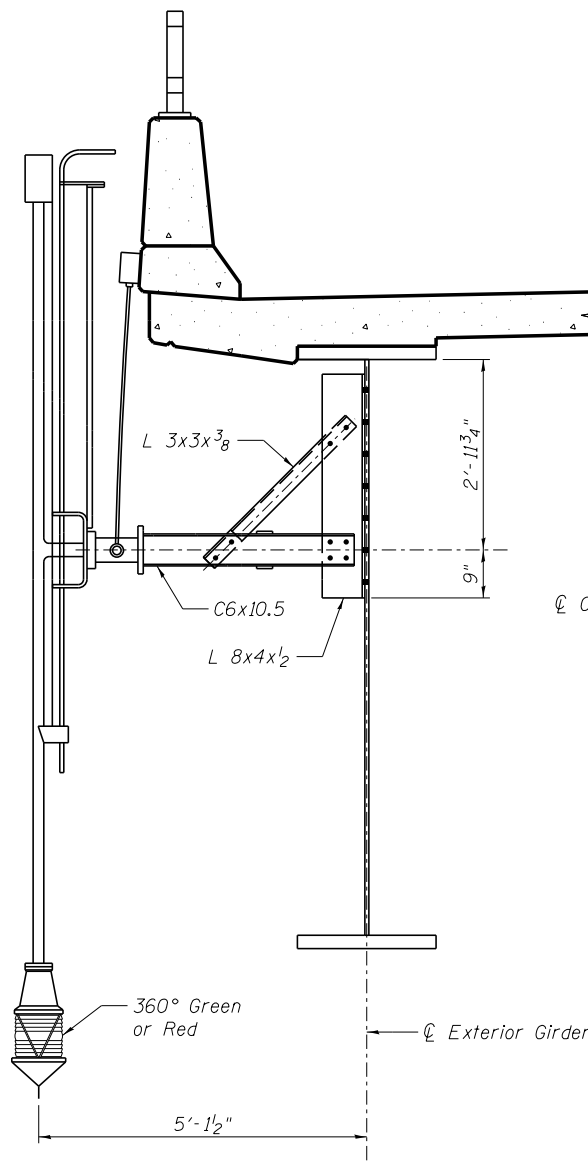
- Camber values shown were developed based on the deck pouring sequence shown on Sheet S24.
- Any deviation from the pouring sequence will result in changes to camber. If the Contractor elects to change the sequence, a proposed plan revisions and design calculations shall be submitted to the Engineer for review and approval. The plan and calculations shall be prepared and sealed by a Licensed Structural Engineer in Illinois.



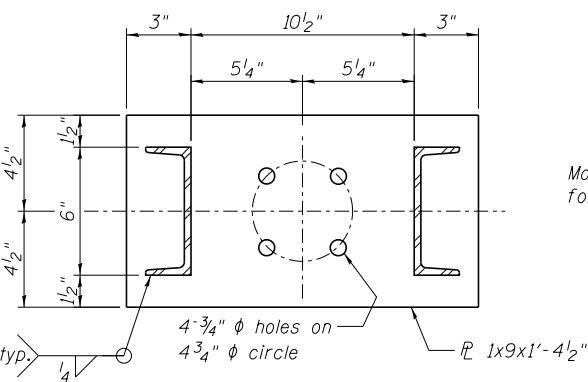
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME = 0780047.66A69_054.Camber_Diagram.dgn	USER NAME = rgrmm	DESIGNED - VJK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CAMBER DIAGRAM - UNIT 2 STRUCTURE NO. 078-0047	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - MRB	REVISED -			698	(1) BR	BUREAU/PUTNAM	415	211
		PLOT SCALE =	DRAWN - RMG			CONTRACT NO. 66A69				
		PLOT DATE = 8/14/2015	CHECKED - HMA			SHEET NO. S54 OF S119 SHEETS				

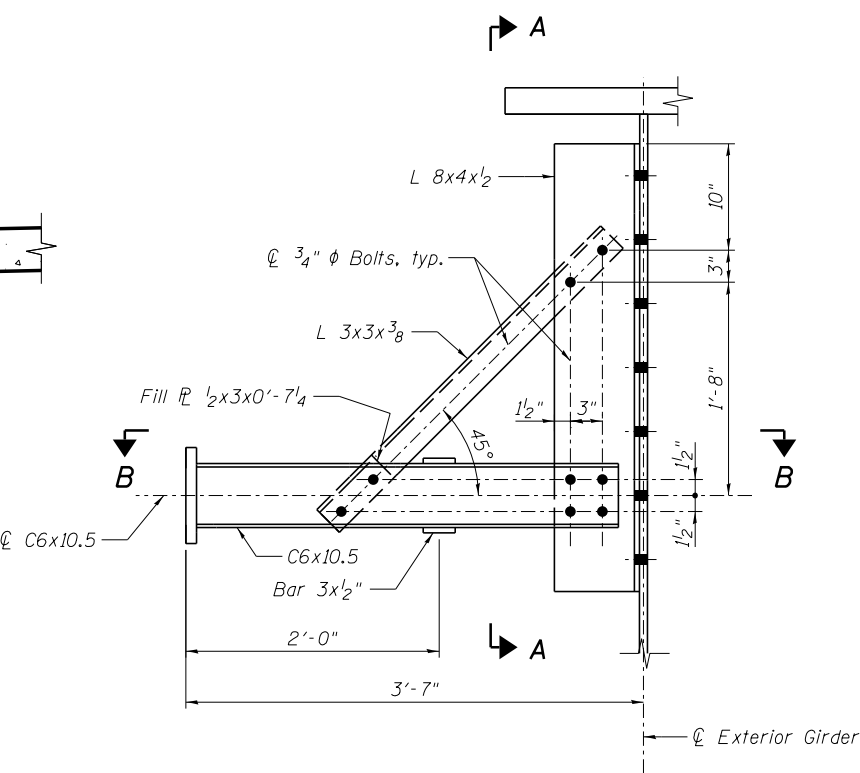
ILLINOIS FED. AID PROJECT



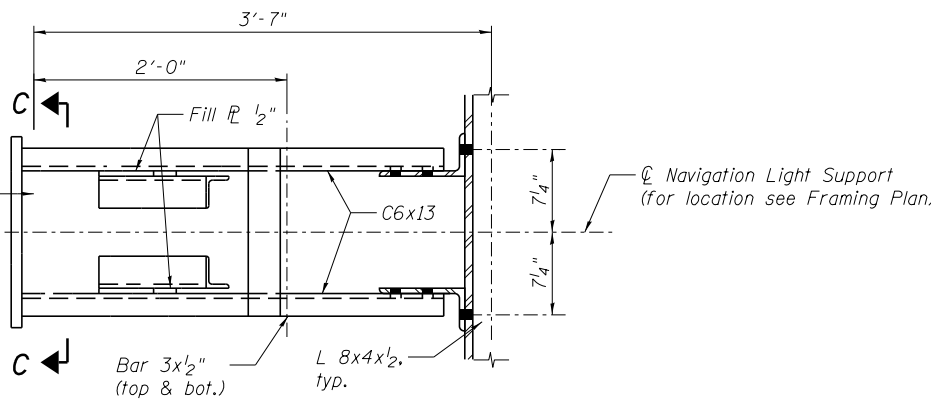
NAVIGATIONAL LIGHTING SUPPORT DETAIL



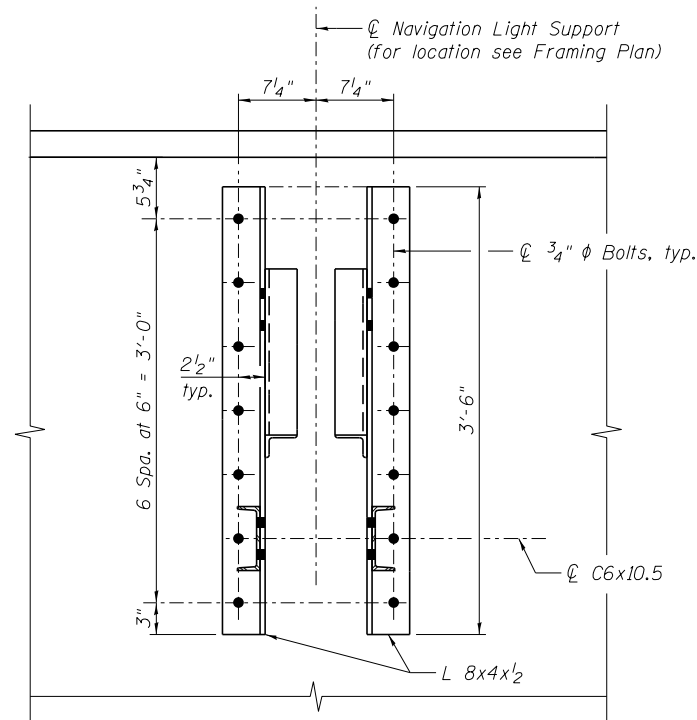
SECTION C-C



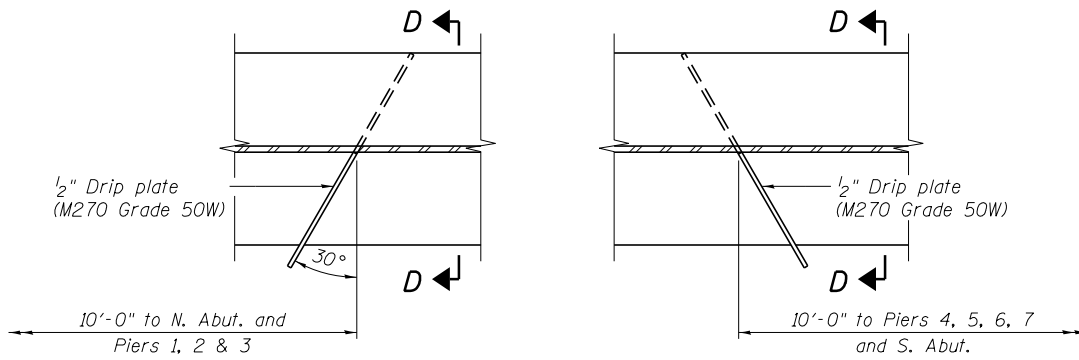
MOUNTING BRACKET DETAIL



VIEW B-B

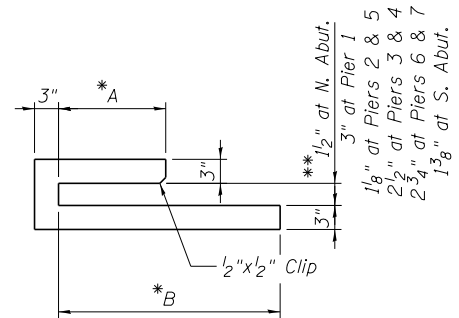


VIEW A-A



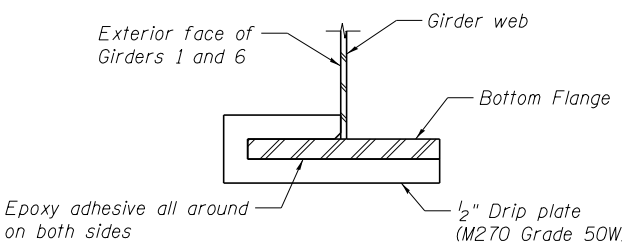
PLAN AT DRIP PLATE

(Girder 6 shown, Girder 1 opp. hand)



* Adjust A and B to fit girder bottom flange.
** Adjust dimensions as required for thickness tolerance and fit-up.

DRIP PLATE DETAIL



SECTION D-D

NOTES:

1. All plates and shapes shown shall be AASHTO M270 Grade 50W.
2. Cost of mounting brackets, drip plates and adhesive is included with Furnishing and Erecting Structural Steel, Lump Sum.
3. Drip plate shall be installed using a two component epoxy suitable for structural steel under prolonged exposure.
4. For navigation lighting Details, see electrical plans.



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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

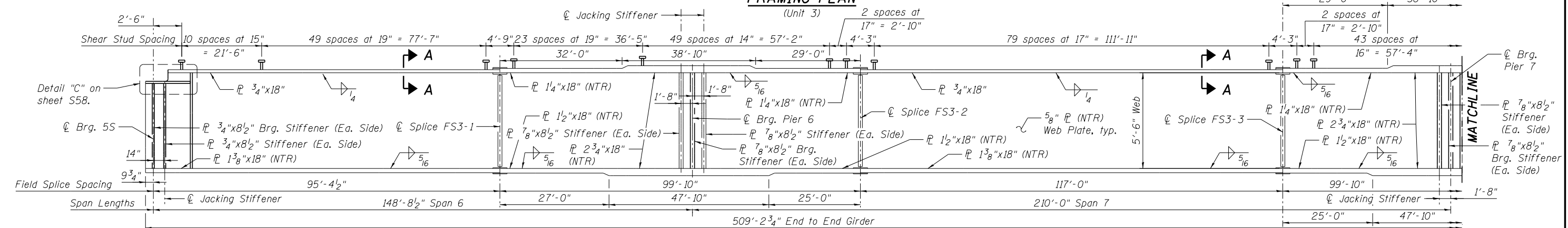
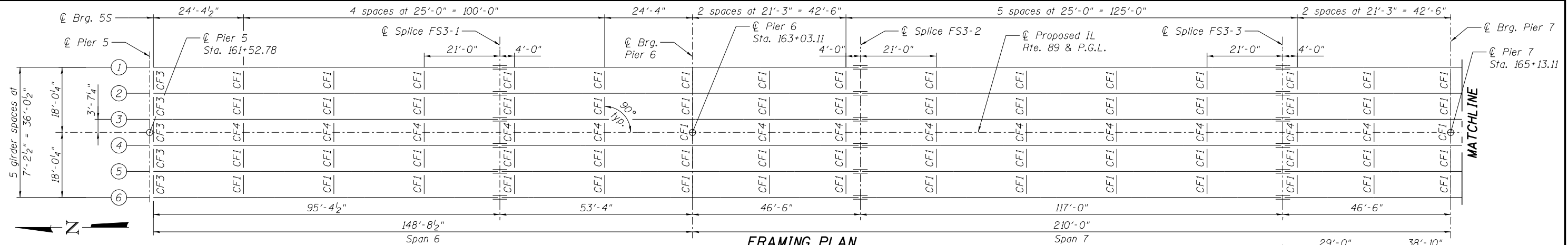
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	PLOT DATE = 8/14/2015	DRAWN - RMG	REVISED -
		CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

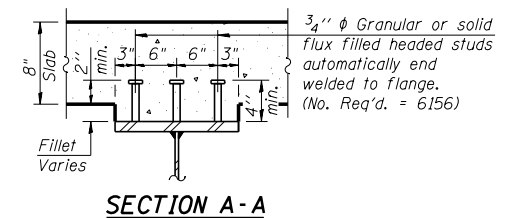
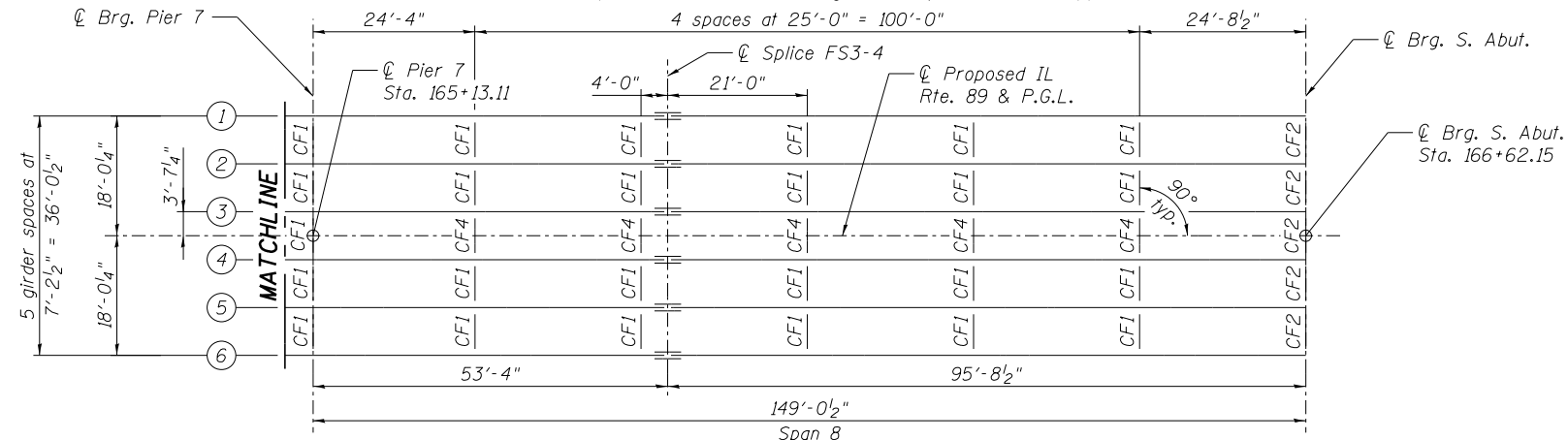
NAVIGATIONAL LIGHTING SUPPORT DETAILS
STRUCTURE NO. 078-0047

SHEET NO. S55 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	212
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

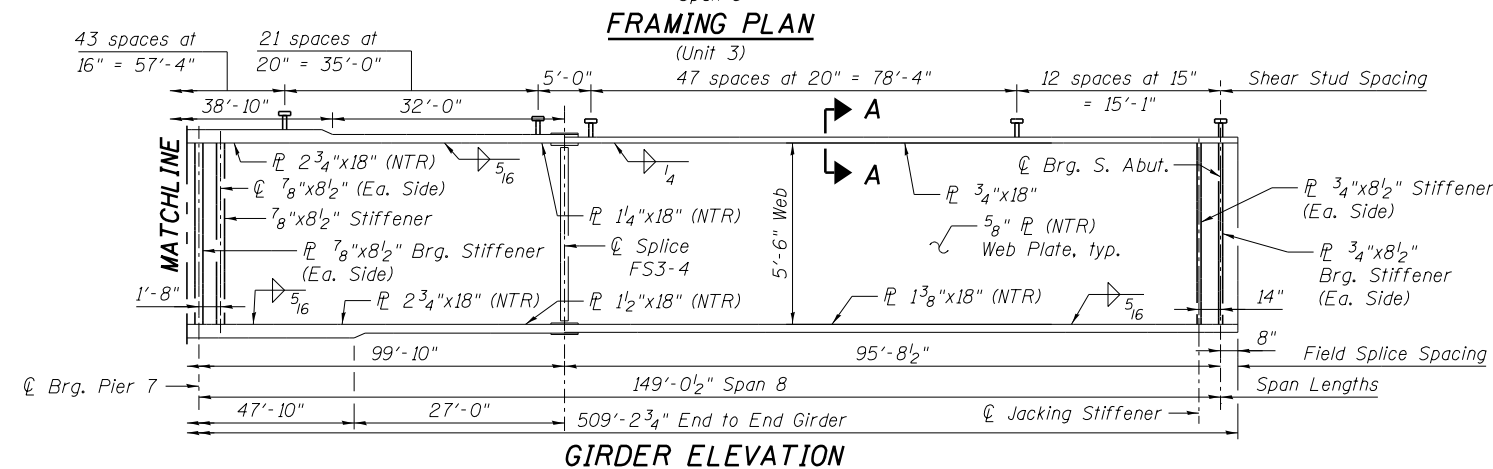


"NTR" denotes plates to which notch toughness requirements are applicable.



NOTES:

- All cross frames between girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
- Work this sheet with sheets S57 and S58.
- All steel structural shall be AASHTO M270 Grade 50W.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
- For cross frame details see sheet S44.



"NTR" denotes plates to which notch toughness requirements are applicable.

LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME = habdou	DESIGNED HP/JJA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN AND GIRDER ELEVATION - UNIT 3 STRUCTURE NO. 078-0047	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	CONTRACT NO. 66A69 ILLINOIS FED. AID PROJECT
	FILE NAME =	CHECKED JRS	REVISED -			698	(1) BR	BUREAU/PUTNAM	415	213	
	0780047_66A69_056.U3.Framing.Plan.Girder.Elev.dgn	DRAWN AJF	REVISED -								
	PLOT DATE = 9/18/2015	CHECKED JRS	REVISED -								
	SHEET NO. S56 OF 118 SHEETS										

- I_s , S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $DC1$: Un-factored non-composite dead load (kips/ft.).
- M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_L + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
- $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- f_s $DC1$: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
- M_{DC1} / S_{nc}
- f_s $DC2$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
- $M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.
- f_s DW : Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
- $M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.
- f_s ($L + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
- $M_L + IM / S_c(n)$ or $M_L + IM / S_c(cr)$ as applicable.
- f_s (Service II): Sum of stresses as computed below (ksi).
- $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (L + IM)$
- $0.95 R_h F_y f$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
- $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (L + IM)$
- $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V_r : Maximum factored shear range in span computed according to Article 6.10.10.

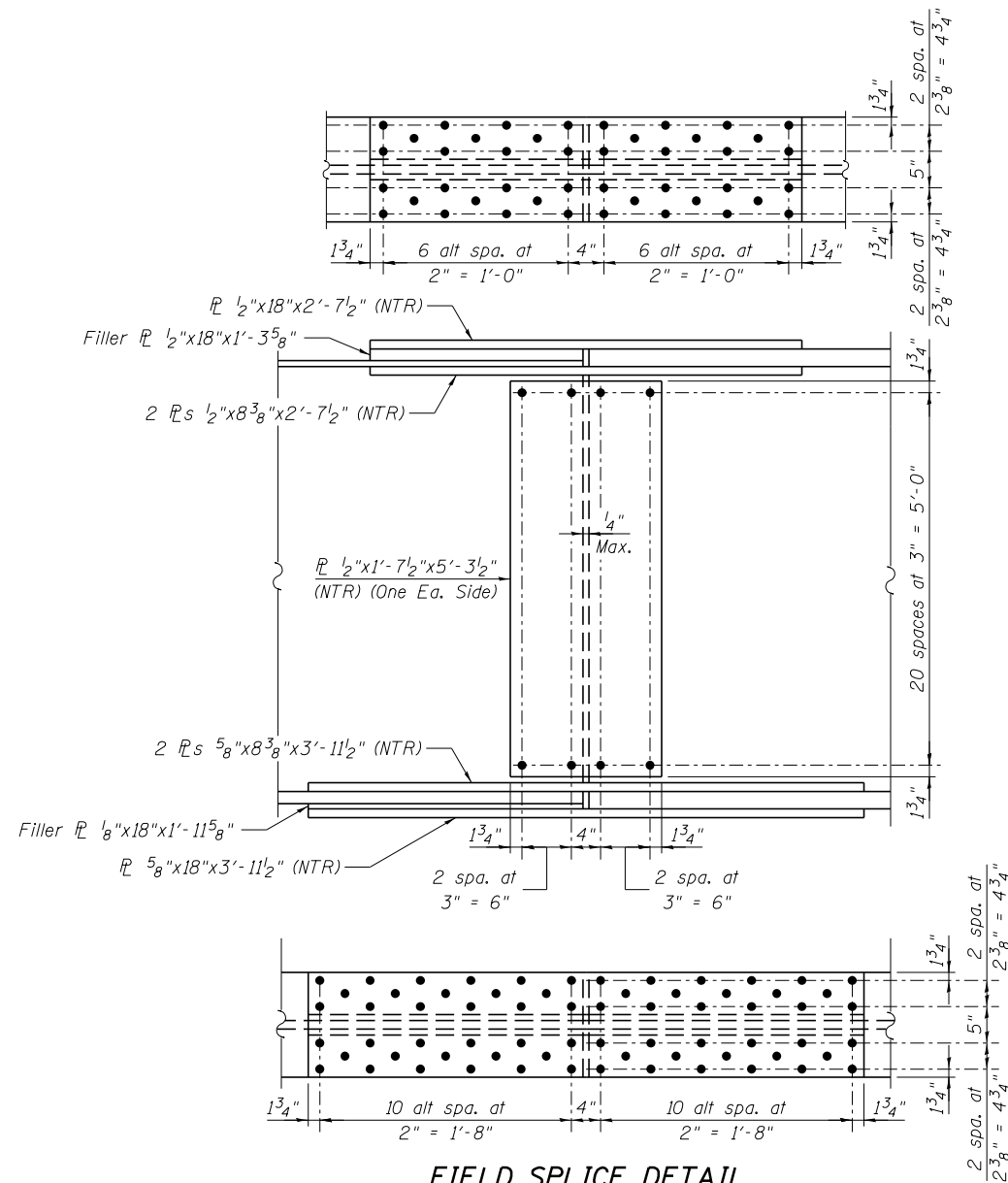
TOP OF WEB ELEVATIONS

(For Fabrication Only. Theoretical Elevations Before Dead Load Deflection)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6
☺ Brg. Pier 5	504.26	504.41	504.51	504.51	504.41	504.26
Field Splice FS3-1	499.69	499.83	499.94	499.94	499.83	499.69
☺ Brg. Pier 6	496.89	497.04	497.14	497.14	497.04	496.89
Field Splice FS3-2	494.84	494.99	495.09	495.09	494.99	494.84
Field Splice FS3-3	488.99	489.14	489.25	489.25	489.14	488.99
☺ Brg. Pier 7	486.42	486.56	486.67	486.67	486.56	486.42
Field Splice FS3-4	483.91	484.05	484.16	484.16	484.05	483.91
☺ Brg. S. Abut.	479.14	479.29	479.40	479.40	479.29	479.14

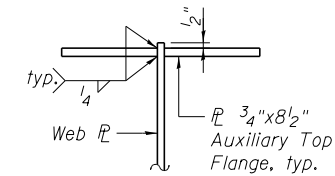
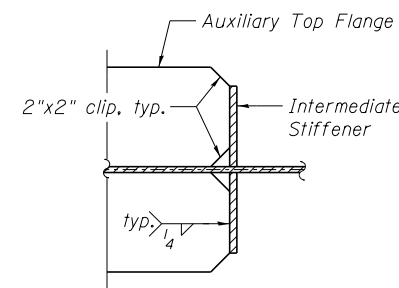
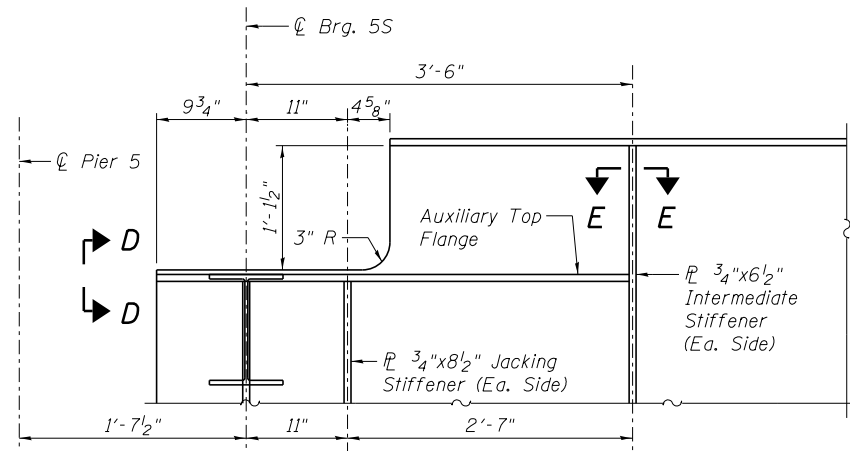
INTERIOR GIRDER REACTION TABLE				
	Pier 5	Pier 6	Pier 7	S. Abut.
R_{DC1} (k)	52.2	225.2	224.9	52.7
R_{DC2} (k)	7.8	32.4	32.2	7.9
R_{DW} (k)	16.4	68.3	68.0	16.6
$R_L + IM$ (k)	99.9	215.9	215.7	99.9
R_{Total} (k)	176.2	541.8	540.8	176.9

INTERIOR GIRDER MOMENT TABLE					
	.4 Span 6	Pier 6	.5 Span 7	Pier 7	.6 Span 8
I_s (in ⁴)	56256	132019	56256	132019	56256
$I_c(n)$ (in ⁴)	131403	216456	131403	216456	131403
$I_c(3n)$ (in ⁴)	94455	169628	94455	169628	94455
$I_c(cr)$ (in ⁴)	-	142702	-	142702	-
S_s (in ³)	1903	3693	1903	3693	1903
$S_c(n)$ (in ³)	2545	4260	2545	4260	2545
$S_c(3n)$ (in ³)	2315	3994	2315	3994	2315
$S_c(cr)$ (in ³)	-	3791	-	3791	-
$DC1$ (k/')	1.021	1.228	1.021	1.228	1.021
M_{DC1} (')k)	1159	4088	1755	4059	1183
$DC2$ (k/')	0.158	0.158	0.158	0.158	0.158
M_{DC2} (')k)	182	593	282	584	187
DW (k/')	0.333	0.333	0.333	0.333	0.333
M_{DW} (')k)	384	1252	595	1233	395
$M_L + IM$ (')k)	2282	3085	2390	3072	2281
M_u (Strength I) (')k)	6246	13128	7621	13029	6297
$\phi_r M_n$ (')k)	11964	16710	11964	16710	11964
f_s $DC1$ (ksi)	7.3	13.3	11.1	13.2	7.5
f_s $DC2$ (ksi)	0.9	1.9	1.5	1.8	1.0
f_s DW (ksi)	2.0	4.0	3.1	3.9	2.0
f_s ($L + IM$) (ksi)	10.8	9.8	11.3	9.7	10.8
f_s (Service II) (ksi)	24.2	31.8	30.3	31.6	24.5
$0.95 R_h F_y f$ (ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I) (ksi)	-	-	-	-	-
$\phi_r F_n$ (ksi)	-	-	-	-	-
V_r (k)	31.0	31.8	26.0	34.1	30.9

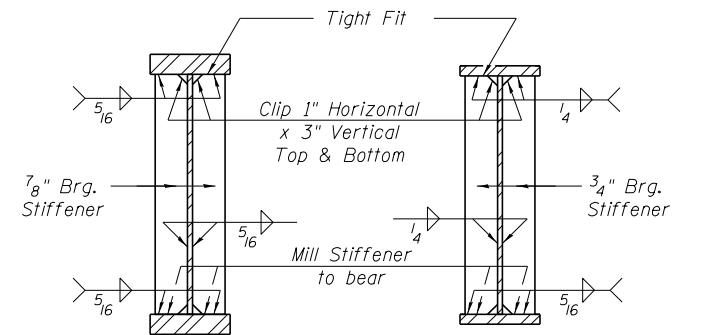


NOTES:

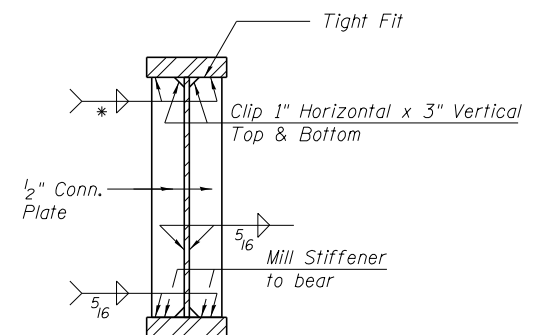
1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



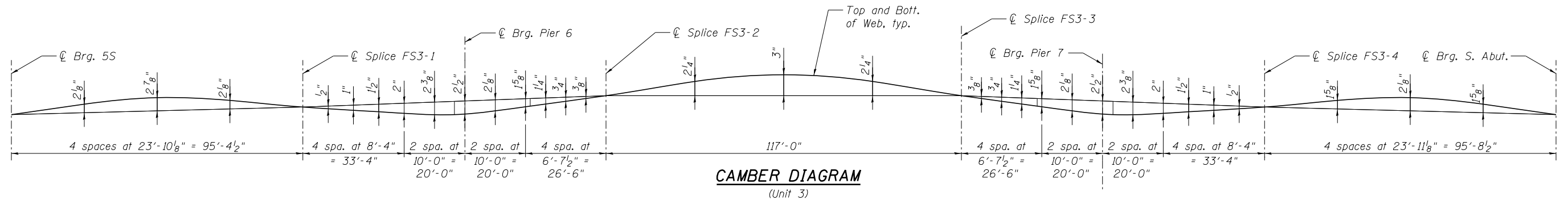
* Use $\frac{1}{4}$ " weld if flange thickness is $\frac{3}{4}$ ", use $\frac{5}{16}$ " weld if flange thickness is greater than $\frac{3}{4}$ ".

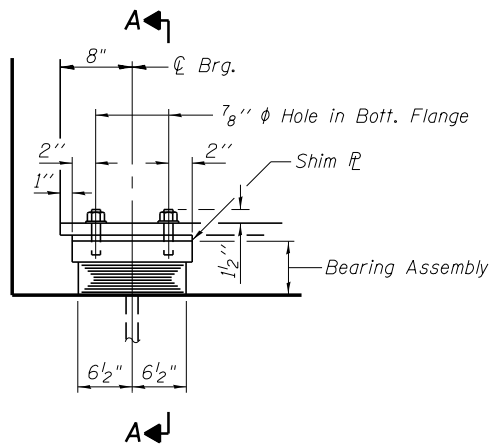


SECTION AT PIER 6 AND PIER 7

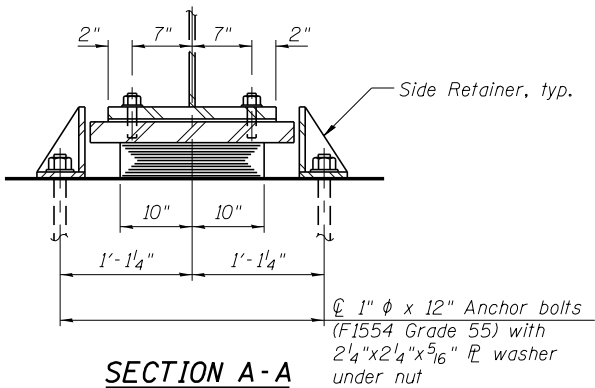


SECTION AT CONNECTION PLATES



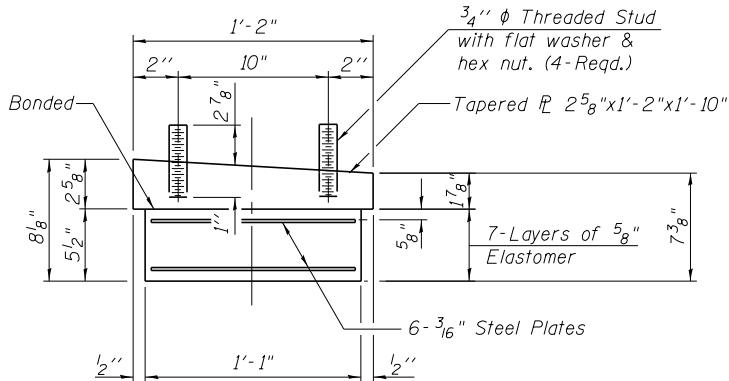


ELEVATION AT ABUT.



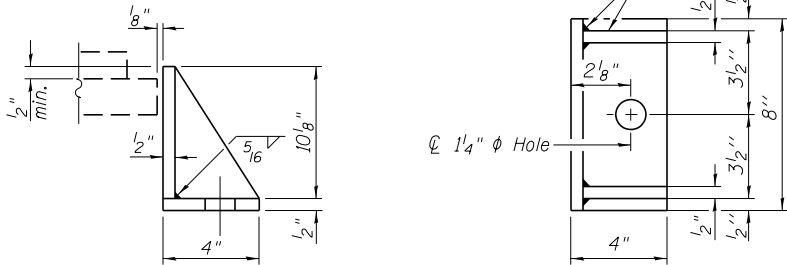
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.
(S. Abut.)



BEARING ASSEMBLY
(Looking East)

Note:
Shim plates shall not be placed
under Bearing Assembly.



SIDE RETAINER

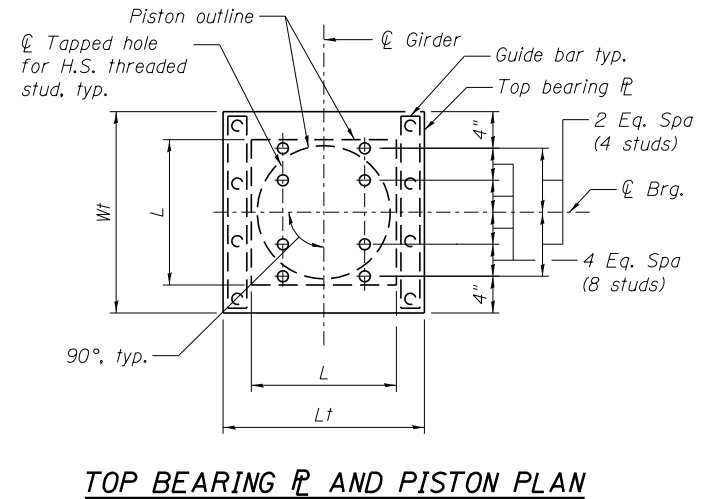
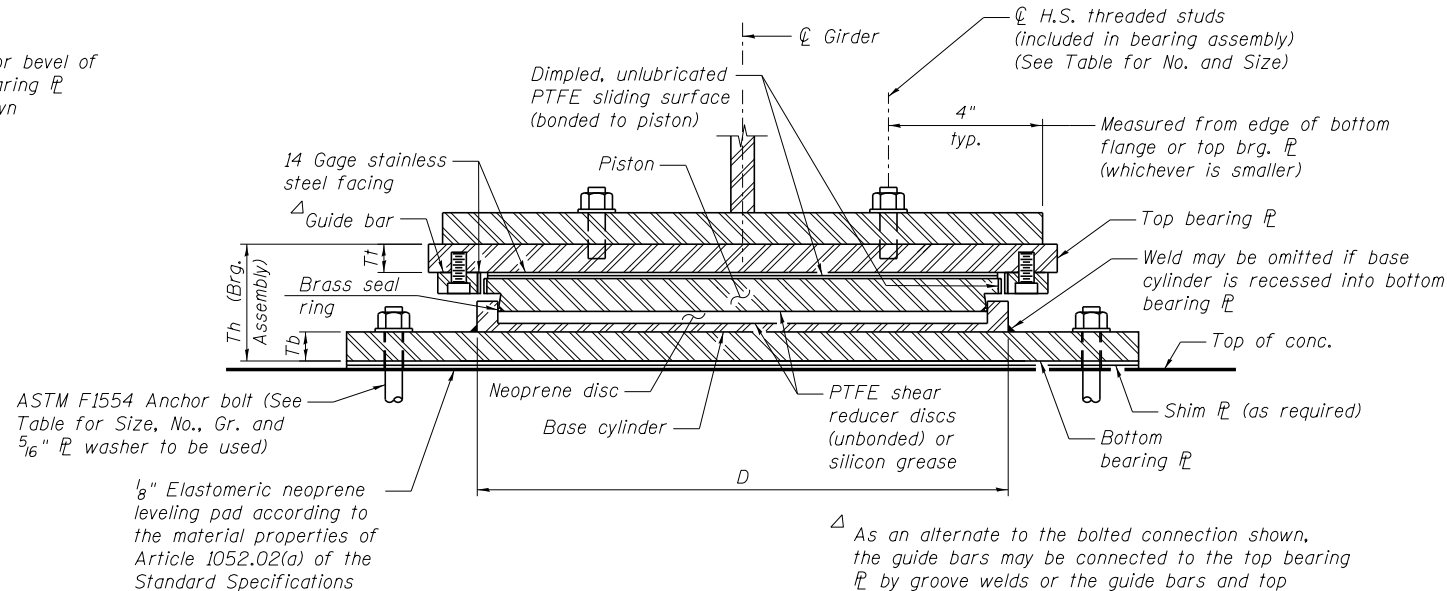
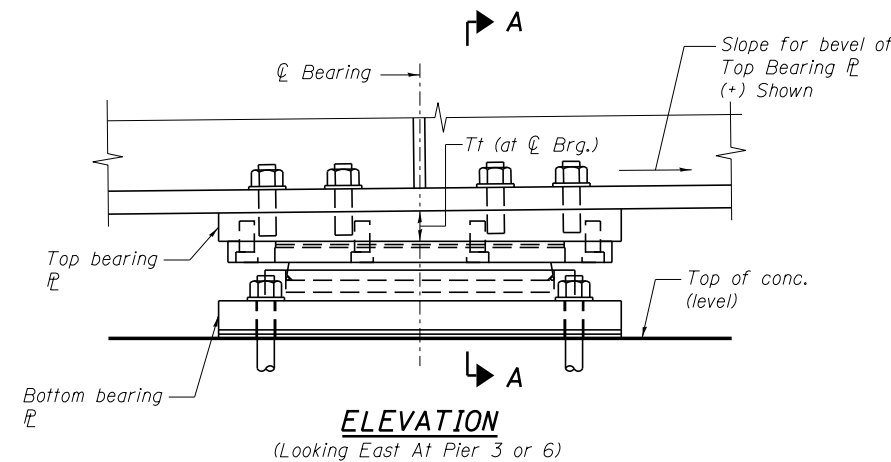
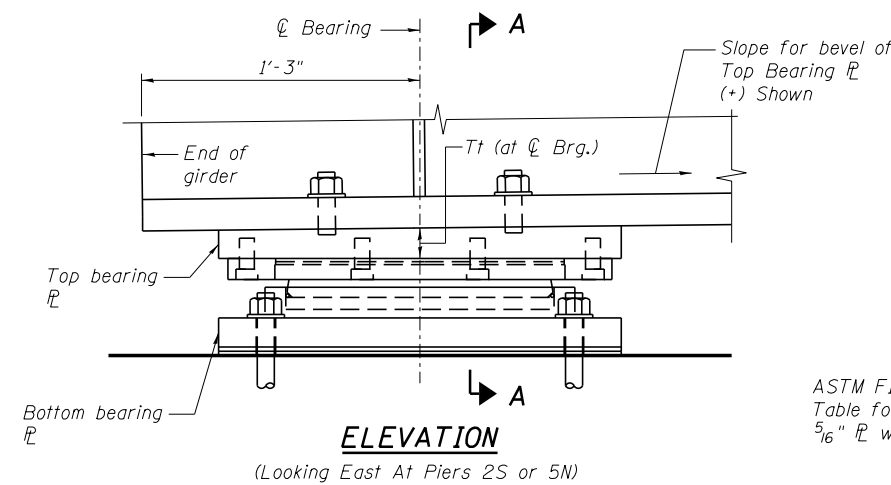
Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.

NOTES:

1. The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.
2. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
3. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
4. Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
5. Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
6. The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Anchor Bolts, 1"	Each	12



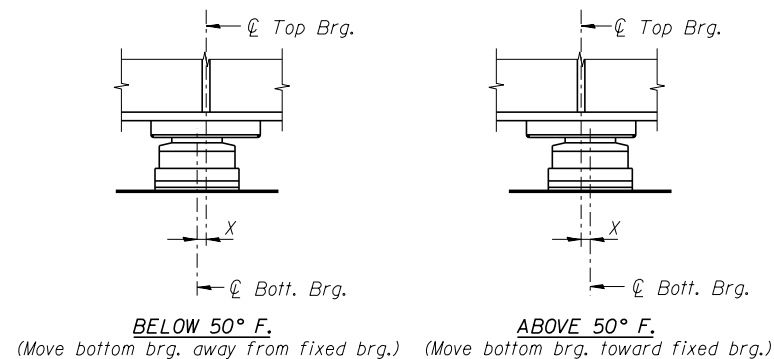
STUDS & ANCHOR BOLTS TABLE

Unit	Location	Pay Item Designation (kips)	No. of H.S. Studs	H.S. Stud Diameter	No. of Anchor Bolts	Anchor Bolt Dia. x Length	Anchor Bolt Grade (F1554)	φ of hole in Bottom PL	Size of 5/16" PL washer
2	Pier 2S	300	4	3/4"	4	1" x 12"	Gr. 55	1 1/2"	2 1/4"x2 1/4"
	Pier 3	1000	8	1"	6	1 1/4" x 15"	Gr. 55	1 3/4"	2 3/4"x2 3/4"
	Pier 5N	300	4	3/4"	4	1" x 12"	Gr. 55	1 1/2"	2 1/4"x2 1/4"
3	Pier 6	600	8	3/4"	4	1" x 12"	Gr. 55	1 1/2"	2 1/4"x2 1/4"

BEARING DIMENSIONS TABLE

Unit	Location	Pay Item Designation (kips)	Vert. Design Load** (kips)	Hu, Horiz. Design Load** (kips)	θu, Required LL Rotation Range*** (radians)	Slope for Bevel of Top Brg PL (%)	Max. Theor. Thermal Movement from 50 °F	Top Plate			Bearing Assembly		Bottom Plate			Total Ht. at PL Brg.
								Wt	Lt	Tt (at PL Brg.)	L	D	Wb*	Lb*	Tb	
2	Pier 2S	300	272	55	0.009	+ 4.27	±4"	2'-2 1/8"	1'-7"	2 1/8"	1'-0 3/4"	1'-2 3/4"	1'-6 3/4"	2'-7"	2"	8 3/4"
	Pier 3	1000	916	183	0.009	+ 1.73	±2 3/8"	2'-11 1/2"	2'-8 1/4"	3 3/8"	1'-11"	2'-2 3/8"	2'-6"	3'-6"	2"	13"
	Pier 5N	300	272	55	0.009	- 4.27	±1 3/4"	1'-9 1/2"	1'-7"	2 1/4"	1'-0 3/4"	1'-2 3/4"	1'-6 3/4"	2'-7"	2"	8 7/8"
3	Pier 6	600	517	104	0.005	- 4.99	±1 3/8"	2'-3 3/8"	2'-1 3/4"	3 3/8"	1'-6"	1'-10 3/4"	2'-2"	2'-11"	2"	11 1/8"

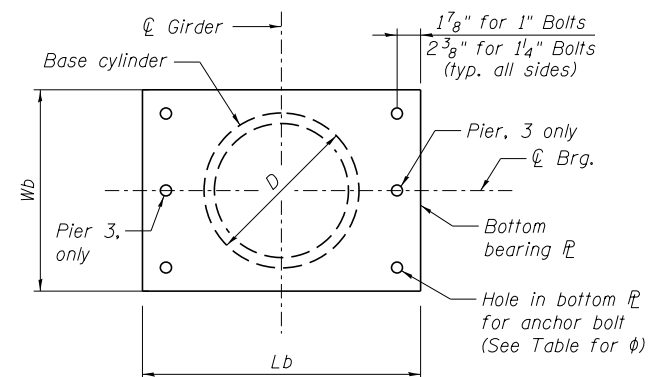
* To be verified by the contractor for proper access of the drilling tool.
 ** Design Loads are the governing service loads with no dynamic allowance.
 *** Rotation allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians) excluded.



BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 300K	Ea.	12
High Load Multi-Rotational Bearings, Guided Expansion, 600K	Ea.	6
High Load Multi-Rotational Bearings, Guided Expansion, 1000K	Ea.	6
Anchor Bolts, 1 1/4"	Ea.	36
Achor Bolts, 1"	Ea.	72

BOTTOM BEARING PLATE AND POT PLAN



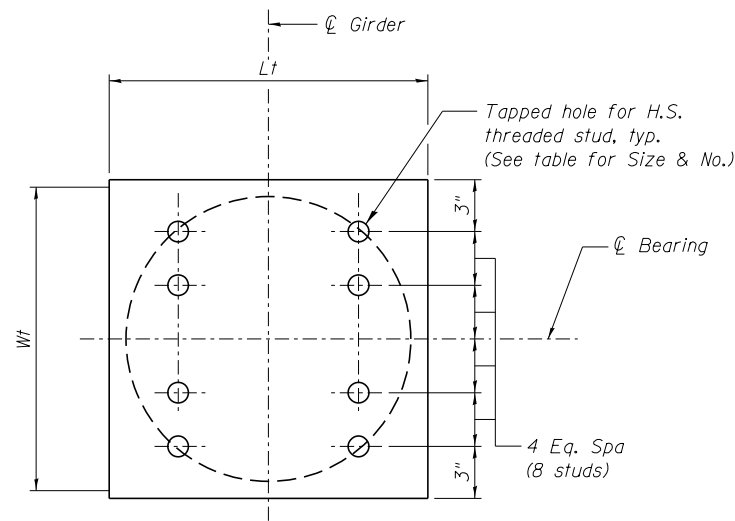
NOTES:

- All steel for bearings shall conform to the requirements of AASHTO M270 Grade 50, unless otherwise noted.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554. Anchor bolts may be either cast in place or installed in holes drilled after the supported member is in place. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Threaded studs, elastomeric materials, PTFE and stainless steel materials shall conform to AASHTO requirements and the Special Provision for High Load Multi-Rotational Bearings.
- Anchor bolts shall be hot-dipped galvanized in accordance with Article 1006.09 of the Standard Specifications.
- Total bearing height (Th) is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete. Modifications to the Wt dimension for bearings at abutments or piers shall take into account the location of the backwall or pier step and required expansion length if exceeding the end of the girder.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details. Bearing height does not include neoprene mat or shims.

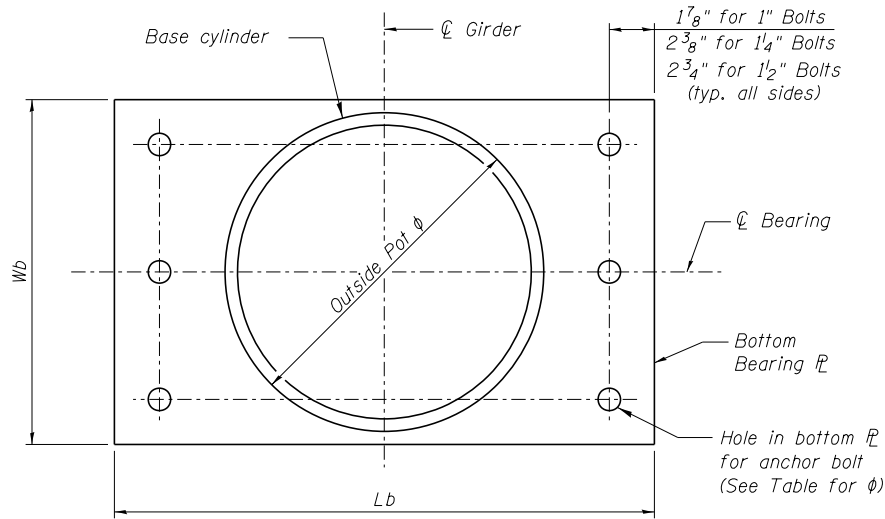


Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10141.01

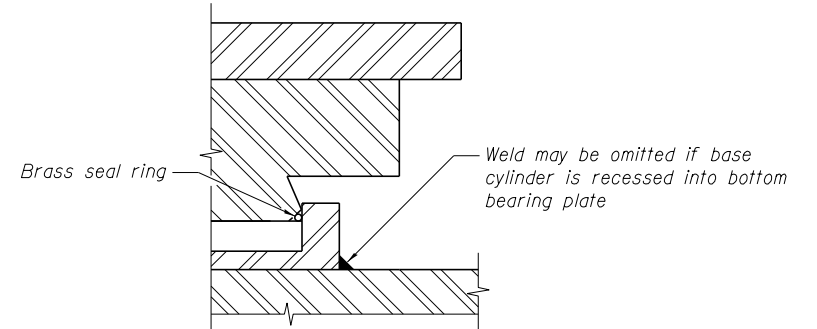
FILE NAME =	USER NAME = rgr:mm	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLMR GUIDED EXPANSION BEARING DETAILS STRUCTURE NO. 078-0047	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0780047.66A69.061_HLMR_Exp.dgn		CHECKED - KWS	REVISED -			698	(1) BR	BUREAU/PUTNAM	415	218
	PLOT SCALE =	DRAWN - RMG	REVISED -			CONTRACT NO. 66A69				
	PLOT DATE = 8/14/2015	CHECKED - KWS	REVISED -			ILLINOIS FED. AID PROJECT				
	SHEET NO. S61 OF S119 SHEETS									



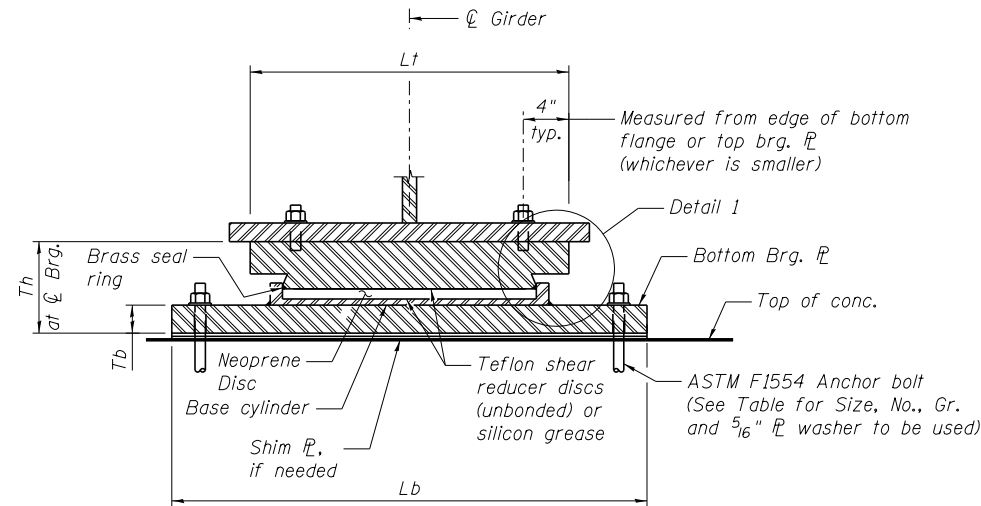
TOP BEARING PLATE AND PISTON PLAN
(Girder and bearing stiffeners not shown for clarity)



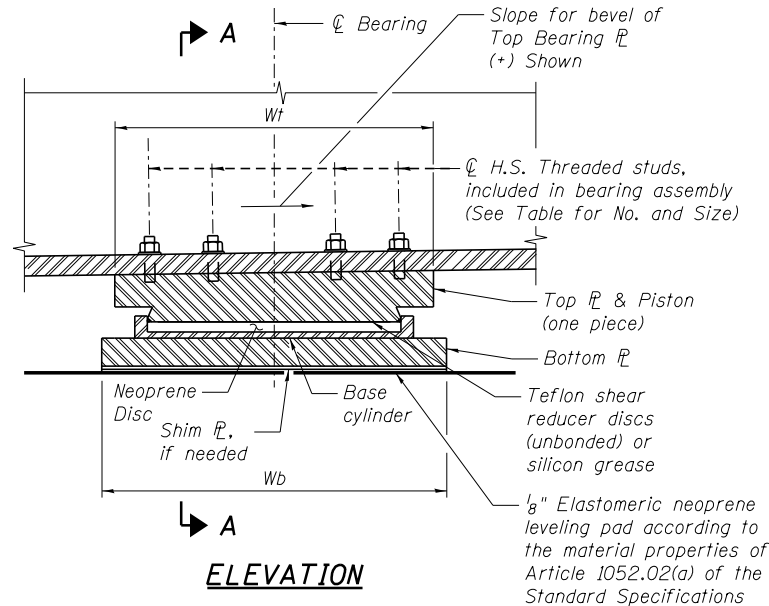
BOTTOM BEARING PLATE AND BASE CYLINDER PLAN



DETAIL 1



SECTION A-A



ELEVATION

STUDS & ANCHOR BOLTS TABLE

Unit	Location	Pay Item Designation (kips)	No. of H.S. Studs	H.S. Stud Diameter	No. of Anchor Bolts	Anchor Bolt Dia. x Length	Anchor Bolt Grade (F1554)	Ø of hole in Bottom plate	Size of 5/16" plate washer
1	Pier 1	600	8	3/4"	6	1" x 12"	Gr. 55	1 1/2"	2 1/4" x 2 1/4"
2	Pier 4	1000	8	1 1/2"	6	1 1/2" x 18"	Gr. 105	2"	3" x 3"
3	Pier 7	600	8	1"	6	1 1/4" x 15"	Gr. 55	1 3/4"	2 3/4" x 2 3/4"

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Fixed, 600K	Ea.	12
High Load Multi-Rotational Bearings, Fixed, 1000K	Ea.	6
Anchor Bolts, 1 1/2"	Ea.	36
Anchor Bolts, 1 1/4"	Ea.	36
Anchor Bolts, 1"	Ea.	36

NOTE:

For HLMR Bearing Notes, see Sheet S61.

BEARING DIMENSIONS TABLE

Unit	Location	Pay Item Designation (kips)	Vert. Design Load** (kips)	Hu, Horiz. Design Load** (kips)	Θu, Required Rotation Range*** (radians)	Slope for Bevel of Top Brg plate (%)	Top Plate		Outside Pot Diameter	Bottom Plate			Total Ht. at Brg.
							Wt	Lt		Wb*	Lb*	Tb	
1	Pier 1	600	577	117	0.006	+4.99	1'-6"	1'-6"	1'-6"	2'-0"	2'-3"	1 1/4"	7"
2	Pier 4	1000	914	341	0.009	-1.73	1'-11"	1'-11"	1'-11"	2'-9"	2'-10"	1 3/4"	8 3/4"
3	Pier 7	600	515	163	0.005	-4.99	1'-6"	1'-6"	1'-6"	2'-0"	2'-3"	1 1/4"	7"

* To be verified by the contractor for proper access of the drilling tool.
 ** Design Loads are the governing service loads with no dynamic allowance.
 *** Rotation allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians) excluded.



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 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10141.01

FILE NAME =	USER NAME = habdou	DESIGNED - HMA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HLMR FIXED BEARING DETAILS STRUCTURE NO. 078-0047	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0780047.66A69.062.HLMR.Fix.dgn	PLOT SCALE =	CHECKED - KWS	REVISED -			698	(1) BR	BUREAU/PUTNAM	415	219
	PLOT DATE = 9/15/2015	DRAWN - RMG	REVISED -			CONTRACT NO. 66A69				
		CHECKED - KWS	REVISED -			ILLINOIS FED. AID PROJECT				

SHEET NO. S62 OF S119 SHEETS

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1:50:30 PM

9/15/2015

$$\underline{BAR \ h_2(E)}$$

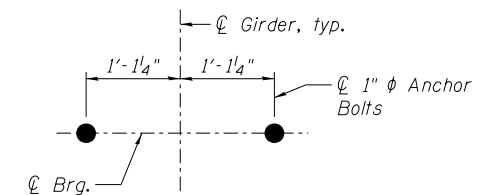
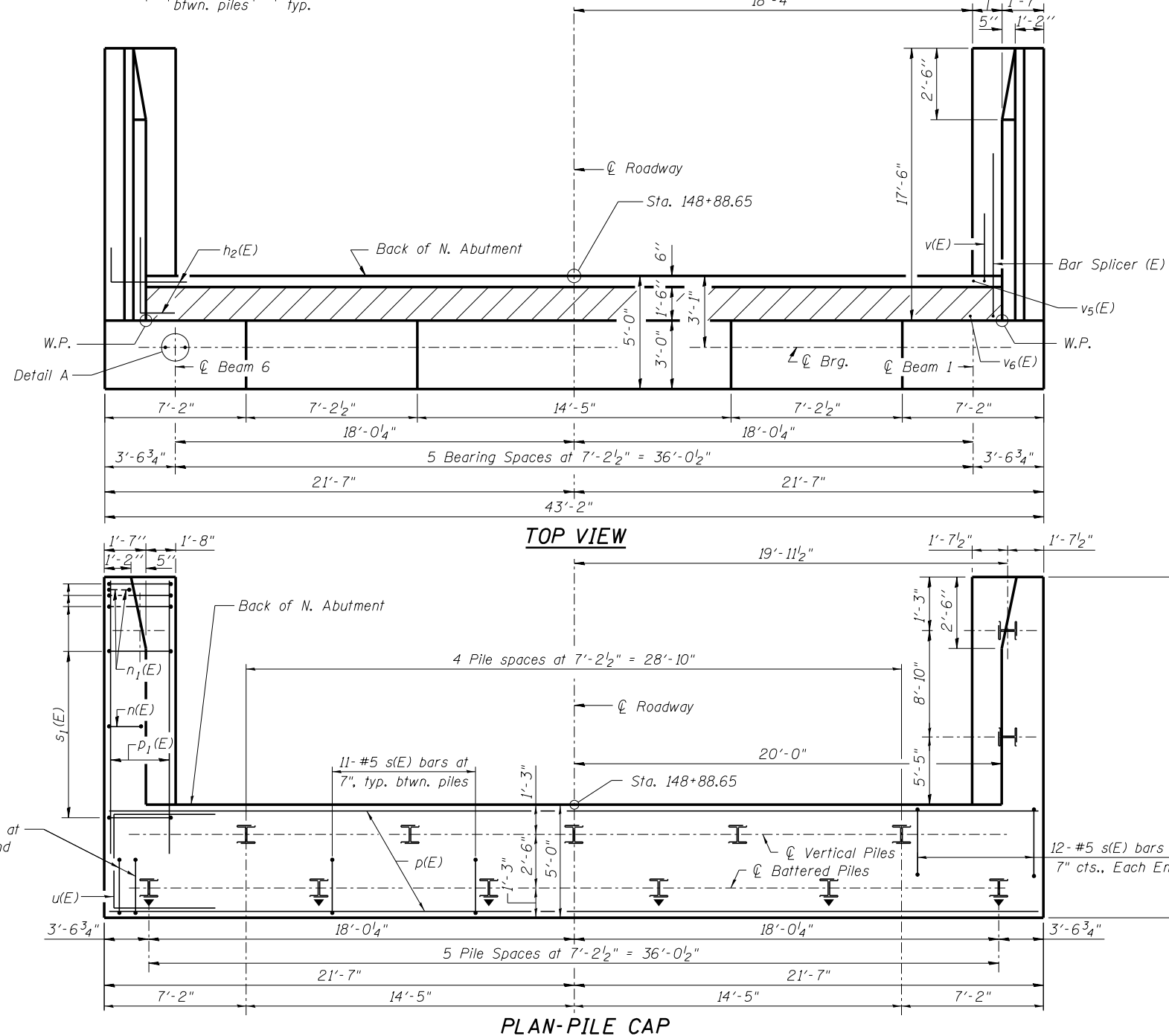
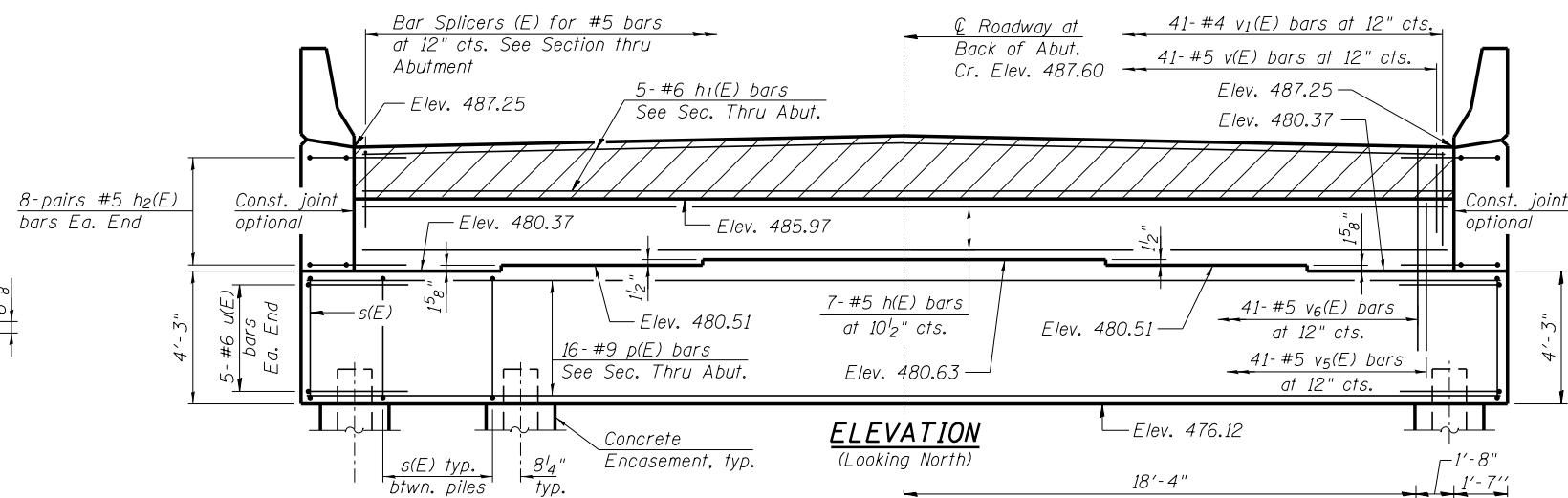
BAR $h_4(E)$

$$\overline{BAR} \quad n(E)$$
$$\underline{BAR} \ n_1(E)$$

BARS $s(E)$ & $s_I(E)$

 $BAR \cup (E)$
$$\underline{BAR} \ v_I(E)$$

BAR $v_3(E)$

$$\underline{BAR} \quad v(E)$$
 $BAR \ v_4(E)$ 

DETAIL A

NORTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h(E)$	7	#5	39'-8"	
$h_1(E)$	5	#6	39'-8"	
$h_2(E)$	32	#5	8'-1"	
$h_3(E)$	28	#4	17'-2"	
$h_4(E)$	20	#4	17'-3"	
$n(E)$	30	#6	14'-8"	
$n_1(E)$	12	#6	7'-4"	
$p(E)$	16	#9	42'-10"	
$p_1(E)$	18	#7	20'-2"	
$s(E)$	133	#5	14'-5"	
$s_1(E)$	64	#5	12'-7"	
$u(E)$	10	#6	12'-4"	
$v(E)$	41	#5	3'-9"	
$v_1(E)$	41	#4	3'-1"	
$v_2(E)$	36	#6	9'-5"	
$v_3(E)$	6	#6	9'-4"	
$v_4(E)$	30	#6	9'-6"	
$v_5(E)$	41	#5	7'-7"	
$v_6(E)$	41	#5	9'-2"	
Structure Excavation			Cu. Yd.	55
Concrete Structures			Cu. Yd.	77.1
Reinforcement Bars, Epoxy Coated			Pound	10,290
Furnishing Steel Piles HP 14x73			Foot	1,204
Driving Piles			Foot	1,204
Test Pile Steel HP 14x73			Each	1
Concrete Encasement			Cu. Yd.	8.2
Concrete Sealer			Sq. Ft.	415

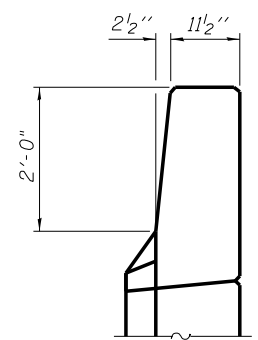
For details of Bar Splicers, see sheet S83.
For details of piles and Concrete Encasement,
see sheet S82.

