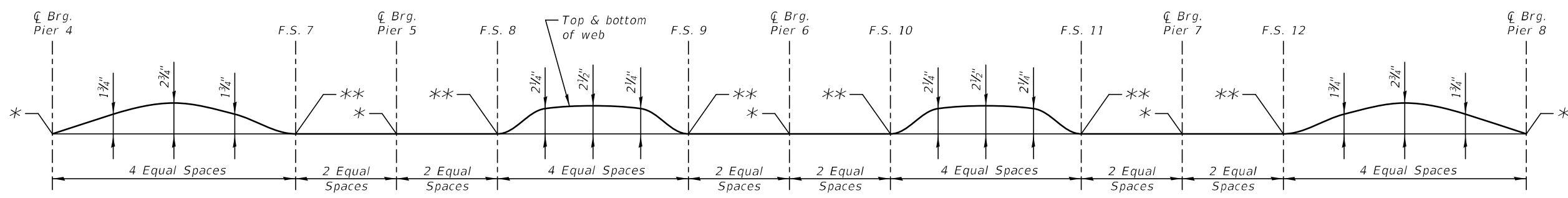
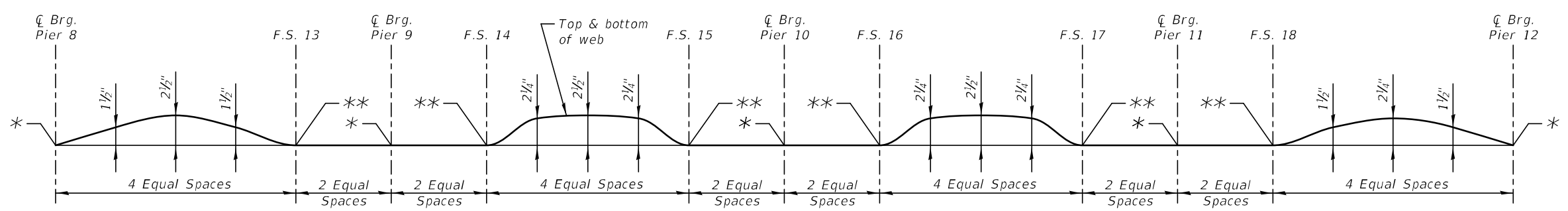


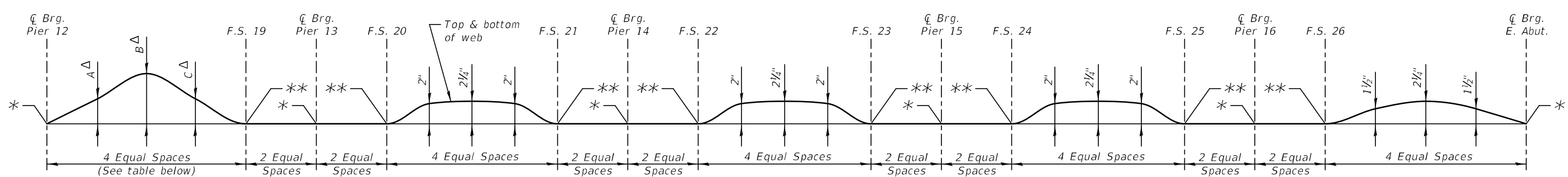
UNIT 1 - CAMBER DIAGRAM



UNIT 2 - CAMBER DIAGRAM



UNIT 3 - CAMBER DIAGRAM



UNIT 4 - CAMBER DIAGRAM

UNIT 4 CAMBER DIMENSIONS					
Girder	☐ Brg. Pier 12	A	B	C	F.S. 19
W1	0	2 1/4"	4 1/2"	2 1/4"	0
W2	0	2"	4"	2"	0
W3	0	1 3/4"	3 1/4"	1 3/4"	0
W4	0	1 1/2"	2 3/4"	1 1/2"	0
W5	0	1 1/4"	2 1/4"	1 1/4"	0
W6	0	3/4"	1 3/4"	3/4"	0
E1	0	1 1/4"	2 1/4"	1 1/4"	0
E2	0	1"	1 3/4"	1"	0
E3	0	3/4"	1 1/4"	3/4"	0
E4	0	1/2"	3/4"	1/2"	0
E5	0	0	0	0	0
E6	0	0	0	0	0

Notes:

- * Final top of web elevations to be used in computing the bearing seat elevations.
- ** Theoretical elevations before dead load deflections.
- For Top of Web Elevations see sheet S-116
- Δ See Camber Dimensions table.

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\WB110.dgn



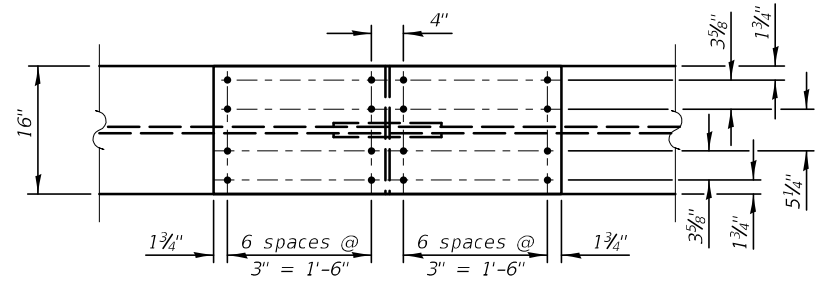
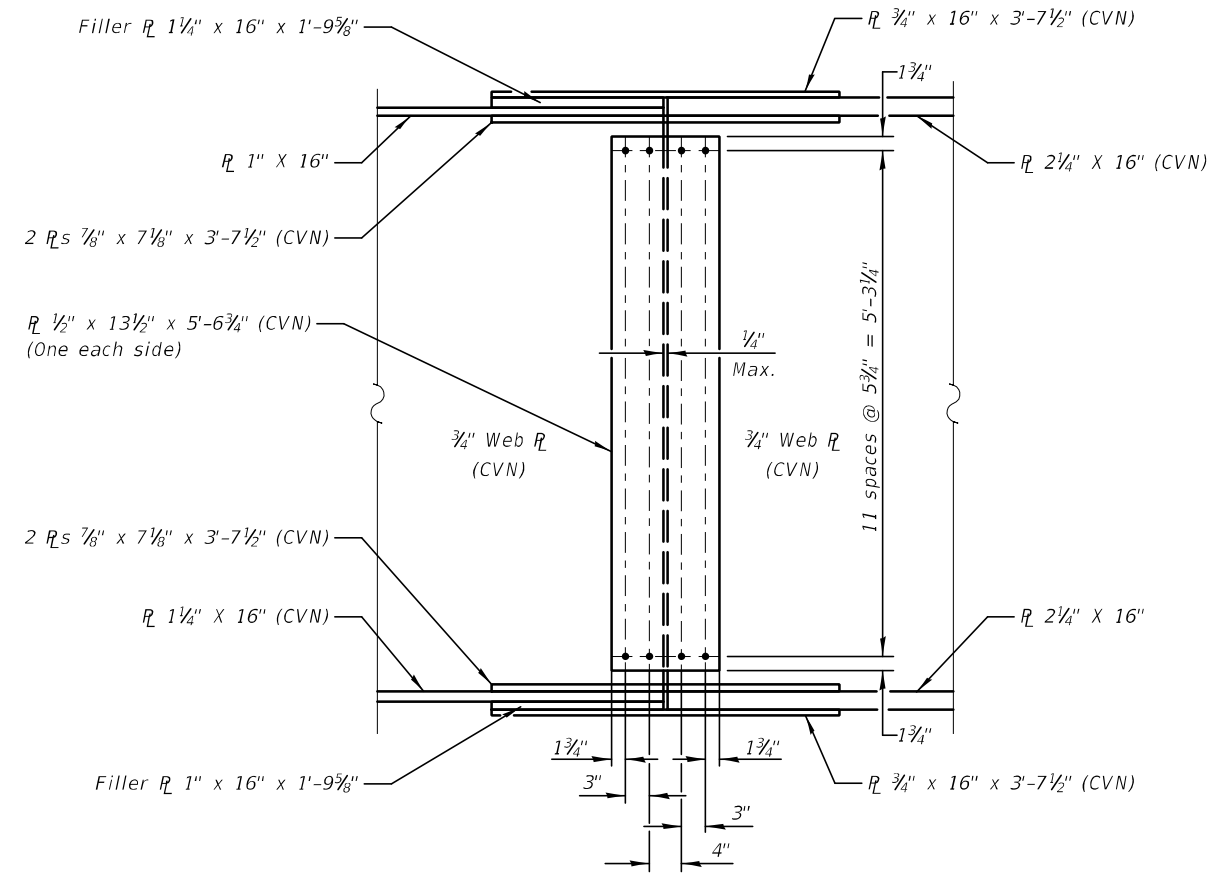
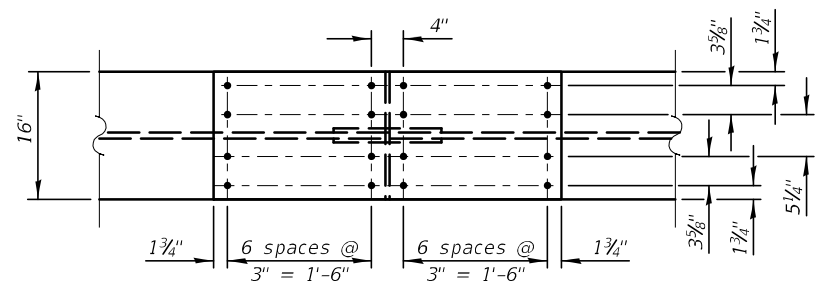
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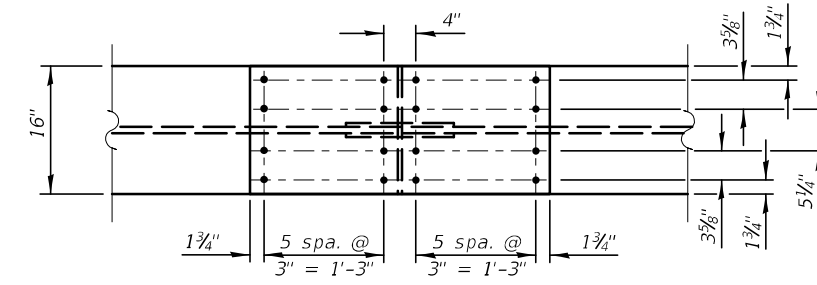
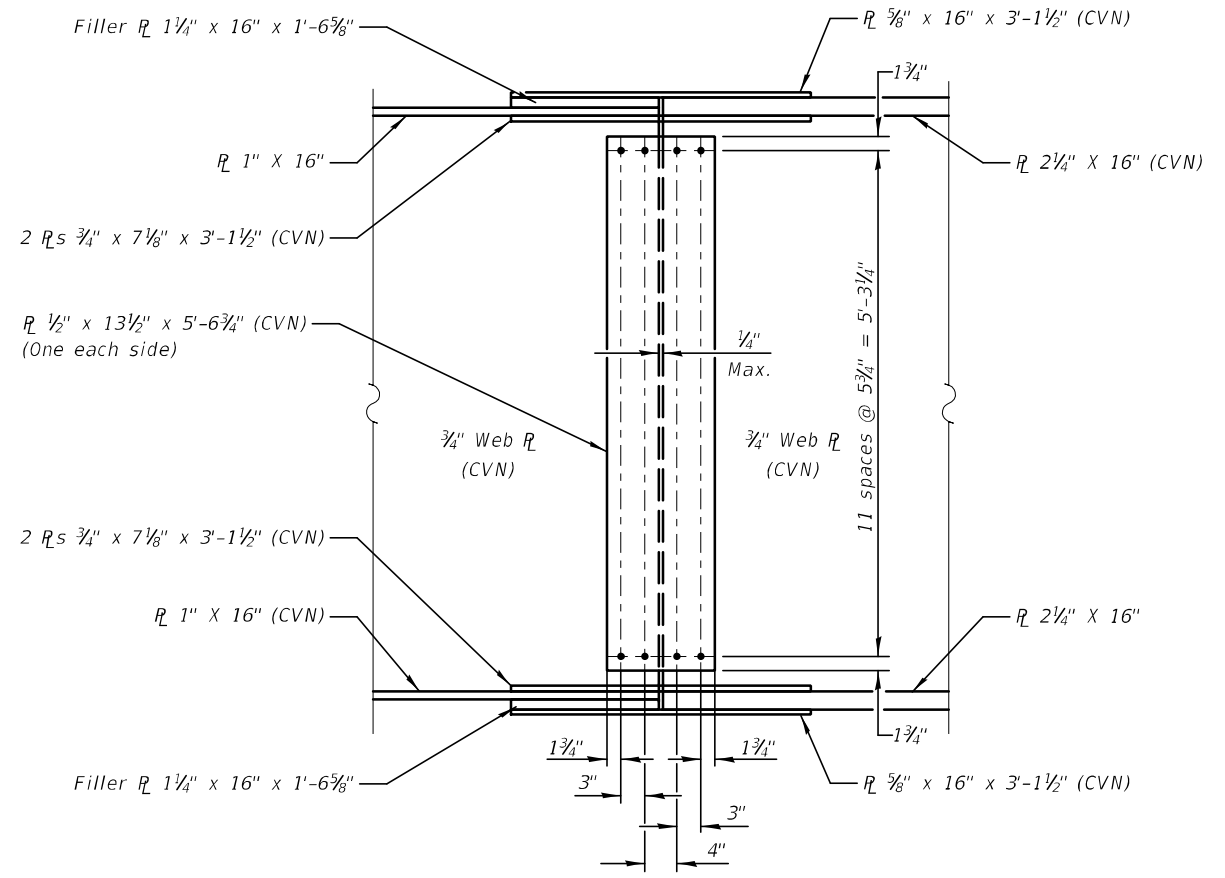
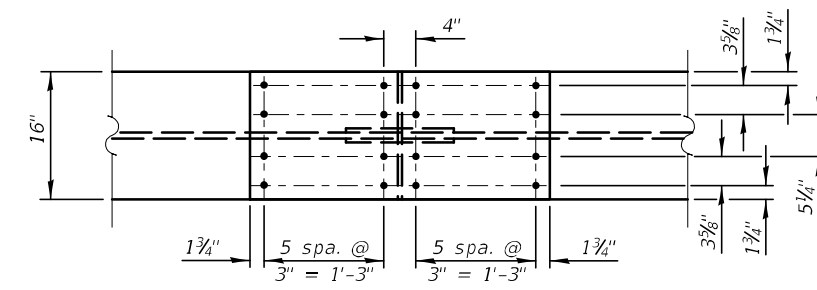
CAMBER DIAGRAMS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-117 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	301
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



FIELD SPLICE DETAIL
 For Unit 1 Splices 1 and 6
 For Unit 2 Splices 7 and 12
 (48 Required)



FIELD SPLICE DETAIL
 For Unit 1 Splices 2 and 5
 For Unit 2 Splices 8 and 11
 (48 Required)

Notes:
 Fasteners shall be ASTM F3125 Grade A325 Type 3 weathering steel bolts in unpainted areas. Bolts 7/8" ø, holes 1 5/16" ø.
 Load carrying components designated (CVN) denotes Charpy V-notch impact energy requirements, Zone 2.

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-BM15.dgn



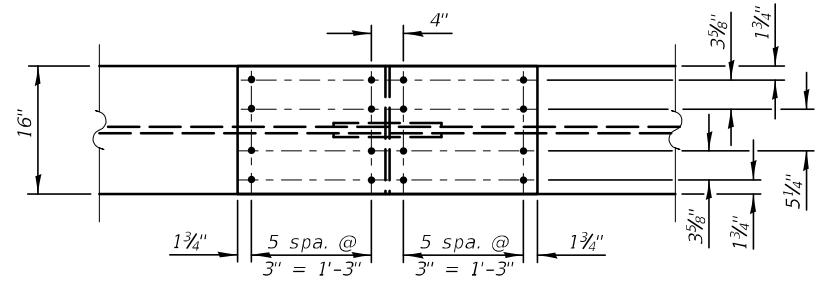
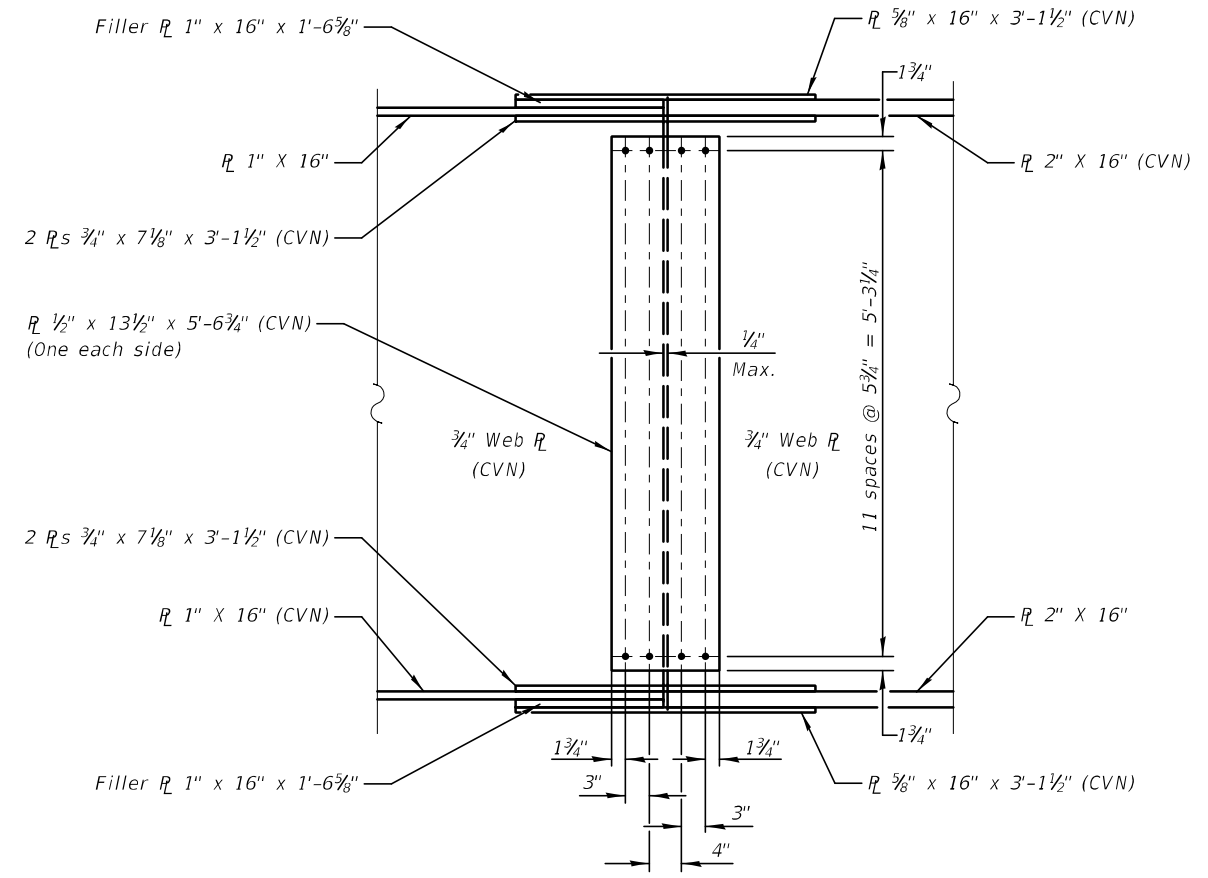
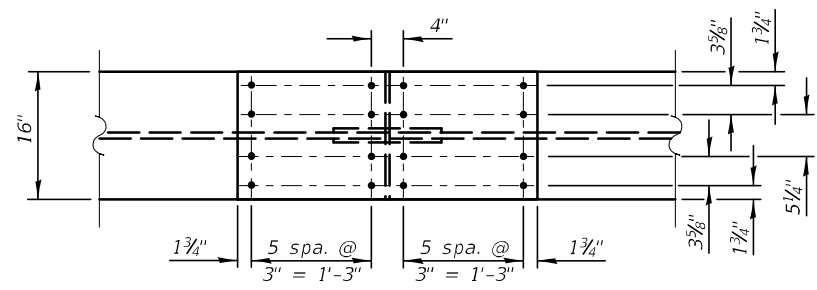
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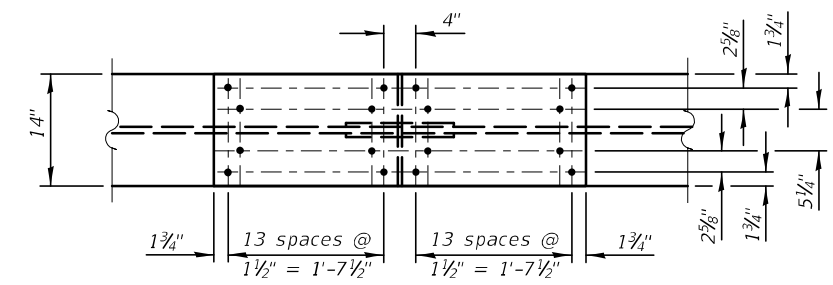
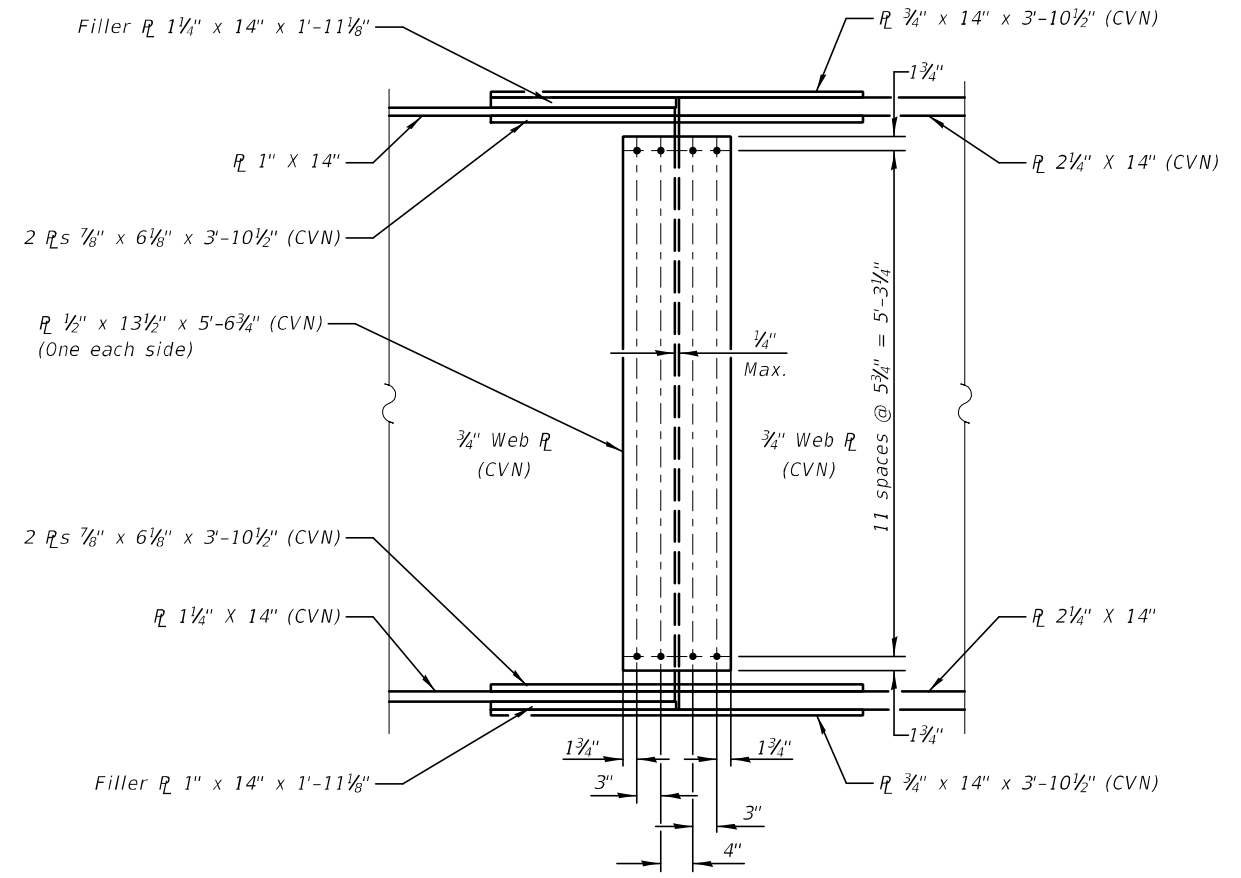
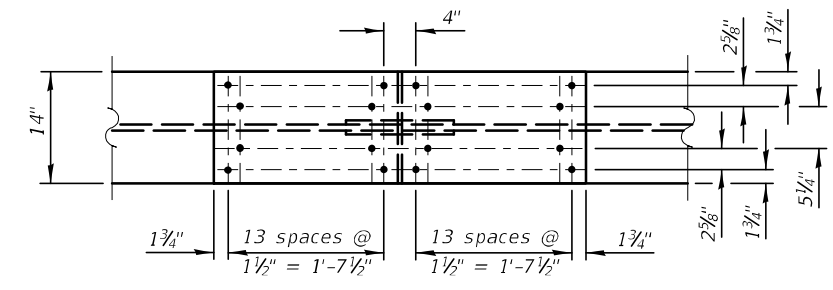
FIELD SPLICE DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-118 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	302
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



FIELD SPLICE DETAIL
 For Unit 1 Splices 3 and 4
 For Unit 2 Splices 9 and 10
 (48 Required)



FIELD SPLICE DETAIL
 For Unit 3 Splices 13 and 18
 (24 Required)

Notes:
 Fasteners shall be ASTM F3125 Grade A325 Type 3 weathering steel bolts in unpainted areas. Bolts 7/8" ø, holes 1 5/16" ø.
 Load carrying components designated (CVN) denotes Charpy V-notch impact energy requirements, Zone 2.

PLOT DATE = 8/9/2023
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 Engineers & Architects

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SCALE	- NONE
DATE	- 8/11/2023

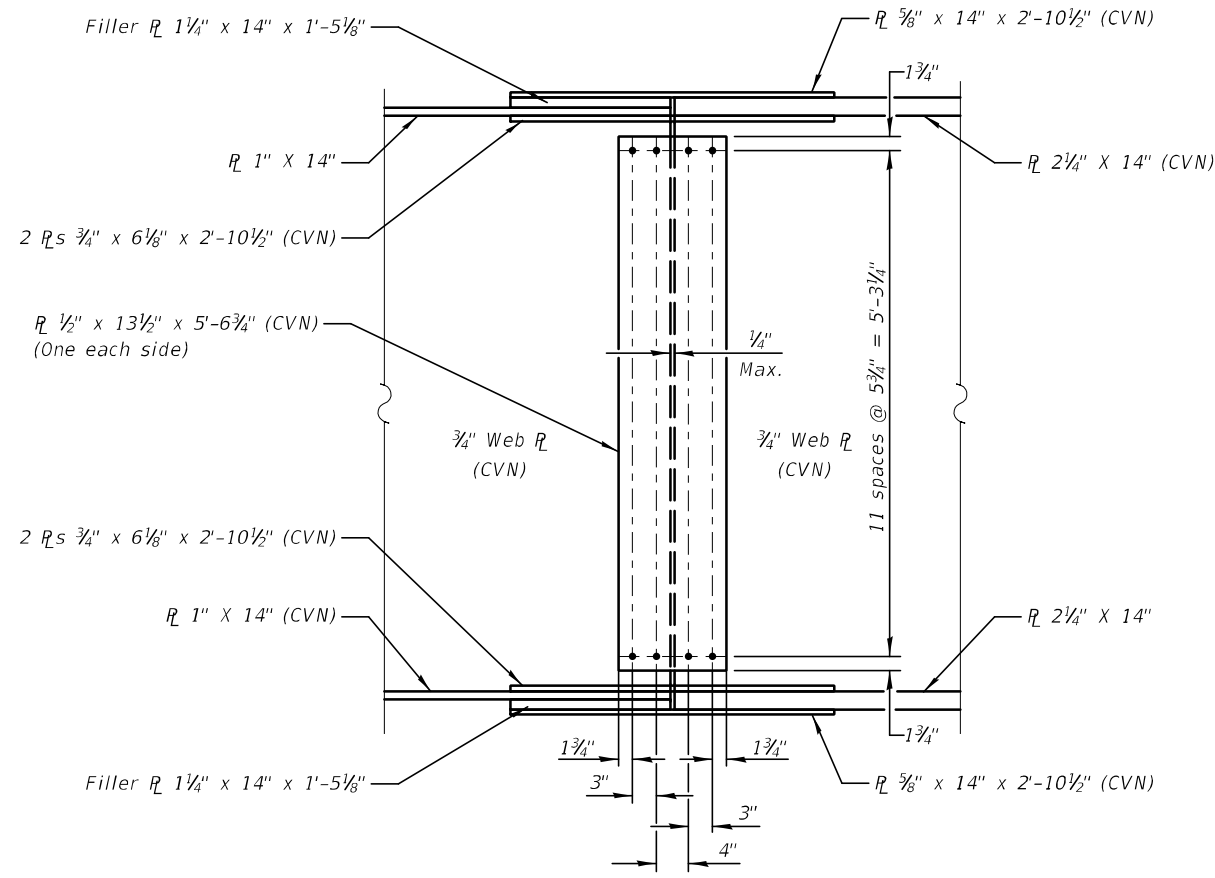
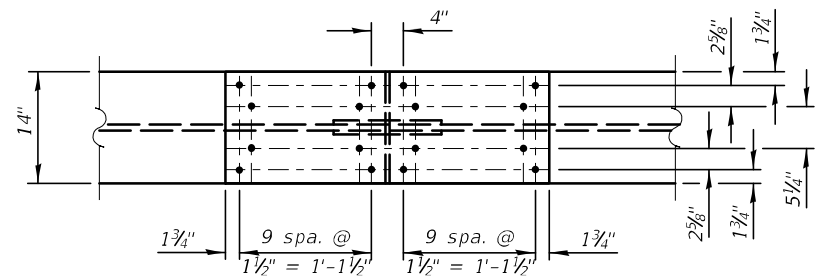
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DESIGNED	- DC
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DRAWN	- BK
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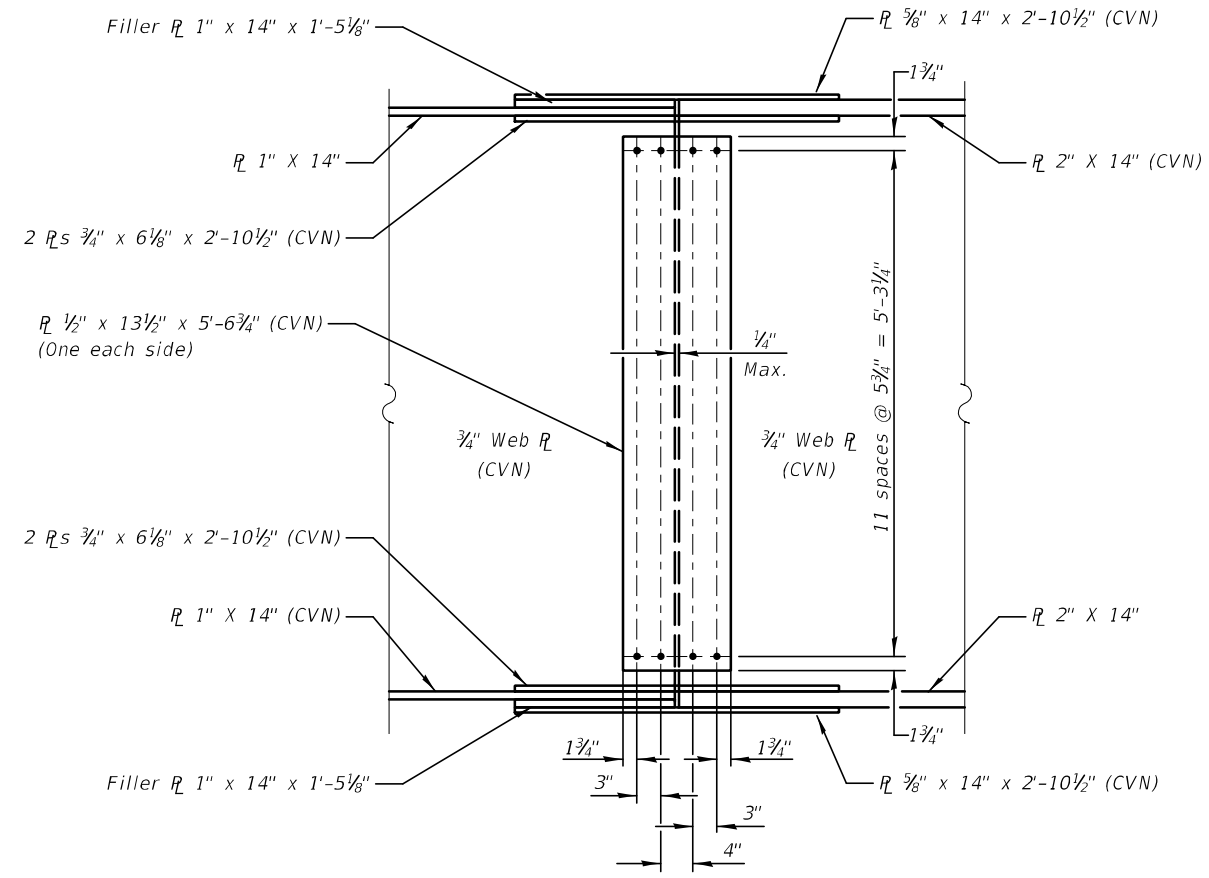
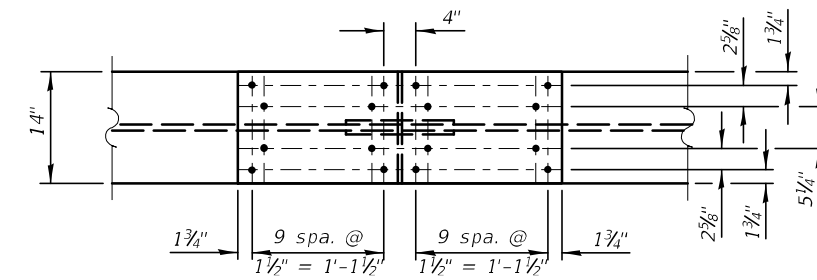
STATE OF ILLINOIS
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FIELD SPLICE DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
 SHEET S-119 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	303
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



FIELD SPLICE DETAIL
For Unit 3 Splices 14 and 17
(24 Required)



FIELD SPLICE DETAIL
For Unit 3 Splices 15 and 16
(24 Required)

Notes:
Fasteners shall be ASTM F3125 Grade A325 Type 3 weathering steel bolts in unpainted areas. Bolts 7/8" ø, holes 1 5/16" ø.
Load carrying components designated (CVN) denotes Charpy V-notch impact energy requirements, Zone 2.

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-BM17.dgn

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Engineers & Architects

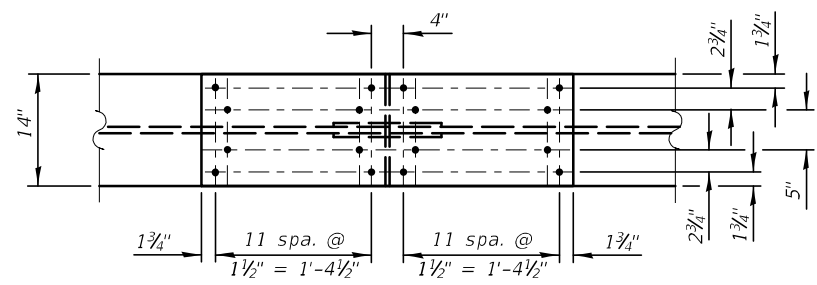
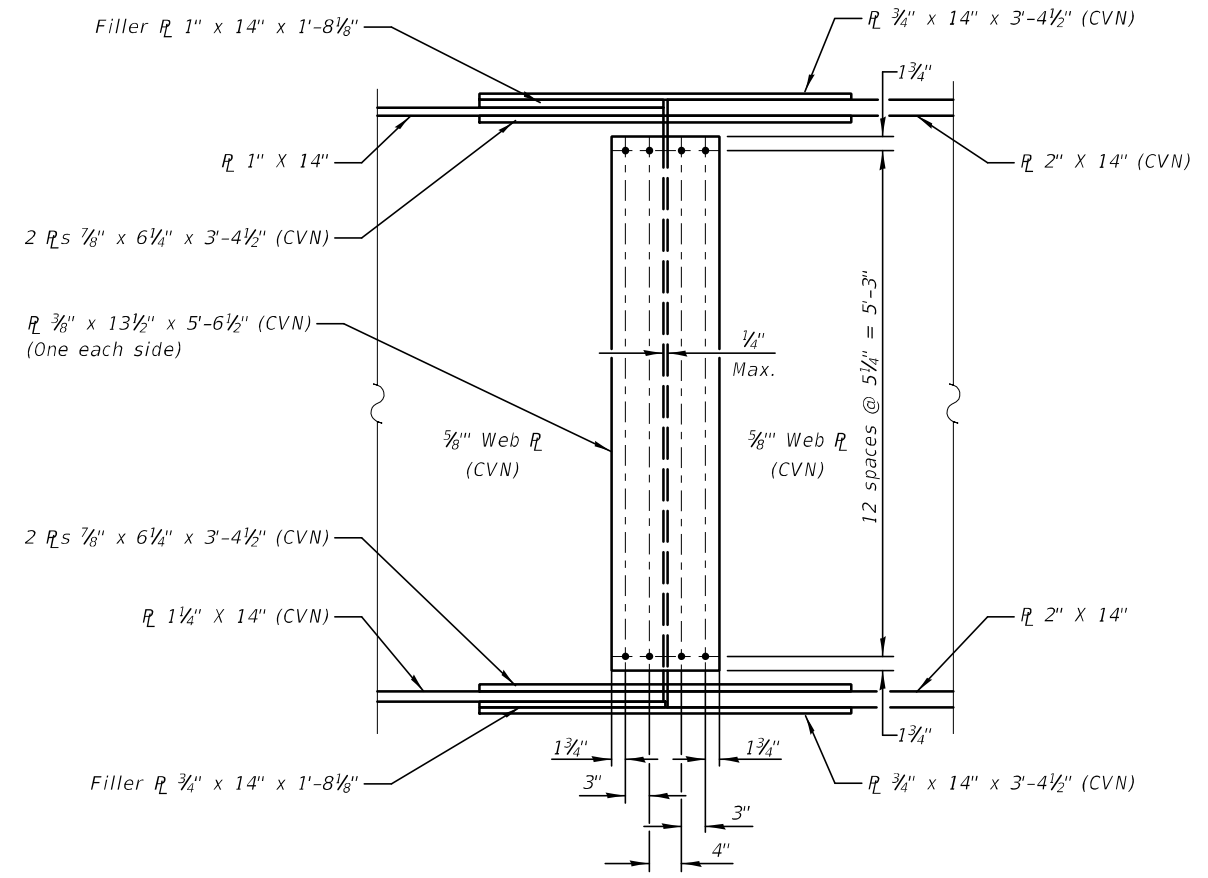
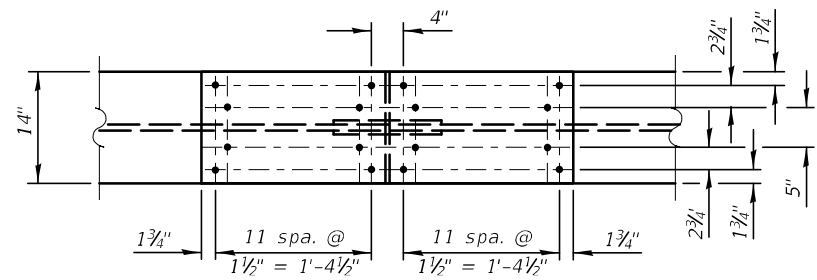
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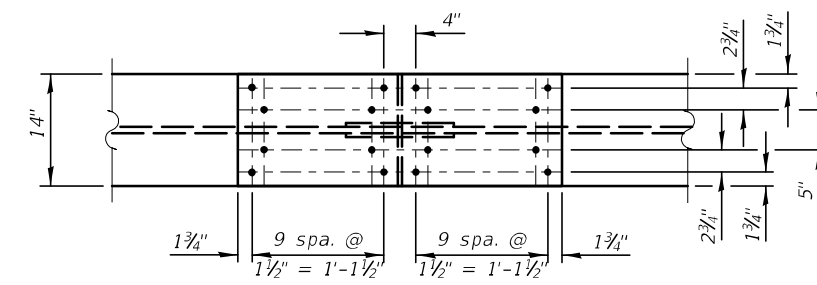
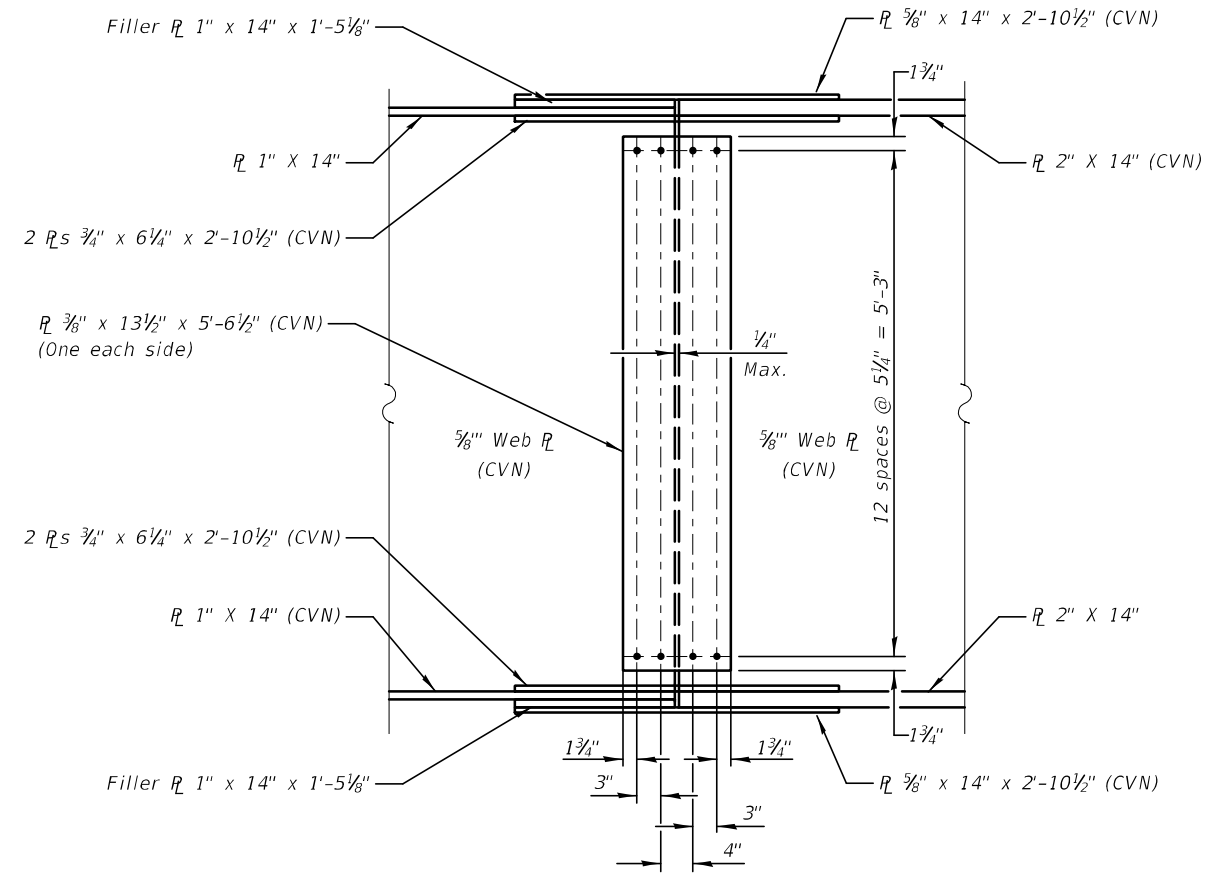
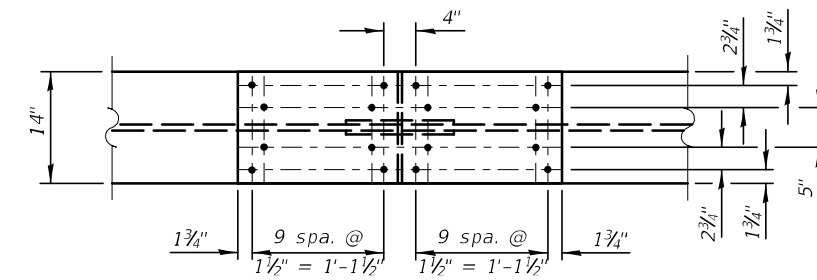
FIELD SPLICE DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-120 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	304
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



FIELD SPLICE DETAIL
For Unit 4 Splices 19 and 26
(24 Required)



FIELD SPLICE DETAIL
For Unit 4 Splices 20 to 25
(72 Required)

Notes:
Fasteners shall be ASTM F3125 Grade A325 Type 3 weathering steel bolts in unpainted areas. Bolts 7/8" ø, holes 1 5/16" ø.

Load carrying components designated (CVN) denotes Charpy V-notch impact energy requirements, Zone 2.

Unit 4 flange splice plates and filler plates shall be horizontally curved.

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-BM18.dgn

KNIGHT
Engineers & Architects

DESIGNED - DC	REVISION
CHECKED - TB	REVISION
SCALE - NONE	REVISION
DATE - 8/11/2023	REVISION
DRAWN - BK	REVISION
CHECKED - LS	REVISION

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FIELD SPLICE DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-121 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	305
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

INTERIOR GIRDER MOMENT TABLE - UNIT 1				
	0.4 Span 1 0.6 Span 4	Pier 1 or Pier 3	0.5 Span 2 or 0.5 Span 3	Pier 2
Is	(in ⁴) 71231	122594	65963	110965
Ic(n)	(in ⁴) 162522	228101	148504	212222
Ic(3n)	(in ⁴) 118153	-	108876	-
Ic(cr)	(in ⁴) -	135868	-	124039
Ss	(in ³) 2001	3205	1783	2920
Sc(n)	(in ³) 2769	-	2487	-
Sc(3n)	(in ³) 2487	-	2230	-
Sc(cr)	(in ³) -	3341	-	3058
DC1	(k/ft) 1.16	1.30	1.15	1.27
MDC1	(k) 1893	3806	1152	3035
DC2	(k/ft) 0.19	0.19	0.19	0.19
MDC2	(k) 315	576	199	474
DW	(k/ft) 0.35	0.35	0.35	0.35
MDW	(k) 580	1061	366	872
LLDF	0.567	0.561	0.555	0.555
MLL+IM	(k) 2379	2731	2108	2638
Mu (Strength I)	(k) 7792	-	5927	-
ØfMn	(k) 13631	-	12586	-
fs DC1	(ksi) 11.4	14.3	7.8	12.5
fs DC2	(ksi) 1.5	2.1	1.1	1.9
fs DW	(ksi) 2.8	3.8	2.0	3.4
fs (LL+IM)	(ksi) 10.3	9.8	10.2	10.4
fs (Service II)	(ksi) 29.1	32.9	24.0	31.2
0.95RhFyf	(ksi) 47.5	47.5	47.5	47.5
fs (Total)(Strength I)	(ksi) -	43.3	-	41.2
ØfFn	(ksi) -	50.0	-	50.0
Vf	(k) 65.8	71.2	52.4	71.3

INTERIOR GIRDER MOMENT TABLE - UNIT 2				
	0.4 Span 5 0.6 Span 8	Pier 5 or Pier 7	0.5 Span 6 or 0.5 Span 7	Pier 6
Is	(in ⁴) 71231	122594	65963	110965
Ic(n)	(in ⁴) 162522	228101	148504	212222
Ic(3n)	(in ⁴) 118153	-	108876	-
Ic(cr)	(in ⁴) -	135868	-	124039
Ss	(in ³) 2001	3205	1783	2920
Sc(n)	(in ³) 2769	-	2487	-
Sc(3n)	(in ³) 2487	-	2230	-
Sc(cr)	(in ³) -	3341	-	3058
DC1	(k/ft) 1.16	1.30	1.15	1.27
MDC1	(k) 1836	3757	1169	3050
DC2	(k/ft) 0.19	0.19	0.19	0.19
MDC2	(k) 305	568	201	475
DW	(k/ft) 0.35	0.35	0.35	0.35
MDW	(k) 562	1047	371	876
LLDF	0.568	0.562	0.555	0.555
MLL+IM	(k) 2350	2713	2105	2637
Mu (Strength I)	(k) 7632	-	5953	-
ØfMn	(k) 13672	-	12601	-
fs DC1	(ksi) 11.0	14.1	7.9	12.5
fs DC2	(ksi) 1.5	2.0	1.1	1.9
fs DW	(ksi) 2.7	3.8	2.0	3.4
fs (LL+IM)	(ksi) 10.2	9.7	10.2	10.3
fs (Service II)	(ksi) 28.4	32.5	24.2	31.3
0.95RhFyf	(ksi) 47.5	47.5	47.5	47.5
fs (Total)(Strength I)	(ksi) -	42.8	-	41.3
ØfFn	(ksi) -	50.0	-	50.0
Vf	(k) 65.8	71.2	52.4	71.1

GIRDER REACTION TABLE - UNIT 1						
	W. Abut. or Pier 4		Pier 1 or Pier 3		Pier 2	
	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF	0.791	0.706	0.791	0.706	0.791	0.706
OCF	-	1.0	-	-	-	-
Rdc1 (k)	67.3	63.8	225.3	213.9	200.8	190.7
Rdc2 (k)	10.8	11.0	35.0	35.7	31.5	32.1
Rdw (k)	20.3	20.2	65.8	65.7	59.3	59.2
R-LL (k)	95.9	86.1	186.6	166.7	184.1	164.4
R-IM (k)	19.9	18.0	27.5	24.6	27.2	24.3
Rtotal (k)	214.2	199.1	540.2	506.6	502.9	470.7

GIRDER REACTION TABLE - UNIT 2						
	Pier 4 or Pier 8		Pier 5 or Pier 7		Pier 6	
	Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF	0.791	0.707	0.791	0.707	0.791	0.707
OCF	-	1.0	-	-	-	-
Rdc1 (k)	66.3	62.9	223.9	212.5	201.3	191.2
Rdc2 (k)	10.6	10.6	34.8	34.8	31.6	31.6
Rdw (k)	20.0	20.0	65.3	65.4	59.3	59.3
R-LL (k)	95.6	85.0	186.1	166.3	184.1	164.4
R-IM (k)	19.9	17.7	27.5	24.6	27.3	24.3
Rtotal (k)	212.4	196.2	537.6	503.6	503.6	470.8

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (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.).

MDC1: 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.).

MDC2: 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.).

MDW: 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.).

Mu (Strength I): Factored design moment (kip-ft.).

1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_l + iM

Øf Mn: 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.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (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 / Sc(n) or M_l + iM / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).

fsDC1 + fsDC2 + fsDW + 1.3 fs(l+IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(l+IM)

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
M_l and R_l include the effects of centrifugal force and superelevation.

PLOT DATE = 9/12/2023
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SCALE - NONE	REVISED
DATE - 8/11/2023	REVISED
DRAWN - BK	
CHECKED - LS	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MOMENT AND REACTION TABLES - UNITS 1 & 2
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	306
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS	FED. AID PROJECT	

INTERIOR GIRDER MOMENT TABLE - UNIT 3					
		0.4 Span 9 0.6 Span 12	Pier 9 or Pier 11	0.5 Span 10 or 0.5 Span 11	Pier 10
Is	(in ⁴)	65260	110185	60633	100011
Ic(n)	(in ⁴)	153566	212216	141068	197996
Ic(3n)	(in ⁴)	111246	-	102967	-
Ic(cr)	(in ⁴)	-	123403	-	113028
Ss	(in ³)	1827	2881	1639	2632
Sc(n)	(in ³)	2589	-	2343	-
Sc(3n)	(in ³)	2316	-	2091	-
Sc(cr)	(in ³)	-	3021	-	2775
DC1	(k/')	1.14	1.26	1.13	1.24
MDC1	('k)	1504	3164	1066	2715
DC2	(k/')	0.19	0.19	0.19	0.19
MDC2	('k)	256	490	185	433
DW	(k/')	0.35	0.35	0.35	0.35
MDW	('k)	471	903	341	797
LLDF		0.576	0.568	0.560	0.560
MLL+IM	('k)	2121	2467	1947	2431
Mu (Strength I)	('k)	6619	-	5483	-
ΦfMn	('k)	12846	-	11832	-
fs DC1	(ksi)	9.9	13.2	7.8	12.4
fs DC2	(ksi)	1.3	1.9	1.1	1.9
fs DW	(ksi)	2.4	3.6	2.0	3.4
fs (LL+IM)	(ksi)	9.8	9.8	10.0	10.5
fs (Service II)	(ksi)	26.4	31.4	23.8	31.4
0.95RhFyf	(ksi)	47.5	47.5	47.5	47.5
fs (Total)(Strength I)	(ksi)	-	41.4	-	41.4
ΦfFn	(ksi)	-	50.0	-	50.0
Vf	(k)	65.2	70.8	51.4	70.3

GIRDER REACTION TABLE - UNIT 3							
		Pier 8 or Pier 12		Pier 9 or Pier 11		Pier 10	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF		0.791	0.706	0.791	0.706	0.791	0.706
OCF		-	1.0	-	-	-	-
Rdc1	(k)	59.5	56.4	204.0	193.5	188.4	178.8
Rdc2	(k)	9.9	9.9	32.9	32.9	30.7	30.6
Rdw	(k)	18.2	18.2	60.6	60.6	56.5	56.5
R-LL	(k)	90.4	81.0	178.6	159.5	177.8	158.7
R-IM	(k)	19.1	17.2	27.4	24.5	27.2	24.2
Rtotal	(k)	197.1	182.7	503.5	471.0	480.6	448.8

INTERIOR GIRDER MOMENT TABLE - UNIT 4					
		0.4 Span 13 0.6 Span 17	Pier 13 or Pier 16	0.5 Span 14, 0.5 Span 15, or 0.5 Span 16	Pier 14 or Pier 15
Is	(in ⁴)	61349	96123	56745	96123
Ic(n)	(in ⁴)	145073	190118	132086	190118
Ic(3n)	(in ⁴)	106225	-	97617	-
Ic(cr)	(in ⁴)	-	109067	-	109067
Ss	(in ³)	1726	2530	1534	2530
Sc(n)	(in ³)	2401	-	2151	-
Sc(3n)	(in ³)	2171	-	1942	-
Sc(cr)	(in ³)	-	2663	-	2663
DC1	(k/')	1.10	1.20	1.09	1.20
MDC1	('k)	1354	2664	996	2441
DC2	(k/')	0.19	0.19	0.19	0.19
MDC2	('k)	236	429	176	398
DW	(k/')	0.35	0.35	0.35	0.35
MDW	('k)	435	791	324	733
LLDF		0.581	0.574	0.566	0.566
MLL+IM	('k)	1999	2270	1852	2318
Mu (Strength I)	('k)	6139	-	5192	-
ΦfMn	('k)	12012	-	10903	-
fs DC1	(ksi)	9.4	12.6	7.8	11.6
fs DC2	(ksi)	1.3	1.9	1.1	1.8
fs DW	(ksi)	2.4	3.6	2.0	3.3
fs (LL+IM)	(ksi)	10.0	10.2	10.3	10.4
fs (Service II)	(ksi)	26.1	31.4	24.3	30.3
0.95RhFyf	(ksi)	47.5	47.5	47.5	47.5
fs (Total)(Strength I)	(ksi)	-	41.5	-	40.0
ΦfFn	(ksi)	-	50.0	-	50.0
Vf	(k)	64.4	70.3	50.4	70.3

GIRDER REACTION TABLE - UNIT 4							
		Pier 12 or E. Abut.		Pier 13 or Pier 16		Pier 14 or Pier 15	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF		0.791	0.706	0.791	0.706	0.791	0.706
OCF		-	1.0	-	-	-	-
Rdc1	(k)	55.5	52.6	185.2	175.6	175.5	166.5
Rdc2	(k)	9.5	9.5	30.9	30.9	29.3	29.4
Rdw	(k)	17.5	17.5	56.9	57.0	54.1	54.1
R-LL	(k)	87.3	78.0	172.1	153.6	173.9	155.2
R-IM	(k)	18.6	16.6	27.0	24.1	26.9	24.0
Rtotal	(k)	188.4	174.2	472.1	441.2	459.7	429.2

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (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.).

MDC1: 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.).

MDC2: 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.).

MDW: 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.).

Mu (Strength I): Factored design moment (kip-ft.).

1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{l+IM}

Φf Mn: 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.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (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} / Sc(n) or M_{l+IM} / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).

fsDC1 + fsDC2 + fsDW + 1.3 fs(l+IM)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(l+IM)

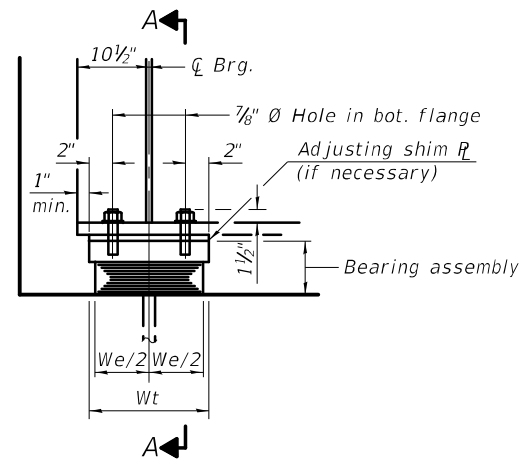
Φf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

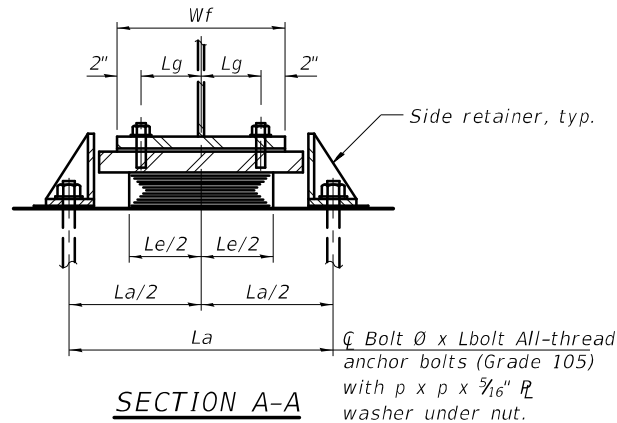
Note:
M_l and R_l include the effects of centrifugal force and superelevation.

PLOT DATE = 9/12/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008-08-BM12.dgn

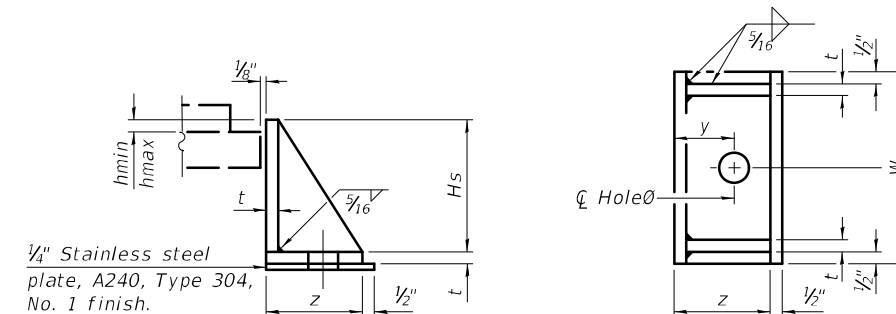
	DESIGNED - DC	REVISED 09/13/2023	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MOMENT AND REACTION TABLES - UNITS 3 & 4 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - TB	REVISED			64	(97-2) B-5	WHITE	578	307
SCALE - NONE	DRAWN - BK	REVISED			PUBLIC WATERS		ILLINOIS		FED. AID PROJECT
DATE - 8/11/2023	CHECKED - LS	REVISED			SHEET S-123 OF 232 SHEETS		CONTRACT NO. 78057		



ELEVATION AT ABUT.
(Pier Similar)



SECTION A-A



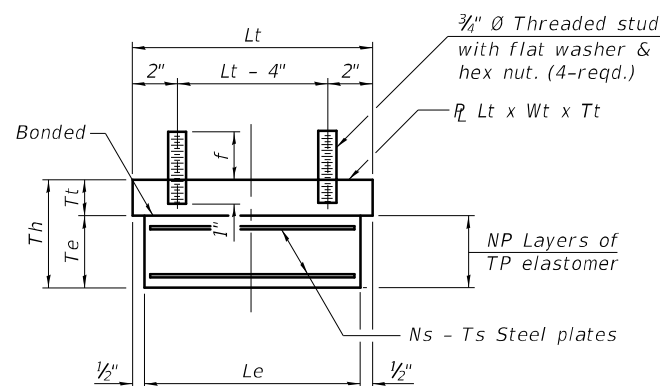
SIDE RETAINER

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

Side Retainer Dimensions

Location	y	z	t	W	Hs	hmin	hmax
W. Abut.	1 7/8"	10 3/8"	1/2"	19"	9 3/4"	1 1/16"	1 3/16"
Pier 12 (West Brg)	1 7/8"	7 7/8"	1/2"	12"	9 3/4"	1 1/16"	2 7/8"

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

Type I Bearing Dimension Tables

Location	Wf	Anchor Bolts				
		Bolt Ø	Hole Ø	Lbolt	p	La
W. Abut.	16"	3/4"	1"	12"	2"	30"
Pier 12 (West Brg)	14"	3/4"	1"	12"	2"	26"

Location	Bearing Dimensions								
	Th	Te	We	Le	NP	TP	NS	Ts	Lg
W. Abut.	9 5/16"	7 7/16"	18"	24"	8	3/4"	7	3 7/16"	6"
Pier 12 (West Brg)	7 7/8"	5 1/2"	13"	20"	7	5/8"	6	3 7/16"	5"

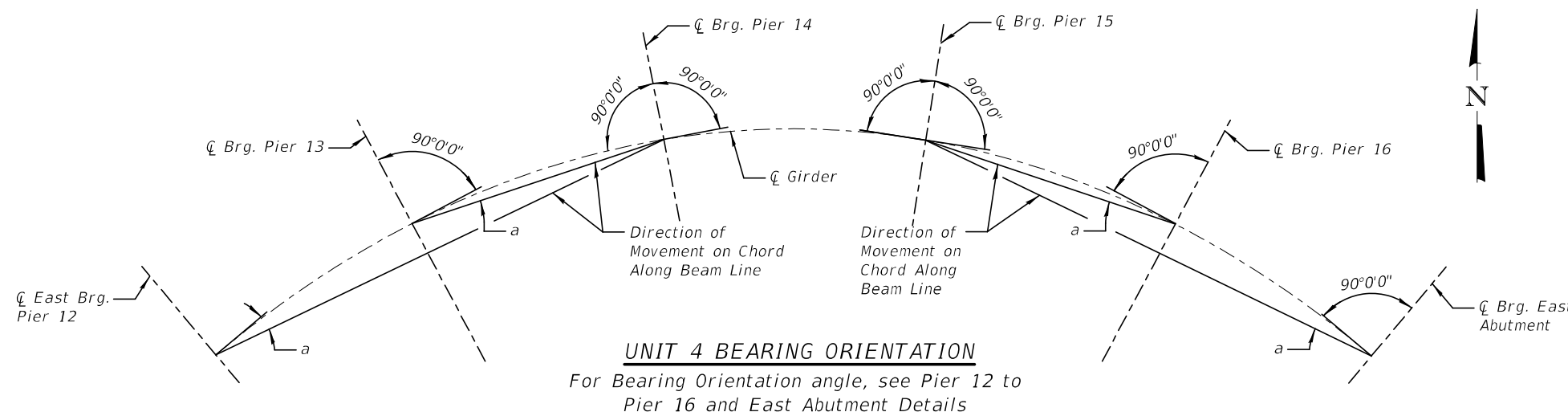
Location	Top Plate Size			
	Wt	Lt	Tt	f
W. Abut.	19"	26"	2"	2 3/4"
Pier 12 (West Brg)	14"	22"	2 1/8"	2 3/4"

Fill Plate Thickness

Unit	Location	Girder	tfill
Unit 1	W. Abut	W6	1/4"
Unit 3	Pier 12 (West Brg.)	W1	1 9/16"
		W2	1 5/8"
		W3 - W4	1 1 1/16"
		W5 - W6	1 3/4"
		E1	1 3/4"
		E2 - E3	1 1 3/16"
		E4	1 7/8"
		E5 - E6	1 1 3/16"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24
Anchor Bolts, 3/4"	Each	48



UNIT 4 BEARING ORIENTATION

For Bearing Orientation angle, see Pier 12 to Pier 16 and East Abutment Details

Bearing Angle	Pier 12	Pier 13	Pier 14	Pier 15	Pier 16	East Abut.
a	1°25'56"	0°46'11"	0°0'0"	0°0'0"	0°45'53"	1°25'40"

Notes:

Shim plates and fill plates shall not be placed under bearing assembly.

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.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

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.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50

PLOT DATE = 8/9/2023
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6-15-2019

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Engineers & Architects

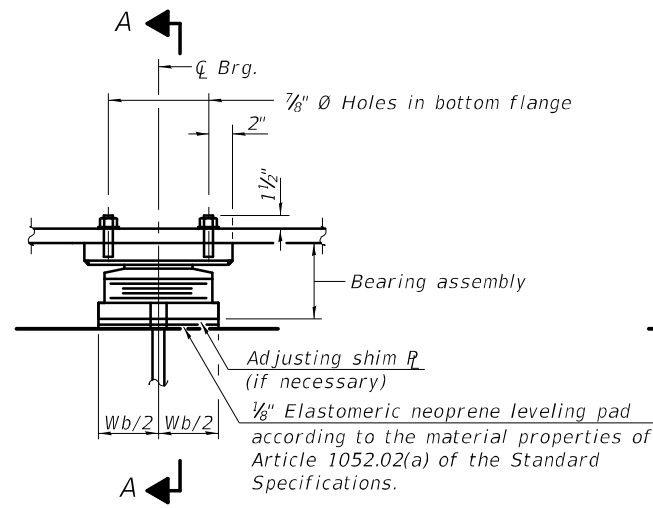
DESIGNED - KA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 8/11/2023	REVISION
DRAWN - KA	
CHECKED - LS	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - ELASTOMERIC BEARING TYPE I
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	308
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

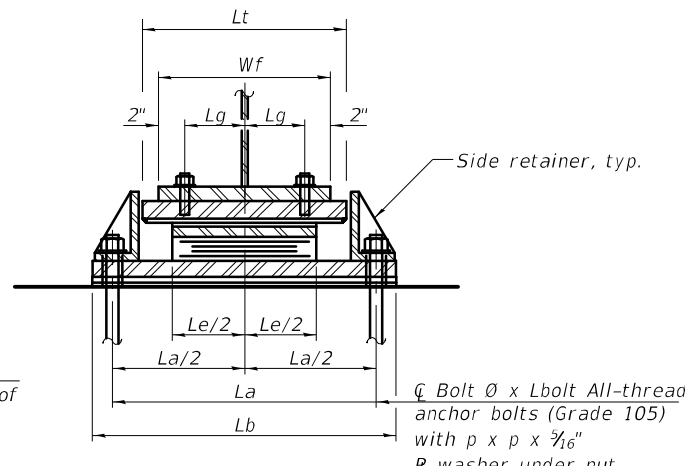
SHEET S-124 OF 232 SHEETS



ELEVATION AT PIER

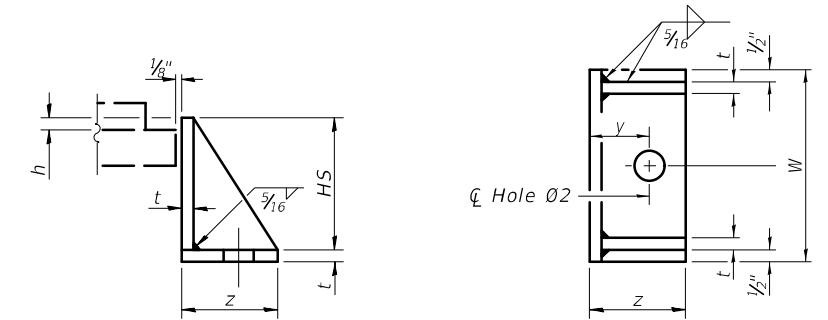
Similar at East Abutment

TYPE II ELASTOMERIC EXP. BRG.



SECTION A-A

Side retainer, typ.
 1/2" Bolt Ø x Lbolt All-thread anchor bolts (Grade 105) with p x p x 1/8" R washer under nut.
 Hole Ø1 Holes in bottom R.

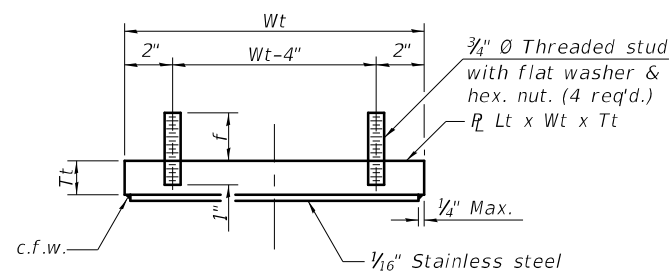


SIDE RETAINER

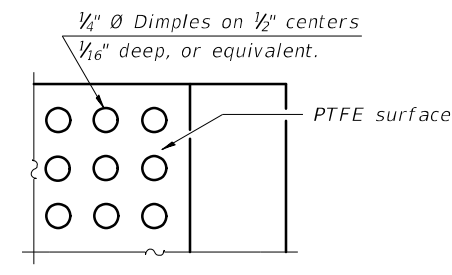
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Side Retainer Dimensions

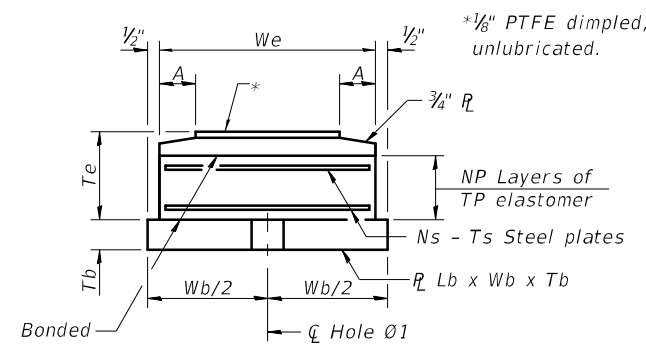
Location	y	z	t	W	Hs	h
Pier 4 (West Brg.)	1 1/8"	7 7/8"	1/2"	12"	8 1/8"	1/2"
Pier 4 (East Brg.)	1 1/8"	7 7/8"	1/2"	12"	8 1/8"	1/2"
Pier 8 (West Brg.)	1 1/8"	7 7/8"	1/2"	12"	8 1/8"	1/2"
Pier 8 (East Brg.)	1 1/8"	7 7/8"	1/2"	12"	8 1/8"	1/2"
Pier 12 (East Brg.)	1 7/8"	7 7/8"	1/2"	12"	8"	1/2"
E. Abut.	1 1/8"	7 7/8"	1/2"	12"	8"	1/2"



TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE



BOTTOM BEARING ASSEMBLY

Fill Plate Thickness

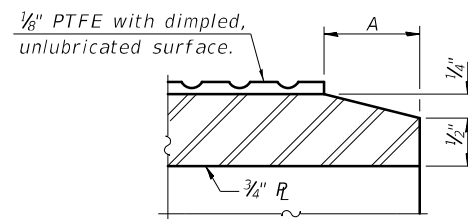
Unit	Location	Girder	tfill
Unit 1	Pier 4 (West Brg.)	W1 - W6	1/8"
		E1 - E6	1/8"
Unit 2	Pier 4 (East Brg.)	W6	7/16"
		Pier 8 (West Brg.)	9/16"

Type II Bearing Dimension Tables

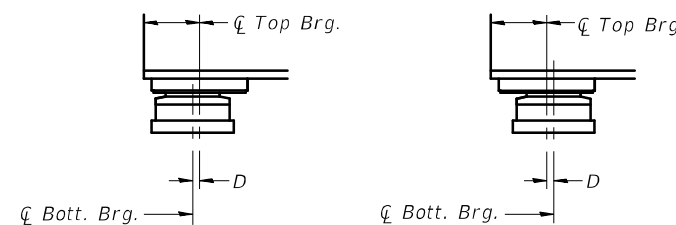
Location	Wf	Anchor Bolts					
		Bolt Ø	Hole Ø1	Hole Ø2	Lbolt	p	La
Pier 4 (West Brg.)	16"	3/4"	1 1/4"	1"	12"	2"	26"
Pier 4 (East Brg.)	16"	3/4"	1 1/4"	1"	12"	2"	26"
Pier 8 (West Brg.)	16"	3/4"	1 1/4"	1"	12"	2"	26"
Pier 8 (East Brg.)	14"	3/4"	1 1/4"	1"	12"	2"	26"
Pier 12 (East Brg.)	14"	3/4"	1 1/4"	1"	12"	2"	26"
E. Abut.	14"	3/4"	1 1/4"	1"	12"	2"	26"

Location	Bearing Dimensions								
	We	Le	A	Te	NP	TP	NS	Ts	Lg
Pier 4 (West Brg.)	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	6"
Pier 4 (East Brg.)	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	6"
Pier 8 (West Brg.)	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	6"
Pier 8 (East Brg.)	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	5"
Pier 12 (East Brg.)	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	5"
E. Abut.	13"	20"	1 1/2"	5 3/16"	6	3/8"	5	3 1/16"	5"

Location	Top Plate Size				Bottom Plate Size		
	Wt	Lt	Tt	f	Wb	Lb	Tb
Pier 4 (West Brg.)	16 3/4"	22"	2"	2 3/4"	14"	38"	1 3/4"
Pier 4 (East Brg.)	16 3/4"	22"	2"	2 3/4"	14"	38"	1 3/4"
Pier 8 (West Brg.)	16 1/2"	22"	2"	2 3/4"	14"	38"	1 3/4"
Pier 8 (East Brg.)	16 1/2"	22"	2"	2 3/4"	14"	38"	1 3/8"
Pier 12 (East Brg.)	16 1/4"	22"	1 7/8"	2 3/4"	14"	38"	1 3/8"
E. Abut.	16 1/4"	22"	1 7/8"	2 3/4"	14"	38"	1 5/8"



SECTION THRU PTFE



BELOW 50°F.
 D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

ABOVE 50°F.

EXPANSION BEARING ORIENTATION

The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

Notes:

Side retainers and leveling pad required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

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.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

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.