PILE DATA

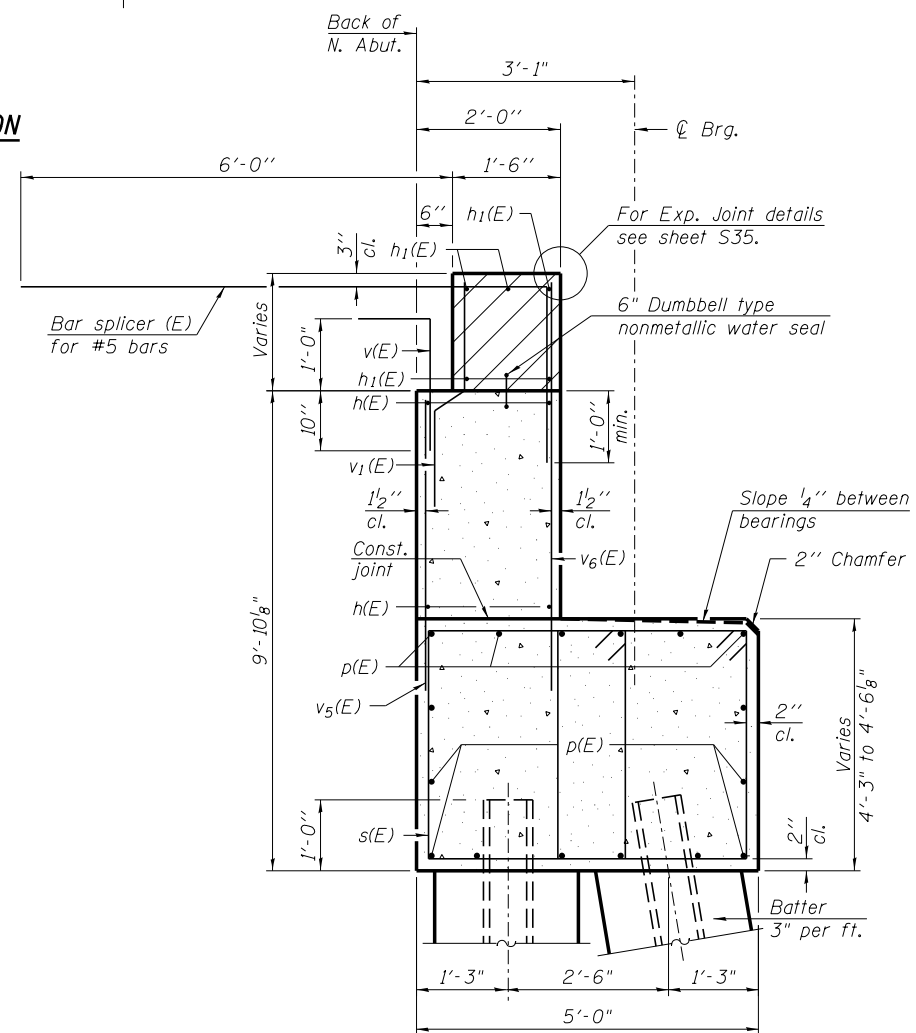
Type: HP 14x73
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 86'
No. Production Piles: 14
No. Test Piles: 1

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

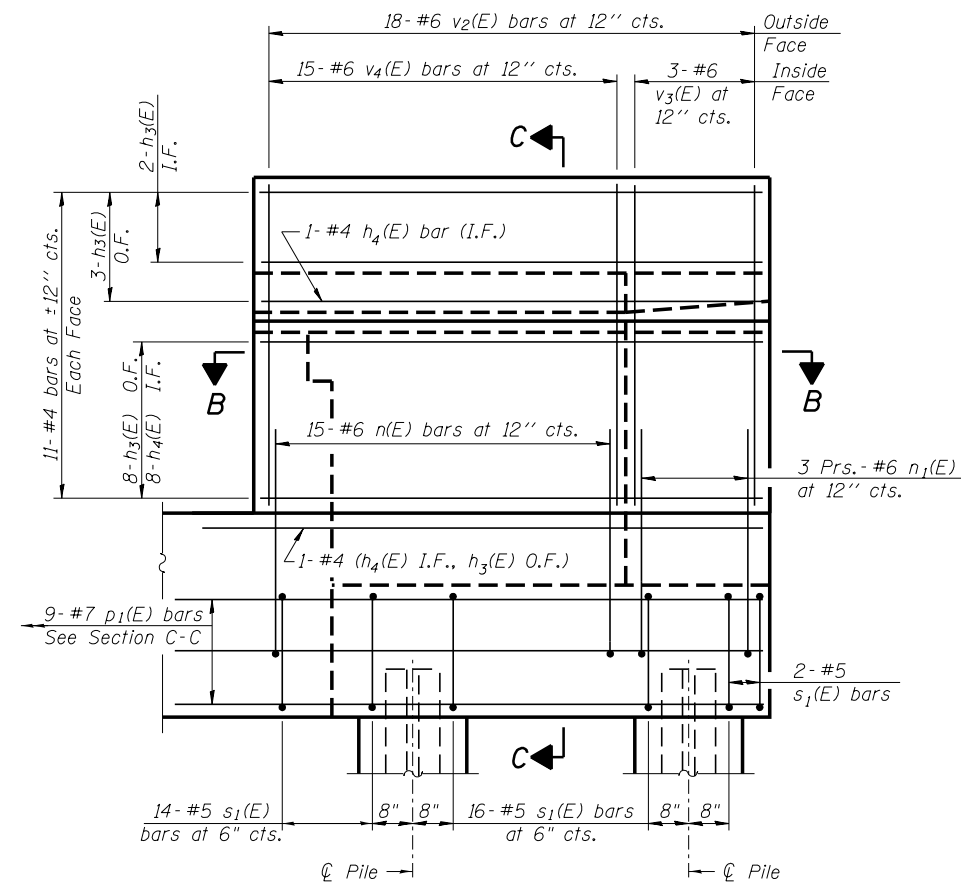
WING WALL ELEVATION
Showing Dimensions



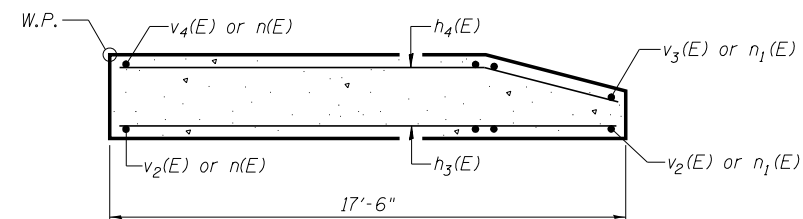
VIEW A - A



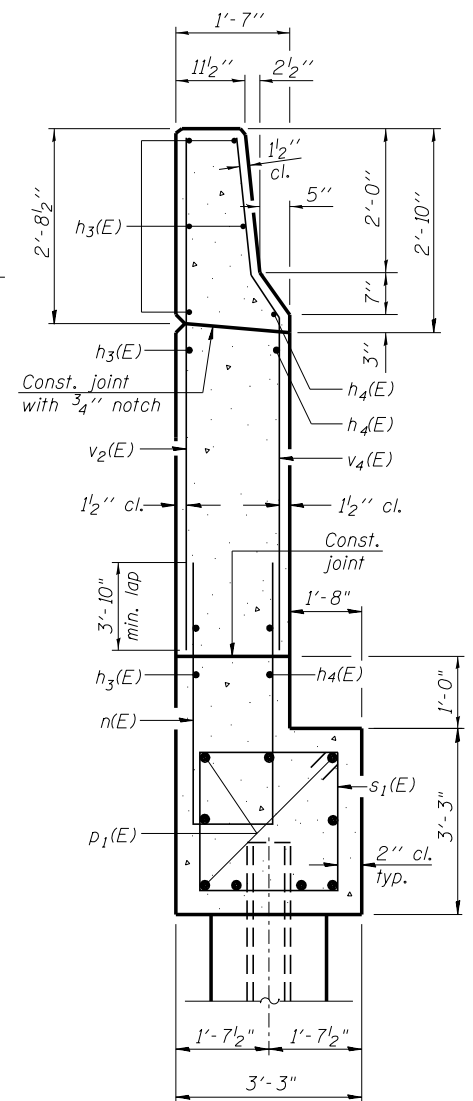
SEC. THRU ABUT.



WING WALL ELEVATION
Showing Reinforcement



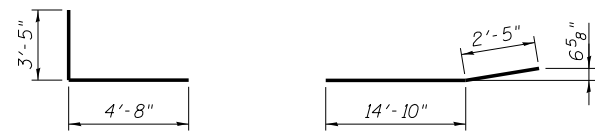
SECTION B-B



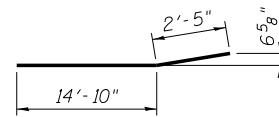
SECTION C-C

NOTES:

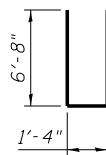
1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. Quantity of concrete in end post included with Concrete Superstructure on sheet S31.
5. For Concrete Encasement details, see sheet S82.
6. Concrete Sealer shall be applied to the exposed vertical surfaces and the seat for the total length of the abutment under the exp. joint.
7. Settlement platforms shall be used to verify there is 0.4 inch left or less of settlement after ground improvement prior to installation of the piles at the abutments. See Ground Improvement sheets for locations.



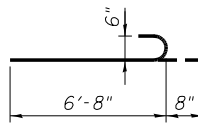
BAR $h_{12}(E)$



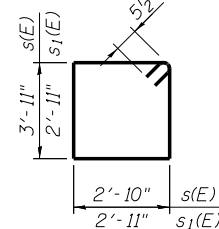
BAR $h_{14}(E)$



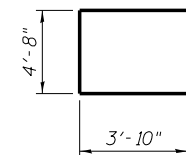
BAR $n_{10}(E)$



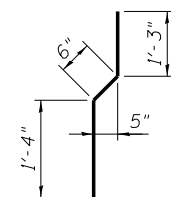
BAR $n_{11}(E)$



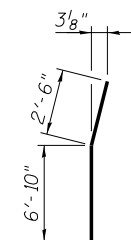
BARS $s_{10}(E)$ & $s_{11}(E)$



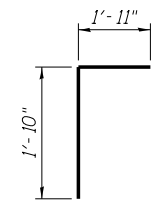
BAR $u_{10}(E)$



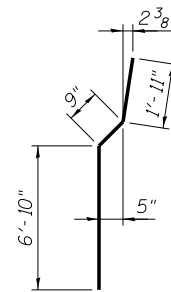
BAR $v_{11}(E)$



BAR $v_{13}(E)$

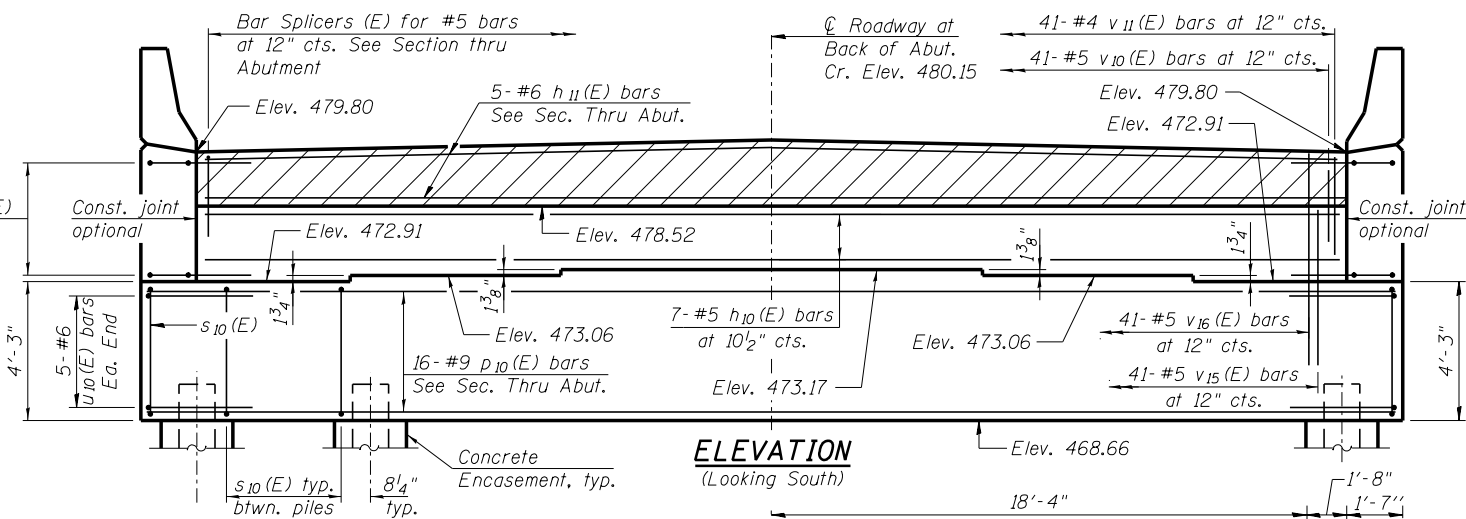


BAR $v_{10}(E)$

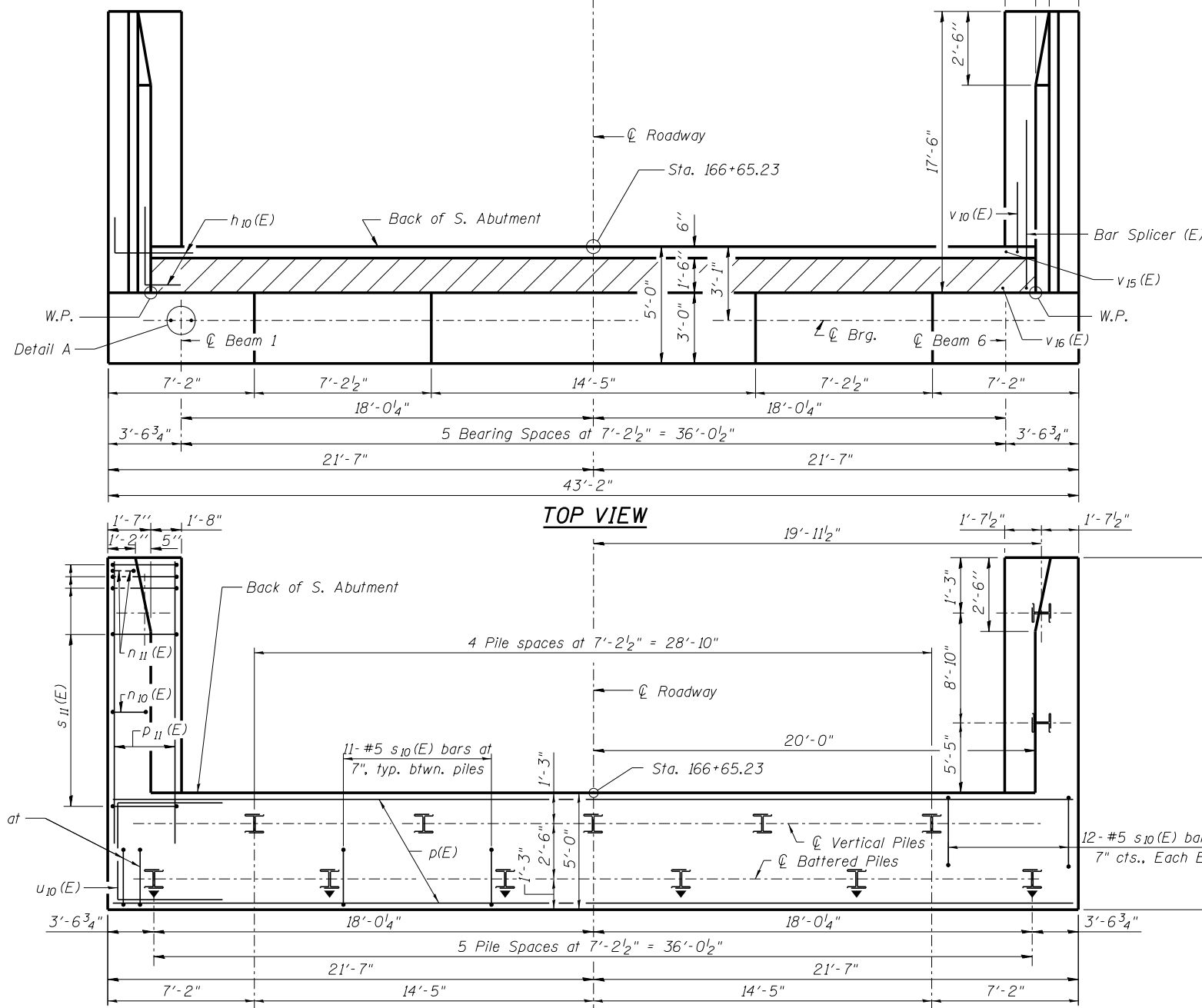


BAR $v_{14}(E)$

5-#5 $s_{10}(E)$ bars at 8" cts. Each End

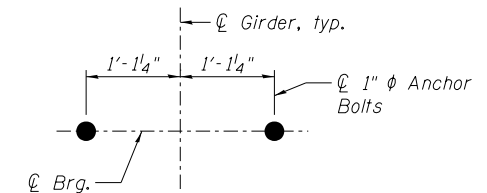


ELEVATION
(Looking South)



TOP VIEW

PLAN-PILE CAP



DETAIL A

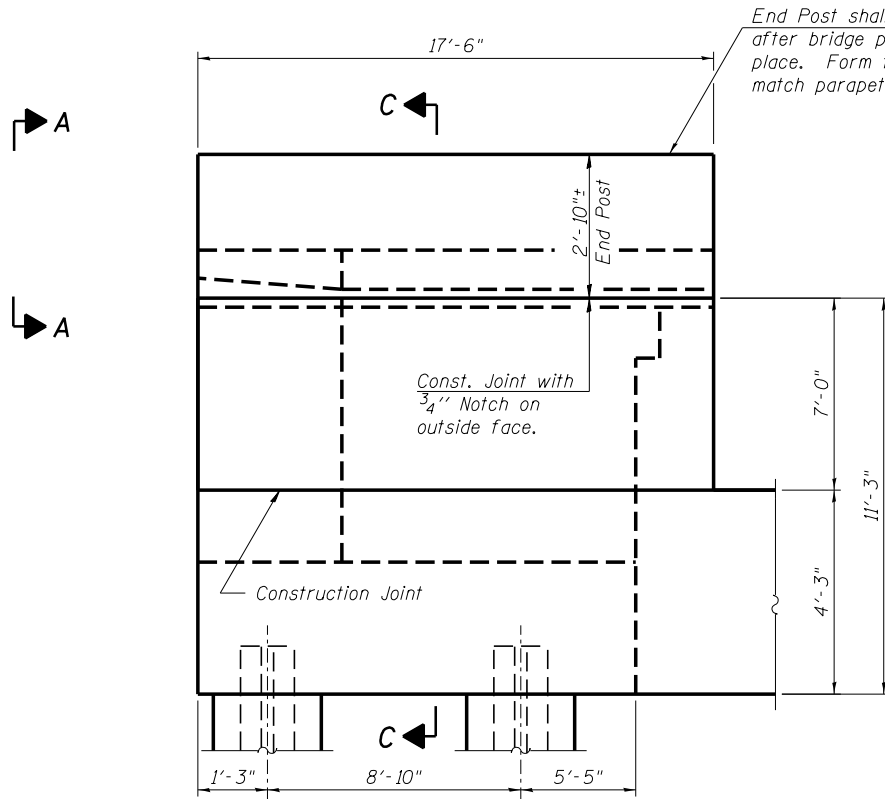
SOUTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_{10}(E)$	7	#5	39'-8"	
$h_{11}(E)$	5	#6	39'-8"	
$h_{12}(E)$	32	#5	8'-1"	
$h_{13}(E)$	28	#4	17'-2"	
$h_{14}(E)$	20	#4	17'-3"	
$n_{10}(E)$	30	#6	14'-8"	
$n_{11}(E)$	12	#6	7'-4"	
$p_{10}(E)$	16	#9	42'-10"	
$p_{11}(E)$	18	#7	20'-2"	
$s_{10}(E)$	133	#5	14'-5"	
$s_{11}(E)$	64	#5	12'-7"	
$u_{10}(E)$	10	#6	12'-4"	
$v_{10}(E)$	41	#5	3'-9"	
$v_{11}(E)$	41	#4	3'-1"	
$v_{12}(E)$	36	#6	9'-5"	
$v_{13}(E)$	6	#6	9'-4"	
$v_{14}(E)$	30	#6	9'-6"	
$v_{15}(E)$	41	#5	7'-7"	
$v_{16}(E)$	41	#5	9'-2"	
Structure Excavation		Cu. Yd.	55	
Concrete Structures		Cu. Yd.	77.1	
Reinforcement Bars, Epoxy Coated		Pound	10,290	
Furnishing Steel Piles HP 14x73		Foot	1,190	
Driving Piles		Foot	1,190	
Test Pile Steel HP 14x73		Each	1	
Concrete Encasement		Cu. Yd.	8.2	
Concrete Sealer		Sq. Ft.	415	

For details of Bar Splicers, see sheet S83.
For details of piles and Concrete Encasement, see sheet S82.

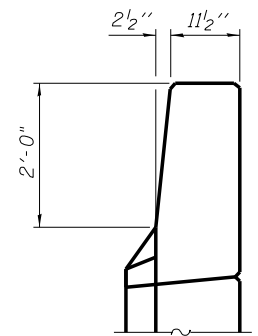
PILE DATA

Type: HP 14x73
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 85'
No. Production Piles: 14
No. Test Piles: 1

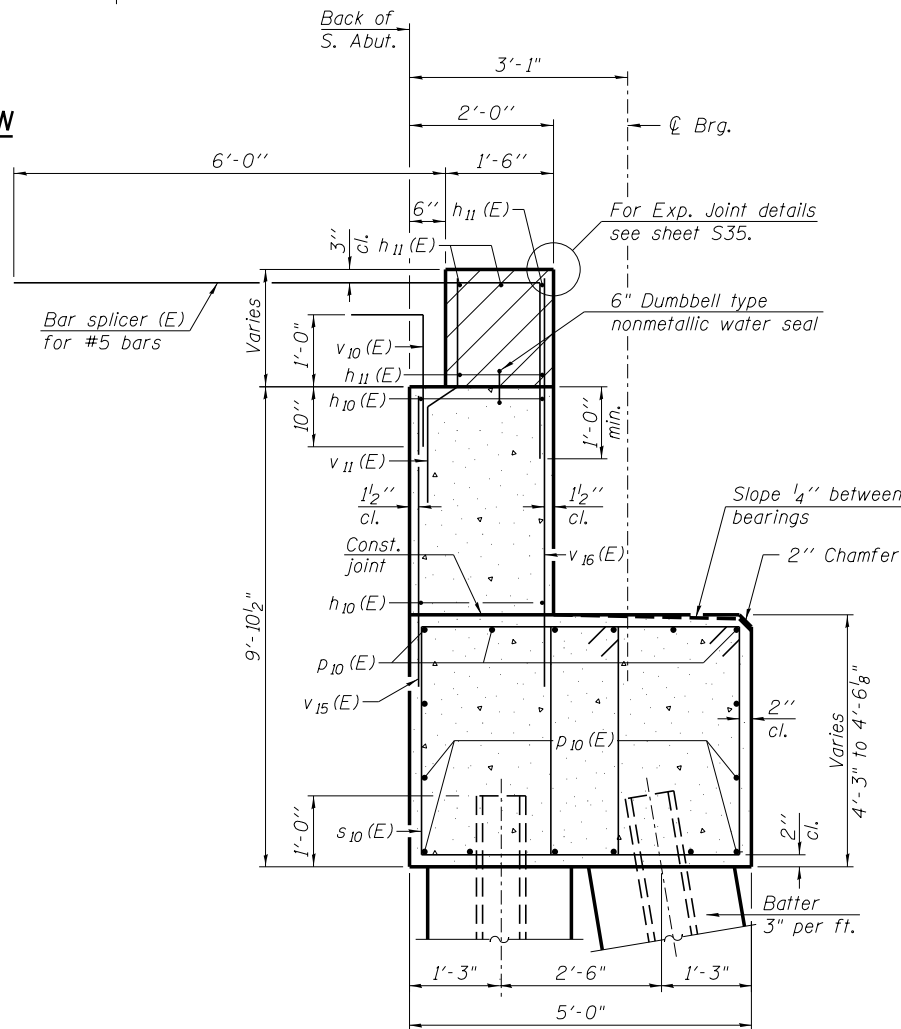


WING WALL ELEVATION
Showing Dimensions

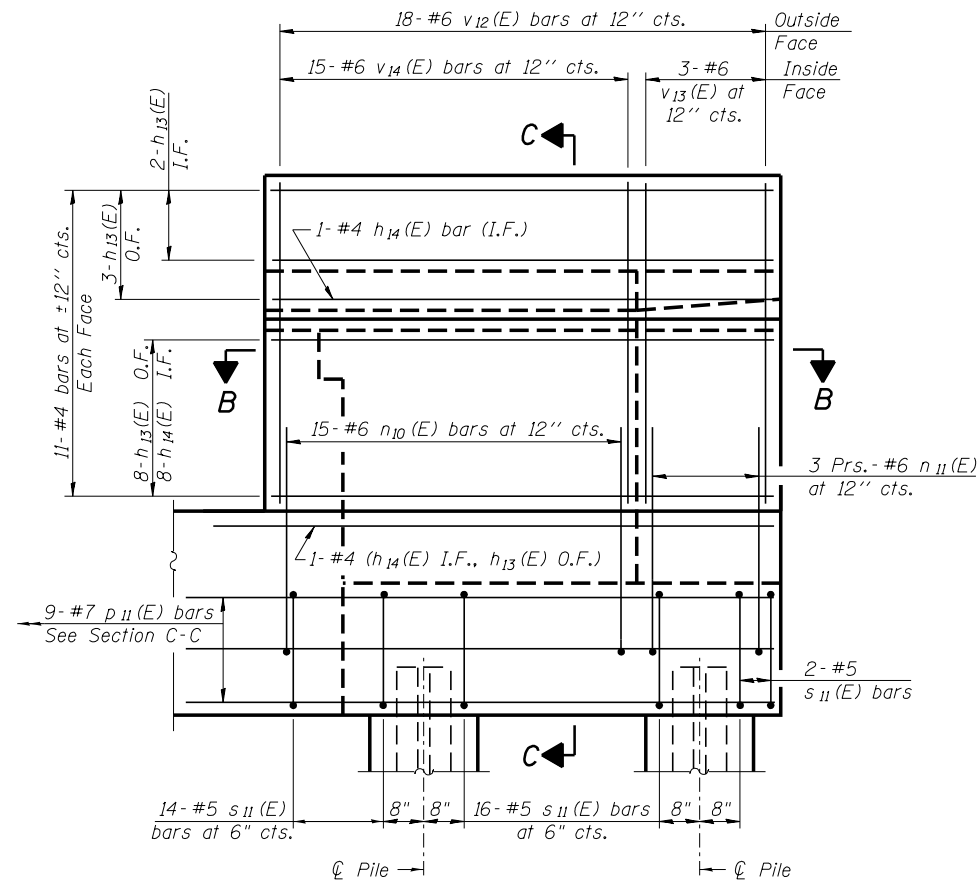
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



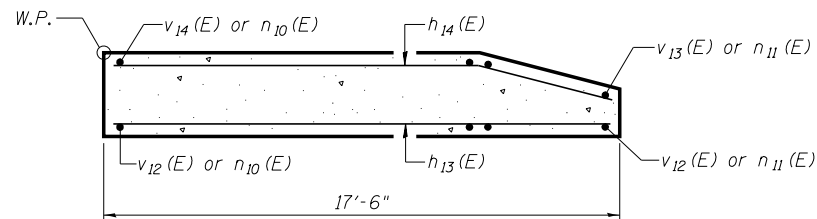
VIEW A-A



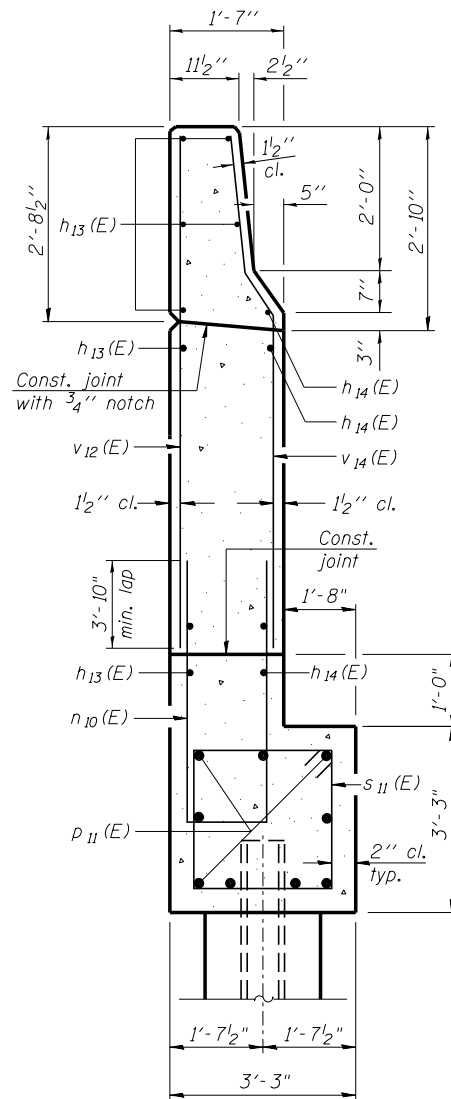
SEC. THRU ABUT.



WING WALL ELEVATION
Showing Reinforcement



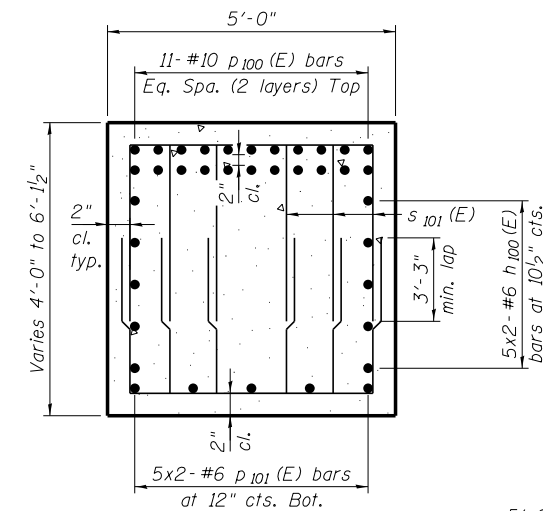
SECTION B-B



SECTION C-C

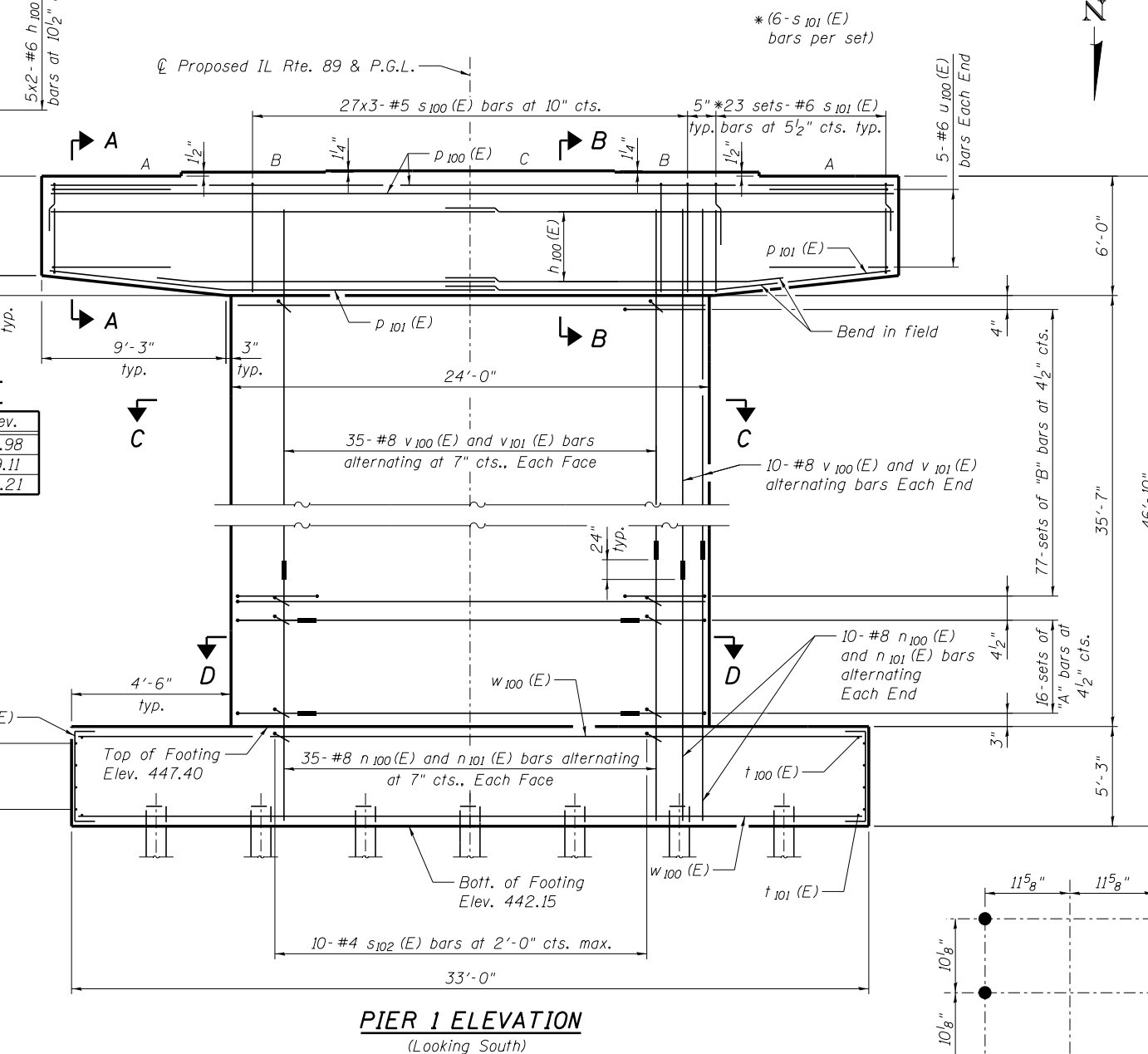
NOTES:

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. Quantity of concrete in end post included with Concrete Superstructure on sheet S31.
5. For Concrete Encasement details, see sheet S82.
6. Concrete Sealer shall be applied to the exposed vertical surfaces and the seat for the total length of the abutment under the exp. joint.
7. Settlement platforms shall be used to verify there is 0.4 inch left or less of settlement after ground improvement prior to installation of the piles at the abutments. See Ground Improvement sheets for locations.

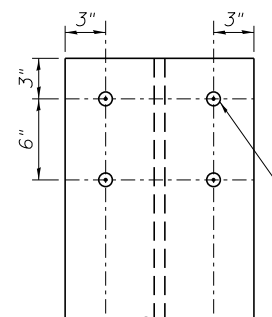


1. Bars indicated thus 5x2-#6 etc., indicates 5 lines of bars with 2 lengths per line.
2. For Sections C-C thru D-D, see Sheet S68.
3. Pour steps monolithically with cap.
4. Space reinforcement in cap to miss anchor bolts.
5. Bearing seats are to be constructed level. Slope to drain between bearing seats at $\frac{1}{8}$ "/ft.
6. EWSE denotes Estimated Water Surface Elevation.
7. For Bar List and Bill of Material, see Sheet S68.
8. For details of piles, see Sheet S68.

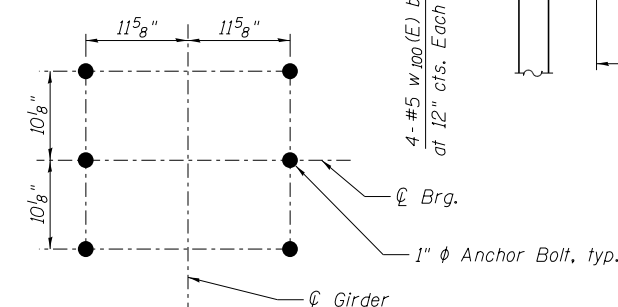
Type: Steel HP 14x89
Nominal Required Bearing: 705 kip
Factored Resistance Available: 388 kip
Est. Length: 61 ft
No. Production Piles: 41
No. Test Piles: 1



Pier	Seat Location	Elev.
1	A (Girders 1 & 6)	488.98
	B (Girders 2 & 5)	489.11
	C (Girders 3 & 4)	489.21



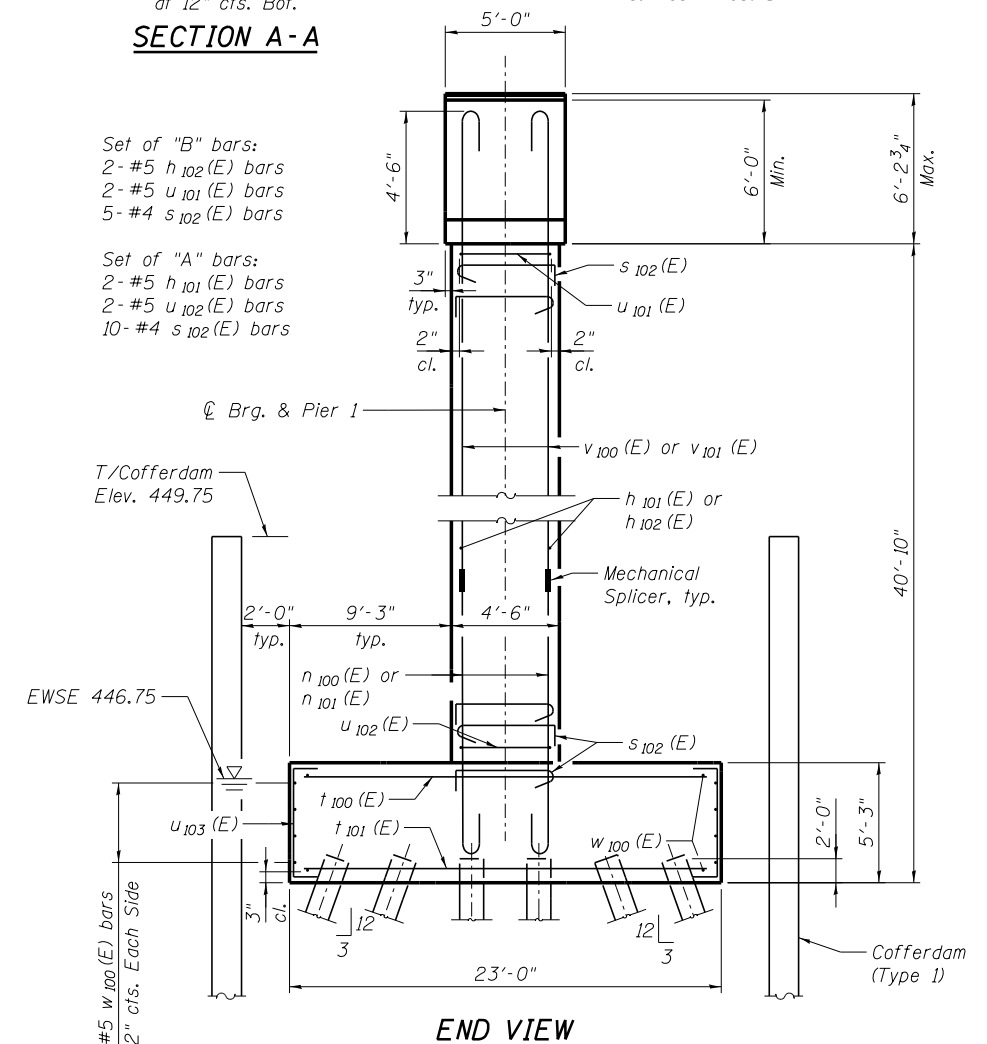
** Typical Each Flange, each pile.
Cost included with Furnishing Piles.



SECTION A - A

Set of "B" bars:
 2- #5 $h_{102}(E)$ bars
 2- #5 $u_{101}(E)$ bars
 5- #4 $s_{102}(E)$ bars

Set of "A" bars:
 2- #5 $h_{101}(E)$ bars
 2- #5 $u_{102}(E)$ bars
 10- #4 $s_{102}(E)$ bars



PIER 1 - PLAN & ELEVATION
STRUCTURE NO. 078-0047

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(I) BR	BUREAU/PUTNAM	415	224
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

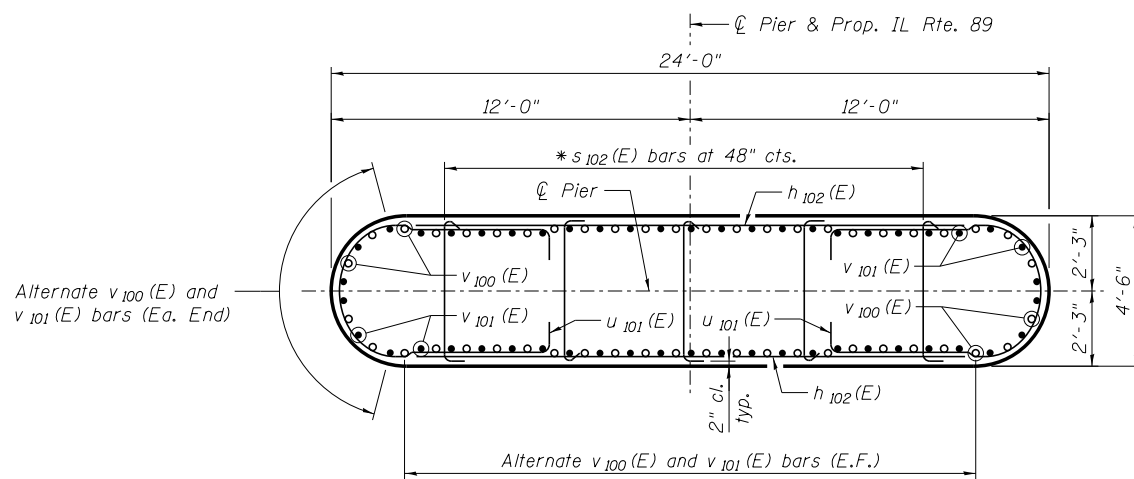
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FILE NAME =	CHECKED <i>JRS</i>	REVISED -
0780047.66A69.067_P1ser.Ldgn	DRAWN <i>AJF</i>	REVISED -
PLOT DATE = 8/14/2015	CHECKED <i>JRS</i>	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

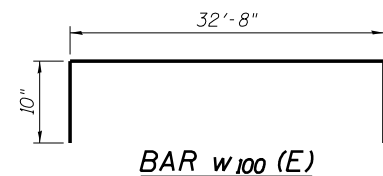
SHEET NO. S67 OF 118 SHEETS

PIER 1 BILL OF MATERIAL

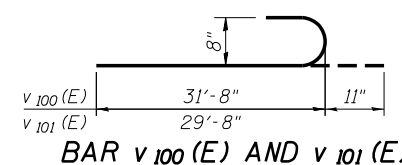
Bar	No.	Size	Length	Shape
$h_{100}(E)$	20	#6	23'-3"	—
$h_{101}(E)$	32	#5	13'-0"	—
$h_{102}(E)$	154	#5	19'-6"	—
$n_{100}(E)$	45	#8	13'-11"	⌋
$n_{101}(E)$	45	#8	15'-11"	⌋
$p_{100}(E)$	22	#10	42'-8"	—
$p_{101}(E)$	10	#6	23'-6"	—
$s_{100}(E)$	81	#5	18'-1"	⌋
$s_{101}(E)$	276	#6	10'-3"	⌋
$s_{102}(E)$	555	#4	4'-11"	⌋
$t_{100}(E)$	37	#5	24'-4"	⌋
$t_{101}(E)$	72	#10	26'-4"	⌋
$u_{100}(E)$	10	#6	16'-8"	⌋
$u_{101}(E)$	154	#5	14'-1"	⌋
$u_{102}(E)$	32	#5	13'-1"	⌋
$u_{103}(E)$	122	#5	9'-11"	⌋
$v_{100}(E)$	45	#8	32'-7"	⌋
$v_{101}(E)$	45	#8	30'-7"	⌋
$w_{100}(E)$	48	#5	34'-4"	⌋
Cofferdam Excavation			Cu. Yd.	271
Cofferdam (Type 1) (Location 1)			Each	1
Concrete Structures			Cu. Yd.	329.6
Reinforcement Bars, Epoxy Coated			Pound	42,460
Furnishing Steel Piles, HP 14x89			Foot	2,501
Driving Piles			Foot	2,501
Test Pile Steel HP 14x89			Each	1



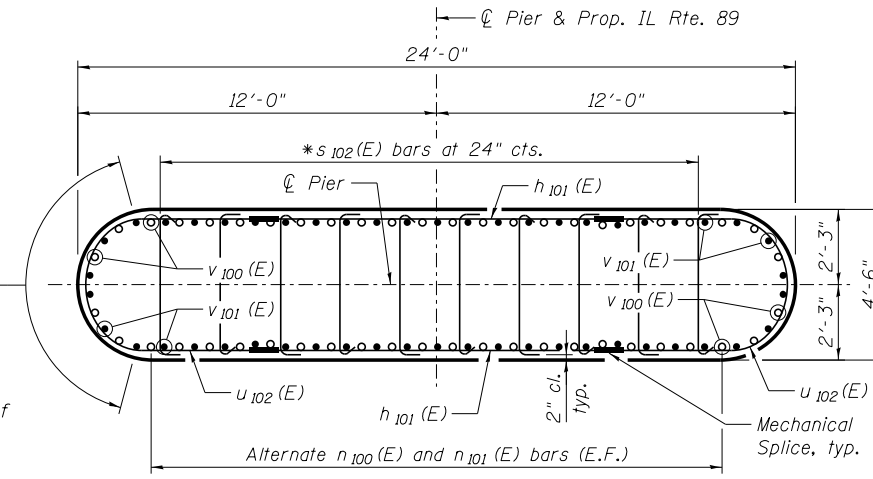
SECTION C-C



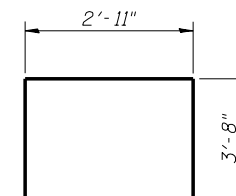
BAR $w_{100}(E)$



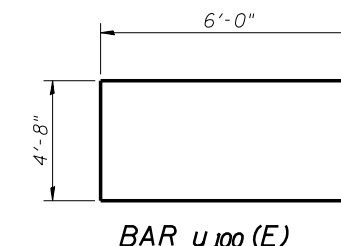
BAR $v_{100}(E)$ AND $v_{101}(E)$



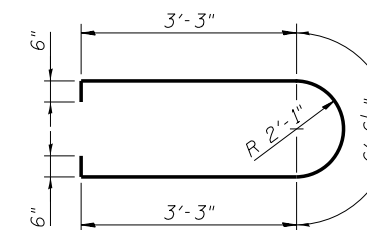
SECTION D-D



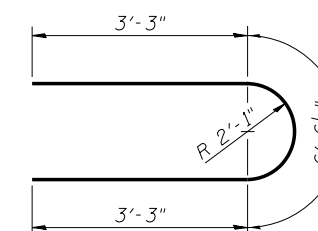
BAR $s_{101}(E)$



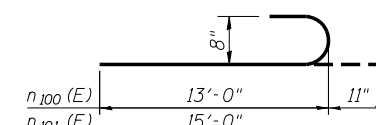
BAR $u_{100}(E)$



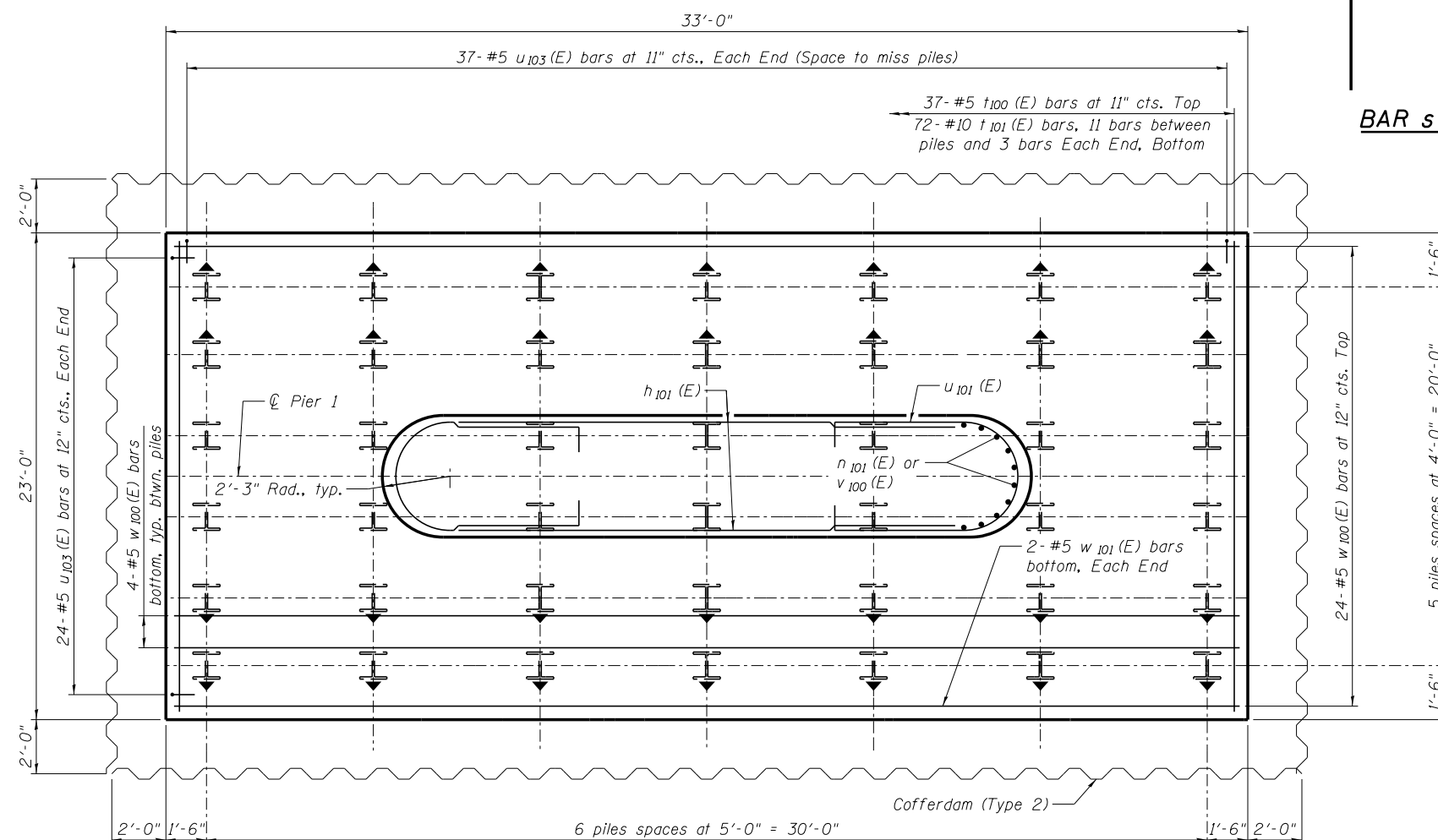
BAR $u_{101}(E)$



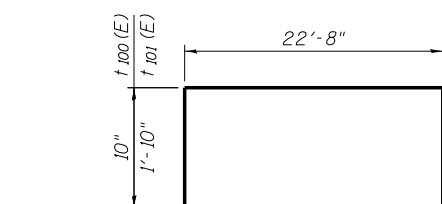
BAR $u_{102}(E)$



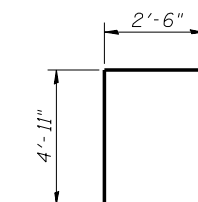
BAR $n_{100}(E)$ AND $n_{101}(E)$



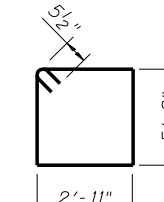
PIER 1 FOOTING PLAN



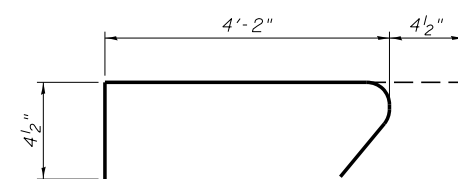
BAR $t_{100}(E)$ & $t_{101}(E)$



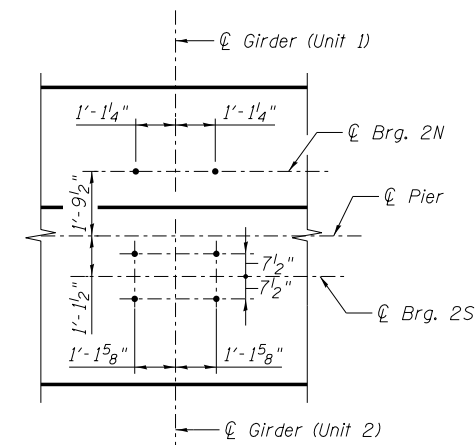
BAR $u_{103}(E)$



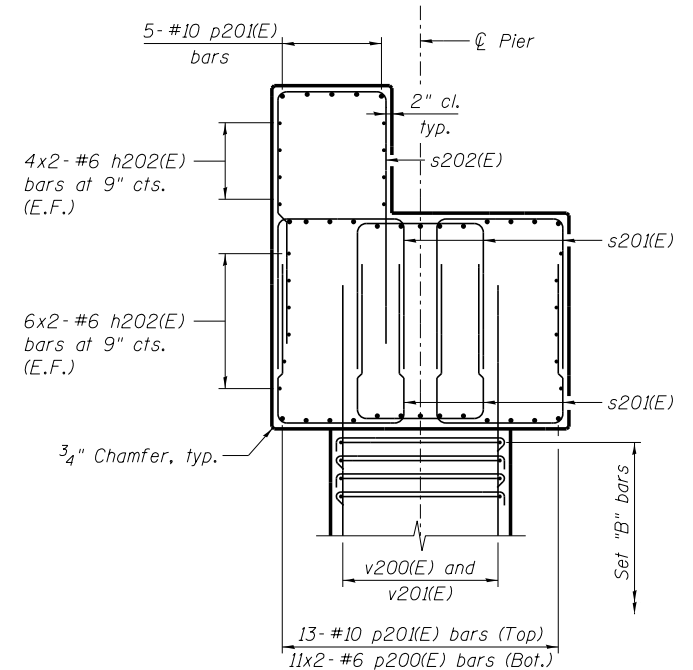
BAR $s_{100}(E)$



BAR $s_{102}(E)$



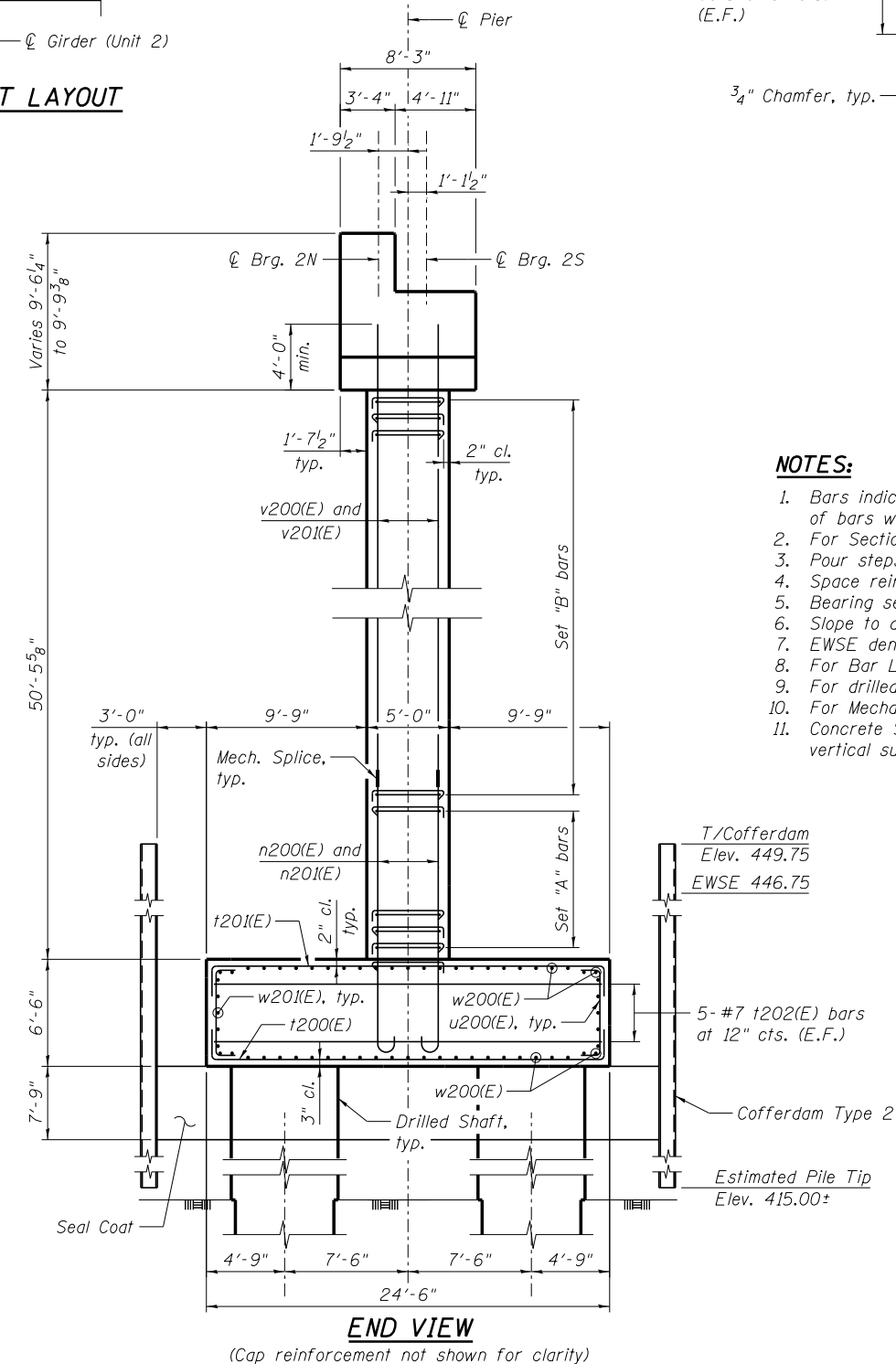
Q BRG.	SEAT LOCATION	ELEV.
2N	AN (Girders 1 & 6)	497.99
	BN (Girders 2 & 5)	498.14
	CN (Girders 3 & 4)	498.25
2S	AS (Girders 1 & 6)	494.47
	BS (Girders 2 & 5)	494.62
	CS (Girders 3 & 4)	494.73



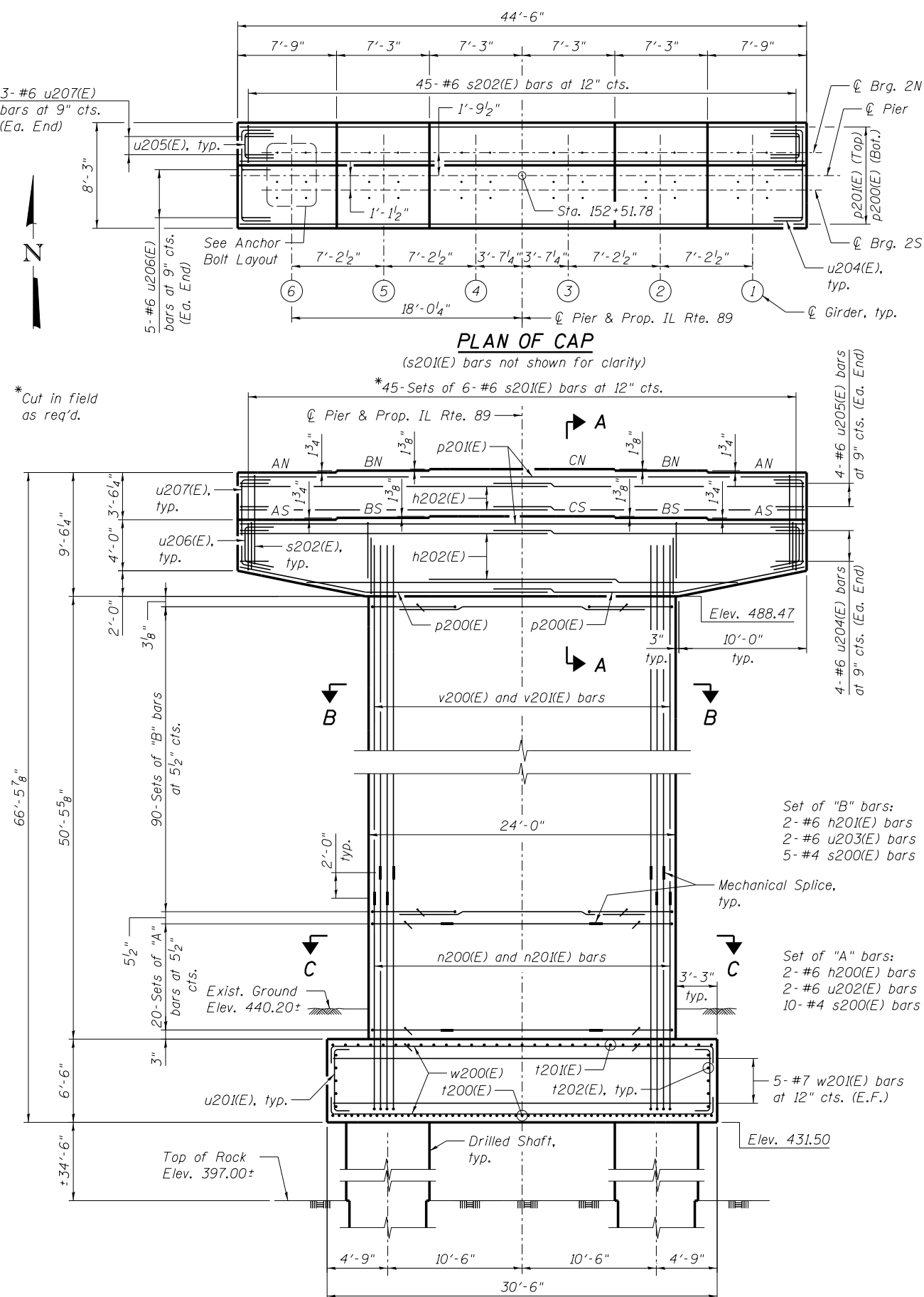
SECTION A - A

NOTES:

1. Bars indicated thus 6x2- #6 etc., indicates 6 lines of bars with 2 lengths per line.
2. For Sections B-B thru C-C, see Sheet S70.
3. Pour steps monolithically with cap.
4. Space reinforcement in cap to miss anchor bolts.
5. Bearing seats are to be constructed level.
6. Slope to drain between bearing seats at $\frac{1}{8}$ "/ft.
7. EWSE denotes Estimated Water Surface Elevation.
8. For Bar List and Bill of Material, see Sheet S70.
9. For drilled shaft details, see Sheet S81.
10. For Mechanical Splicers, see Sheet S83
11. Concrete Sealer shall be applied to the top and vertical surfaces of the pier cap.