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Brgs\7660-50080-EBR02.dgn

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6-15-2019

KNIGHT
 Engineers & Architects

DESIGNED - KA	REVISION
CHECKED - LS	REVISION
DRAWN - KA	REVISION
CHECKED - LS	REVISION

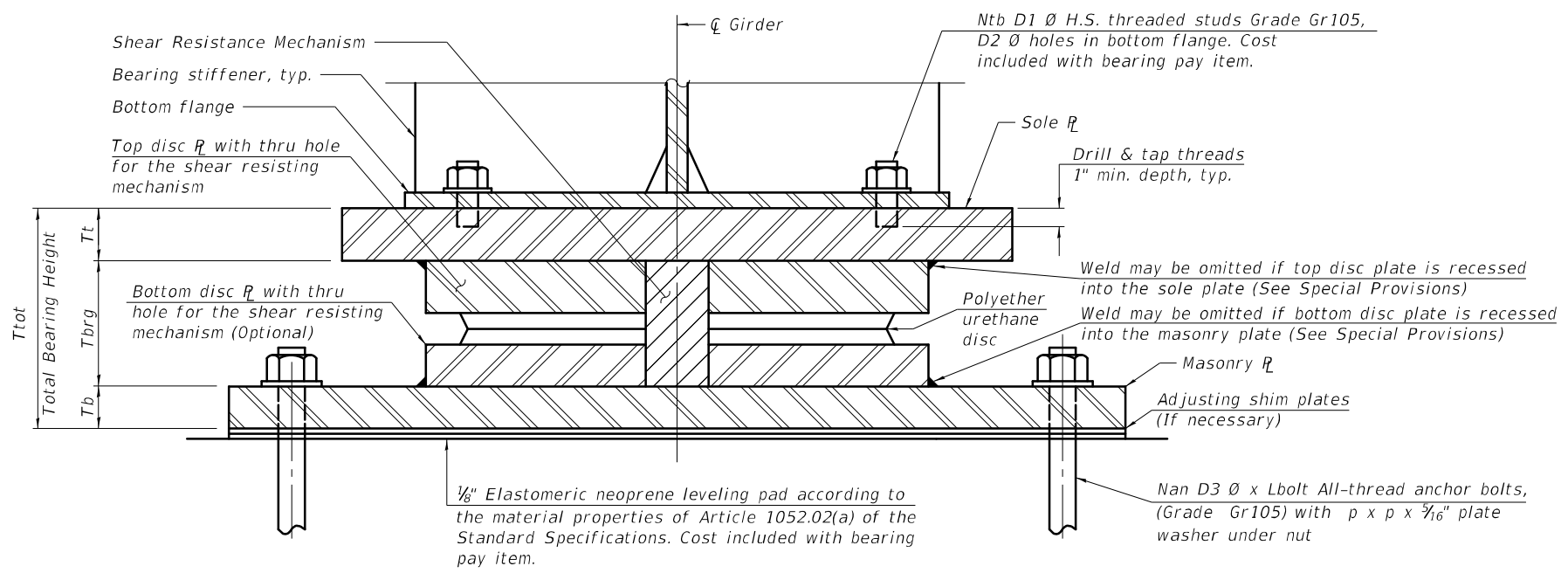
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - ELASTOMERIC BEARINGS TYPE II
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-125 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	309
CONTRACT NO. 78057				

PUBLIC WATERS ILLINOIS FED. AID PROJECT



SECTION THRU BEARING

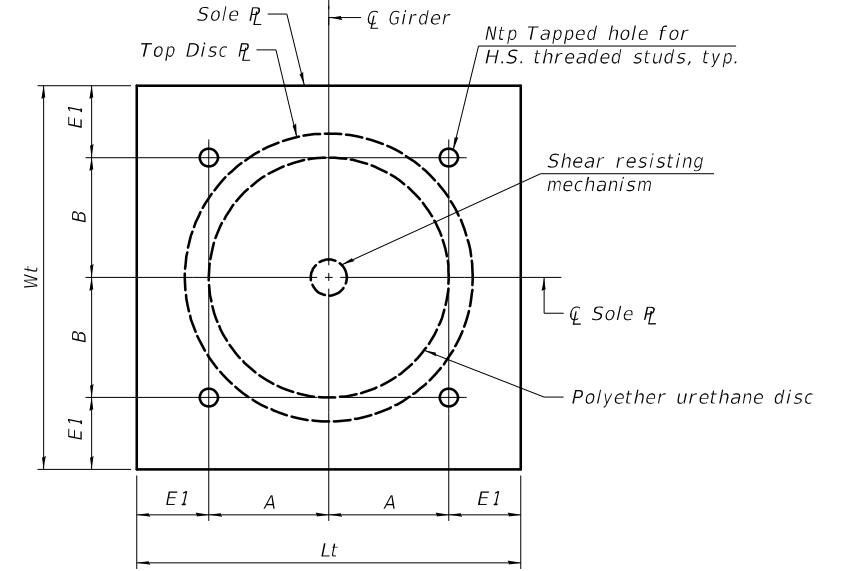
DESIGN DATA

	Pier 1, Pier 2, Pier 3	Pier 5, Pier 6, Pier 7	Pier 10, Pier 11	Pier 14, Pier 15
Unfactored Vertical Dead Load Reaction (R_{DC1}) + (R_{DC2})	260.3 kips	258.7 kips	236.9 kips	204.8 kips
Unfactored Vertical Wearing Surface Reaction (R_{DW})	65.8 kips	65.3 kips	60.5 kips	54.1 kips
Unfactored Vertical Live Load without Impact Reaction (R_L)	186.6 kips	186.1 kips	178.6 kips	173.9 kips
Maximum Strength or Extreme Event Lateral Reaction (H_u)	65.2 kips	64.8 kips	288.3 kips	327.2 kips
Maximum Strength Limit State Rotation (Θ_u according to Article 14.4.2.2)	0.006 rad.	0.006 rad.	0.005 rad.	0.005 rad.
Service I Factored Lateral Reaction	35.7 kips	30.8 kips	284.2 kips	323.6 kips
Service I Rotation	0.0009 rad.	0.0008 rad.	0.0003 rad.	0.0003 rad.
Service I Factored Vertical Reaction	512.7 kips	510.1 kips	475.6 kips	432.8 kips
Strength I Factored Vertical Reaction	798.8 kips	795.1 kips	747.4 kips	688.6 kips

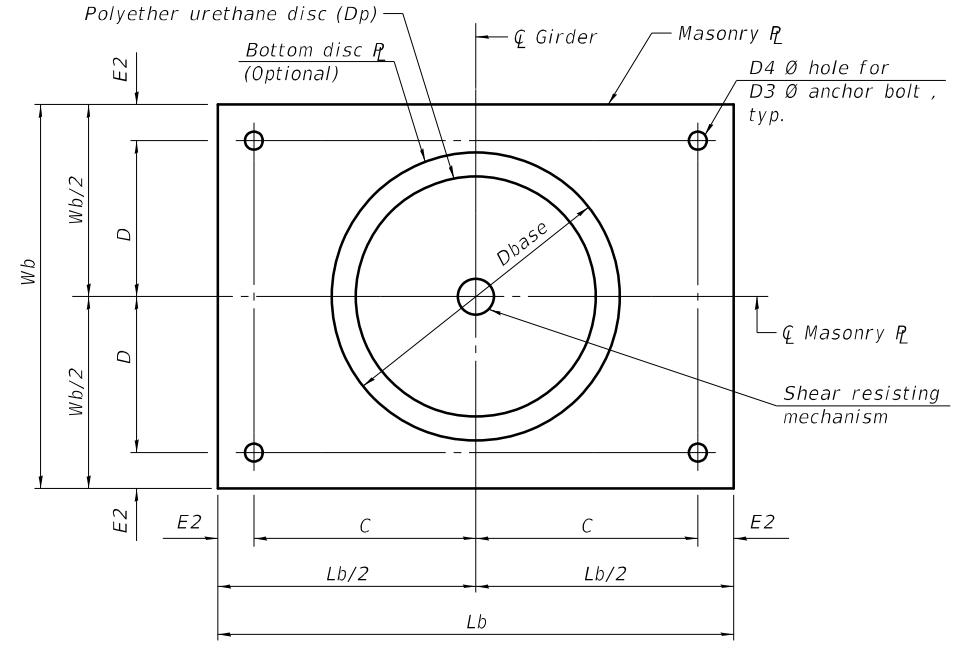
Service I Load Factors = $1.0DC + 1.0DW + 1.0LL + 1.2TU$
 Strength I Load Factors = $1.25DC + 1.5DW + 1.75(LL + IM) + 1.2TU$
 Extreme Event Load Factors = $1.0EQ$

Fill Plate Thickness

Unit	Location	Girder	t _{fill}
Unit 1	Pier 1	W6	3/16"
	Pier 2	W6	3/8"
	Pier 3	W6	3/8"
Unit 2	Pier 5	W6	7/16"
	Pier 6	W6	1/2"
	Pier 7	W6	1/2"
Unit 3	Pier 10	W6	3/8"
	Pier 11	W3 W6	1/2" 1/4"



SOLE PLATE AND TOP DISC PLATE PLAN



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Location	Sole Plate					
	Lt	Wt	Tt	E1	A	B
Pier 1, Pier 2, Pier 3	18 1/4"	19 1/4"	2 1/2"	3"	6 1/8"	6 3/8"
Pier 5, Pier 6, Pier 7	18 1/4"	19 1/4"	2 1/2"	3"	6 1/8"	6 3/8"
Pier 10, Pier 11	16 1/2"	17 1/2"	2 3/8"	3"	5 1/4"	5 3/4"
Pier 14, Pier 15	16 1/2"	17 1/2"	2 1/4"	3"	5 1/4"	5 3/4"

Location	Tapped Bolts			Anchor Bolts				
	Ntb	D1 Ø	D2 Ø	Nan	D3 Ø	D4 Ø	p	Lbolt
Pier 1, Pier 2, Pier 3	4	1"	1 1/8"	4	1"	1 1/2"	2 1/4"	12"
Pier 5, Pier 6, Pier 7	4	1"	1 1/8"	4	1"	1 1/2"	2 1/4"	12"
Pier 10, Pier 11	4	1 1/2"	1 3/8"	4	1 1/2"	2"	3"	18"
Pier 14, Pier 15	4	2"	2 1/8"	4	2"	2 1/2"	3 1/2"	24"

Location	Bearing Dimensions				
	Size	Dp	Dbase	Tbrg	Ttot
Pier 1, Pier 2, Pier 3	600K	13 3/4"	15 1/4"	4 1/4"	8 1/2"
Pier 5, Pier 6, Pier 7	600K	13 3/4"	15 1/4"	4 1/4"	8 1/2"
Pier 10, Pier 11	500K	12 1/2"	13 1/2"	4 1/8"	8 3/8"
Pier 14, Pier 15	500K	12 1/2"	13 1/2"	4 1/8"	8 3/4"

Location	Masonry Plate					
	Lb	Wb	Tb	E2	C	D
Pier 1, Pier 2, Pier 3	26 1/4"	17 1/4"	1 3/4"	2"	11 1/8"	6 3/8"
Pier 5, Pier 6, Pier 7	26 1/4"	17 1/4"	1 3/4"	2"	11 1/8"	6 3/8"
Pier 10, Pier 11	24 1/2"	15 1/2"	1 7/8"	2"	10 1/4"	5 3/4"
Pier 14, Pier 15	25 1/2"	15 1/2"	1 7/8"	2 1/2"	10 1/4"	5 1/4"

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Disc, Fixed - 500K	Each	48
High Load Multi-Rotational Bearings, Disc, Fixed - 600K	Each	72
Anchor Bolts, 1"	Each	288
Anchor Bolts, 1 1/2"	Each	96
Anchor Bolts, 2"	Each	96

* The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

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. Shim plates not included in total bearing height. Cost included with bearing pay item.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete.

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.

Unit 3 and Unit 4 anchor bolts were designed to accommodate thermal loads TU.

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Struct\Bridges\7660-5008\BRG03.dgn

HLMR-D-F

8/16/2022



DESIGNED - KA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 8/11/2023	REVISION

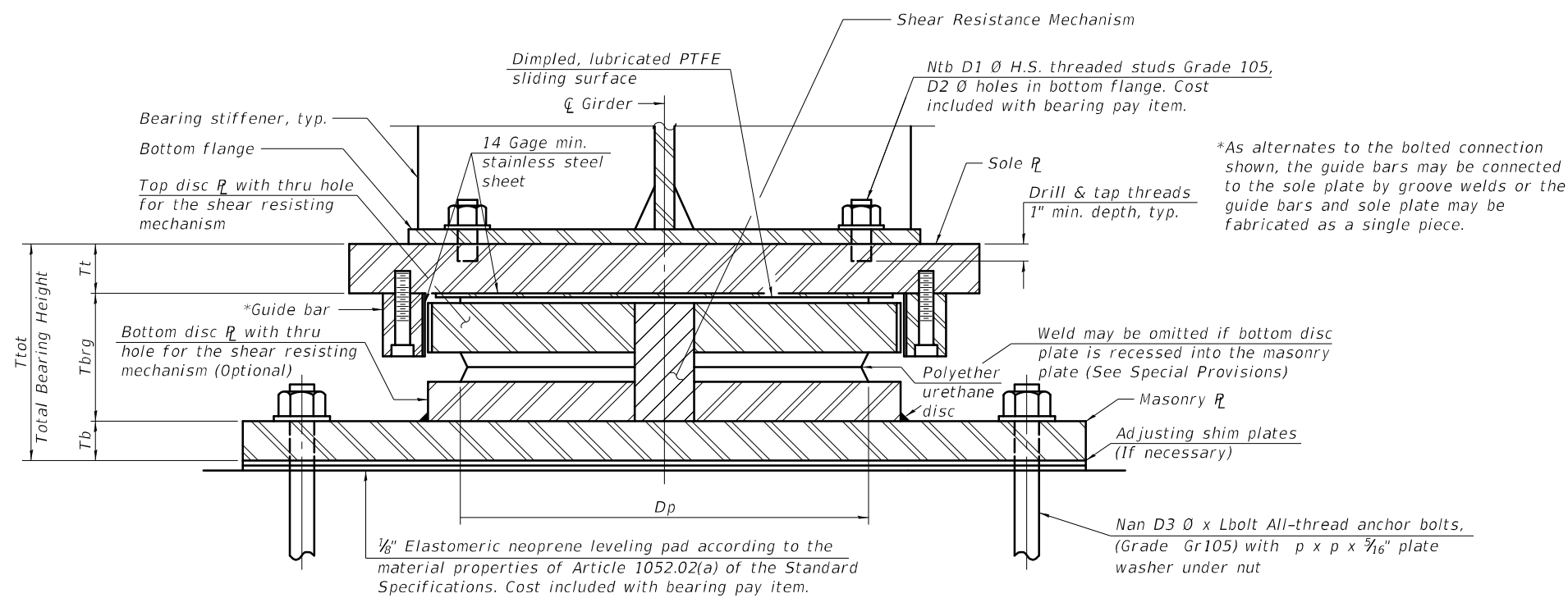
DESIGNED - KA	REVISION
CHECKED - LS	REVISION
DRAWN - KA	REVISION
CHECKED - LS	REVISION

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

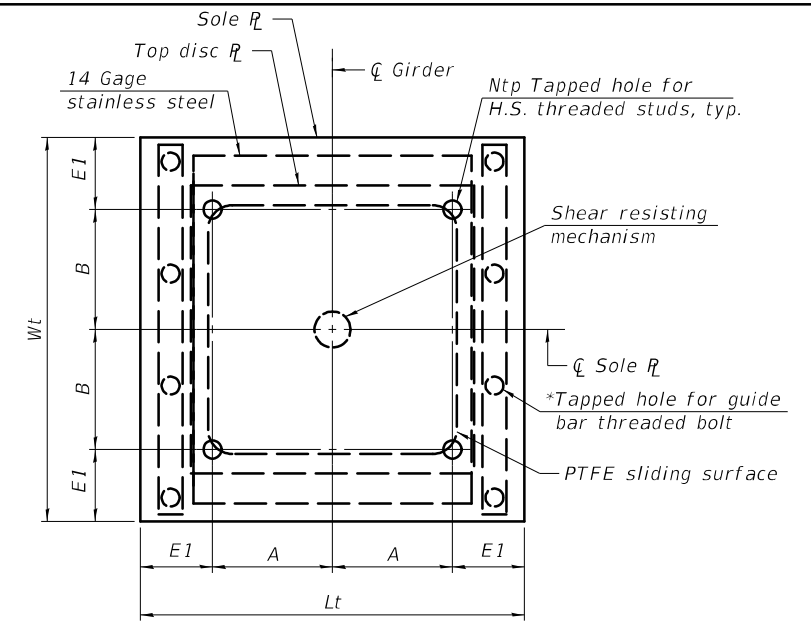
**BEARING DETAILS - FIXED HLMR DISC BEARING
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-126 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	310
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



SECTION THRU BEARING

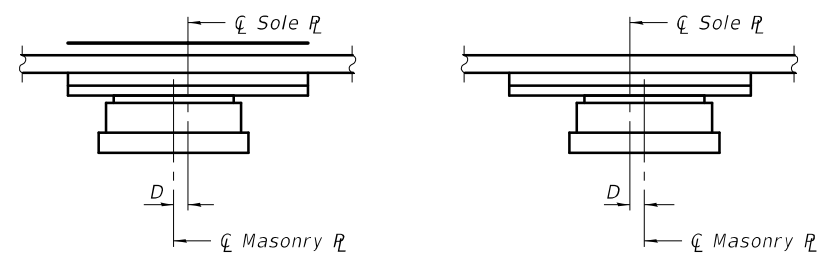


SOLE PLATE AND TOP DISC PLATE PLAN

DESIGN DATA

	Pier 9	Pier 13, Pier 16
Unfactored Vertical Dead Load Reaction (R_{DC1}) + (R_{DC2})	236.6 kips	216.1 kips
Unfactored Vertical Wearing Surface Reaction (R_{DW})	60.5 kips	56.9 kips
Unfactored Vertical Live Load without Impact Reaction (R_{LL})	178.5 kips	172.1 kips
Maximum Strength or Extreme Event Lateral Reaction (H_u)	71.8 kips	66.9 kips
Maximum Strength Limit State Rotation (Θ_u according to Article 14.4.2.2)	0.0055 rad	0.0058 rad
Unfactored Design Thermal Movement from 50° F (ΔT)	1.36 in.	1.26 in.
Service I Factored Lateral Reaction	71.4 kips	66.4 kips
Service I Rotation	0.0004 rad	0.0006 rad
Strength I Factored Longitudinal Movement	1.64 in.	1.52 in.
Service I Factored Vertical Reaction	475.6 kips	445.1 kips
Strength I Factored Vertical Reaction	746.8 kips	703.9 kips

Service I Load Factors = 1.0DC + 1.0DW + 1.00LL + 1.2 TU
 Strength I Load Factors = 1.25DC + 1.5DW + 1.75(LL + IM) + 1.2TU
 Extreme Event Load Factors = 1.0EQ



BELOW 50°F.
(Move masonry R away from fixed bearing)

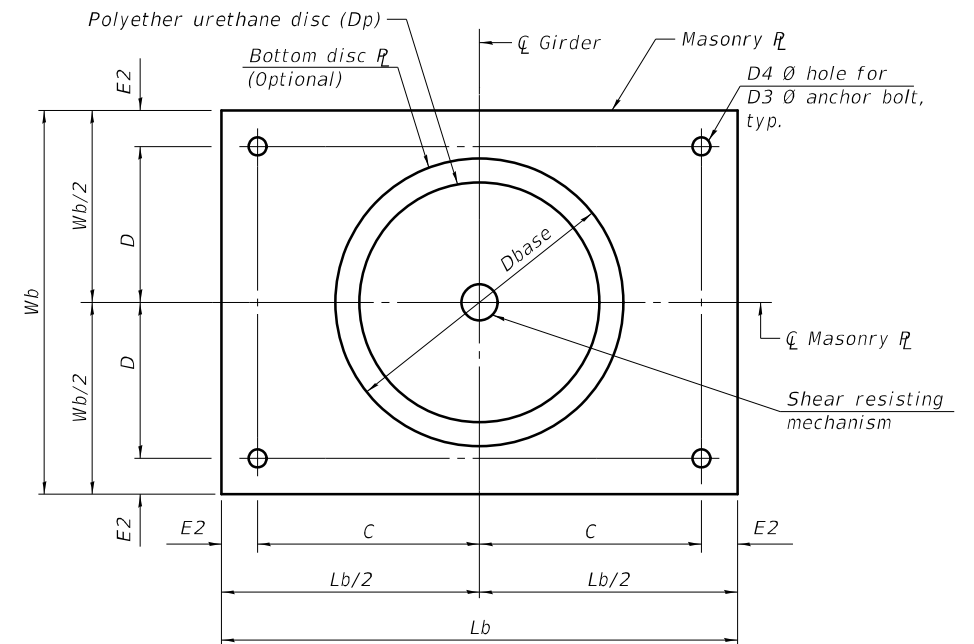
ABOVE 50°F.
(Move masonry R toward fixed bearing)

SETTING ANCHOR BOLTS AT EXPANSION BEARING

$D = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Fill Plate Thickness

Unit	Location	Girder	tfill
Unit 3	Pier 9	W6	3/16"



MASONRY PLATE AND BOTTOM DISC PLATE PLAN

Location	Sole Plate					
	Lt	Wt	Tt	E1	A	B
Pier 9	20 3/8"	21 3/8"	2 1/2"	3"	7 3/16"	7 1 1/16"
Pier 13, Pier 16	20 3/8"	21 3/8"	2 1/2"	3"	7 3/16"	7 1 1/16"

Location	Bearing Dimension				
	Size	Dp	Dbase	Tbrg	Ttot
Pier 9	500K	12 3/4"	14 3/4"	7"	11 3/8"
Pier 13, Pier 16	500K	12 3/4"	14 3/4"	7"	11 1/4"

Location	Masonry Plate					
	Lb	Wb	Tb	E2	C	D
Pier 9	28 3/8"	16 3/4"	2 1/8"	2"	12 3/16"	6 3/8"
Pier 13, Pier 16	28 3/8"	16 3/4"	2"	2"	12 3/16"	6 3/8"

Location	Tapped Bolts			Anchor Bolts				
	Ntb	D1 Ø	D2 Ø	Nan	D3 Ø	D4 Ø	p	Lbolt
Pier 9	4	3/4"	7/8"	4	3/4"	1 1/4"	2"	12"
Pier 13, Pier 16	4	3/4"	7/8"	4	3/4"	1 1/4"	2"	12"

BILL OF MATERIAL

Item	Unit	Total
** High Load Multi-Rotational Bearings, Disc, Guided Expansion - 500K	Each	36
Anchor Bolts, 3/4"	Each	144

** The value specified in the pay item name is an approximate vertical load capacity that is used for letting and bidding purposes only. Exact bearing capacity will vary subject to final design.

Notes:

The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

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. Shim plates not included in total bearing height. Cost included with bearing pay item.

Total bearing height is estimated based on manufacturer data. Actual bearing height may differ from contract plans. The Contractor shall be responsible for verifying bearing heights and adjusting seat elevations, if required, prior to placing pier or abutment concrete.

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.

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Struct\Bearing\660-5008-EBRGN.dgn

HLMR-D-GE

8/16/2022



DESIGNED - KA	REVISION
CHECKED - LS	REVISION
DRAWN - KA	REVISION
CHECKED - LS	REVISION

SCALE - NONE	DATE - 8/11/2023
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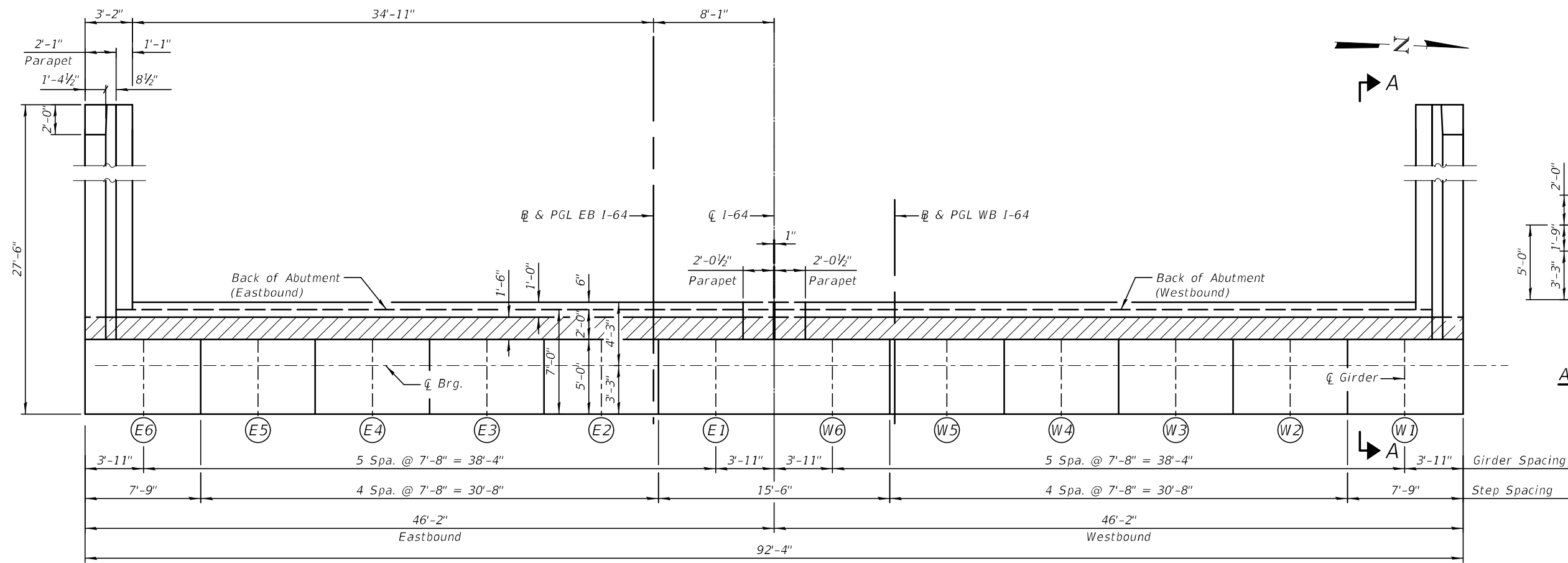
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - GUIDED EXPANSION HLMR DISC BEARING
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

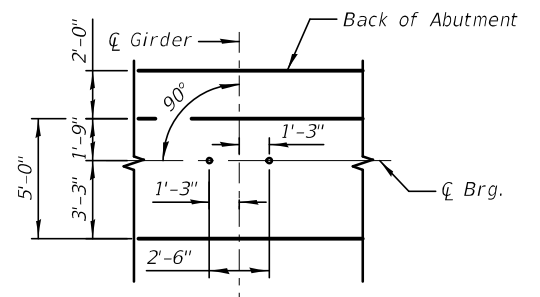
SHEET S-127 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	311
CONTRACT NO. 78057				

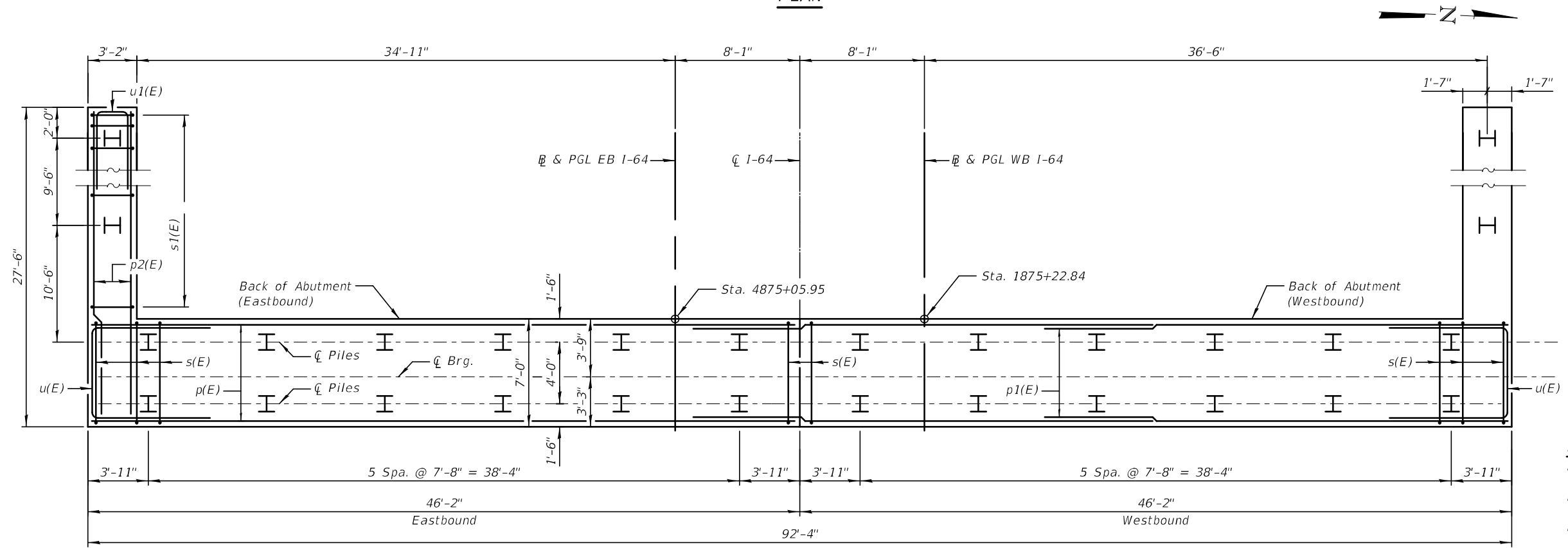
PUBLIC WATERS ILLINOIS FED. AID PROJECT



PLAN



ANCHOR BOLT LAYOUT



PILE CAP PLAN

Notes:
 For Section A-A, see sheet S-130.
 For Section Thru Abutment, see sheet S-129.
 For Bill of Materials, see sheet S-131.

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-AB01.dgn

KNIGHT
 Engineers & Architects

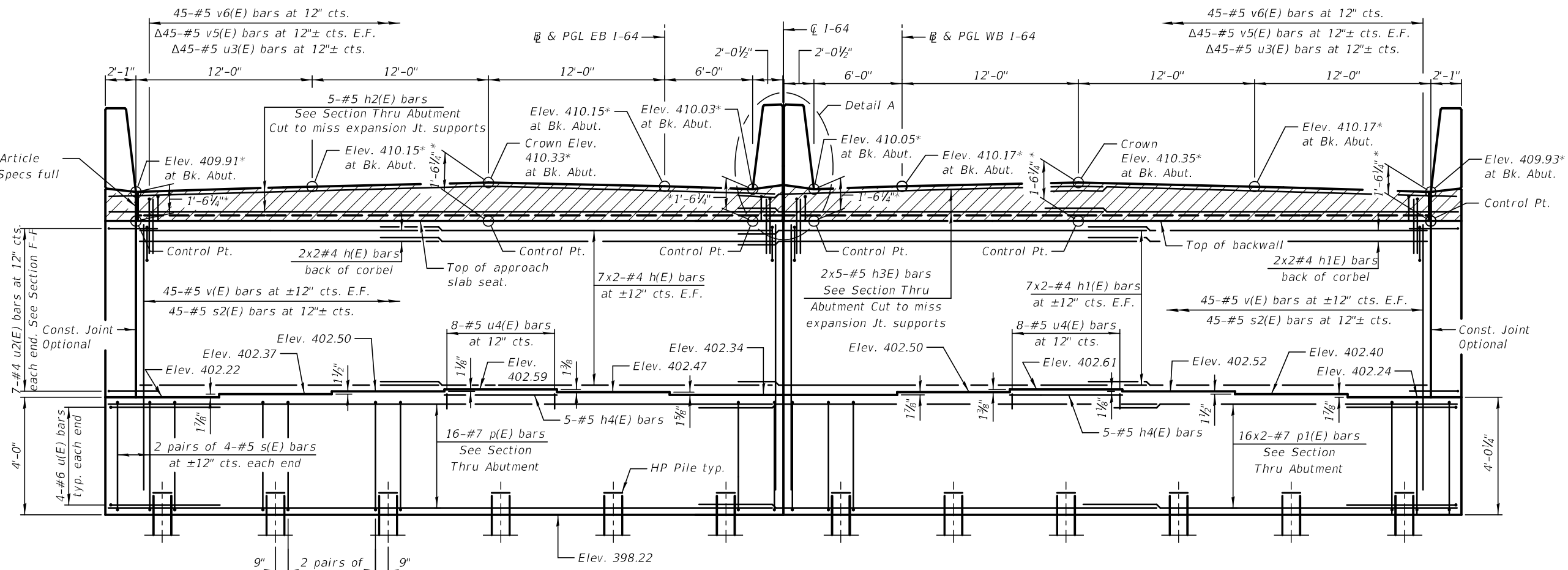
DESIGNED	-	KA	REVISED	
CHECKED	-	LS	REVISED	
DRAWN	-	KA	REVISED	
CHECKED	-	LS	REVISED	
SCALE	-	NONE		
DATE	-	8/11/2023		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT PLAN
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
 SHEET S-128 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	312
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

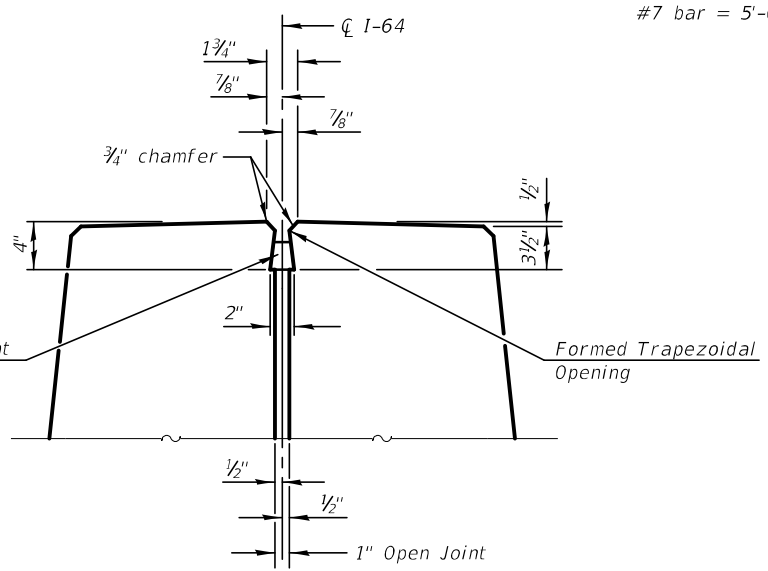
PLOT DATE = 8/9/2023
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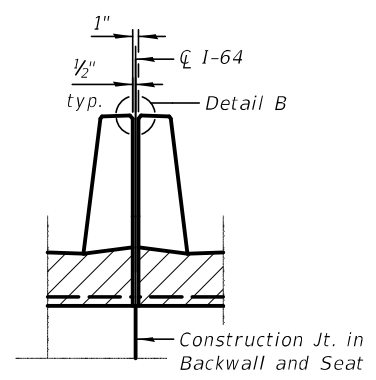
1/2" PJF according to Article 1051.09 of the Std. Specs full length of wingwalls

MIN. LAP LENGTH

- #4 bar = 2'-11"
- #5 bar = 3'-7"
- #7 bar = 5'-0"



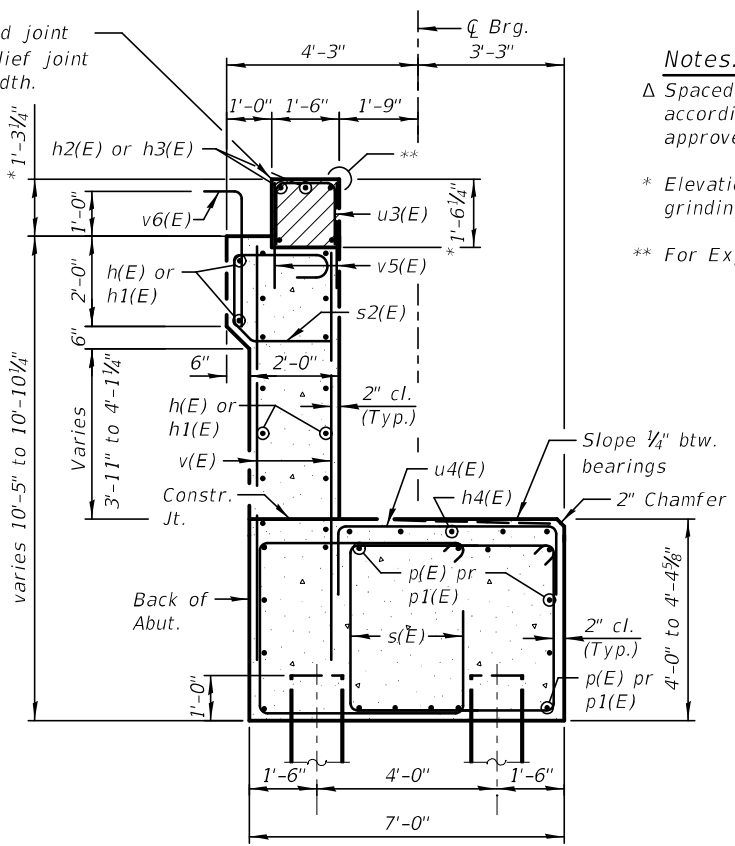
DETAIL B



DETAIL A

ELEVATION
(Looking West)

1/4" x 3/4" Formed joint with bridge relief joint sealer. Full width.



SECTION THRU ABUTMENT

Notes:

- Δ Spaced to miss expansion joint supports or members according to the approved shop drawings and as approved by the Engineer.
- * Elevations and dimensions are taken before deck grinding.
- ** For Exp. Jt details see sheet S-88.



DESIGNED - KA	REVISION
CHECKED - LS	REVISION
DRAWN - KA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	
DATE - 8/11/2023	

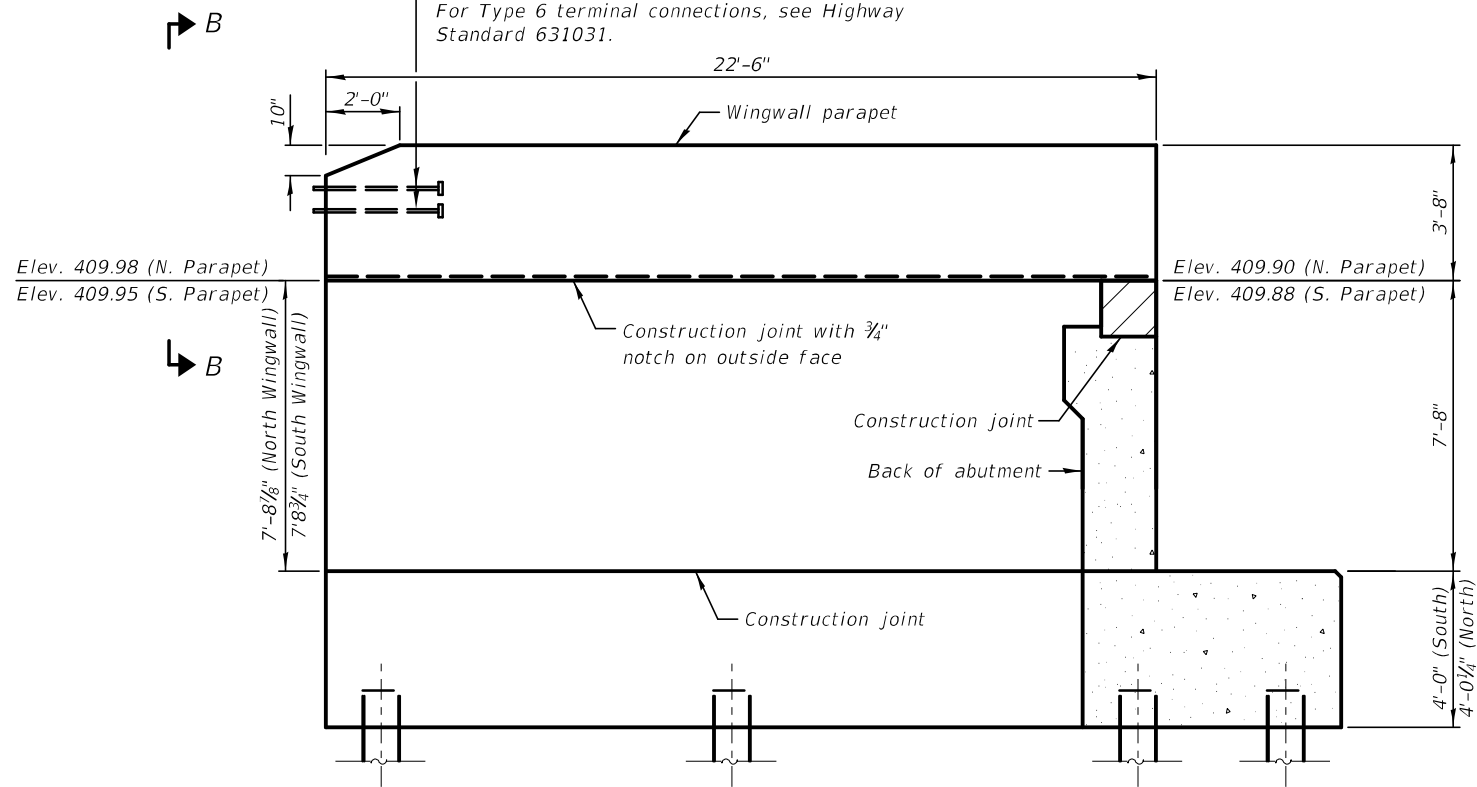
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT ELEVATION AND SECTION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-129 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	313
CONTRACT NO. 78057				
PUBLIC WORKS ILLINOIS FED. AID PROJECT				

1" Ø Anchor bolts for Type 5 terminal connections only, see View B-B and Highway Standard 631026. For Type 6 terminal connections, see Highway Standard 631031.

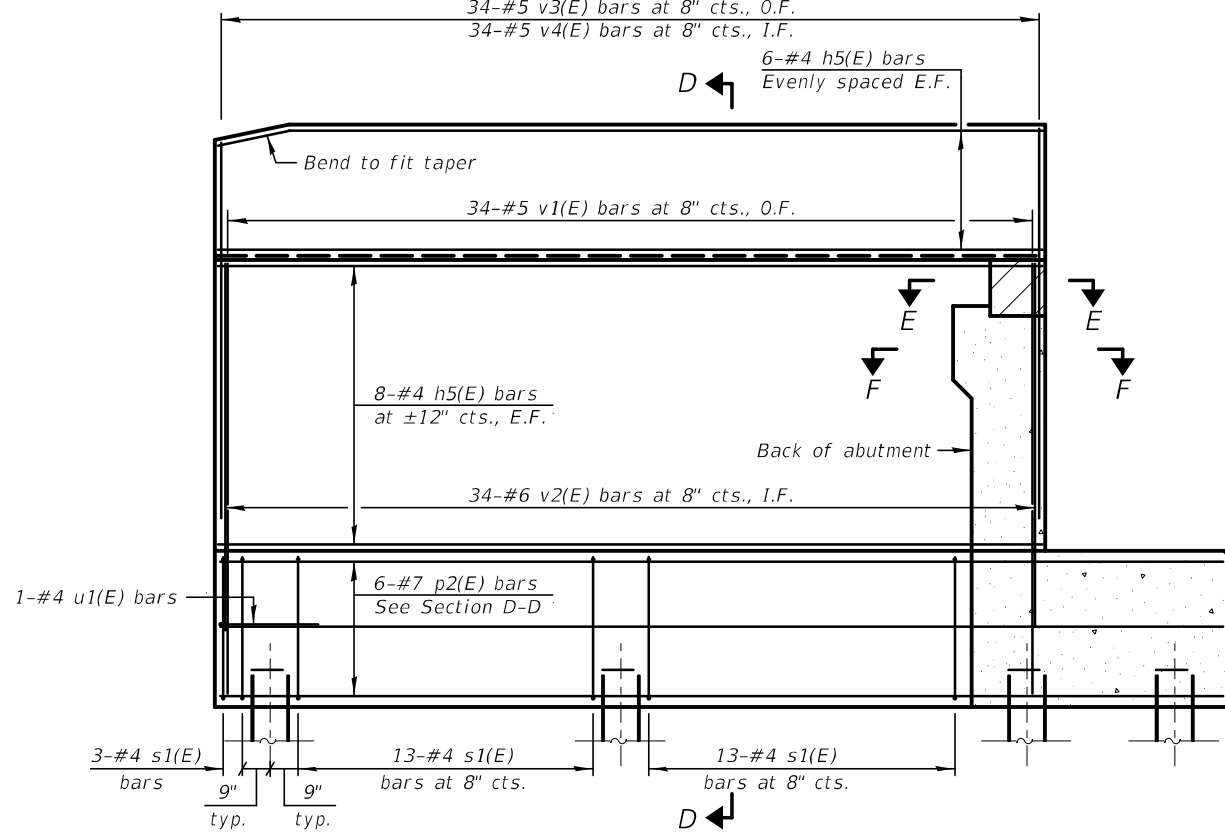


SECTION A-A

(Showing dimensions)
(Opposite wing similar)

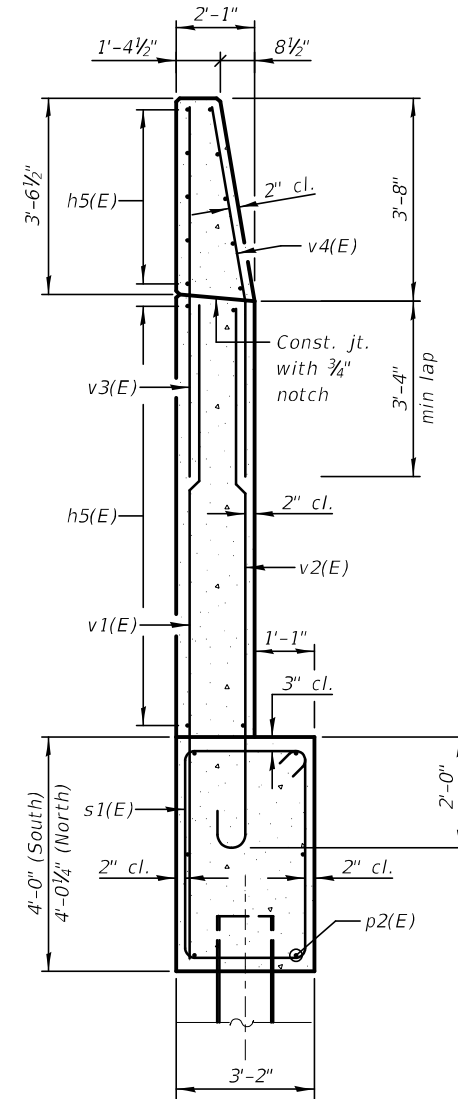
34-#5 v3(E) bars at 8" cts., O.F.
34-#5 v4(E) bars at 8" cts., I.F.

6-#4 h5(E) bars
Evenly spaced E.F.

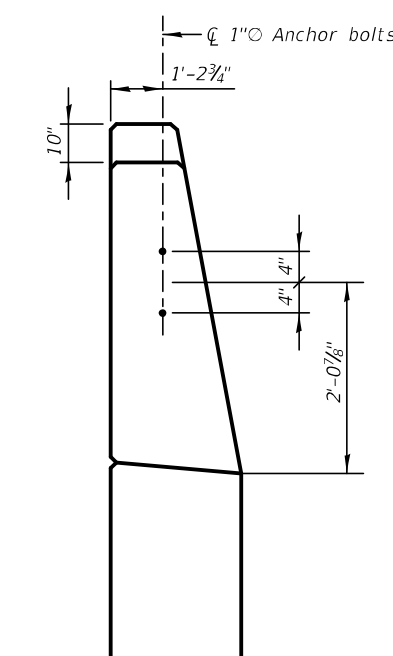


SECTION A-A

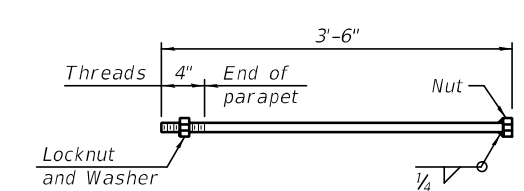
(Showing reinforcement)
(Opposite wing similar)



SECTION D-D

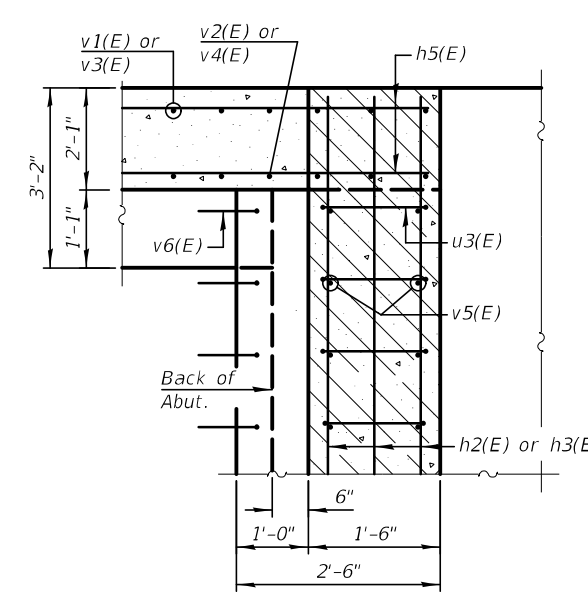


VIEW B-B

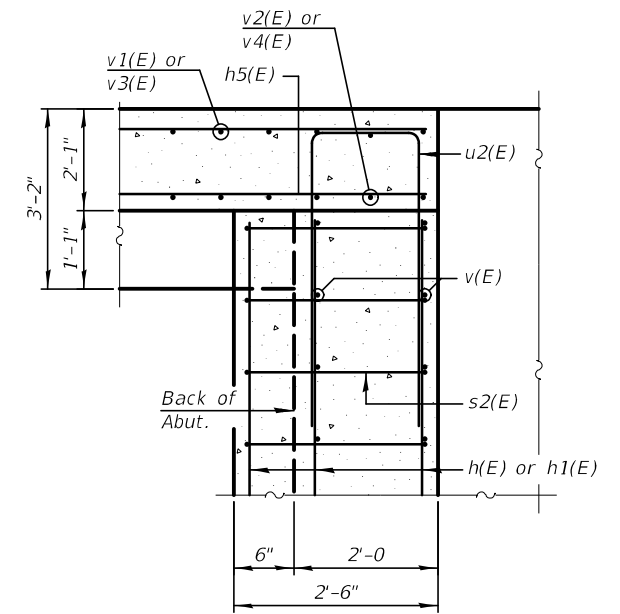


1" Ø ANCHOR BOLT

Anchor bolt assemblies shall be according to Article 1006.09 of the Standard Specifications. Cost included with Concrete Superstructure.



SECTION E-E



SECTION F-F

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-4B03.dgn

KNIGHT
Engineers & Architects

SCALE	NONE
DATE	8/11/2023

DESIGNED	KA	REVISED	
CHECKED	LS	REVISED	
DRAWN	KA	REVISED	
CHECKED	LS	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT WINGWALL DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-130 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	314
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

**WEST ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	32	#4	23'-4"	▬
h1(E)	32	#4	25'-0"	▬
h2(E)	5	#5	45'-10"	▬
h3(E)	10	#5	26'-7"	▬
h4(E)	10	#5	7'-4"	▬
h5(E)	56	#4	22'-2"	▬
p(E)	16	#7	45'-10"	▬
p1(E)	32	#7	28'-1"	▬
p2(E)	12	#7	27'-2"	▬
s(E)	192	#5	17'-3"	□
s1(E)	58	#4	13'-9"	□
s2(E)	90	#5	6'-5"	□
u(E)	8	#6	15'-2"	┌
u1(E)	2	#4	8'-8"	┌
u2(E)	14	#4	9'-11"	┌
u3(E)	90	#5	3'-6"	┌
u4(E)	16	#5	6'-8"	┌
v(E)	180	#5	8'-10"	▬
v1(E)	68	#5	11'-5"	▬
v2(E)	68	#6	10'-2"	▬
v3(E)	68	#5	6'-4"	▬
v4(E)	68	#5	6'-11"	▬
v5(E)	180	#5	3'-0"	▬
v6(E)	90	#5	3'-8"	▬
Structure Excavation		Cu. Yd.	317	
Concrete Structures		Cu. Yd.	196.3	
Reinforcement Bars, Epoxy Coated		Pound	17130	
Furnishing Steel Piles HP 14x89		Foot	540	
Driving Piles		Foot	540	
Test Pile Steel HP 14x89		Each	1	
Concrete Sealer		Sq. Ft.	1291	
Pile Shoes		Each	28	

PILE DATA

Type: HP14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 388 kips
 Est. Length: 20 feet
 No. Production Piles: 27
 No. Test Piles: 1

Notes:

Hatched area to be poured separately after superstructure falsework has been removed and after approach slab side formwork has been removed.

Quantity of concrete in wingwall parapet included with concrete superstructure on S-95 and hatched area included with Concrete Superstructure on sheet S-67

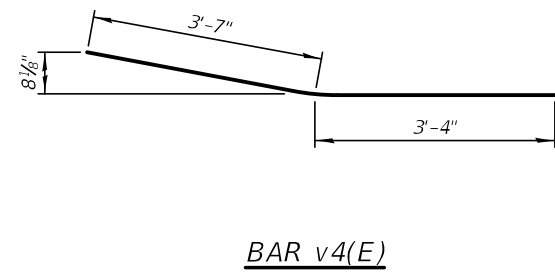
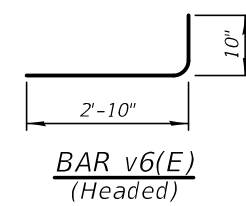
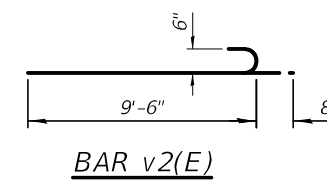
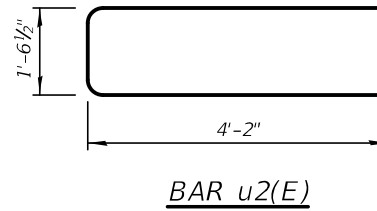
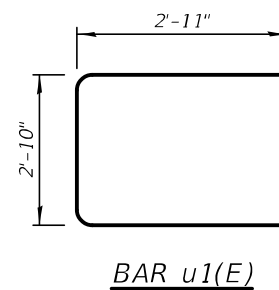
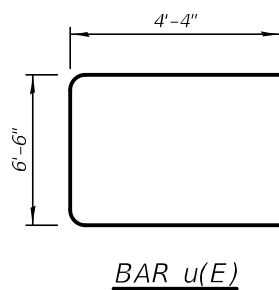
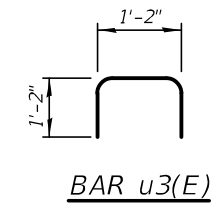
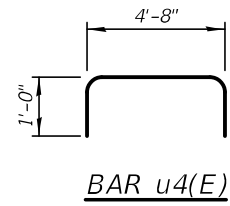
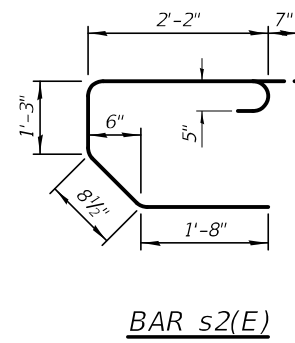
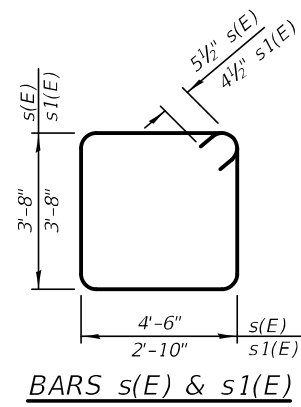
Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

For details of piles see sheet S-208

The top of back wall and approach slab seat shall have constant slope determined from the control points shown.

Concrete Sealer shall be applied to the bearing seats and front faces of the hatched block, back wall and abutment cap.



PLOT DATE = 12/11/2023
 FILE NAME = L:\7660\CAD\3\Sheet3\Bridges\7660-50080-4B04.dgn

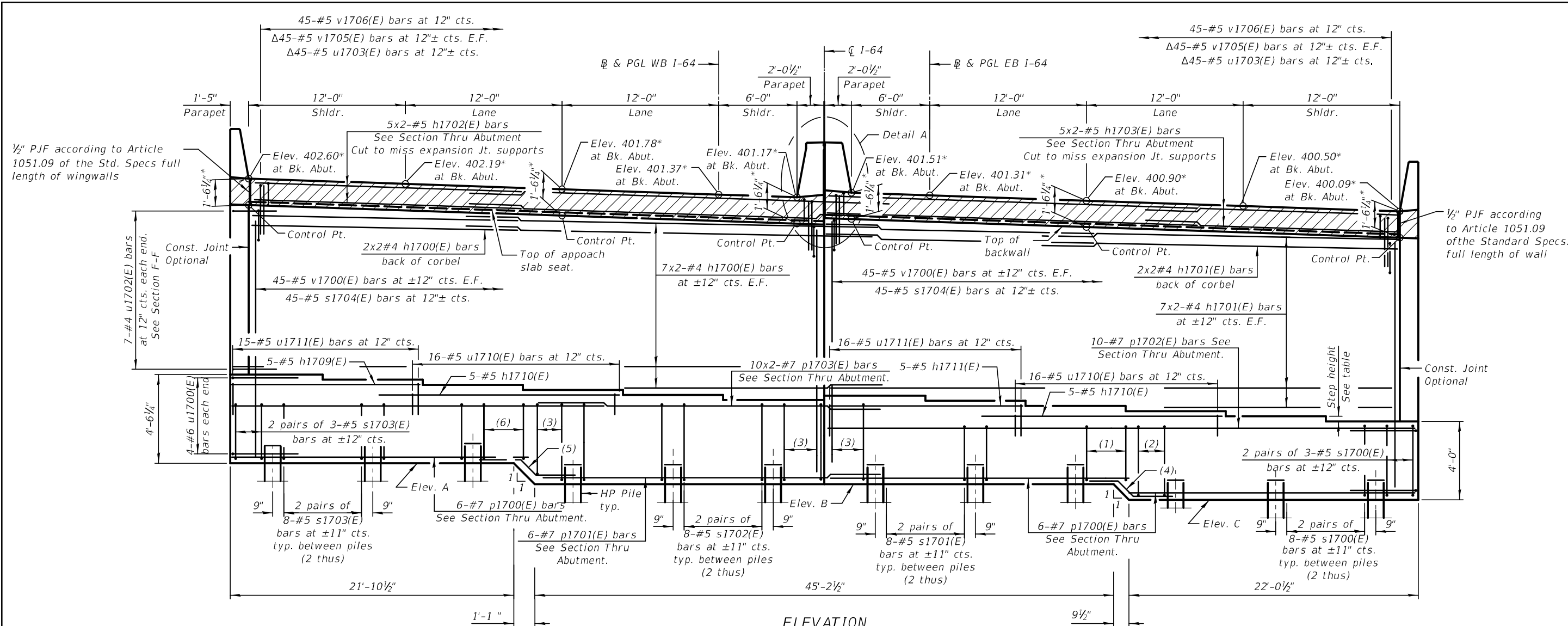
KNIGHT
 Engineers & Architects

DESIGNED - KA	REVISED 12/11/2023
CHECKED - LS	REVISED
SCALE - NONE	REVISED
DATE - 8/11/2023	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT REBAR DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	315
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



ELEVATION
(Looking East)

Bar Callouts

Mark	Bar Callouts
(1)	2 pairs of 4-#5 s1701(E) bars at 11" cts.
(2)	2 pairs of 4-#5 s1700(E) bars at 11" cts.
(3)	2 pairs of 4-#5 s1702(E) bars at ±12" cts.
(4)	6-#7 p1710(E) bars
(5)	6-#7 p1711(E) bars
(6)	2 pairs of 4-#5 s1703(E) bars at 11" cts.

MIN. LAP LENGTH

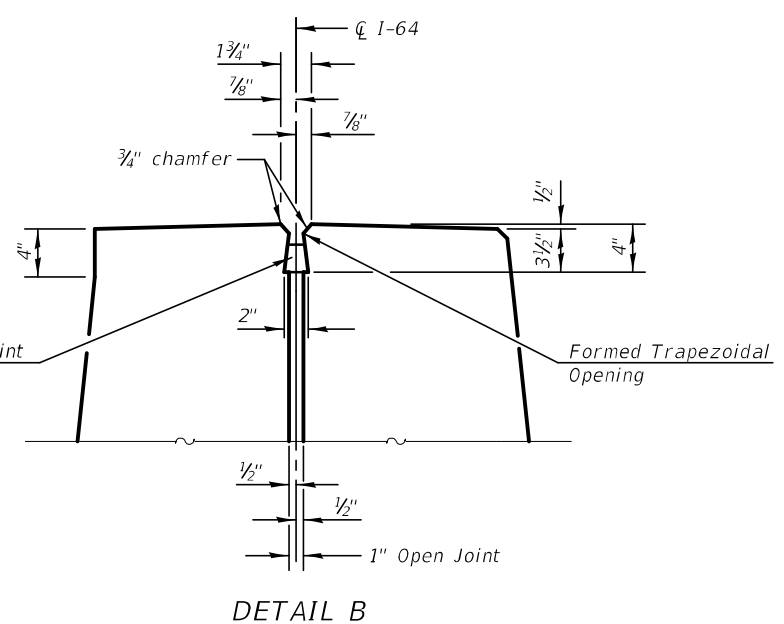
- #4 bar = 2'-11"
- #5 bar = 3'-7"
- #7 bar = 5'-0"

Bottom of Footing Elevations

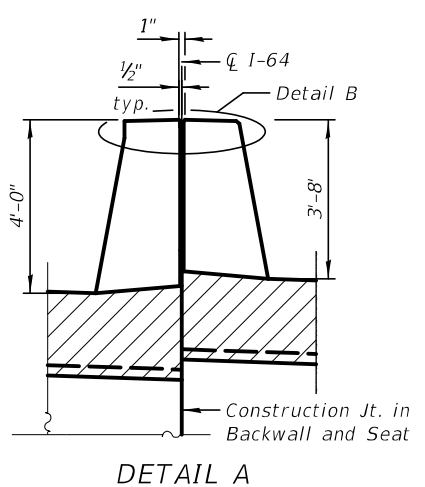
B/Footing Location	B/Footing Elevation
Elev. A	390.34
Elev. B	389.26
Elev. C	388.47

Abutment Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	394.86	3 1/8"
W2	394.60	3 1/8"
W3	394.34	3 1/8"
W4	394.08	3 1/8"
W5	393.82	3 1/8"
W6	393.56	2 5/8"
E1	393.78	3 1/8"
E2	393.52	3 1/8"
E3	393.26	3 1/8"
E4	393.00	3 1/8"
E5	392.74	3 1/8"
E6	392.47	3 1/8"



DETAIL B



DETAIL A

Notes:

Δ Spaced to miss expansion joint supports or members according to the approved shop drawings and as approved by the Engineer.

* Elevations and dimensions are taken before deck grinding.

For Exp. Jt details see sheet S-92

For Section Thru Abutment, see sheet S-135

Dimensions shown are measured radial to the PGL. All other dimensions are measured parallel to the centerline of bearing. Wingwalls are curved.

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-EB06.dgn



DESIGNED - KA	REVISIONS
CHECKED - LS	REVISIONS
DRAWN - KA	REVISIONS
CHECKED - LS	REVISIONS

SCALE - NONE
 DATE - 8/11/2023

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT ELEVATION AND SECTION
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

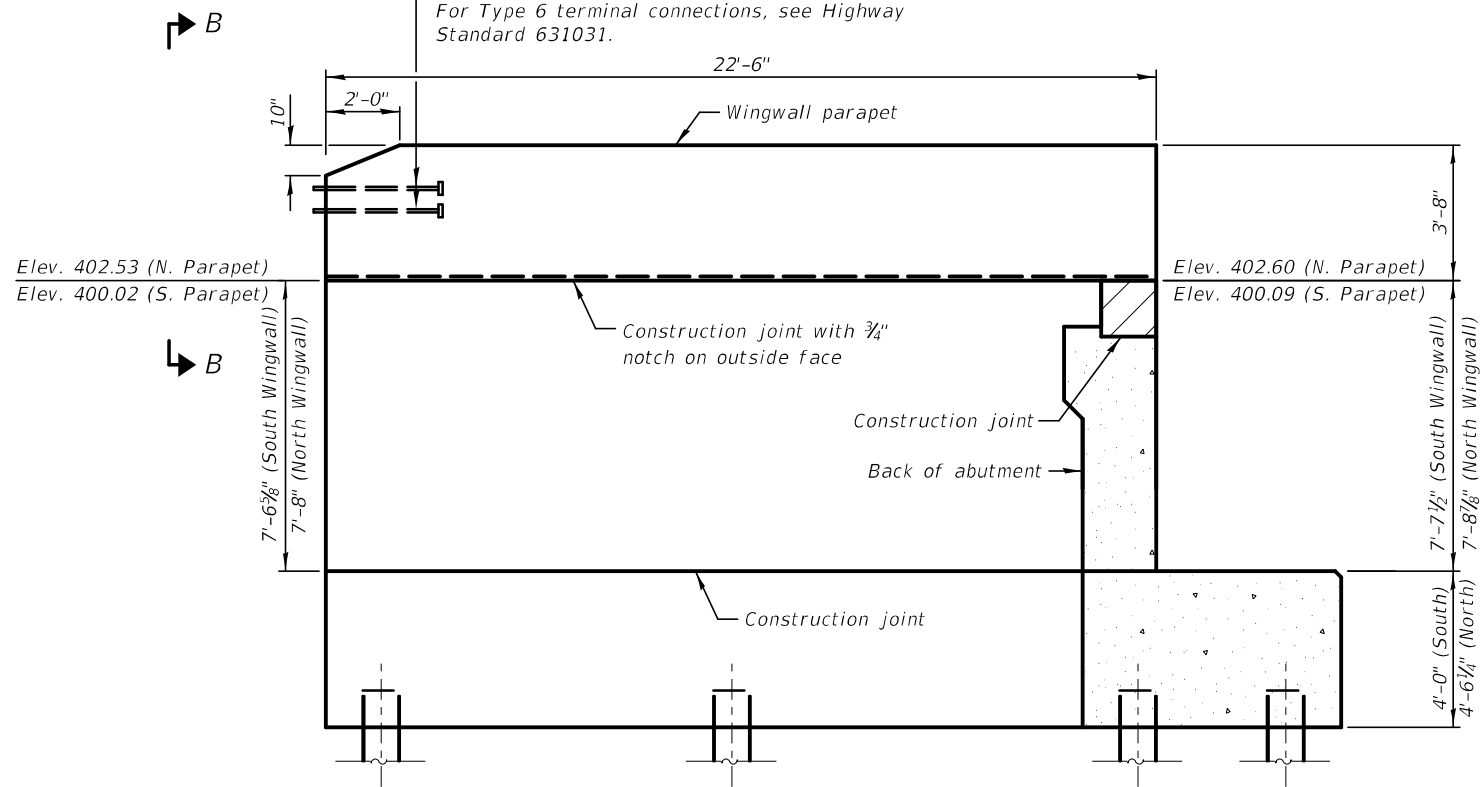
SHEET S-133 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	317

CONTRACT NO. 78057

PUBLIC WATERS ILLINOIS FED. AID PROJECT

1" Ø Anchor bolts for Type 5 terminal connections only, see View B-B and Highway Standard 631026. For Type 6 terminal connections, see Highway Standard 631031.

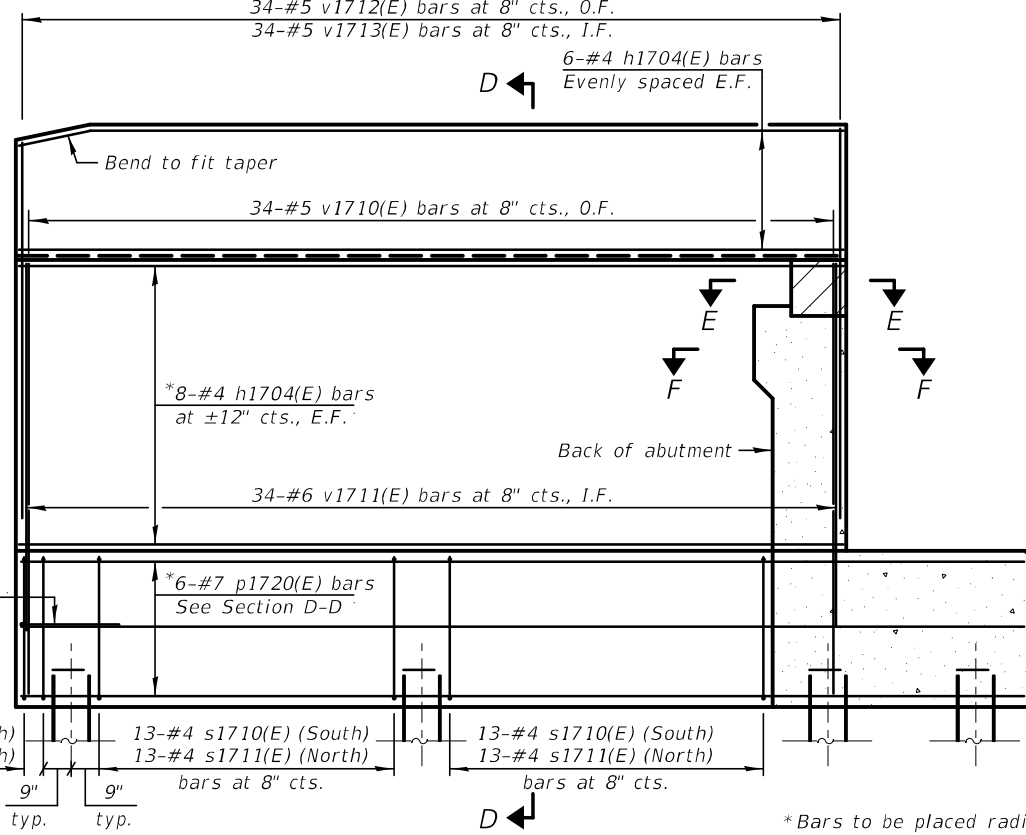


SECTION A-A

(Showing dimensions)
(Opposite wing similar)

34-#5 v1712(E) bars at 8" cts., O.F.
34-#5 v1713(E) bars at 8" cts., I.F.

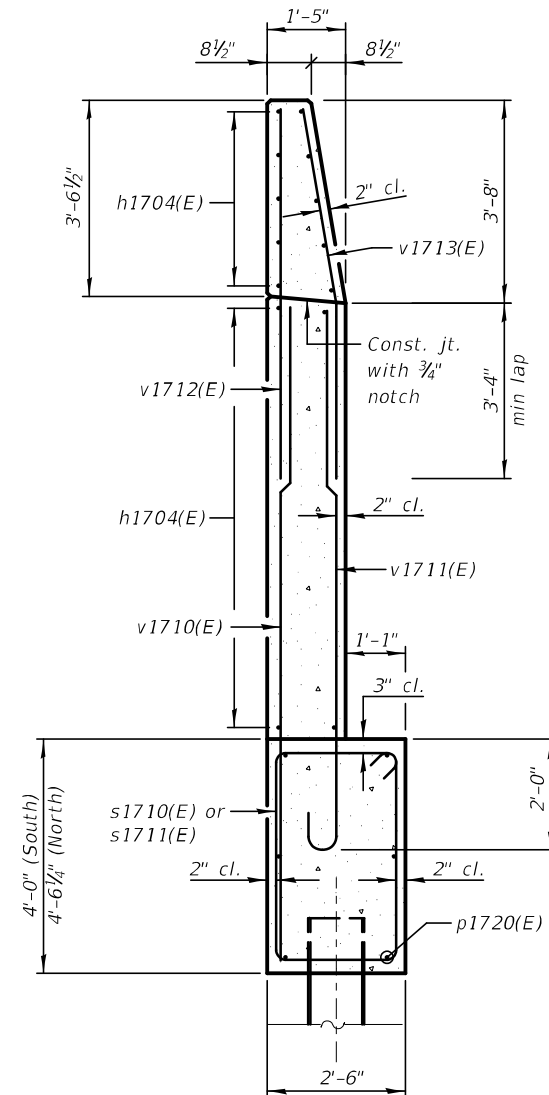
6-#4 h1704(E) bars
Evenly spaced E.F.



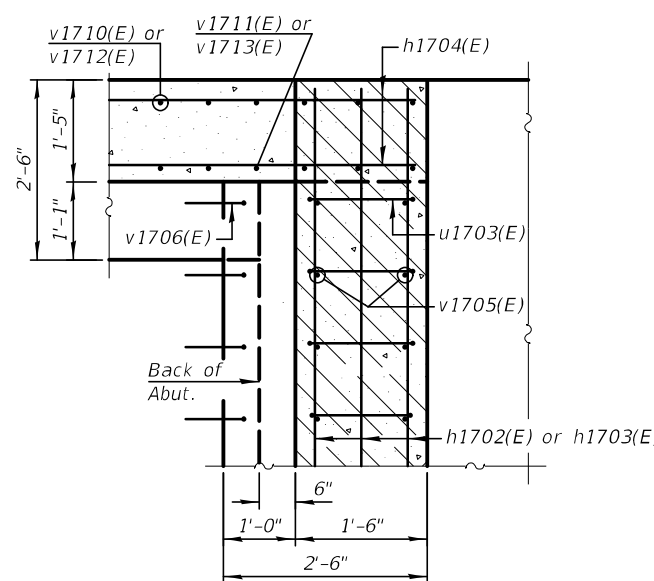
SECTION A-A

(Showing reinforcement)
(Opposite wing similar)

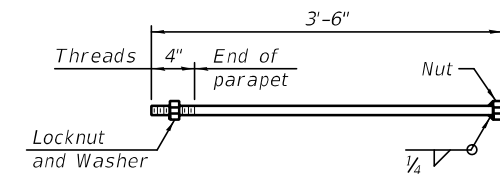
* Bars to be placed radially. Bars to be furnished straight and sprung into place to fit.



SECTION D-D



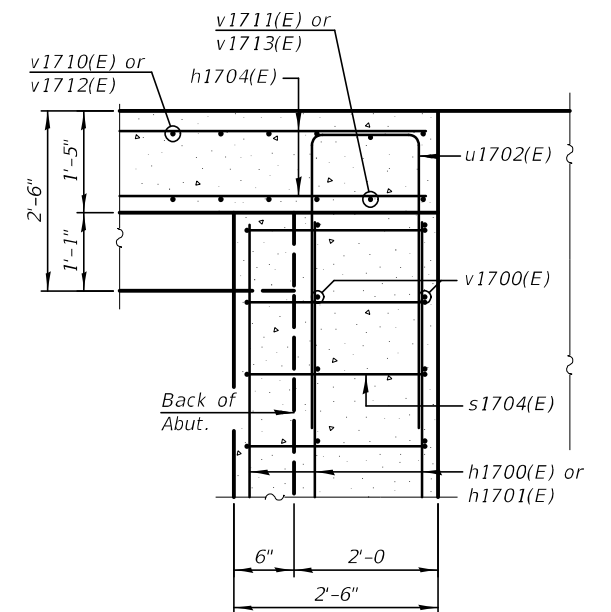
SECTION E-E



VIEW B-B

1" Ø ANCHOR BOLT

Anchor bolt assemblies shall be according to Article 1006.09 of the Standard Specifications. Cost included with Concrete Superstructure.



SECTION F-F

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Struct\Bridges\7660-50080-4807.dgn

KNIGHT
Engineers & Architects

DESIGNED	- KA	REVISION	
CHECKED	- LS	REVISION	
SCALE	- NONE	DRAWN	- KA
DATE	- 8/11/2023	CHECKED	- LS

DESIGNED	- KA	REVISION	
CHECKED	- LS	REVISION	
DRAWN	- KA	REVISION	
CHECKED	- LS	REVISION	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT WINGWALL DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-134 OF 232 SHEETS

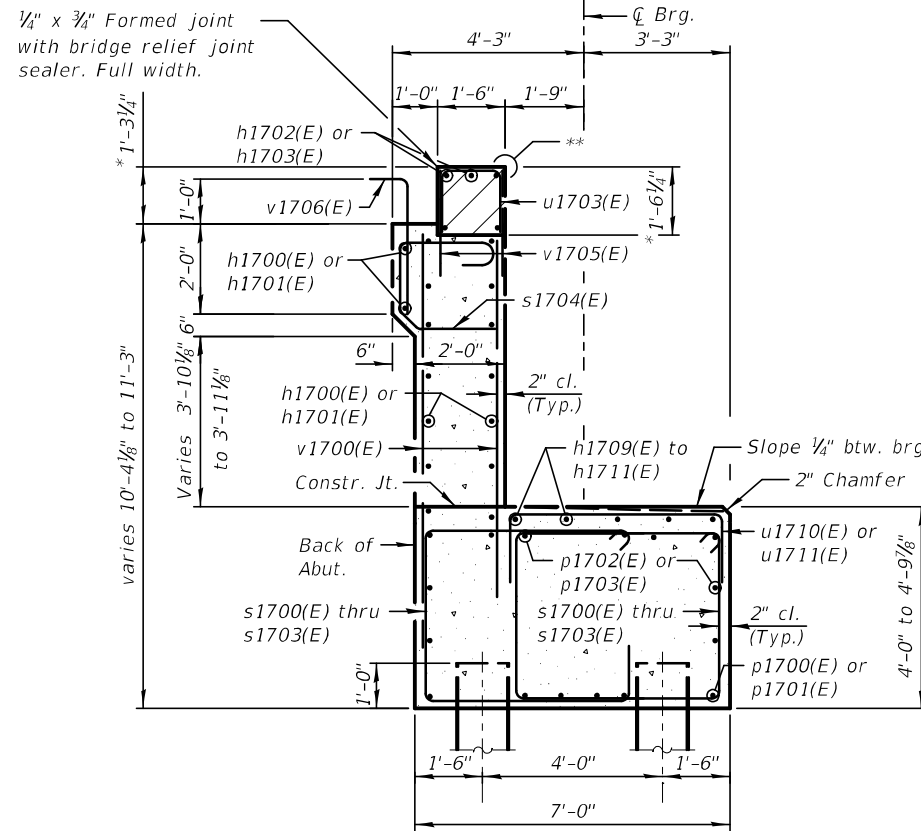
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	318
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

**EAST ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1700(E)	32	#4	24'-10"	▬
h1701(E)	32	#4	23'-4"	▬
h1702(E)	10	#5	26'-3"	▬
h1703(E)	10	#5	24'-6"	▬
h1704(E)	56	#4	22'-2"	▬
h1709(E)	5	#5	14'-5"	▬
h1710(E)	10	#5	18'-4"	▬
h1711(E)	5	#5	15'-1"	▬
p1700(E)	18	#7	21'-8"	▬
p1701(E)	6	#7	27'-7"	▬
p1702(E)	10	#7	45'-2"	▬
p1703(E)	20	#7	27'-8"	▬
p1710(E)	6	#7	13'-2"	▬
p1711(E)	6	#7	13'-7"	▬
p1720(E)	12	#7	27'-2"	▬
s1700(E)	46	#5	17'-3"	▬
s1701(E)	40	#5	15'-7"	▬
s1702(E)	56	#5	17'-9"	▬
s1703(E)	46	#5	15'-7"	▬
s1704(E)	90	#5	6'-5"	▬
s1710(E)	29	#4	12'-5"	▬
s1711(E)	29	#4	13'-5"	▬
u1700(E)	8	#6	15'-2"	▬
u1701(E)	2	#4	8'-0"	▬
u1702(E)	14	#4	9'-11"	▬
u1703(E)	90	#5	3'-6"	▬
u1710(E)	32	#5	6'-8"	▬
u1711(E)	31	#5	7'-8"	▬
v1700(E)	180	#5	9'-0"	▬
v1705(E)	180	#5	3'-0"	▬
v1706(E)	90	#5	3'-8"	▬
v1710(E)	68	#5	11'-3"	▬
v1711(E)	68	#6	10'-5"	▬
v1712(E)	68	#5	6'-4"	▬
v1713(E)	68	#5	6'-11"	▬
Concrete Structures	Cu. Yd.	184.5		
Reinforcement Bars, Epoxy Coated	Pound	17,770		
Furnishing Steel Piles HP 14x89	Foot	2,700		
Driving Piles	Foot	2,700		
Test Pile Steel HP 14x89	Each	1		
Concrete Sealer	Sq. Ft.	1,264		
Pile Shoes	Each	28		

PILE DATA

Type: HP14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 388 kips
 Est. Length: 100 feet
 No. Production Piles: 27
 No. Test Piles: 1



SECTION THRU ABUTMENT

* Elevations and dimensions are taken before deck grinding.
 ** For Exp. Jt details see sheet S-92

Notes:

Front Face and Back Face of East Abutment is parallel to ζ Brg. E. Abutment. Wingwalls are radial.

Hatched area to be poured separately after superstructure falsework has been removed and after approach slab side formwork has been removed.