(Cap reinforcement not shown for clarity)



ELEVATION
(Looking downstation)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

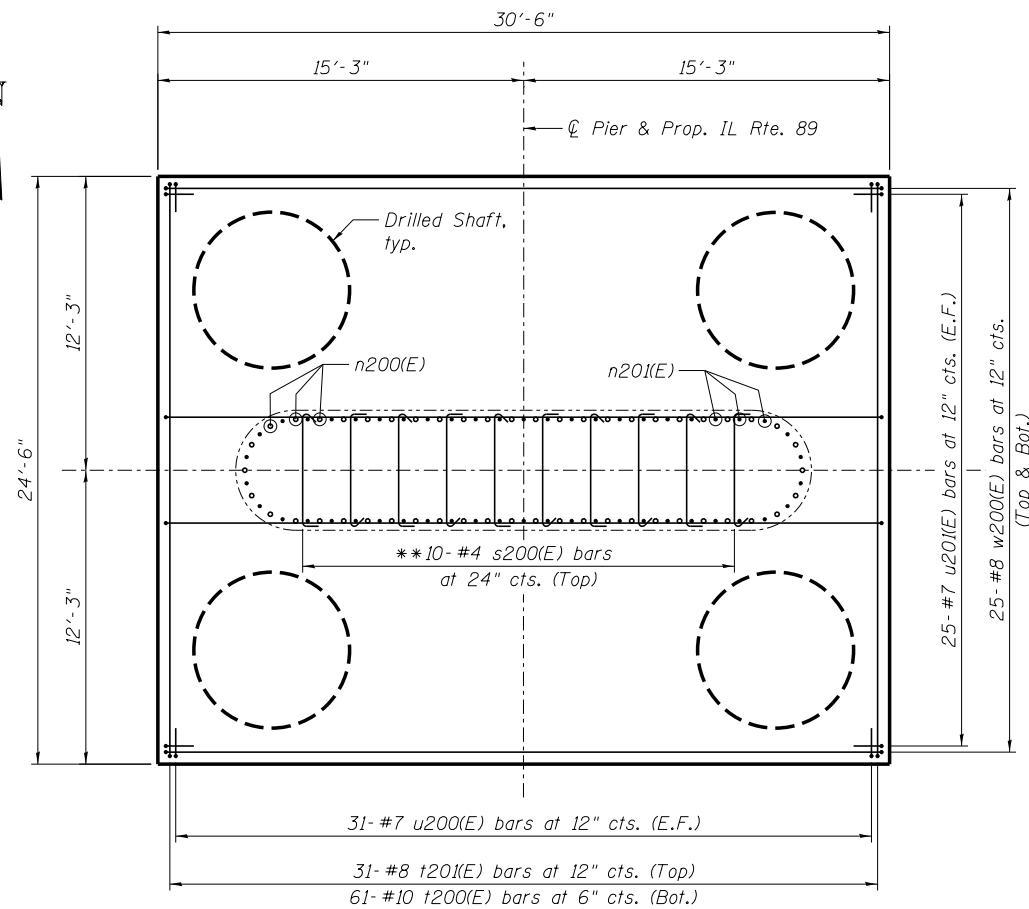
FILE NAME = 0780047.65A69.069.PIER.2.dgn	USER NAME = mhellenthal	DESIGNED - MFH	REVISED -
		CHECKED - AAY	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 9/15/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 - PLAN & ELEVATION
STRUCTURE NO. 078-0047

SHEET NO. S69 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	226
		CONTRACT NO. 66A69		
ILLINOIS FED. AID PROJECT				

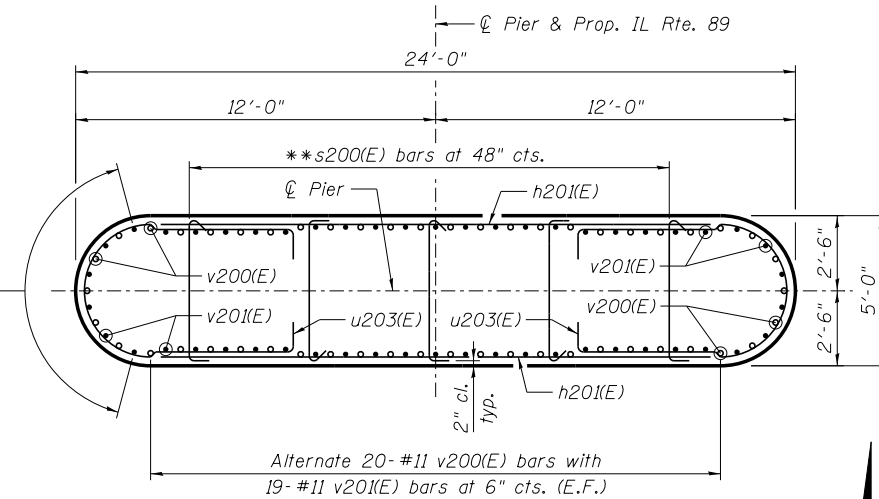


FOOTING PLAN

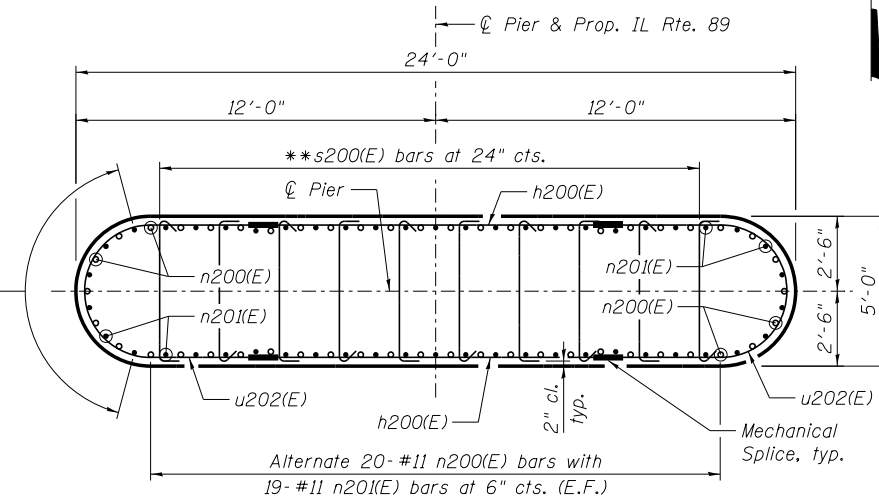
Alternate 6-#11 v201(E) bars with 5-#11 v200(E) bars at ±7" cts. (Ea. End)

**Alternate hooked ends of s200(E) bars as shown.

Alternate 6-#11 n201(E) bars with 5-#11 n200(E) bars at ±7" cts. (Ea. End)



SECTION B-B

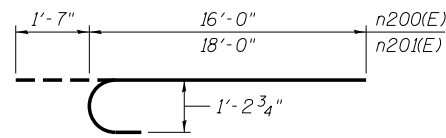


SECTION C-C

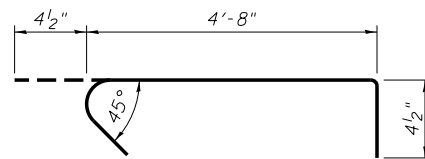
**BAR LIST &
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
* h200(E)	40	#6	11'-6"	—
h201(E)	180	#6	19'-0"	—
h202(E)	40	#6	24'-4"	—
* n200(E)	50	#11	17'-7"	⌋
* n201(E)	50	#11	19'-7"	⌋
p200(E)	22	#6	24'-2"	⌋
p201(E)	18	#10	44'-2"	⌋
s200(E)	660	#4	5'-5"	⌋
s201(E)	270	#6	12'-4"	⌋
s202(E)	45	#6	17'-0"	⌋
t200(E)	61	#10	27'-10"	⌋
t201(E)	31	#8	26'-10"	⌋
t202(E)	10	#7	24'-2"	⌋
u200(E)	62	#7	8'-5"	⌋
u201(E)	50	#7	8'-2"	⌋
* u202(E)	40	#6	14'-8"	⌋
u203(E)	180	#6	18'-8"	⌋
u204(E)	8	#6	12'-3"	⌋
u205(E)	8	#6	7'-4"	⌋
u206(E)	10	#6	8'-1"	⌋
u207(E)	6	#6	11'-7"	⌋
* v200(E)	50	#11	44'-6"	⌋
* v201(E)	50	#11	42'-6"	⌋
w200(E)	50	#8	32'-10"	⌋
w201(E)	10	#7	30'-2"	⌋
Cofferdam Excavation			Cu. Yd.	679
Cofferdam (Type 2) (Location - 1)			Each	1
Concrete Structures			Cu. Yd.	490.8
Seal Coat Concrete			Cu. Yd.	319.6
Reinforcement Bars, Epoxy Coated			Pound	76,350
Concrete Sealer			Sq. Ft.	1,275

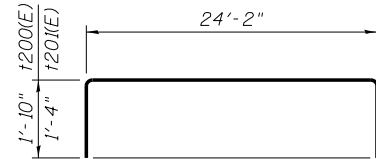
*The bar length is to the center of mechanical splicer.
The Contractor shall adjust the length as required for
the selected mechanical splicer.



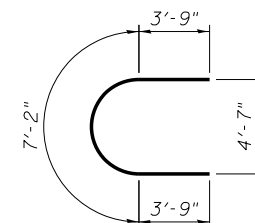
BARS n200(E) & n201(E)



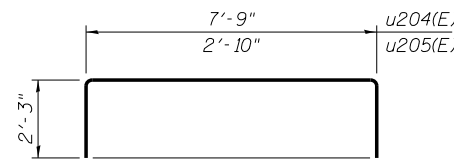
BAR s200(E)



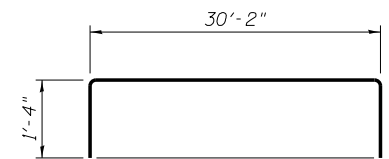
BARS t200(E) & t201(E)



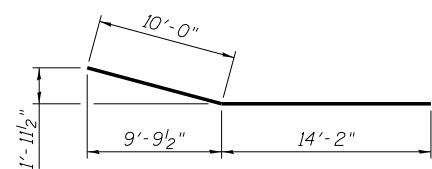
BAR u202(E)



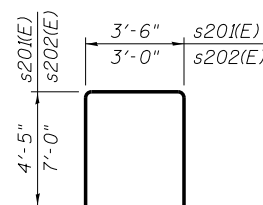
BARS u204(E) & u205(E)



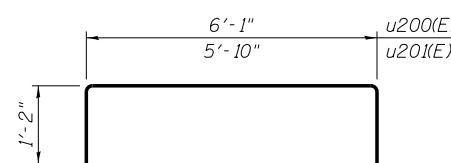
BAR w200(E)



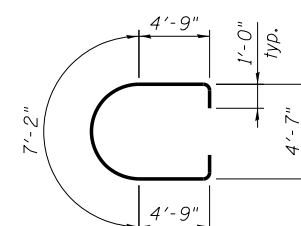
BAR p200(E)



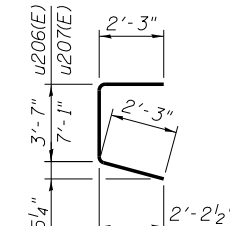
BARS s201(E) & s202(E)



BARS u200(E) & u201(E)



BAR u203(E)



BARS u206(E) & u207(E)



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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69_078.PIER.2.dgn

USER NAME = rgrmm
PLOT SCALE =
PLOT DATE = 8/14/2015

DESIGNED - MFH
CHECKED - AAY
DRAWN - RMG
CHECKED - HMA

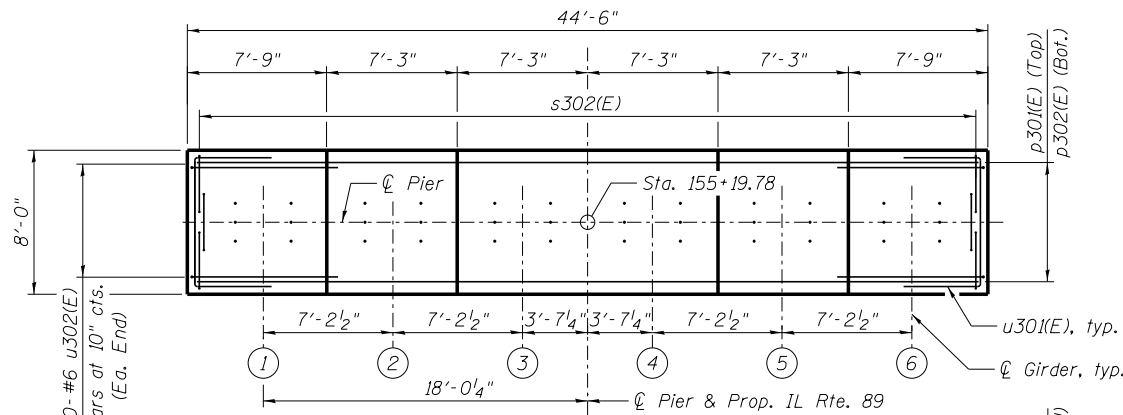
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

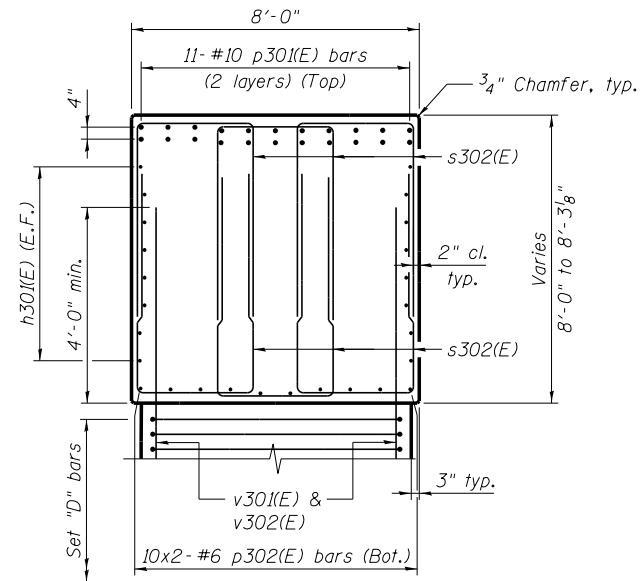
PIER 2 - DETAILS & BILL OF MATERIAL
STRUCTURE NO. 078-0047

SHEET NO. S70 OF S119 SHEETS

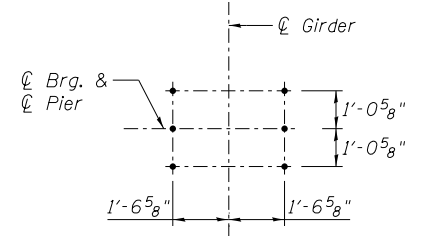
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	227
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



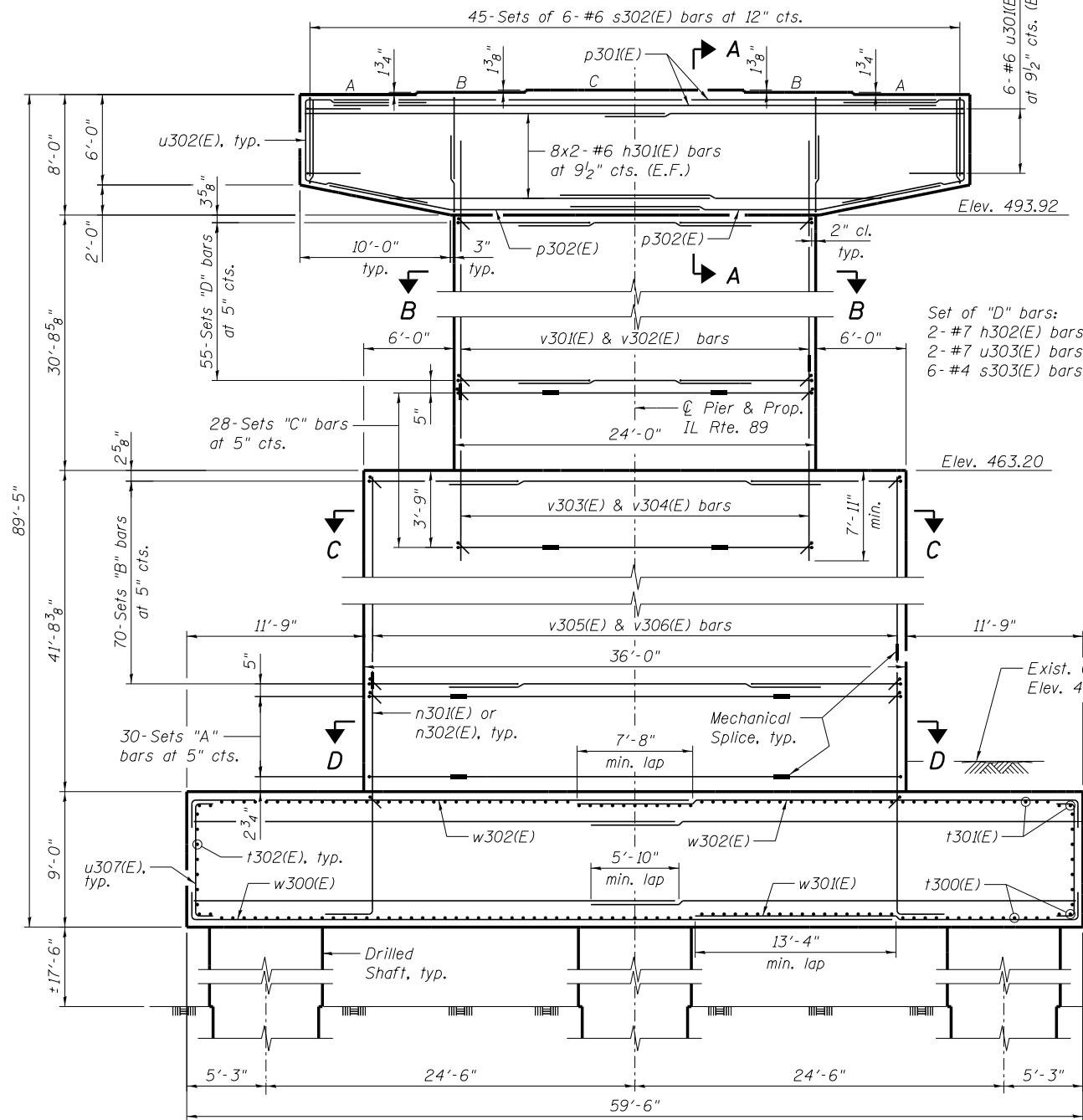
PLAN OF CAP



SECTION A-A



ANCHOR BOLT LAYOUT



ELEVATION
(Looking Upstation)

ELEVATION TABLE

SEAT LOCATION	ELEV.**
A (Girders 1 & 6)	501.92
B (Girders 2 & 5)	502.06
C (Girders 3 & 4)	502.17

** These elevations may have to be adjusted to accomodate the actual bearings furnished. It is the responsibility of the Contractor to coordinate any changes in the bearings which may affect the pedestal elevations.

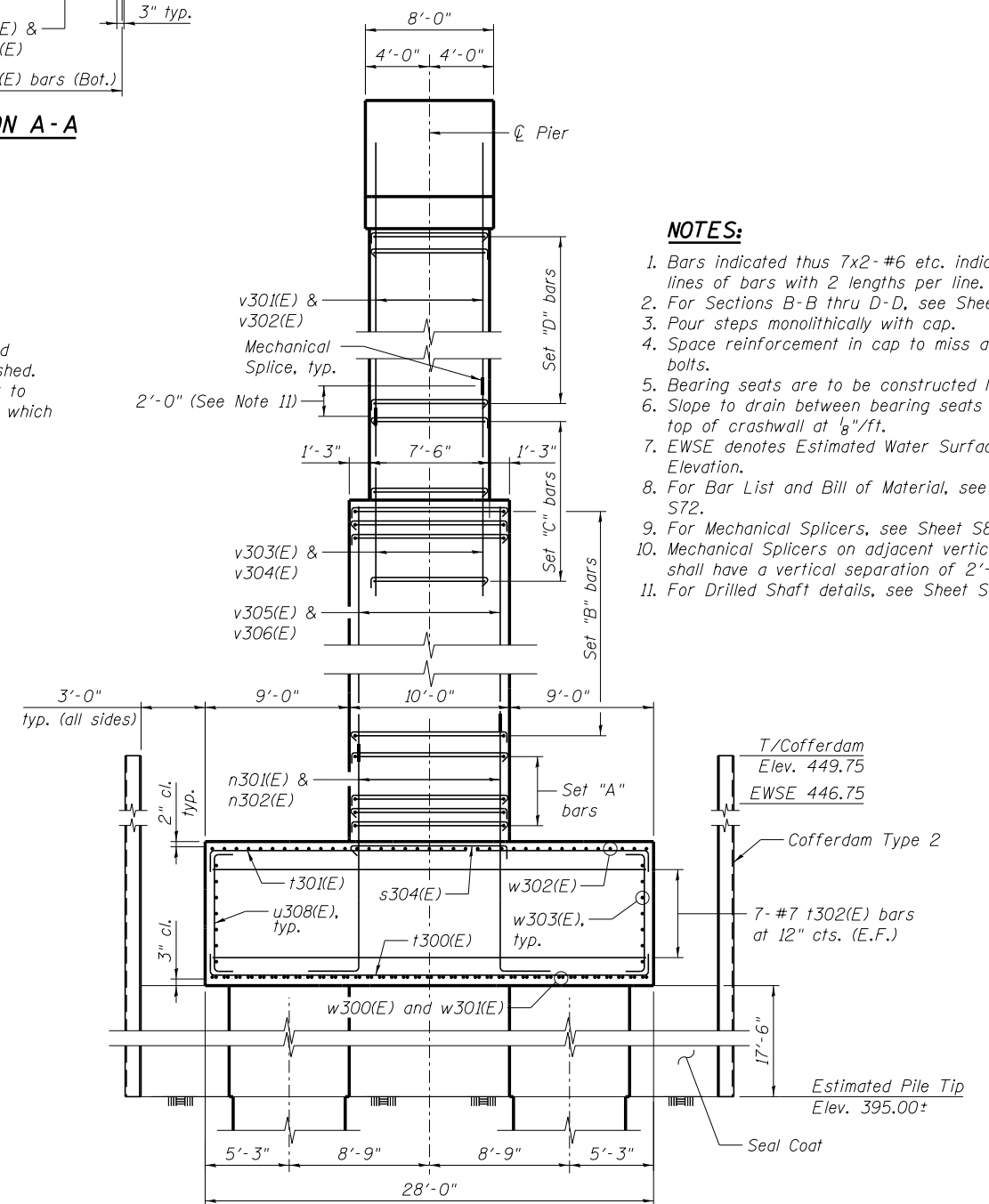
Set of "C" bars:
2- #7 h303(E) bars
2- #7 u303(E) bars
12- #4 s303(E) bars

Set of "B" bars:
2- #8 h304(E) bars
2- #8 u305(E) bars
7- #4 s304(E) bars

Set of "A" bars:
2- #8 h305(E) bars
2- #8 u306(E) bars
14- #4 s304(E) bars

7x2- #7 w303(E) bars
at 12" cts. (E.F.)

Top of Rock
Elev. 395.00±



END VIEW

NOTES:

1. Bars indicated thus 7x2- #6 etc. indicates 7 lines of bars with 2 lengths per line.
2. For Sections B-B thru D-D, see Sheet S72.
3. Pour steps monolithically with cap.
4. Space reinforcement in cap to miss anchor bolts.
5. Bearing seats are to be constructed level.
6. Slope to drain between bearing seats and on top of crashwall at 1/8"/ft.
7. EWSE denotes Estimated Water Surface Elevation.
8. For Bar List and Bill of Material, see Sheet S72.
9. For Mechanical Splicers, see Sheet S83.
10. Mechanical Splicers on adjacent vertical bars shall have a vertical separation of 2'-0".
11. For Drilled Shaft details, see Sheet S81.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69_071.PIER.3.dgn

USER NAME = mhellenenthal
PLOT SCALE =
PLOT DATE = 9/15/2015

DESIGNED - VJK/MFH
CHECKED - MFH/AAV
DRAWN - RMG
CHECKED - HMA

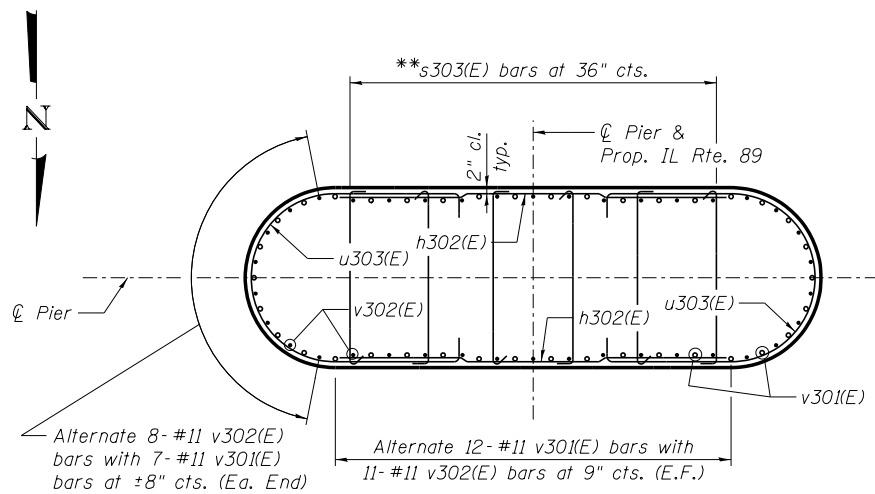
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

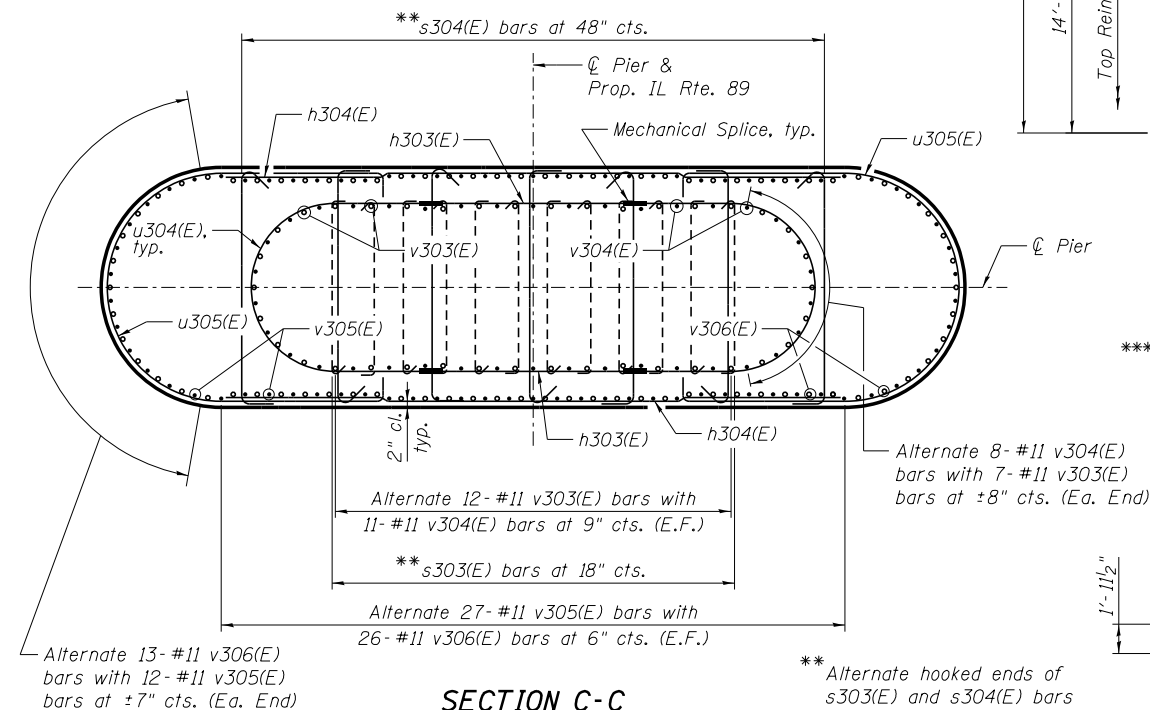
PIER 3 - PLAN & ELEVATION
STRUCTURE NO. 078-0047

SHEET NO. S71 OF S119 SHEETS

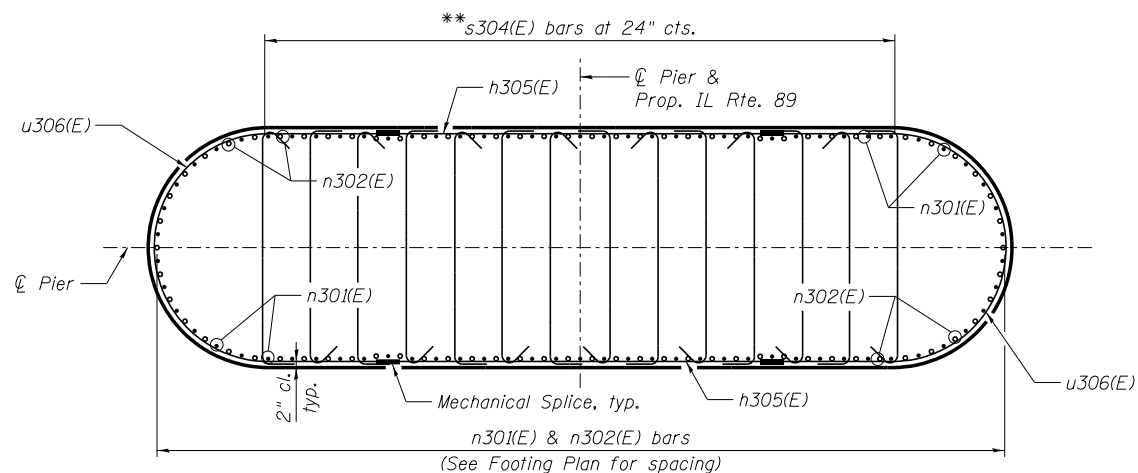
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	228
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



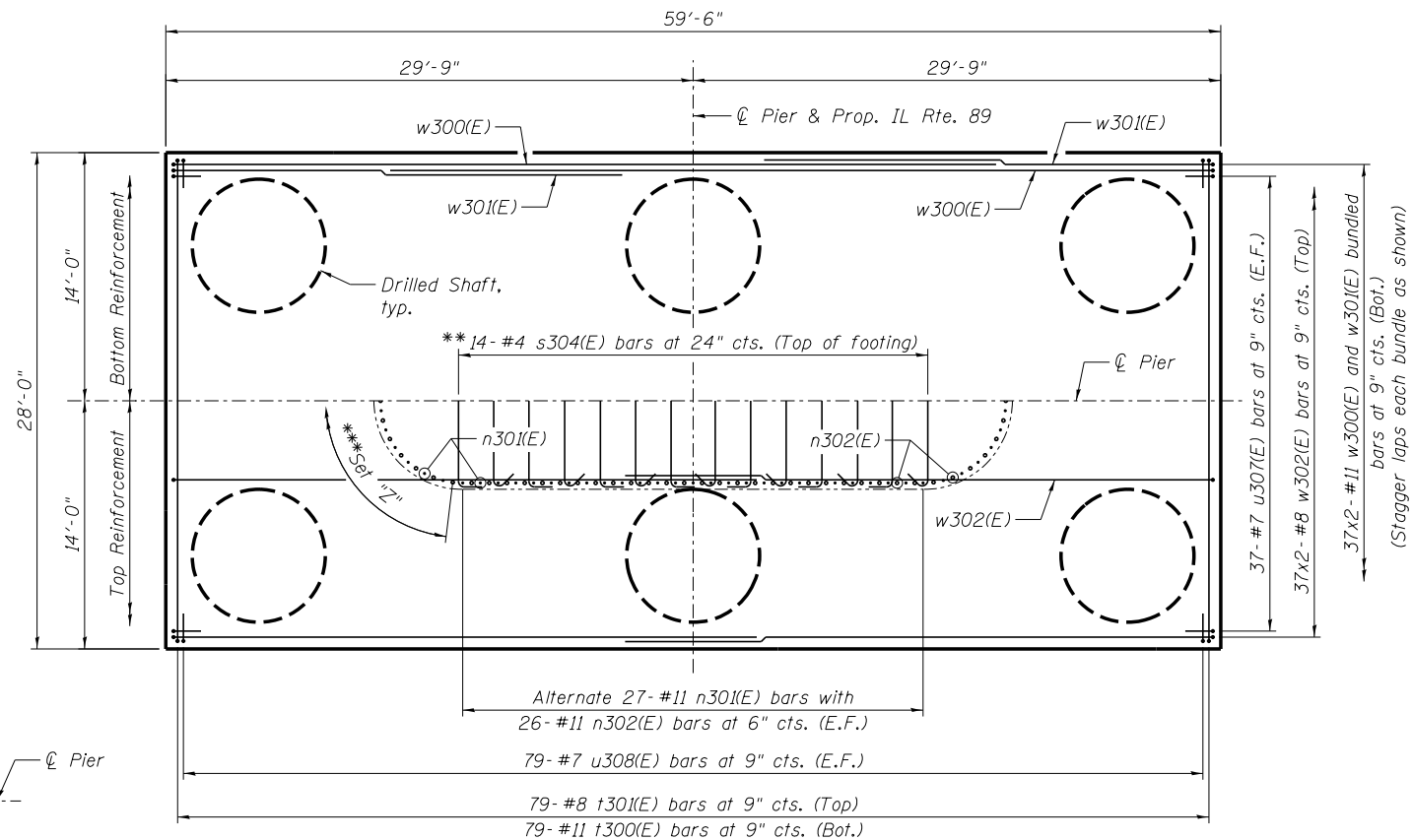
SECTION B-B



SECTION C-C

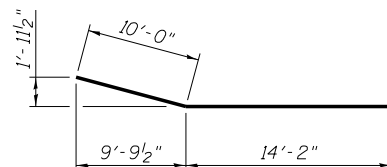


SECTION D-D



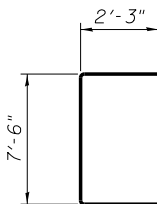
FOOTING PLAN

*** Set "Z" bars:
Alternate 13- #11 n302(E)
bars with 12- #11 n301(E)
bars at 7" cts. (Ea. End)

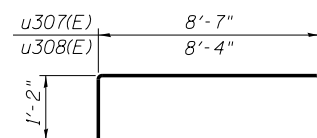


BAR p302(E)

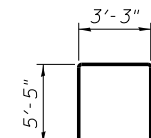
BARS u304(E) & u306(E)



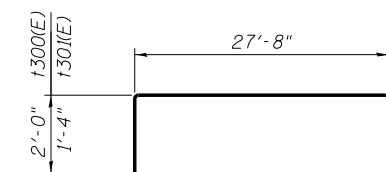
BAR u301(E)



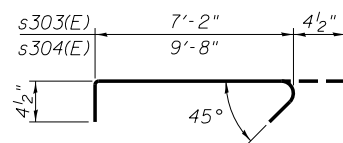
BARS u307(E) & u308(E)



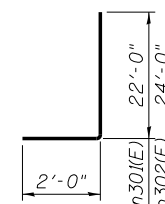
BAR s302(E)



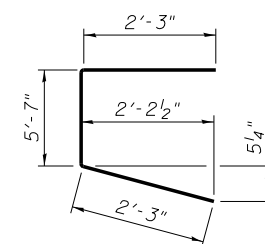
BARS t300(E) & t301(E)



BARS s303(E) & s304(E)

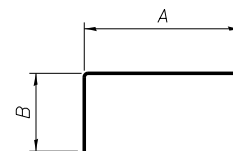


BARS n301(E) & n302(E)



BAR u302(E)

Bar	A	B
w300(E)	46'-11"	2'-0"
w301(E)	25'-7"	2'-0"
w302(E)	33'-5"	1'-4"



**BARS w300(E),
w301(E) & w302(E)**

**BAR LIST &
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h301(E)	32	#6	24'-4"	
h302(E)	110	#7	16'-6"	
h303(E)	56	#7	9'-0"	
h304(E)	140	#8	26'-0"	
h305(E)	60	#8	16'-0"	
n301(E)	78	#11	24'-0"	
n302(E)	78	#11	26'-0"	
p301(E)	22	#10	44'-2"	
p302(E)	20	#6	24'-2"	
s302(E)	270	#6	14'-1"	
s303(E)	666	#4	7'-11"	
s304(E)	924	#4	10'-5"	
t300(E)	79	#11	31'-8"	
t301(E)	79	#8	30'-4"	
t302(E)	14	#7	27'-8"	
u301(E)	12	#6	12'-0"	
u302(E)	20	#6	10'-1"	
u303(E)	110	#7	24'-9"	
u304(E)	56	#7	18'-7"	
u305(E)	140	#8	32'-4"	
u306(E)	60	#8	25'-0"	
u307(E)	74	#7	10'-11"	
u308(E)	158	#7	10'-8"	
v301(E)	38	#11	26'-4"	
v302(E)	38	#11	24'-4"	
v303(E)	38	#11	16'-4"	
v304(E)	38	#11	18'-4"	
v305(E)	78	#11	28'-0"	
v306(E)	78	#11	26'-0"	
w300(E)	74	#11	48'-11"	
w301(E)	74	#11	27'-7"	
w302(E)	74	#8	34'-9"	
w303(E)	28	#7	32'-6"	
Cofferdam Excavation		Cu. Yd.	2,343	
Cofferdam (Type 2)		Each	1	
Concrete Structures		Cu. Yd.	1,370.6	
Seal Coat Concrete		Cu. Yd.	1,443.5	
Reinforcement Bars, Epoxy Coated		Pound	187,780	

* The bar length is to the center of mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.072.PIER.3.dgn

USER NAME = rgrmm
PLOT SCALE =
PLOT DATE = 8/14/2015

DESIGNED - VJK/MFH
CHECKED - MFH/AAV
DRAWN - RMG
CHECKED - HMA

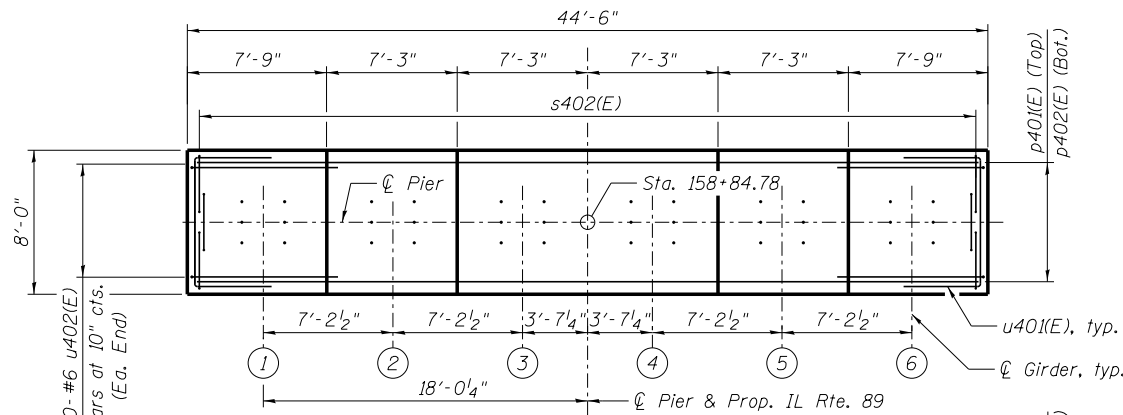
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

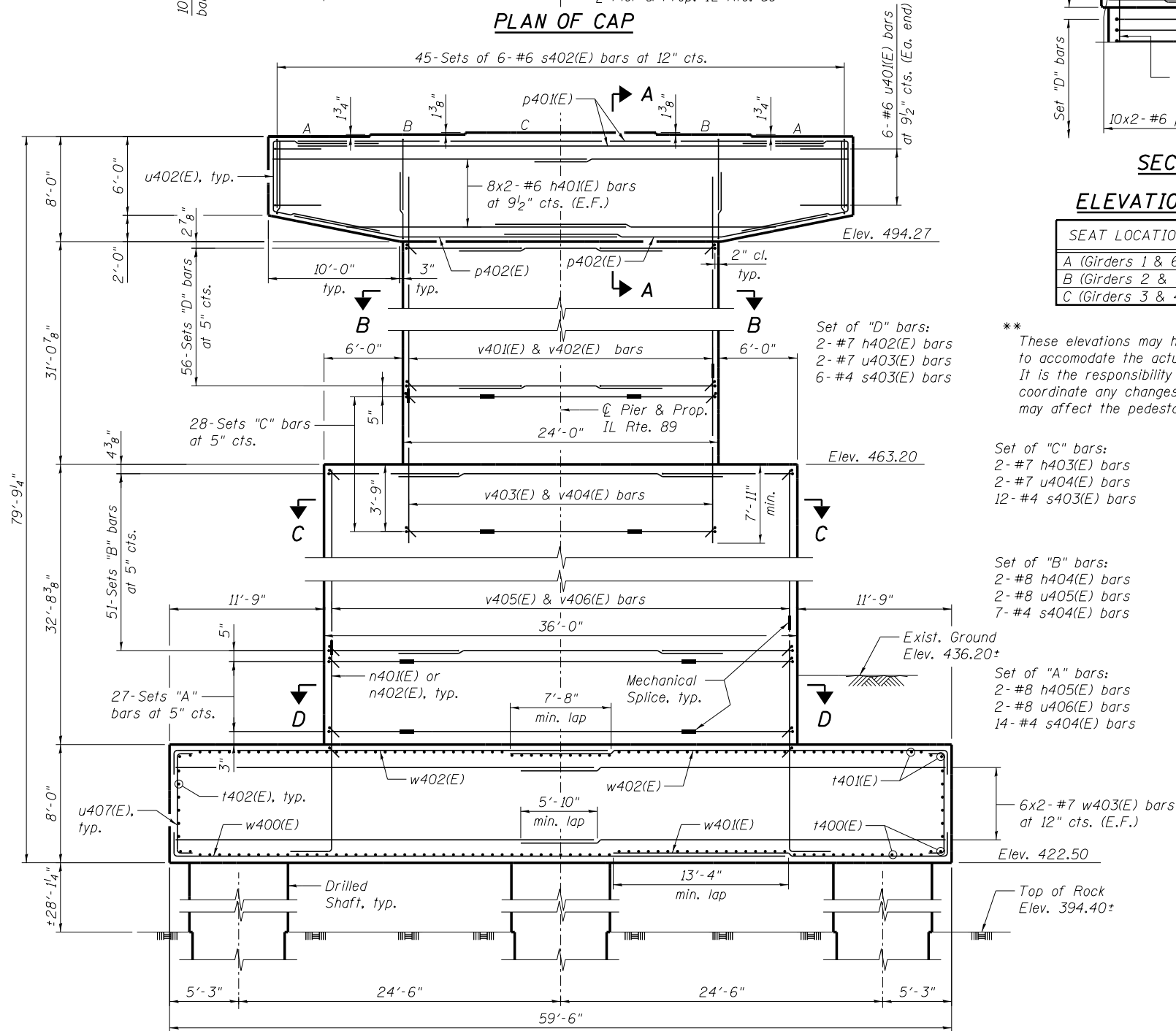
PIER 3 - DETAILS & BILL OF MATERIAL
STRUCTURE NO. 078-0047

SHEET NO. S72 OF S119 SHEETS

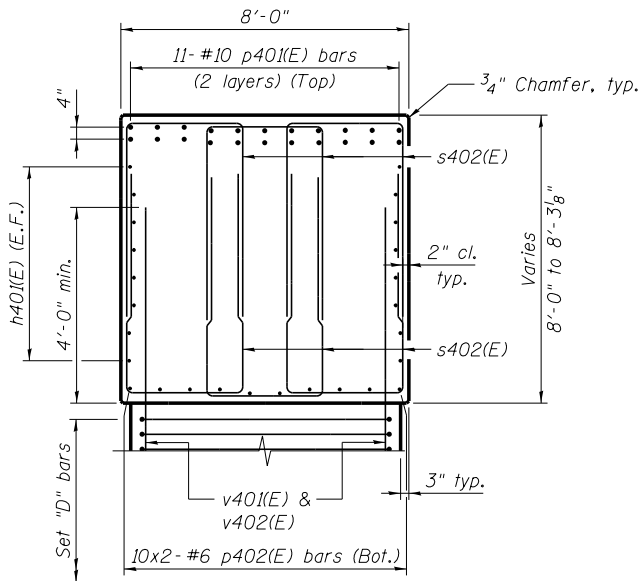
F.A.P. RTE. 698
SECTION (1) BR
COUNTY BUREAU/PUTNAM
TOTAL SHEETS 415
SHEET NO. 229
CONTRACT NO. 66A69
ILLINOIS FED. AID PROJECT



PLAN OF CAP



ELEVATION
(Looking Upstation)



SECTION A-A

ELEVATION TABLE

SEAT LOCATION	ELEV.**
A (Girders 1 & 6)	502.27
B (Girders 2 & 5)	502.42
C (Girders 3 & 4)	502.53

** These elevations may have to be adjusted to accommodate the actual bearings furnished. It is the responsibility of the Contractor to coordinate any changes in the bearings which may affect the pedestal elevations.

Set of "D" bars:
2- #7 h402(E) bars
2- #7 u403(E) bars
6- #4 s403(E) bars

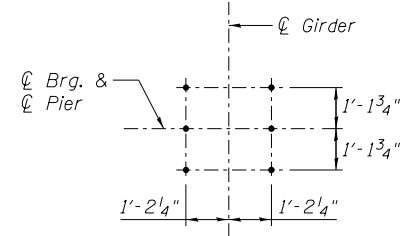
Set of "C" bars:
2- #7 h403(E) bars
2- #7 u404(E) bars
12- #4 s403(E) bars

Set of "B" bars:
2- #8 h404(E) bars
2- #8 u405(E) bars
7- #4 s404(E) bars

Set of "A" bars:
2- #8 h405(E) bars
2- #8 u406(E) bars
14- #4 s404(E) bars

6x2- #7 w403(E) bars
at 12" cts. (E.F.)

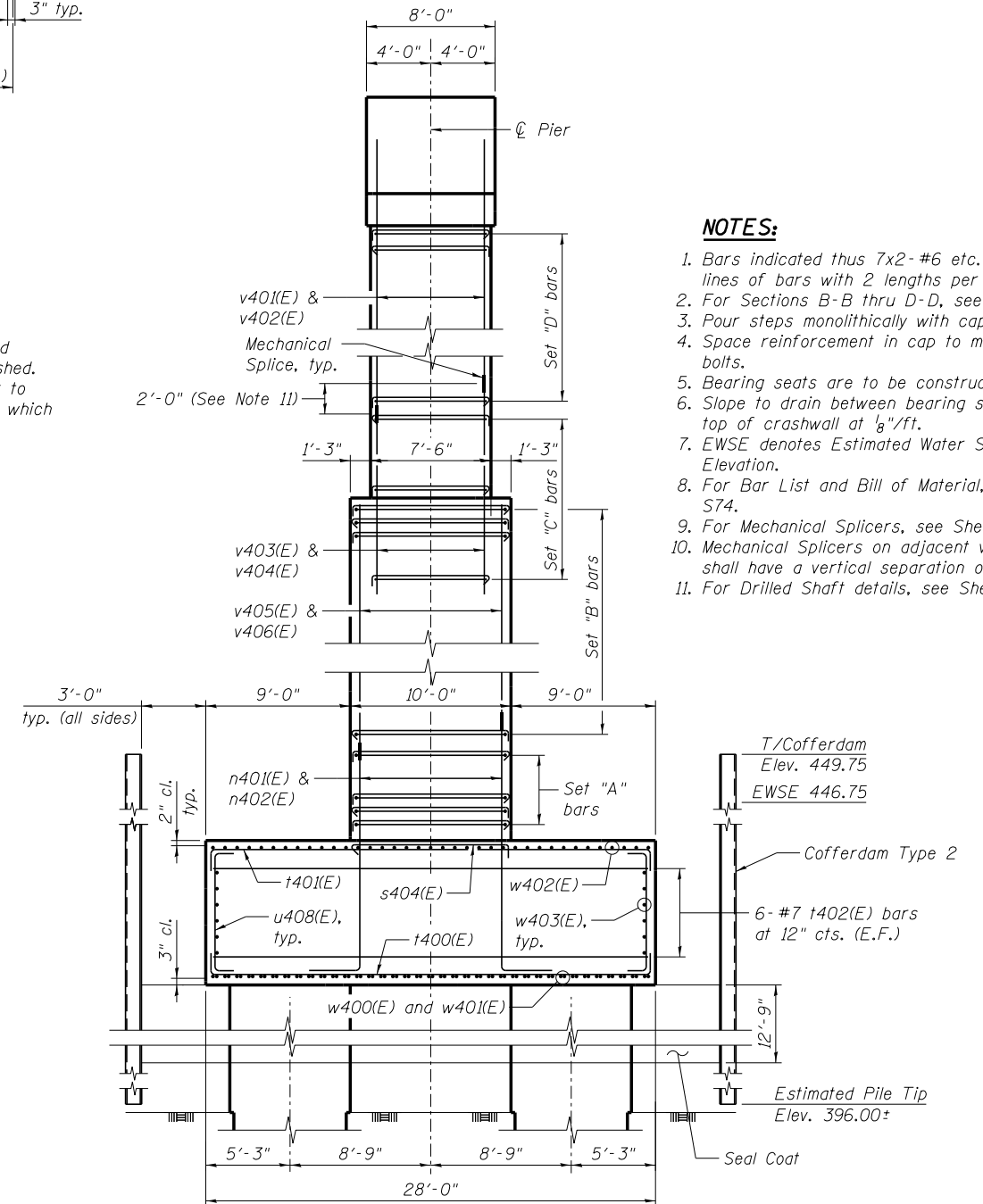
Top of Rock
Elev. 394.40±



ANCHOR BOLT LAYOUT

NOTES:

1. Bars indicated thus 7x2- #6 etc. indicates 7 lines of bars with 2 lengths per line.
2. For Sections B-B thru D-D, see Sheet S74.
3. Pour steps monolithically with cap.
4. Space reinforcement in cap to miss anchor bolts.
5. Bearing seats are to be constructed level.
6. Slope to drain between bearing seats and on top of crashwall at 1/8"/ft.
7. EWSE denotes Estimated Water Surface Elevation.
8. For Bar List and Bill of Material, see Sheet S74.
9. For Mechanical Splicers, see Sheet S83.
10. Mechanical Splicers on adjacent vertical bars shall have a vertical separation of 2'-0".
11. For Drilled Shaft details, see Sheet S81.



END VIEW



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.073.PIER.4.dgn

USER NAME = mhollenthal
PLOT SCALE =
PLOT DATE = 9/15/2015

DESIGNED - VJK/MFH
CHECKED - MFH/AAV
DRAWN - RMG
CHECKED - HMA

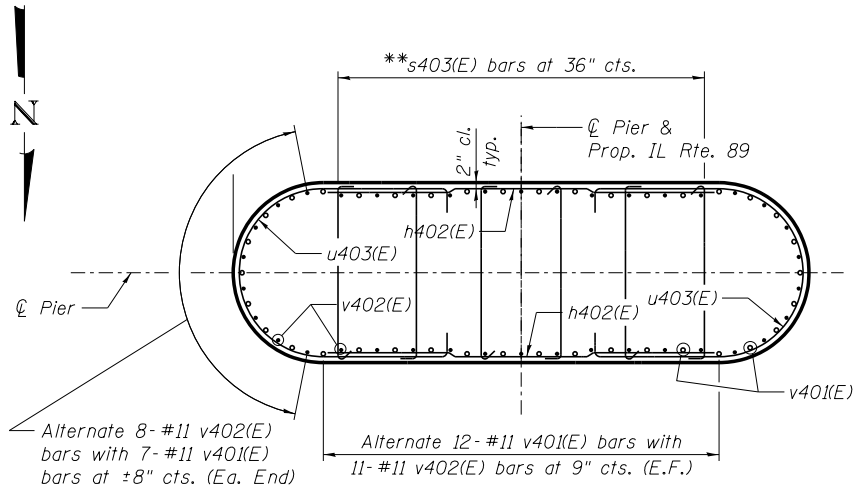
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

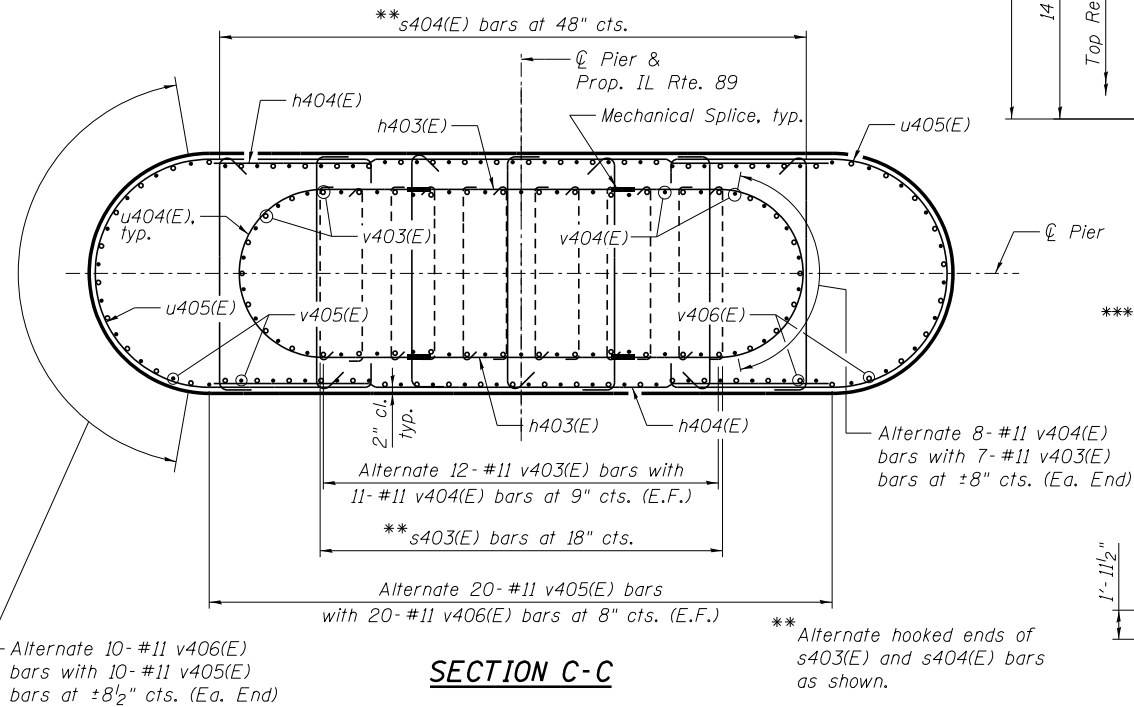
PIER 4 - PLAN & ELEVATION
STRUCTURE NO. 078-0047

SHEET NO. S73 OF S119 SHEETS

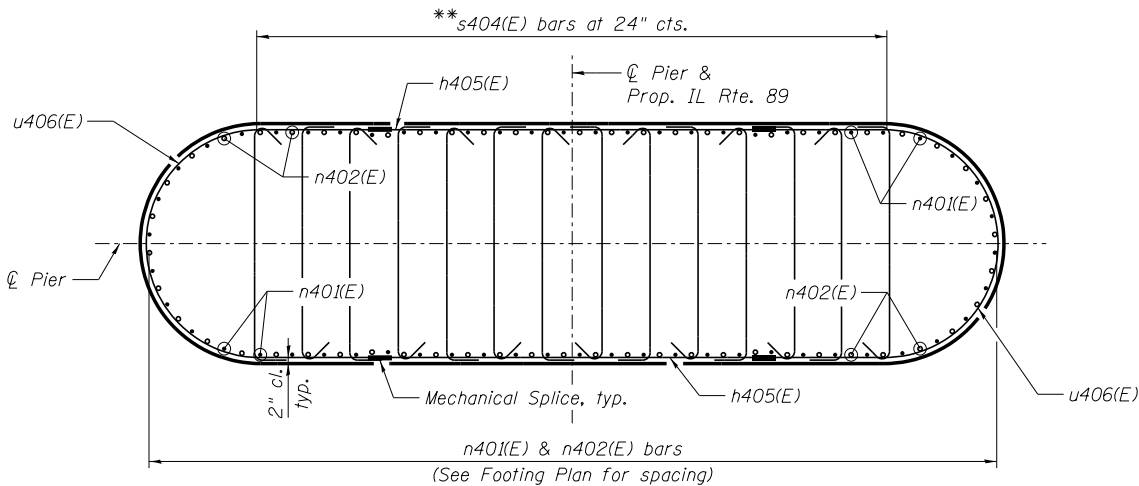
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	230
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



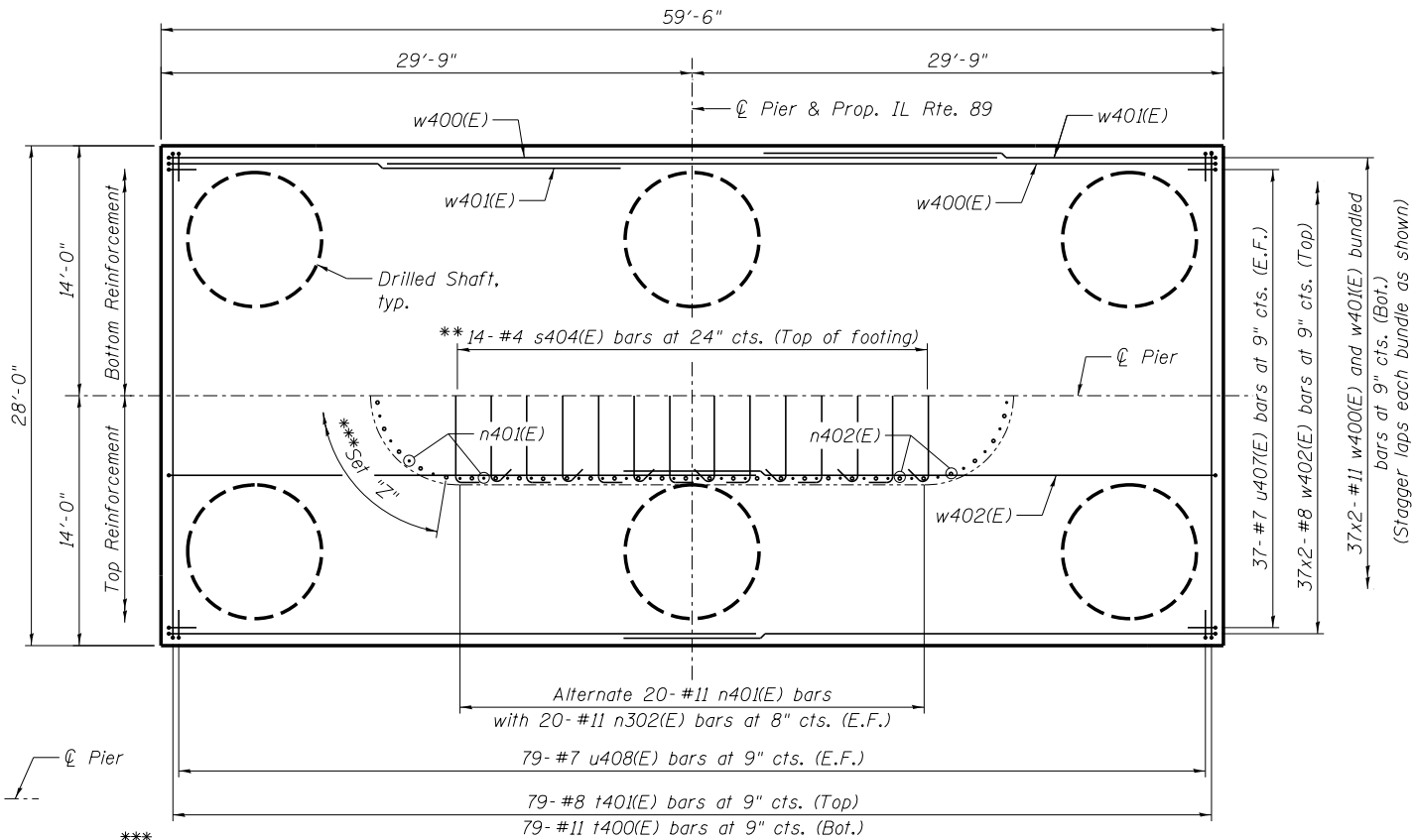
SECTION B-B



SECTION C-C

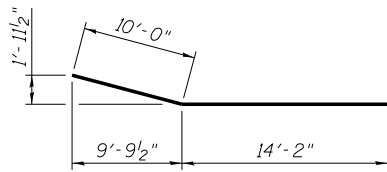


SECTION D-D

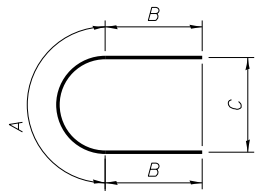


FOOTING PLAN

*** Set "Z" bars:
Alternate 10- #11 n402(E)
bars with 10- #11 n401(E)
bars at $\pm 8\frac{1}{2}$ " cts. (Ea. End)

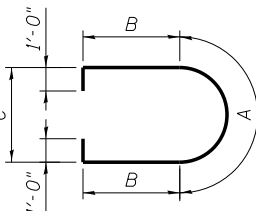


BAR p402(E)

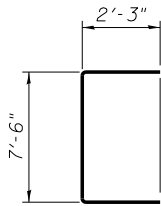


BARS u404(E) & u406(E)

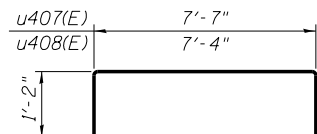
Bar	A	B	C
u403(E)	11'-1"	5'-10"	7'-1"
u404(E)	11'-1"	3'-9"	7'-1"
u405(E)	15'-0"	7'-8"	9'-7"
u406(E)	15'-0"	5'-0"	9'-7"



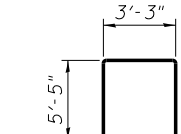
BARS u403(E) & u405(E)



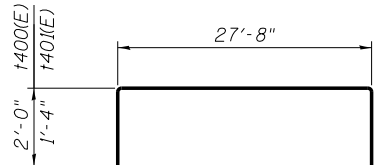
BAR u401(E)



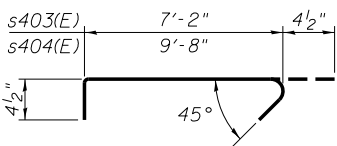
BARS u407(E) & u408(E)



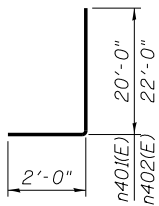
BAR s402(E)



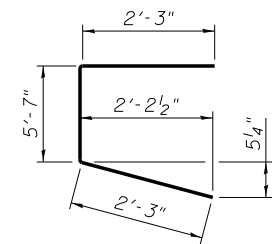
BARS t400(E) & t401(E)



BARS s403(E) & s404(E)

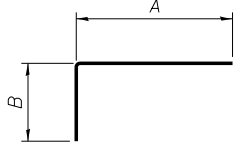


BARS n401(E) & n402(E)



BAR u402(E)

Bar	A	B
w400(E)	46'-11"	2'-0"
w401(E)	25'-7"	2'-0"
w402(E)	33'-5"	1'-4"



BARS w400(E),
w401(E) & w402(E)

BAR LIST &
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h401(E)	32	#6	24'-4"	
h402(E)	112	#7	16'-6"	
h403(E)	56	#7	9'-0"	
h404(E)	102	#8	26'-0"	
h405(E)	54	#8	16'-0"	
n401(E)	60	#11	22'-0"	
n402(E)	60	#11	24'-0"	
p401(E)	22	#10	44'-2"	
p402(E)	20	#6	24'-2"	
s402(E)	270	#6	14'-1"	
s403(E)	672	#4	7'-11"	
s404(E)	749	#4	10'-5"	
t400(E)	79	#11	31'-8"	
t401(E)	79	#8	30'-4"	
t402(E)	12	#7	27'-8"	
u401(E)	12	#6	12'-0"	
u402(E)	20	#6	10'-1"	
u403(E)	112	#7	24'-9"	
u404(E)	56	#7	18'-7"	
u405(E)	102	#8	32'-4"	
u406(E)	54	#8	25'-0"	
u407(E)	74	#7	9'-11"	
u408(E)	158	#7	9'-8"	
v401(E)	38	#11	26'-8"	
v402(E)	38	#11	24'-8"	
v403(E)	38	#11	16'-4"	
v404(E)	38	#11	18'-4"	
v405(E)	60	#11	20'-0"	
v406(E)	60	#11	18'-0"	
w400(E)	74	#11	48'-11"	
w401(E)	74	#11	27'-7"	
w402(E)	74	#8	34'-9"	
w403(E)	24	#7	32'-6"	
Cofferdam Excavation	Cu. Yd.	2,182		
Cofferdam (Type 2)	Each	1		
Concrete Structures	Cu. Yd.	1,198.2		
Seal Coat Concrete	Cu. Yd.	1,051.7		
Reinforcement Bars, Epoxy Coated	Pound	163,140		

* The bar length is to the center of mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69_074.PIER.4.dgn

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PLOT DATE = 8/14/2015

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CHECKED - MFH/AAV
DRAWN - RMG
CHECKED - HMA

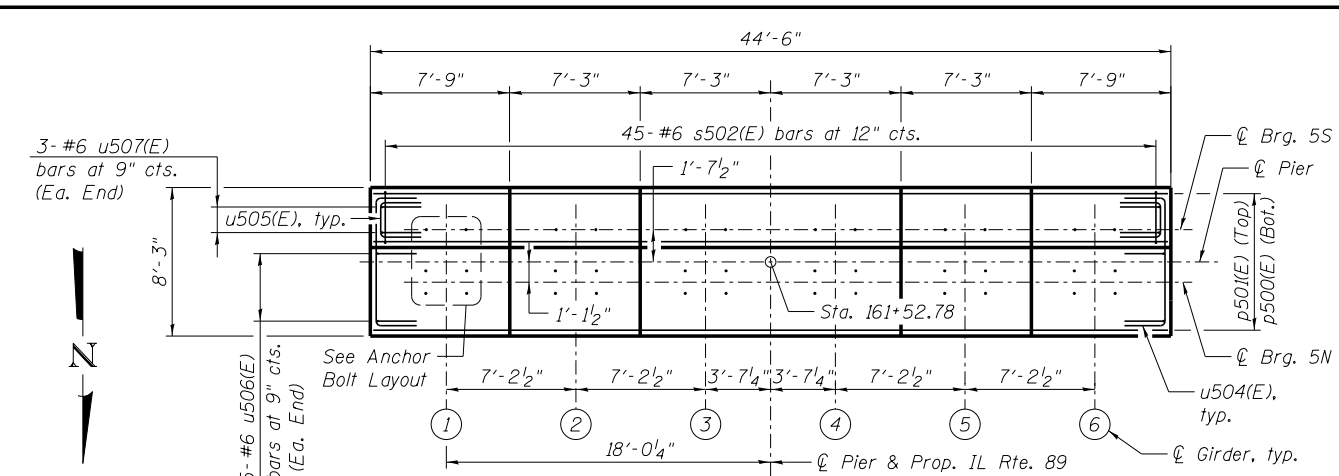
REVISED -
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REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 4 - DETAILS & BILL OF MATERIAL
STRUCTURE NO. 078-0047