Quantity of concrete in wingwall parapet included with concrete superstructure on S-97 and hatched area included with Concrete Superstructure on sheet S-87

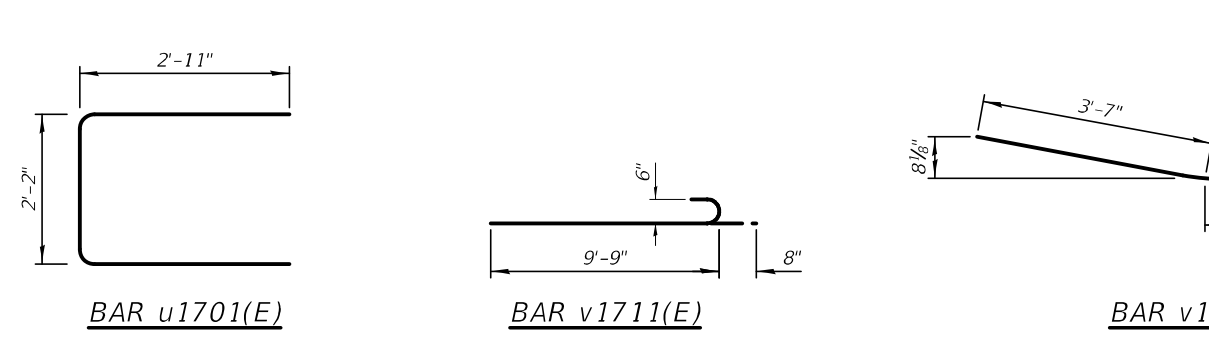
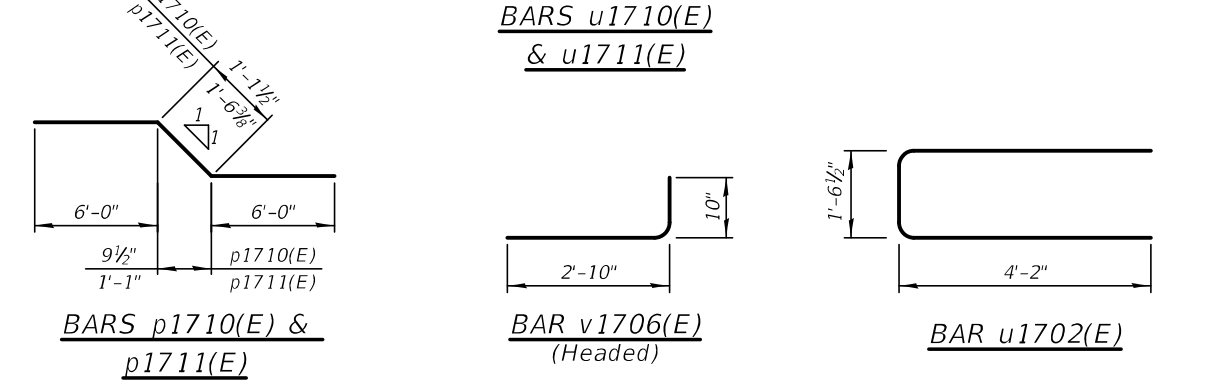
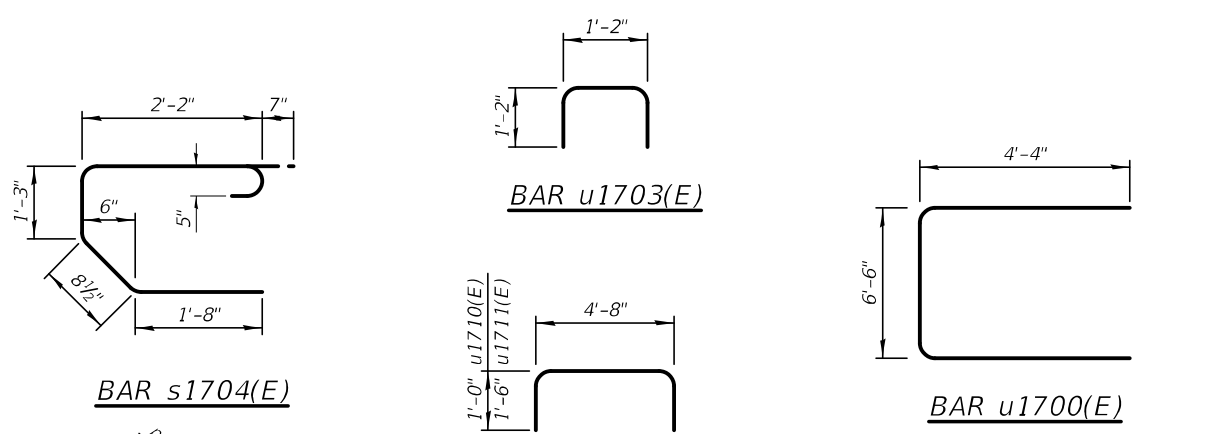
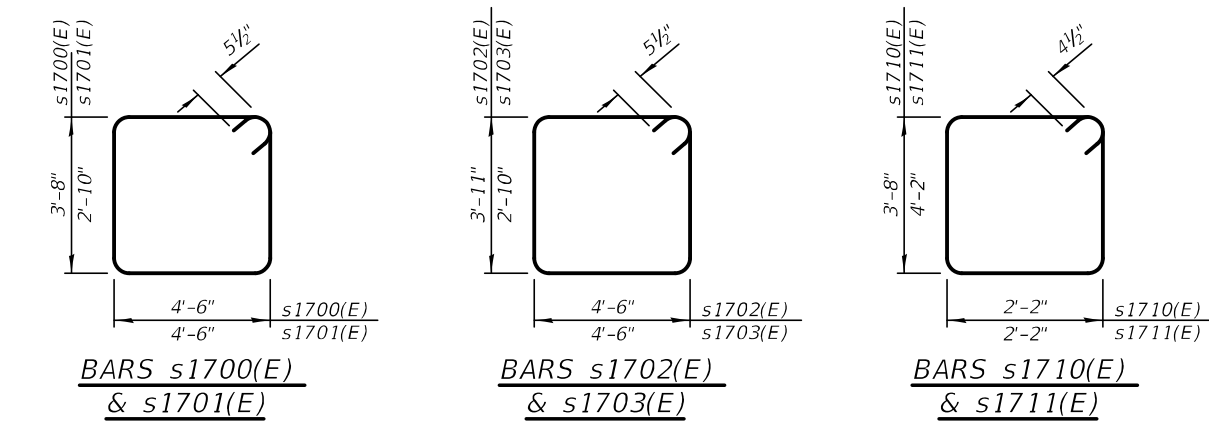
Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

For details of piles see sheet S-208.

The top of back wall and approach slab seat shall have constant slope determined from the control points shown.

Concrete Sealer shall be applied to the bearing seats and front faces of the hatched block, back wall and abutment cap.



PLOT DATE = 12/11/2023
 FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-4808.dgn

KNIGHT Engineers & Architects	DESIGNED - KA	REVISED - 12/11/2023
	CHECKED - LS	REVISED
	SCALE - NONE	REVISED
	DATE - 8/11/2023	REVISED

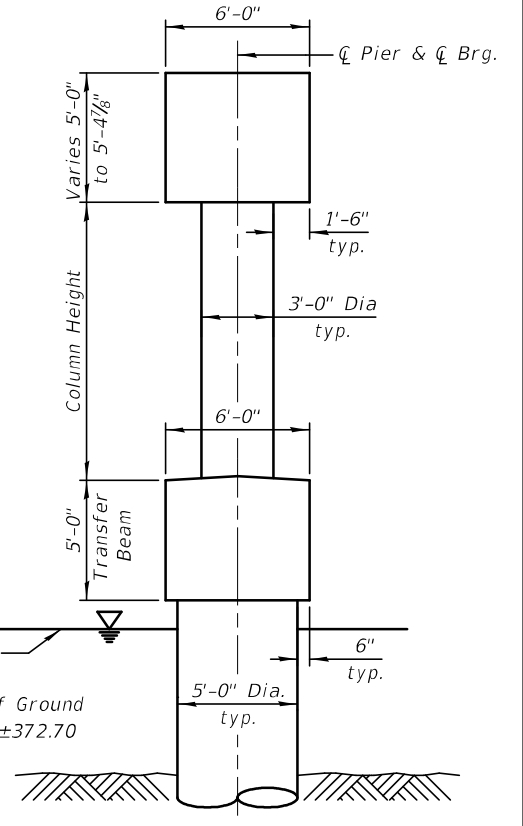
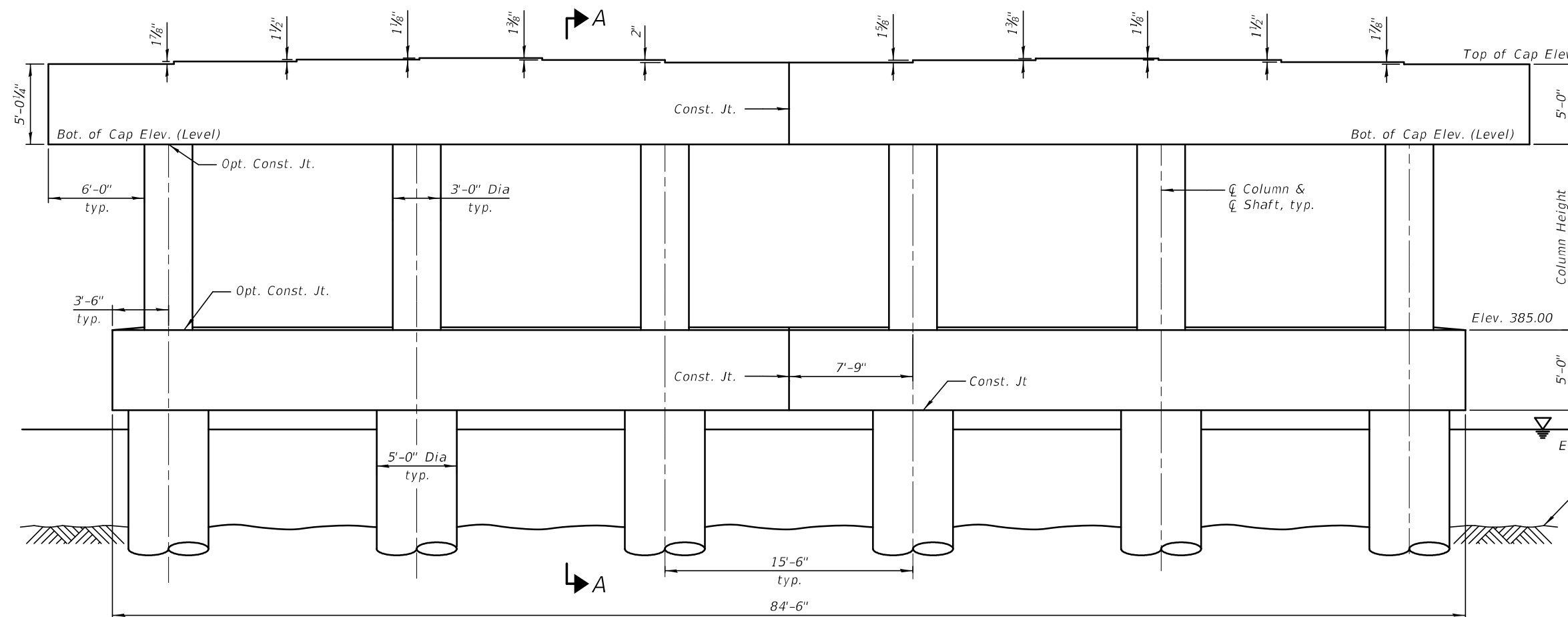
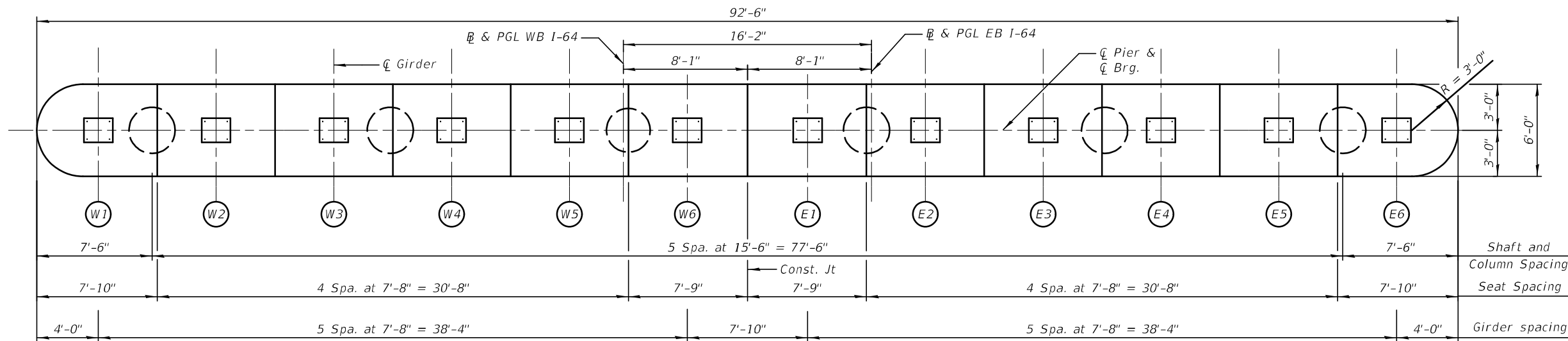
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT REBAR DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	319
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

TABLE 1

Girder No.	Bearing Seat Elev.
W1	401.54
W2	401.70
W3	401.83
W4	401.92
W5	401.80
W6	401.66
E1	401.64
E2	401.77
E3	401.89
E4	401.80
E5	401.67
E6	401.52
<hr/>	
Top of Cap Elevation	401.52
Bottom of Cap Elevation	396.52
Column Height	11'-6 1/4"



PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CAD\3\Sheets\Bridges\7660-50080-R0101.dgn

KNIGHT
Engineers & Architects

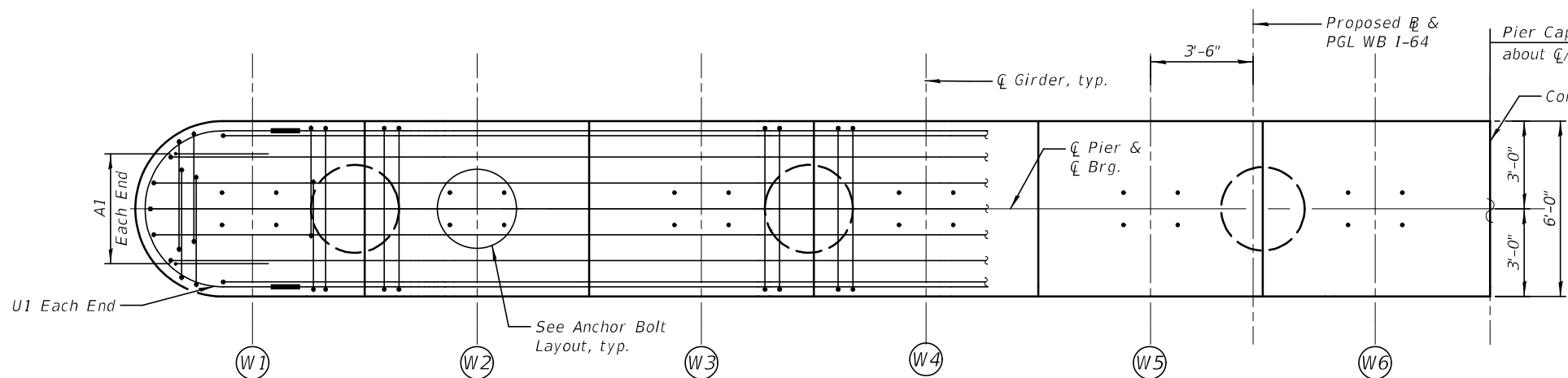
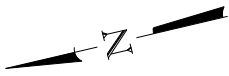
DESIGNED - KR	REVISED
CHECKED - MA	REVISED
DRAWN - MN	REVISED
CHECKED - KR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

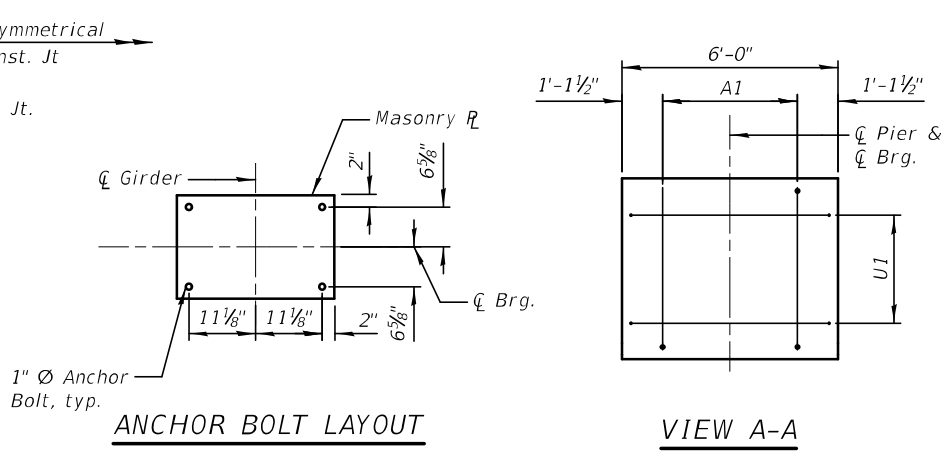
SHEET S-136 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	320
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



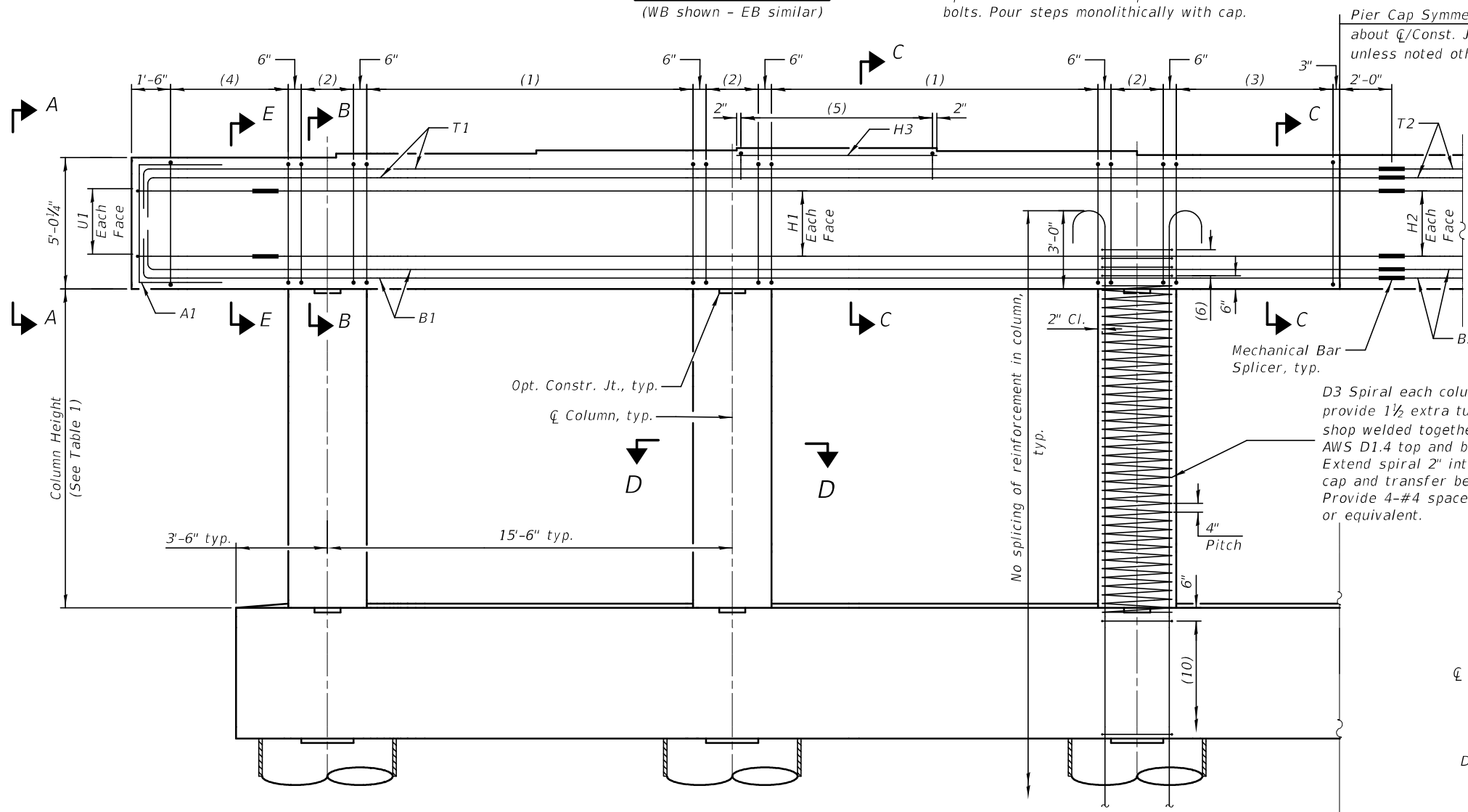
PARTIAL TOP PLAN
(WB shown - EB similar)

Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.

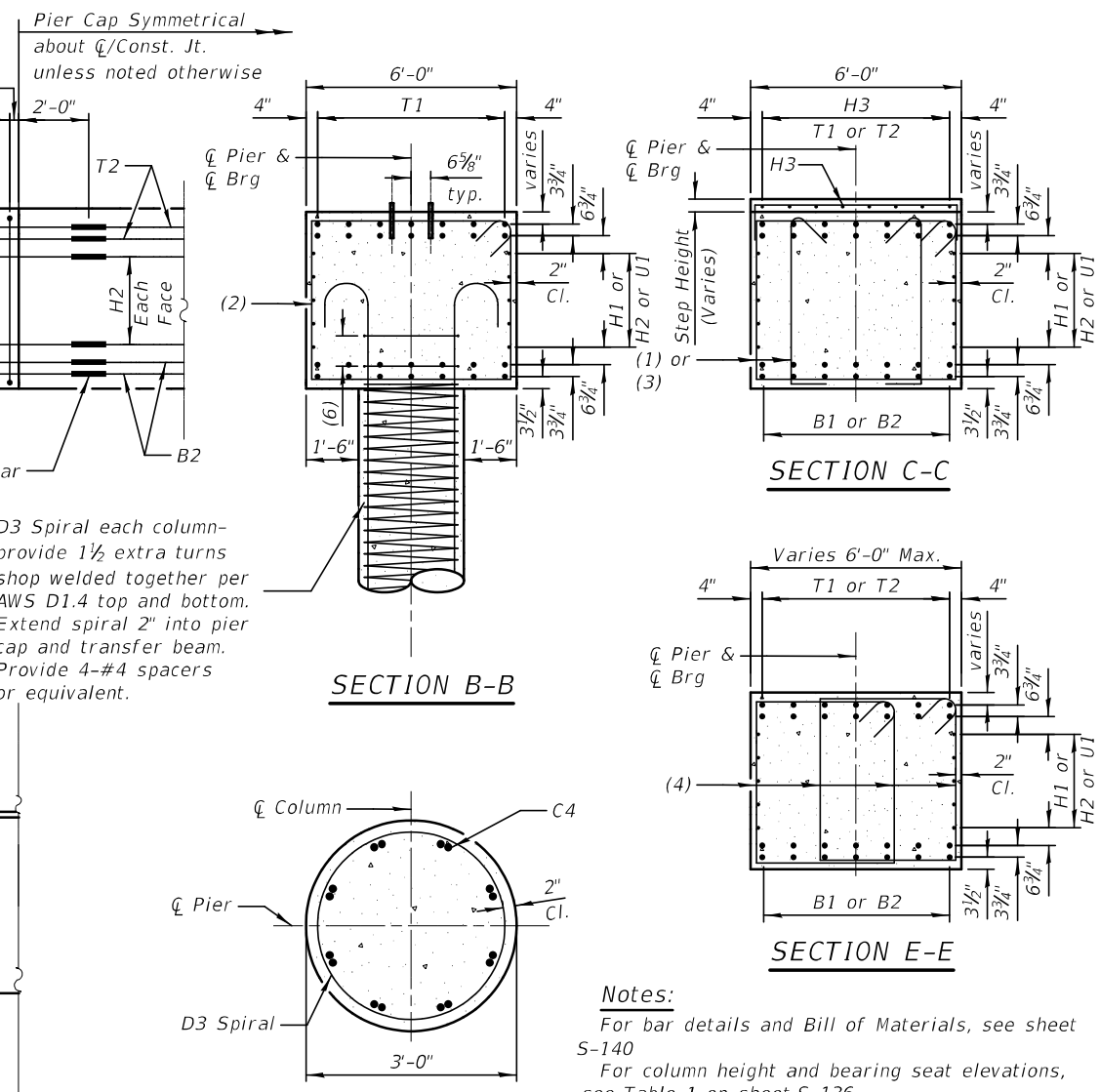


ANCHOR BOLT LAYOUT

VIEW A-A



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)



SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-140
For column height and bearing seat elevations, see Table 1 on sheet S-136
For step height, see sheet S-136
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-140

PLOT DATE = 8/9/2023
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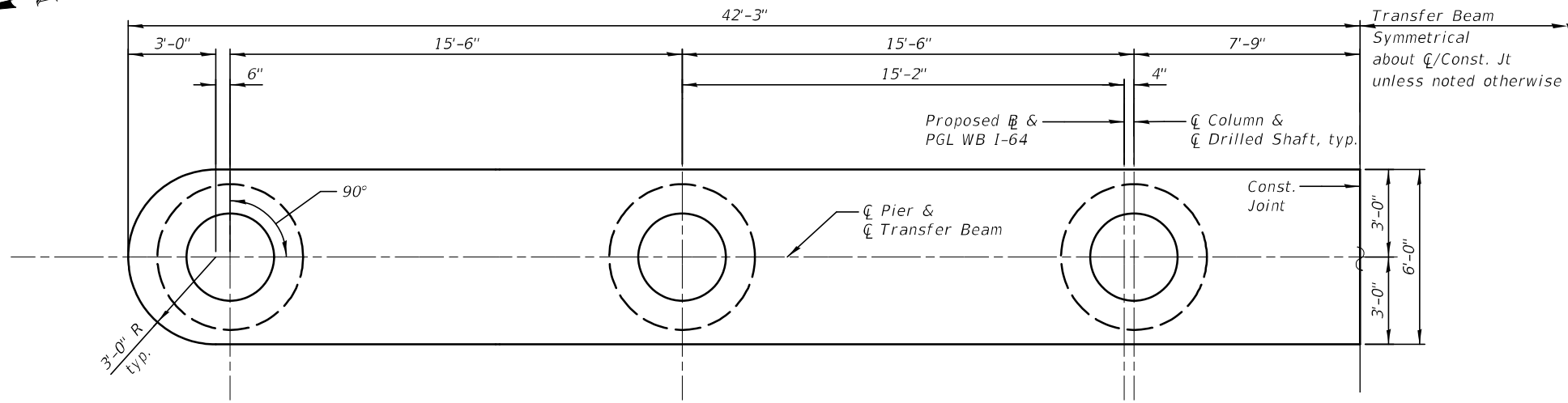
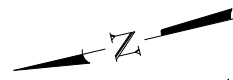
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CHECKED - KR	REVISED
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

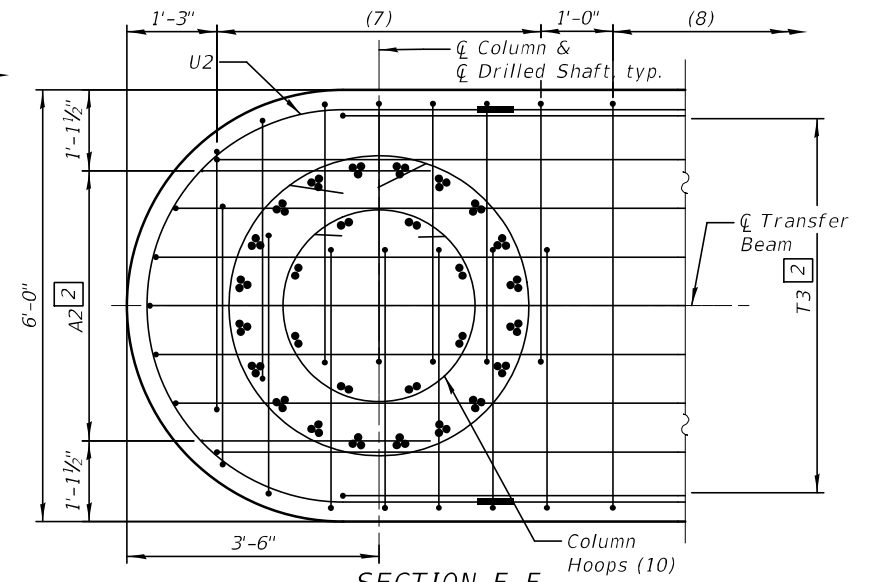
PIER NO. 1 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-137 OF 232 SHEETS

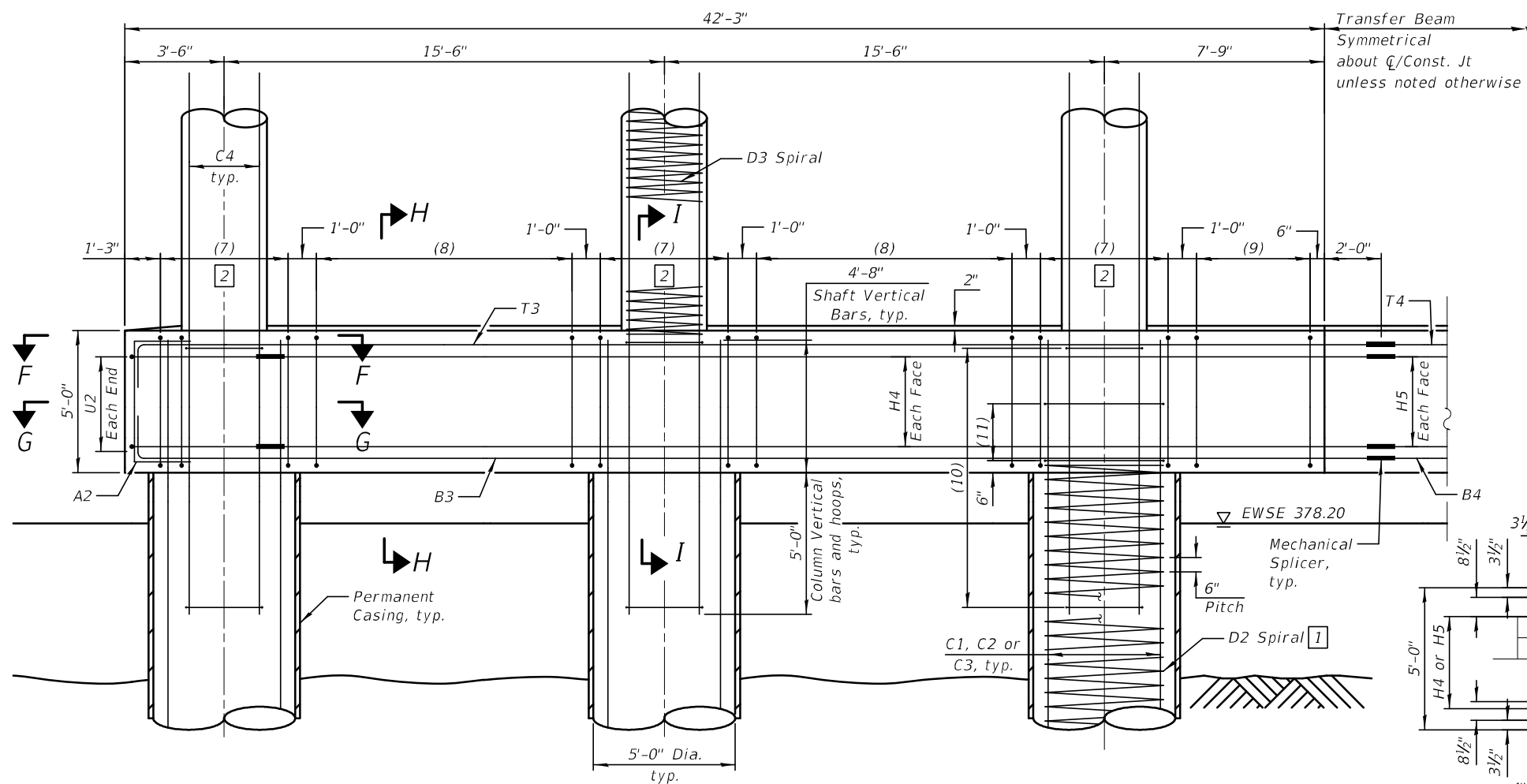
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	321
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



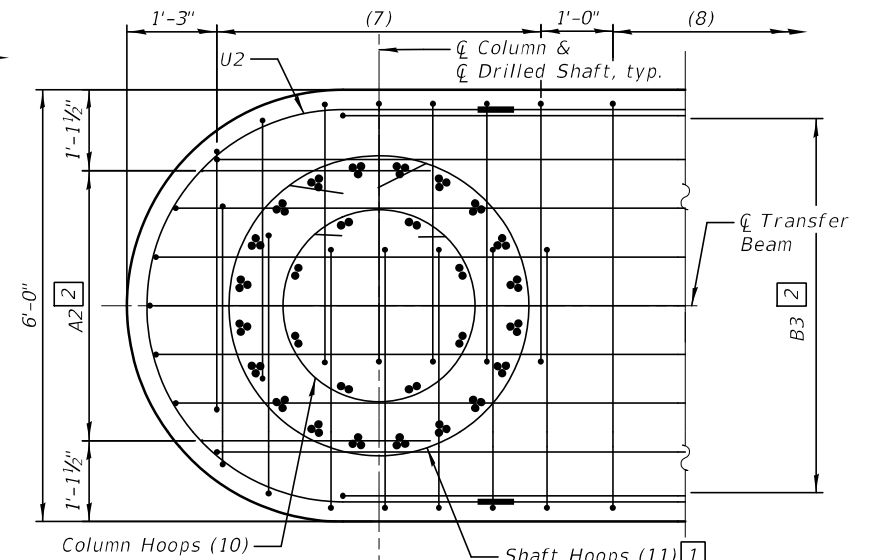
PARTIAL PLAN - TRANSFER BEAM
(WB Shown - EB Similar)



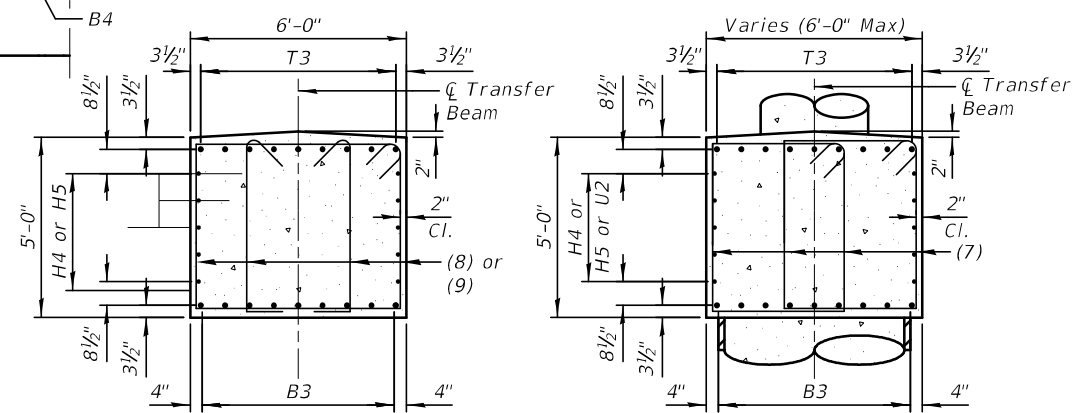
SECTION F-F



PARTIAL ELEVATION - TRANSFER BEAM
(WB Shown - EB Similar)



SECTION G-G



SECTION H-H

SECTION I-I

Column and shaft reinforcement not shown for clarity

Notes:

- 1 See sheet S-139 for additional rebar placement.
- 2 Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheet\Bridges\7660-5008\EB\PIR0103.dgn

KNIGHT
Engineers & Architects

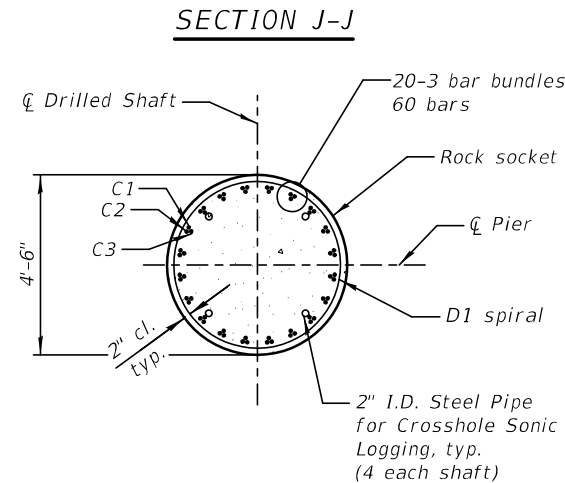
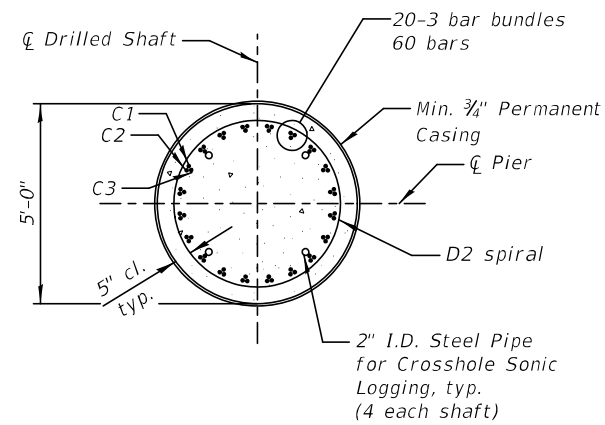
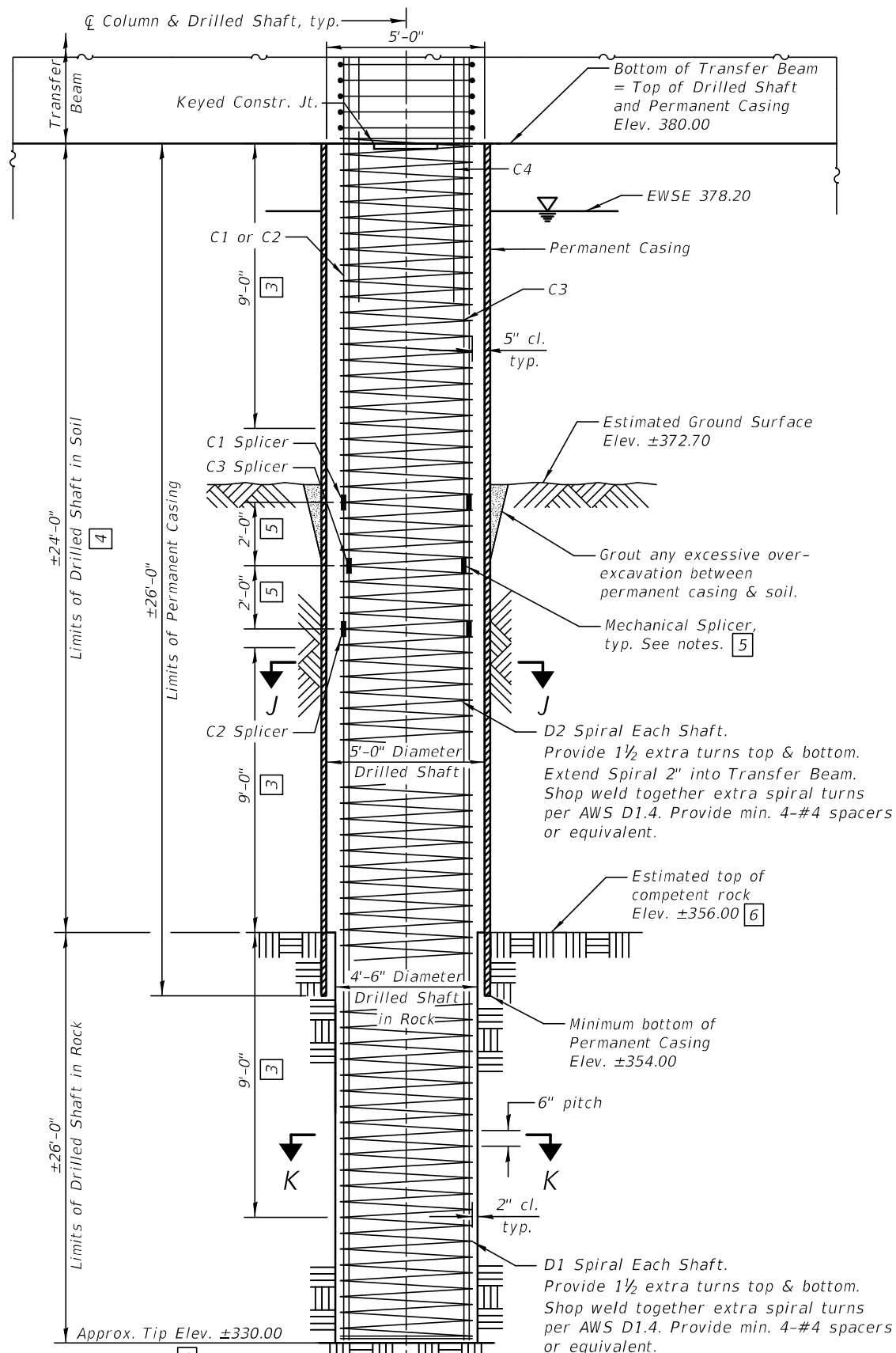
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1 TRANSFER BEAM PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-138 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	322
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



Notes:

- 3 No splicing of rebars allowed in this region
- 4 If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.
- 5 Stagger Mechanical Bar Splicers 2'-0" each, between bars C1 and C3 and between C2 and C3.
- 6 Tip elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-137

For Transfer Beam details, see sheet S-138

For additional notes, bar details and Bill of Material see sheet S-140

For Mechanical Bar Splicer details see sheet S-209

Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provision for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on the minimum length shown.

DRILLED SHAFT

Detail and Elevation
 Column hoops not shown for clarity
 (One shaft shown, 6 shafts req'd per pier,
 one under each column)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-PR0104.dgn

KNIGHT
 Engineers & Architects

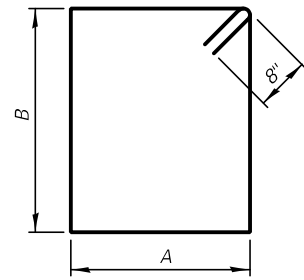
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DRAWN - MN	REVISED
CHECKED - KR	REVISED
SCALE - NONE	
DATE - 6/30/2023	

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PIER NO. 1 DRILLED SHAFT ELEVATION AND DETAILS
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

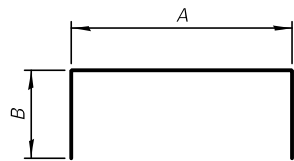
SHEET S-139 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	323
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



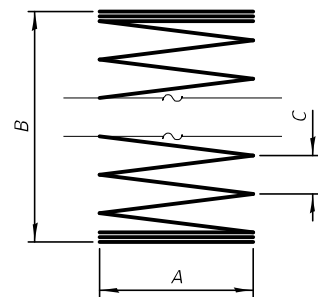
BARS s101(E), s103(E), s104(E) & s106(E)

Bars	A	B
s101(E)	3'-10"	4'-8"
s103(E) & s106(E)	5'-8"	4'-8"
s104(E)	3'-8"	4'-8"



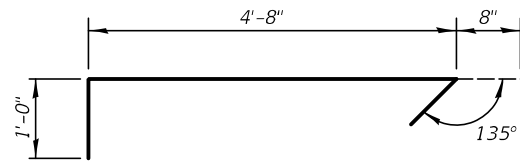
BARS u102(E), u104(E) & u105(E)

Bars	A	B
u102(E)	5'-8"	3'-4"
u104(E) & u105(E)	4'-7"	3'-2"

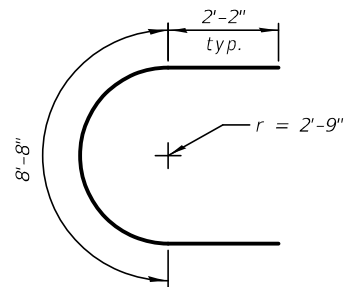


BARS sp101(E), sp102(E) & sp103(E)

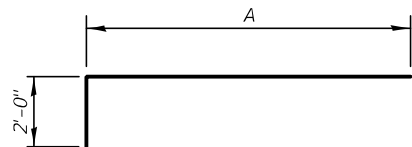
Bars	A	B	C
sp101(E)	4'-2"	26'-0"	6"
sp102(E)	4'-2"	24'-2"	6"
sp103(E)	2'-8"	11'-11"	4"



BARS s102(E) & s105(E)

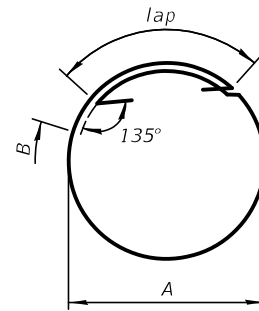


BARS u101(E) & u103(E)



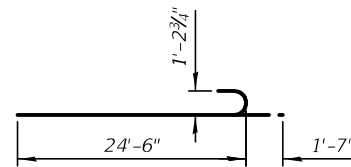
BARS p101(E) thru p118(E)

Bars	A	Bars	A
p101(E)	48'-0"	p110(E)	43'-11"
p102(E)	47'-10"	p111(E)	43'-8"
p103(E)	47'-4"	p112(E)	43'-1"
p104(E)	45'-10"	p113(E)	41'-6"
p105(E)	44'-0"	p114(E)	40'-0"
p106(E)	43'-10"	p115(E)	39'-11"
p107(E)	43'-4"	p116(E)	39'-8"
p108(E)	41'-10"	p117(E)	39'-1"
p109(E)	44'-0"	p118(E)	37'-6"



BARS hp101(E) & hp102(E)

Bars	A	B	lap
hp101(E)	4'-2"	9"	4'-5"
hp102(E)	2'-8"	4 1/2"	2'-7"



BARS v107(E)

**PIER 1
BILL OF MATERIAL (CONT.)**

Concrete Structures	Cu. Yd.	216.4
Permanent Casing	Foot	156
Drilled Shaft in Soil	Cu. Yd.	105
Drilled Shaft in Rock	Cu. Yd.	92
Crosshole Sonic Logging Access Ducts	Foot	315
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	315

**PIER 1
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h101(E)	10	#5	43'-1"	
h102(E)	10	#5	39'-1"	
h103(E)	16	#5	7'-8"	
h104(E)	10	#5	39'-1"	
h105(E)	10	#5	35'-1"	
hp101(E)	30	#7	19'-0"	o
hp102(E)	198	#4	11'-9"	o
p101(E)	4	#11	50'-0"	
p102(E)	8	#11	49'-10"	
p103(E)	8	#11	49'-4"	
p104(E)	8	#11	47'-10"	
p105(E)	4	#11	46'-0"	
p106(E)	8	#11	45'-10"	
p107(E)	8	#11	45'-4"	
p108(E)	8	#11	43'-10"	
p109(E)	2	#11	46'-0"	
p110(E)	4	#11	45'-11"	
p111(E)	4	#11	45'-8"	
p112(E)	4	#11	45'-1"	
p113(E)	4	#11	43'-6"	
p114(E)	2	#11	42'-0"	
p115(E)	4	#11	41'-11"	
p116(E)	4	#11	41'-8"	
p117(E)	4	#11	41'-1"	
p118(E)	4	#11	39'-6"	
s101(E)	40	#6	18'-4"	
s102(E)	260	#6	6'-4"	
s103(E)	148	#6	22'-0"	
s104(E)	84	#6	18'-0"	
s105(E)	100	#6	6'-4"	
s106(E)	50	#6	22'-0"	
* sp101(E)	6	#7	26'-0"	
* sp102(E)	6	#7	24'-2"	
* sp103(E)	6	#4	11'-11"	
u101(E)	10	#5	13'-0"	
u102(E)	20	#5	12'-4"	
u103(E)	10	#5	13'-0"	
u104(E)	12	#5	10'-11"	
u105(E)	12	#5	10'-11"	
v101(E)	120	#11	40'-0"	
v102(E)	120	#11	14'-8"	
v103(E)	120	#11	36'-0"	
v104(E)	120	#11	18'-8"	
v105(E)	120	#11	38'-0"	
v106(E)	120	#11	16'-8"	
v107(E)	96	#11	26'-2"	
Reinforcement Bars, Epoxy Coated		Lbs.	176,990	
Mechanical Splicers		Each	466	

* Length shown is height of each spiral.

Mark	Bar Callouts
(1)	26 sets of 2-#6 s102(E) & 1-#6 s103(E) at 6" cts.
(2)	3 sets of 1-#6 s103(E) at 12" cts.
(3)	13 sets of 2-#6 s102(E) & 1-#6 s103(E) at 6" cts.
(4)	10 sets of 2-#6 s101(E) at 6" cts.
(5)	10 sets of 1-#5 u102(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp102(E) at 4" cts.
(7)	7 sets of 2-#6 s104(E) at 9" cts.
(8)	10 sets of 2-#6 s105(E) and 1-#6 s106(E) at 12" cts.
(9)	5 sets of 2-#6 s105(E) and 1-#6 s106(E) at 12" cts.
(10)	29 sets of 1-#4 hp102(E) at 4" cts.
(11)	5 sets of 1-#4 hp101(E) at 6" cts.
T1	2 layers of 1-#11 p101(E), 2-#11 p102(E) thru p104(E) at abt. 10 7/8" cts.
T2	2 layers of 1-#11 p105(E), 2-#11 p106(E) thru p108(E) at abt. 10 7/8" cts.
T3	1 layer of 1-#11 p109(E), 2-#11 p110(E) thru p113(E) at abt. 8 1/2" cts.
T4	1 layer of 1-#11 p114(E), 2-#11 p115(E) thru p118(E) at abt. 8 1/2" cts.
B1	2 layers of 1-#11 p101(E), 2-#11 p102(E) thru p104(E) at abt. 10 7/8" cts.
B2	2 layers of 1-#11 p105(E), 2-#11 p106(E) thru p108(E) at abt. 10 7/8" cts.
B3	1 layer of 1-#11 p109(E), 2-#11 p110(E) thru p113(E) at abt. 8 1/2" cts.
B4	1 layer of 1-#11 p114(E), 2-#11 p115(E) thru p118(E) at abt. 8 1/2" cts.
H1	5-#5 h101(E) at 8" cts.
H2	5-#5 h102(E) at 8" cts.
H3	8-#5 h103(E) at abt. 9" cts.
H4	5-#5 h104(E) at 9" cts.
H5	5-#5 h105(E) at 9" cts.
U1	5-#5 u101(E) spaced with h101(E) or h102(E)
U2	5-#5 u103(E) spaced with h104(E) or h105(E)
A1	6-#5 u104(E) at 9" cts.
A2	6-#5 u105(E) at 9" cts.
C1	20 sets of 1-#11 v101(E) and 1-#11 v102(E) (Top) bundled w/ C2 and C3
C2	20 sets of 1-#11 v103(E) and 1-#11 v104(E) (Top) bundled w/ C1 and C3
C3	20 sets of 1-#11 v105(E) and 1-#11 v106(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v107(E) bundled
D1	#7 sp101(E) at 6" pitch
D2	#7 sp102(E) at 6" pitch
D3	#4 sp103(E) at 4" pitch

PLOT DATE = 10/24/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-PR0105.dgn

KNIGHT
Engineers & Architects

DESIGNED - KR	REVISD 10/26/2023
CHECKED - MA	REVISD
SCALE - NONE	REVISD
DATE - 6/30/2023	REVISD
DRAWN - MN	
CHECKED - KR	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

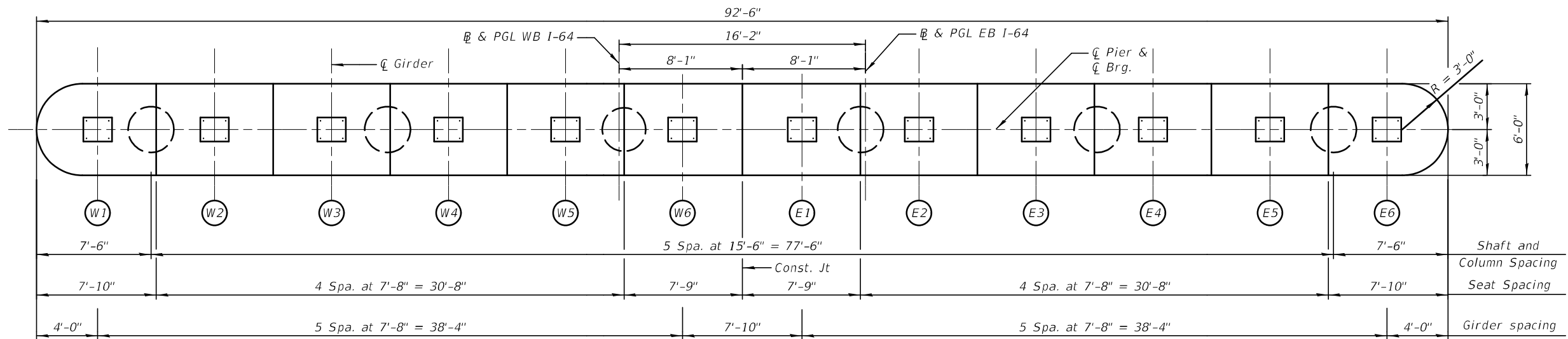
PIER NO. 1 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-140 OF 232 SHEETS

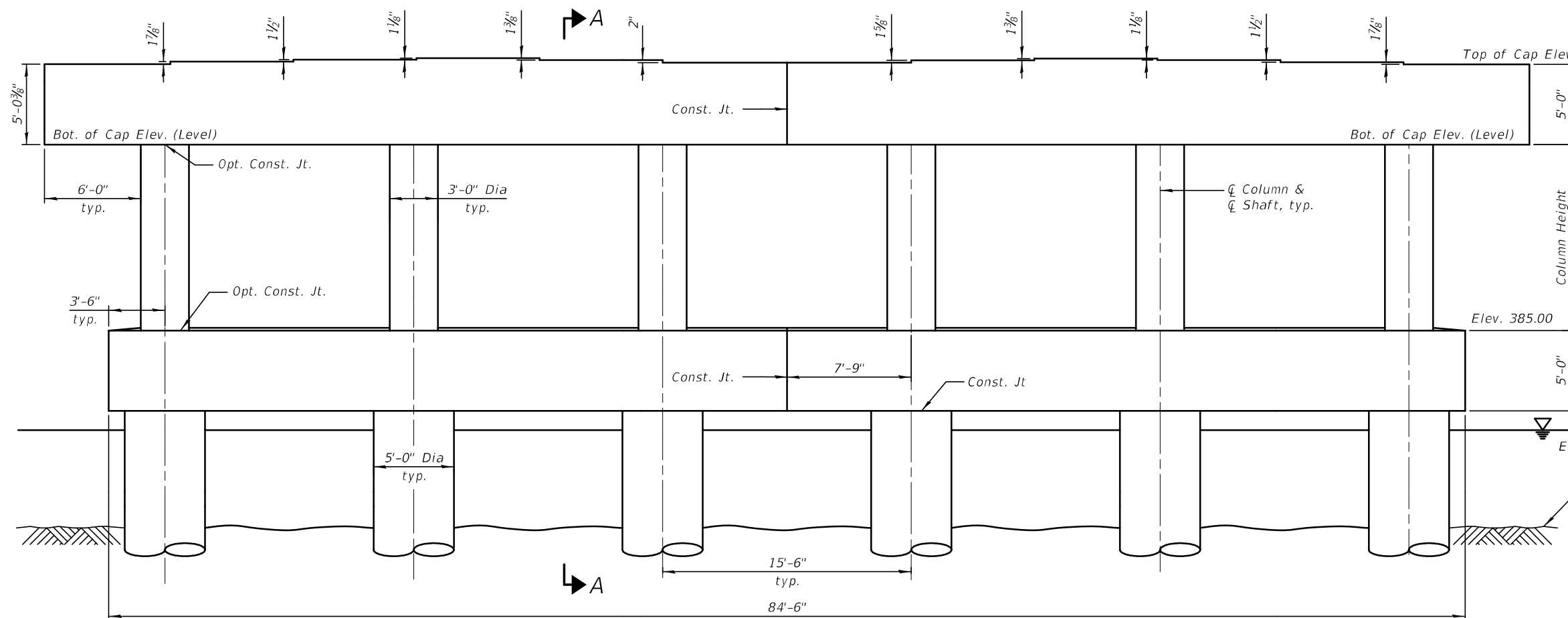
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	324
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

TABLE 1

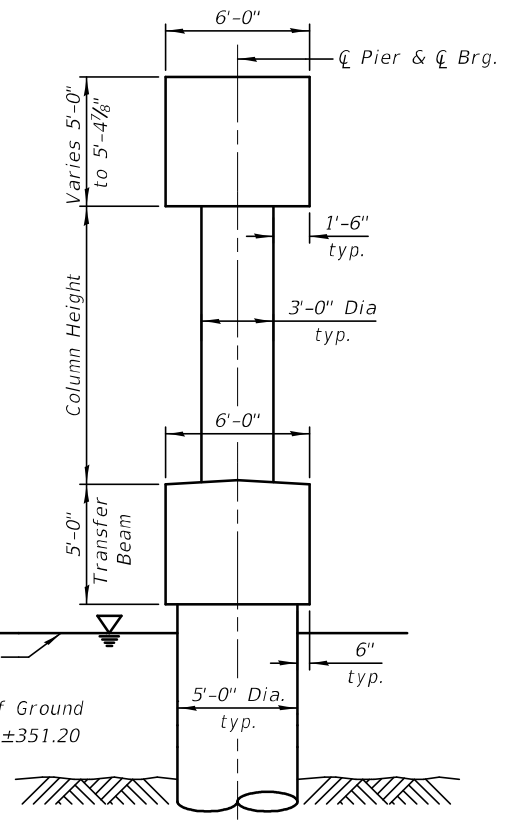
Girder No.	Bearing Seat Elev.
W1	401.02
W2	401.17
W3	401.30
W4	401.39
W5	401.27
W6	401.14
E1	401.11
E2	401.24
E3	401.36
E4	401.27
E5	401.14
E6	400.99
<hr/>	
Top of Cap Elevation	400.99
Bottom of Cap Elevation	395.99
Column Height	11'-0"



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CAD\Drawings\Bridges\7660-50080-R0201.dgn

KNIGHT
Engineers & Architects

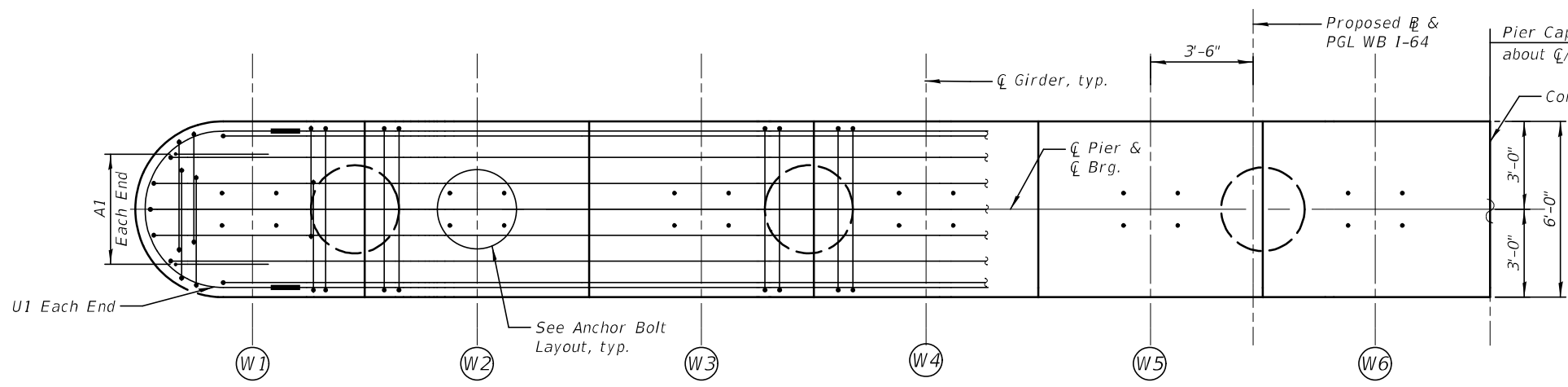
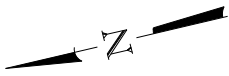
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

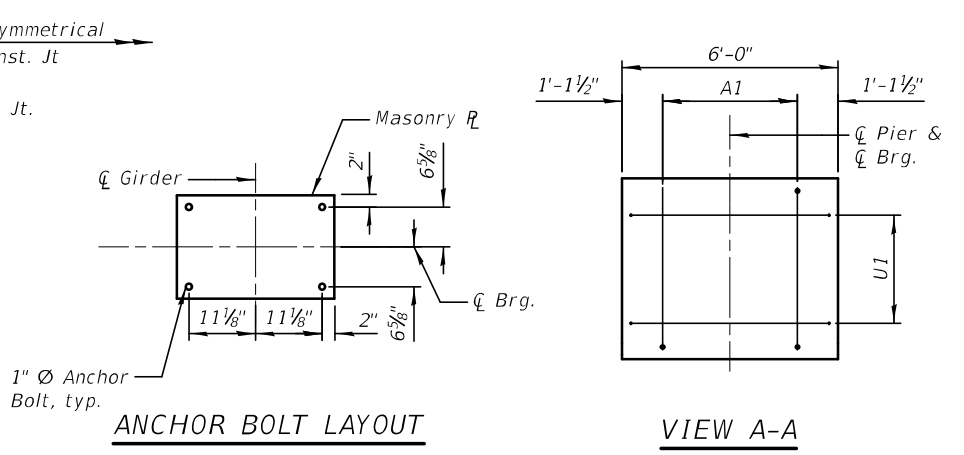
SHEET S-141 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	325
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



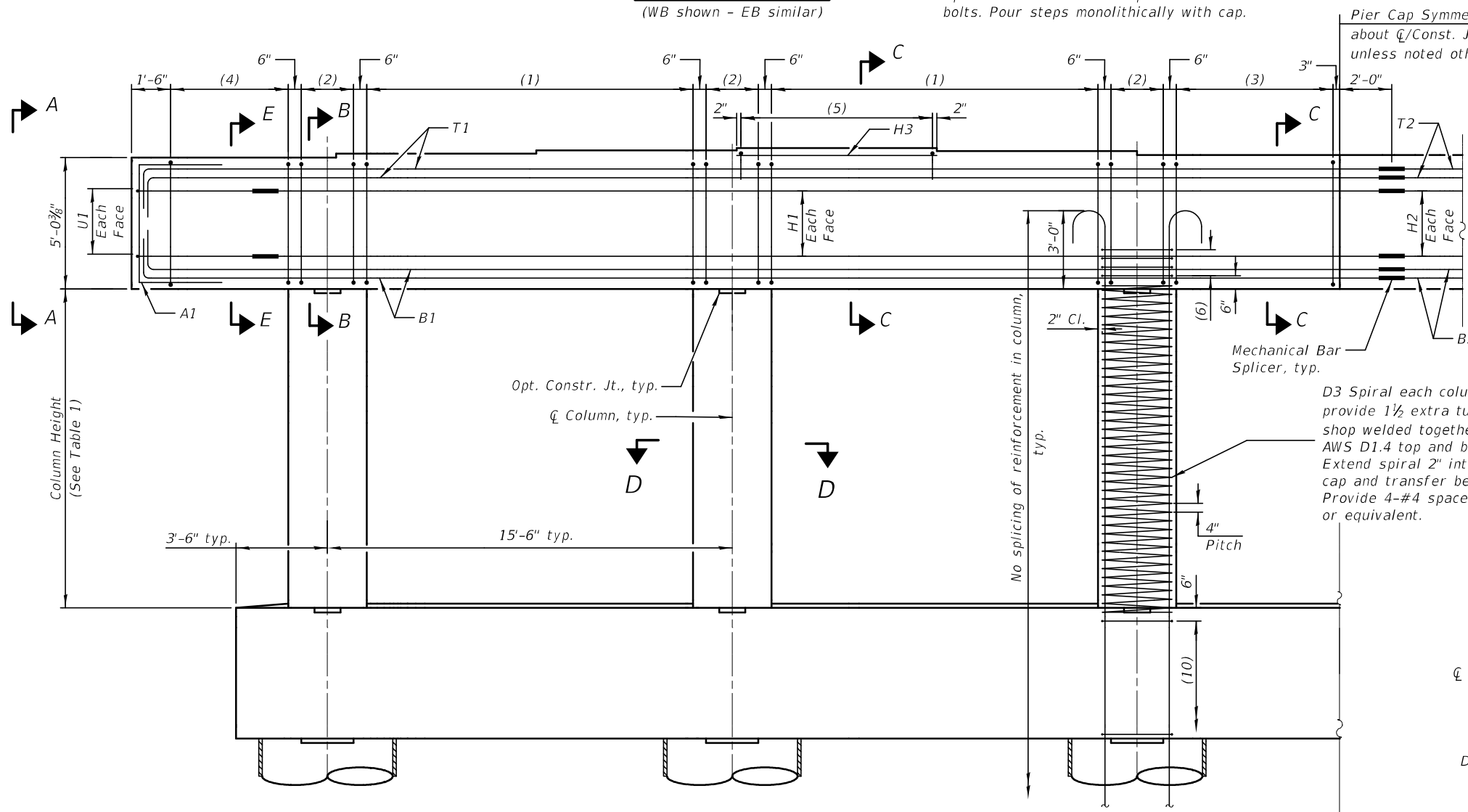
PARTIAL TOP PLAN
(WB shown - EB similar)

Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.

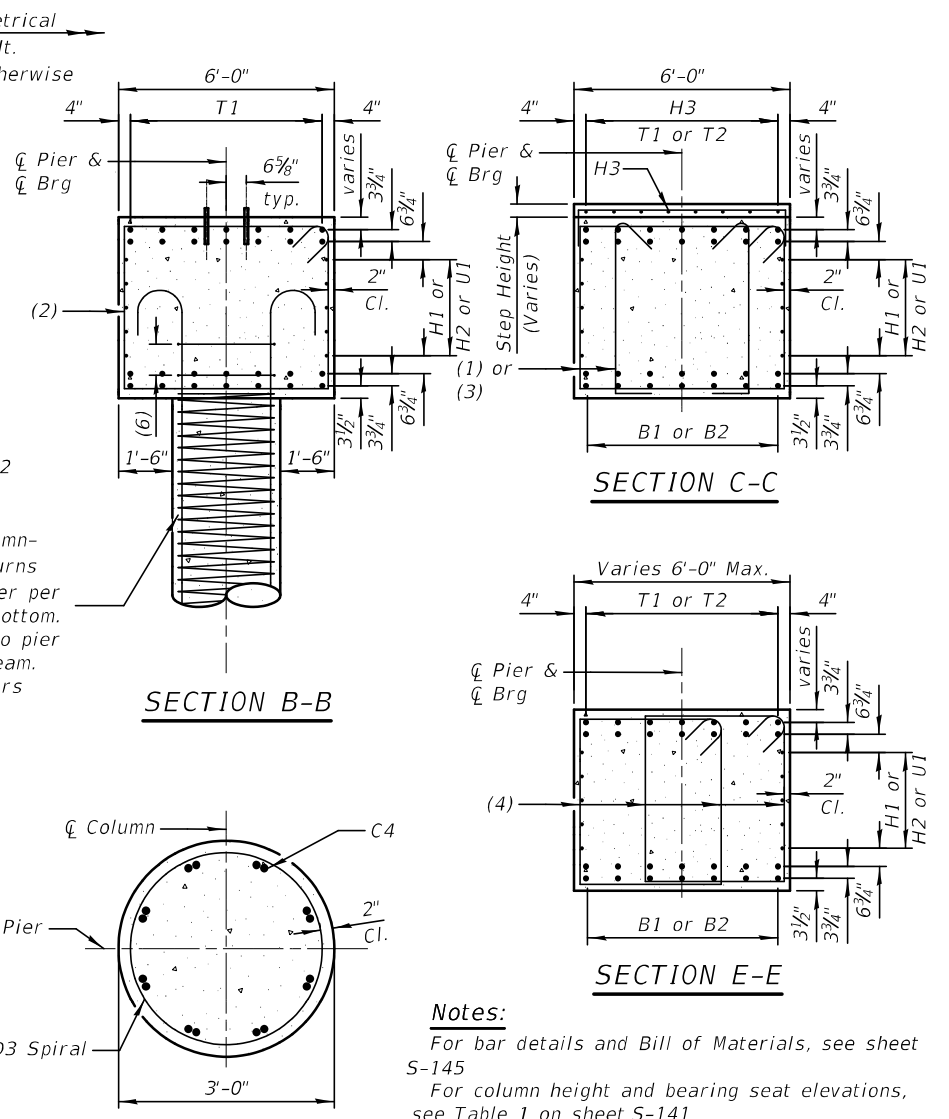


ANCHOR BOLT LAYOUT

VIEW A-A



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)



SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-145
For column height and bearing seat elevations, see Table 1 on sheet S-141
For step height, see sheet S-141
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-145

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-PR0202.dgn



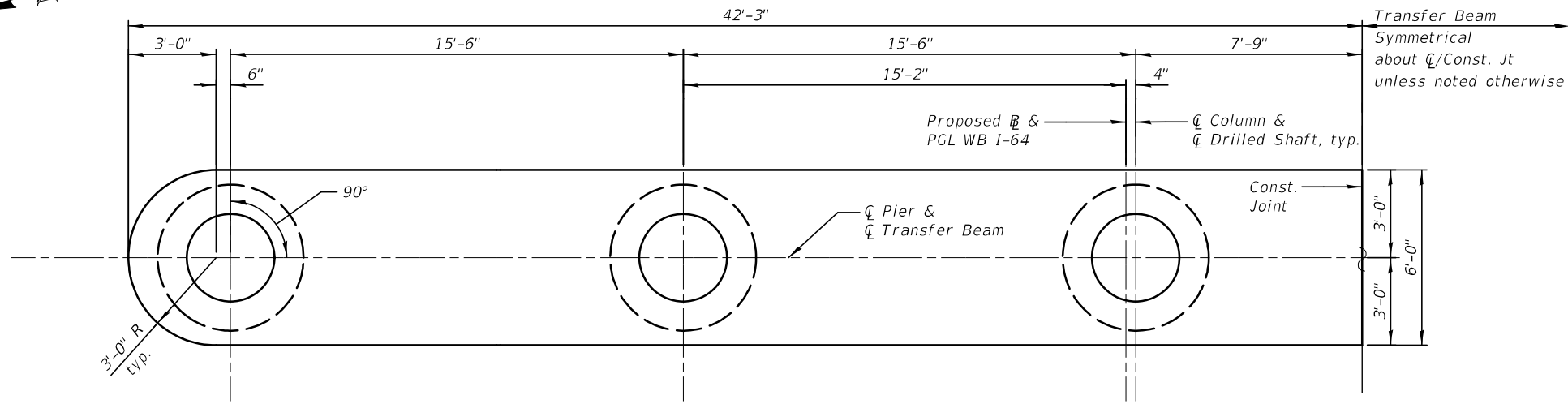
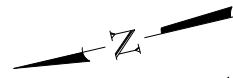
DESIGNED	- KR	REVISION	
CHECKED	- MA	REVISION	
SCALE	- NONE	DRAWN	- MN
DATE	- 6/30/2023	CHECKED	- KR
		REVISION	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

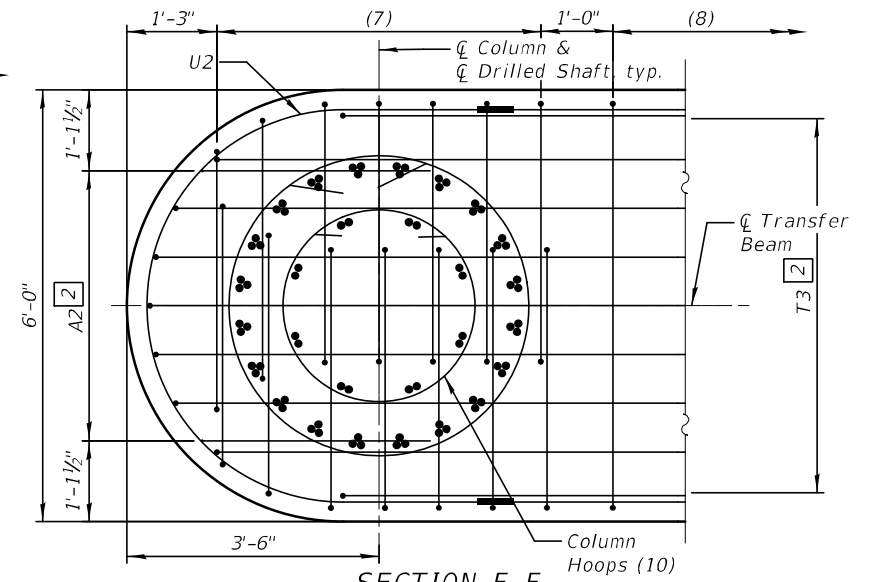
PIER NO. 2 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-142 OF 232 SHEETS

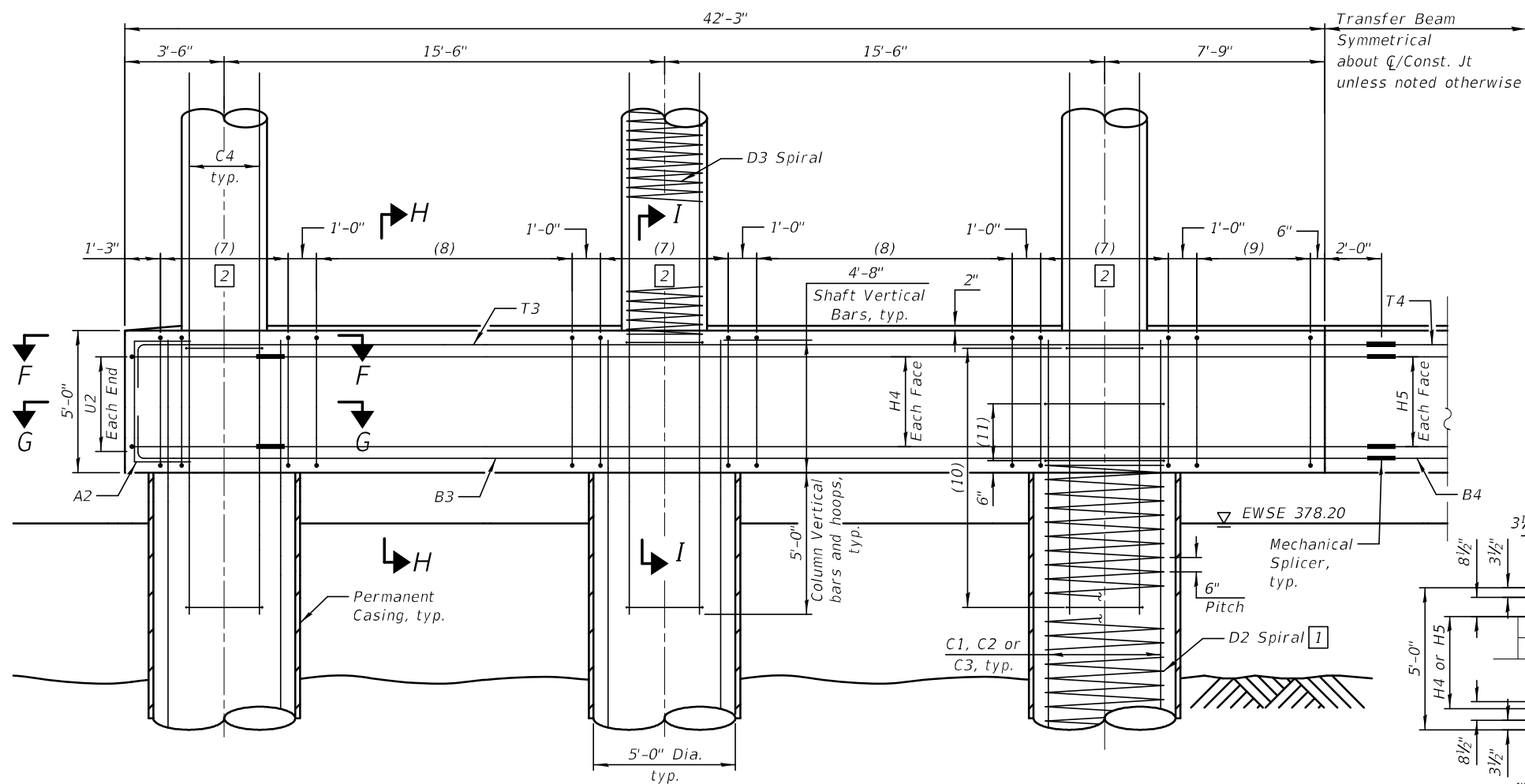
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	326
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



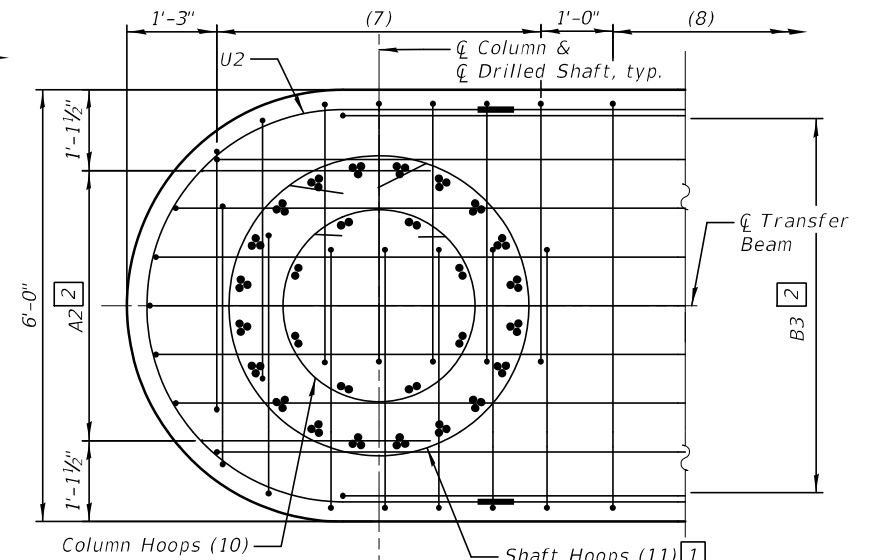
PARTIAL PLAN - TRANSFER BEAM
(WB Shown - EB Similar)



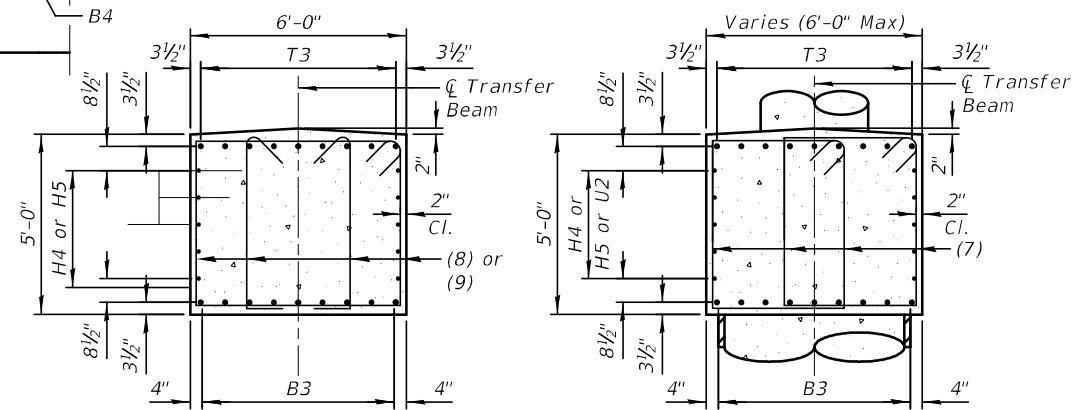
SECTION F-F



PARTIAL ELEVATION - TRANSFER BEAM
(WB Shown - EB Similar)



SECTION G-G



SECTION H-H

SECTION I-I

Column and shaft reinforcement not shown for clarity

- Notes:**
- 1 See sheet S-144 for additional rebar placement.
 - 2 Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheet\Bridges\7660-5008-EB-R0203.dgn