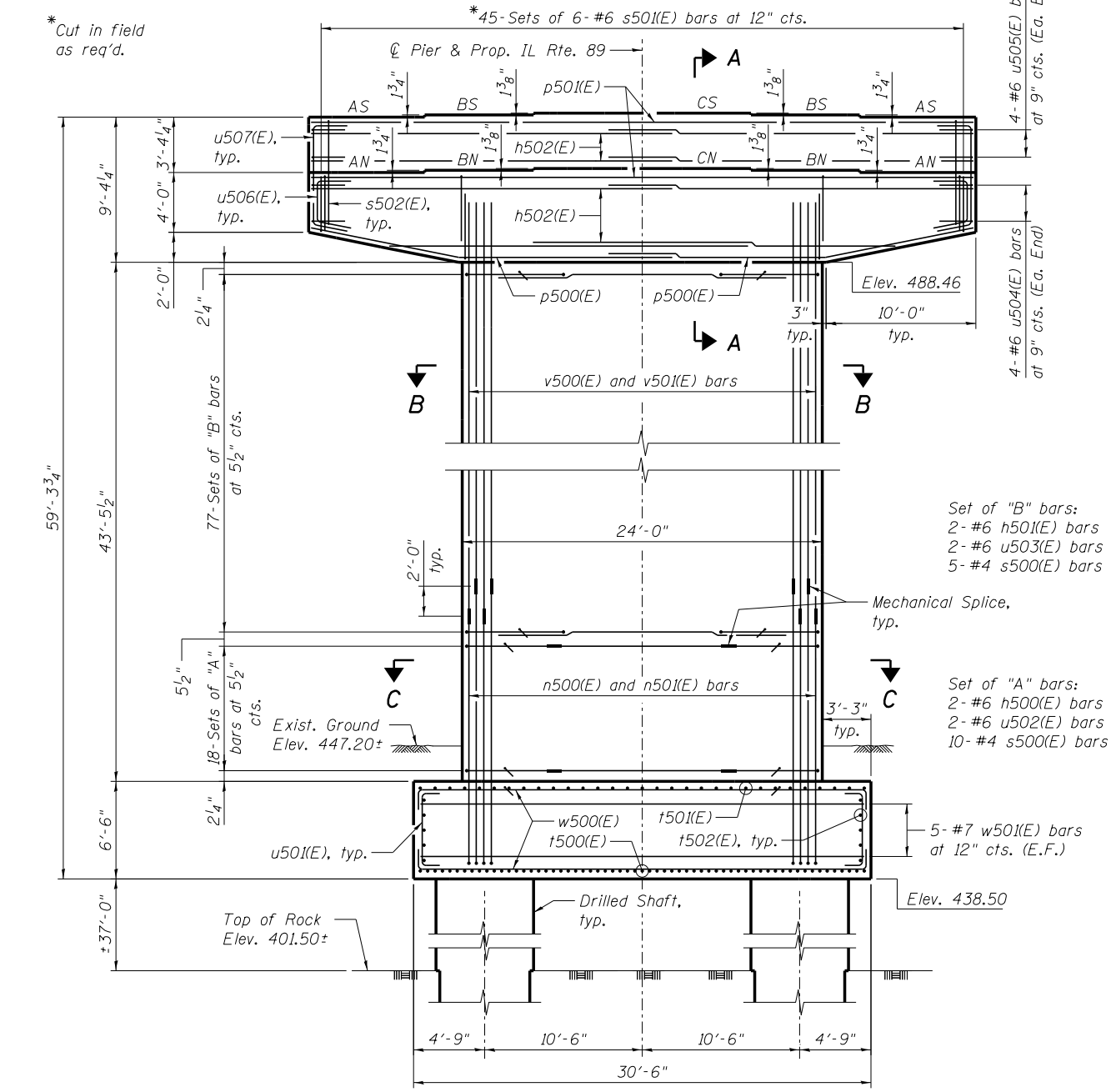
SHEET NO. S74 OF S119 SHEETS

F.A.P. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
698 (1) BR BUREAU/PUTNAM 415 231
CONTRACT NO. 66A69
ILLINOIS FED. AID PROJECT



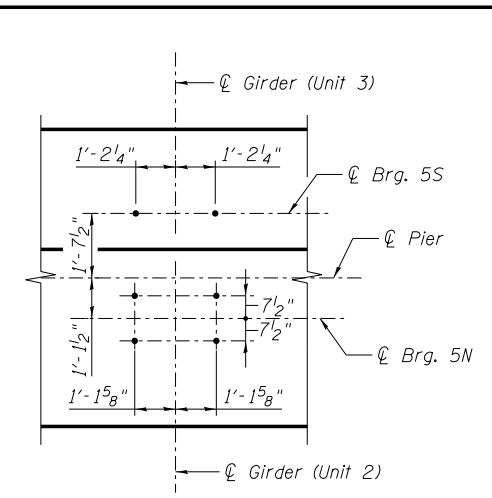
PLAN OF CAP

(s501(E) bars not shown for clarity)



ELEVATION

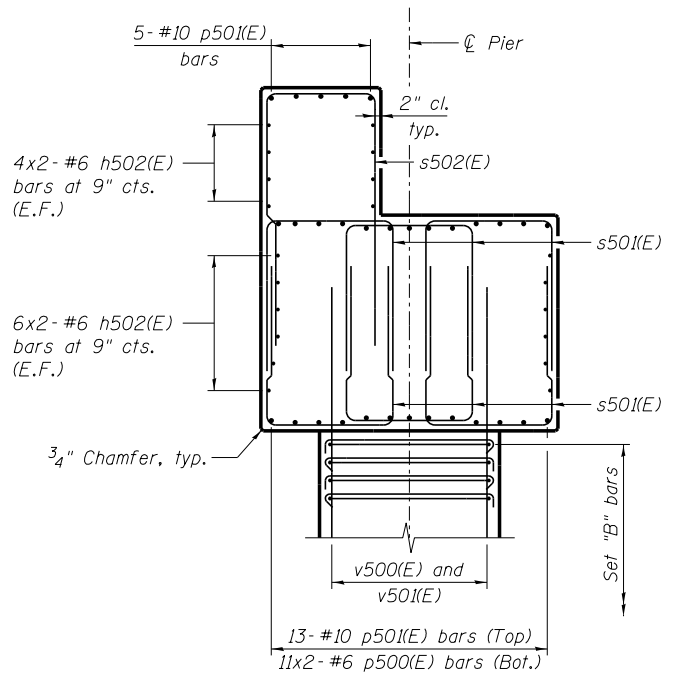
(Looking upstation)



ANCHOR BOLT LAYOUT

ELEVATION TABLE

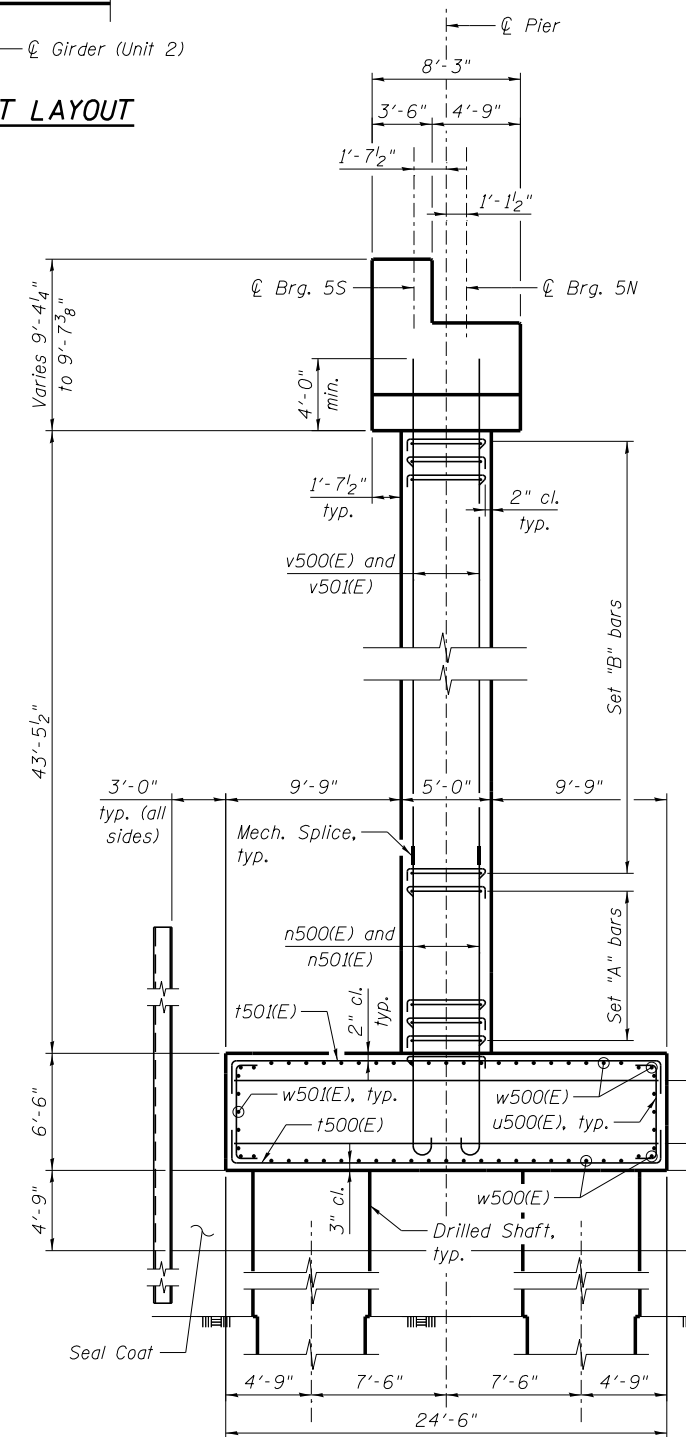
CL BRG.	SEAT LOCATION	ELEV.
5S	AS (Girders 1 & 6)	497.81
	BS (Girders 2 & 5)	497.96
	CS (Girders 3 & 4)	498.07
5N	AN (Girders 1 & 6)	494.46
	BN (Girders 2 & 5)	494.61
	CN (Girders 3 & 4)	494.72



SECTION A-A

NOTES:

1. Bars indicated thus 6x2-#6 etc., indicates 6 lines of bars with 2 lengths per line.
2. For Sections B-B thru C-C, see Sheet S76.
3. Pour steps monolithically with cap.
4. Space reinforcement in cap to miss anchor bolts.
5. Bearing seats are to be constructed level.
6. Slope to drain between bearing seats at 1/8"/ft.
7. EWSE denotes Estimated Water Surface Elevation.
8. For Bar List and Bill of Material, see Sheet S76.
9. For drilled shaft details, see Sheet S81.
10. For Mechanical Splicers, see Sheet S83.
11. Concrete Sealer shall be applied to the top and vertical surfaces of the pier cap.



END VIEW

(Cap reinforcement not shown for clarity)

benesch
 Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10141.01

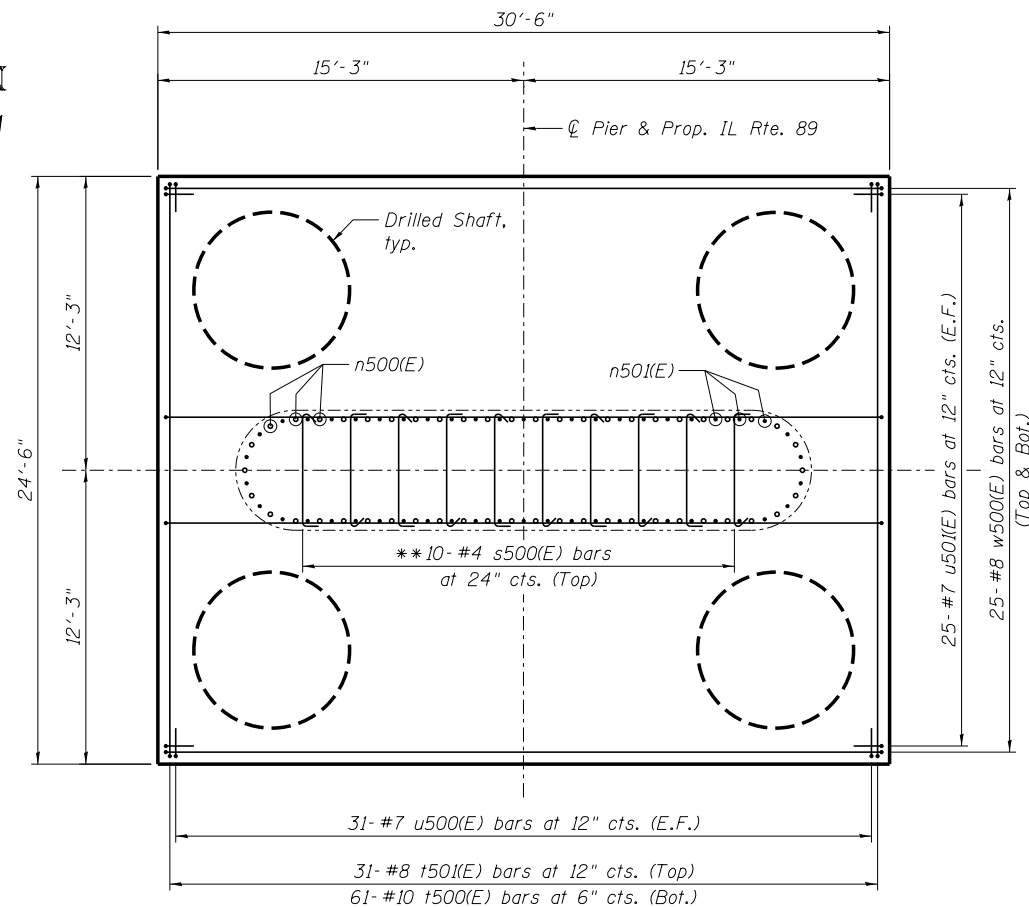
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	PLOT DATE = 9/15/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 5 - PLAN & ELEVATION
STRUCTURE NO. 078-0047

SHEET NO. S75 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	232
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

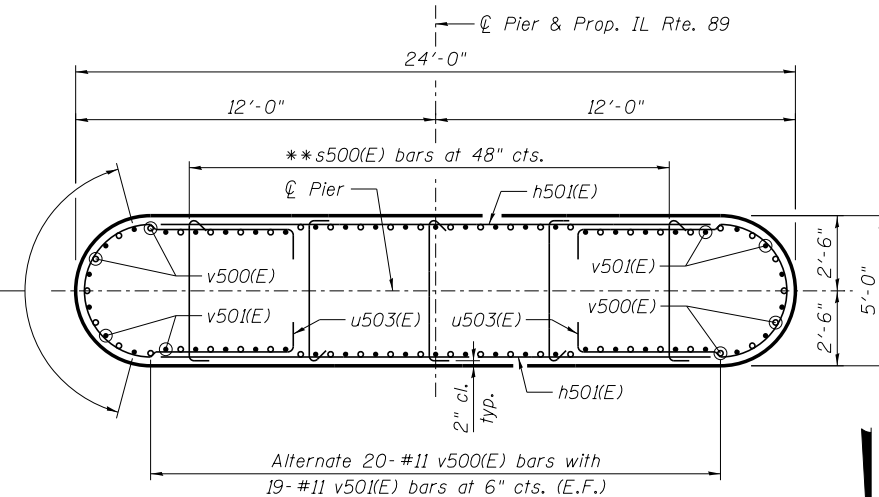


FOOTING PLAN

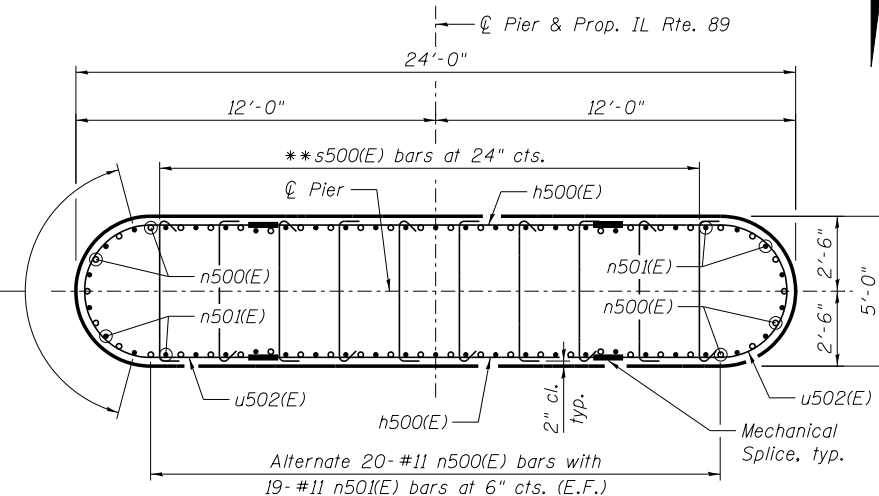
Alternate 6- #11 v501(E) bars with 5- #11 v500(E) bars at ±7" cts. (Ea. End)

**Alternate hooked ends of s500(E) bars as shown.

Alternate 6- #11 n501(E) bars with 5- #11 n500(E) bars at ±7" cts. (Ea. End)



SECTION B-B

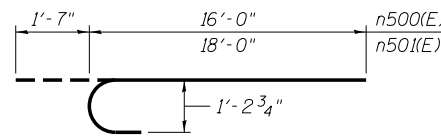


SECTION C-C

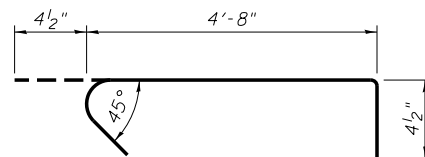
BAR LIST &
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
* h500(E)	36	#6	11'-6"	—
h501(E)	154	#6	19'-0"	—
h502(E)	40	#6	24'-4"	—
* n500(E)	50	#11	17'-7"	⌋
* n501(E)	50	#11	19'-7"	⌋
p500(E)	22	#6	24'-2"	—
p501(E)	18	#10	44'-2"	—
s500(E)	575	#4	5'-5"	⌋
s501(E)	270	#6	12'-4"	⌋
s502(E)	45	#6	17'-2"	⌋
t500(E)	61	#10	27'-10"	⌋
t501(E)	31	#8	26'-10"	⌋
t502(E)	10	#7	24'-2"	—
u500(E)	62	#7	8'-5"	⌋
u501(E)	50	#7	8'-2"	⌋
* u502(E)	36	#6	14'-8"	⌋
u503(E)	154	#6	18'-8"	⌋
u504(E)	8	#6	12'-3"	⌋
u505(E)	8	#6	7'-6"	⌋
u506(E)	10	#6	8'-1"	⌋
u507(E)	6	#6	11'-5"	⌋
* v500(E)	50	#11	37'-6"	—
* v501(E)	50	#11	35'-6"	—
w500(E)	50	#8	32'-10"	⌋
w501(E)	10	#7	30'-2"	—
Cofferdam Excavation			Cu. Yd.	555
Cofferdam (Type 2) (Location - 4)			Each	1
Concrete Structures			Cu. Yd.	461.1
Seal Coat Concrete			Cu. Yd.	195.9
Reinforcement Bars, Epoxy Coated			Pound	70,710
Concrete Sealer			Sq. Ft.	1,258

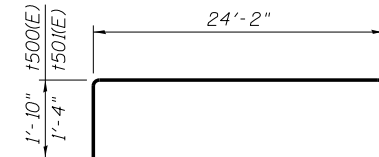
*The bar length is to the center of mechanical splicer.
The Contractor shall adjust the length as required for
the selected mechanical splicer.



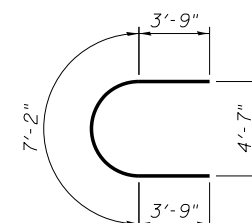
BARS n500(E) & n501(E)



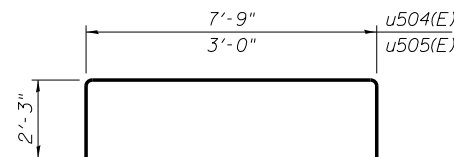
BAR s500(E)



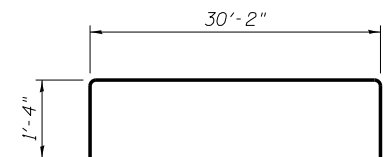
BARS t500(E) & t501(E)



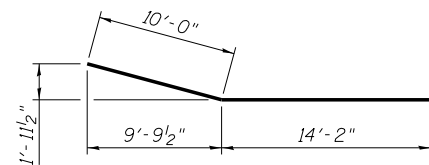
BAR u502(E)



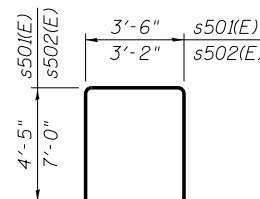
BARS u504(E) & u505(E)



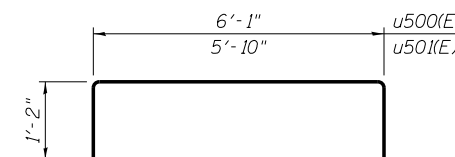
BAR w500(E)



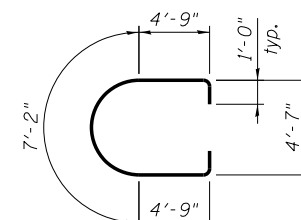
BAR p500(E)



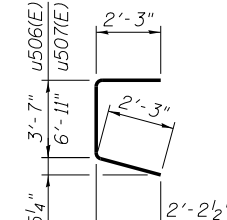
BARS s501(E) & s502(E)



BARS u500(E) & u501(E)



BAR u503(E)



BARS u506(E) & u507(E)



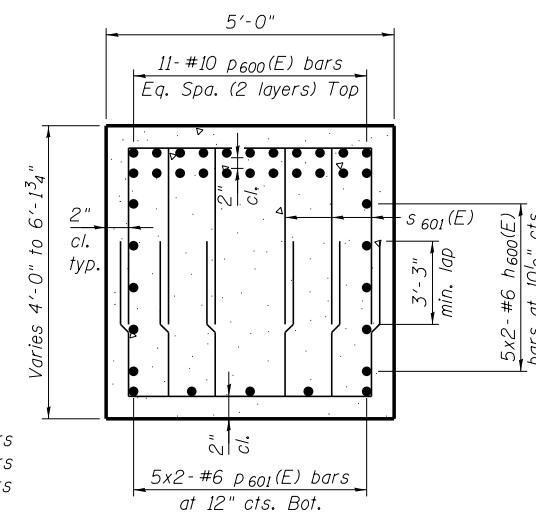
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0780047.66A69.076.PIER.5.dgn	PLOT SCALE =	CHECKED - AAY	REVISED -
	PLOT DATE = 8/14/2015	DRAWN - RMG	REVISED -
		CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 5 - DETAILS & BILL OF MATERIAL
STRUCTURE NO. 078-0047

SHEET NO. S76 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	233
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



5'-0"

11- #10 p600(E) bars

Eq. Spa. (2 layers) Top

Varies 6'-1 3/4" to 6'-3"

2" cl. typ.

2" cl.

4"

s601 (E)

5x2- #6 h600(E) bars at 10 1/2" cts.

2" cl.

5x2- #6 p601(E) bars at 12" cts. Bot.

T/Cofferdam Elev. 449.6

Estimated Water Surface
Elev. 446.75

4- #5 w600(E)
at 12" cfs, Each

*4- $\frac{3}{4}$ " ϕ x 4" Granular
or Solid Flux filled headed
studs automatically end
welded

3"

1'- $3\frac{5}{8}$ "

1'- $3\frac{5}{8}$ "

11' $\frac{11}{8}$ "

11' $\frac{11}{8}$ "

B

5'-0"

4'-6"

6'-0" Min.

6'-3" Max.

3" typ.

2" cl.

2" cl.

s602(E)

u601(E)

v600(E)

h600(E) or h601(E)

Mechanical Splicer, typ.

41'-3 7/8"

2'-0" typ.

9'-3" typ.

4'-6"

n600(E) or n601(E)

u602(E)

s602(E)

f600(E)

w600(E)

3" cl.

12

3

23'-0"

27'-0" seal

5'-0"

3'-0" seal

Cofferdam (Type 2)

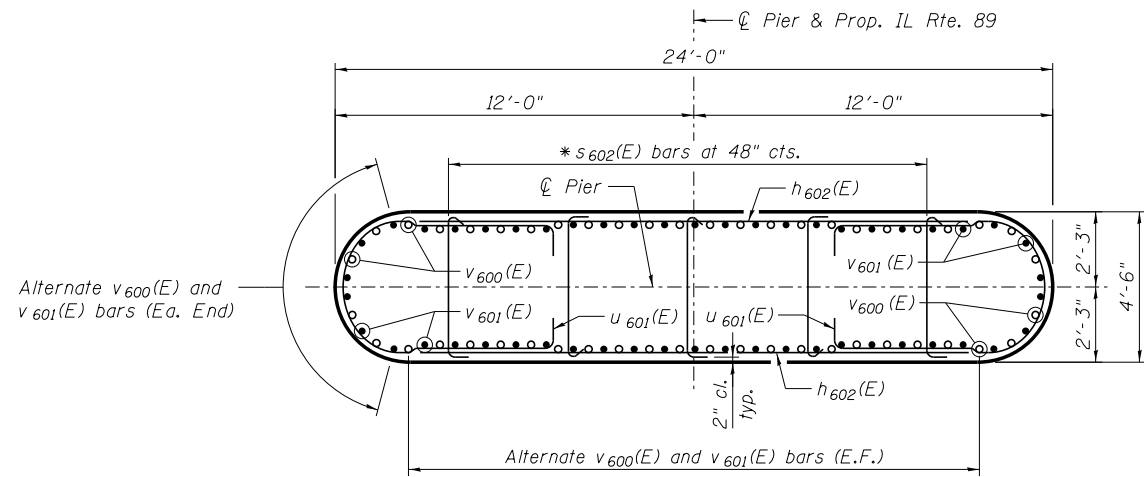
Estimated Pile Tip Elev. 424.70±

END VIEW

⊕ Brg. & Pier 6

Estimated Pile Tip
Elev. 424.70±

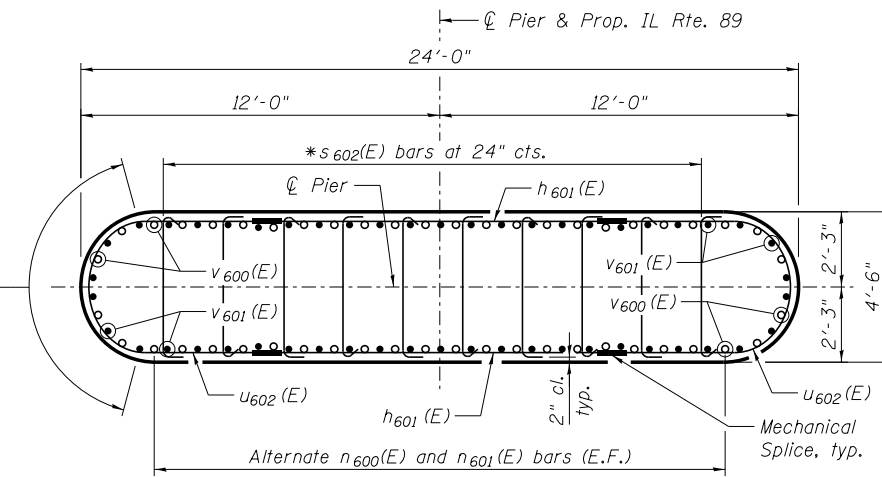
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	234
		CONTRACT NO. 66A69		
		ILLINOIS FED. AID PROJECT		



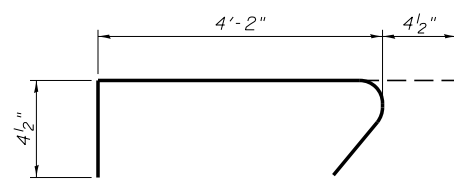
SECTION C-C

Alternate v600(E) and v601(E) bars (Ea. End)

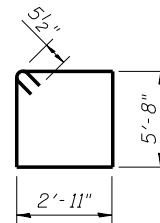
* Alternate hooked ends of s602(E) bars as shown



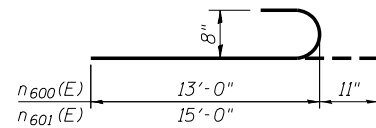
SECTION D-D



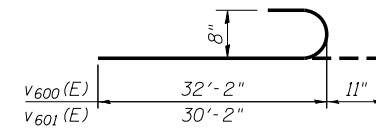
BAR s602(E)



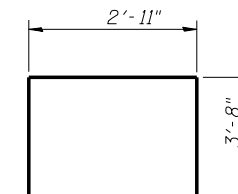
BAR s600(E)



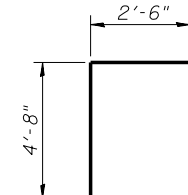
BAR n600(E) & n601(E)



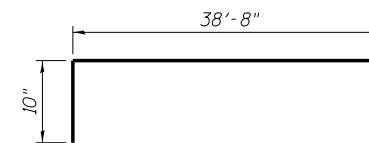
BAR v600(E) & v601(E)



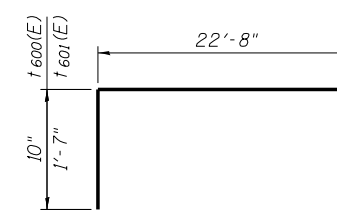
BAR s601(E)



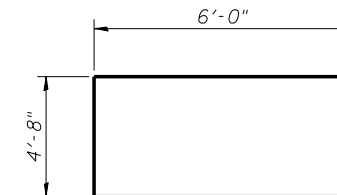
BAR u603(E)



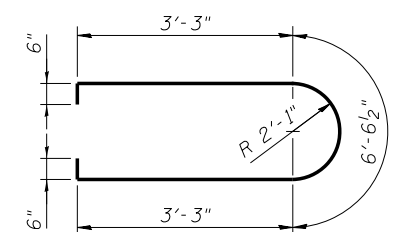
BAR w600(E)



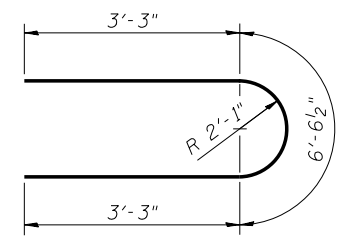
BAR t600(E) & t601(E)



BAR u600(E)



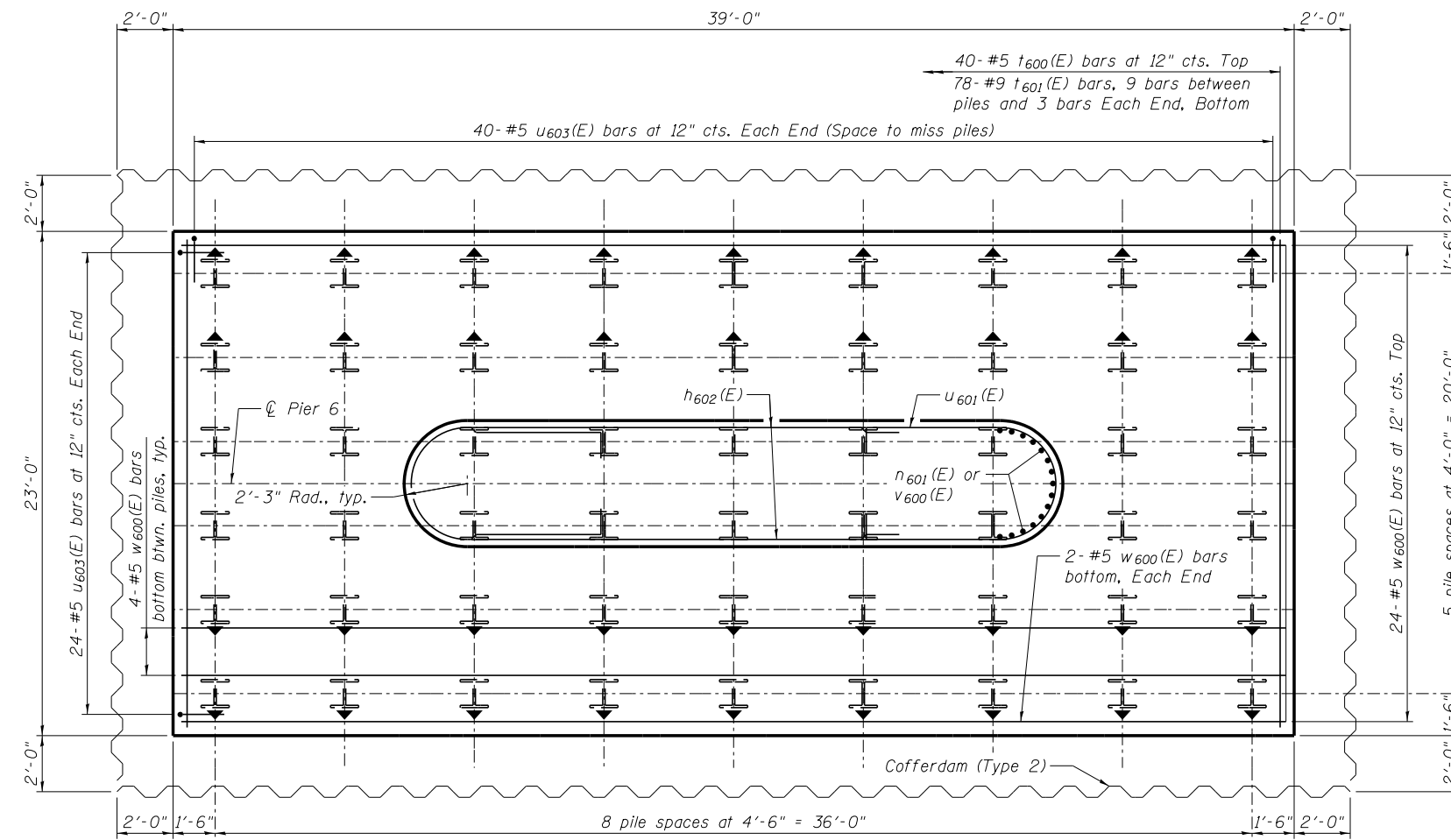
BAR u601(E)



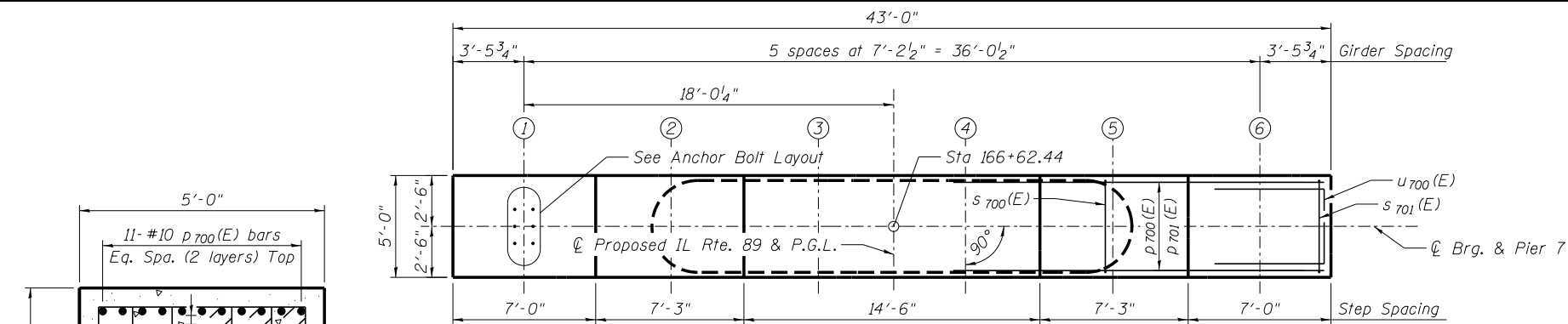
BAR u602(E)

PIER 6 BILL OF MATERIAL

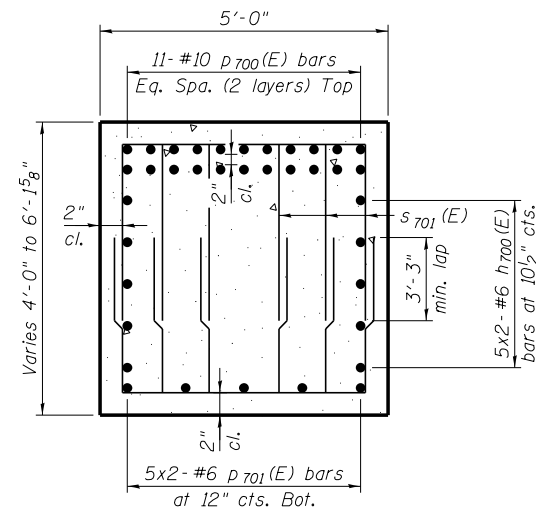
Bar	No.	Size	Length	Shape
h600(E)	20	#6	23'-3"	—
h601(E)	34	#5	19'-6"	—
h602(E)	154	#5	13'-0"	—
n600(E)	63	#8	13'-11"	U
n601(E)	63	#8	15'-11"	U
p600(E)	22	#10	42'-8"	—
p601(E)	10	#6	23'-6"	—
s600(E)	81	#5	18'-1"	U
s601(E)	276	#6	10'-3"	U
s602(E)	565	#4	4'-11"	U
t600(E)	40	#5	24'-4"	—
t601(E)	78	#9	25'-10"	—
u600(E)	10	#6	16'-8"	U
u601(E)	154	#5	14'-1"	U
u602(E)	34	#5	13'-1"	U
u603(E)	128	#5	9'-8"	U
v600(E)	63	#8	33'-1"	U
v601(E)	63	#8	31'-1"	U
w600(E)	48	#5	40'-4"	—
Cofferdam Excavation	Cu. Yd.	280		
Cofferdam (Type 2)	Each	1		
Concrete Structures	Cu. Yd.	351.0		
Seal Coat Concrete	Cu. Yd.	129.0		
Reinforcement Bars, Epoxy Coated	Pound	45,470		
Furnishing Steel Piles, HP 14x89	Foot	2,862		
Driving Piles	Foot	2,862		
Test Pile Steel HP 14x89	Each	1		



PIER 6 FOOTING PLAN



PIER 7 PLAN

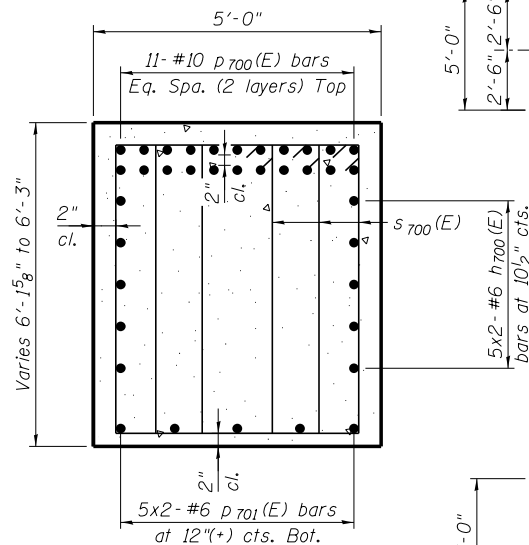


SECTION A-A

- NOTES:**
1. Bars indicated thus 5x2-#6 etc., indicates 5 lines of bars with 2 lengths per line.
 2. For Sections C-C thru D-D, see Sheet S80.
 3. Pour steps monolithically with cap.
 4. Space reinforcement in cap to miss anchor bolts.
 5. Bearing seats are to be constructed level. Slope to drain between bearing seats at 1/8"/ft.
 6. EWSE denotes Estimated Water Surface Elevation.
 7. For Bar List and Bill of Material, see Sheet S80.
 8. For details of piles, see Sheet S82.

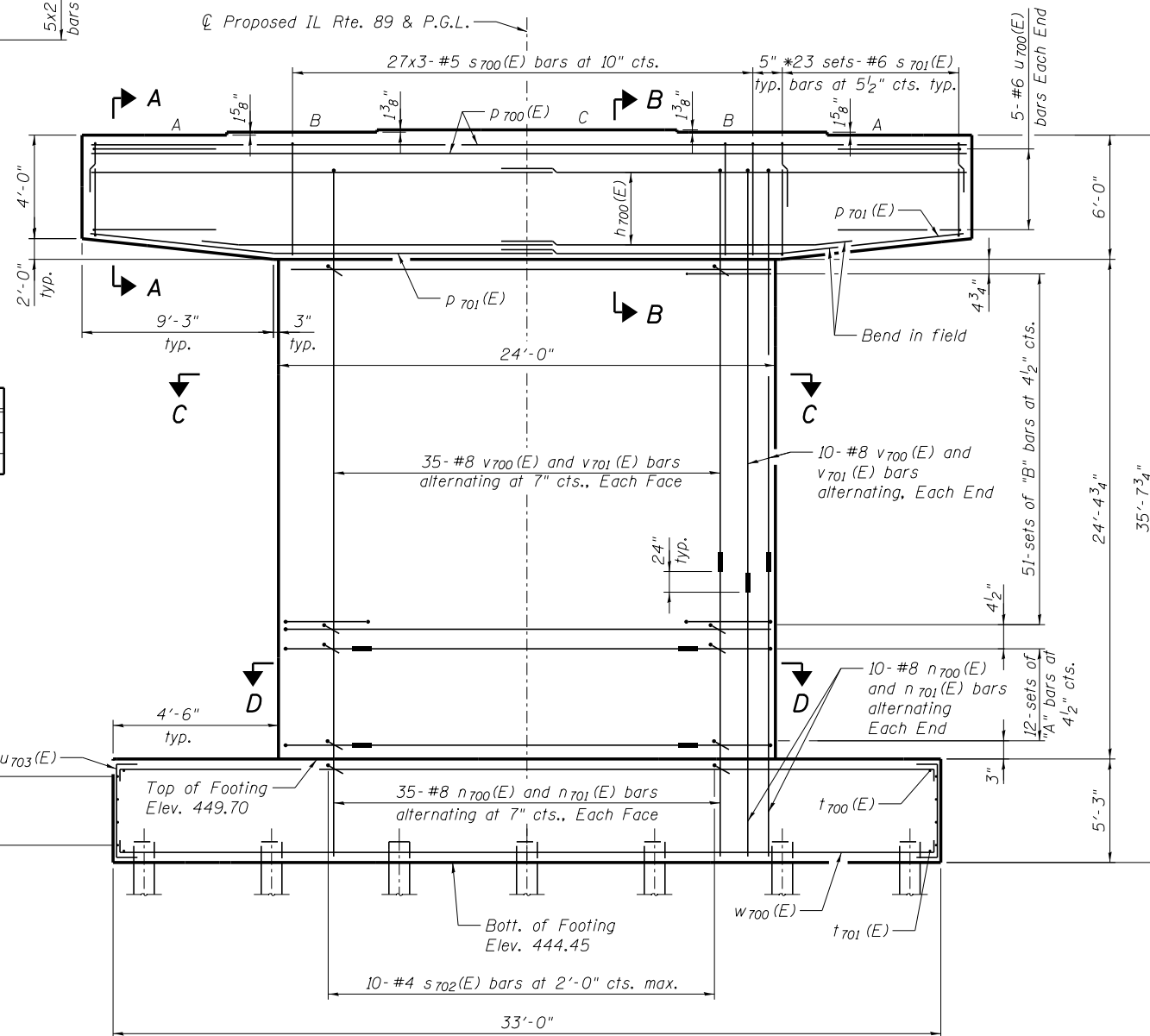
PILE DATA

Type: Steel HP 14x89
 Nominal Required Bearing: 705 kip
 Factored Resistance Available: 386 kip
 Est. Length: 60 ft
 No. Production Piles: 41
 No. Test Piles: 1



SECTION B-B

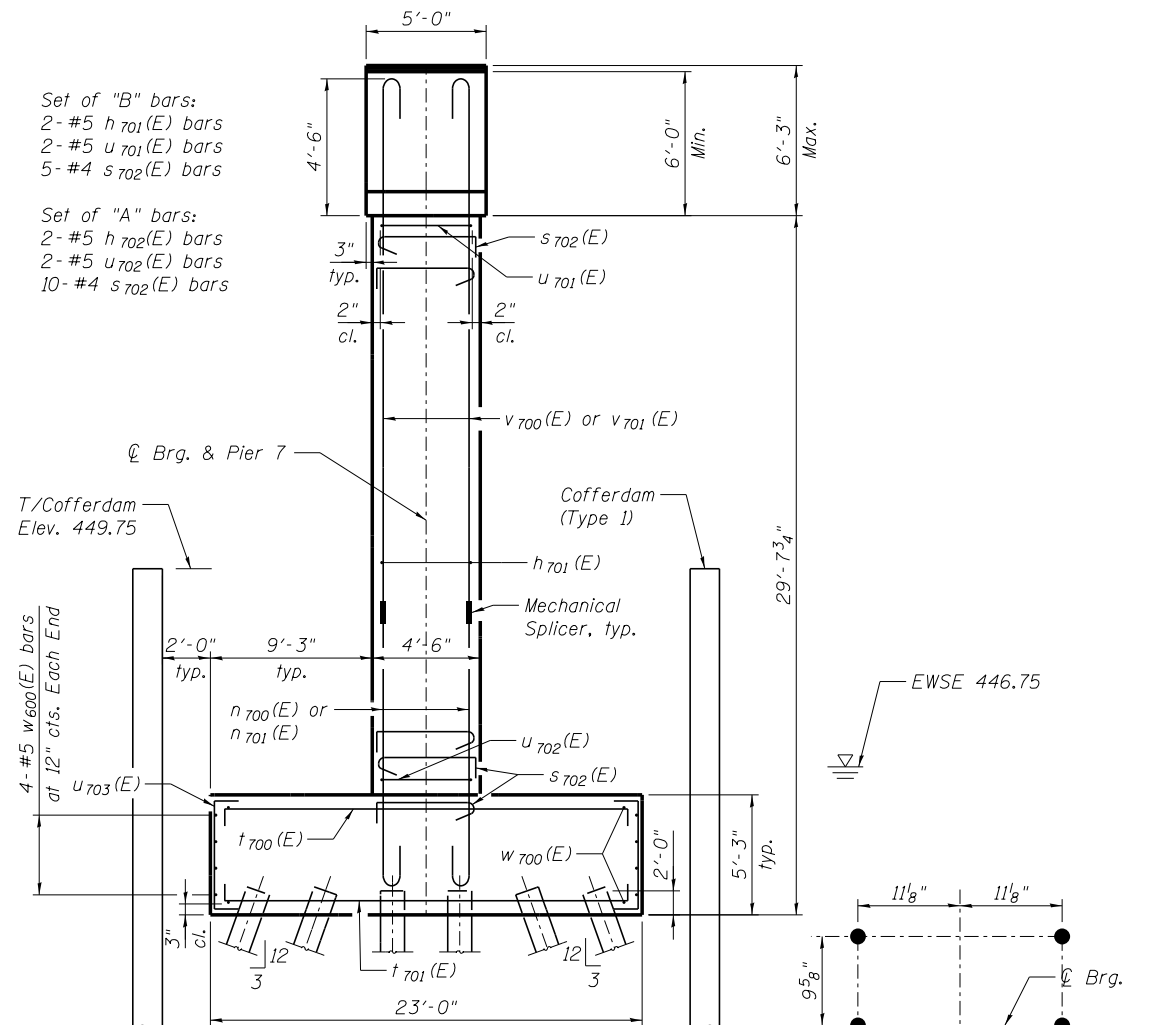
ELEVATION TABLE		
Pier	Seat Location	Elev.
7	A (Girders 1 & 6)	480.10
	B (Girders 2 & 5)	480.24
	C (Girders 3 & 4)	480.35



PIER 7 ELEVATION
(Looking South)

Set of "B" bars:
 2-#5 h701(E) bars
 2-#5 u701(E) bars
 5-#4 s702(E) bars

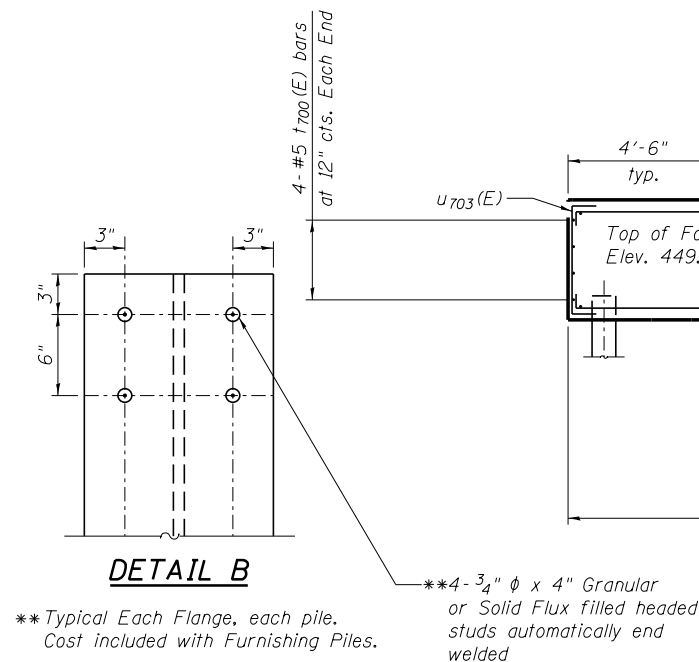
Set of "A" bars:
 2-#5 h702(E) bars
 2-#5 u702(E) bars
 10-#4 s702(E) bars



END VIEW

1/4" φ Anchor Bolt, typ.

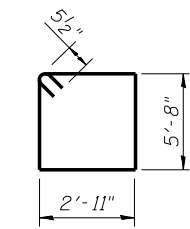
ANCHOR BOLT LAYOUT



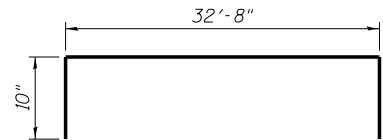
DETAIL B

**Typical Each Flange, each pile.
 Cost included with Furnishing Piles.

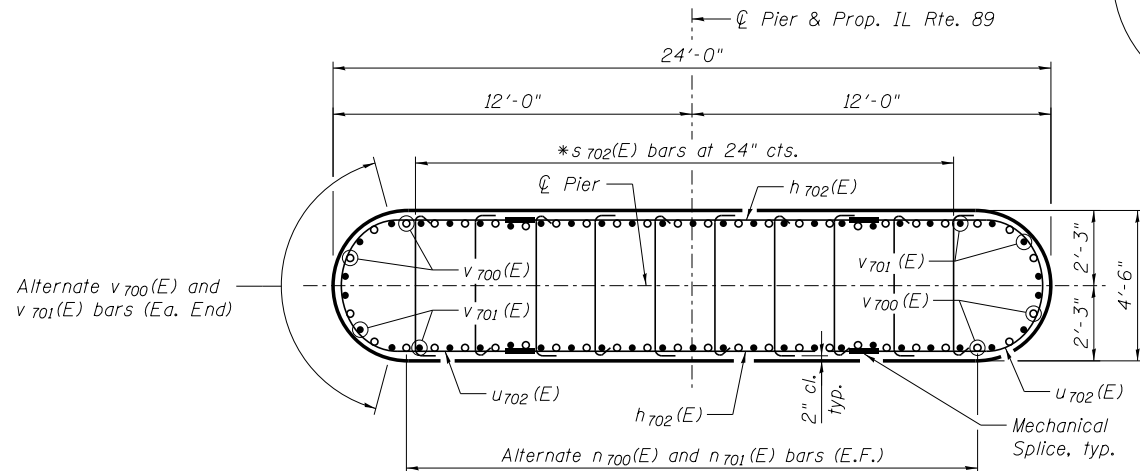
**4-3/4" φ x 4" Granular
 or Solid Flux filled headed
 studs automatically end
 welded



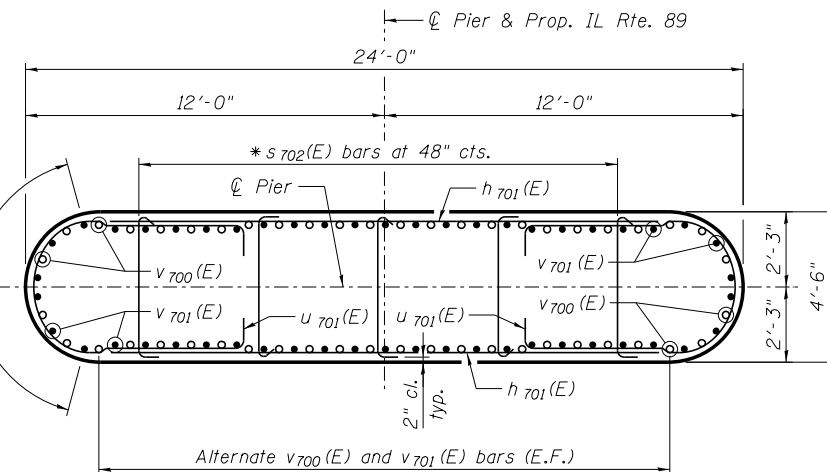
BAR s 700(E)



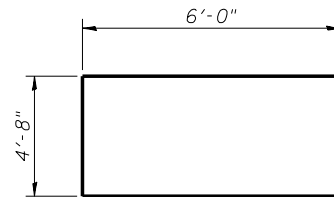
BAR w 700(E)



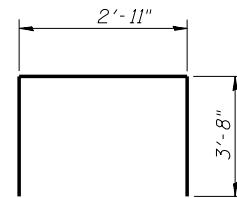
SECTION D-D



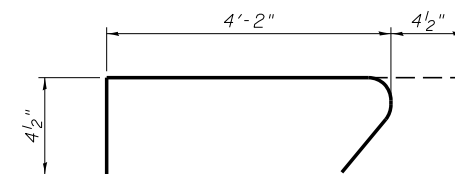
SECTION C-C



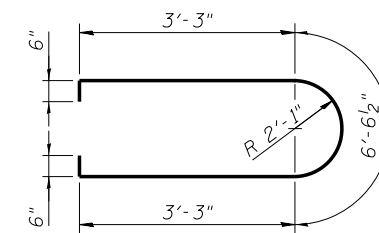
BAR u 700(E)



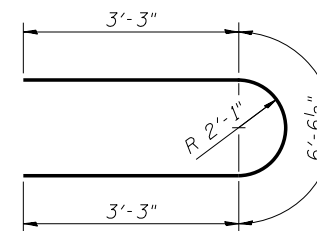
BAR s 701(E)



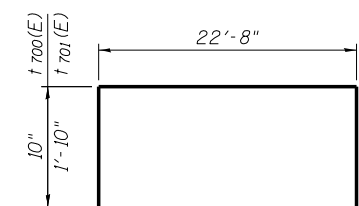
BAR s 702(E)



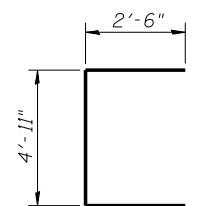
BAR u 701(E)



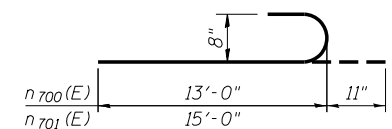
BAR u 702(E)



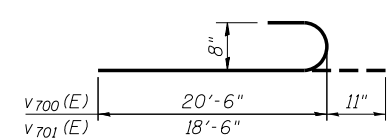
BAR t 700(E) & t 701(E)



BAR u 703(E)



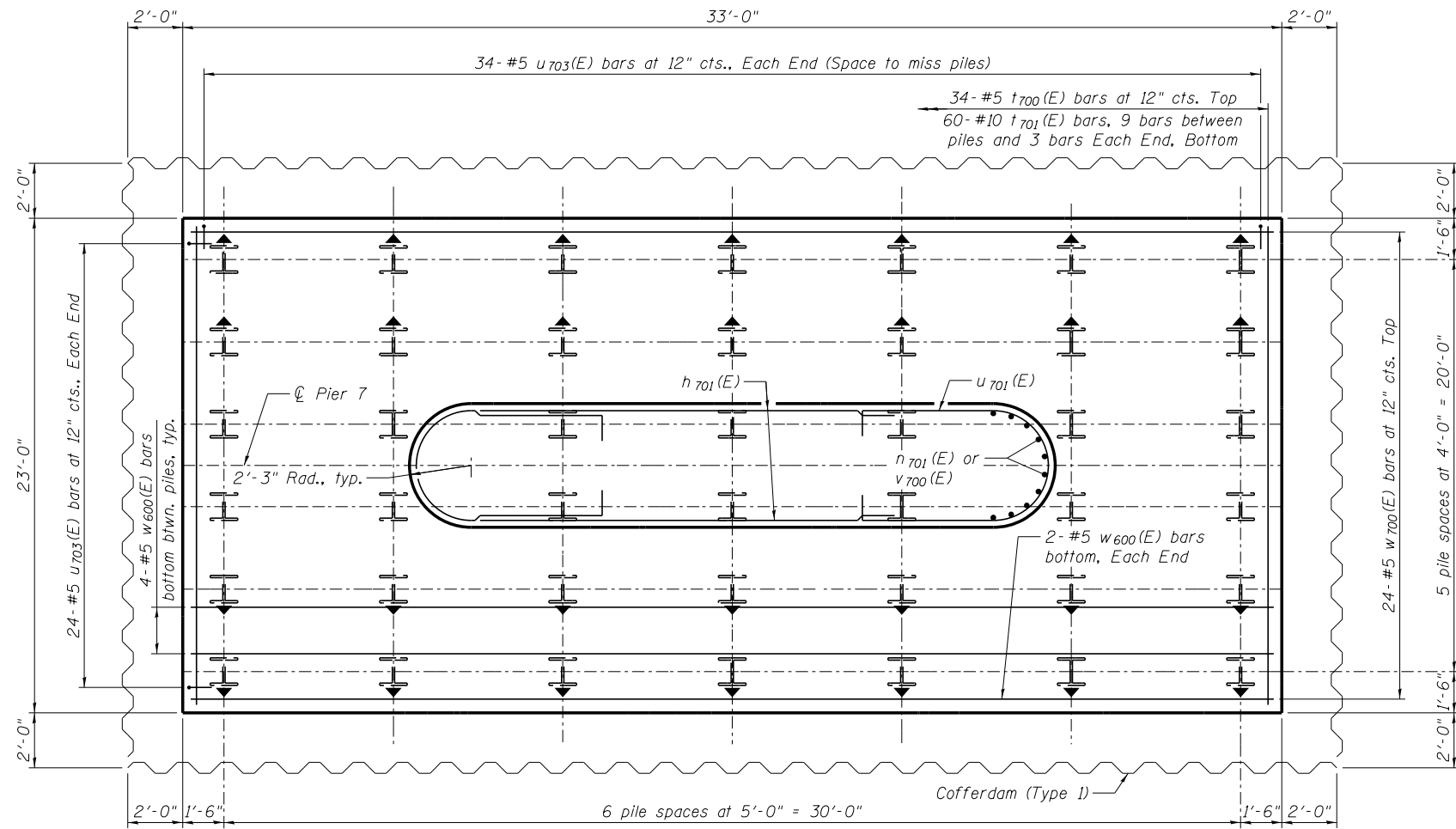
BAR n 700(E) AND n 701(E)



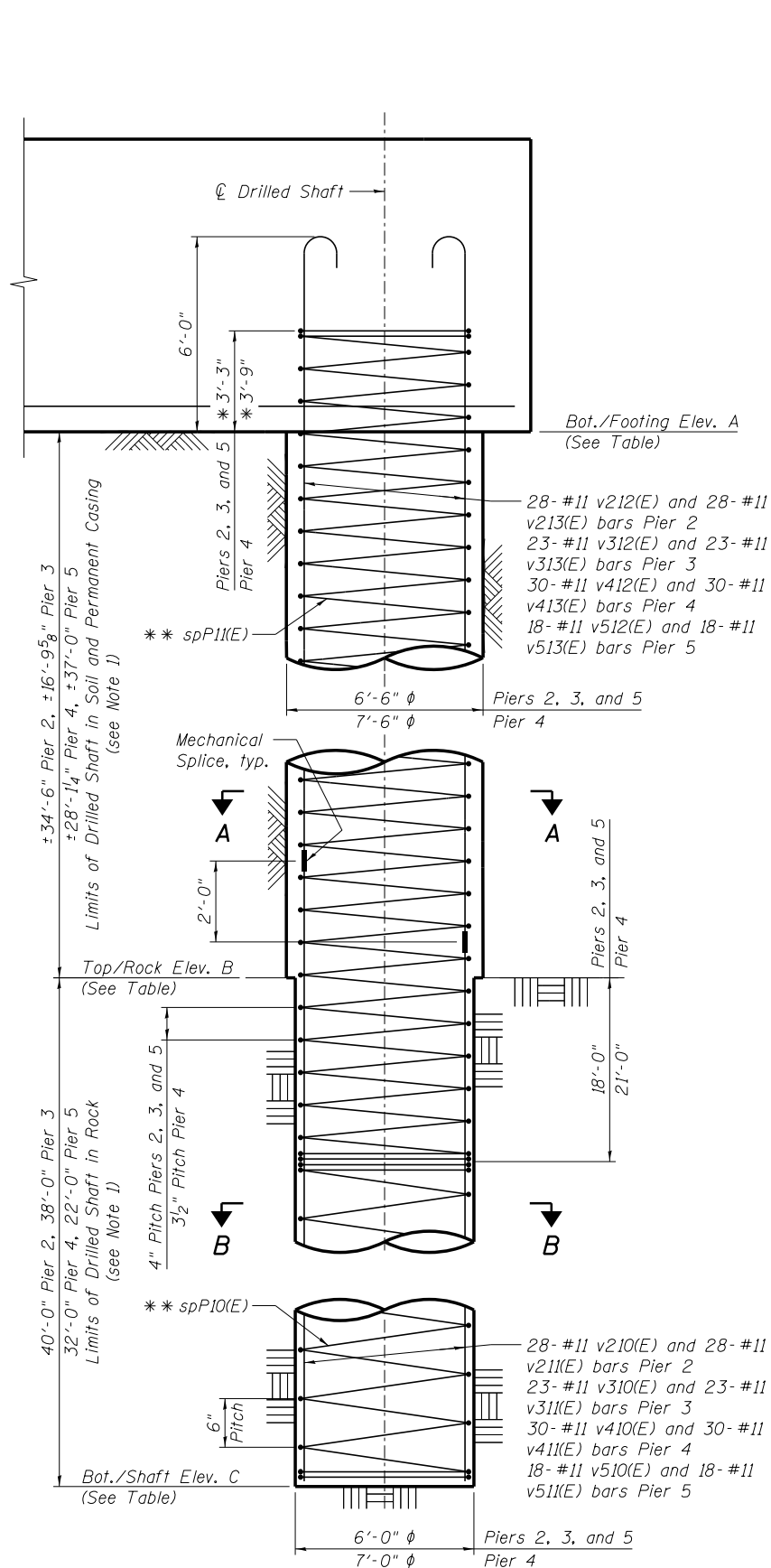
BAR v 700(E) AND v 701(E)

PIER 7
BILL OF MATERIAL

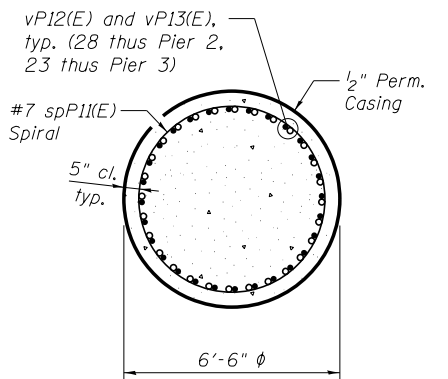
Bar	No.	Size	Length	Shape
h 700(E)	20	#6	23'-3"	—
h 701(E)	102	#5	19'-6"	—
h 702(E)	24	#5	13'-0"	—
n 700(E)	45	#8	13'-11"	U
n 701(E)	45	#8	15'-11"	U
p 700(E)	22	#10	42'-8"	—
p 701(E)	10	#6	23'-6"	—
s 700(E)	81	#5	18'-1"	□
s 701(E)	276	#6	10'-3"	□
s 702(E)	385	#4	4'-11"	□
t 700(E)	34	#5	24'-4"	—
t 701(E)	60	#10	26'-4"	—
u 700(E)	10	#6	16'-8"	U
u 701(E)	102	#5	14'-1"	U
u 702(E)	24	#5	13'-1"	U
u 703(E)	116	#5	9'-11"	U
v 700(E)	45	#8	21'-5"	U
v 701(E)	45	#8	19'-5"	U
w 700(E)	48	#5	34'-4"	—
Cofferdam Excavation			Cu. Yd.	250
Cofferdam (Type 1)			Each	1
Concrete Structures			Cu. Yd.	286.7
Reinforcement Bars, Epoxy Coated			Pound	35,680
Furnishing Steel Piles, HP 14x89			Foot	2,460
Driving Piles			Foot	2,460
Test Pile Steel HP 14x89			Each	1



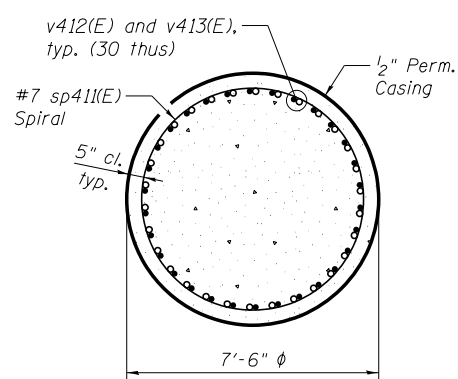
PIER 7 FOOTING PLAN



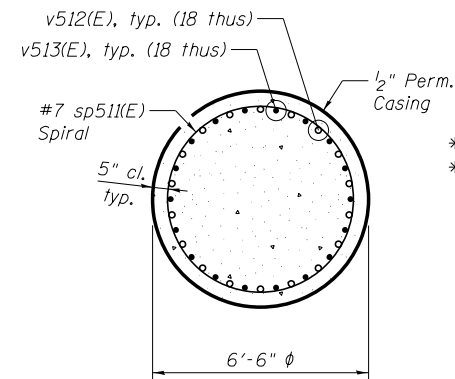
DRILLED SHAFT ELEVATION



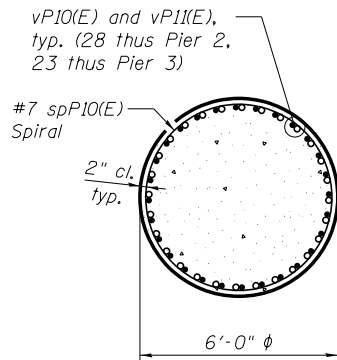
SECTION A-A - PIERS 2 & 3



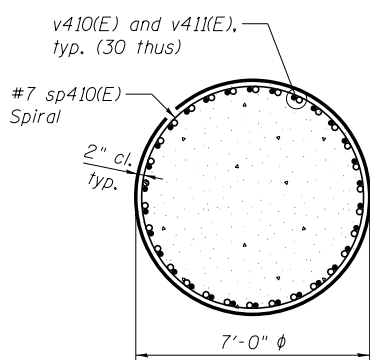
SECTION A-A - PIER 4



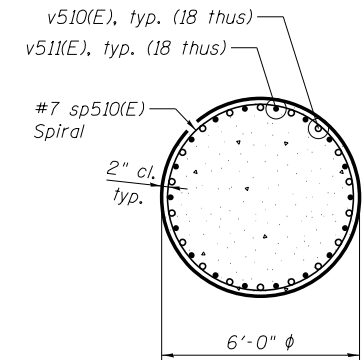
SECTION A-A - PIER 5



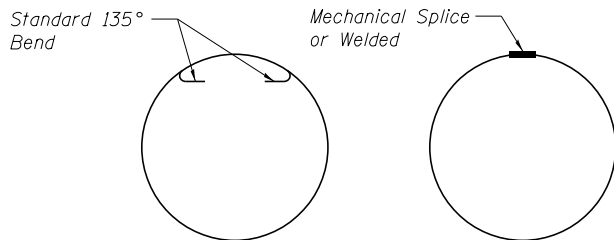
SECTION B-B - PIERS 2 & 3



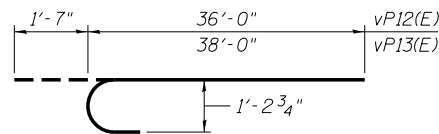
SECTION B-B - PIER 4



SECTION B-B - PIER 5



ALTERNATE SEISMIC HOOPS



BARS vP12(E) & vP13(E)

ELEVATION TABLE

PIER	ELEV. A	ELEV. B	ELEV. C
2	431.50	397.00±	357.00±
3	412.50	395.70±	357.70±
4	422.50	394.40±	362.40±
5	438.50	401.50±	379.50±

* Alternate seismic hoops are allowed in the footing.