KNIGHT
Engineers & Architects

DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

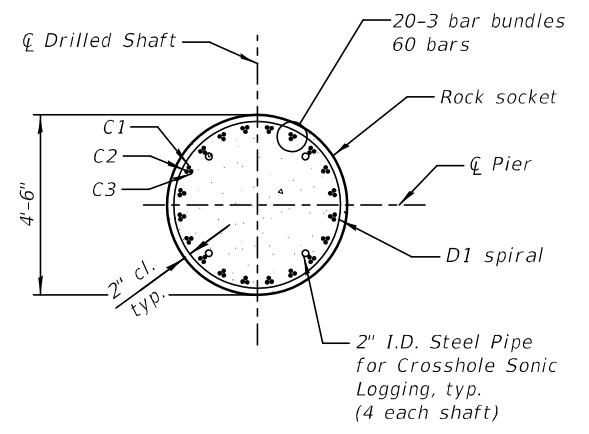
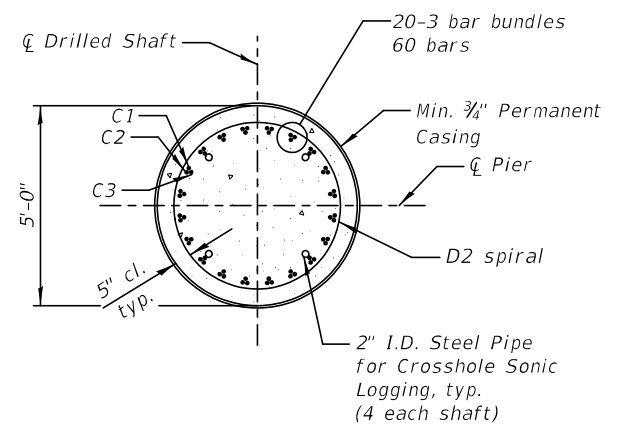
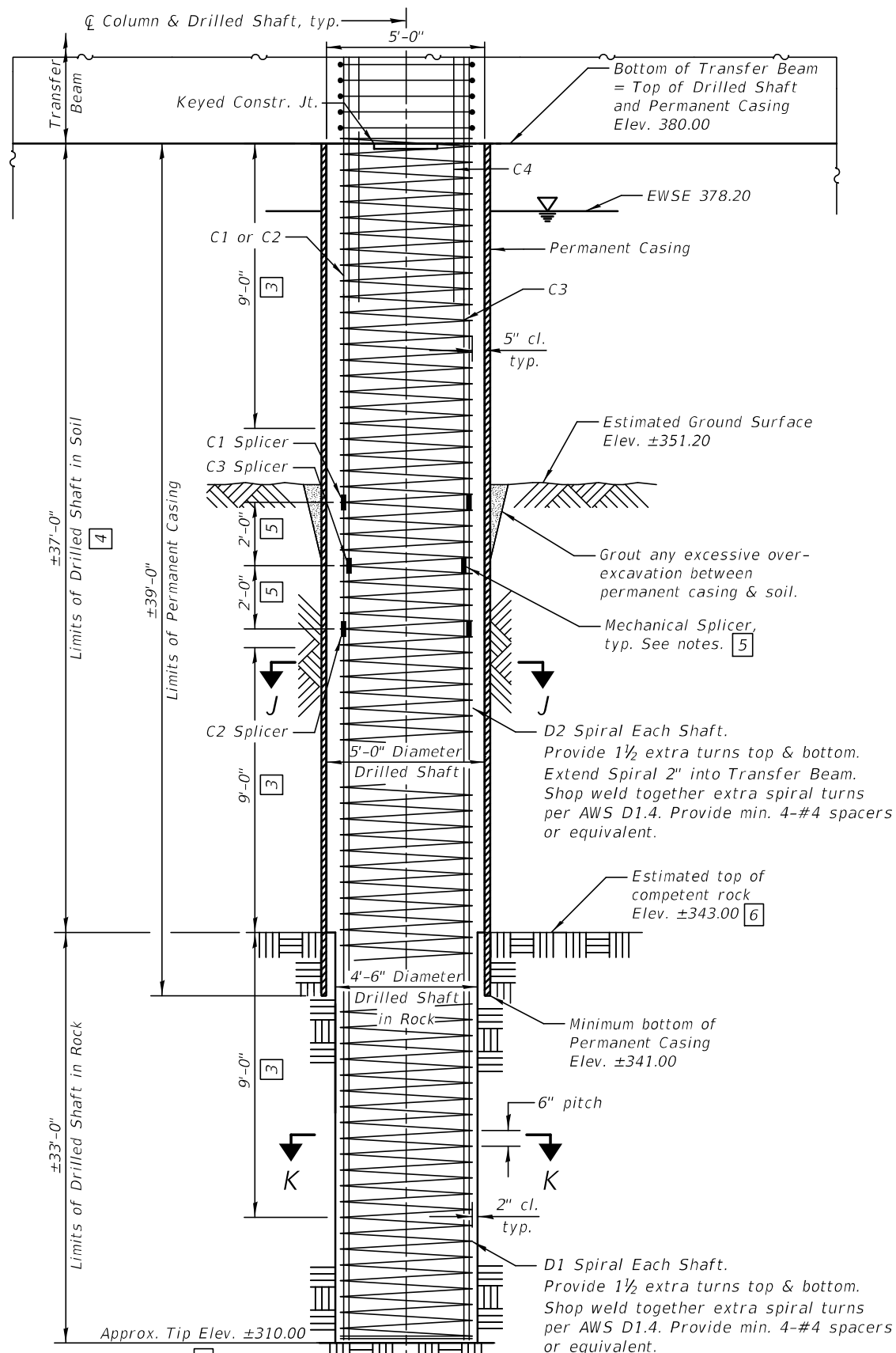
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2 TRANSFER BEAM PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-143 OF 232 SHEETS

F.A.I. RTE. 64	SECTION (97-2) B-5	COUNTY WHITE	TOTAL SHEETS 575	SHEET NO. 327
CONTRACT NO. 78057				
PUBLIC WATERS ILLINOIS FED. AID PROJECT				



Notes:

- 3 No splicing of rebars allowed in this region
- 4 If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.
- 5 Stagger Mechanical Bar Splicers 2'-0" each, between bars C1 and C3 and between C2 and C3.
- 6 Tip elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-142

For Transfer Beam details, see sheet S-143

For additional notes, bar details and Bill of Material see sheet S-145

For Mechanical Bar Splicer details see sheet S-209

Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provision for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on the minimum length shown.

DRILLED SHAFT
Detail and Elevation
Column hoops not shown for clarity
(One shaft shown, 6 shafts req'd per pier,
one under each column)

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-R0204.dgn



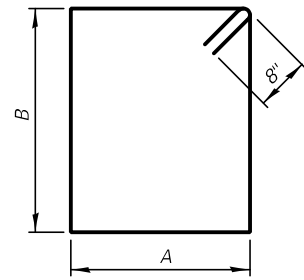
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CHECKED - MA	REVISED
DRAWN - MN	REVISED
CHECKED - KR	REVISED

SCALE - NONE
DATE - 6/30/2023

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

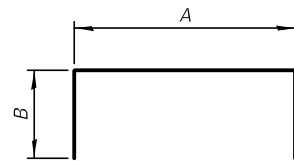
PIER NO. 2 DRILLED SHAFT ELEVATION AND DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	328
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



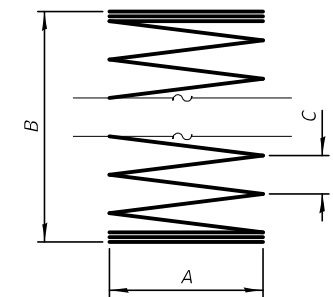
BARS s201(E), s203(E), s204(E) & s206(E)

Bars	A	B
s201(E)	3'-10"	4'-8"
s203(E) & s206(E)	5'-8"	4'-8"
s204(E)	3'-8"	4'-8"



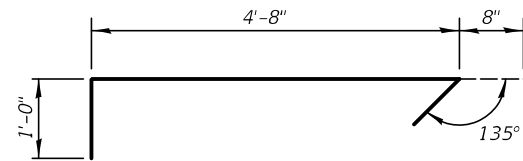
BARS u202(E), u204(E) & u205(E)

Bars	A	B
u202(E)	5'-8"	3'-4"
u204(E) & u205(E)	4'-7"	3'-2"

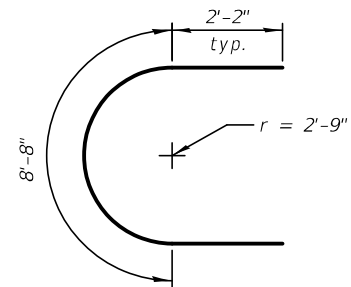


BARS sp201(E), sp202(E) & sp203(E)

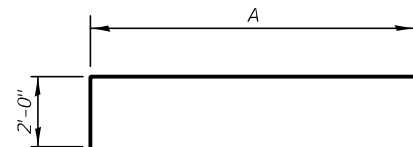
Bars	A	B	C
sp201(E)	4'-2"	33'-0"	6"
sp202(E)	4'-2"	37'-2"	6"
sp203(E)	2'-8"	11'-5"	4"



BARS s202(E) & s205(E)

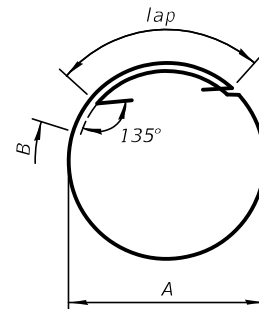


BARS u201(E) & u203(E)



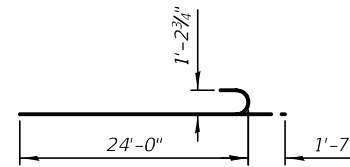
BARS p201(E) thru p218(E)

Bars	A	Bars	A
p201(E)	48'-0"	p210(E)	43'-11"
p202(E)	47'-10"	p211(E)	43'-8"
p203(E)	47'-4"	p212(E)	43'-1"
p204(E)	45'-10"	p213(E)	41'-6"
p205(E)	44'-0"	p214(E)	40'-0"
p206(E)	43'-10"	p215(E)	39'-11"
p207(E)	43'-4"	p216(E)	39'-8"
p208(E)	41'-10"	p217(E)	39'-1"
p209(E)	44'-0"	p218(E)	37'-6"



BARS hp201(E) & hp202(E)

Bars	A	B	lap
hp201(E)	4'-2"	9"	4'-5"
hp202(E)	2'-8"	4 1/2"	2'-7"



BARS v207(E)

**PIER 2
BILL OF MATERIAL (CONT.)**

Concrete Structures	Cu. Yd.	215.6
Permanent Casing	Foot	234
Drilled Shaft in Soil	Cu. Yd.	162
Drilled Shaft in Rock	Cu. Yd.	117
Crosshole Sonic Logging Access Ducts	Foot	441
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	441

**PIER 2
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h201(E)	10	#5	43'-1"	
h202(E)	10	#5	39'-1"	
h203(E)	16	#5	7'-8"	
h204(E)	10	#5	39'-1"	
h205(E)	10	#5	35'-1"	
hp201(E)	30	#7	19'-0"	o
hp202(E)	198	#4	11'-9"	o
p201(E)	4	#11	50'-0"	
p202(E)	8	#11	49'-10"	
p203(E)	8	#11	49'-4"	
p204(E)	8	#11	47'-10"	
p205(E)	4	#11	46'-0"	
p206(E)	8	#11	45'-10"	
p207(E)	8	#11	45'-4"	
p208(E)	8	#11	43'-10"	
p209(E)	2	#11	46'-0"	
p210(E)	4	#11	45'-11"	
p211(E)	4	#11	45'-8"	
p212(E)	4	#11	45'-1"	
p213(E)	4	#11	43'-6"	
p214(E)	2	#11	42'-0"	
p215(E)	4	#11	41'-11"	
p216(E)	4	#11	41'-8"	
p217(E)	4	#11	41'-1"	
p218(E)	4	#11	39'-6"	
s201(E)	40	#6	18'-4"	
s202(E)	260	#6	6'-4"	
s203(E)	148	#6	22'-0"	
s204(E)	84	#6	18'-0"	
s205(E)	100	#6	6'-4"	
s206(E)	50	#6	22'-0"	
* sp201(E)	6	#7	33'-0"	
* sp202(E)	6	#7	37'-2"	
* sp203(E)	6	#4	11'-5"	
u201(E)	10	#5	13'-0"	
u202(E)	20	#5	12'-4"	
u203(E)	10	#5	13'-0"	
u204(E)	12	#5	10'-11"	
u205(E)	12	#5	10'-11"	
v201(E)	120	#11	47'-0"	
v202(E)	120	#11	27'-8"	
v203(E)	120	#11	43'-0"	
v204(E)	120	#11	31'-8"	
v205(E)	120	#11	45'-0"	
v206(E)	120	#11	29'-8"	
v207(E)	96	#11	25'-7"	
Reinforcement Bars, Epoxy Coated		Lbs.	221,230	
Mechanical Splicers		Each	466	

* Length shown is height of each spiral.

Mark	Bar Callouts
(1)	26 sets of 2-#6 s202(E) & 1-#6 s203(E) at 6" cts.
(2)	3 sets of 1-#6 s203(E) at 12" cts.
(3)	13 sets of 2-#6 s202(E) & 1-#6 s203(E) at 6" cts.
(4)	10 sets of 2-#6 s201(E) at 6" cts.
(5)	10 sets of 1-#5 u202(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp202(E) at 4" cts.
(7)	7 sets of 2-#6 s204(E) at 9" cts.
(8)	10 sets of 2-#6 s205(E) and 1-#6 s206(E) at 12" cts.
(9)	5 sets of 2-#6 s205(E) and 1-#6 s206(E) at 12" cts.
(10)	29 sets of 1-#4 hp202(E) at 4" cts.
(11)	5 sets of 1-#4 hp201(E) at 6" cts.
T1	2 layers of 1-#11 p201(E), 2-#11p202(E) thru p204(E) at abt. 10 1/8" cts.
T2	2 layers of 1-#11 p205(E), 2-#11p206(E) thru p208(E) at abt. 10 1/8" cts.
T3	1 layer of 1-#11 p209(E), 2-#11 p210(E) thru p213(E) at abt. 8 1/8" cts.
T4	1 layer of 1-#11 p214(E), 2-#11 p215(E) thru p218(E) at abt. 8 1/8" cts.
B1	2 layers of 1-#11 p201(E), 2-#11p202(E) thru p204(E) at abt. 10 1/8" cts.
B2	2 layers of 1-#11 p205(E), 2-#11p206(E) thru p208(E) at abt. 10 1/8" cts.
B3	1 layer of 1-#11 p209(E), 2-#11 p210(E) thru p213(E) at abt. 8 1/8" cts.
B4	1 layer of 1-#11 p214(E), 2-#11 p215(E) thru p218(E) at abt. 8 1/8" cts.
H1	5-#5 h201(E) at 8" cts.
H2	5-#5 h202(E) at 8" cts.
H3	8-#5 h203(E) at abt. 9" cts.
H4	5-#5 h204(E) at 9" cts.
H5	5-#5 h205(E) at 9" cts.
U1	5-#5 u201(E) spaced with h201(E) or h202(E)
U2	5-#5 u203(E) spaced with h204(E) or h205(E)
A1	6-#5 u204(E) at 9" cts.
A2	6-#5 u205(E) at 9" cts.
C1	20 sets of 1-#11 v201(E) and 1-#11 v202(E) (Top) bundled w/ C2 and C3
C2	20 sets of 1-#11 v203(E) and 1-#11 v204(E) (Top) bundled w/ C1 and C3
C3	20 sets of 1-#11 v205(E) and 1-#11 v206(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v207(E) bundled
D1	#7 sp201(E) at 6" pitch
D2	#7 sp202(E) at 6" pitch
D3	#4 sp203(E) at 4" pitch

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER NO. 2 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-145 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	329
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 78057	

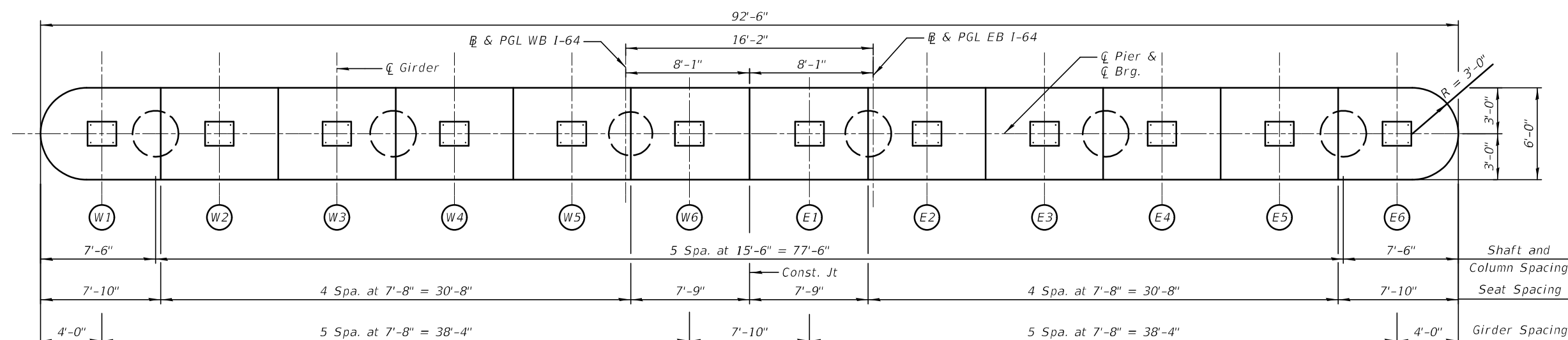
KNIGHT
Engineers & Architects

DESIGNED - KR	REVISED 10/26/2023
CHECKED - MA	REVISED
DRAWN - MN	REVISED
CHECKED - KR	REVISED
SCALE - NONE	
DATE - 6/30/2023	

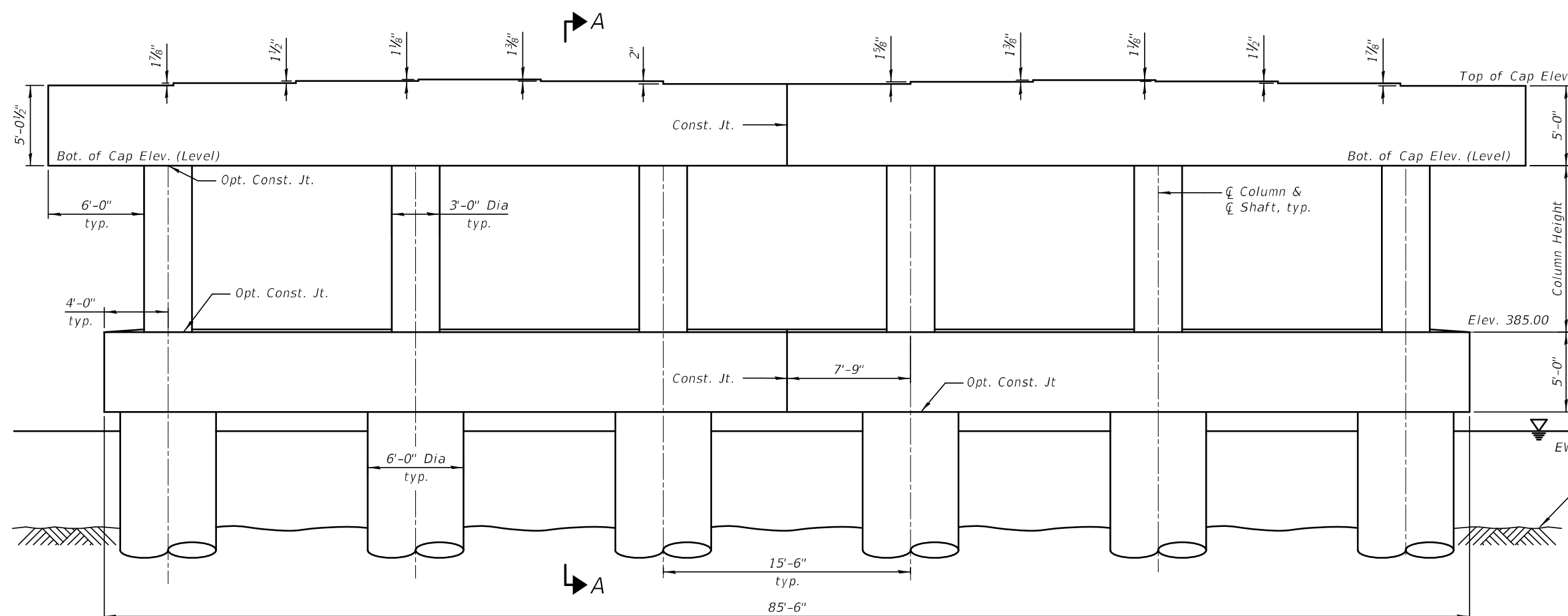
PLOT DATE = 10/24/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-PIR205.dgn

TABLE 1

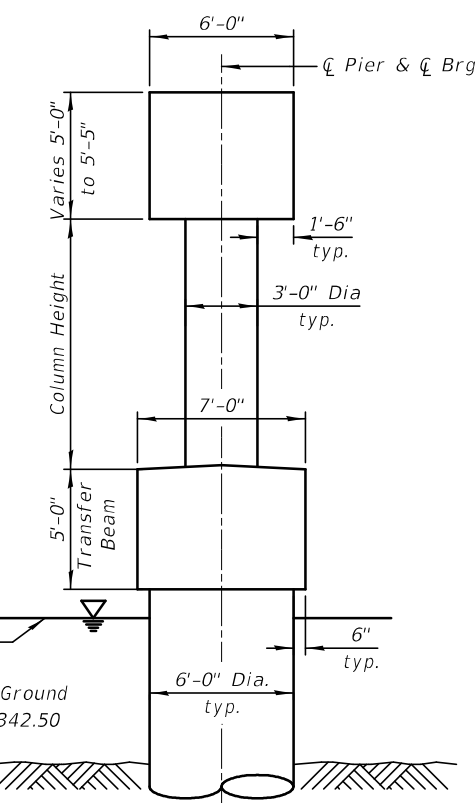
Girder No.	Bearing Seat Elev.	
W1	400.40	
W2	400.55	
W3	400.68	
W4	400.77	
W5	400.65	
W6	400.52	
E1	400.48	
E2	400.62	
E3	400.74	
E4	400.65	
E5	400.52	
E6	400.36	
Top of Cap Elevation		400.36
Bottom of Cap Elevation		395.36
Column Height		10'-4 3/8"



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\Drawings\Bridges\7660-5008-EBR0301.dgn

KNIGHT
Engineers & Architects

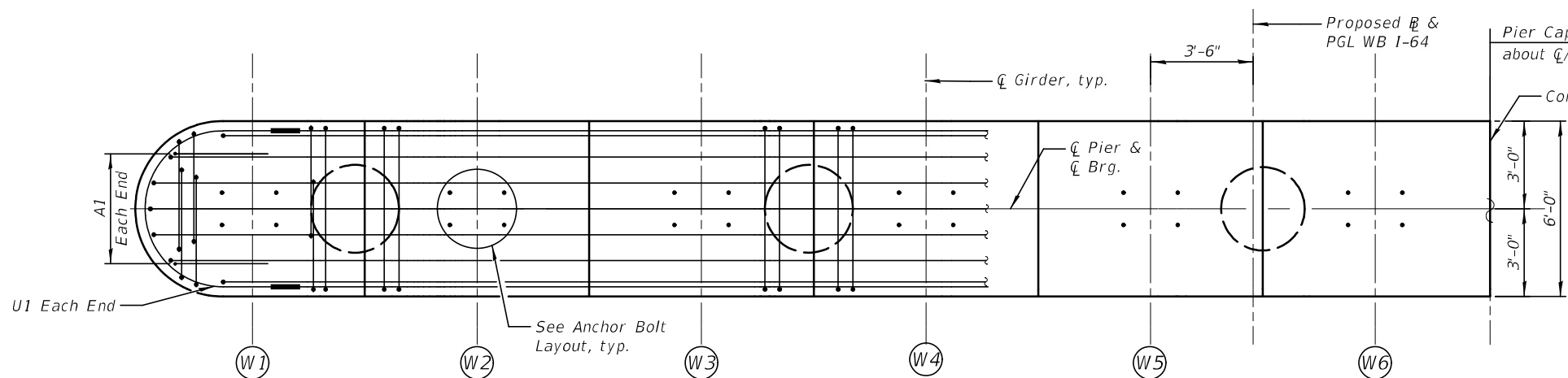
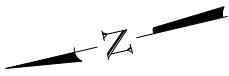
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 3 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

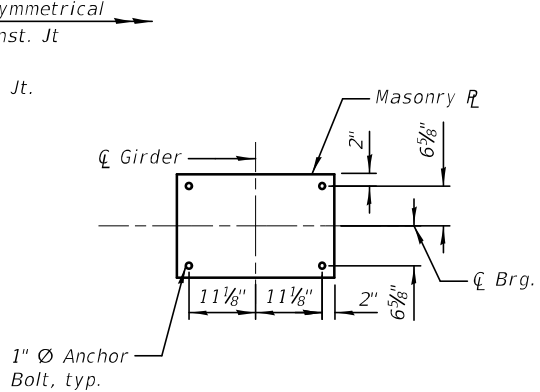
SHEET S-146 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	330
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

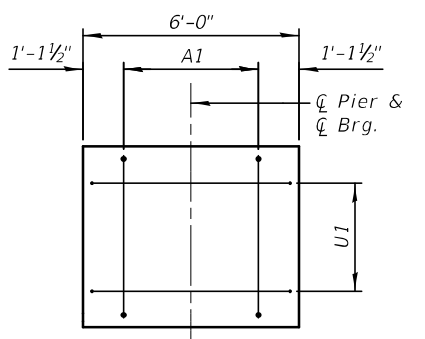


PARTIAL TOP PLAN
(WB shown - EB similar)

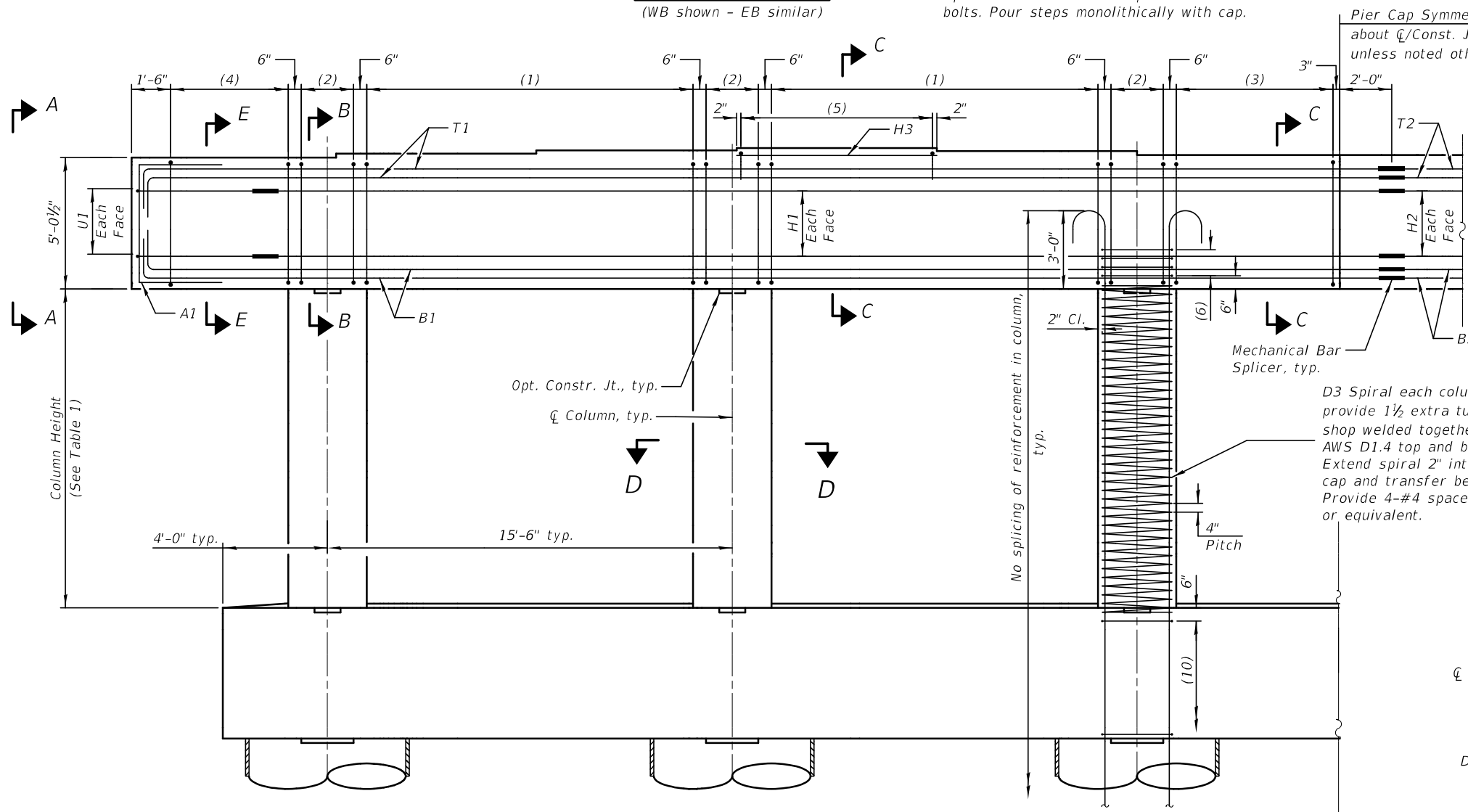
Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.



ANCHOR BOLT LAYOUT

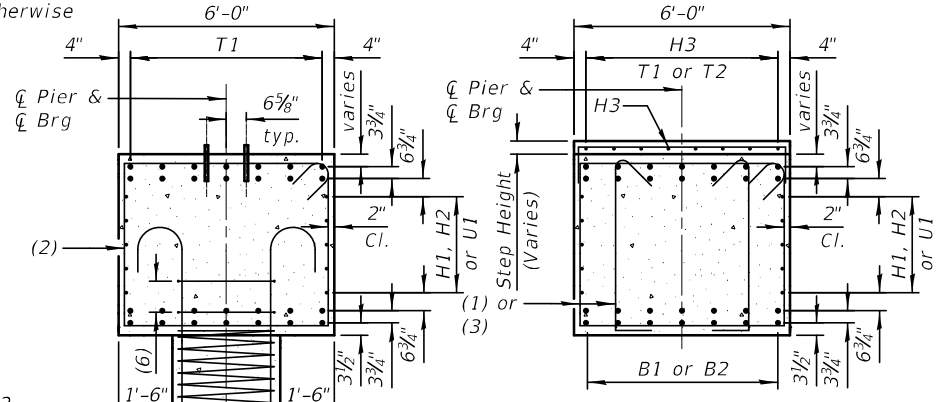


VIEW A-A

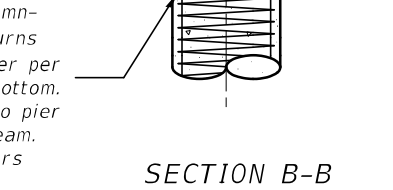


PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)

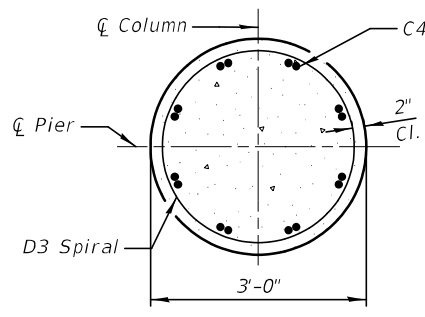
Notes:
Pier Cap Symmetrical about C/Const. Jt. unless noted otherwise



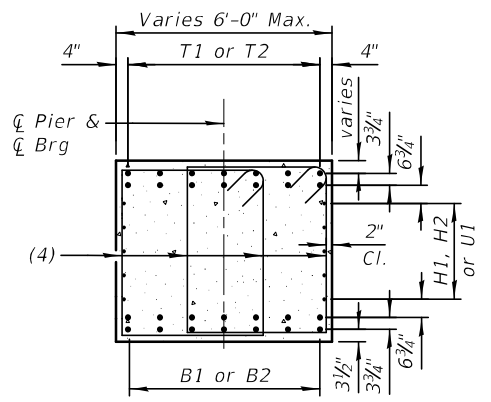
SECTION C-C



SECTION B-B



SECTION D-D



SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-150
For column height and bearing seat elevations, see Table 1 on sheet S-146
For step height, see sheet S-146
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-150

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50088-PR0302.dgn



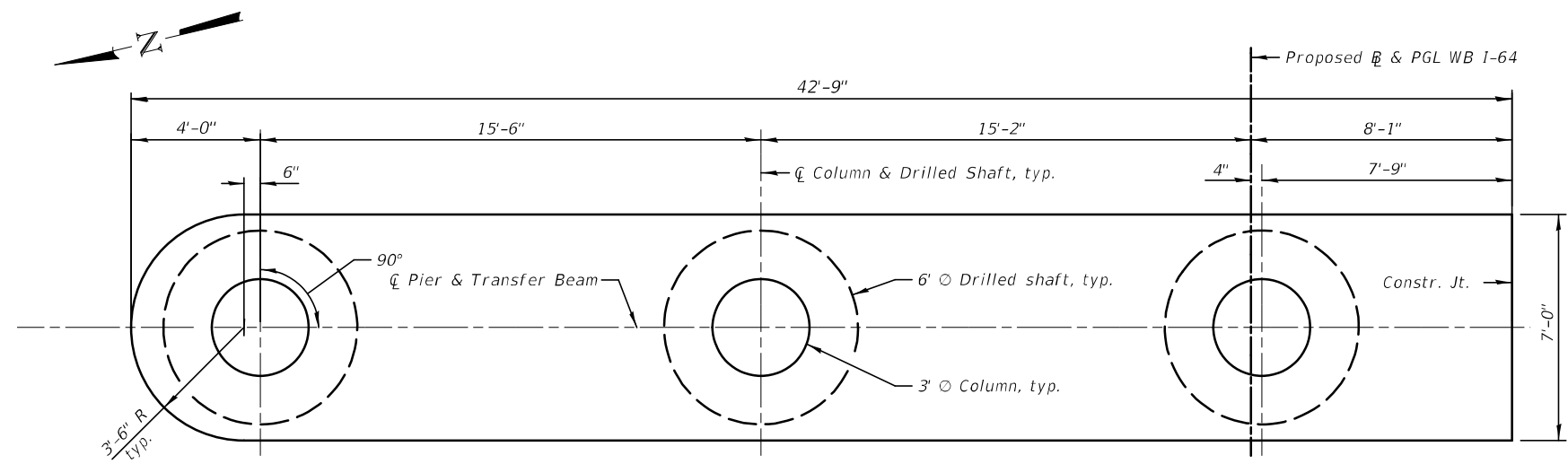
DESIGNED	- KR	REVISED	
CHECKED	- MA	REVISED	
DRAWN	- MN	REVISED	
CHECKED	- KR	REVISED	
SCALE	- NONE		
DATE	- 6/30/2023		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

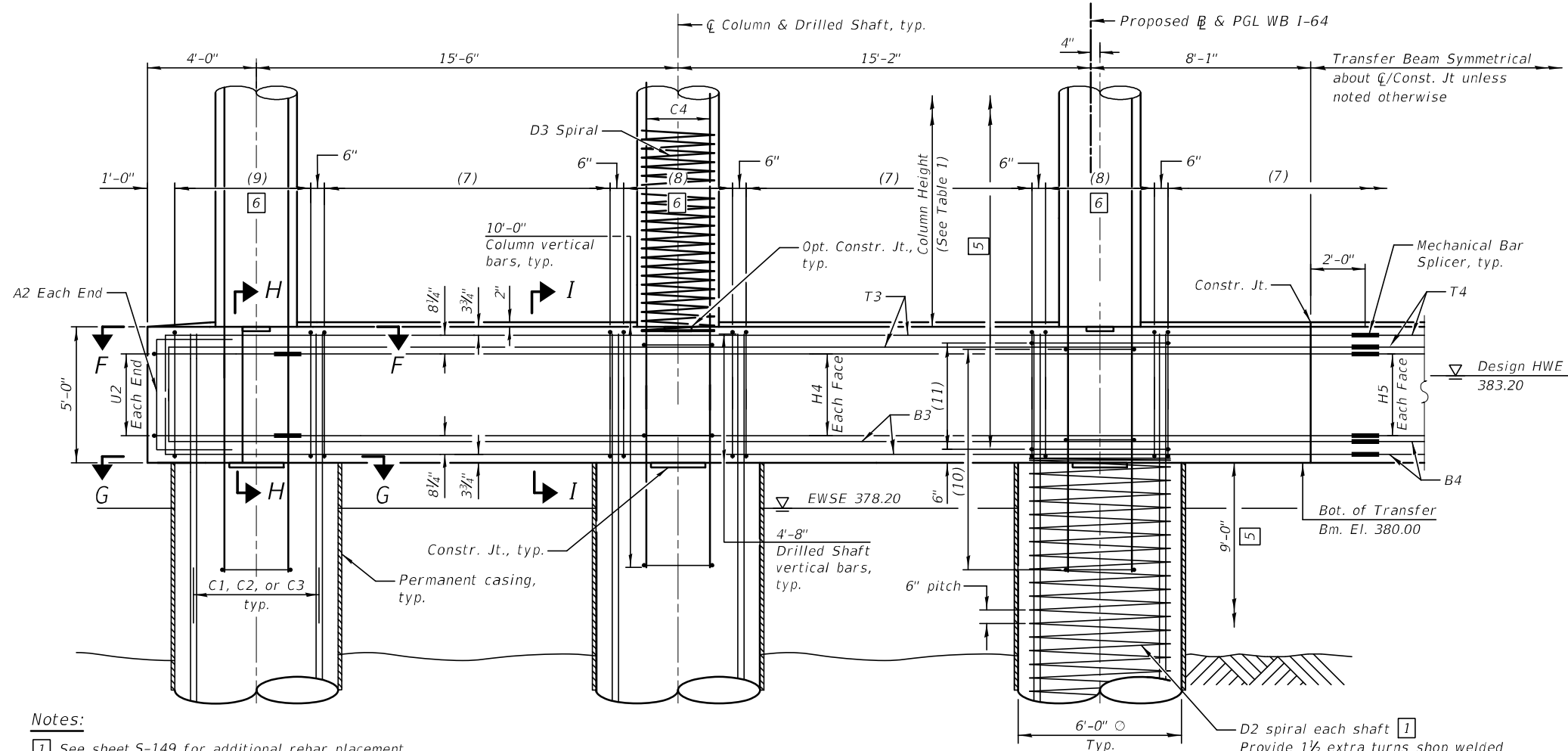
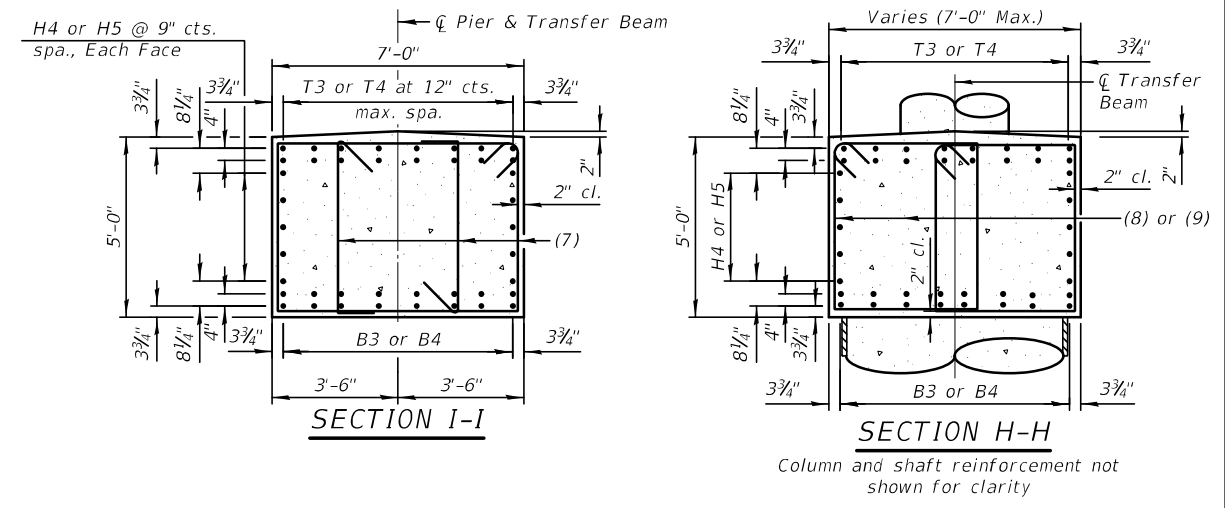
PIER NO. 3 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-147 OF 232 SHEETS

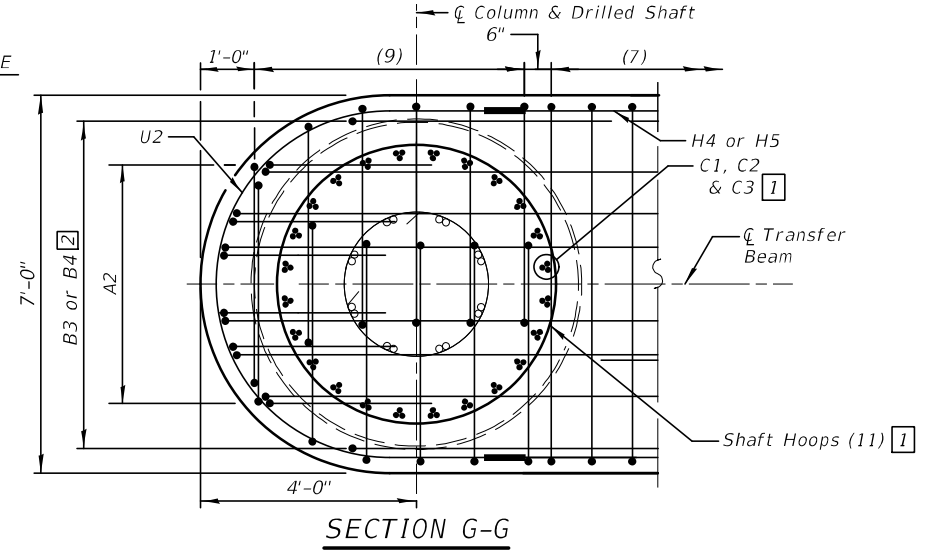
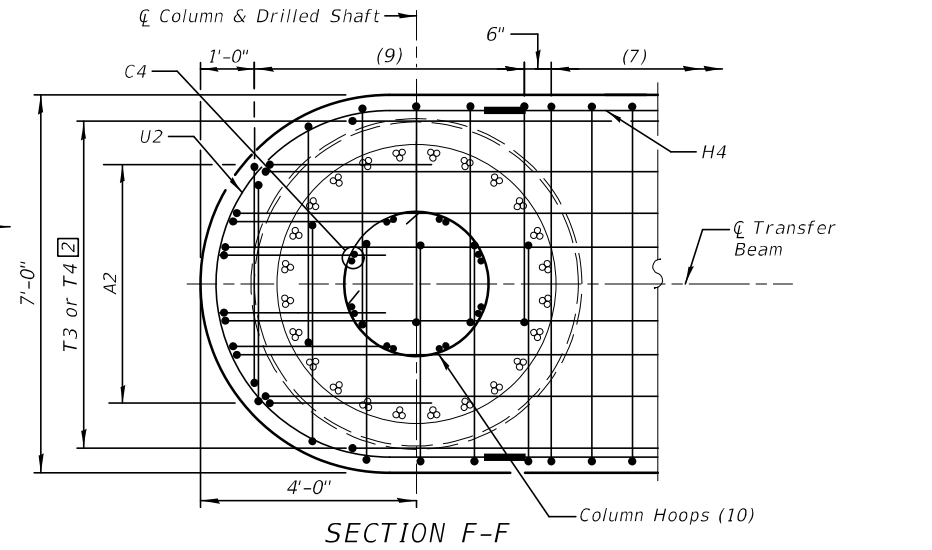
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	331
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



PARTIAL PLAN - TRANSFER BEAM
 (WB shown - EB similar)



PARTIAL ELEVATION - TRANSFER BEAM
 (WB shown - EB similar)



Notes:
 For Top Plan and Partial elevation see sheet S-147
 For Drilled Shaft details, see sheet S-149
 For additional notes, bar details and Bill of Material see sheet S-150
 For Table 1 see sheet S-146
 For Mechanical Bar Splicer details see sheet S-209

- Notes:**
- [1] See sheet S-149 for additional rebar placement.
 - [2] Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - [5] No splicing of bars allowed in this region.
 - [6] Field cut bars when needed to keep 2" clear concrete cover.