** Provide 1 1/2 extra turns top and bottom. Shop weld together extra spiral turns top and bottom per AWS D1.4 or provide 135° standard hooks into core at ends of spiral. Provide min. 4-#4 spacers or equivalent.

*** The bar length is to the center of mechanical splice. The Contractor shall adjust the length as required for the selected mechanical splice.

**** Length is height of spiral.

NOTES:

- The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the quantities and payment limits.
- For bars indicated thus vP10(E) etc.,
P = 2 for Pier 2
P = 3 for Pier 3
P = 4 for Pier 4
P = 5 for Pier 5
- Quantities are based on the use of spirals in the bottom of the footing. Use of alternate seismic hoops shall be at no additional cost to the contract.
- Drilled shafts shall not be terminated in coal.

PIER 2 SHAFTS - BAR LIST & BILL OF MATERIAL

Bar	No.	Size	Length	Shape
sp210(E)	4	#7	22'-0"	W
sp211(E)	4	#7	55'-9"	W
v210(E)	112	#11	44'-6"	—
v211(E)	112	#11	42'-6"	—
v212(E)	112	#11	37'-7"	C
v213(E)	112	#11	39'-7"	C
Reinforcement Bars, Epoxy Coated			Pound	129,320
Permanent Casing			Foot	138
Drilled Shaft in Soil			Cu. Yd.	169.7
Drilled Shaft in Rock			Cu. Yd.	167.6

PIER 3 SHAFTS - BAR LIST & BILL OF MATERIAL

Bar	No.	Size	Length	Shape
sp310(E)	6	#7	20'-0"	W
sp311(E)	6	#7	38'-1"	W
v310(E)	138	#11	24'-10"	—
v311(E)	138	#11	22'-10"	—
v312(E)	138	#11	37'-7"	C
v313(E)	138	#11	39'-7"	C
Reinforcement Bars, Epoxy Coated			Pound	126,530
Permanent Casing			Foot	101
Drilled Shaft in Soil			Cu. Yd.	123.9
Drilled Shaft in Rock			Cu. Yd.	238.8

PIER 4 SHAFTS - BAR LIST & BILL OF MATERIAL

Bar	No.	Size	Length	Shape
sp410(E)	6	#7	11'-0"	W
sp411(E)	6	#7	52'-11"	W
v410(E)	180	#11	30'-2"	—
v411(E)	180	#11	28'-2"	—
v412(E)	180	#11	37'-7"	C
v413(E)	180	#11	39'-7"	C
Reinforcement Bars, Epoxy Coated			Pound	183,390
Permanent Casing			Foot	169
Drilled Shaft in Soil			Cu. Yd.	275.9
Drilled Shaft in Rock			Cu. Yd.	273.7

PIER 5 SHAFTS - BAR LIST & BILL OF MATERIAL

Bar	No.	Size	Length	Shape
sp510(E)	4	#7	4'-0"	W
sp511(E)	4	#7	58'-3"	W
v510(E)	72	#11	29'-0"	—
v511(E)	72	#11	27'-0"	—
v512(E)	72	#11	37'-7"	C
v513(E)	72	#11	39'-7"	C
Reinforcement Bars, Epoxy Coated			Pound	78,420
Permanent Casing			Foot	148
Drilled Shaft in Soil			Cu. Yd.	181.9
Drilled Shaft in Rock			Cu. Yd.	92.2



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.081.Drilled.Shaft.dgn

USER NAME = rgrmm
PLOT SCALE =
PLOT DATE = 8/14/2015

DESIGNED - MFH
CHECKED - AAY
DRAWN - RMG
CHECKED - HMA

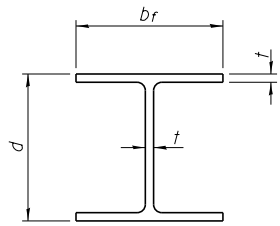
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRILLED SHAFT DETAILS
STRUCTURE NO. 078-0047

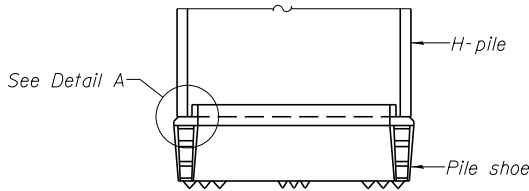
SHEET NO. S81 OF S119 SHEETS

F.A.P. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.
698 (1) BR BUREAU/PUTNAM 415 238
CONTRACT NO. 66A69
ILLINOIS FED. AID PROJECT

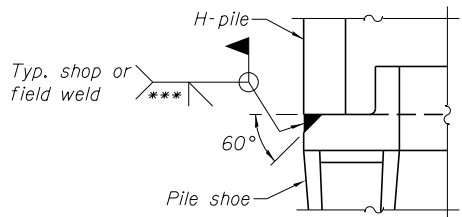


STEEL PILE TABLE

Designation	Depth <i>d</i>	Flange width <i>b_r</i>	Web and Flange thickness <i>t</i>	Encasement diameter <i>A</i>
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

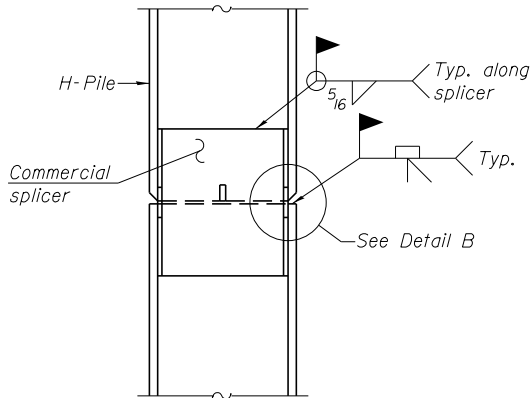


ELEVATION

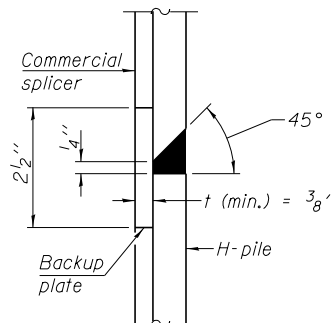


DETAIL A

H-PILE SHOE ATTACHMENT

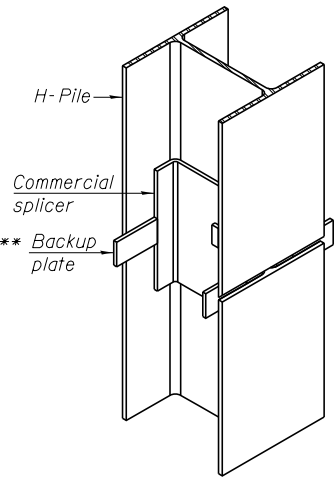


ELEVATION

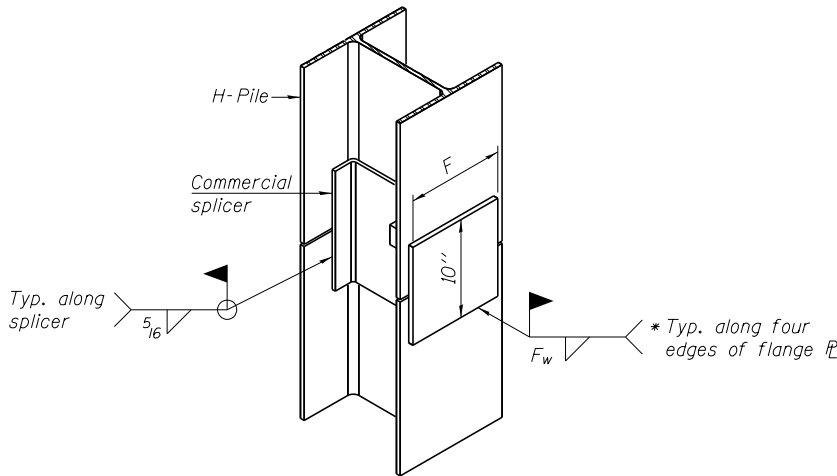


DETAIL "B"

WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



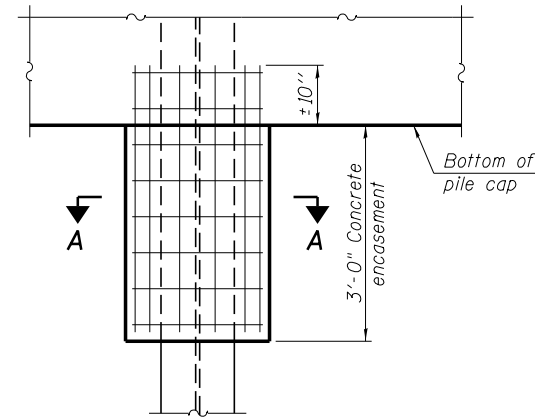
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4" from end of web and/or each flange.

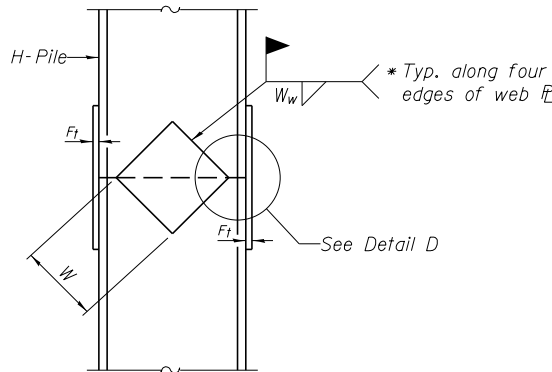
** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).

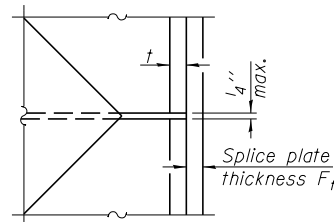


ELEVATION

PILE ENCASEMENT

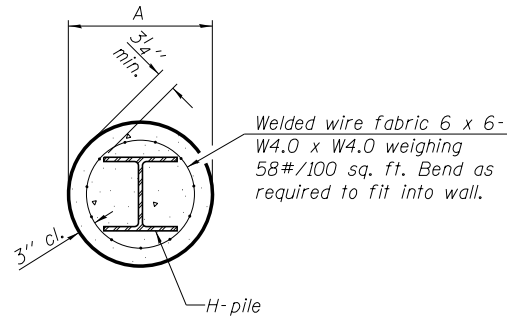


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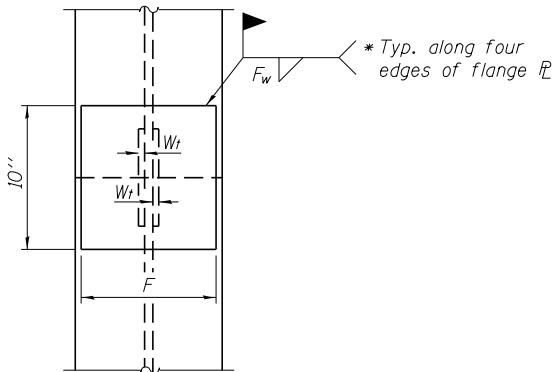
DETAIL D

WELDED PLATE FIELD SPLICE



SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.



END VIEW

Designation	<i>F</i>	<i>F_t</i>	<i>F_w</i>	<i>W</i>	<i>W_t</i>	<i>W_w</i>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

F-HP

1-27-12

FILE NAME =
0780047.66A69.082_HP_Pile_Details.dgn

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PLOT SCALE =
PLOT DATE = 9/15/2015

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CHECKED - JRS
DRAWN - RMG
CHECKED - HMA

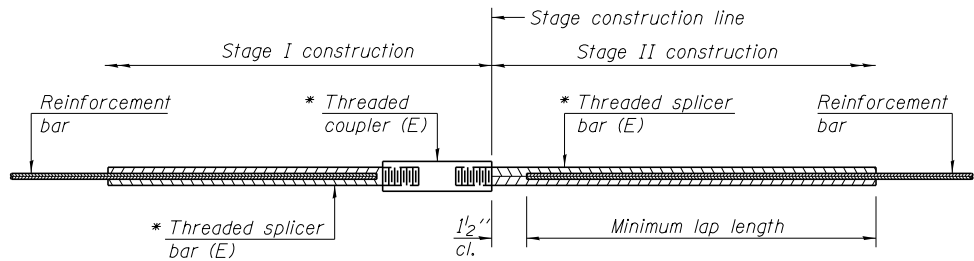
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 078-0047

SHEET NO. S82 OF S119 SHEETS

F.A.P. RTE. 698
SECTION (1) BR
COUNTY
BUREAU/PUTNAM
TOTAL SHEETS 415
SHEET NO. 239
CONTRACT NO. 66A69
ILLINOIS FED. AID PROJECT



STANDARD BAR SPLICER ASSEMBLY

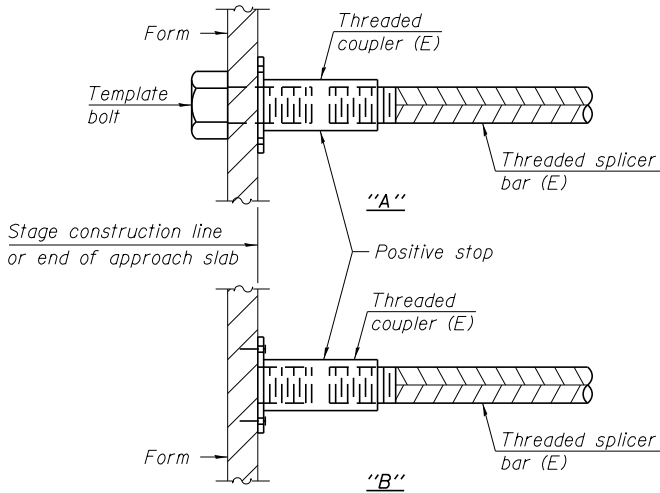
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

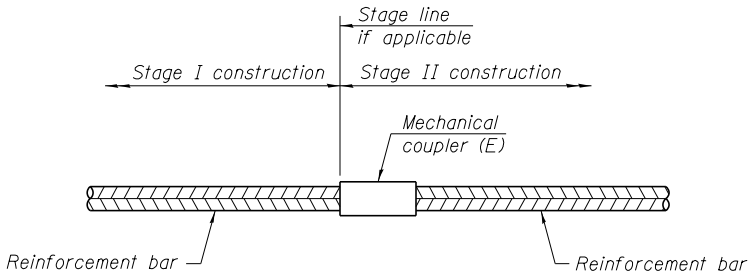
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



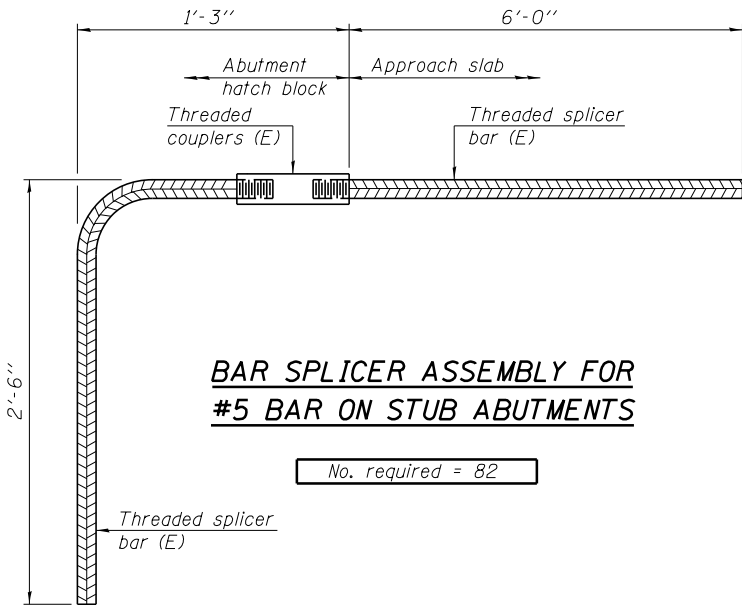
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1	#8	90
	#5	64
Pier 2	#11	308
	#6	80
Pier 3	#11	616
	#8	120
Pier 4	#11	580
	#8	108
Pier 5	#7	112
	#8	308
Pier 6	#6	72
	#8	126
Pier 7	#5	68
	#8	90
	#5	48



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

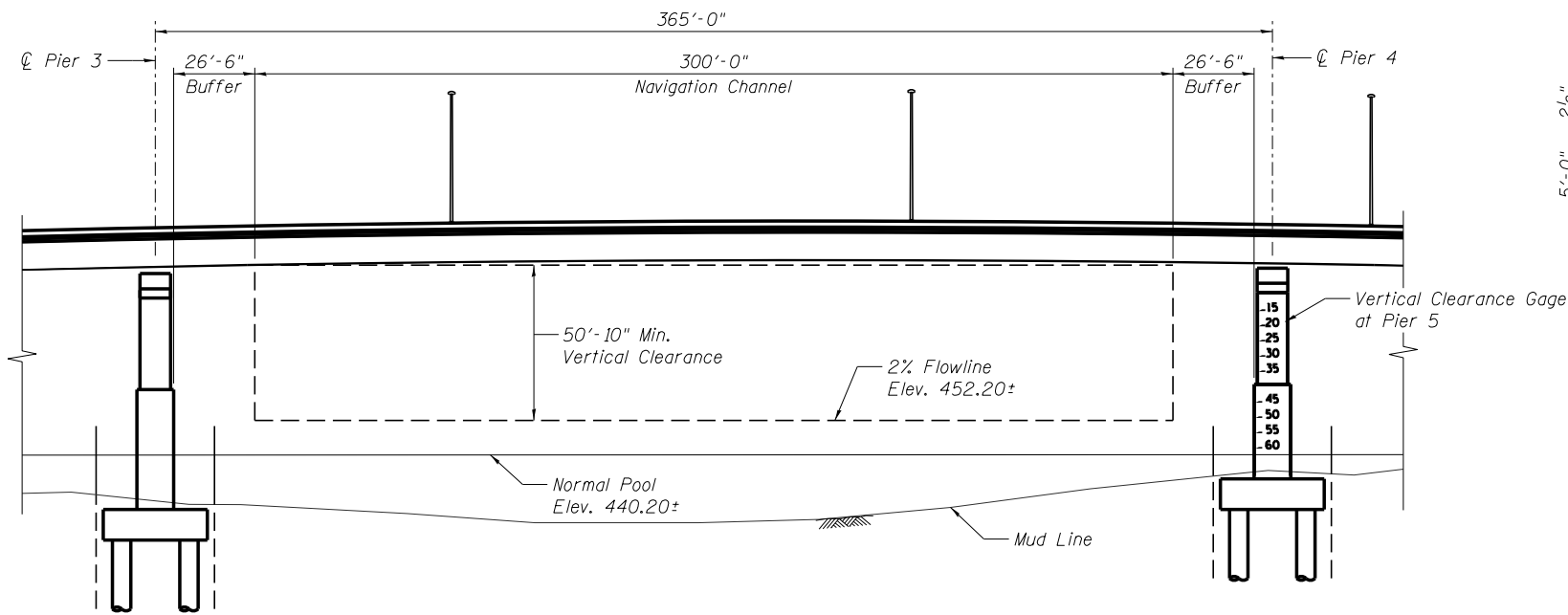
No. required = 82

NOTES

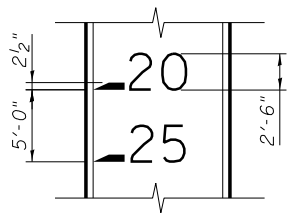
Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
All reinforcement shall be lapped and tied to the splicer bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

FILE NAME =	USER NAME = rgrmm	DESIGNED - MFH	REVISED -
		CHECKED - HMA	REVISED -
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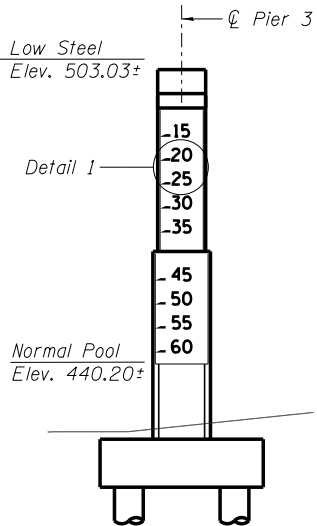
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	240
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



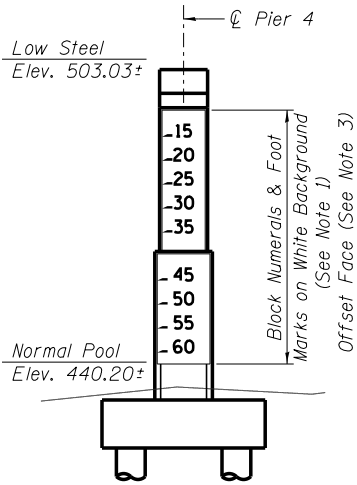
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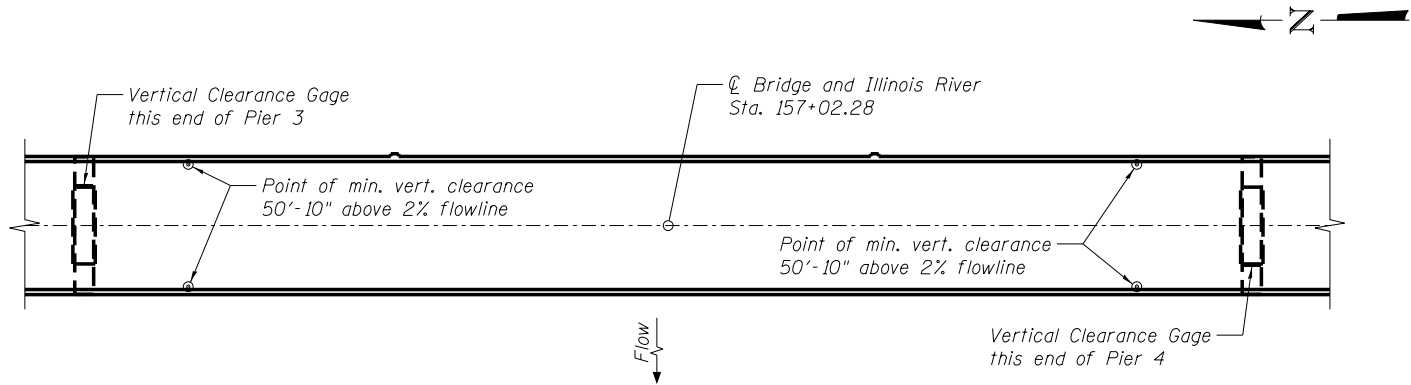
ELEVATION



VERTICAL CLEARANCE GUIDE
(At east face of Pier 3)



VERTICAL CLEARANCE GUIDE
(At west face of Pier 4)



PLAN

BRIDGE CLEARANCE GAUGE NOTES

- Series-E Numerals shall be used and shall conform to "Standard Alphabets for Highway Signs" by U.S. Department of Transportation, Federal Highway Administration, 2011.
- White background, black numerals and black footmarks shall be painted directly on pier faces. See Special Provisions for "Bridge Clearance Gauges".
- Dimensions and spacing of text shown are projected dimensions in the horizontal plane of pier face.
- Manufactured numerals and background materials of the required sizes may be used if approved by the Engineer.
- Cost of Bridge Clearance Gauges shown will not be paid for separately but shall be included in Concrete Stuctures.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

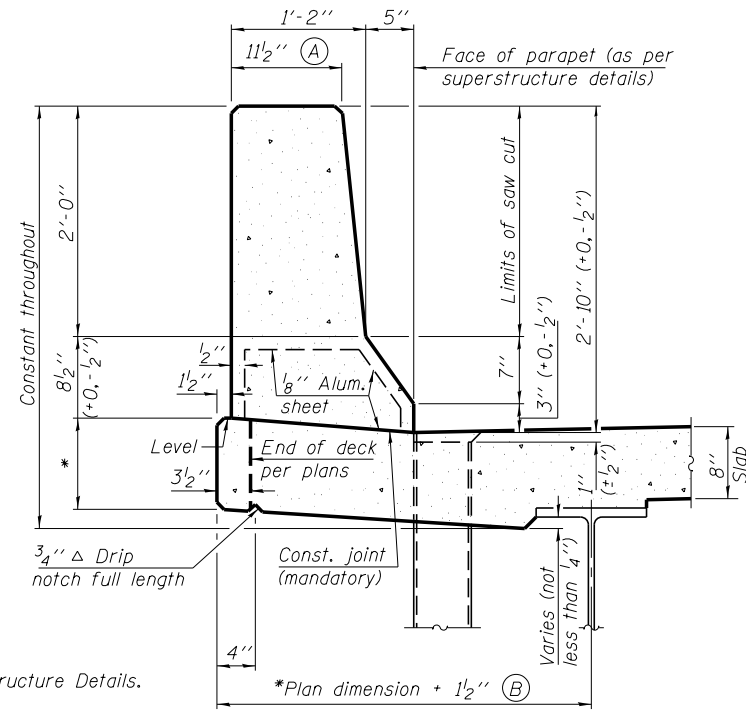
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	PLOT DATE = 9/15/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE CLEARANCE GAUGES
STRUCTURE NO. 078-0047

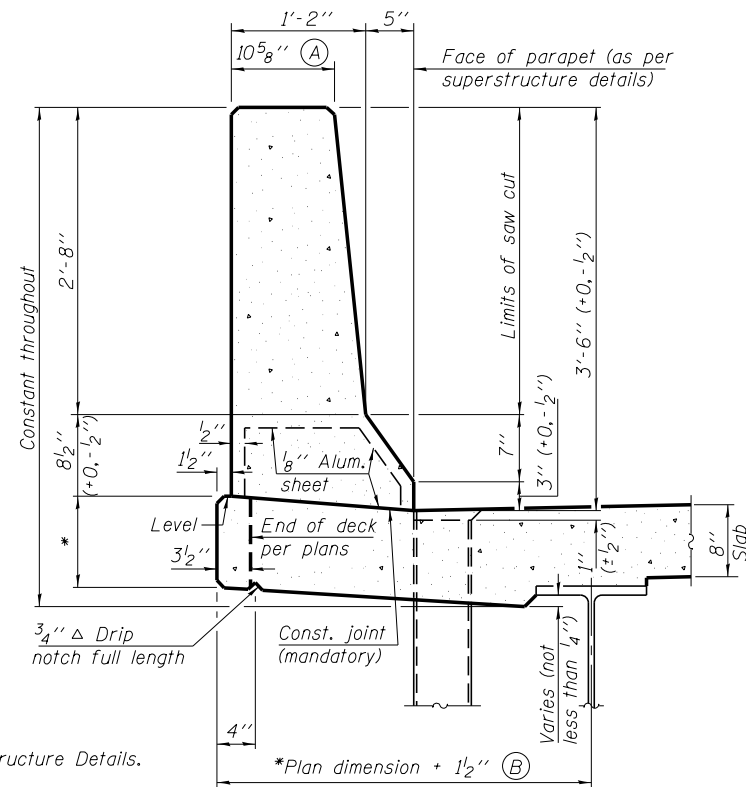
SHEET NO. S84 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	241
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



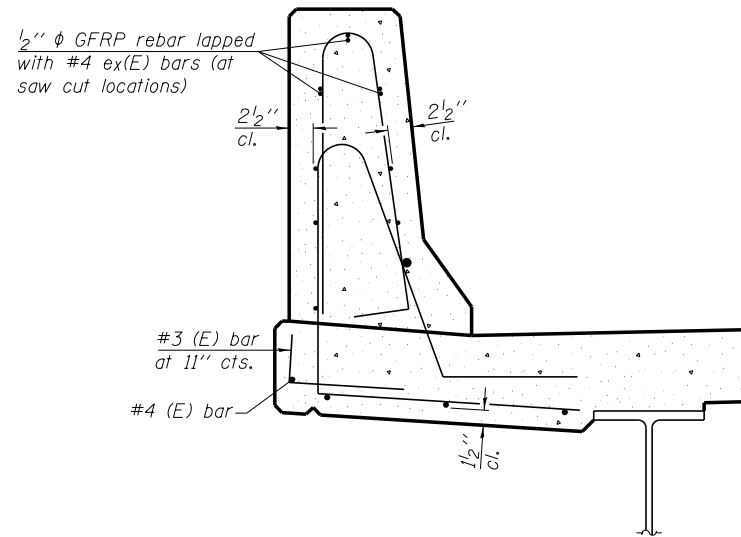
*See Superstructure Details.

34" F SHAPE PARAPET SECTION
(Showing dimensions)



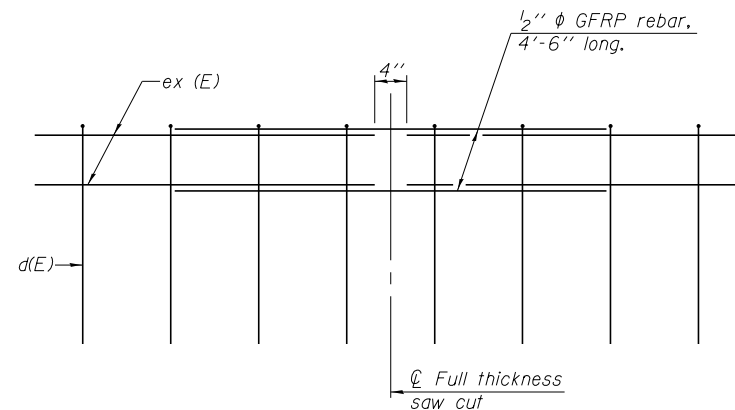
*See Superstructure Details.

42" F SHAPE PARAPET SECTION
(Showing dimensions)



SECTION

(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

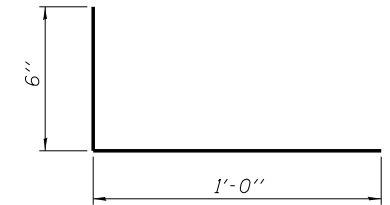


GFRP REBAR STIFFENING DETAIL

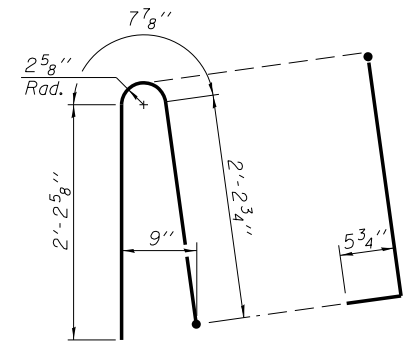
(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler. Steel superstructure shown. Other superstructure types similar.

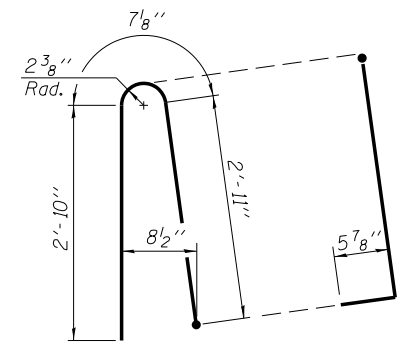


#3 (E) BAR



ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)

(For 42" parapet when conduit is present)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

SFP 34-42

8-16-12

FILE NAME =
0780047_66A69_085_Conc_Slip_Form.dgn

USER NAME = habdou
PLOT SCALE =
PLOT DATE = 9/15/2015

DESIGNED - MRB
CHECKED - HMA
DRAWN - RMG
CHECKED - HMA

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 078-0047**

SHEET NO. S85 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	242
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



Page 1 of 2

Date 4/4/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
--------------	-----------------	--------------------	--	------------------	-------------

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313968, Longitude -89.199572

COUNTY Putnam, Bureau DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. <u>078-0047 (Prop.)</u> <u>078-0006 (Exist.)</u> Station <u>157+02.28 (Prop.)</u>	D E B L U C M O	D E B L U C M O	D E B L U C M O	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	D E B L U C M O
---	--------------------------------------	--------------------------------------	--------------------------------------	---	--------------------------------------

BORING NO. 06 (2013)	T	W		S	Groundwater Elev.:	T	W		S
Station 149+95	H	S	Qu	T	First Encounter 440.9 ft	H	S	Qu	T
Offset 0.0 ft					Upon Completion 442.9 ft				
Ground Surface Elev. 452.87 ft	(ft)	(/6")	(tsf)	(%)	After Hrs. ft	(ft)	(/6")	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 2 of 2

Date 4/4/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
-------	-----------------	-------------	--	-----------	-------------

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313968, Longitude -89.199572

COUNTY Putnam, Bureau DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. 06 (2013)	T	W		S	Groundwater Elev.:	T	W		S
Station 149+95	H	S	Qu	T	First Encounter 440.9 ft	H	S	Qu	T
Offset 0.0 ft					Upon Completion 442.9 ft				
Ground Surface Elev. 452.87 ft	(ft)	(/6")	(tsf)	(%)	After Hrs. ft	(ft)	(/6")	(tsf)	(%)

SQL BOBING 078-0006 GP.1 II DOT CDT 43015

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 1 of 3

Date 5/8/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313733, Longitude -89.199615

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. 101M (Pier #1)	T	W		S	Groundwater Elev.: First Encounter Upon Completion After 4 Hrs.		T	W		S	
Station 150+72.0	H	S	Qu	T			H	S	Qu	T	
Offset 6.5 ft Lt.											
Ground Surface Elev. 449.25 ft	(ft)	(/6")	(tsf)	(%)			(ft)	(/6")	(tsf)	(%)	
						445.3 ft					

SOIL BORING 078-0006.GPJ IL DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).

BBS, form 137 (Rev. 8-99)



FILE NAME =

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PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S88 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	245
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015

Page 2 of 3Date 5/8/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313733, Longitude -89.199615

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

[illegible]

BORING NO. 101M (Pier #1)	T	W		S	Groundwater Elev.:	T	W		S
Station 150+72.0	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.5 ft Lt.					Upon Completion				
Ground Surface Elev. 449.25	ft	(ft)	(/6")	(tsf)	After 4 Hrs. 445.3	ft	(ft)	(/6")	(tsf)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3Date 5/8/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313733, Longitude -89.199615

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev. _____	ft	D E	B L	U C	M O	
	078-0006 (Exist.)					Stream Bed Elev. _____						ft
	157+02.28 (Prop.)											

BORING NO. 101M (Pier #1)	T	W		S	Groundwater Elev.:	T	W		S
Station 150+72.0	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.5 ft Lt.					Upon Completion				
Ground Surface Elev. 449.25	ft	(ft)	(ft/6")	(tsf)	After 4 Hrs. 445.3	ft	(ft)	(ft/6")	(tsf)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 1 of 4

Date 5/7/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.313741, Longitude -89.199642

COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
--------	----------------	---------------	-----------	---	--	------	---

STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	R	T	R
	078-0006 (Exist.)		Barrel, NWD-4					
Station	157+02.28 (Prop.)		D	C	O	Q	I	N

BORING NO. 101C (Pier #1)	Top of Rock Elev. 391.50	ft	P	R	E	D	E	G
Station 150+71	Begin Core Elev. 391.34	ft	T	E	R	.		T
Offset 0.5 ft Rt.			H		Y			H
Ground Surface Elev. 449.34		ft	(ft)	(#)	(%)	(%)	(min/ft)	(tsf)

ROCK CORE 078-0006.GPJ IL DOT.GDT 4/3/15

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



FILE NAME =
0780047_66A69_089_BrBorings4.dgn

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PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S89 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	246
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015



Page 1 of 3

Date 8/20/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
--------------	-----------------	--------------------	--	------------------	-------------

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
--------	----------------	-----------------	-------------------	-------------	---------------

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
	078-0006 (Exist.)									
Station	157+02.28 (Prop.)					Stream Bed Elev. _____ ft				

BORING NO. 03M (2014)	T	W		S	Groundwater Elev.:	T	W		S		
Station 150+90	H	S	Qu	T	First Encounter 437.9 ft▼	H	S	Qu	T		
Offset 0.0 ft					Upon Completion 437.9 ft▽						
Ground Surface Elev. 447.90	ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

Left Column Data				Right Column Data			
Auger Brown / Black Silty Clay				Stiff Gray & Brown Silty Clay with Shell Fragments (continued)		WH	
Loam, Brown Fine Sand to					2	2.0	11
Coarse Gravel Fill					2	P	
445.40							
Hard Black & Brown Silty Clay	7				3		
Loam with Heavy Gravel Pieces -	6	>4.5	13		2	1.9	28
Fill	7	P			2	S	
442.90	-5						
Stiff Black & Brown Silty Loam,	4				-25	2	
Silty Clay, Sand Interbedded -	3	2.0	19		2	1.7	26
Alluvial Backwater Deposits - High	2	P			2	S	
Organics				420.90			
WH = Weight of Hammer	1			Stiff Gray Silty Clay with Shell		WH	
	2	2.0	27	Fragments & Layers of Sand, Silt,	2	1.3	29
	2	P		Loam	2	B	
438.40							
Stiff Gray & Brown Silty Clay with	▼ -10				-30	WH	
Shell Fragments	WH				WH		
	2	1.5	26		2	1.0	27
		P			2	P	
	2						
	1	1.7	26		WH		
	2	S			3		28
				413.90	6		
-15				Medium Gray Fine Sand to			
	3			Medium Gravel	-35	5	
	2	1.7	30		5		17
	3	S			5		
	2			Washed Sample 37.5' to 39.0'		5	
	1	1.3	28			7	12
	2	S				8	
-20					407.90	-40	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 2 of 3

Date 8/20/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
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STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
	Station 157+02.28 (Prop.)									

BORING NO. 03M (2014)	T	W		S	Groundwater Elev.:	T	W		S
Station 150+90	H	S	Qu	T	First Encounter 437.9 ft▼	H	S	Qu	T
Offset 0.0 ft					Upon Completion 437.9 ft▼				
Ground Surface Elev. 447.90 ft (ft) (6") (tsf) (%)					After Hrs. ft (ft) (6") (tsf) (%)				

Stiff Gray Silty Clay / Silty Clay Loam with Shell Fragments and Minor Silt Layers	1				Hard Gray Shale with some Minor Silt Seams and Gravel Pieces Inclusion (<i>continued</i>) Modified Standard Penetration Test used from 60.0 ft to end of boring. Results are on a separate log sheet.	
	1	1.5	39			15
	1	P				
	WH					
	WH	1.1	37			14
	2	B				
	-45	WH			-65	
	1	1.1	31			16
	2	B				
	2					
	2	1.3	29			14
	3	B				
	-50	WH			-70	
	2	1.1	32			11
	2	B				
	WH					
	WH	1.1	36			9
	2	B				
	-55	WH			-75	
	WH	1.0	32			12
390.40	2	B				
	25					
	40	>4.5	14			12
	75	P				
Hard Gray Shale with some Minor Silt Seams and Gravel Pieces Inclusion						
	-60				-80	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 3 of 3

Date 8/20/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
--------	----------------	-----------------	-------------------	-------------	---------------

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____	ft
	078-0006 (Exist.)						
Station	157+02.28 (Prop.)	E	L	C	O	Stream Bed Elev. _____	ft

BORING NO. 03M (2014)	T	W		S	Groundwater Elev.:	
Station 150+90	H	S	Qu	T	First Encounter	437.9 ft. ▾
Offset 0.0 ft					Upon Completion	437.9 ft. ▾
Ground Surface Elev. 447.90 ft	(ft)	(6")	(tsf)	(%)	After Hrs.	ft

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



FILE NAME =

0780047_66A69_091_BrBorings6.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S91 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	248
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015



Page 1 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude , Longitude

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>									
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C	O

BORING NO. B-7	T	W		S	Groundwater Elev.:	T	W		S
Station 152+33	H	S	Qu	T	First Encounter 437.9 ft	H	S	Qu	T
Offset 18.5 ft Lt.					Upon Completion				
Ground Surface Elev. 441.43 ft	(ft)	(6")	(tsf)	(%)	After Hrs.	ft	(ft)	(6")	(tsf) (%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 2 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude , Longitude

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>								
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C

BORING NO. <u>B-7</u>	T	W		S	Groundwater Elev.:	T	W		S
Station <u>152+33</u>	H	S	Qu	T	First Encounter <u>437.9</u> <u>ft</u> 	H	S	Qu	T
Offset <u>18.5 ft Lt.</u>					Upon Completion <u> </u> <u>ft</u>				
Ground Surface Elev. <u>441.43</u> <u>ft</u>	(ft)	((6"))	(tsf)	(%)	After <u> </u> <u>Hrs.</u> <u> </u> <u>ft</u>	(ft)	((6"))	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 3 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude , Longitude

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. <u>B-7</u>	T	W		S	Groundwater Elev.:	
Station <u>152+33</u>	H	S	Qu	T	First Encounter	<u>437.9</u> ft.▼
Offset <u>18.5 ft Lt.</u>					Upon Completion	<u> </u> ft
Ground Surface Elev. <u>441.43</u> ft (ft) (i/6") (tsf) (%)					After Hrs.	<u> </u> ft

SOIL BORING 078-0006.GPJ IL DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



FILE NAME =

0780047_66A69_093_BrBorings8.dgn

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PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S93 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	250
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Page 1 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	448.00	ft	D E	B L	U C	M O
	078-0006 (Exist.)					Stream Bed Elev.	441.00	ft				
	157+02.28 (Prop.)											

BORING NO. 102M (Pier #2)	T	W		S	Groundwater Elev.:	T	W		S		
Station 152+51.15	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 10.0 ft Lt.					Upon Completion						
Ground Surface Elev. 453.00	ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	448.00	ft	D E	B L	U C	M O
	078-0006 (Exist.)					Stream Bed Elev.	441.00	ft				
	157+02.28 (Prop.)											

BORING NO. 102M (Pier #2)	T	W		S	Groundwater Elev.:	T	W		S		
Station 152+51.15	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 10.0 ft Lt.					Upon Completion						
Ground Surface Elev. 453.00	ft	(ft)	((6"))	(tsf)	(%)	After Hrs.	ft	(ft)	((6"))	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev.	448.00	ft	D	B	U	M
	Station						157+02.28 (Prop.)					

BORING NO. 102M (Pier #2)	T	W		S	Groundwater Elev.:	T	W		S		
Station 152+51.15	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 10.0 ft Lt.					Upon Completion						
Ground Surface Elev. 453.00	ft	(ft)	(6")	(tsf)	(%)	After Hrs.	ft	(ft)	(6")	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME = 0780047_66A69_094_BrBorings9.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S94 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	251
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3132738, Longitude -89.1996264

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) CORING BARREL TYPE & SIZE Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

BORING NO. 102C (Pier #2) Core Diameter 2 in
Station 152+60.99 Top of Rock Elev. 404.20 ft
Offset 3.8 ft Lt Begin Core Elev. 404.20 ft
Ground Surface Elev. 453.20 ft

DEPTH (ft)	CORE (#)	RECOVER (%)	Q (%)	TIME (min/ft)	CORE STRENGTH (tsf)
1	41	10	3.19		
Fractured Limestone Stringers in Gray Shale Formation					
Ground Surface Elevation = Barge Deck Elevation					
Shale Stringer as thick as 10" washed away during coring					
400.70	2	7	0	2.4	
Gray Shale with Hard Fractured Limestone Stringers.					
Shale washed or wore away during coring operation.					
392.20	3	100	100		23.9
5/23/2014					
Gray Argillaceous Shale					
Note: No time was recorded for Core Run #3					
	4	91	78	1.54	26.9
					25.7
				1.65	17.4

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 2 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3132738, Longitude -89.1996264

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) CORING BARREL TYPE & SIZE Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

BORING NO. 102C (Pier #2) Core Diameter 2 in
Station 152+60.99 Top of Rock Elev. 404.20 ft
Offset 3.8 ft Lt Begin Core Elev. 404.20 ft
Ground Surface Elev. 453.20 ft

DEPTH (ft)	CORE (#)	RECOVER (%)	Q (%)	TIME (min/ft)	CORE STRENGTH (tsf)
5	89	73	1.55		13.6
5/23/2014					
Gray Argillaceous Shale					
Note: No time was recorded for Core Run #3 (continued)					
	6	100	74		73.7
					61.0
					72.8

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 3 of 3

Date 5/22/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3132738, Longitude -89.1996264

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) CORING BARREL TYPE & SIZE Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

BORING NO. 102C (Pier #2) Core Diameter 2 in
Station 152+60.99 Top of Rock Elev. 404.20 ft
Offset 3.8 ft Lt Begin Core Elev. 404.20 ft
Ground Surface Elev. 453.20 ft

DEPTH (ft)	CORE (#)	RECOVER (%)	Q (%)	TIME (min/ft)	CORE STRENGTH (tsf)
7	100	58	1.43		84.3
Black Shale					
Coal					
359.20					9.4
Gray Underclay					
355.40					17.3
Gray Argillaceous Shale with Limestone Interclasts					
346.50					3.5
Very Dense Light Gray Shale					
345.20					170.1
344.85					
Light Gray Argillaceous Shale with Limestone Interclasts					
End of Boring					

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME = 0780047.66A69_095.Br-Borings10.dgn	USER NAME = rgrmm	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S95 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	252
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

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Page 1 of 3

Date 5/21/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	448.35	ft	D E	B L	U C	M O
	078-0006 (Exist.)					Stream Bed Elev.	423.15	ft				
	157+02.28 (Prop.)											

BORING NO. 103M (Pier #3)	T	W		S	Groundwater Elev.:	T	W		S
Station 155+19.38	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 3.0 ft Lt.					Upon Completion				
Ground Surface Elev. 453.15	ft	(ft)	(/6")	(tsf)	After Hrs.	ft	(ft)	(/6")	(tsf)
				(%)					(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3

Date 5/21/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	448.35	ft	D E	B L	U C	M O
	078-0006 (Exist.)					Stream Bed Elev.	423.15	ft				
	157+02.28 (Prop.)											

BORING NO. 103M (Pier #3)	T	W		S	Groundwater Elev.:	T	W		S
Station 155+19.38	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 3.0 ft Lt.					Upon Completion				
Ground Surface Elev. 453.15	ft	(ft)	(ft/6")	(tsf)	After Hrs.	ft	(ft)	(ft/6")	(tsf)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3

Date 5/21/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	448.35	ft
	078-0066 (Exist.)					Stream Bed Elev.	423.15	ft
	157+02.28 (Prop.)							

BORING NO. 103M (Pier #3)	T	W		S	Groundwater Elev.:	
Station 155+19.38	H	S	Qu	T	First Encounter	ft
Offset 3.0 ft Lt.					Upon Completion	ft
Ground Surface Elev. 453.15	ft	(ft)	(/6")	(tsf)	(%)	ft
					After Hrs.	ft

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME = 0780047_66A69_096-BrBorings11.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

REVISED	-
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REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S96 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	253
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 3

Date 5/23/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.94 ft
Begin Core Elev. 389.44 ft

BORING NO. 103C (Pier #3)
Station 155+10.04
Offset 6.2 ft RL

Ground Surface Elev. 452.44 ft

Gray Very Weathered Shale with Limestone Stringer. Shale is Argillaceous, Blocky and Broken into many pieces. With such low recovery and the condition of the core sample it is impossible to say what depth the Limestone Stringer exists. The thickness of the Limestone is < 2".

Ground Surface Elevation = Barge Deck Elevation

Gray Argillaceous Shale, less Weathering than run #1, with Limestone Stringers and Interclasts.

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 2 of 3

Date 5/23/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.94 ft
Begin Core Elev. 389.44 ft

BORING NO. 103C (Pier #3)
Station 155+10.04
Offset 6.2 ft RL

Ground Surface Elev. 452.44 ft

Coal

Very Stiff to Hard Gray Under Clay

The locations of the Coal and Under Clay are estimated due to the poor recovery but it is believed the material in this area was washed away during drilling.

Gray Argillaceous Shale to Claystone with Limestone Interclasts

Gray Sandy Shale with Limestone Interclasts to Thin Limestone Stringers, very little material in joints

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 3 of 3

Date 5/23/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,
Latitude 41.3125453, Longitude -89.1996188

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.94 ft
Begin Core Elev. 389.44 ft

BORING NO. 103C (Pier #3)
Station 155+10.04
Offset 6.2 ft RL

Ground Surface Elev. 452.44 ft

Dense Gray Shale with Limestone Interclasts, Micaceous (continued)

Very Sandy Shale, Micaceous. Very little material in joints. Very near Sandstone but divides in thin chips.

Dense Light Gray Shale, Silty

End of Boring

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME = 0780047_66A69_097_BrBorings12.dgn	USER NAME = rgrmm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE SOIL BORING LOGS STRUCTURE NO. 078-0047	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			698	(1) BR	BUREAU/PUTNAM	415	254
	PLOT SCALE =	DRAWN - RMG	REVISED -			CONTRACT NO. 66A69				
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -			ILLINOIS FED. AID PROJECT				
	SHEET NO. S97 OF S119 SHEETS									

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Page 1 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	440.20	ft	D E	B L	U C	M O
	078-0006 (Exist.)											
	157+02.28 (Prop.)						419.91					

BORING NO. <u>B-8</u>	T	W		S	Groundwater Elev.:	T	W		S
Station <u>155+33</u>	H	S	Qu	T	First Encounter _____ ft	H	S	Qu	T
Offset <u>11.9 ft Lt.</u>					Upon Completion _____ ft				
Ground Surface Elev. <u>444.91</u> ft (ft) (6") (tsf) (%)					After Hrs. _____ ft (ft) (6") (tsf) (%)				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 2 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
-------	-----------------	-------------	--	-----------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
---------------	----------------	------------------------	------------	--------------------	-----------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	440.20	ft	D E	B L	U C	M O
	078-0006 (Exist.)					Stream Bed Elev.	419.91	ft				
	157+02.28 (Prop.)											

BORING NO. B-8	T	W		S	Groundwater Elev.:	T	W		S			
Station 155+33	H	S	Qu	T	First Encounter	H	S	Qu	T			
Offset 11.9 ft Lt.					Upon Completion							
Ground Surface Elev. 444.91	ft	(ft)	((6"))	(tsf)	(%)	After	Hrs.	ft	(ft)	((6"))	(tsf)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 3 of 3

Date 12/5/12

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION SE 1/4, SEC. 3, TWP. 15N, RNG. 11E, 4th PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	440.20	ft
	078-0006 (Exist.)							
	157+02.28 (Prop.)						419.91	

BORING NO. <u>B-8</u>	T	W		S	Groundwater Elev.:	
Station <u>155+33</u>	H	S	Qu	T	First Encounter	<u> </u> ft
Offset <u>11.9 ft Lt.</u>					Upon Completion	<u> </u> ft
Ground Surface Elev. <u>444.91</u>	ft	(ft)	(/6")	(tsf)	(%)	After Hrs. <u> </u> ft

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME = 0780047_66A69_098-BrBorings13.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S98 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	255
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Page 1 of 3Date 5/28/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev.	444.25	ft	D E	B L	U C	M O		
	078-0006 (Exist.)												Stream Bed Elev.	435.35
	157+02.28 (Prop.)													

BORING NO. 104M (Pier #4)	T	W		S	Groundwater Elev.:	T	W		S		
Station 158+78.37	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 16.0 ft Rt.					Upon Completion						
Ground Surface Elev. 449.35	ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3

Date 5/28/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

[illegible]

BORING NO. 104M (Pier #4)	T	W		S	Groundwater Elev.:	T	W		S	
Station 158+78.37	H	S	Qu	T	First Encounter	H	S	Qu	T	
Offset 16.0 ft Rt.					Upon Completion					
Ground Surface Elev. 449.35	ft	(ft)	((6"))	(tsf)	(%)	ft	(ft)	((6"))	(tsf)	(%)
					After Hrs.					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3

Date 5/28/14

ROUTE	<u>IL 89 (FAP 698)</u>	DESCRIPTION	<u>IL 89 over Illinois River at Spring Valley</u>	LOGGED BY	<u>TLM</u>
--------------	------------------------	--------------------	---	------------------	------------

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

STRUCT. NO.	078-0047 (Prop.)	D	B	L	U	C	M	O		Surface Water Elev.	444.25	ft	D	E	B	L	U	C	M	O
	078-0006 (Exist.)																			
Station	157+02.28 (Prop.)									Stream Bed Elev.	435.35	ft								

BORING NO. 104M (Pier #4)	T	W		S	Groundwater Elev.:		T	W		S
Station 158+78.37	H	S	Qu	T	First Encounter	ft	H	S	Qu	T
Offset 16.0 ft Rt.					Upon Completion	ft				
Ground Surface Elev. 449.35	ft	(ft)	(/6")	(tsf)	(%)	ft	(ft)	(/6")	(tsf)	(%)
					After Hrs.	ft				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME = 0780047_66A69_099_BrBorings14.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

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DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S99 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	256
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 4

Date 5/28/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.3116003, Longitude -89.1997082

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.35 ft
Station 158+79.88
Begin Core Elev. 390.19 ft
Offset 6.4 ft LT
Ground Surface Elev. 450.19 ft

DEPTH (ft)	CORE (#)	COVERY (%)	R Q D (%)	TIME (min/ft)	CORE STRENGTH (tsf)
	1	100	36	1.78	
					8.9
					7.1
384.99	2	100	93	1.82	
					54.9
382.19					46.8
				1.6	42.0
					47.2
					45.8
	3	98	50	1.02	30.1
					22.1
370.49					

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 2 of 4

Date 5/28/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.3116003, Longitude -89.1997082

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.35 ft
Station 158+79.88
Begin Core Elev. 390.19 ft
Offset 6.4 ft LT
Ground Surface Elev. 450.19 ft

DEPTH (ft)	CORE (#)	COVERY (%)	R Q D (%)	TIME (min/ft)	CORE STRENGTH (tsf)
					11.1
					97.4
365.89					
364.89	4	96	70	1.44	
					4.7
					8.2
360.19				1.23	5.6
					16.1
358.19					34.5
	5	100	77	0.87	164.5
					51.3

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 3 of 4

Date 5/28/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.3116003, Longitude -89.1997082

COUNTY Putnam, Bureau CORING METHOD Wire Line

STRUCT. NO. 078-0047 (Prop.) Solid Double
078-0006 (Exist.) Barrel, NWD-4
Station 157+02.28 (Prop.)

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 394.35 ft
Station 158+79.88
Begin Core Elev. 390.19 ft
Offset 6.4 ft LT
Ground Surface Elev. 450.19 ft

DEPTH (ft)	CORE (#)	COVERY (%)	R Q D (%)	TIME (min/ft)	CORE STRENGTH (tsf)
					0.91
					17.7
346.19					150.9
					60.2
	6	100	81	0.9	
					43.1
341.19					
				0.95	57.4
					70.6
					58.7
335.19	7	96	70	1.2	
					55.2
332.44					35.4
331.69					166.4

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =	USER NAME = rgrmm	DESIGNED -	REVISED -
		CHECKED -	REVISED -
0780047_66A69_100.BrBorings15.dgn	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S100 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	257
		CONTRACT NO. 66A69		
		ILLINOIS FED. AID PROJECT		

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8/14/2015



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 2

Date 7/26/11

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY Larry Myers

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310883, Longitude -89.199315

COUNTY Putnam, Bureau DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 078-0047 (Prop.)
Station 157+02.28 (Prop.)
BORING NO. 01 (2011)
Station 161+18
Offset 84.0 ft Lt.
Ground Surface Elev. 445.77 ft

DEPTH H S	BULGE LO W S	UCS Qu	MOIST T	Surface Water Elev. Stream Bed Elev.	DEPTH H S	BULGE LO W S	UCS Qu	MOIST T
				442.08 ft				
				Groundwater Elev.: First Encounter 440.8 ft Upon Completion 443.8 ft After Hrs.				
				Augered Brown Sand, Gravel & Brown Silty Clay (River Mud)				
				443.27				
				Loose Brown Fine to Coarse Sand - Loamy Layers				
				441.27				
				Loose Gray Fine to Coarse Sand with Black Organic Layers				
				435.77				
				Washed Sample 7.5' - 9.0'				
				435.77				
				Very Soft Black/Dark Gray Silty Clay/Silt/Fine Sand Layers with High Organic Content				
				429.27				
				Very Loose Dark Gray Fine to Coarse Sand, Silt, Silty Clay with High Organics				
				-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 2 of 2

Date 7/26/11

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY Larry Myers

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310883, Longitude -89.199315

COUNTY Putnam, Bureau DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 078-0047 (Prop.)
Station 157+02.28 (Prop.)
BORING NO. 01 (2011)
Station 161+18
Offset 84.0 ft Lt.
Ground Surface Elev. 445.77 ft

DEPTH H S	BULGE LO W S	UCS Qu	MOIST T	Surface Water Elev. Stream Bed Elev.	DEPTH H S	BULGE LO W S	UCS Qu	MOIST T
				442.08 ft				
				Groundwater Elev.: First Encounter 440.8 ft Upon Completion 443.8 ft After Hrs.				
				Loose Black/Gray Fine to Coarse Sand with Coal Pieces & Organics (continued) Washed Sample 40.0' to 41.5'				
				403.27				
				Soft Gray Silty Clay with Silt Layers & Clay Layers				
				421.27				
				Washed Sample 42.5' - 44.0'				
				421.27				
				Washed Sample 45.0' - 46.5'				
				398.27				
				Dense Gray Micaceous Shale - Weathered & Reworked Surface				
				397.60				
				WH - Weight of Hammer End of Boring				
				-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 3

Date 5/5/14

ROUTE IL 89 (FAP 698) DESCRIPTION IL 89 over Illinois River at Spring Valley LOGGED BY TLM

SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310784, Longitude -89.19965

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
Station 157+02.28 (Prop.)
BORING NO. 105M (Pier #5)
Station 161+52.78
Offset 6.5 ft Rt.
Ground Surface Elev. 448.54 ft

DEPTH H S	BULGE LO W S	UCS Qu	MOIST T	Surface Water Elev. Stream Bed Elev.	DEPTH H S	BULGE LO W S	UCS Qu	MOIST T
				Groundwater Elev.: First Encounter 442.5 ft Upon Completion 442.5 ft After Hrs.				
				Soft Brown Clay Loam with Organics				
				426.54				
				Gray Clayey Fine Sand				
				425.54				
				Loose Gray Medium Sand				
				424.04				
				Loose Black Sand with Shells and pieces of Coal				
				443.04				
				Soft Brown Silty Clay with Organics with 2" Sand Seam				
				441.54				
				Brown Gray Silty Fine Sand with Organics				
				440.54				
				Loose Black Silty Fine Sand				
				439.04				
				Loose Brown Gravel (Rounded)				
				438.04				
				Very Loose Gray Clayey Fine Sand with Shells				
				430.54				
				Very Loose Fine to Medium Sand, Trace Clay				
				-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =	USER NAME = rgrmm	DESIGNED =	REVISED =
		CHECKED =	REVISED =
		DRAWN = RMG	REVISED =
		CHECKED = HMA	REVISED =

0780047_66A69_103.BrBorings18.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S103 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	260
		CONTRACT NO.	66A69	
		ILLINOIS FED. AID PROJECT		

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8/14/2015



Page 2 of 3

Date 5/5/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310784, Longitude -89.19965

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>									
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C	O

BORING NO. 105M (Pier #5)	T	W		S	Groundwater Elev.:	T	W		S
Station 161+52.78	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.5 ft Rt.					Upon Completion				
Ground Surface Elev. 448.54	ft	(ft)	((6"))	(tsf)	After Hrs.	ft	(ft)	((6"))	(tsf)
				(%)					(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 3 of 3

Date 5/5/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310784, Longitude -89.19965

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>								
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C

BORING NO. 105M (Pier #5)	T	W		S	Groundwater Elev.:	T	W		S
Station 161+52.78	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.5 ft Rt.					Upon Completion				
Ground Surface Elev. 448.54	ft	(ft)	((6"))	(tsf)	After Hrs.	ft	(ft)	((6"))	(tsf)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 1 of 4

Date 5/5/14

ROUTE	<u>IL 89 (FAP 698)</u>	DESCRIPTION	<u>IL 89 over Illinois River at Spring Valley</u>	LOGGED BY	<u>TLM</u>
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310788, Longitude -89.199623

COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R	E	C	CORE	S
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STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		D	C	O	V	E	R	T	I
	078-0006 (Exist.)		Barrel, NWD-4									
Station	157+02.28 (Prop.)											

BORING NO.	105C (Pier #5)	Top of Rock Elev.	400.54	ft	P	R	E	D	E	G
Station	161+52.78	Begin Core Elev.	393.54	ft	T	H	R	.		T
Offset	0.0 ft				H		Y			H
Ground Surface Elev.	448.54			ft	(ft)	(#)	(%)	(%)	(min/ft)	(tsf)

ROCK CORE 078-0006.GPJ IL DOT.GDT 4/3/15

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



FILE NAME =
0780047_66A69_104_BrBorings19.dgn

USER NAME =	rgr1mm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S104 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	261
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015



Page 1 of 2

Date 3/27/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310604, Longitude -89.19932

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
--------	----------------	-----------------	-------------------	-------------	---------------

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____ ft	ft	D	B	U	M
	078-0006 (Exist.)										
Station	157+02.28 (Prop.)					Stream Bed Elev. _____					

BORING NO.	01 (2013)	T	W	S	Groundwater Elev.:	T	W	S
Station	162+10	H	S	Qu	First Encounter	H	S	Qu
Offset	83.0 ft Lt.				429.3 ft			
Ground Surface Elev.	450.27 ft	(ft)	((6"))	(tsf)	Upon Completion			
				(%)	441.3 ft			
					After Hrs.	(ft)	((6"))	(tsf)
								(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 2 of 2

Date 3/27/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310604, Longitude -89.19932

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
--------	----------------	-----------------	-------------------	-------------	---------------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev. _____	ft
	078-0006 (Exist.)					Stream Bed Elev. _____	ft
	157+02.28 (Prop.)						

BORING NO.	01 (2013)	T	W	S	Groundwater Elev.:	
Station	162+10	H	S	Qu	First Encounter	429.3 ft▼
Offset	83.0 ft Lt.				Upon Completion	441.3 ft▼
Ground Surface Elev.	450.27 ft	(ft)	(/6")	(tsf)	After	Hrs. ft

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 1 of 3

Date 5/1/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310369, Longitude -89.199741

COUNTY	Putnam, Bureau	DRILLING METHOD	Mud Rotary	HAMMER TYPE	Automatic
--------	----------------	-----------------	------------	-------------	-----------

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
	078-0006 (Exist.)									
Station	157-02.28 (Prop.)					Stream Bed Elev. _____ ft				

BORING NO. 106M (Pier #6)	T	W		S	Groundwater Elev.:	T	W		S
Station 163+03.11	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.0 ft Rt.					Upon Completion				
Ground Surface Elev. 450.50	ft	(ft)	(/6")	(tsf)	After Hrs.	ft	(ft)	(/6")	(tsf)
				(%)					(%)

SOIL BORING 078-0006.GPJ IL DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206).

BBS, form 137 (Rev. 8-99)



FILE NAME =

0780047_66A69_106_BrBorings21.dgn

USER NAME = rgrimm
PLOT SCALE =
PLOT DATE = 8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S106 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	263
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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Page 2 of 3

Date 5/1/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.310369, Longitude -89.199741

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	078-0047 (Prop.)								
	078-0006 (Exist.)								
Station	157+02.28 (Prop.)								

BORING NO. 106M (Pier #6)	T	W		S	Groundwater Elev.:	T	W		S
Station 163+03.11	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.0 ft Rt.					Upon Completion 444.0				
Ground Surface Elev. 450.50	ft	(ft)	(/6")	(tsf)	After Hrs.	ft	(ft)	(/6")	(tsf)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 3 of 3

Date 5/1/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
--------------	-----------------	--------------------	--	------------------	-----

SECTION	(1)BR	LOCATION	West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM, Latitude 41.310369, Longitude -89.199741
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COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. 106M (Pier #6)	T	W		S	Groundwater Elev.:	T	W		S
Station 163+03.11	H	S	Qu	T	First Encounter	H	S	Qu	T
Offset 6.0 ft Rt.					Upon Completion 444.0				
Ground Surface Elev. 450.50	ft	(ft)	(/6")	(tsf)	After Hrs.	ft	(ft)	(/6")	(tsf)
				(%)					(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 1 of 4

Date 4/30/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.31038, Longitude -89.199685

COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
--------	----------------	---------------	-----------	---	--	------	---

STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	C	R	T	I
	078-0006 (Exist.)		Barrel, NWD-4						
Station	157+02.28 (Prop.)		D	C					

BORING NO. 106C (Pier #6)	Top of Rock Elev. 400.50	ft	P	R	E	D	E	G
Station 163+03.11	Begin Core Elev. 400.50	ft	T	E	R	.		H
Offset 0.0 ft			H		Y			
Ground Surface Elev. 450.50	ft		(ft)	(#)	(%)	(%)	(min/ft)	(tsf)

Color pictures of the cores _____ Yes _____
 Cores will be stored for examination until _____ Construction Complete _____
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



FILE NAME = 0780047_66A69_107_BrBorings22.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S107 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	264
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015



Page 2 of 4

Date 4/30/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION	(1)BR	LOCATION	West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3 rd PM, Latitude 41.31038, Longitude -89.199685
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COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
--------	----------------	---------------	-----------	---	--	------	---

STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	R	T	I
	078-0006 (Exist.)		Barrel, NWD-4					
Station	157+02.28 (Prop.)		D	C	O	V	Q	R

BORING NO.	106C (Pier #6)	Core Diameter	2	in	E P T H	O R E	V E R Y	D .	M E	N G T H
		Top of Rock Elev.	400.50	ft						
Station	163+03.11	Begin Core Elev.	400.50	ft						

Offset	0.0 ft					
Ground Surface Elev.	450.50	ft	(ft)	(#)	(%)	(min/ft) (tsf)

[illegible]

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



Page 3 of 4

Date 4/30/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.31038, Longitude -89.199685

COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
--------	----------------	---------------	-----------	---	--	------	---

STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	C	R	T	I
	078-0006 (Exist.)		Barrel, NWD-4						
	Station		157+02.28 (Prop.)	D					

BORING NO.	106C (Pier #6)	Core Diameter	2	in	E P T H	O R E	V E R Y	D .	M E	N G T H
		Top of Rock Elev.	400.50	ft						
Station	163+03.11	Begin Core Elev.	400.50	ft						

Offset	0.0 ft					
Ground Surface Elev.	450.50	ft	(ft)	(#)	(%)	(min/ft)

[illegible]

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



Page 4 of 4

Date 4/30/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.31038, Longitude -89.199685

COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R	D	CORE	S
--------	----------------	---------------	-----------	---	---	------	---

STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	R	T	I
	078-0006 (Exist.)		Barrel, NWD-4					
Station	157+02.28 (Prop.)		D	C	O	Q	M	R

BORING NO.	106C (Pier #6)	Core Diameter	2	in	E P T H	O R E	V E R Y	D .	M E	N G T H
Station	163+03.11	Top of Rock Elev.	400.50	ft						
		Begin Core Elev.	400.50	ft						

Offset	0.0 ft					
Ground Surface Elev.	450.50	ft	(ft)	(#)	(%)	(tsf)

[illegible]

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



FILE NAME =
0780047_66A69_108_BrBorings23.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S108 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	265
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015

Page 2 of 3Date 2/20/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309798, Longitude -89.199685

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. 107M (Pier #7)	T	W		S	Groundwater Elev.:	T	W		S		
Station 165+11	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 12.5 ft Rt.					Upon Completion						
Ground Surface Elev. 451.55	ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

Medium Dense Gray Medium to Coarse Sand with a trace of Fine Gravel				Gray Very Dense Argillaceous Shale Modified Standard Penetration Test used from 58.5 Ft to end of boring. Results are on a separate log sheet. (<i>continued</i>)			
		11					
		8				5.5	19
	-45	8	17		-65	S	
Gray Very Weathered Shale				Dark Gray Very Dense Friable Thinly Bedded Argillaceous Shale			
	402.55	1			382.55		
		12	2.1				16
	-50	26	S		-70		
- Resumed Boring on February 21, 2014				Gray Very Dense Argillaceous Shale Modified Standard Penetration Test used from 58.5 Ft to end of boring. Results are on a separate log sheet.			
		24					
		39	4.5+/-			6.1	12
	-55	55	P		-75	S	
Gray Very Dense Argillaceous Shale				Gray Very Dense Argillaceous Shale Modified Standard Penetration Test used from 58.5 Ft to end of boring. Results are on a separate log sheet.			
	394.55						
			16				15
	-60				-80		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Page 3 of 3Date 2/20/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309798, Longitude -89.199685

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 078-0047 (Prop.)
078-0006 (Exist.)
 Station 157+02.28 (Prop.)

BORING NO. 107M (Pier #7)	T	W		S	Groundwater Elev.:	T	W		S		
Station 165+11	H	S	Qu	T	First Encounter	H	S	Qu	T		
Offset 12.5 ft Rt.					Upon Completion						
Ground Surface Elev. 451.55	ft	(ft)	(/6")	(tsf)	(%)	After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

Dark Gray Very Dense Friable Thinly Bedded Argillaceous Shale (continued)		Light Gray Very Dense Slightly Micaceous Shale (continued)	
368.55			
Black Friable Coal	47		15
-85		-105	
363.55			
Gray Dense Argillaceous Shale			
-90	>4.5 P 16	-110	13
359.55			
Gray Very Dense Slightly Micaceous Shale with Limestone Inclusions			
-95	>4.5 P 11	-115	13
354.55			
Light Gray Very Dense Slightly Micaceous Shale			
-100	>4.5 P 17	332.76	13
	End of Boring		
		-120	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Page 1 of 4

Date 2/18/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309811, Longitude -89.199693

COUNTY	Putnam, Bureau	CORING METHOD	Standard	R		CORE	S
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STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Split Barrel, NWD-4		E C O V	R Q	T I M	I R E N
	078-0006 (Exist.)							
Station	157+02.28 (Prop.)							

BORING NO. 107C (Pier #7)	Top of Rock Elev. 394.50	ft	P	R	E	D	E	G
Station 165+10	Begin Core Elev. 392.00	ft	T	E	R	.		T
Offset 8.0 ft Rt.			H		Y			H
Ground Surface Elev. 451.50	ft		(ft)	(#)	(%)	(%)	(min/ft)	(tsf)

Gray Very Weathered Shale	392.00	-60	1	84	63	4	9.3
Gray Dense Weathered Shale	390.00						

Color pictures of the cores Yes
Cores will be stored for examination until Construction Complete

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938).

BBS, form 138 (Rev. 8-99)



FILE NAME = 0780047_66A69_110_BrBorings25.dgn

USER NAME =	rgrimm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED	-	
CHECKED	-	
DRAWN	-	RMG
CHECKED	-	HMA

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S110 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	267
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015

Page 1 of 2Date 2/12/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309811, Longitude -89.19968

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>									
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C	O

BORING NO. 107C (Aborted) (Pier #7)				T	W		S	Groundwater Elev.:	T	W		S	
Station	165+16			H	S	Qu	T	First Encounter	H	S	Qu	T	
Offset	5.0 ft Rt.							Upon Completion					
Ground Surface Elev.	451.32	ft	(ft)	(/6")	(tsf)	(%)		After Hrs.	ft	(ft)	(/6")	(tsf)	(%)

Not Sampled				Not Sampled (<i>continued</i>)			
		-5				-25	
		-10				-30	
		-15				-35	
		-20				-40	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 2Date 2/12/14

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309811, Longitude -89.19968

COUNTY Putnam, Bureau DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	<u>078-0047 (Prop.)</u>								
	<u>078-0006 (Exist.)</u>	D	B	U	M	Surface Water Elev. _____ ft	D	B	U
Station	<u>157+02.28 (Prop.)</u>	E	L	C	O	Stream Bed Elev. _____ ft	E	L	C

BORING NO. 107C (Aborted) (Pier #7)				T	W		S	Groundwater Elev.:	T	W		S		
Station	165+16			H	S	Qu	T	First Encounter		H	S	Qu		
Offset	5.0 ft Rt.							Upon Completion						
Ground Surface Elev.	451.32	ft	(ft)	(/6")	(tsf)	(%)		After	Hrs.		(ft)	(/6")	(tsf)	(%)

Not Sampled (<i>continued</i>)				a portion of casing remains in the borehole. End of Boring		
	407.82	7				
Loose Gray Sand & Gravel		4		13		
	-45	3			-65	
	404.32					
Harder Drilling - feels like we are in Soft Shale. Advancing approximately 5' to see if drilling gets harder.						
	-60				-70	
	397.82					
Dense Weathered Shale		14				
		22	>4.5	19		
	-65	37	P		-75	
2/13/2014						
Hard Drilling - Set Casings at 57'	394.32					
While reaming hole, noticed an obstruction approximately 5' above bottom of casing. Pulled casing and moved to an 8' offset from centerline stake. While pulling casing, we found that the bottom casing sheared in two and						
	-60				-80	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 1 of 3

Date 5/1/15

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION	(1)BR	LOCATION	West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3 rd PM, Latitude 41.309842, Longitude -89.199679
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COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
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STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E C O V	R · Q	T I M	I R E N
	078-0006 (Exist.)		Barrel, NWD-4					
Station	157+02.28 (Prop.)		D E	C O				

BORING NO. 107C2 (Pier #7)	Top of Rock Elev. 397.50	ft	P	R	E	D	E	G
Station 165+08	Begin Core Elev. 397.50	ft	T	E	R	.		H
Offset 3.3 ft Rt.			H		Y			
Ground Surface Elev. 451.50		ft	(ft)	(#)	(%)	(%)	(min/ft)	(tsf)

Gray Argillaceous Shale	397.50	1	57	15	1.61	
	-56					

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



FILE NAME =

0780047_66A69_112_BrBorings27.dgn

USER NAME = rgrimm
PLOT SCALE =
PLOT DATE = 8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S112 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	269
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

ILLINOIS FED. AID PROJECT

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8/14/2015



Page 2 of 3

Date 5/1/15

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION	(1)BR	LOCATION	West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3 rd PM, Latitude 41.309842, Longitude -89.199679
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COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
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STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	R	T
	078-0006 (Exist.)		Barrel, NWD-4				
	Station 157+02.28 (Prop.)		D	C			

BORING NO.	107C2 (Pier #7)	Core Diameter	2	in	E P T H	O R E	V E R Y	D	M E	N G T H
Station	165+08	Top of Rock Elev.	397.50	ft						
		Begin Core Elev.	397.50	ft						

Offset	3.3 ft Rt.						
Ground Surface Elev.	451.50	ft	(ft)	(#)	(%)	(%)	(min/ft) (tsf)

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



Page 3 of 3

Date 5/1/15

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	TLM
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SECTION	(1)BR	LOCATION	West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3 rd PM, Latitude 41.309842, Longitude -89.199679
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COUNTY	Putnam, Bureau	CORING METHOD	Wire Line	R		CORE	S
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STRUCT. NO.	078-0047 (Prop.)	CORING BARREL TYPE & SIZE	Solid Double		E	R	T
	078-0006 (Exist.)		Barrel, NWD-4				
Station	157+02.28 (Prop.)		D	C	O	Q	T

BORING NO.	107C2 (Pier #7)	Core Diameter	2	in	E P T H	O R E	V E R Y	D .	M E	N G T H
Station	165+08	Top of Rock Elev.	397.50	ft						
		Begin Core Elev.	397.50	ft						

Offset	3.3 ft Rt.					
Ground Surface Elev.	451.50	ft	(ft)	(#)	(%)	(min/ft)

Color pictures of the cores Yes
 Cores will be stored for examination until Construction Complete
 The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)
 BBS, form 138 (Rev. 8-99)



Page 1 of 2

Date 3/29/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,
Latitude 41.309721, Longitude -89.199432

COUNTY Putnam, Bureau DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO.	078-0047 (Prop.)	D	B	U	M	Surface Water Elev. _____ ft	D	B	U	M
Station	078-0006 (Exist.) 157+02.28 (Prop.)	E	L	C	O		Elev. _____ ft	E	L	C

BORING NO.	03 (2013)	P	O	S	I	Groundwater Elev.:		P	O	S	I
Station	165+35	T	W		S	First Encounter	432.3 ft.▼	H	S	Qu	T

Offset	63.0 ft Lt.					Upon Completion	438.3	ft					
Ground Surface Elev.	453.33	ft	(ft)	(/6")	(tsf)	After	Hrs.	ft		(ft)	(/6")	(tsf)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME = 0780047_66A69.112.Br-Borings27a.dgn	USER NAME = rgrimm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE SOIL BORING LOGS STRUCTURE NO. 078-0047					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -							698	(1) BR	BUREAU/PUTNAM	415	270
	PLOT SCALE =	DRAWN - RMG	REVISED -			CONTRACT NO. 66A69								
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -											
					SHEET NO. S113 OF S119 SHEETS					ILLINOIS FED. AID PROJECT				

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8/14/2015



Page 2 of 2

Date 3/29/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
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STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev. _____ ft	D E	B L	U C	M O
	078-0006 (Exist.)									
	157+02.28 (Prop.)									

BORING NO. 03 (2013)	T	W		S	Groundwater Elev.:	T	W		S		
Station 165+35	H	S	Qu	T	First Encounter 432.3 ft▼	H	S	Qu	T		
Offset 63.0 ft Lt.					Upon Completion 438.3 ft▼						
Ground Surface Elev. 453.33	ft	(ft)	(6")	(tsf)	(%)	After Hrs.	ft	(ft)	(6")	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 1 of 2

Date 4/2/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
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STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	D E	B L	U C	M O
	078-0006 (Exist.)									
	157+02.28 (Prop.)									

BORING NO.	04 (2013)	T	W	S	Groundwater Elev.:		T	W	S
Station	166+63	H	S	Qu	First Encounter	443.3 ft▼	H	S	Qu
Offset	55.0 ft Lt.				Upon Completion	443.3 ft▼			
Ground Surface Elev.	453.33	ft	(ft)	((6"))	After Hrs.	ft	(ft)	((6"))	(tsf) (%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 2 of 2

Date 4/2/13

ROUTE	IL 89 (FAP 698)	DESCRIPTION	IL 89 over Illinois River at Spring Valley	LOGGED BY	Larry Myers
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SECTION (1)BR LOCATION West 1/2, SEC. 23, TWP. 33N, RNG. 1W, 3rd PM,

COUNTY	Putnam, Bureau	DRILLING METHOD	Hollow Stem Auger	HAMMER TYPE	CME Automatic
--------	----------------	-----------------	-------------------	-------------	---------------

STRUCT. NO. Station	078-0047 (Prop.)	D E	B L	U C	M O	Surface Water Elev. _____ ft Stream Bed Elev. _____ ft	D E	B L	U C	M O
	078-0006 (Exist.) 157-02.28 (Prop.)									

BORING NO.	04 (2013)	T	W	S		Groundwater Elev.:		T	W	S	
Station	166+63	H	S	Qu	T	First Encounter	443.3 ft▼	H	S	Qu	T
Offset	55.0 ft LL					Upon Completion	443.3 ft▽				
Ground Surface Elev.	453.33	ft	(ft)	(/6")	(tsf)	After	Hrs. ft	(ft)	(/6")	(tsf)	(%)

SOIL BORING 078-0006.GPJ IL_DOT.GDT 4/3/15

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



FILE NAME =

0780047_66A69_113_BrBorings28.dgn

USER NAME =	rgr1mm
PLOT SCALE =	
PLOT DATE =	8/14/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN - RMG	REVISED -
CHECKED - HMA	REVISED -

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S114 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	271
		CONTRACT NO. 66A69		
ILLINOIS		FED. AID PROJECT		

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8/14/2015

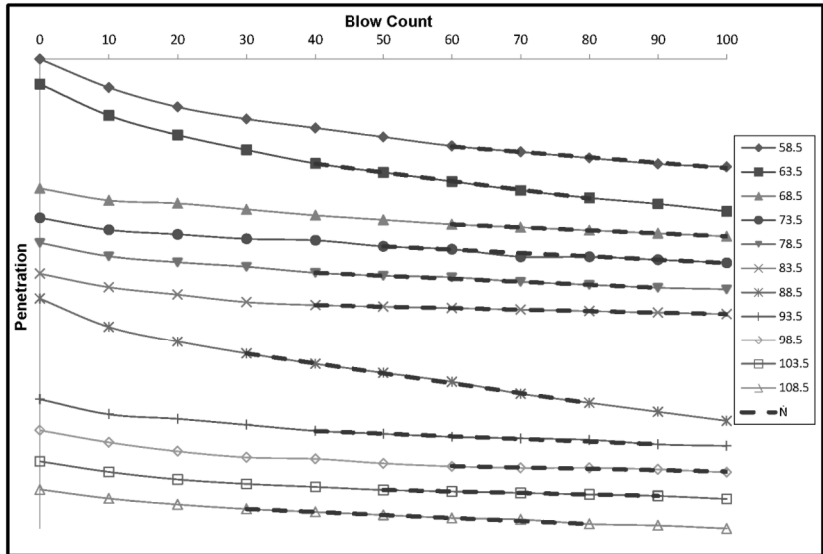


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/8/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 101 M (Pier #1) Station: 150+72 Offset: 6.5' LT Latitude: 41.313733 Longitude: -89.199615

Test Elevation Rod Length (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
58.50	2.62	2.43	2.3	2.22	2.16	2.1	2.04	2	1.96	1.92	1.9	277.8	19.6	4.37
63.50	2.8	2.59	2.46	2.36	2.27	2.21	2.15	2.09	2.04	2	1.95	172.4	11.5	2.63
68.50	2.82	2.74	2.72	2.68	2.64	2.61	2.58	2.56	2.54	2.52	2.5	500.0	37.9	8.89
73.50	2.8	2.72	2.69	2.66	2.65	2.61	2.59	2.54	2.54	2.52	2.5	445.6	33.4	7.67
78.50	2.75	2.66	2.62	2.59	2.55	2.53	2.52	2.49	2.47	2.45	2.44	500.0	37.9	8.89
83.50	2.83	2.74	2.69	2.64	2.62	2.61	2.6	2.59	2.58	2.57	2.56	1000	82.5	24.73
88.50	2.7	2.51	2.41	2.33	2.26	2.2	2.14	2.06	2	1.94	1.88	150.9	9.9	2.30
93.50	2.79	2.69	2.66	2.62	2.58	2.56	2.54	2.53	2.52	2.49	2.48	569.2	43.9	10.64
98.50	2.62	2.54	2.48	2.44	2.43	2.4	2.38	2.37	2.37	2.36	2.34	1111	92.8	29.42
103.50	2.75	2.68	2.63	2.6	2.58	2.56	2.55	2.54	2.53	2.52	2.5	1000	82.5	24.73
108.50	2.73	2.67	2.63	2.6	2.58	2.56	2.54	2.53	2.5	2.49	2.47	500.0	37.9	8.89

Note: "Values" indicates data used to calculate N̂.



File Name: 078-0006 Boring 101M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:07 PM

BBS 138 (Rev. 8/17/14)

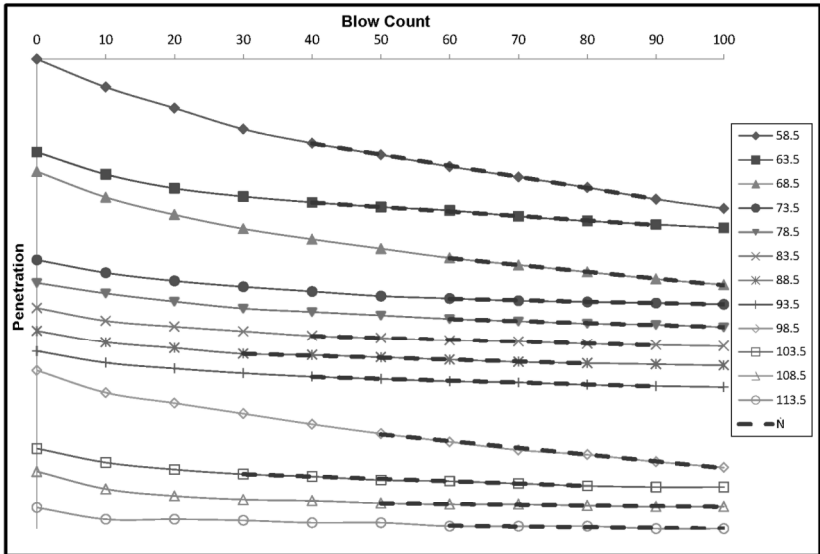


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/22/14 Page: 1 of 1
Section: (1) BR Description: Illinois River Bridge at Spring Valley
County: Bureau / Putnam Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 102 M (Pier #2) Station: 152+51.15 Offset: 10' LT Latitude: 41.3132738 Longitude: -89.1996264

Test Elevation Rod Length (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
58.50	3.24	3	2.82	2.64	2.52	2.42	2.32	2.23	2.14	2.04	1.96	104.9	6.6	1.57
63.50	3.28	3.09	2.97	2.9	2.85	2.81	2.78	2.73	2.69	2.66	2.63	259.0	18.2	4.07
68.50	3.28	3.06	2.91	2.79	2.7	2.62	2.54	2.48	2.42	2.36	2.31	172.4	11.5	2.63
73.50	3.27	3.16	3.09	3.04	3	2.96	2.94	2.92	2.91	2.9	2.89	833.3	67.2	18.60
78.50	3.29	3.2	3.13	3.07	3.04	3.01	2.98	2.96	2.94	2.93	2.91	588.2	45.5	11.13
83.50	2.9	2.79	2.74	2.7	2.66	2.64	2.62	2.61	2.59	2.58	2.57	618.7	48.2	11.97
88.50	2.92	2.82	2.77	2.72	2.71	2.69	2.67	2.65	2.64	2.63	2.62	601.6	46.7	11.50
93.50	2.95	2.85	2.8	2.76	2.73	2.71	2.69	2.68	2.66	2.65	2.64	618.7	48.2	11.97
98.50	2.99	2.8	2.71	2.62	2.53	2.45	2.38	2.31	2.27	2.21	2.16	173.4	11.6	2.66
103.50	3	2.88	2.82	2.78	2.76	2.73	2.72	2.7	2.68	2.67	2.67	500.0	37.9	8.89
108.50	3	2.85	2.79	2.76	2.75	2.73	2.72	2.72	2.71	2.7	2.7	1721	151.5	102.38
113.50	3.06	2.96	2.96	2.95	2.93	2.93	2.9	2.9	2.9	2.88	2.88	1657	146.1	88.34

Note: "Values" indicates data used to calculate N̂.



File Name: 078-0006 Boring 102M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)

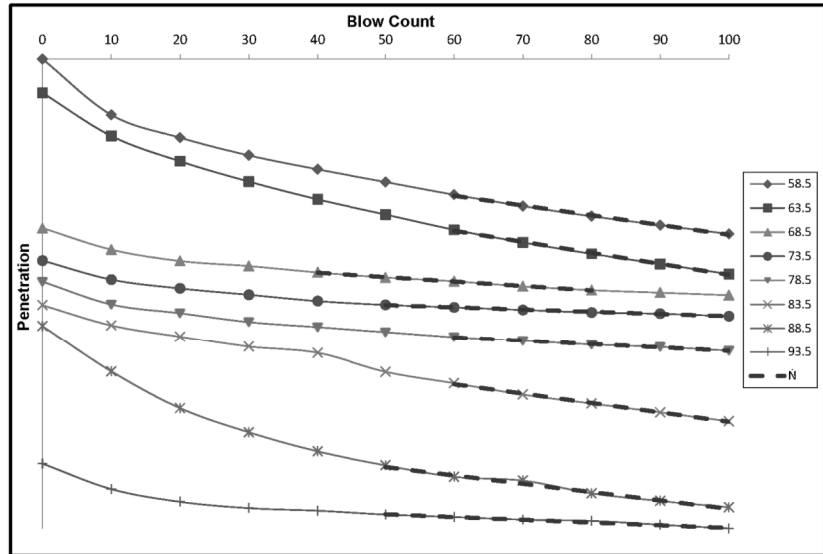


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/21/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 103 M (Pier #3) Station: 155+19.35 Offset: 3' LT Latitude: 41.3125453 Longitude: -89.1996188

Test Elevation Rod Length (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
58.50	3.2	2.76	2.58	2.44	2.33	2.23	2.13	2.04	1.96	1.89	1.82	129.9	8.4	1.96
63.50	3.32	2.98	2.78	2.62	2.48	2.36	2.24	2.14	2.05	1.97	1.89	114.9	7.3	1.73
68.50	3.14	2.97	2.88	2.84	2.79	2.75	2.72	2.68	2.65	2.63	2.61	285.7	20.3	4.53
73.50	3.11	2.96	2.89	2.84	2.79	2.76	2.74	2.72	2.7	2.69	2.67	569.5	43.9	10.64
78.50	3.28	3.1	3.03	2.96	2.92	2.88	2.84	2.81	2.78	2.76	2.73	370.4	27.1	6.09
83.50	3.26	3.1	3.01	2.93	2.88	2.73	2.64	2.55	2.48	2.41	2.34	135.1	8.8	2.05
88.50	3.08	2.72	2.43	2.24	2.09	1.98	1.89	1.86	1.76	1.7	1.65	152.5	10.0	2.31
93.50	3.27	3.07	2.97	2.92	2.9	2.87	2.85	2.83	2.82	2.79	2.76	464.9	35.0	8.09

Note: "Values" indicates data used to calculate N̂.



File Name: 078-0006 Boring 103M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME = 0780047_66A69_116.BrBorings31.dgn	USER NAME = rgrmm	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S117 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	274
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

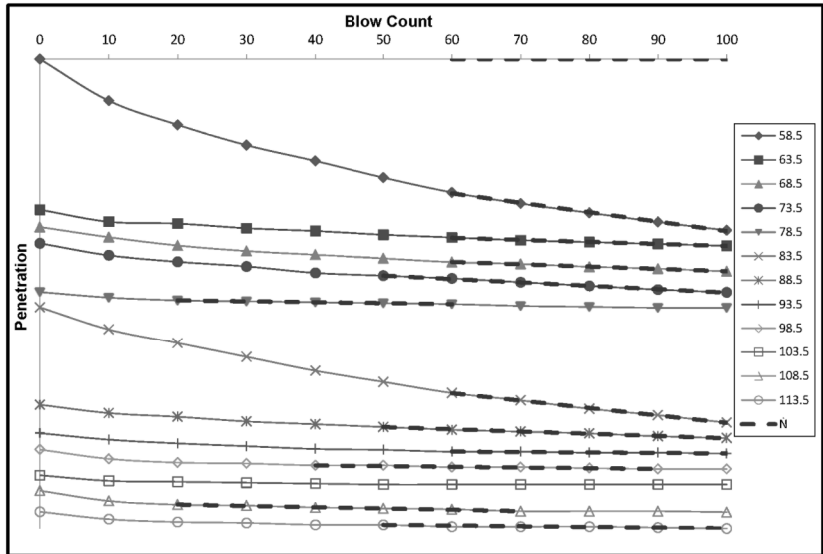


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/28/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 104 M (Pier #4) Station:158+28.3 Offset: 16' RT Latitude: 41.3115511 Longitude: -89.199651

Test Elevation (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
58.50	2.78	2.33	2.07	1.85	1.68	1.5	1.34	1.22	1.12	1.02	0.93	98.0	6.1	1.46
63.50	2.73	2.6	2.58	2.53	2.5	2.46	2.43	2.4	2.38	2.36	2.34	454.5	34.1	7.85
68.50	2.88	2.77	2.68	2.62	2.58	2.54	2.5	2.48	2.45	2.43	2.4	400.0	29.6	6.70
73.50	2.9	2.77	2.7	2.65	2.58	2.55	2.52	2.48	2.44	2.4	2.37	273.1	19.3	4.31
78.50	2.85	2.79	2.76	2.75	2.74	2.73	2.72	2.7	2.69	2.68	2.68	1000	82.5	24.73
83.50	2.89	2.65	2.5	2.35	2.2	2.08	1.96	1.88	1.79	1.72	1.64	125.0	8.0	1.89
88.50	2.98	2.89	2.85	2.8	2.77	2.74	2.71	2.69	2.67	2.64	2.62	413.4	30.7	6.97
93.50	2.92	2.85	2.81	2.78	2.75	2.74	2.72	2.72	2.71	2.71	2.7	2000	179.2	230.31
98.50	2.98	2.88	2.84	2.83	2.81	2.81	2.79	2.79	2.78	2.77	2.77	1321	112.7	41.47
103.50	3.01	2.95	2.94	2.93	2.92	2.91	2.91	2.91	2.91	2.91	2.91	####	####	#DIV/0!
108.50	3.06	2.95	2.91	2.9	2.88	2.87	2.86	2.84	2.84	2.84	2.83	704.8	55.7	14.46
113.50	3.12	3.04	3.01	3	2.98	2.98	2.96	2.96	2.96	2.95	2.94	1321	112.7	41.47

Note: "Values" indicates data used to calculate N.



File Name: 078-0006 Boring 104M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)

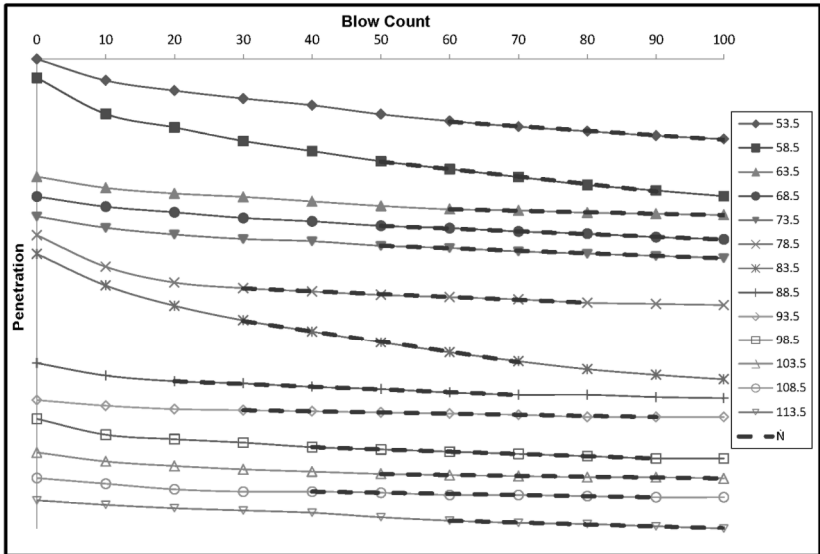


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/6/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 105 M (Pier #5) Station:161+52.7 Offset: 6.5' RT Latitude: 41.310784 Longitude: -89.19965

Test Elevation (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
53.50	2.54	2.35	2.26	2.19	2.13	2.05	1.99	1.94	1.9	1.86	1.83	250.0	17.5	3.92
58.50	2.53	2.21	2.09	1.97	1.88	1.79	1.72	1.65	1.58	1.53	1.48	151.5	10.0	2.30
63.50	2.55	2.45	2.4	2.37	2.33	2.29	2.26	2.25	2.23	2.22	2.21	769.2	61.5	16.50
68.50	2.57	2.48	2.43	2.38	2.35	2.31	2.29	2.26	2.24	2.21	2.19	413.4	30.7	6.97
73.50	2.56	2.46	2.4	2.36	2.34	2.3	2.28	2.25	2.23	2.21	2.19	445.6	33.4	7.67
78.50	2.46	2.18	2.04	1.99	1.96	1.93	1.91	1.89	1.86	1.85	1.84	394.5	29.1	6.57
83.50	2.52	2.24	2.06	1.93	1.83	1.73	1.64	1.56	1.49	1.44	1.4	107.5	6.8	1.61
88.50	2.51	2.4	2.35	2.33	2.3	2.28	2.25	2.23	2.23	2.21	2.2	413.4	30.7	6.97
93.50	2.51	2.46	2.43	2.42	2.41	2.4	2.39	2.38	2.36	2.36	2.36	1000	82.5	24.73
98.50	2.55	2.41	2.37	2.34	2.3	2.28	2.26	2.24	2.22	2.2	2.2	500.0	37.9	8.89
103.50	2.45	2.37	2.33	2.3	2.28	2.26	2.25	2.24	2.23	2.23	2.22	1323	112.8	41.55
108.50	2.57	2.52	2.47	2.45	2.45	2.44	2.42	2.42	2.41	2.4	2.4	1000	82.5	24.73
113.50	3.38	3.34	3.31	3.29	3.27	3.23	3.2	3.18	3.17	3.15	3.13	588.2	45.5	11.13

Note: "Values" indicates data used to calculate N.



File Name: 078-0006 Boring 105M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)

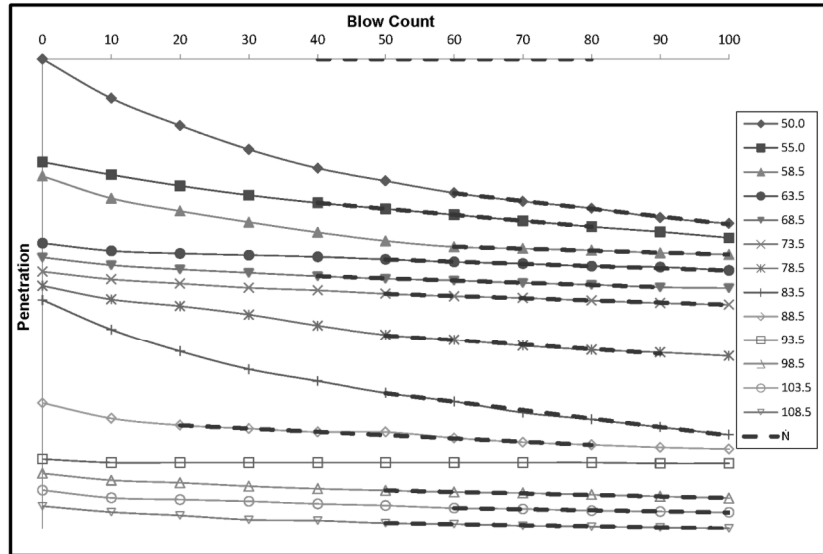


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 5/2/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 106 M (Pier #6) Station:163+03.1 Offset: 6' RT Latitude: 41.310369 Longitude: -89.199741

Test Elevation (ft)	Blows where exposed rod length is measured (blows)											• N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
50.00	2	1.54	1.22	0.94	0.72	0.57	0.43	0.33	0.25	0.14	0.07	109.9	7.0	1.65
55.00	2.47	2.32	2.19	2.08	1.99	1.92	1.85	1.78	1.71	1.65	1.58	142.9	9.3	2.17
58.50	2.21	1.95	1.8	1.67	1.55	1.45	1.38	1.36	1.34	1.31	1.29	434.8	32.4	7.41
63.50	2.16	2.07	2.04	2.02	2	1.97	1.94	1.92	1.89	1.88	1.84	387.4	28.5	6.43
68.50	2.15	2.06	2.01	1.97	1.93	1.9	1.88	1.85	1.83	1.8	1.79	387.4	28.5	6.43
73.50	2.17	2.08	2.03	1.98	1.95	1.91	1.88	1.86	1.83	1.8	1.78	387.4	28.5	6.43
78.50	2.12	1.96	1.88	1.78	1.65	1.54	1.48	1.41	1.36	1.33	1.29	185.2	12.5	2.85
83.50	2.3	1.95	1.69	1.48	1.34	1.2	1.1	0.97	0.89	0.8	0.71	101.2	6.3	1.51
88.50	2.3	2.12	2.04	2	1.96	1.96	1.89	1.84	1.81	1.78	1.76	259.3	18.2	4.07
93.50	2.32	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.27	2.27	####	####	#DIV/0!
98.50	2.45	2.37	2.34	2.3	2.27	2.25	2.23	2.22	2.2	2.18	2.16	569.5	43.9	10.64
103.50	1.85	1.76	1.74	1.72	1.69	1.67	1.64	1.63	1.61	1.6	1.59	769.2	61.5	16.50
108.50	2.25	2.18	2.14	2.09	2.08	2.05	2.04	2.02	2.01	2	1.99	803.7	64.6	17.63

Note: "Values" indicates data used to calculate N.



File Name: 078-0006 Boring 106M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME : 0780047.66A69.117.BrBorings32.dgn	USER NAME : rgrmm	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE :	DRAWN - RMG	REVISED -
	PLOT DATE : 8/14/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S118 OF S119 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	275
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

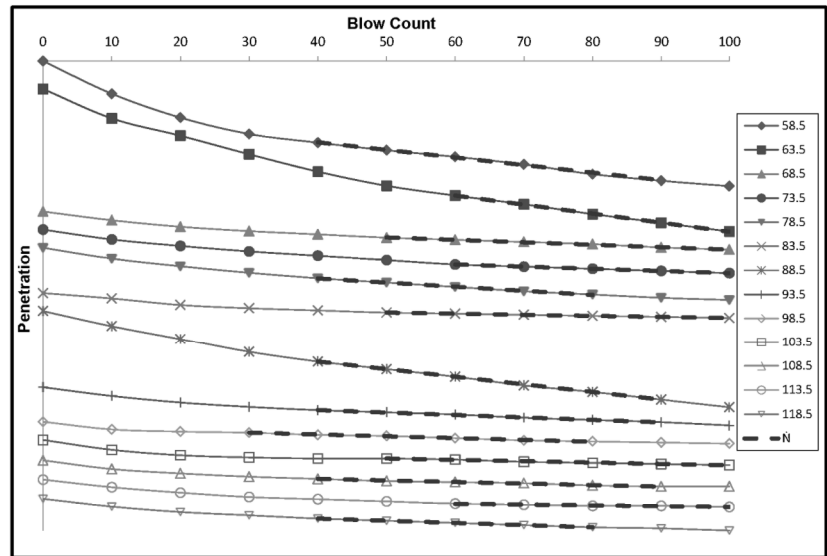


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 2/21/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 107 M (Pier #7) Station: 165+11 Offset: 12' RT Latitude: 41.309798 Longitude: -89.199685

Measured Rod Length (ft)	Blows where exposed rod length is measured (blows)											N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
58.50	2.4	2.1	1.88	1.73	1.65	1.58	1.52	1.45	1.36	1.3	1.25	143.7	9.4	2.18
63.50	2.33	2.06	1.9	1.73	1.57	1.44	1.35	1.27	1.18	1.1	1.02	120.5	7.7	1.81
68.50	2.34	2.26	2.2	2.16	2.13	2.1	2.08	2.06	2.04	2.01	1.99	445.6	33.4	7.67
73.50	2.33	2.24	2.18	2.13	2.09	2.05	2.01	1.99	1.97	1.95	1.93	500.0	37.9	8.89
78.50	2.33	2.23	2.16	2.1	2.05	2.01	1.97	1.93	1.9	1.87	1.85	263.2	18.5	4.13
83.50	2.33	2.28	2.22	2.19	2.17	2.15	2.14	2.13	2.12	2.11	2.1	1000	82.5	24.73
88.50	2.29	2.15	2.03	1.91	1.82	1.75	1.68	1.6	1.54	1.47	1.4	142.9	9.3	2.17
93.50	2.37	2.29	2.23	2.19	2.16	2.14	2.12	2.09	2.07	2.05	2.02	445.6	33.4	7.67
98.50	2.38	2.31	2.29	2.28	2.26	2.25	2.23	2.21	2.2	2.19	2.18	601.6	46.7	11.50
103.50	2.35	2.26	2.21	2.19	2.18	2.18	2.17	2.15	2.14	2.13	2.12	803.7	64.6	17.63
108.50	2.33	2.25	2.21	2.18	2.16	2.14	2.13	2.12	2.1	2.09	2.09	704.8	55.7	14.46
113.50	2.37	2.3	2.25	2.21	2.19	2.17	2.15	2.14	2.13	2.13	2.12	1429	123.0	50.80
118.50	2.33	2.26	2.21	2.18	2.15	2.13	2.11	2.09	2.07	2.06	2.04	500.0	37.9	8.89

Note: "Values" indicates data used to calculate N.



File Name: 078-0006 Boring 107M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:08 PM

BBS 138 (Rev. 9/2/14)

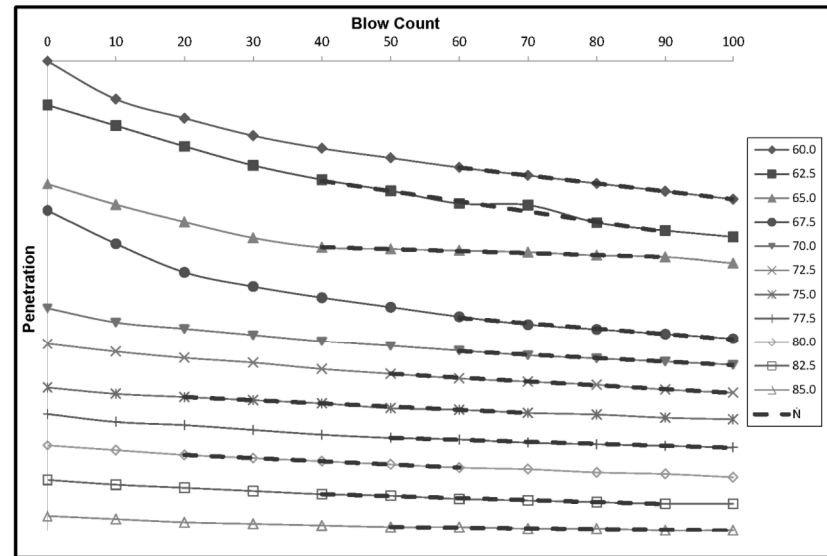


Modified SPT Log

Route: IL 89 (FAP 698) Structure No.: 078-0006 (Exist.) 078-0047 (Prop.) Date: 8/20/14 Page: 1 of 1
Section: (1) BR Description: Illinois 89 over Illinois River at Spring Valley
County: Putnam / Bureau Logged by: TLM Sampler Tube Length: 30 in.
Boring No.: 3M (2014) Station: 150+90 Offset: 0 Latitude: 41.313703 Longitude: -89.199592

Measured Rod Length (ft)	Blows where exposed rod length is measured (blows)											N (bpf)	q _u (ksf)	Young's Modulus (ksi)
	0	10	20	30	40	50	60	70	80	90	100			
60.00	4.62	4.38	4.26	4.15	4.07	4.01	3.95	3.9	3.85	3.8	3.75	200.0	13.6	3.08
62.50	2.42	2.29	2.16	2.04	1.95	1.88	1.8	1.79	1.68	1.63	1.59	155.5	10.3	2.38
65.00	4.73	4.6	4.49	4.39	4.33	4.32	4.31	4.3	4.28	4.27	4.23	803.7	64.6	17.63
67.50	2.43	2.22	2.04	1.95	1.88	1.82	1.76	1.71	1.68	1.65	1.62	294.1	20.9	4.66
70.00	4.77	4.68	4.64	4.6	4.56	4.53	4.5	4.47	4.45	4.43	4.41	454.5	34.1	7.85
72.50	2.74	2.69	2.65	2.62	2.58	2.55	2.52	2.5	2.48	2.45	2.43	413.4	30.7	6.97
75.00	4.46	4.42	4.4	4.38	4.36	4.33	4.32	4.3	4.29	4.27	4.26	500.0	37.9	8.89
77.50	2.75	2.7	2.68	2.65	2.62	2.6	2.59	2.57	2.56	2.55	2.54	803.7	64.6	17.63
80.00	4.48	4.45	4.42	4.4	4.38	4.36	4.34	4.33	4.31	4.3	4.28	500.0	37.9	8.89
82.50	2.76	2.73	2.71	2.69	2.67	2.66	2.64	2.63	2.62	2.61	2.61	803.7	64.6	17.63
85.00	4.49	4.47	4.45	4.44	4.43	4.42	4.42	4.41	4.41	4.4	4.4	2387	218.5	714.22

Note: "Values" indicates data used to calculate N.



File Name: 078-0006 Boring 3M MSPT Log (WHKS Rev 9-2-14).xslm Printed: 4/3/2015 1:09 PM

BBS 138 (Rev. 9/2/14)



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

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	CHECKED -	CHECKED -	REVISED -
	PLOT SCALE =	DRAWN - RMG	REVISED -
	PLOT DATE = 8/14/2015	CHECKED - HMA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOIL BORING LOGS
STRUCTURE NO. 078-0047

SHEET NO. S119 OF S119 SHEETS

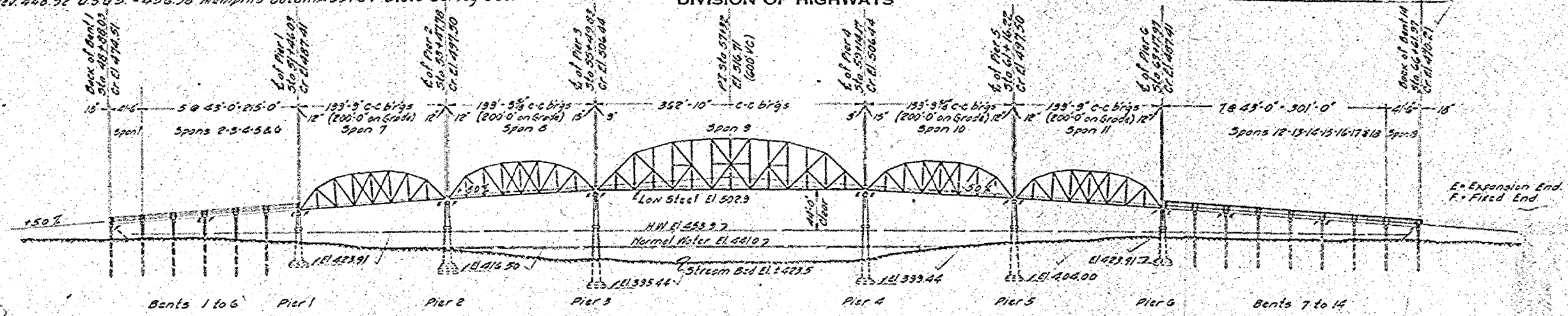
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	276
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

B.M. #36 - X cut on concrete on south end of wing wall of West retaining wall at North end of old bridge. Elev 448.92 U.S.G.S.
All elevations referred to U.S.G.S. datum.
Elev. 448.92 U.S.G.S. = 456.38 Memphis datum = 337.84 State Survey Datum.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

NO. OF SHEETS	NO. OF SHEETS	NO. OF SHEETS	NO. OF SHEETS
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20

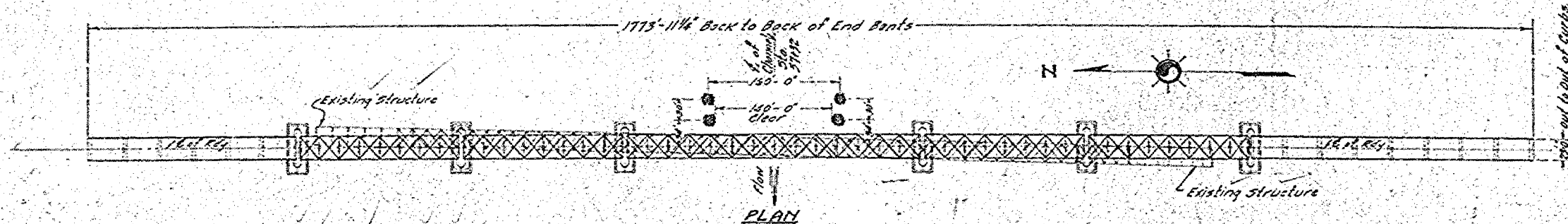
SHEET NO. 1
17 SHEETS



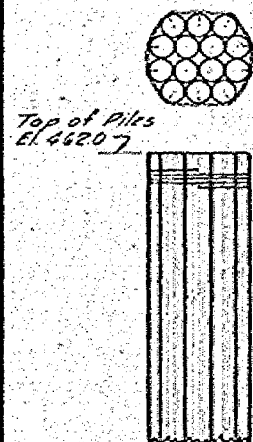
Note: 5'-0" seal coat under each footing elevation shown for piers 1-2 & 6.

GENERAL ELEVATION
Scale: Horizontal 1"=80'
Vertical 1"=60'

Note: Results of Foundation Borings may be seen at the office of the Division of Highways, in Springfield, Illinois.



Existing structure consists of 5 spans (121'0", 121'5", 121'9", 121'5", 121'0") and 12 I-beam spans from 12'6" to 20'3" long, 18' roadway.



DETAIL OF
TEMPORARY PILE CLUSTER

STANDARD	COMPUTED	3-6-1134
CHECKED	3-6-1134	
DRAWN	3-6-1134	
CHECKED	3-6-1134	
SPECIAL	ASSEMBLED	
CHECKED	3-6-1134	

APPROVED
3-6-1134

TOTAL BILL OF MATERIAL				
Item	Supers	Piers	Bents	Totals
Class A Concrete (incl Seal Coats) Cuyds		6130.1		6130.1
Class X Concrete - Cuyds			105.1	105.1
Reinforcing Steel - Lbs		116,110	5590	121,700
Reinforced Concrete Piles - Lin. Ft.			3150	3150
Untreated Piles - up to 20' - Lin. Ft.		7640		7640
Untreated Piles - 40' (Clusters) - Lin. Ft.				3360
Test Piles - (Wood) - Each		3		3
Test Piles - (Concrete) - Each			2	2
Lighting System - Each			1	1
Removal of Old Bridge - Each			1	1
Rock Excavation - Cuyds				450
Borrow - Cuyds				9563
30" Pipe Culverts - Lin. Ft.				400
Class X Concrete - Cuyds	9550			9550
Reinforcing Steel - Lbs	263,520			263,520
Structural Steel - Lbs	2714,610			2714,610
Iron Castings - Lbs	14,260			14,260
Steel Castings - Lbs	49,530			49,530
Name Plates - Each	2			2
Floor Drains - Each	140			140
Removal of Temporary Pile Clusters - Each			4	4
Lighting System - Each			1	1
Structural Steel - Lbs	2714,610			2714,610
Iron Castings - Lbs	14,260			14,260
Steel Castings - Lbs	49,530			49,530
Floor Drains - Each	140			140

Navigation Requirements:
A clear channel through Span 9 as shown on this plan shall be maintained at all times.
The horizontal clearance shall be not less than 140 ft. at right angles to the channel.
The vertical clearance shall be not less than 44 ft. above High Water.
The Contractors for Sections B & E will not be permitted to place falsework or any other obstruction within these limits.

Note:
Sec. 1-B-NRH includes all Piers and Pile Bents, the furnishing and installation of Bituminous Fiber Conduits and Pull Boxes for the Lighting System, the installation of a Galvanized W.I. sleeve in each end bent for Telephone Cables, the furnishing and driving of Temporary Pile Clusters, the construction of Temporary Approaches, and the Removal of the old Bridge, old Bridge not to be salvaged except as noted in the proposal.
Sec. 1-E-NRH includes furnishing, fabrication, and delivery F.O.B. Springfield, of all structural steel, Iron Castings, Steel Castings, and Floor Drains.
Sec. 1-F-NRH includes unloading, transportation from unloading point to the bridge site, installation and erection of structural steel, iron castings, steel castings, and floor drains, the furnishing and installation of Class I Concrete and Reinforcing steel in the floor, the Lighting System (exclusive of Bit. Fiber Conduits and Pull Boxes), the installation of Bolts and Wall Straps for the Telephone Cables, the Name Plates, and the Removal of the Temp. Pile Clusters.

GENERAL ELEVATION & QUANTITIES
ILLINOIS RIVER BRIDGE
SPRING VALLEY
SECTION 1
BUREAU



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :
0780047.66A69.001.Ext.Plan.dgn

USER NAME : mhellenenthal
DESIGNED :
CHECKED :
DRAWN :
PLOT SCALE :
PLOT DATE : 8/6/2015

DESIGNED :
CHECKED :
DRAWN :
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REVISED :
REVISED :
REVISED :

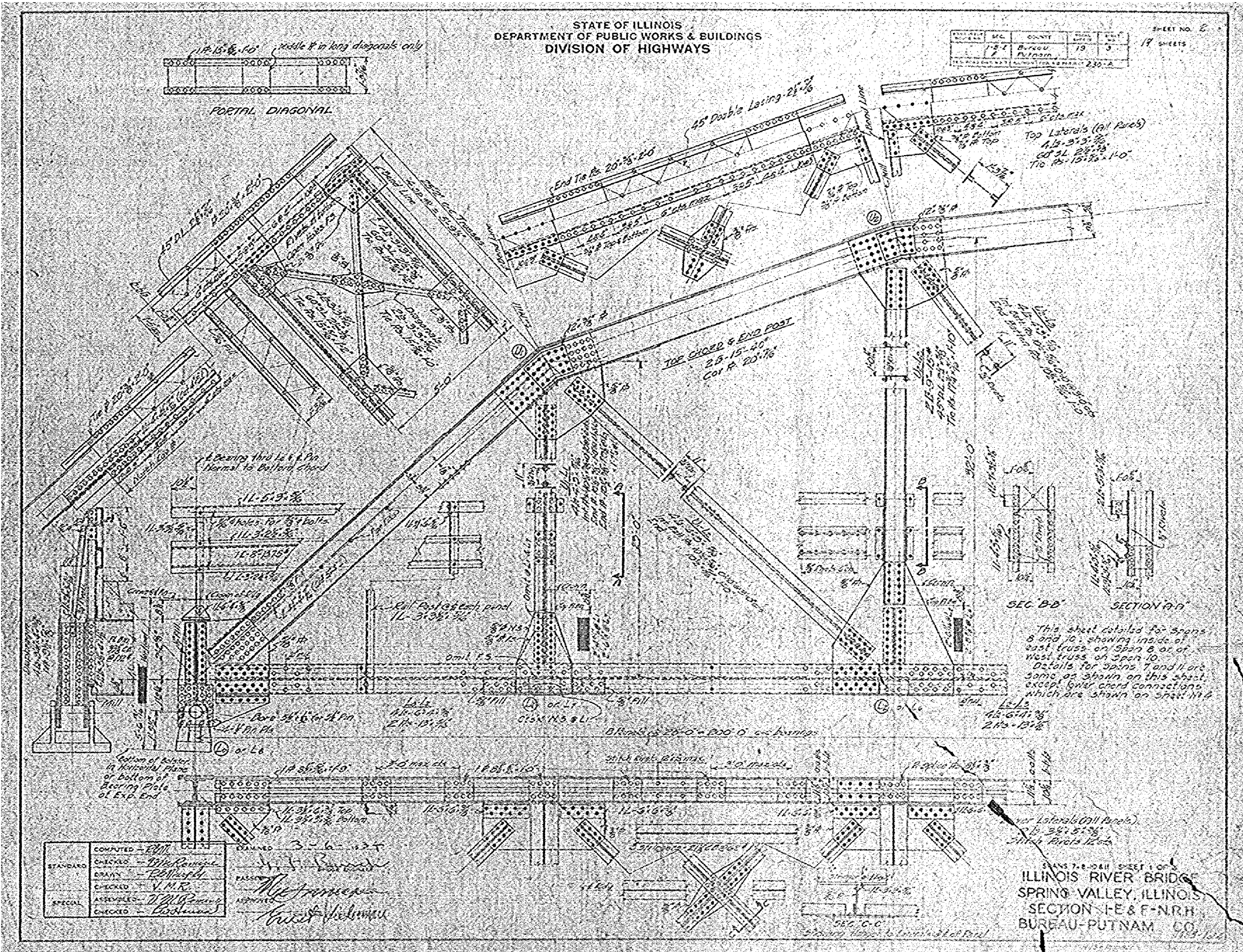
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 1 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX01 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	277
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME -
0780047.66A69.002.Ext.Plan.dgn

USER NAME - mhollenthal
PLOT DATE - 8/6/2015

DESIGNED -
CHECKED -
DRAWN -
CHECKED -

REVISÉ -
REVISÉ -
REVISÉ -
REVISÉ -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

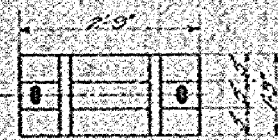
EXISTING PLANS 2 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX02 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	278
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

DATE	LOC	COUNT	TIME	SHEET NO
1-8-6	Burns	19	5	17
F. Burnham			230 A	

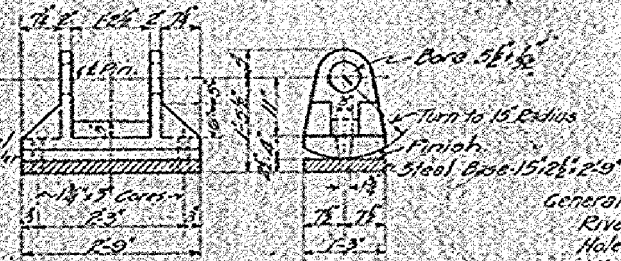


SPANS 7-8-10 & 11
BILL OF MATERIAL - SEC 1-E-NRH

Concrete	656.420
Reinforcing Steel	-165.120.00
Structural Steel	-161.970.50
Cast Iron Radiator Pads	12.86
Floor Grains	- each 64
Wing Plates	- each 2

SPANS 7-8-10 & 11
BILL OF MATERIAL - SEC. 1-F-N.R.H.

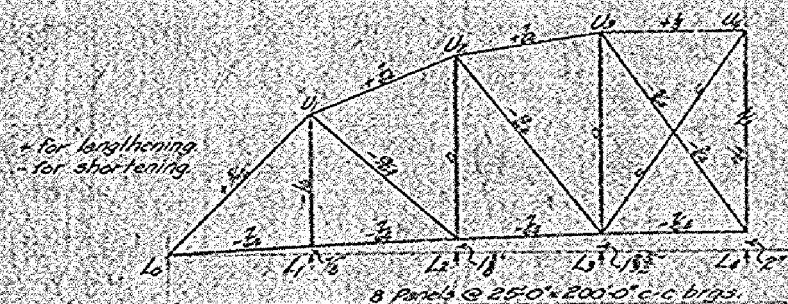
Structural Steel	Lbs.	1,370,500
Cast Iron Rockers & Bolsters	Lbs.	14,260
Floor Drains	Each	26



CAST IRON ROCKER - 8 REQ'D.

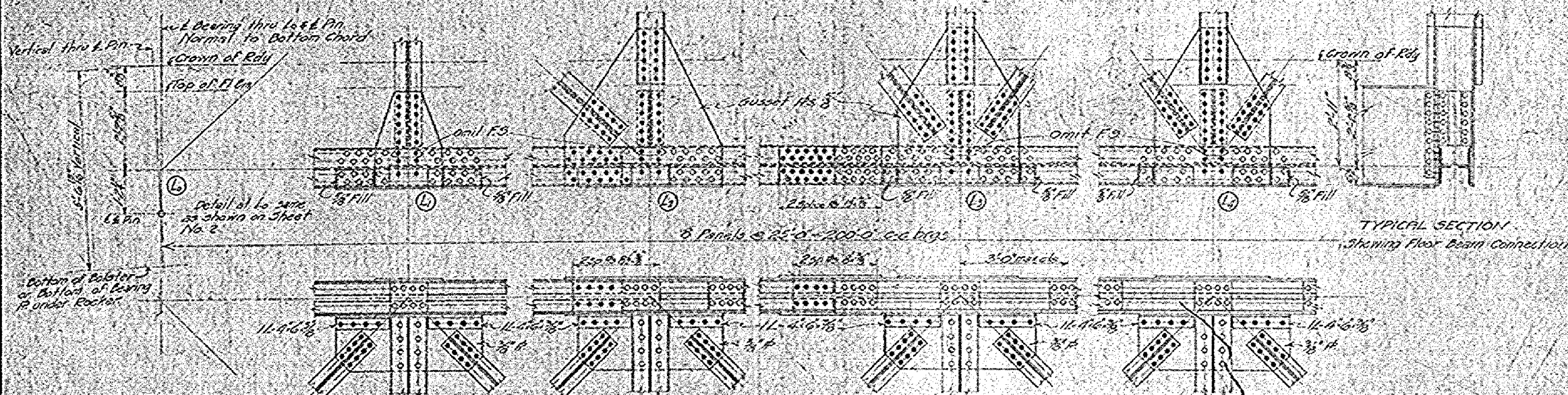
Rivets $\frac{7}{8}$ " unless noted.
Holes punched $\frac{1}{8}$ " except as noted and except as follows.
All main truss connections, both shop & field, shall be
subpunched $\frac{1}{8}$ " & reamed to $\frac{1}{8}$ " with members assembled.
Holes for lateral, sway bracing, portal and stringer
connections may be punched full size.

Each truss shall be assembled complete for reaming. Field connections shall be match-marked while assembled. Floor beam connections shall be reamed to a hardened steel template one inch thick. Holes may be punched full size for building up members and in rail connections. Inspection by Illinois Division of Highways before painting. Paint furnished by Illinois Division of Highways, one shop coat of Blue Lead Paint and two field coats of white lead paint. Class X concrete shall be used throughout. Concrete floor shall be finished according to Art. 45.3(b) of Specifications.



CAMBER DIAGRAM - 200' SPAN

Showing in inches amount members are to be lengthened or shortened for deflection due to dead load + full live load.



TYPICAL SECTION
Showing Floor Beam Connection

STANDARD	COMPUTED - <i>ROM Murphy</i> CHECKED - <i>W. M. Romine</i> DRAWN - <i>ROM</i>
SPECIAL	CHECKED - <i>W. M. Romine</i> ASSEMBLED - <i>W. M. Romine</i> CHECKED - <i>Eastman</i>

EXAMINED 3-6-72
 PASSED [Signature]
 APPROVED [Signature]

DETAIL OF LOWER CHORD - SPAN 5 7 & 11
Details not shown same as for other 200' spans on sheets 2 & 3

SPANS 7-9-10&11 SHEET 3 OF 3
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1E & F-N.R.H.
BUREAU-PUTNAM CO.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =

0780047_66A69_004_Ext_Plan.dgn

USER NAME = mhellenthal
PLOT SCALE =
PLOT DATE = 8/6/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 4 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX04 OF EX38 SHEETS

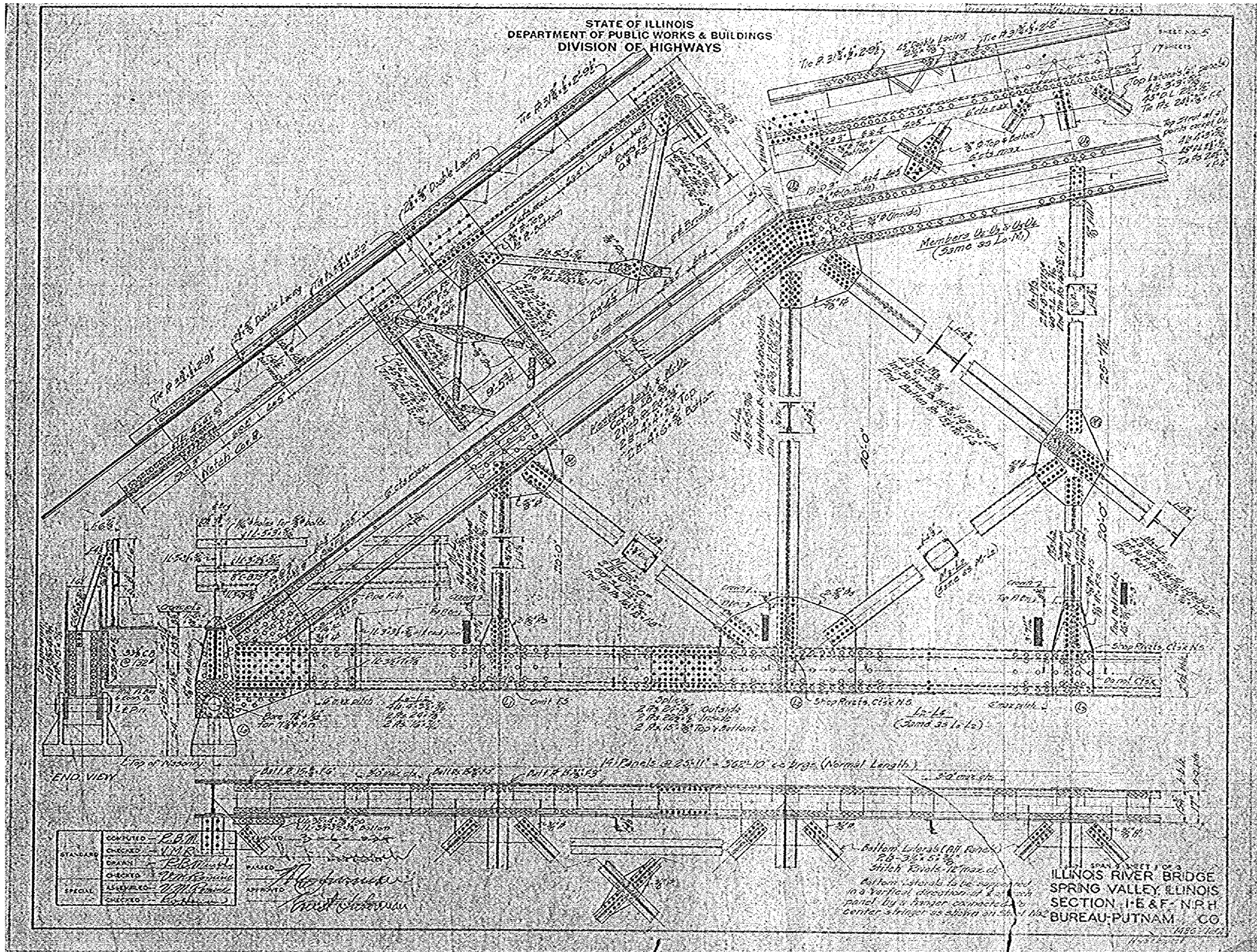
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	280
		CONTRACT NO. 66A65		
ILLINOIS		FED. AID PROJECT		

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8/6/2015



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :
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USER NAME : mhollenthal	DESIGNED -	REVISED -
PLOT SCALE :	CHECKED -	REVISED -
PLOT DATE : 8/6/2015	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 5 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX05 OF EX38 SHEETS

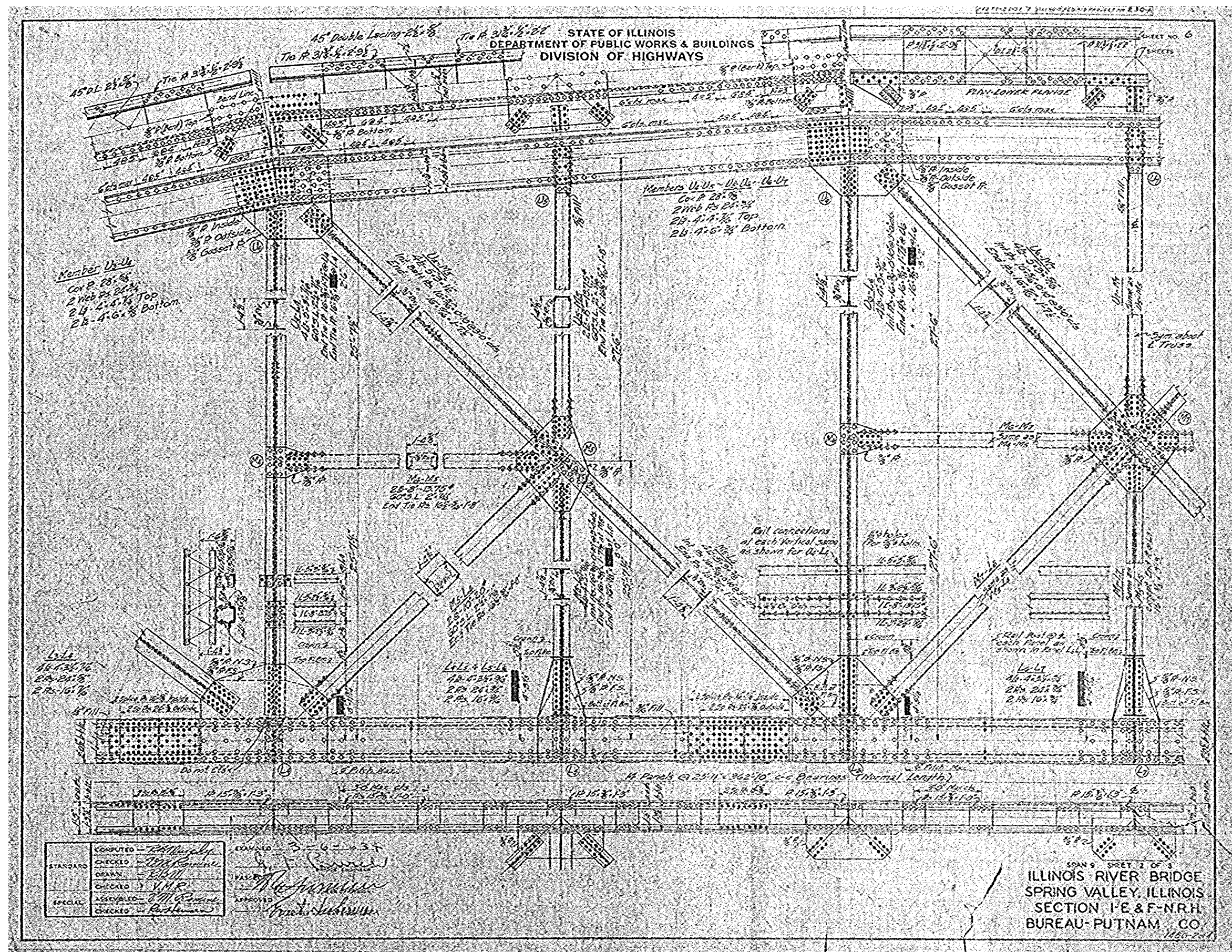
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	281
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

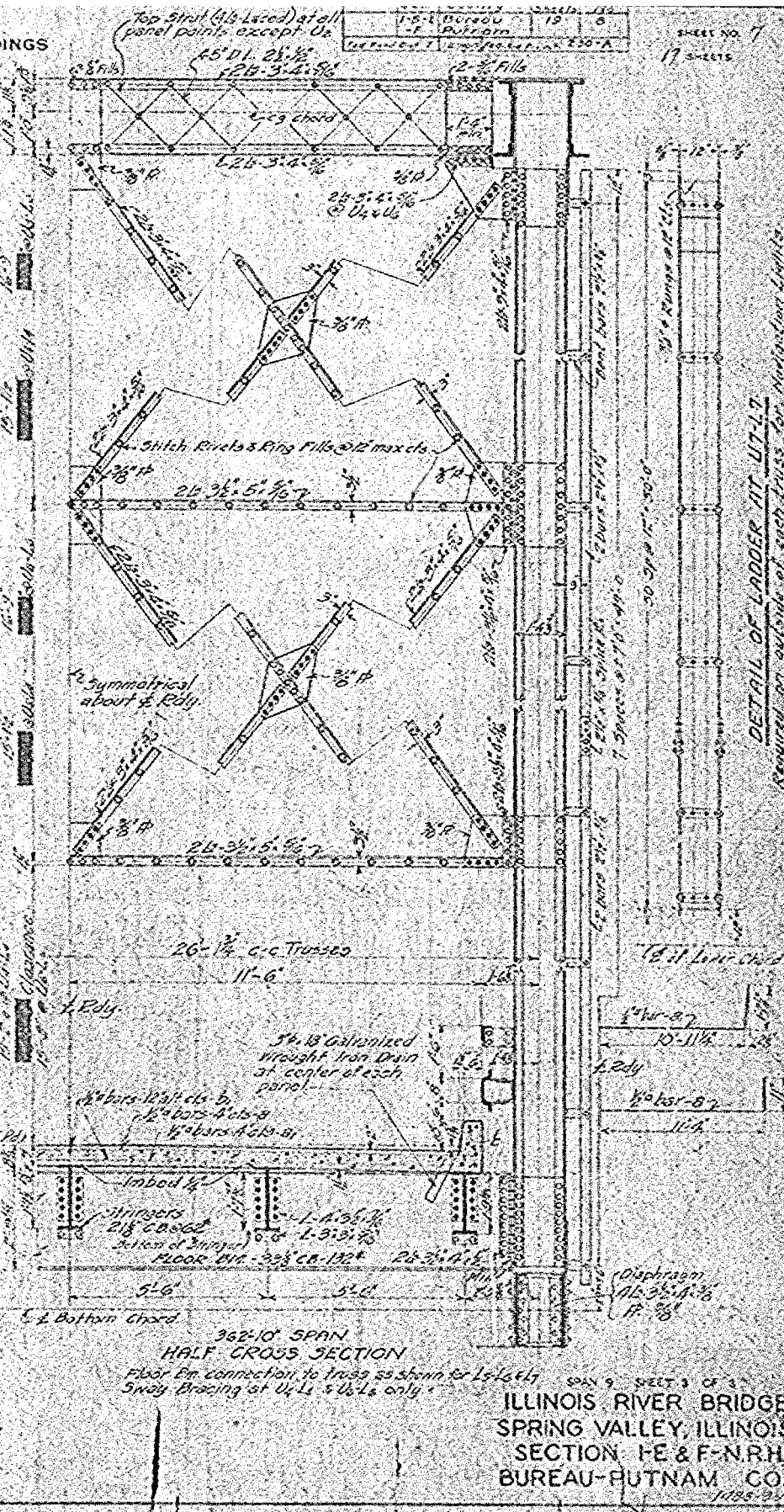
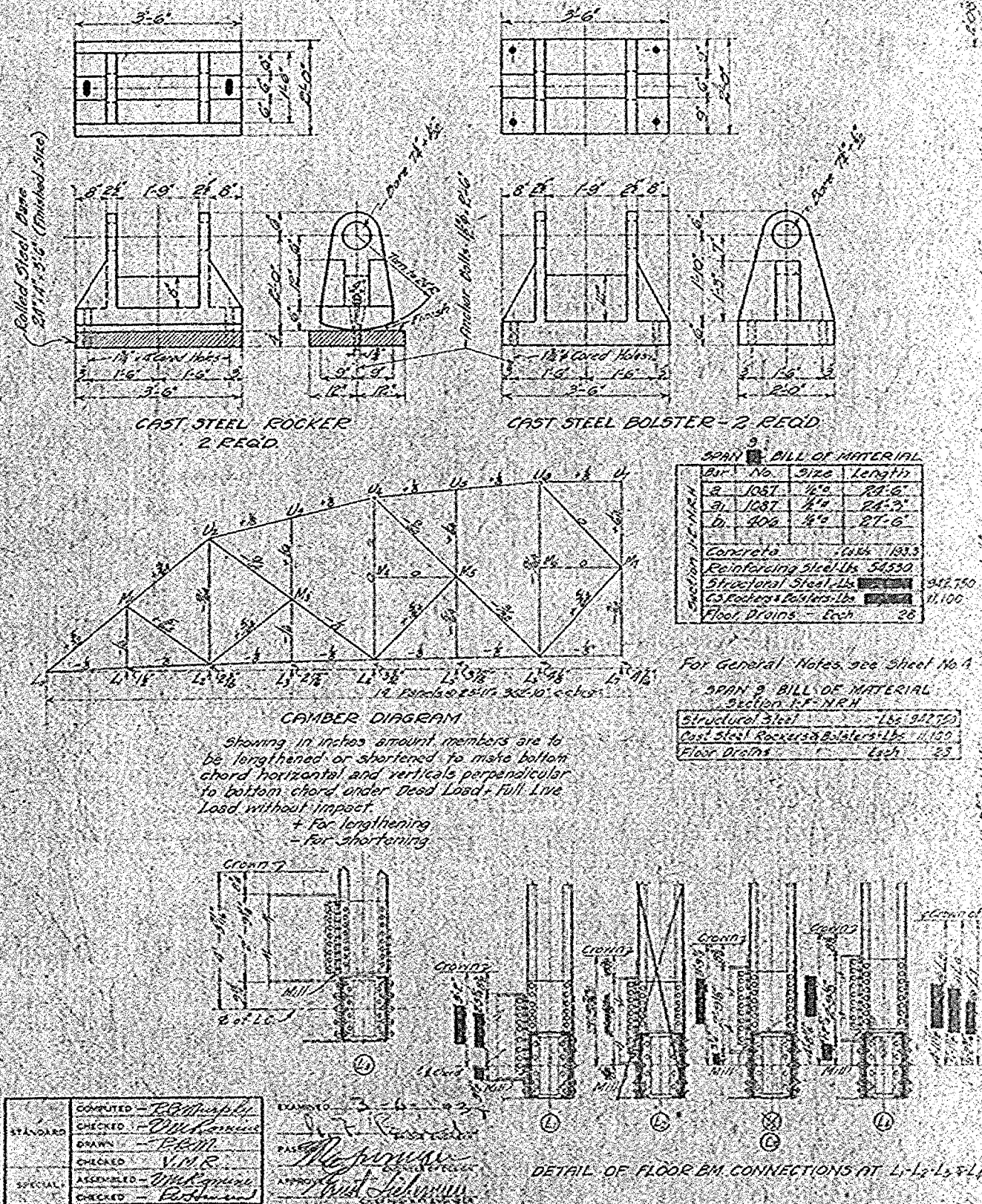
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8/6/2015



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :
0780047.66A69.007.Ext.Plan.dgn

USER NAME : mhellenenthal	DESIGNED -	REVISED -
PLOT SCALE :	CHECKED -	REVISED -
PLOT DATE : 8/6/2015	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 7 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX07 OF EX38 SHEETS

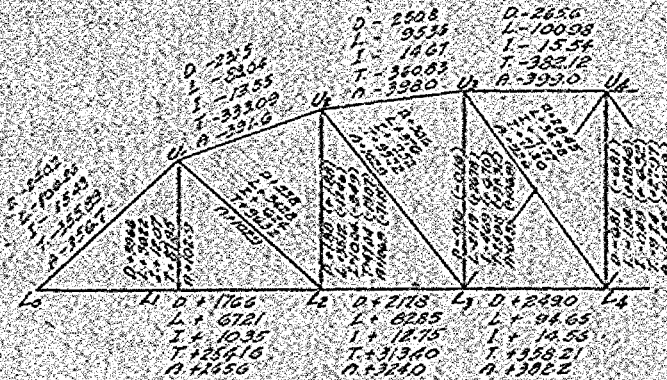
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	283
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

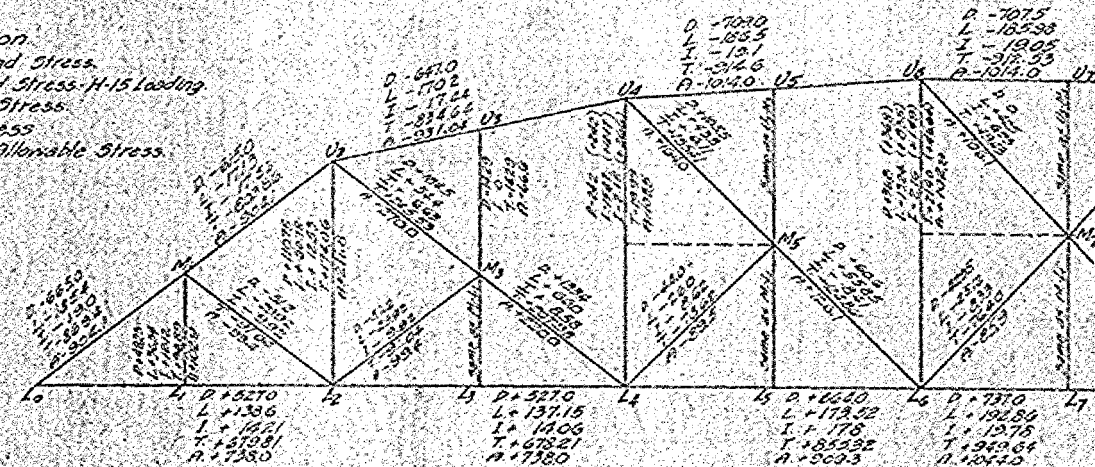
SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
15-F	Bureau	15	9
PROJECT NO. 078-0047			

SHEET NO. 6
17 SHEETS



STRESS DIAGRAM-200'-0" SPAN
Stresses in thousands of pounds

Notation:
D-Dead Load Stress
L-Live Load Stress-H-15 Loading
I-Impact Stress
T-Total Stress
A-Maximum Allowable Stress



STRESS DIAGRAM-362'-10" SPAN
Stresses in thousands of pounds

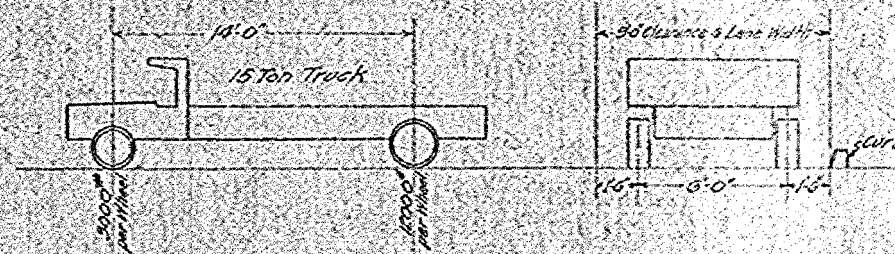
ALLOWABLE UNIT STRESSES.
Tension - 16000%
Compression - 16000-70% but not to exceed 14000%
Bending - 16000% on extreme fiber of built-up or rolled sections.
- 24000% - pins
Shearing - 12000% on shop rivets & pins
- 10000% - field " & bolts
Bearing - 24000% - shop " & pins
- 20000% - field " & bolts

362'-10" SPAN

	Stringers	Int. Floor Beams	End Floor Beams
	Moment End Shear	Moment End Shear	Moment End Shear
Dead Load	14000* 6790*	235670* 35970*	132720* 20840*
Live Load	94500 16345	231600 30600	233600 30500
Impact	11300 5410	76500 10130	77300 10230
Total	169800* 28545*	543670* 76700*	443620* 61370*

200'-0" SPAN

	Stringers	Int. Fl. Bms.	End Fl. Bms.
	Moment End Shear	Moment End Shear	Moment End Shear
Dead Load	40825* 6360*	207780* 34673*	117630* 19580*
Live Load	91600 16270	215300 30320	217200 30300
Impact	30530 5420	71770 10207	72400 10300
Total	165050* 28250*	494850* 75465*	407230* 60180*



Note: All Live Loads to be so placed as to give maximum stress in member considered.

STANDARD	COMPUTED - R.M. Murphy
	CHECKED - D.M. Putnam
	DRAWN - R.M. Murphy
	CHECKED - D.M. Putnam
SPECIAL	ASSEMBLED - D.M. Putnam
	CHECKED - R.M. Murphy

EXAMINED - J. E. Smith
APPROVED - J. E. Smith

STRESS SHEET
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-F N.R.H.
BUREAU-PUTNAM CO.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :
0780047.66A69.008.Ext.Plan.dgn

USER NAME : mhellenenthal
DESIGNED -
CHECKED -
DRAWN -
PLOT SCALE :
PLOT DATE : 8/6/2015

DESIGNED -
CHECKED -
DRAWN -
CHECKED -

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 8 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX08 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	284
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

SEND NAME DATE NO.	SEC.	COUNTY	TOTAL PAGE 5	PAGE NO.
		1-B-E Bureau -F Putnam	19	10
FED. ROAD DIST. NO. 3 DELINQUENT, AND PROCEED. # 230-A				

Σ of bearing 200'-0" span
 Σ of bearing 362'-10" span
 @ Crown -2'-6" 1'-3" 9"
 Σ of floor beam 8' 10'-6" 5'-6" 10'-6" 1'-2" Along Casting
 Pier

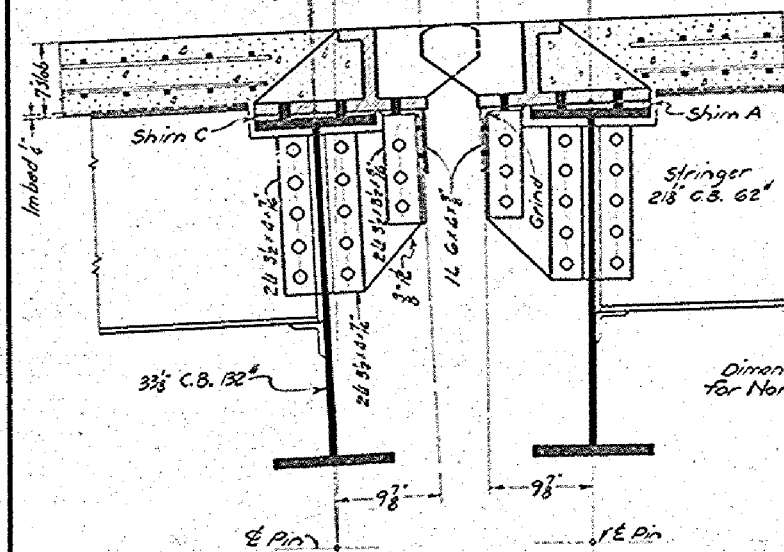
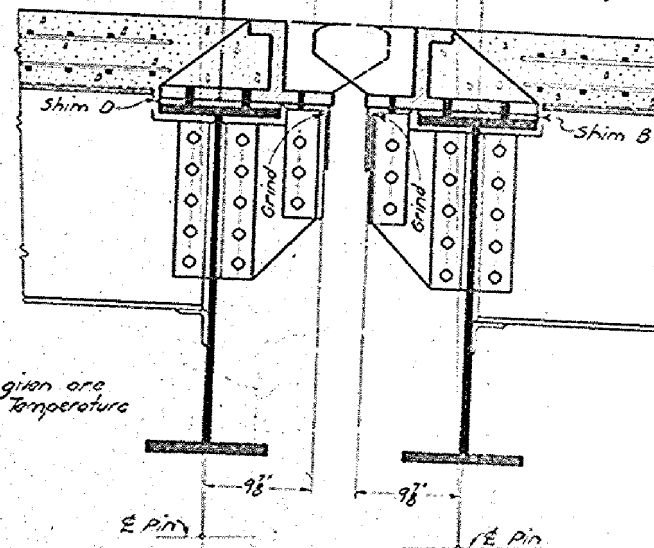


Diagram of a floor beam showing dimensions and levels. The beam is 1'-0" long. The crown is 2 1/2" from the ends. The levels are 5 1/2", 8 3/4", 7 3/4", and 8 3/4" from the left end. The right end is labeled "End of bearing of floor beam" and "Crown". The left end is labeled "End of bearing of floor beam" and "Crown".



NOTE: Top of Casting to be made to conform to crown of roadway.

2'-7 1/2" 3'-2" 8'-2"

12'-1 1/2"

8'-0"

5'-0"

3'-0"

5'-0"

2'-0"

2'-0"

3'-0"

17'-0"

1'-3 3/4"

1 1/2" holes for 3/4" bolts @ 3'-0" c/s.

12" holes for 3/4" bolts between webs

12" holes for 3/4" bolts between webs

Shim A 800

112"

3" 56" 3"

Shim A 800

Note
Thinner edge of beveled
shims always placed
toward E of Pier.

18 holes to be
drilled in field.

STEEL PLATE SHIMS
Each shim 2 reqd (22'-0" long)

STANDARD	COMPUTED	<i>R.B. Murphy</i>	EXAMINED	<i>30</i>	<i>1936</i>
	CHECKED	<i>V.M. Komin</i>		 BY THE EXAMINER	
SPECIAL	DRAWN	<i>P. E. Peterson</i>	PASSED	 BY THE ENGINEER	
	CHECKED	<i>P. E. Peterson</i>		APPROVED	 BY THE APPROVER



USER NAME = mhellenthal	DESIGNED -	REVISED -
	CHECKED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE = 8/6/2015	CHECKED -	REVISED -

EXISTING PLANS 9 OF 38
STRUCTURE NO. 078-0047

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	285
		CONTRACT NO. 66A69		
		ILLINOIS FED. AID PROJECT		

ILLINOIS	FED. AID PROJECT
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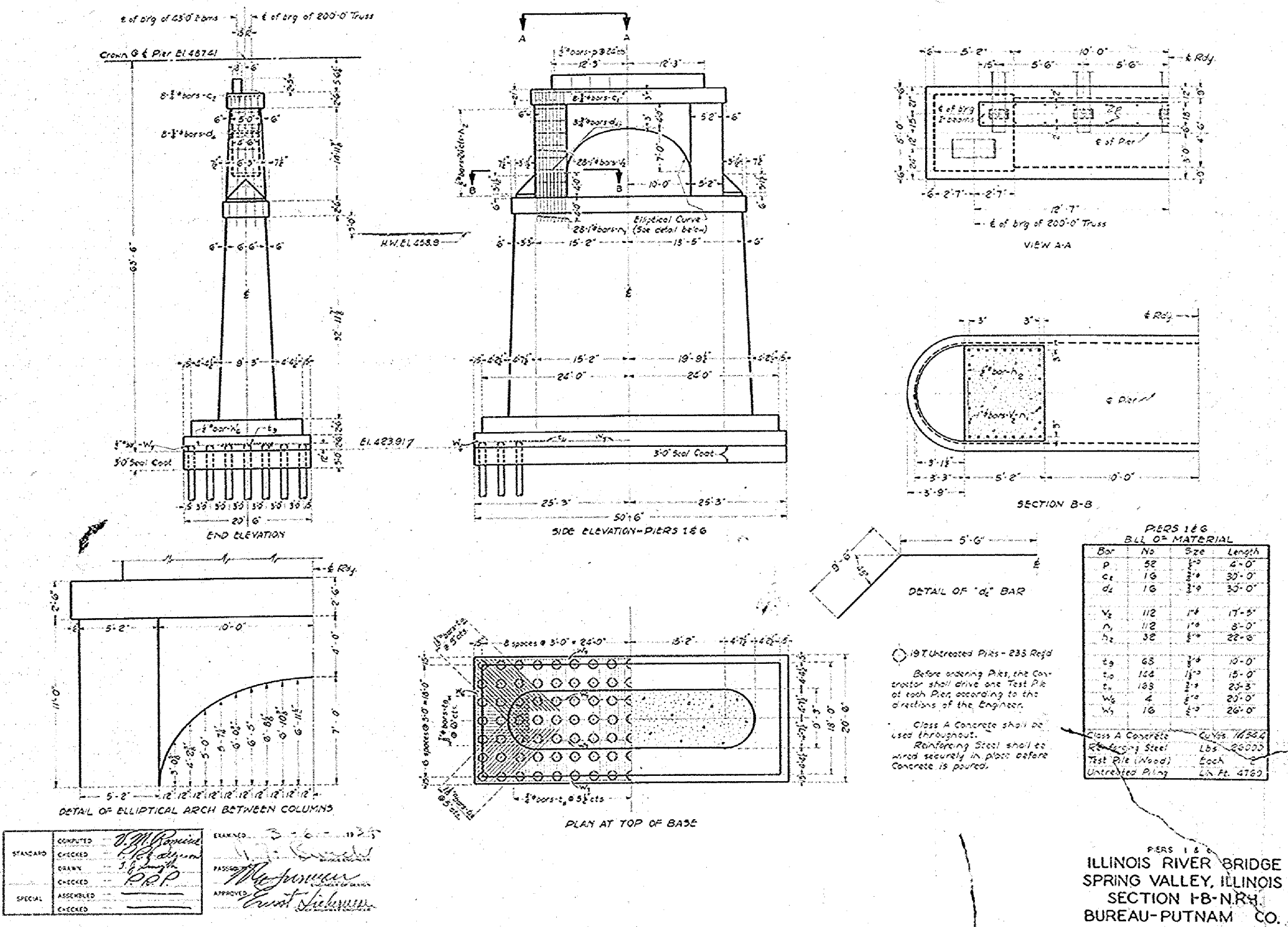
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8/6/2015

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SHEET NO. 12
17 SHEETS



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME : mhellenenthal	DESIGNED -	REVISED -
		CHECKED -	REVISED -
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		ASSEMBLED -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

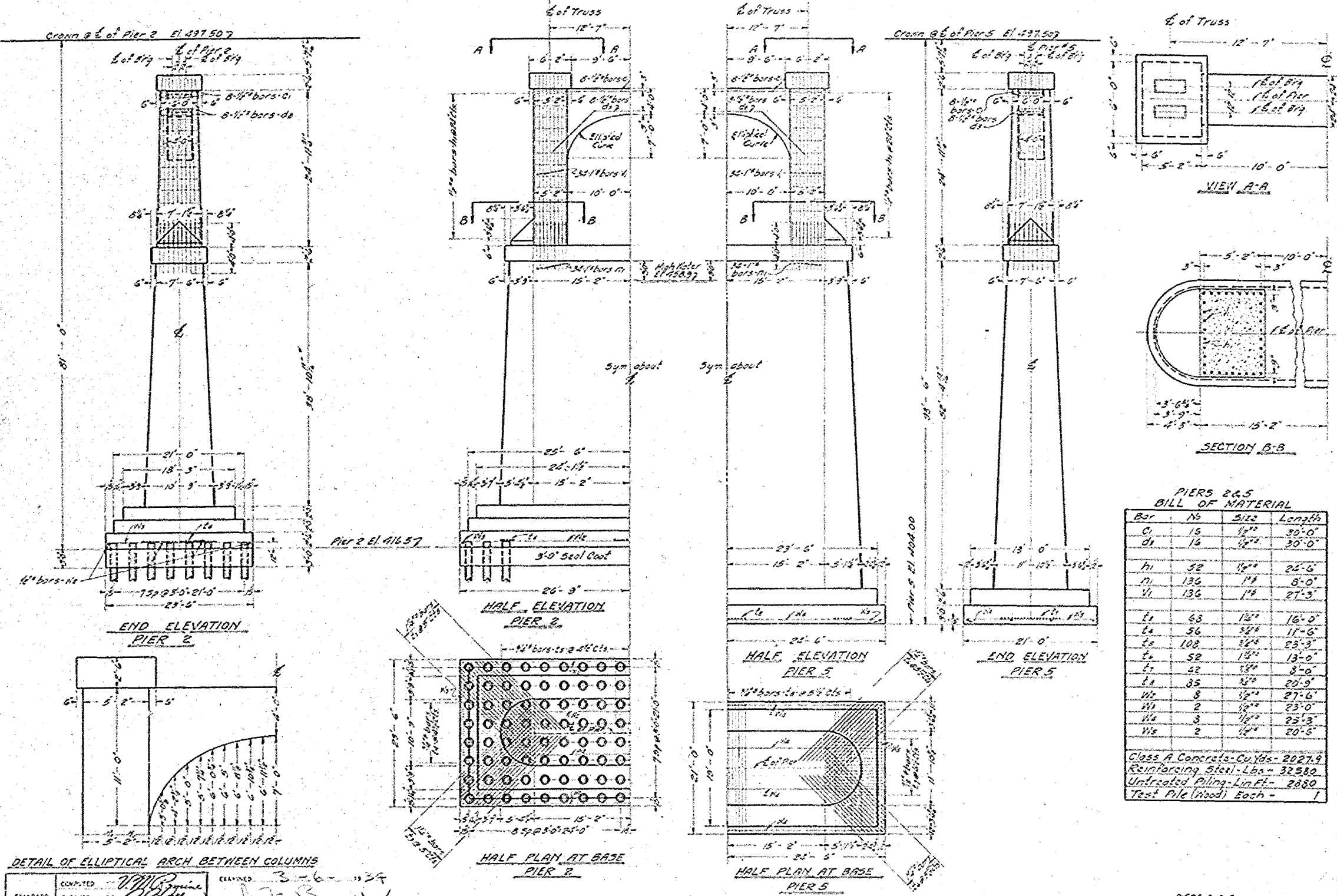
EXISTING PLANS 10 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX10 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	286
		CONTRACT NO. 66A69		

ILLINOIS FED. AID PROJECT



PIERS 2 & 5
BILL OF MATERIAL

Bar	No.	Size	Length
C1	16	1/2"	30'-0"
C2	16	1/2"	30'-0"
H1	52	1/2"	25'-6"
H2	136	1/2"	8'-0"
H3	136	1/2"	27'-3"
E1	68	1/2"	16'-0"
E2	56	1/2"	11'-6"
E3	108	1/2"	23'-3"
E4	52	1/2"	13'-6"
E5	52	1/2"	8'-0"
E6	35	1/2"	20'-9"
W1	8	1/2"	27'-6"
W2	2	1/2"	23'-0"
W3	3	1/2"	25'-3"
W4	2	1/2"	20'-6"

Class A Concrete - Cu Yds - 2027.9
Reinforcing Steel - Lbs - 32582
Untreated Piling - Lbs - 2880
Test Pile (Wood) Each - 1

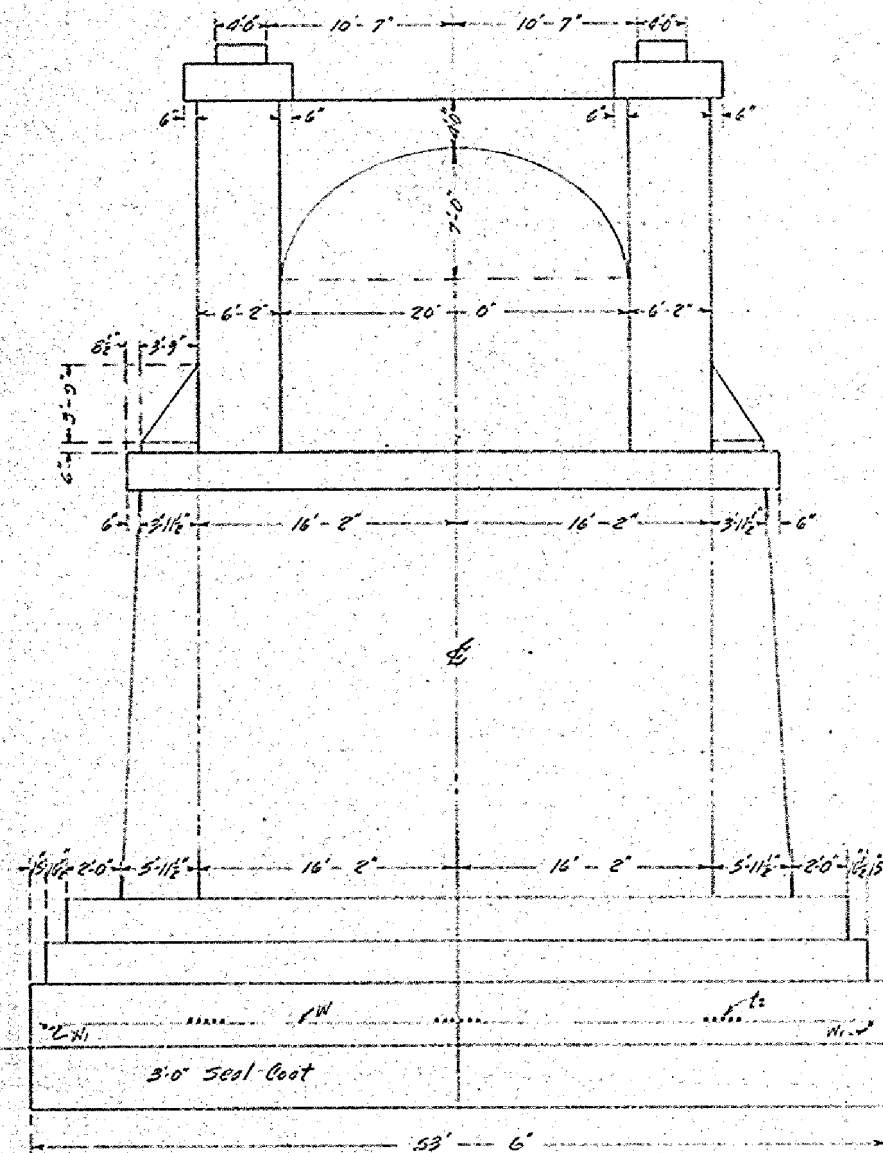
PIERS 2 & 5
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-B-B-N.R.H.
BUREAU-PUTNAM CO.

Notes
23 Top Untreated Piles. 144 Required for Pier 2.
One test pile shall be driven, as directed by the
Engineer, at pier 2 before ordering piling.
Class A concrete shall be used throughout.
All reinforcing steel shall be wired securely in
place before concrete is poured.

DETAIL OF ELLIPTICAL ARCH BETWEEN COLUMNS

STANDARD	COMPUTED	BY	DATE
	CHECKED	BY	DATE
	DRAWN	BY	DATE
	CHECKED	BY	DATE
SPECIAL	ASSEMBLED	BY	DATE
	CHECKED	BY	DATE

SHEET NO.
SHEETS



For cross sections and other details not shown here, see sheet #14-pier #3 of the original plans.

No Change made in pier #3 above lower coping.

All reinforcing steel required for the original design shall be used.

No extra reinforcing steel required.

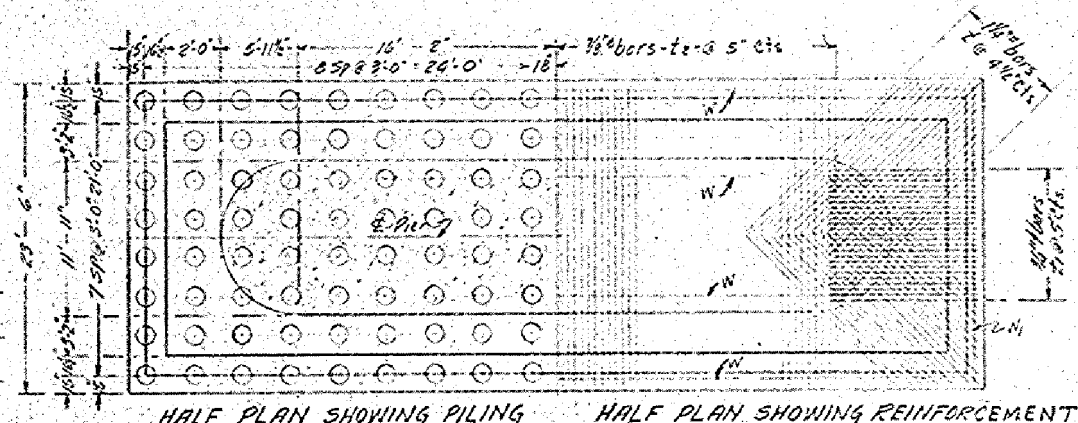
Class X Concrete in original design = 1364.2 CuYd.

Class X Concrete in revised design = 1278.6 CuYd.

Net deduction in Concrete = 85.6 CuYd.

144 Untreated Piles Required = 2880 Lin.Ft.

Piling shall have a minimum capacity of 34 Tons.



REVISED PIER 3
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-B - N.R.H.
BUREAU-PUTNAM CO.

STANDARD	COMPUTED <i>J.M.P.</i>
	CHECKED
	DRAWN <i>J.M.P.</i>
	CHECKED
	ASSEMBLED
SPECIAL	CHECKED

EXAMINED 19
PASSED
APPROVED



FILE NAME = 0780047_66A69_012_Ext_Plan.dgn

USER NAME =	mhellenthal
PLOT SCALE =	
PLOT DATE =	8/6/2015

DESIGNED -	REVISED -
CHECKED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -

EXISTING PLANS 12 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX12 OF EX38 SHEETS

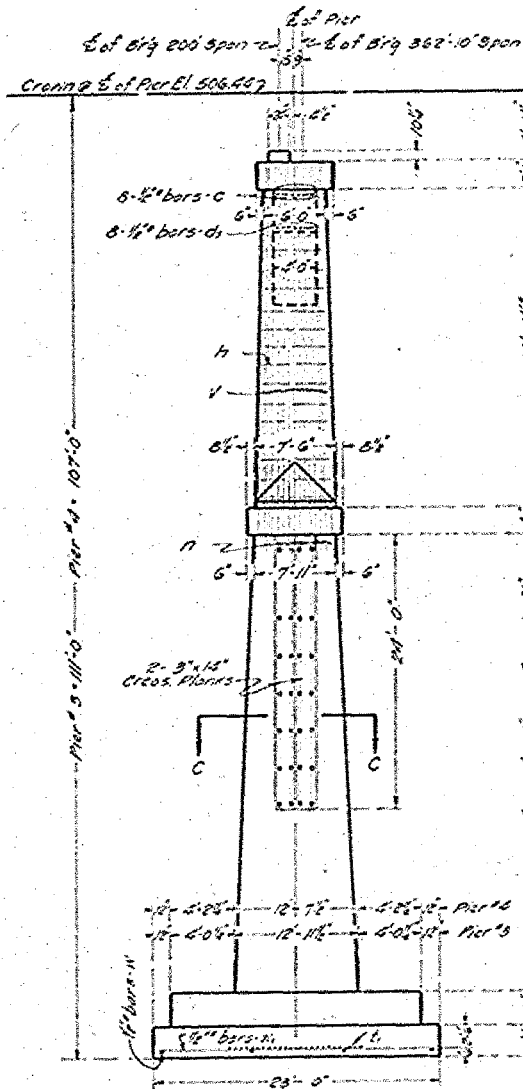
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

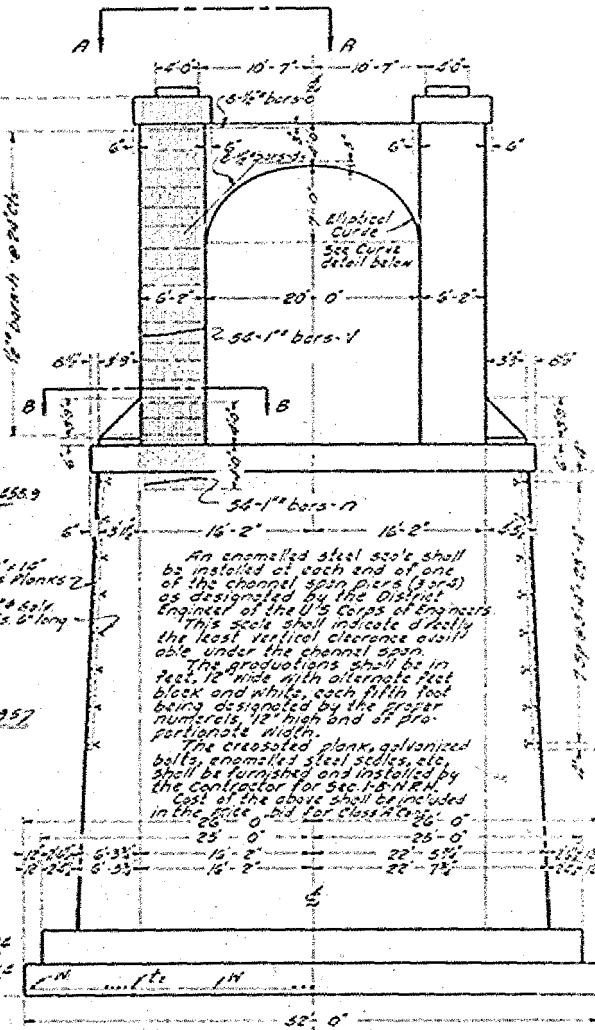
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.	COUNTY	SECTION	DATE
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230-A				

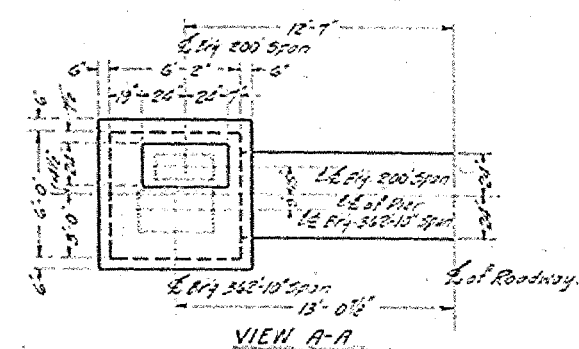
SHEET NO. 14
17 SHEETS



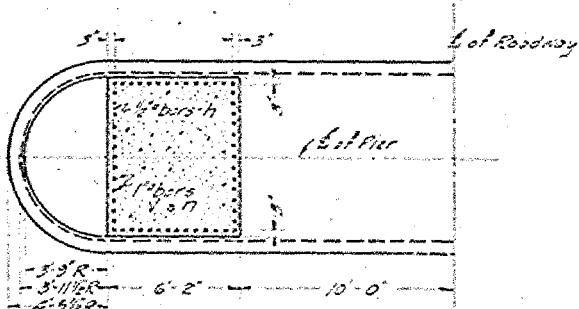
END ELEVATION



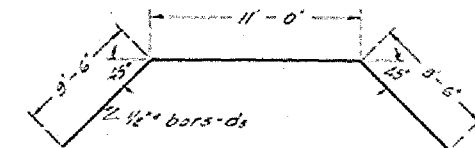
SIDE ELEVATION - PIERS 3 & 4



VIEW A-A



SECTION B-B

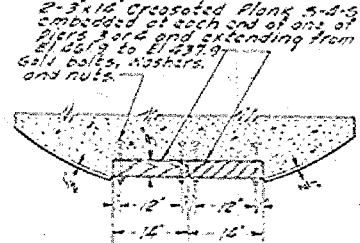


PIERS 3 & 4
BILL OF MATERIAL

Bar	No.	Size	Length
C	10	1/2"	38'-0"
D	10	1/2"	30'-0"
V	216	1"	35'-6"
N	216	1"	6'-0"
L	168	1/2"	14'-0"
L1	100	1/2"	7'-8"
L2	196	3/8"	22'-9"
H	16	1/2"	26'-9"
W	4	1/2"	22'-6"
H	68	1/2"	27'-0"

Class A Concrete - Cyls. 26478
Reinforcing Steel - Lbs. 57,530

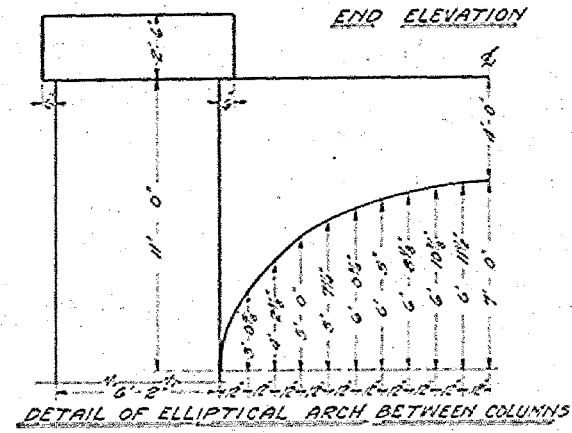
Note: Figures 45 on the enameled steel scales shall be placed at Elev. 487.9



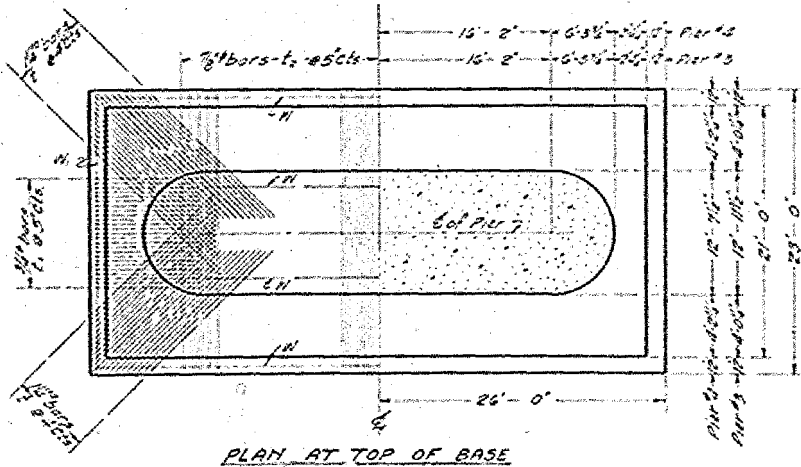
SECTION C-C
SHOWING PLANKING
FOR RIVER GUARD

Class A concrete shall be used throughout
All reinforcing steel shall be wired securely
in place before concrete is poured

PIERS 3 & 4
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-B-N.R.H.
BUREAU-PUTNAM CO.



DETAIL OF ELLIPTICAL ARCH BETWEEN COLUMNS



PLAN AT TOP OF BASE

STANDARD	COMPLETED	McQuinn	EXAMINED	3-0-113T
	CHECKED	P.R. Quinn		
	DRAWN	W.M.P.		
	CHECKED	J.B. Smith		
SPECIAL	ASSEMBLED			
	CHECKED			



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.013.Ext.Plan.dgn

USER NAME = mhollenthal	DESIGNED -	REVISED -
	CHECKED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE = 8/6/2015	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 13 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX13 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	289
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

X:\101005\10141\01\Eng-Docs\IL89PhaseII\SpringValleyBridge\Final\Plans\Existing Plans\0780047.66A69.013-Ext.Plan.dgn

5:50:01 PM

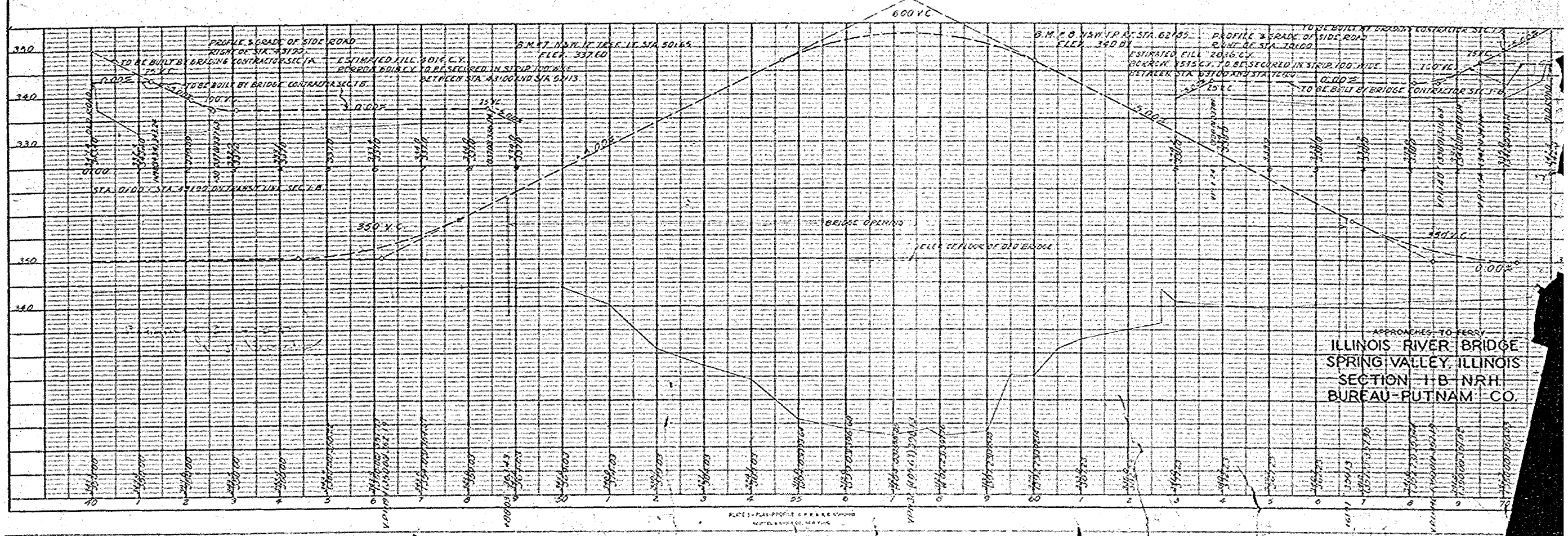
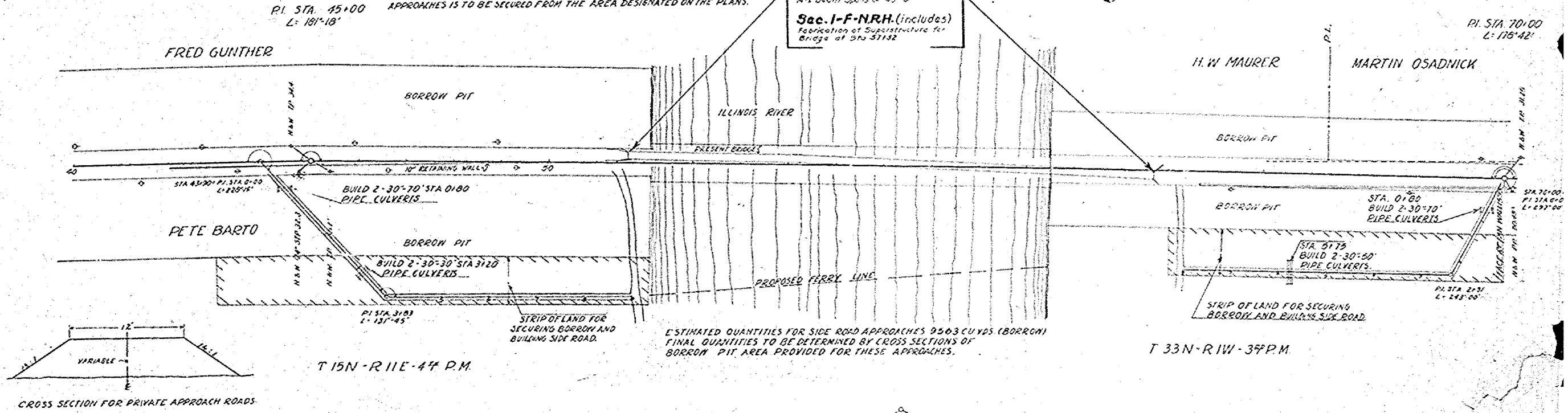
8/6/2015

Note: All elevations on this sheet are referred to State Survey Datum.
Elevation 405.63 State Survey Datum equals Elevation 516.71 U.S.G.S. Datum.

THE PRIVATE APPROACHES ON THE RIGHT STA 44100+ STA 0100 TO STA 9100 AND THE PRIVATE APPROACH RIGHT OF STA 70100+ STA 0100 MUST BE BUILT BEFORE ANY OPERATION IS STARTED ON DISMANTLING THE EXISTING STRUCTURE. THE WORK OF BUILDING THESE APPROACH GRADES INCLUDES THE PLACING OF 30" PIPE CULVERTS AS SHOWN ON THE PLANS. THE EARTHWORK FOR THE CONSTRUCTION OF THE APPROACHES IS TO BE SECURED FROM THE AREA DESIGNATED ON THE PLANS.

Sec. 1-B-NRH (includes)
Substructure for Bridge at Sta. 57132
Sec. 1-E-NRH (includes)
Location of Superstructure of Bridge
1-Steel Truss Span 1362'-10"
4-Steel Truss Spans 200'-0"
14-1 Beam Spans @ 45'-0"
Sec. 1-F-NRH (includes)
Fabrication of Superstructure for
Bridge at Sta. 57132

FILE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0780047-66A69-014-Ext.	(1) BR	Bureau/Putnam	415	290
CONTRACT NO. 66A69				



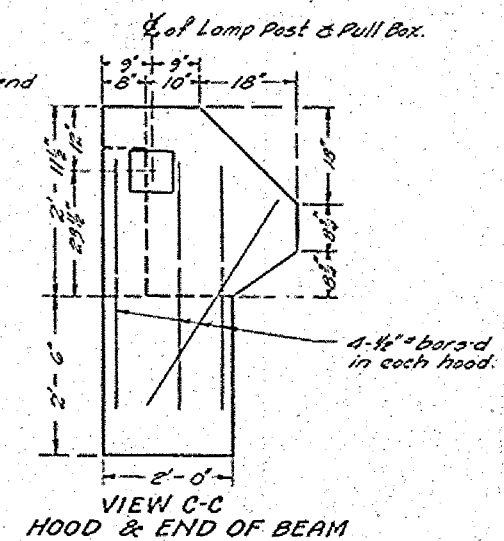
benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME : mhellenenthal	DESIGNED -	REVISED -
0780047-66A69-014-Ext.Plan.dgn		CHECKED -	REVISED -
	PLOT SCALE :	DRAWN -	REVISED -
	PLOT DATE : 8/6/2015	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 14 OF 38
STRUCTURE NO. 078-0047
SHEET NO. EX14 OF EX38 SHEETS

FOR INFORMATION ONLY				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	290
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

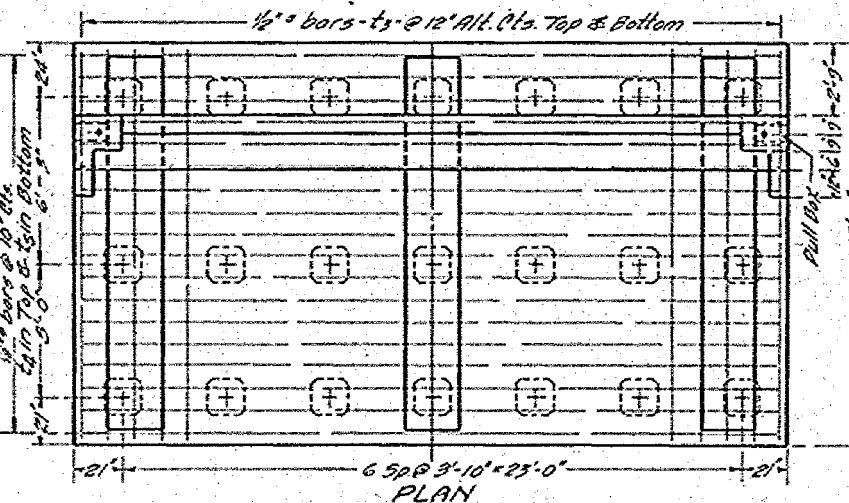
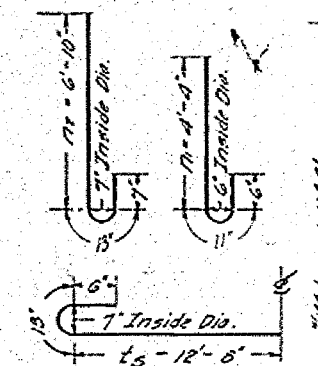
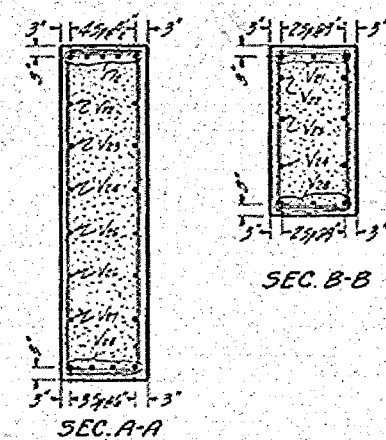


or	NA	Size	Length	Bar	NA	Size	Length
V20	6	3/4" x 8	10'-6"	18	6	3/4" x 8	16'-3"
V21	9	3/4" x 8	23'-0"	19	6	3/4" x 8	15'-3"
V22	6	3/4" x 8	17'-0"	19	6	3/4" x 8	14'-3"
V23	6	3/4" x 8	23'-0"	19	6	3/4" x 8	13'-3"
V24	6	3/4" x 8	20'-0"	19	6	3/4" x 8	12'-3"
V25	6	3/4" x 8	14'-6"	19	3	3/4" x 8	21'-3"
V26	6	3/4" x 8	9'-6"	19	3	3/4" x 8	19'-3"
V27	6	3/4" x 8	4'-0"	19	3	3/4" x 8	17'-3"
V28	9	3/4" x 8	26'-0"	19	3	3/4" x 8	15'-3"
				19	3	3/4" x 8	13'-3"
				19	3	3/4" x 8	11'-6"
				23	18	3/4" x 8	28'-6"
0	5	3/4" x 8	30'-0"	24	18	3/4" x 8	26'-0"
01	5	3/4" x 8	24'-0"	25	27	3/4" x 8	14'-9"
0	33	3/4" x 8	3'-9"				

Class X Concrete - Cu.Yds 99.3
Reinforcing Steel - Lbs. 5480

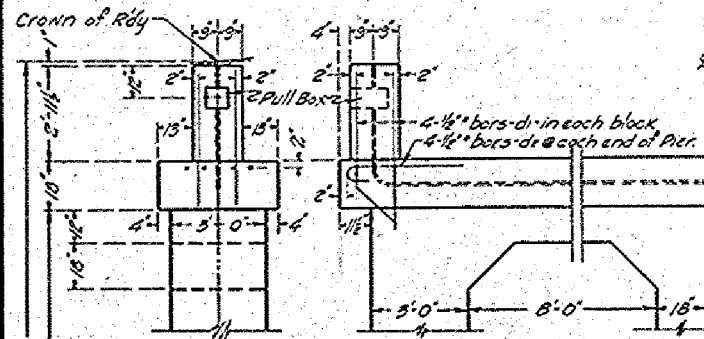
Note: Bar designation has been made independent of the designation used on the original plans.

Class X concrete shall be used throughout.
All reinforcing steel shall be wired securely in place before concrete is poured.

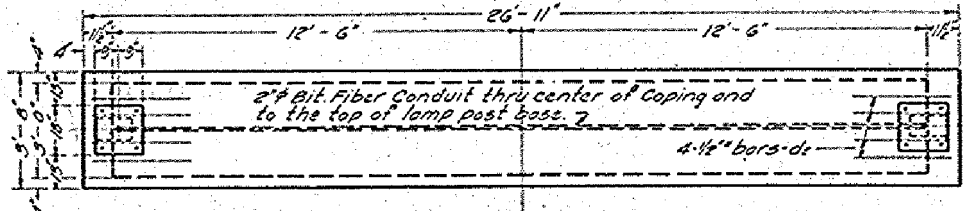


34 Ton Concrete Piling - 21 Required
See sheet #11 of 17, of the original plans for piling design.

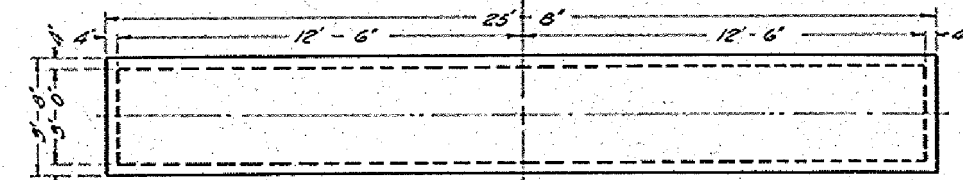
REVISED PLAN
BENT 1-NORTH ABUTMENT
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-B-N.R.H.
BUREAU-PUTNAM CO. \



END AND SIDE ELEVATION OF COPING OF BENTS 4 & 10 SHOWING LAMP POST BASE
Part of bents 4 & 10 and reinforcement not shown here is the same as shown below for the remainder of the bents.
Cr. of Rdy. (See Table for Elevations)



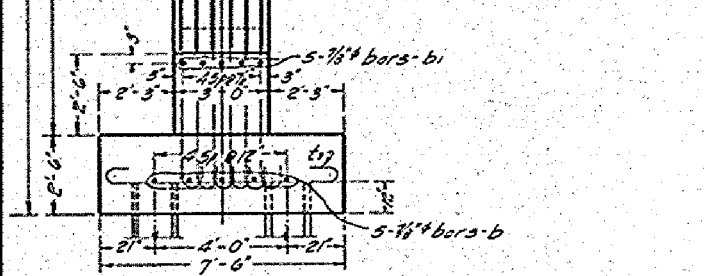
PLAN OF COPING FOR BENTS 4 & 10



PLAN OF COPING FOR BENTS 2-3-5-6-7-8-9-11-12 & 13

TABLE OF DIMENSIONS

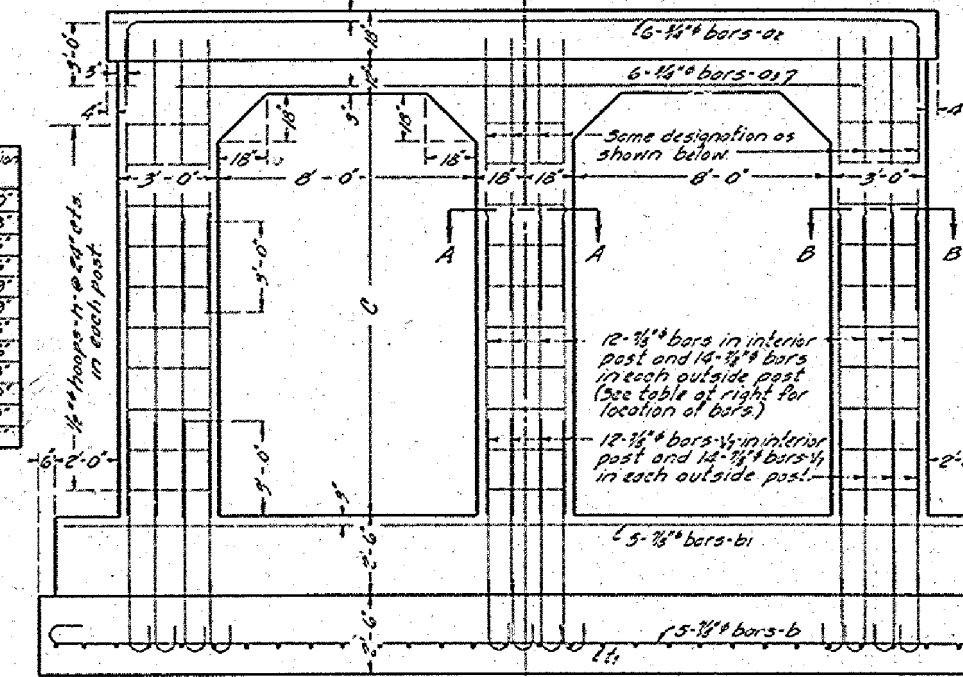
Bent No.	Crown Elev.	Footing Elev.	Dimension A	Dimension B	Dimension C
2	476.64	443.12	33'-6"	26'-6"	23'-0"
3	478.81	443.02	35'-9"	28'-9"	25'-3"
4	482.92	442.92	38'-0"	31'-0"	27'-6"
5	485.11	440.07	45'-0"	35'-0"	32'-6"
6	485.26	433.97	45'-3"	38'-3"	34'-9"
7	485.26	443.97	41'-3"	35'-3"	30'-9"
8	483.11	444.07	39'-0"	32'-0"	28'-6"
9	480.96	444.92	35'-0"	29'-0"	25'-6"
10	478.81	445.02	33'-9"	28'-9"	25'-3"
11	476.64	445.12	31'-6"	24'-6"	21'-0"
12	474.51	445.97	28'-6"	21'-6"	18'-0"
13	472.34	446.07	26'-3"	19'-3"	15'-9"



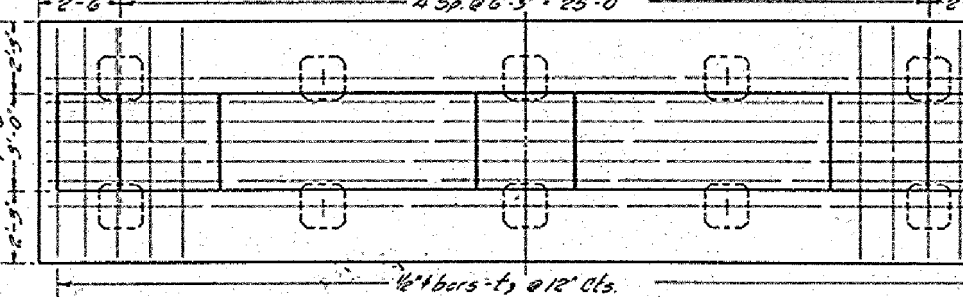
END ELEVATION OF BENTS 2-3-5-6-7-8-9-11-12 & 13

32 Ton Concrete Piling
10 Required for each of bents 2 to 13 incl.

STANDARD	COMPUTED	EXAMINED
CHECKED	U.M. Benesch	13
DRAWN	R.A. Brudvik	
CHECKED	W.H.R.	
SPECIAL	APPROVED	
CHECKED		



SIDE ELEVATION OF BENTS 2-3-5-6-7-8-9-11-12 & 13



FOOTING PLAN - BENTS 2 TO 13 INCL.

12 BENTS - BILL OF MATERIAL

Bar	No.	Size	Length	Bar	No.	Size	Length
01	72	1/2"	30'-6"	V1	480	1/2"	8'-6"
02	72	1/2"	21'-0"	V2	80	1/2"	13'-9"
03	72	1/2"	21'-0"	V3	80	1/2"	15'-0"
04	60	1/2"	32'-0"	V4	80	1/2"	16'-3"
05	60	1/2"	20'-6"	V5	80	1/2"	18'-9"
06	60	1/2"	20'-6"	V6	80	1/2"	19'-9"
07	16	1/2"	4'-6"	V7	80	1/2"	17'-9"
08	16	1/2"	4'-0"	V8	80	1/2"	16'-9"
09	16	1/2"	4'-0"	V9	80	1/2"	15'-3"
10	444	1/2"	12'-3"	V10	80	1/2"	18'-0"
11	360	1/2"	8'-6"	V11	80	1/2"	15'-0"
12				V12	80	1/2"	11'-6"
13				V13	80	1/2"	10'-3"

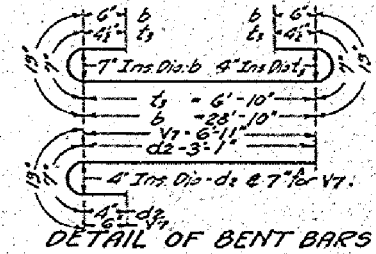
Class X Concrete - Cuy. Yds. 748.3
Reinforcing Steel - Lbs. 56880

Class X concrete shall be used throughout.
All reinforcing steel shall be wired securely in place before concrete is poured.

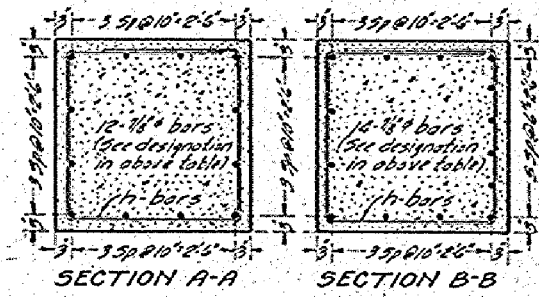
TABLE SHOWING NUMBER AND DESIGNATION OF BARS

Bent No.	Designation of V-bars & N.	h-bars required
2	40-V1-80-V2	33
3	40-V1-80-V2	36
4	40-V1-80-V2	39
5	40-V1-80-V2	48
6	40-V1-80-V2	51
7	40-V1-80-V2	45
8	40-V1-80-V2	42
9	40-V1-80-V2	36
10	40-V1-80-V2	33
11	40-V1-80-V2	30
12	40-V1-80-V2	27
13	40-V1-80-V2	24

Note: Designation of bars has been made independent of bar designation used on original plans.



DETAIL OF BENT BARS



SECTION A-A SECTION B-B

REVISED PLAN
BENTS 2 TO 13 INCL.
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION I-B N.R.H.
BUREAU PUTNAM CO.



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME :	DESIGNED :	REVISED :
0780047.66A69.016.Ext.Plan.dgn	mhellenenthal	CHECKED :	REVISED :
		DRAWN :	REVISED :
		CHECKED :	REVISED :

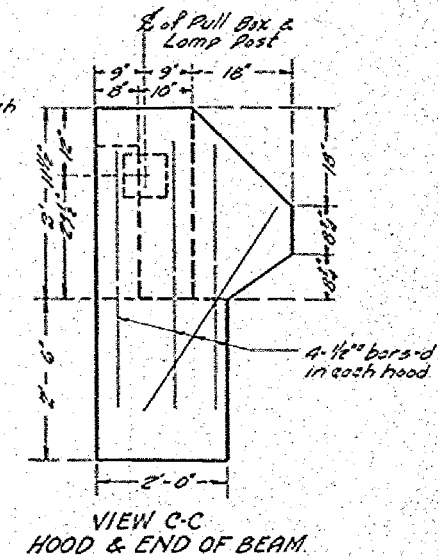
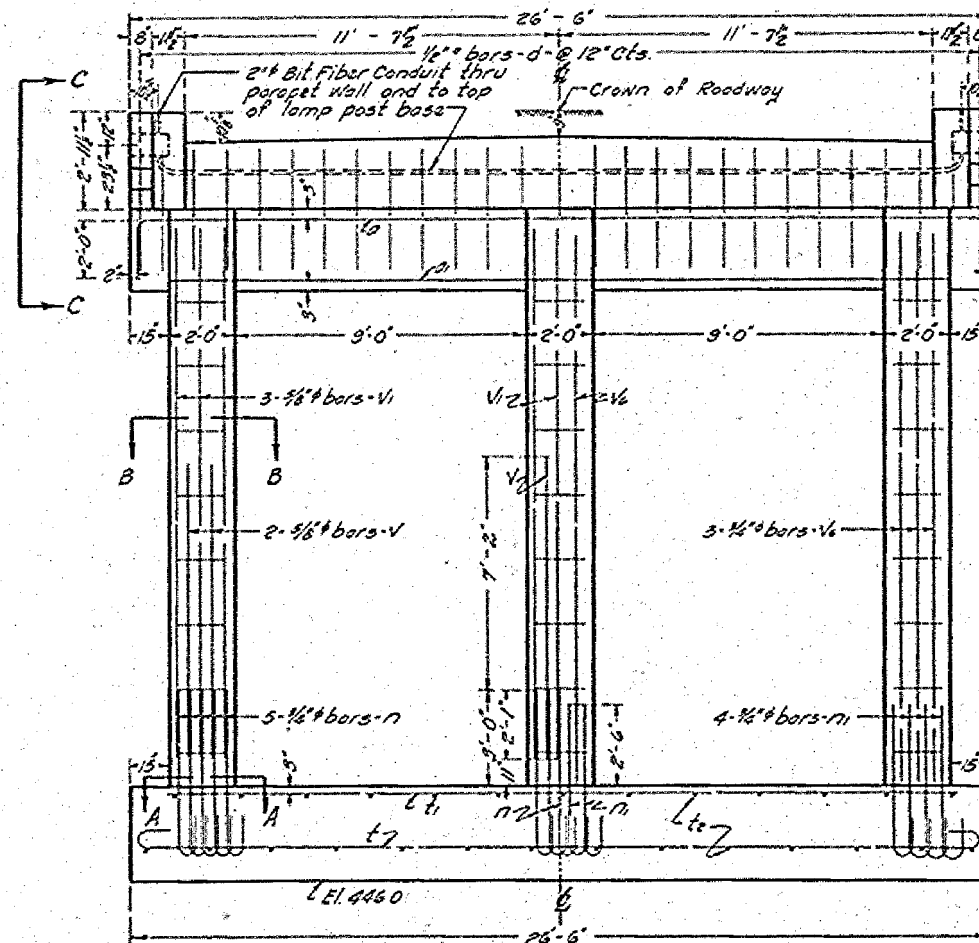
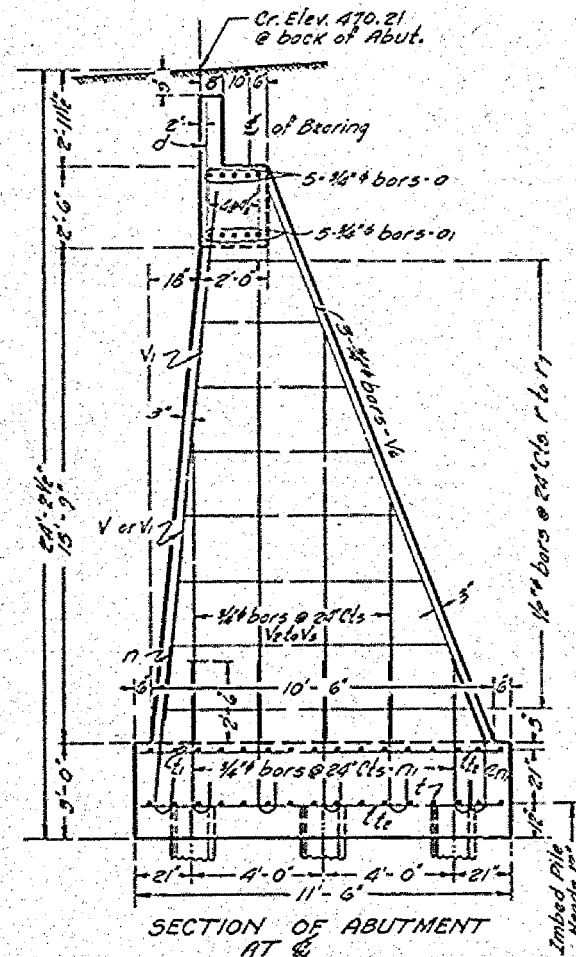
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 16 OF 38
STRUCTURE NO. 078-0047
SHEET NO. EX16 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	292
CONTRACT NO. 66A69				

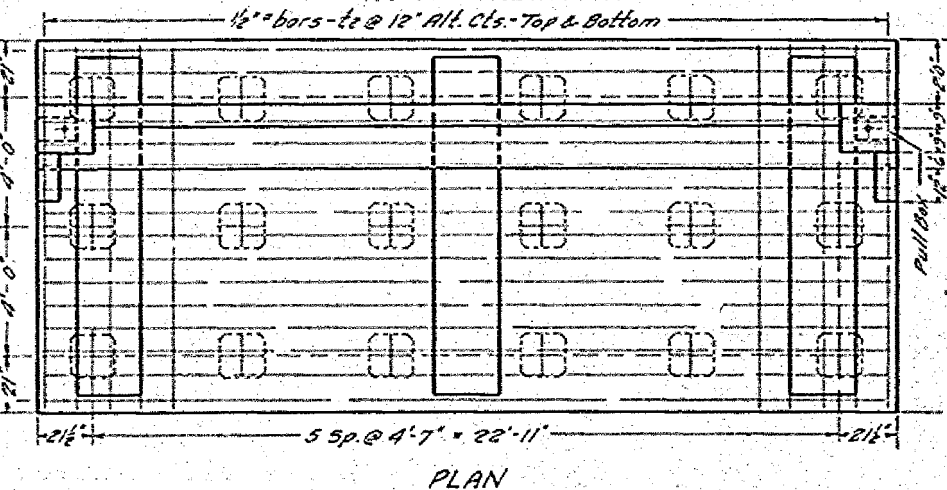
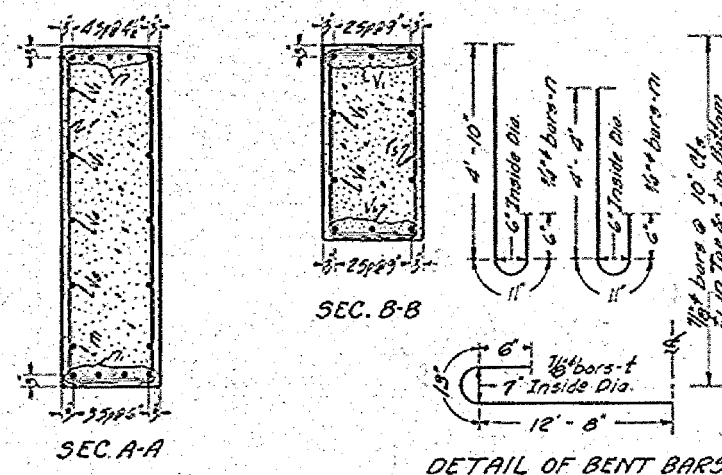
ILLINOIS FED. AID PROJECT



SOUTH ABUTMENT
BILL OF MATERIAL

Bar	No.	Size	Length
V	6	3/8"	9'-9"
V1	9	3/8"	17'-0"
V2	6	3/8"	10'-6"
V3	6	3/8"	15'-6"
V4	6	3/8"	13'-0"
V5	6	3/8"	8'-0"
V6	9	3/8"	18'-6"
V7	3	3/8"	23'-9"
V8	3	3/8"	21'-9"
V9	3	3/8"	19'-9"
V10	3	3/8"	17'-9"
V11	3	3/8"	15'-9"
V12	3	3/8"	13'-9"
V13	3	3/8"	11'-9"
V14	3	3/8"	9'-9"
V15	15	3/8"	6'-3"
V16	42	3/8"	5'-9"
V17	33	3/8"	5'-9"
V18	14	3/8"	28'-6"
V19	14	3/8"	24'-0"
V20	27	3/8"	11'-3"
V21	5	3/8"	30'-0"
V22	5	3/8"	24'-0"
Class X Concrete-Curbs			63.4
Reinforcing Steel-Lbs.			3940

Note: Bar designation has been made independent of the designation used on the original plans.



30 Ton Concrete Piling - 18 Required
Sec Sheet #11 of 17, of the original plans for piling design.
All reinforcing steel shall be wired securely in place before concrete is poured.
Class X concrete shall be used throughout.

REVISED PLAN
BENT 14-SOUTH ABUTMENT
ILLINOIS RIVER BRIDGE
SPRING VALLEY, ILLINOIS
SECTION 1-B-N.R.H.
BUREAU-PUTNAM CO.

COMPLETED	W. M. Romaine	EXAMINED	19
CHECKED	J. A. B.	PASSED	NO SIGNATURE
DRAWN	J. A. B.	APPROVED	CHIEF OF DIVISION
SPECIAL	ASSEMBLED		
CHECKED			



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.017-Ext.Plan.dgn

USER NAME = mhellenenthal	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE = 8/6/2015	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 17 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX17 OF EX38 SHEETS

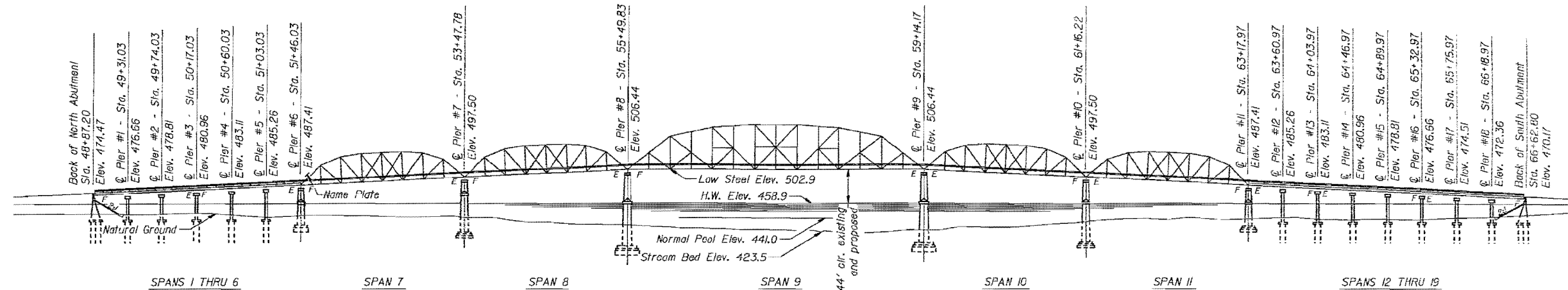
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	293
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

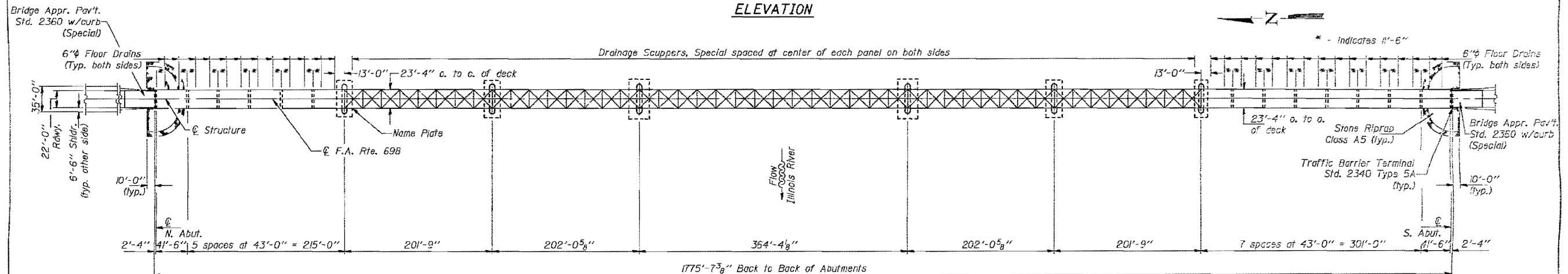
Bench Marks Chiseled "C" on N. Abutment 12.5' East, Sta. 48+89.70, Elev. 471.47
TBM on seat of Pier #18 12.8' West, Sta. 66+19.30, Elev. 468.95
Structure to be closed to traffic during construction.
All existing navigational and roadway lights including supports shall be salvaged and remain property of the state.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

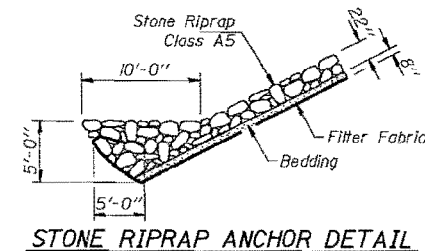
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
698	(1) BR	BUREAU	107	107 SHEETS
ILLINOIS FED. AID PROJECT				



ELEVATION



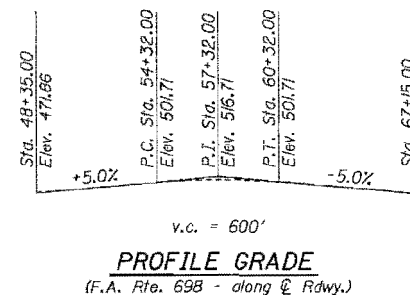
PLAN



STONE RIPRAP ANCHOR DETAIL

DESIGNED	February 9, 1989
CHECKED	February 9, 1989
DRAWN	R. Sommer
CHECKED	February 9, 1989

EXAMINED	February 9, 1989
PASSED	February 9, 1989
APPROVED	February 9, 1989



PROFILE GRADE

(F.A. Rte. 698 - along E. Rdwy.)

DESIGN SPECIFICATIONS

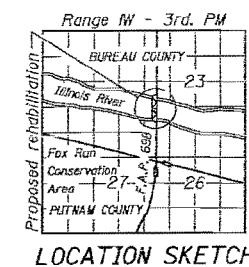
AASHTO (1983) and applicable Interims (1984 thru 1988)

LOADING HS20-44

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 36,000$ psi (structural steel, AASHTO M183)
 $f_y = 50,000$ psi (structural steel, AASHTO M223, Grade 50)



LOCATION SKETCH

GENERAL PLAN
S.B.I. ROUTE 89 OVER ILLINOIS RIVER
F.A. ROUTE 698 - SECTION 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00
STRUCTURE NO. 078-0006



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME : mhellenenthal	DESIGNED -	REVISD -
0780047.66A69.018-Ext.Plan.dgn		CHECKED -	REVISD -
	PLOT SCALE :	DRAWN -	REVISD -
	PLOT DATE : 8/6/2015	CHECKED -	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 18 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX18 OF EX38 SHEETS

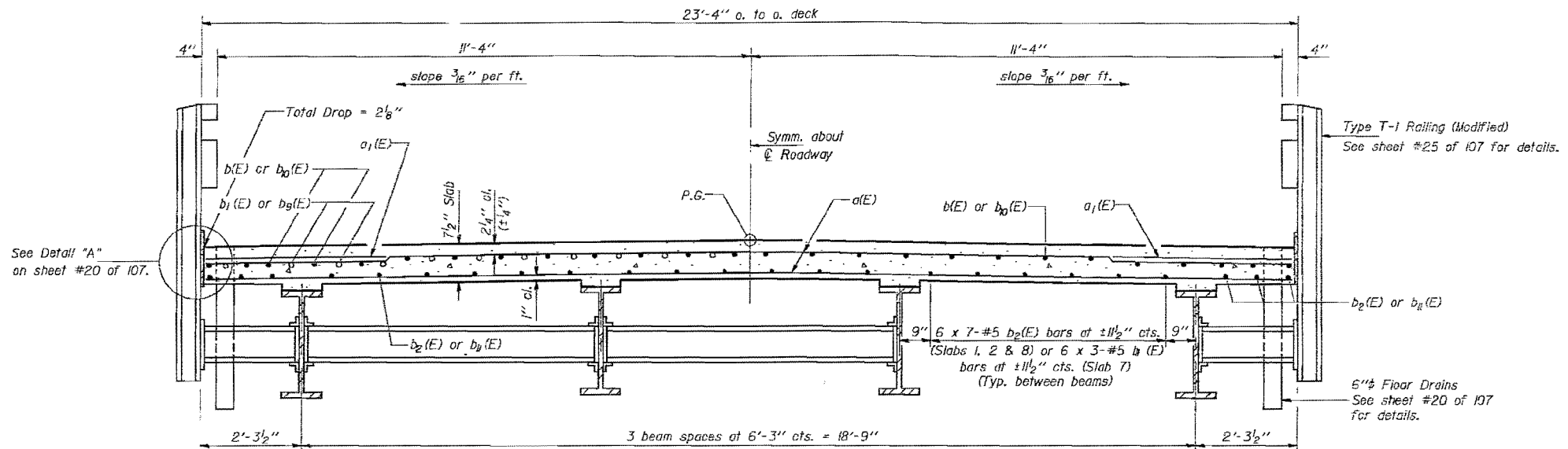
FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	294
CONTRACT NO. 66A69				

ILLINOIS FED. AID PROJECT

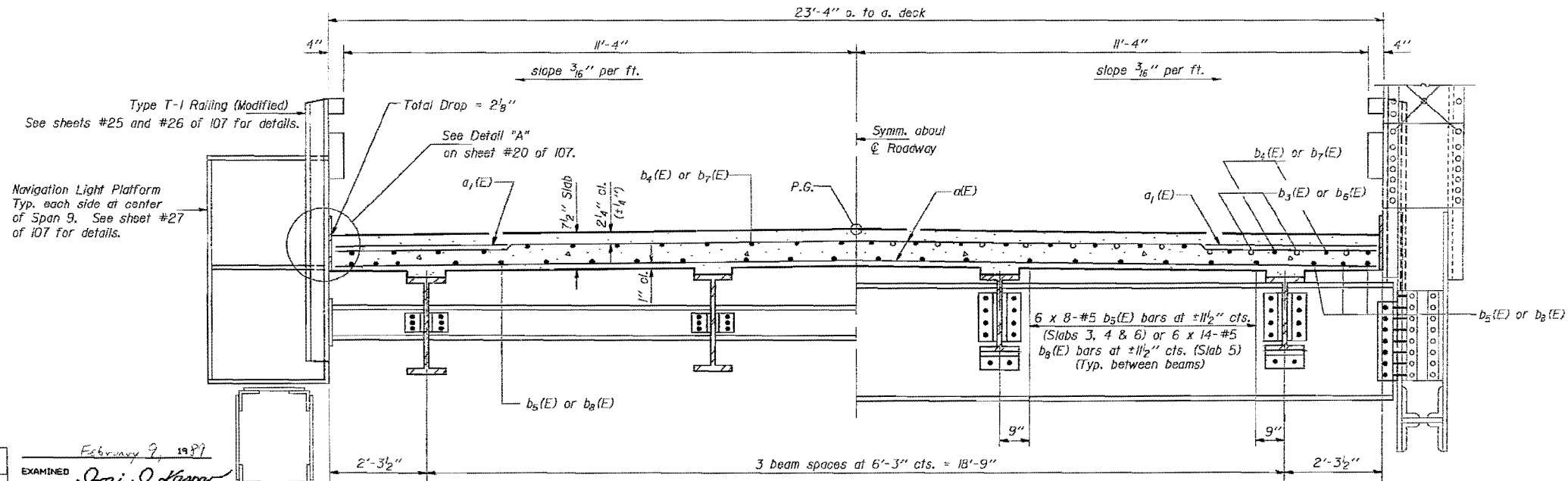
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	295
CONTRACT NO. 66A69				



Notes: See sheet #20 of 107 for Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
For location of Floor Drains and Drainage Scuppers, Special see sheet #1 of 107.
See sheet #20 of 107 for Drainage Scuppers, Special Details.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

CROSS SECTION - SPANS 1 THRU 6 & 12 THRU 19
(Looking South)



DESIGNED: *Shawn Morgan*
CHECKED: *Shawn Morgan*
DRAWN: *R. Sommers*
CHECKED: *RE*
EXAMINED: *February 7, 1987*
PASSED: *James J. Kephart*
APPROVED: *James J. Kephart*
DIRECTOR OF HIGHWAYS

CROSS SECTION - SPANS 7 THRU 11
(Looking South)

SUPERSTRUCTURE CROSS SECTIONS
F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =	USER NAME = mhellenenthal	DESIGNED -	REVISED -
0780047.66A69.019.Ext.Plan.dgn		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE = 8/6/2015	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 19 OF 38
STRUCTURE NO. 078-0047
SHEET NO. EX19 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	295
CONTRACT NO. 66A69				

ILLINOIS FED. AID PROJECT

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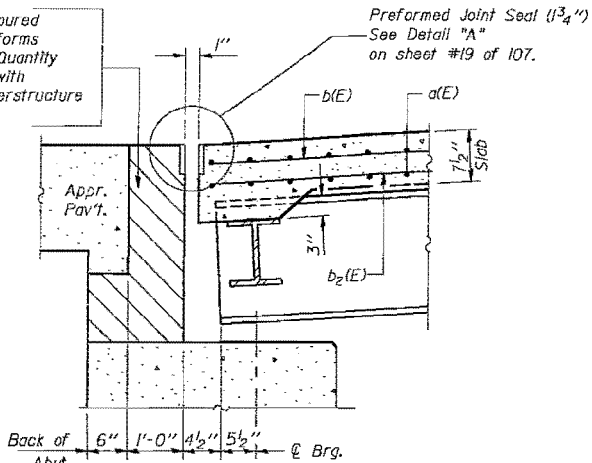
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8/6/2015

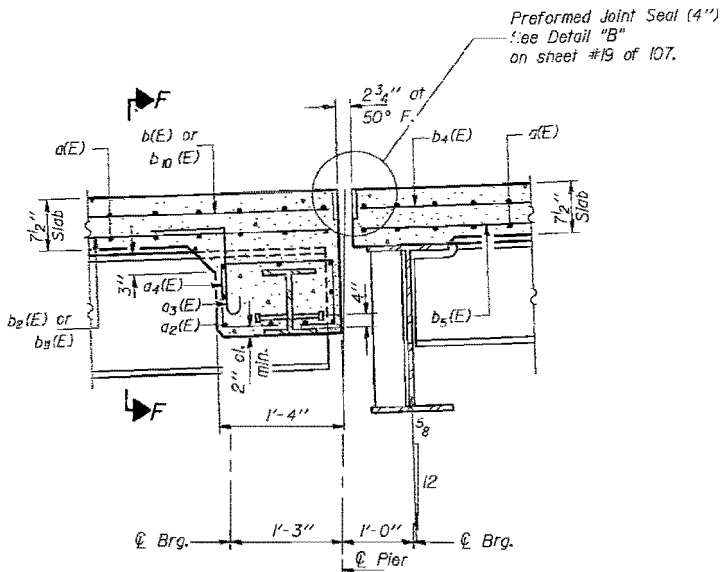
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	CLAS.	SHEET NO.	SHEET
698	1	1	12	1
FED. ROAD DIST. NO. 7				
SHEET NO. 9				
107 SHEETS				

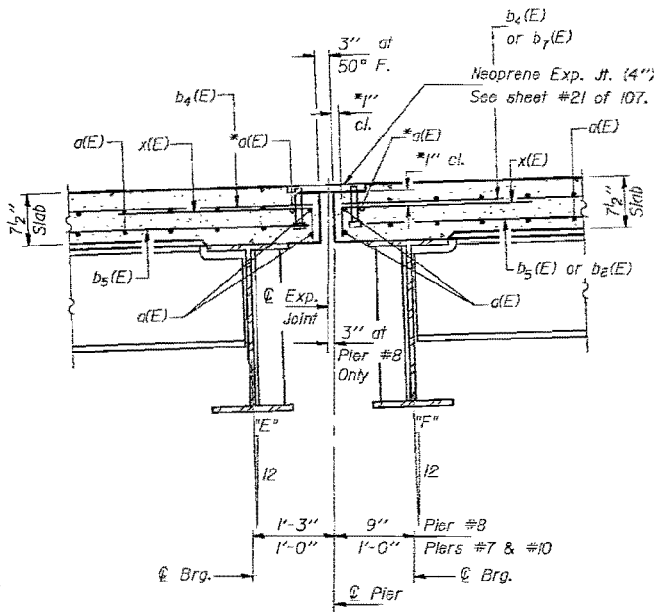
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Class X Concrete Superstructure on sheet #20 of 107.



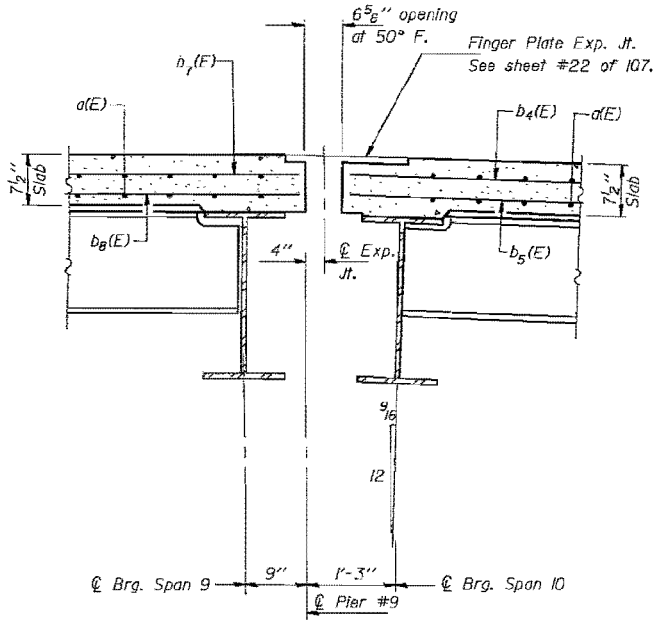
SECTION A-A



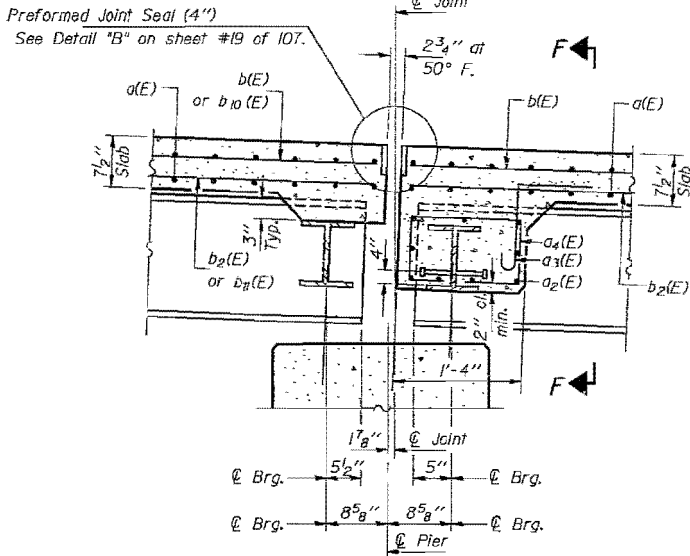
SECTION C-C



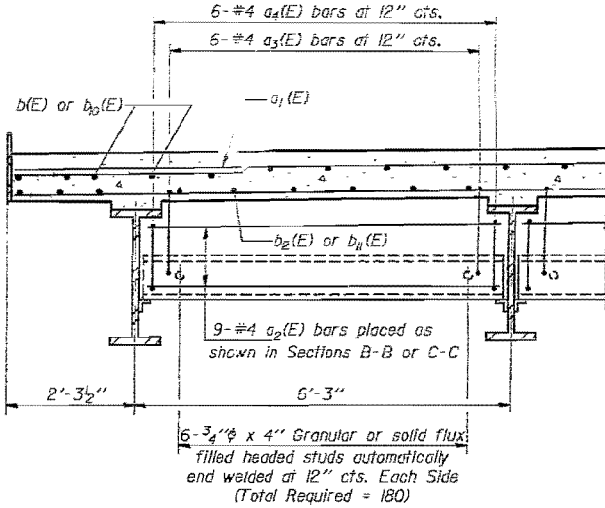
SECTION D-D



SECTION E-E



SECTION B-B



SECTION F-F
(Typical for Interior Bays)

DESIGNED	Shades Mendenhall
CHECKED	Shades Mendenhall
DRAWN	R. Doty
CHECKED	SETH REA
EXAMINED	James J. Kasper
PASSED	James J. Kasper
APPROVED	James J. Kasper

VALUES "E" AND "F"

Location	"E"	"F"
Pier #7	5/8	9/16
Pier #8	9/16	9/16
Pier #10	5/8	9/16

Notes: For location of Section A-A see sheet #4 of 107.
For location of Section B-B see sheets #4 and #7 of 107.
For location of Section C-C see sheets #4, #5 and #7 of 107.
For location of Section D-D see sheets #5 and #6 of 107.
For location of Section E-E see sheet #6 of 107.

SLAB JOINT DETAILS
F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =	USER NAME = mhollenthal	DESIGNED -	REVISED -
0780047.66A69.028.Ext.Plan.dgn		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE = 8/6/2015	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 20 OF 38
STRUCTURE NO. 078-0047

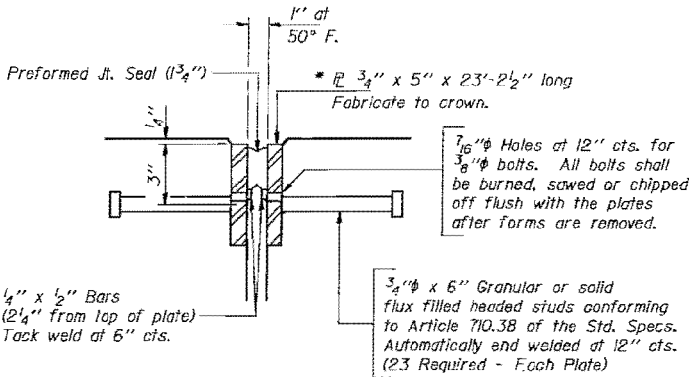
SHEET NO. EX20 OF EX38 SHEETS

FOR INFORMATION ONLY

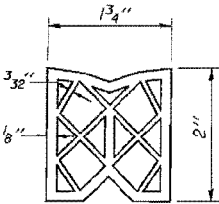
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698	(1) BR	BUREAU/PUTNAM	415	296
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

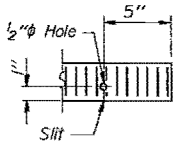
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
698	(1) BR	BUREAU/PUTNAM	415	297
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				



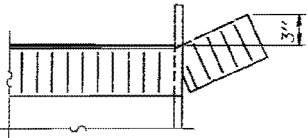
DETAIL "A"



PREFORMED JOINT SEAL (1 3/4")

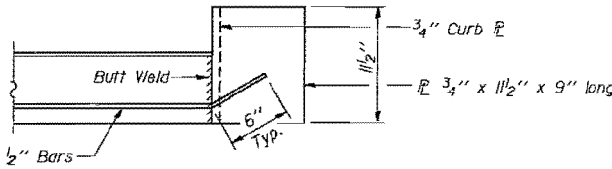


SEAL CUT-OUT (1 3/4")

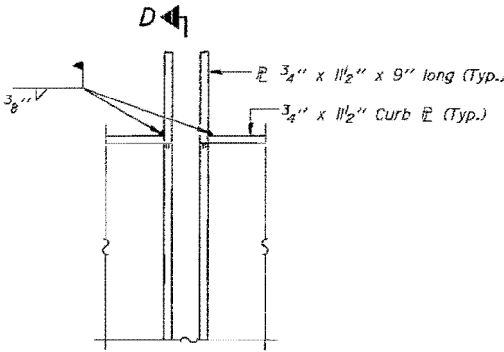


END OF SEAL TREATMENT

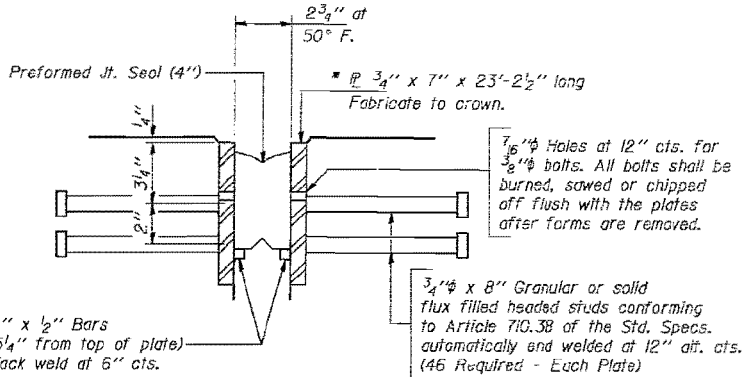
* Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.



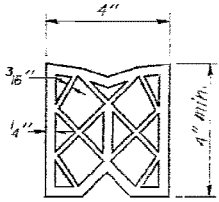
SECTION D-D



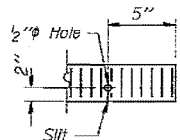
DETAIL "C"



DETAIL "B"



PREFORMED JOINT SEAL (4")



SEAL CUT-OUT (4")

Notes: For location of Details "A" and "B" see sheet #9 of 107.
For location of Detail "C" see sheets #4, #5 and #6 of 107.
After fabrication all surfaces of the steel plates shall be shop painted with the three coat lead and chromate free alkyd paint system as specified for structural steel except at locations of field welding. These locations shall be painted in accordance with the system specified for Existing Structural Steel.

SUPERSTRUCTURE DETAILS
F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00

DESIGNED	February 9, 1989
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	APPROVED



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME :	DESIGNED :	REVISED :
0780047.66A69.021.Ext.Plan.dgn	mhellenenthal	CHECKED :	REVISED :
	PLOT SCALE :	DRAWN :	REVISED :
	PLOT DATE :	CHECKED :	REVISED :

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 21 OF 38
STRUCTURE NO. 078-0047

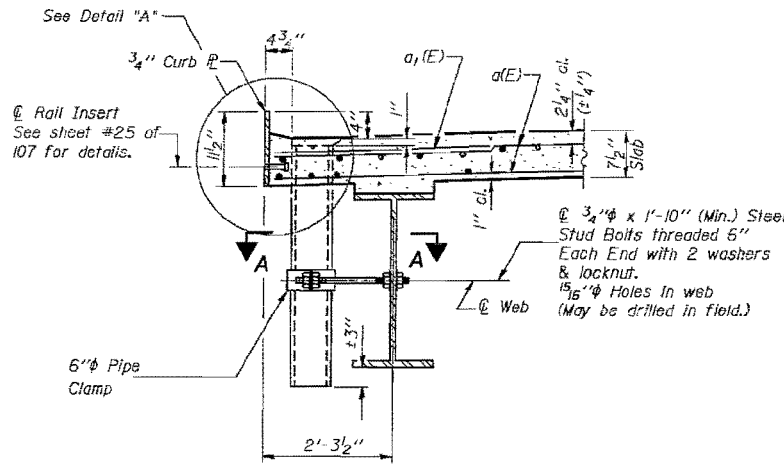
SHEET NO. EX21 OF EX38 SHEETS

FOR INFORMATION ONLY

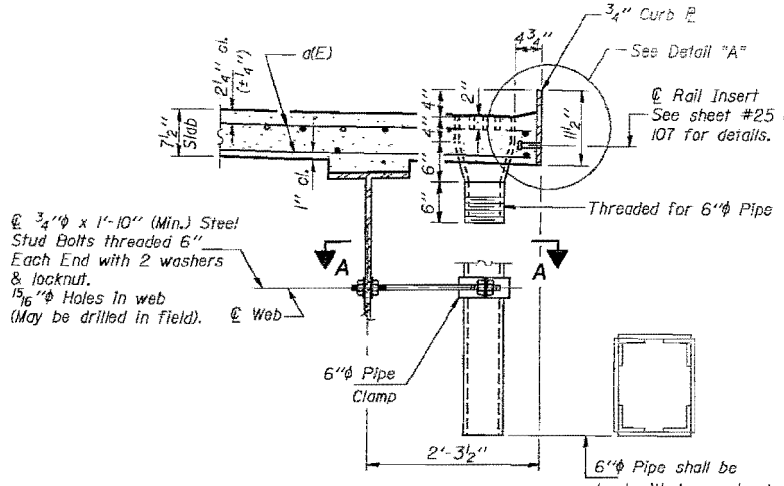
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	297
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

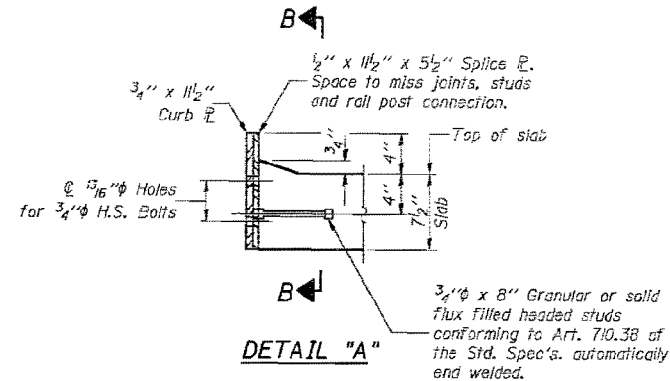
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
698	(1) BR	BUREAU/PUTNAM	415	298
CONTRACT NO. 66A69				



SECTION THRU CURB PLATE
(Approach Spans)

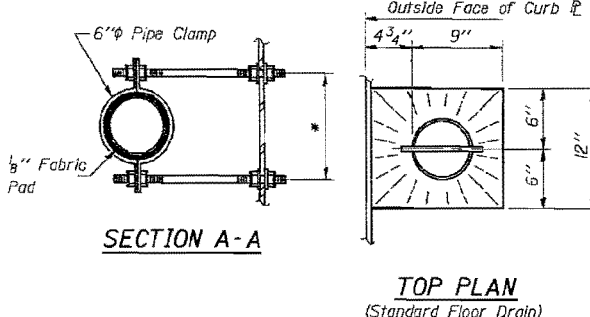


SECTION THRU CURB PLATE
(Truss Spans)

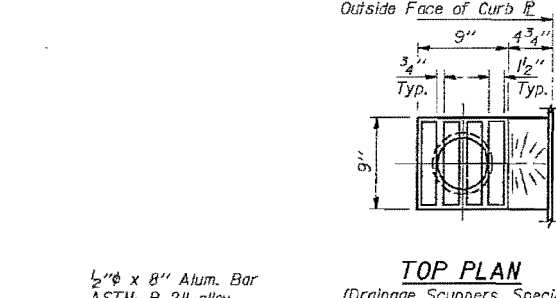


DETAIL "A"

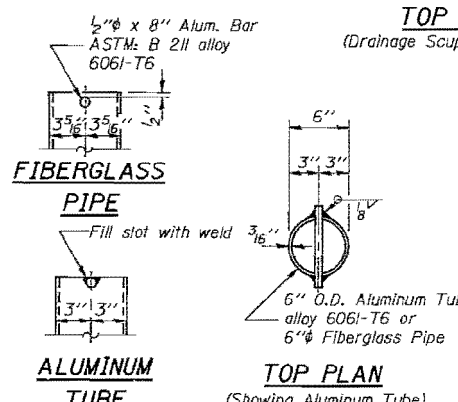
Notes: Curb Plates including Curb Splice Plates and attached studs shall be included in "Structural Steel."
All surfaces of the curb plates and curb splice plates including the contact surfaces and attached studs shall be painted in accordance with the paint system specified for Structural Steel.



* Dimension as required by Pipe Clamp

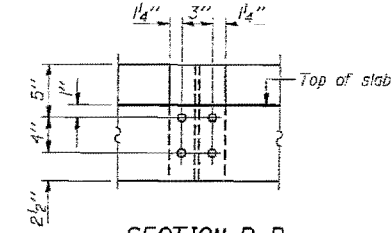


TOP PLAN
(Drainage Scuppers, Special)

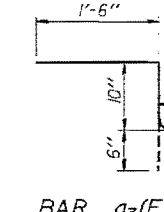


ALUMINUM
TUBE

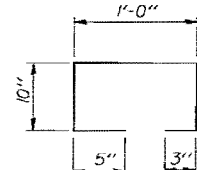
TOP PLAN
(Showing Aluminum Tube)



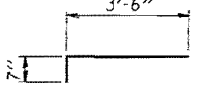
SECTION B-B



BAR a3(E)



BAR a4(E)



BAR x(E)

SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	5171	#5	23'-0"	
a1(E)	3040	#6	4'-0"	
a2(E)	135	#4	5'-11"	
a3(E)	90	#4	2'-10"	
a4(E)	90	#4	3'-4"	
b(E)	480	#5	27'-1"	
b1(E)	184	#6	28'-9"	
b2(E)	672	#5	19'-10"	
b3(E)	644	#6	17'-6"	
b4(E)	672	#5	30'-3"	
b5(E)	768	#5	26'-9"	
b6(E)	299	#6	18'-0"	
b7(E)	312	#5	29'-7"	
b8(E)	336	#5	27'-7"	
b9(E)	23	#6	28'-6"	
b10(E)	120	#5	18'-6"	
b11(E)	72	#5	29'-10"	
x(E)	144	#5	4'-1"	
Reinforcement Bars (Epoxy Coated)			Pound	271,710
Class X Concrete Superstructure			Cu. Yd.	981.2

Reinforcement bars designated (E) shall be epoxy coated.

SUPERSTRUCTURE DETAILS
F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00

Notes:
The exterior surfaces of the Floor Drains and Drainage Scuppers, Special shall be painted with the final coat of the paint system specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting. Fiberglass to have a prewash as per MIL-P-15328 prior to painting.
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED: *[Signature]*
CHECKED: *[Signature]*
DRAWN: R. Doty
CHECKED: *[Signature]*
February 9, 1969
EXAMINED: *[Signature]*
PASSED: *[Signature]*
APPROVED: *[Signature]*
DIRECTOR OF HIGHWAYS

S-I-D 12-1-83



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME: 0780047.66A69.022.Ext.Plan.dgn

USER NAME: mhellenenthal	DESIGNED: -	REVISED: -
PLOT SCALE: -	CHECKED: -	REVISED: -
PLOT DATE: 8/6/2015	DRAWN: -	REVISED: -
	CHECKED: -	REVISED: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 22 OF 38
STRUCTURE NO. 078-0047

SHEET NO. EX22 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	298
CONTRACT NO. 66A69				

ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

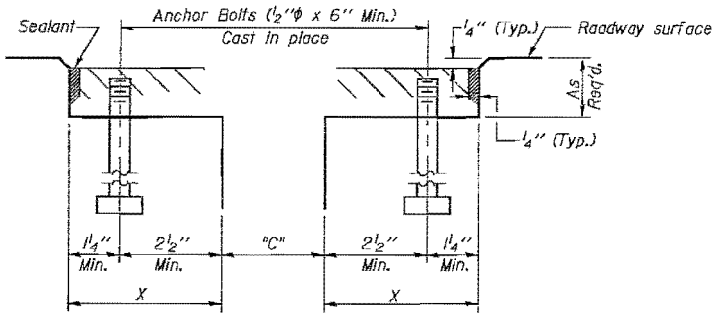
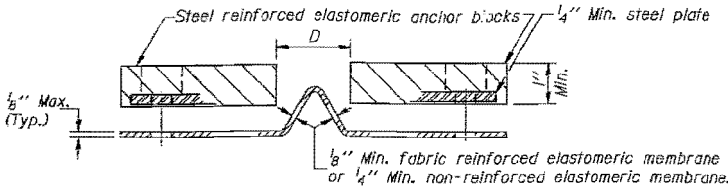
Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	* 3 3/8"	2 1/2" Min.

* Dimension includes allowance for 3/8" horizontal deflection due to deck pour. (3" after deck pour).

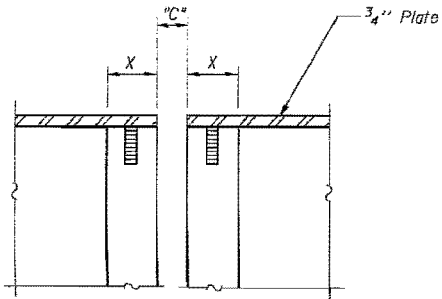
INSTALLATION NOTES

1. Install sponge mandrels into positions shown to form flap convolution.
2. Install curb piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

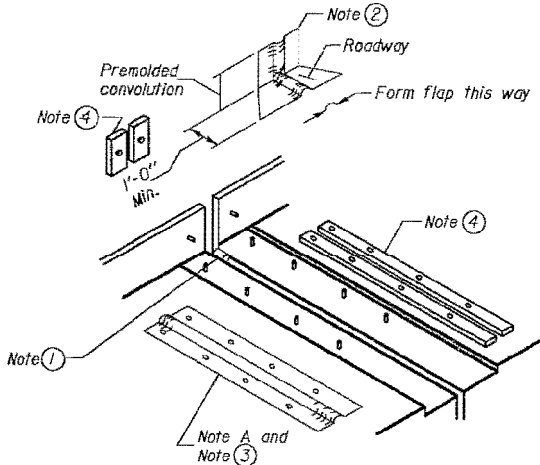
NOTE A: Maximum spacing of anchor bolts shall be 12" centers.



CROSS SECTION



**FORMING BLOCKOUT
SKETCH**



AT END OF SLAB

GENERAL NOTES

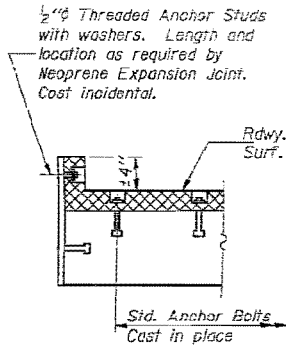
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.



AT END OF SLAB

**CONTINUOUS SEAL TYPE
NEOPRENE EXPANSION JOINTS**

For 2", 2 1/2" and 4" Movement

F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00

DESIGNED *[Signature]*
CHECKED *[Signature]*
DRAWN R. Doty
CHECKED *[Signature]* S.M. REA

February 9, 1989
EXAMINED *[Signature]*
PASSED *[Signature]*
APPROVED *[Signature]*
DIRECTOR OF HIGHWAYS



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME =
0780047.66A69.023.Ext.Plan.dgn

USER NAME = mhellenenthal
PLOT SCALE =
PLOT DATE = 8/6/2015

DESIGNED -
CHECKED -
DRAWN -
CHECKED -
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 23 OF 38
STRUCTURE NO. 078-0047

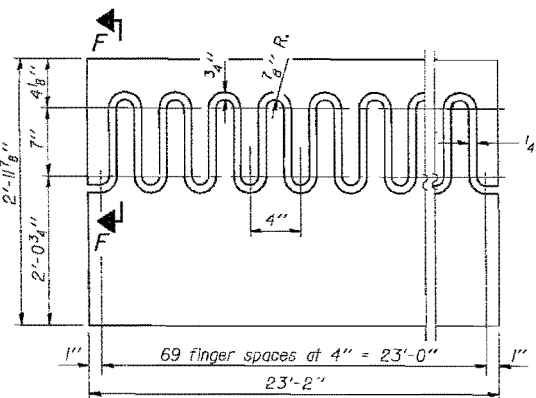
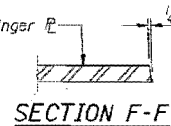
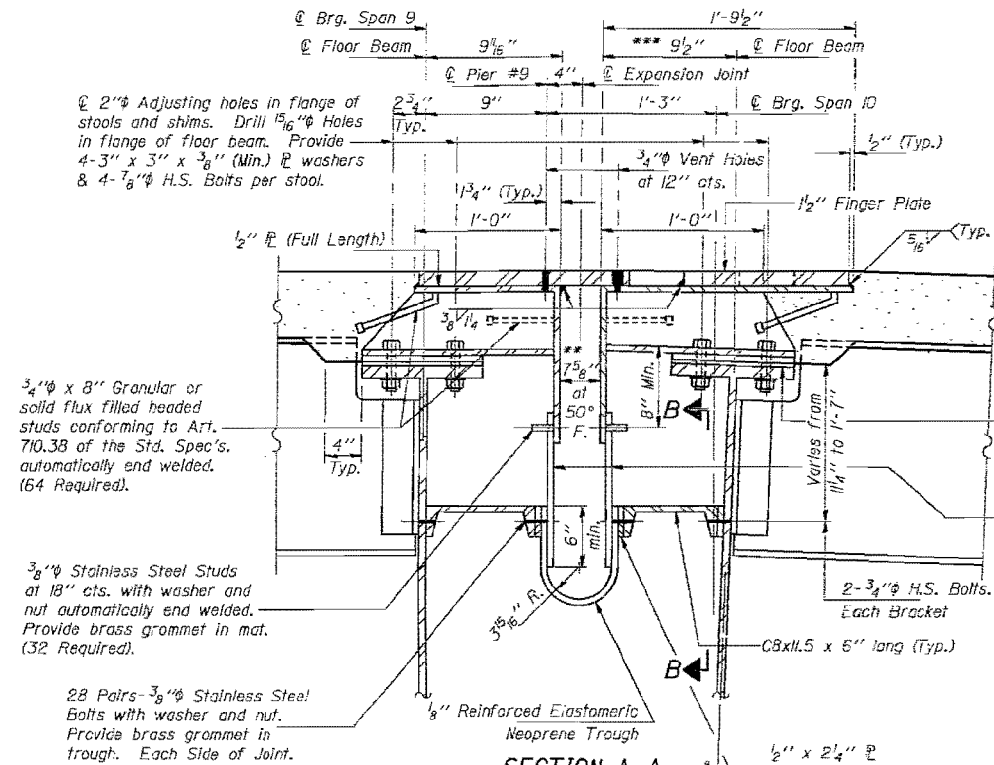
SHEET NO. EX23 OF EX38 SHEETS

FOR INFORMATION ONLY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	299
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

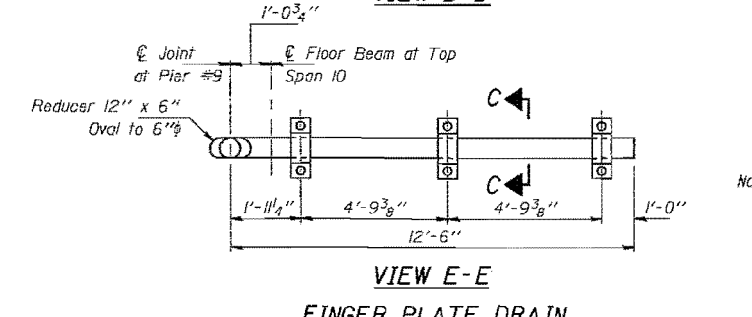
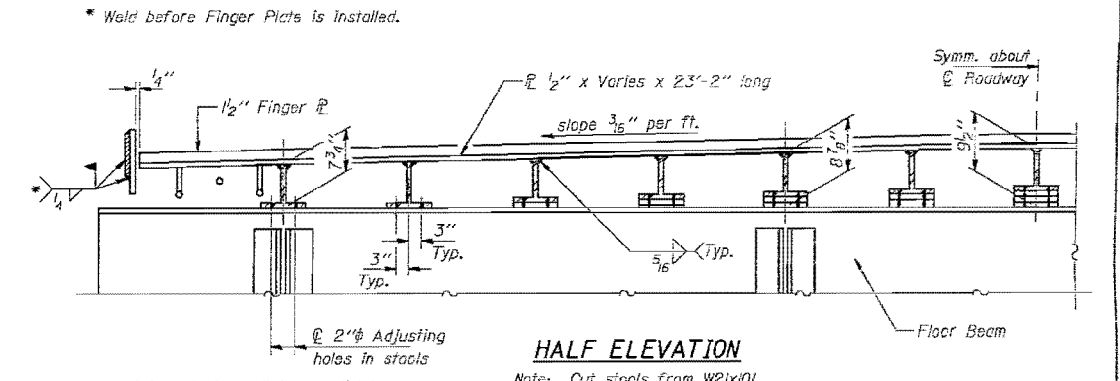
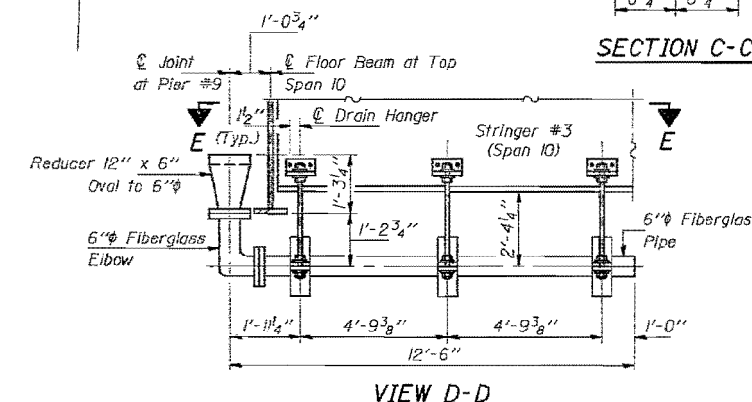
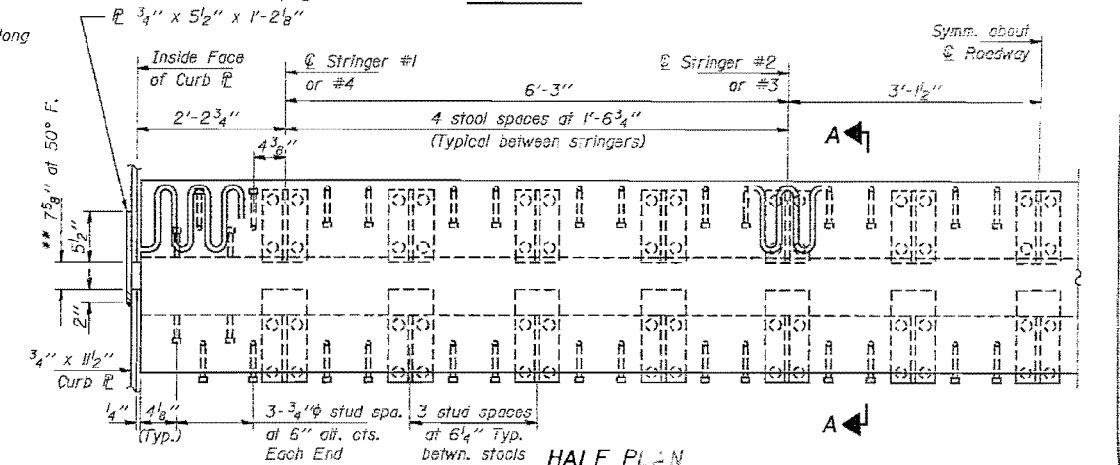
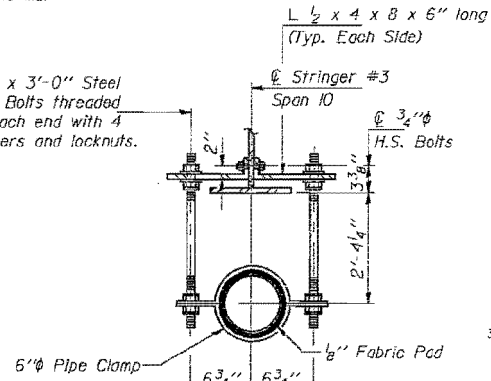
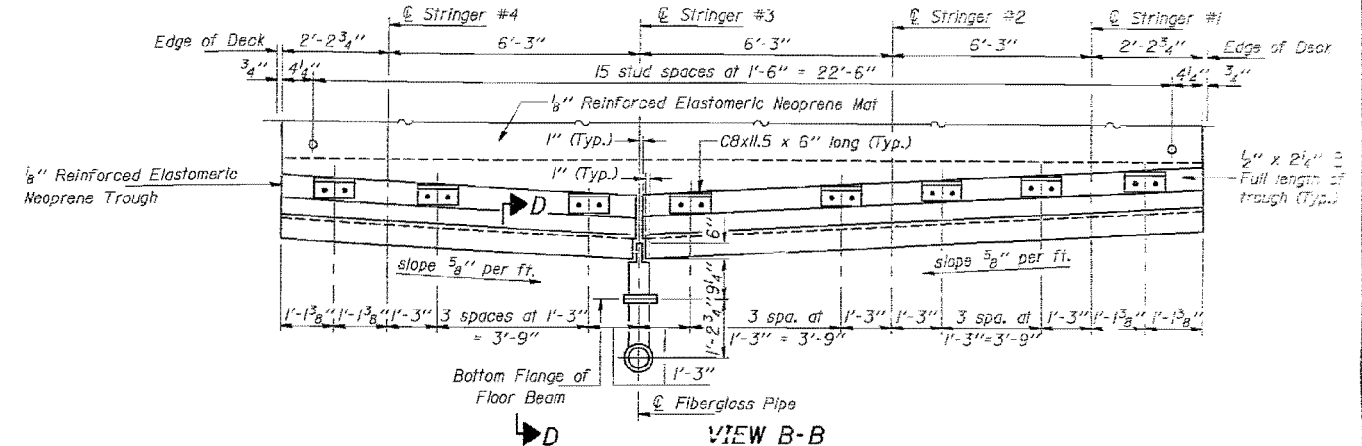
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	DATE	SHEET	SHEET NO. 22 107 SHEETS
698	(1) BR	11/14/01	22	
PUTNAM	698	11/14/01	22	



DESIGNED	EXAMINED	1989
CHECKED	PASSED	
DRAWN	APPROVED	
CHECKED		

*** Dimensions at top of Floor Beams.



Notes: The exterior surfaces of the finger plate drain and attachments shall be painted in accordance with the paint system specified for Structural Steel. Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. Cost of the finger plate drain and attachments shall be incidental to "Reinforced Neoprene Expansion Joint Treatment". Cost of field drilled holes is included with "Structural Steel".

EXPANSION JOINT
AT PIER #9
F.A. RT. 698 SEC. 1B-D
BUREAU-PUTNAM COUNTIES
STA. 57+32.00

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10141.01

FILE NAME :	USER NAME :	DESIGNED :	REVISED :
0780047.66A69.024.Ext.Plan.dgn	mhellenenthal	CHECKED :	REVISED :
		DRAWN :	REVISED :
		CHECKED :	REVISED :

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS 24 OF 38
STRUCTURE NO. 078-0047
SHEET NO. EX24 OF EX38 SHEETS

FOR INFORMATION ONLY				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
698	(1) BR	BUREAU/PUTNAM	415	300
CONTRACT NO. 66A69				
ILLINOIS FED. AID PROJECT				

8/6/2015 5:50:16 PM X:\10100S\10141.01\Eng-Docs\1189Phase1\SpringValleyBridge\Final\Plans\Existing Plans\0780047.66A69.024.Ext.Plan.dgn