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-PR0303.dgn



DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

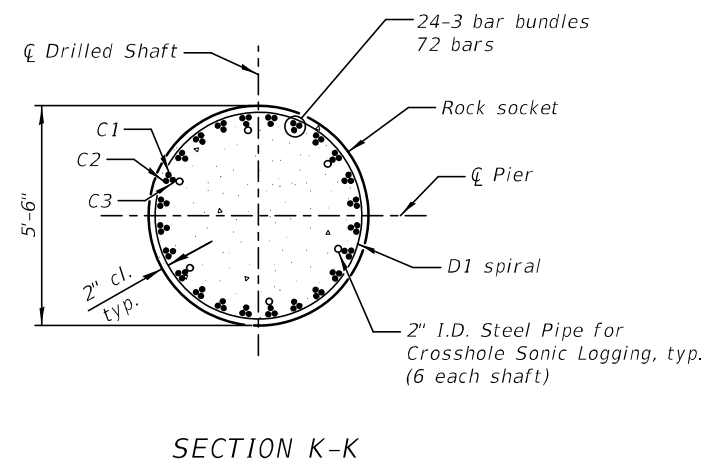
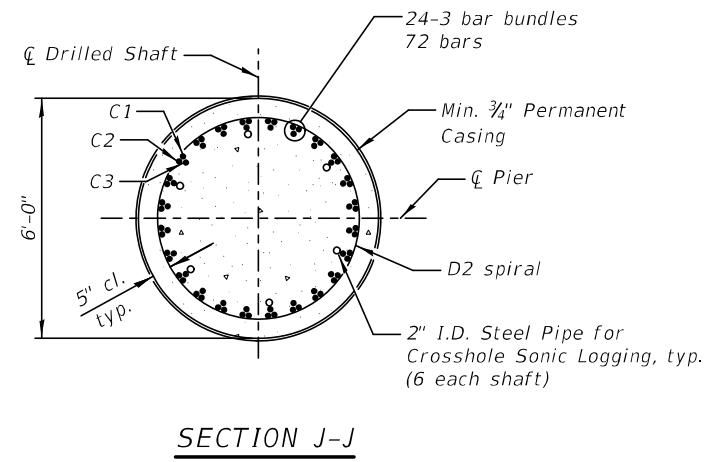
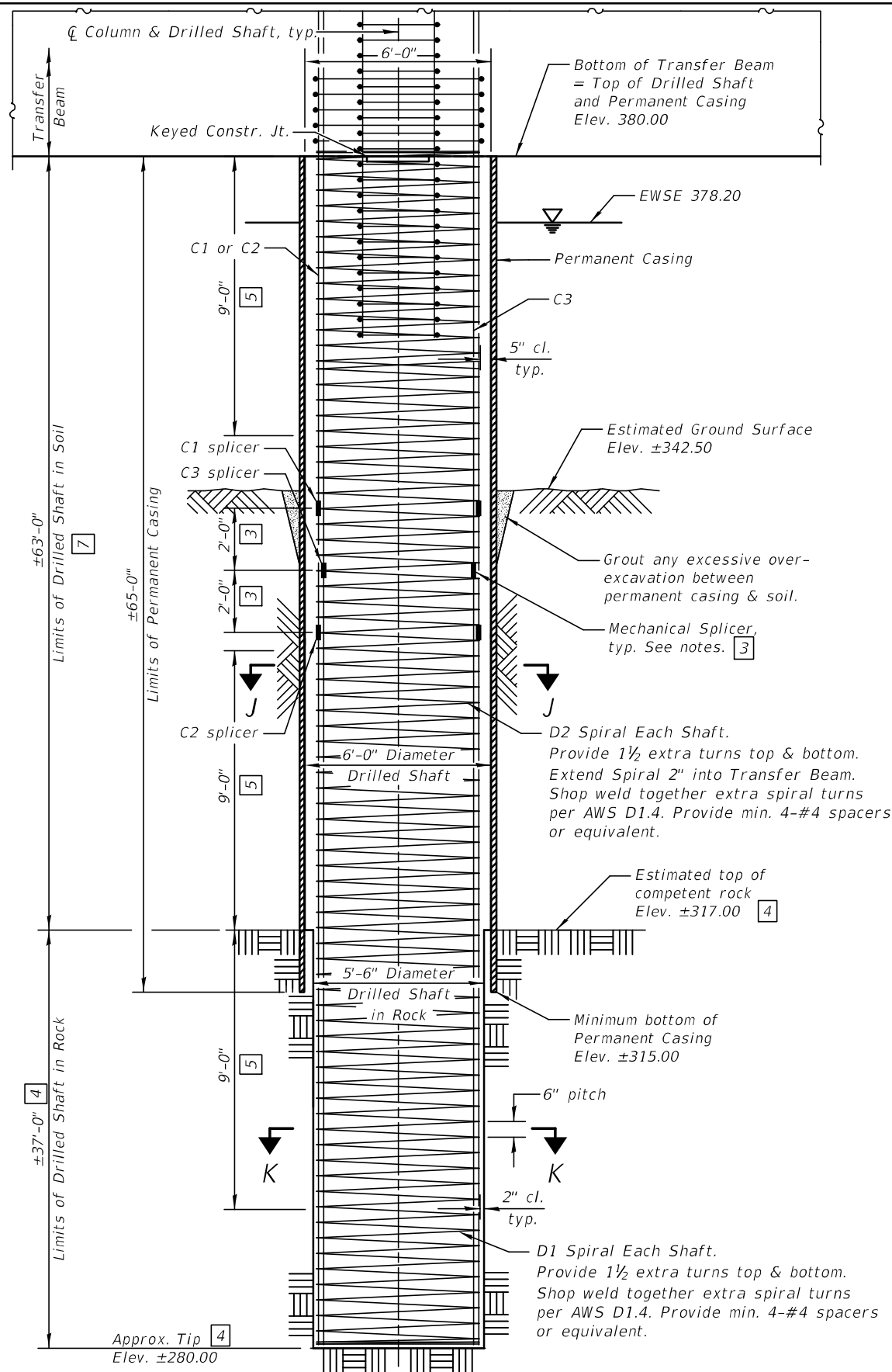
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER NO. 3 TRANSFER BEAM PARTIAL PLAN AND ELEVATION (WB)
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-148 OF 232 SHEETS

F.A.I. RTE. 64	SECTION (97-2) B-5	COUNTY WHITE	TOTAL SHEETS 575	SHEET NO. 332
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	

CONTRACT NO. 78057



Notes:

- [3] Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- [4] Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- [5] No splicing of rebars allowed in this region
- [7] If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-147

For Transfer Beam details, see sheet S-148

For additional notes, bar details and Bill of Material see sheet S-150

For Mechanical Bar Splicer details see sheet S-209

DRILLED SHAFT
 Detail and Elevation
 (One shaft shown, 6 shafts req'd, one under each column)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\BR0304.dgn

KNIGHT
 Engineers & Architects

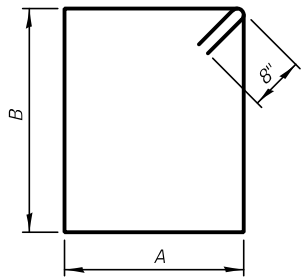
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER NO. 3 DRILLED SHAFT ELEVATION AND DETAILS
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

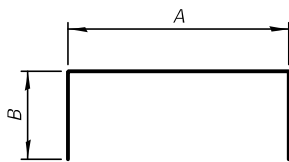
SHEET S-149 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	333
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



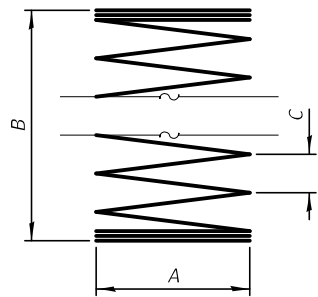
BARS s301(E), s303(E) thru s305(E)

Bars	A	B
s301(E)	3'-10"	4'-8"
s303(E)	5'-8"	4'-8"
s304(E)	6'-8"	4'-8"
s305(E)	4'-0"	4'-8"



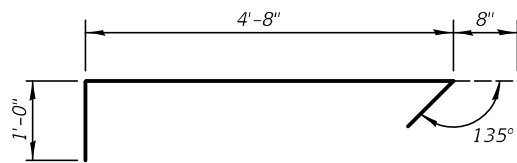
BARS u302(E) & u304(E)

Bars	A	B
u302(E)	5'-8"	3'-4"
u304(E)	4'-7"	3'-2"

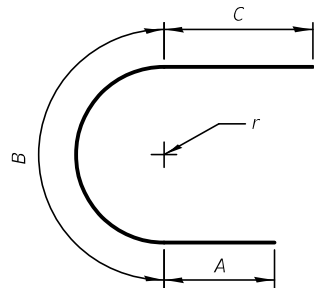


BARS sp301(E), sp302(E) & sp303(E)

Bars	A	B	C
sp301(E)	5'-2"	37'-0"	6"
sp302(E)	5'-2"	63'-2"	6"
sp303(E)	2'-8"	10'-9"	4"

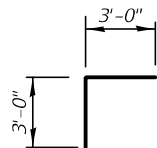


BARS s302(E) & s306(E)

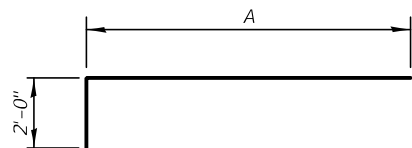


BARS u301(E) & u303(E)

Bars	A	B	C	r
u301(E)	2'-2"	8'-9"	2'-2"	2'-9"
u303(E)	1'-6"	10'-3"	1'-6"	3'-3"

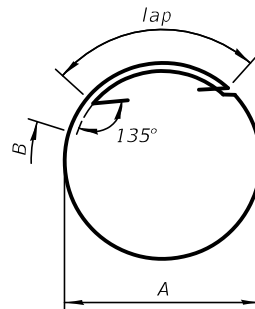


BARS u305(E)



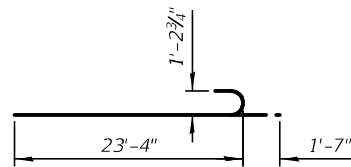
BARS p301(E) thru p316(E)

Bars	A	Bars	A
p301(E)	48'-0"	p309(E)	41'-10"
p302(E)	47'-10"	p310(E)	43'-6"
p303(E)	47'-4"	p311(E)	44'-0"
p304(E)	45'-10"	p312(E)	44'-3"
p305(E)	44'-0"	p313(E)	37'-10"
p306(E)	43'-10"	p314(E)	39'-6"
p307(E)	43'-4"	p315(E)	40'-0"
p308(E)	41'-10"	p316(E)	40'-3"



BARS hp301(E) & hp302(E)

Bars	A	B	lap
hp301(E)	5'-2"	9"	4'-5"
hp302(E)	2'-8"	4 1/2"	2'-7"



BARS v307(E)

PIER 3
BILL OF MATERIAL (CONT.)

Concrete Structures	Cu. Yd.	231.1
Permanent Casing	Foot	390
Drilled Shaft in Soil	Cu. Yd.	396
Drilled Shaft in Rock	Cu. Yd.	196
Crosshole Sonic Logging Access Ducts	Foot	630
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	630

PIER 3
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h301(E)	10	#5	43'-1"	
h302(E)	10	#5	39'-1"	
h303(E)	16	#5	7'-8"	
h304(E)	10	#5	39'-9"	
h305(E)	10	#5	35'-9"	
hp301(E)	60	#7	19'-9"	o
hp302(E)	198	#4	11'-2"	o
p301(E)	4	#11	50'-0"	
p302(E)	8	#11	49'-10"	
p303(E)	8	#11	49'-4"	
p304(E)	8	#11	47'-10"	
p305(E)	4	#11	46'-0"	
p306(E)	8	#11	45'-10"	
p307(E)	8	#11	45'-4"	
p308(E)	8	#11	43'-10"	
p309(E)	8	#11	43'-10"	
p310(E)	8	#11	45'-6"	
p311(E)	8	#11	46'-0"	
p312(E)	8	#11	46'-3"	
p313(E)	8	#11	39'-10"	
p314(E)	8	#11	41'-6"	
p315(E)	8	#11	42'-0"	
p316(E)	8	#11	42'-3"	
s301(E)	40	#6	18'-4"	
s302(E)	260	#6	6'-4"	
s303(E)	148	#6	22'-0"	
s304(E)	75	#6	24'-0"	
s305(E)	68	#6	20'-8"	
s306(E)	150	#6	6'-4"	
sp301(E)	6	#7	37'-0"	
sp302(E)	6	#7	63'-2"	
sp303(E)	6	#4	10'-9"	
u301(E)	10	#5	13'-1"	
u302(E)	20	#5	12'-4"	
u303(E)	10	#5	13'-3"	
u304(E)	12	#5	10'-11"	
u305(E)	24	#5	6'-0"	
v301(E)	144	#11	52'-4"	
v302(E)	144	#11	52'-4"	
v303(E)	144	#11	48'-4"	
v304(E)	144	#11	56'-4"	
v305(E)	144	#11	50'-4"	
v306(E)	144	#11	54'-4"	
v307(E)	96	#11	25'-0"	
Reinforcement Bars, Epoxy Coated			Lbs.	344,970
Mechanical Splicers			Each	552

* Length shown is height of each spiral.

Mark	Bar Callouts
(1)	26 sets of 2-#6 s302(E) & 1-#6 s303(E) at 6" cts.
(2)	3 sets of 1-#6 s303(E) at 12" cts.
(3)	13 sets of 2-#6 s302(E) & 1-#6 s303(E) at 6" cts.
(4)	10 sets of 2-#6 s301(E) at 6" cts.
(5)	10 sets of 1-#5 u302(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp302(E) at 4" cts.
(7)	15 sets of 1-#6 s304(E) placed with 2-#6 s306(E) at 9" cts.
(8)	5 sets of 2-#6 s305(E) at 12" cts.
(9)	7 sets of 2-#6 s305(E) at 12" on cts.
(10)	29 sets of 1-#4 hp302(E) at 4" cts.
(11)	10 sets of 1-#7 hp301(E) at 6" cts.
T1	2 layers of 1-#11 p301(E), 2-#11 p302(E) thru p304(E) at abt. 10 1/8" cts.
T2	2 layers of 1-#11 p305(E), 2-#11 p306(E) thru p308(E) at abt. 10 1/8" cts.
T3	2 layers of 2-#11 each p309(E) thru p312(E) at 12" cts. max.
T4	2 layers of 2-#11 each p313(E) thru p316(E) at 12" cts. max.
B1	2 layers of 1-#11 p301(E), 2-#11 p302(E) thru p304(E) at abt. 10 1/8" cts.
B2	2 layers of 1-#11 p305(E), 2-#11 p306(E) thru p308(E) at abt. 10 1/8" cts.
B3	2 layers of 2-#11 each p309(E) thru p312(E) at 12" cts. max
B4	2 layers of 2-#11 each p313(E) thru p316(E) at 12" cts. max
H1	5-#5 h301(E) at 8" cts. max
H2	5-#5 h302(E) at 8" cts. max
H3	8-#5 h303(E) at 10" cts. max
H4	5-#5 h304(E) at 9" cts.
H5	5-#5 h305(E) at 9" cts.
U1	5-#5 u301(E) spaced with h301(E) or h302(E)
U2	5-#5 u303(E) spaced with h304(E) or h305(E)
A1	6-#5 u304(E) at 9" cts.
A2	2 sets of 6-#5 u305(E) at 11" cts.
C1	24 sets of 1-#11 v301(E) and 1-#11 v302(E) (Top) bundled w/ C2 and C3
C2	24 sets of 1-#11 v303(E) and 1-#11 v304(E) (Top) bundled w/ C1 and C3
C3	24 sets of 1-#11 v305(E) and 1-#11 v306(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v307(E) bundled
D1	#7 sp301(E) at 6" pitch
D2	#7 sp302(E) at 6" pitch
D3	#4 sp303(E) at 4" pitch

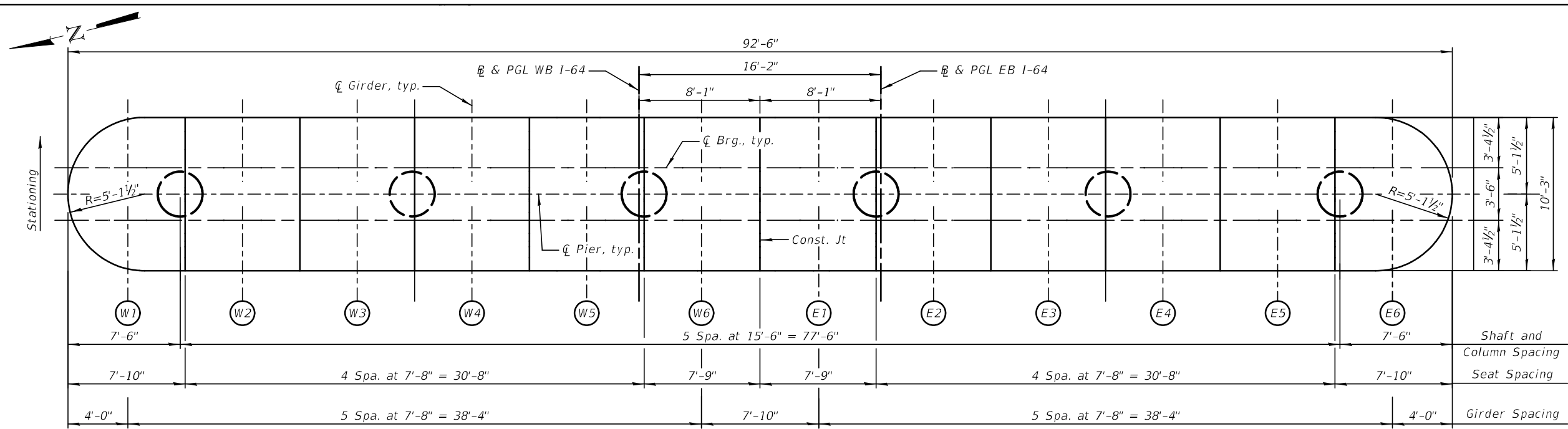
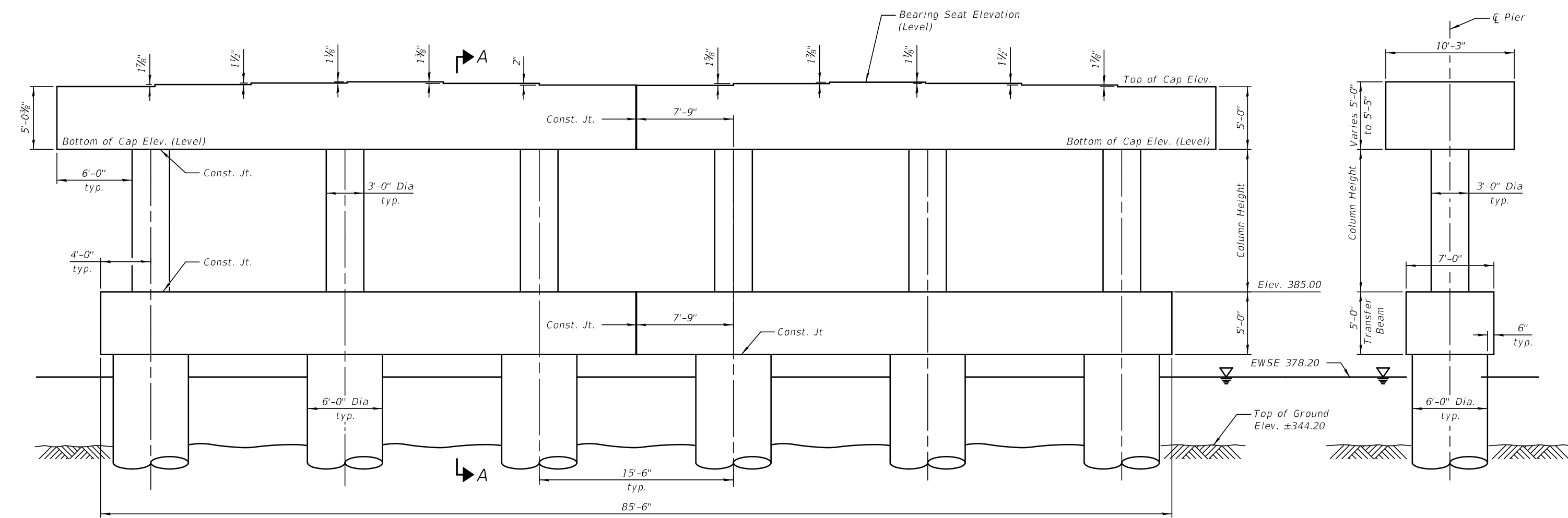


TABLE 1

Girder No.	Bearing Seat Elev.
W1	400.05
W2	400.21
W3	400.33
W4	400.42
W5	400.31
W6	400.17
E1	400.14
E2	400.27
E3	400.39
E4	400.30
E5	400.17
E6	400.02

Top of Cap Elevation	400.02
Bottom of Cap Elevation	395.02
Column Height	10'-0 ³ / ₈ "



PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Struct\Bridges\7660-5008\PIR0401.dgn

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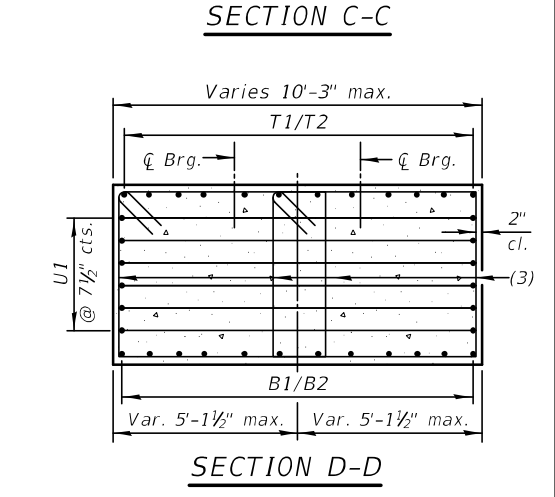
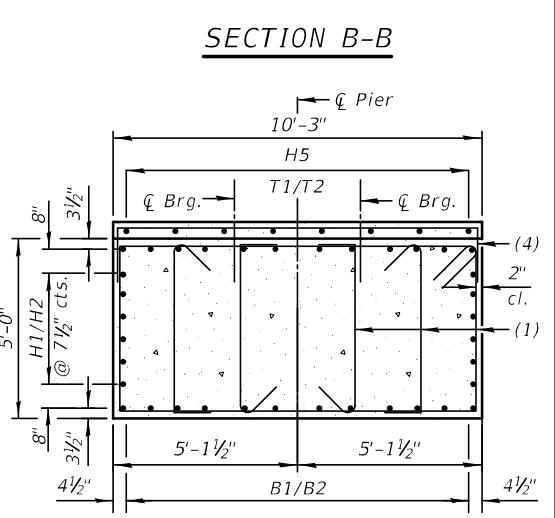
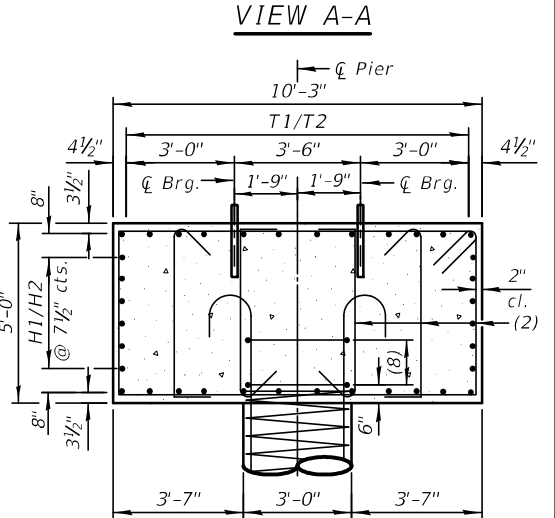
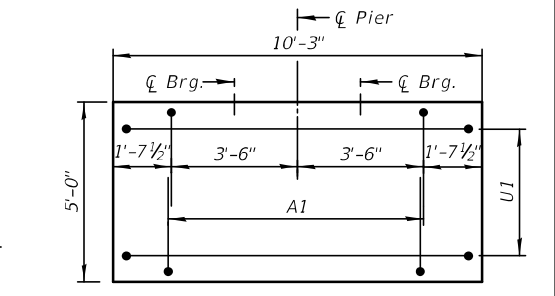
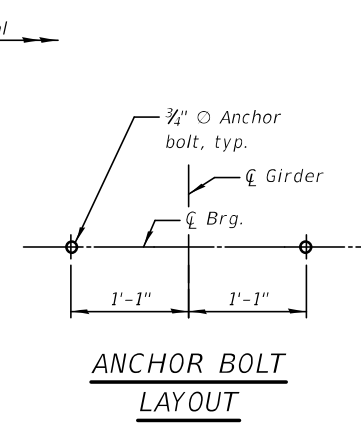
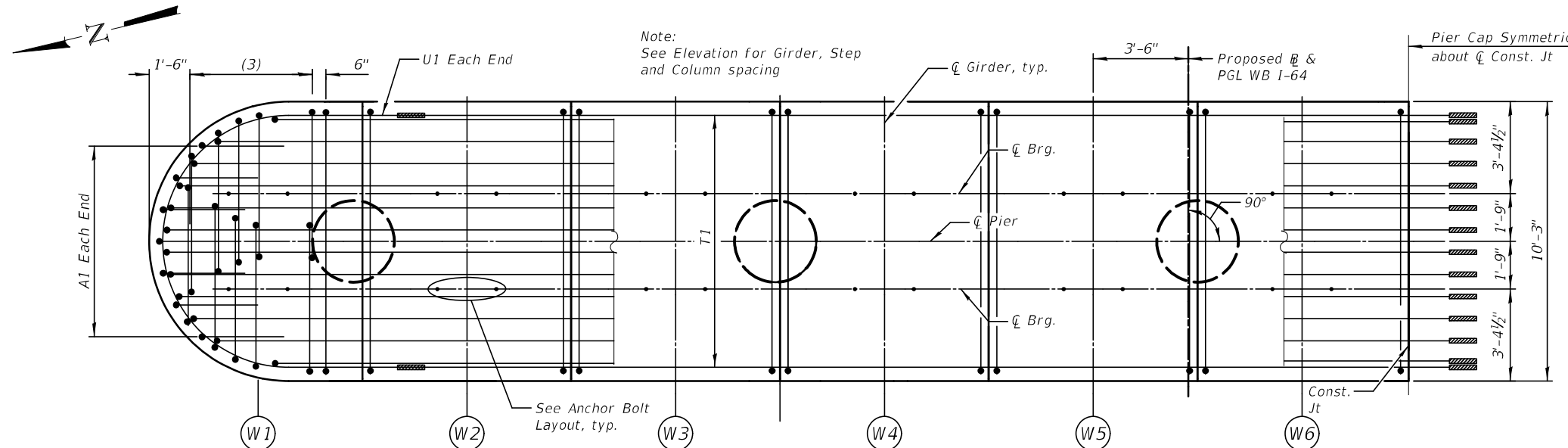
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - BK	REVISION
CHECKED - KR	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 4 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
 SHEET S-151 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	335
CONTRACT NO. 78057				

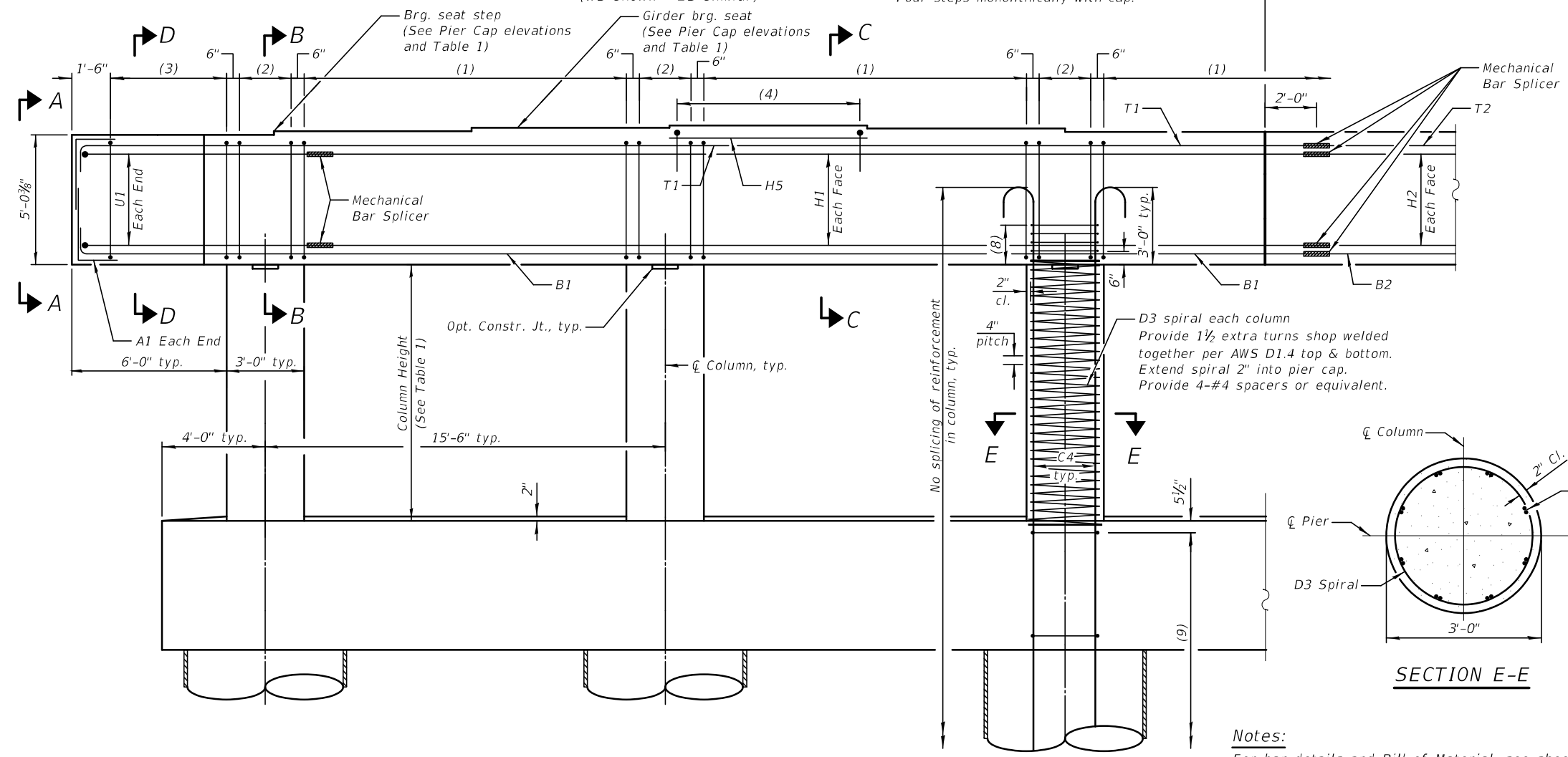
PUBLIC WATERS ILLINOIS FED. AID PROJECT



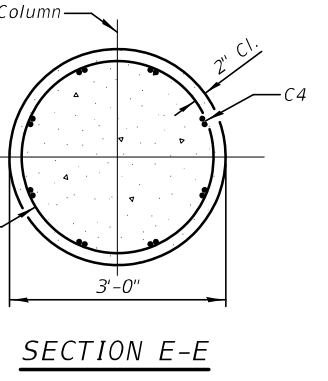
PARTIAL TOP PLAN
(WB shown - EB similar)

Note:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.

Pier Cap Symmetrical about \bar{C} /Const. Jt



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)



SECTION E-E

Notes:
For bar details and Bill of Material, see sheet S-155
For column height, step height and all elevations see Table 1 on sheet S-151
For bearing details see sheets S-124 to S-127
For bar callouts see sheet S-155

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR0402.dgn

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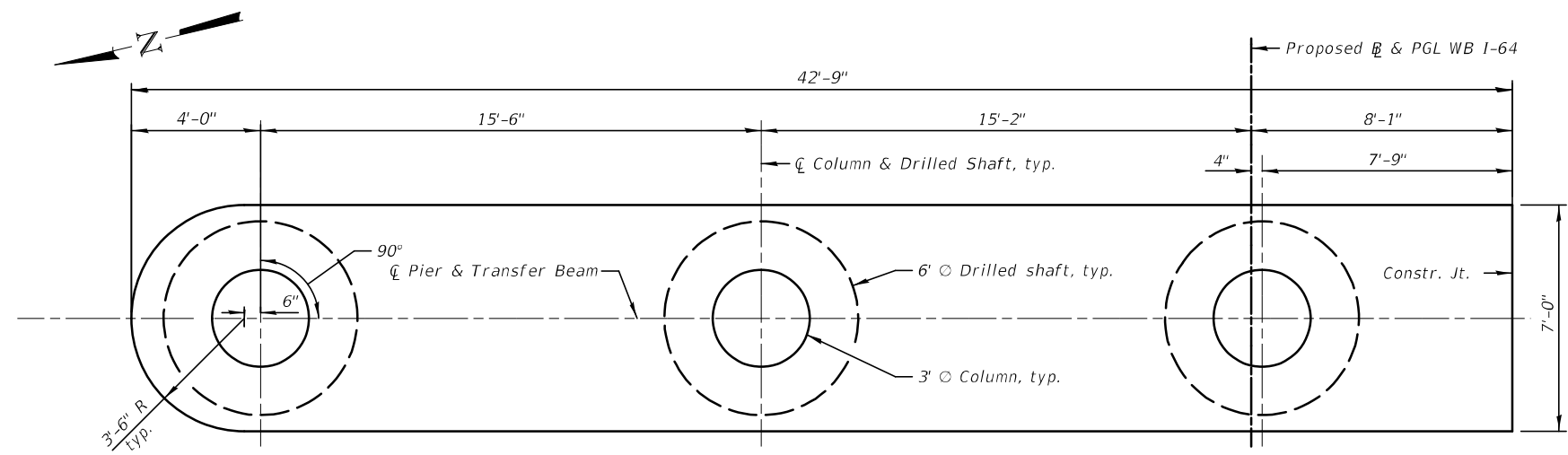
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CHECKED - MA	REVISION
DRAWN - BK	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 8/11/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

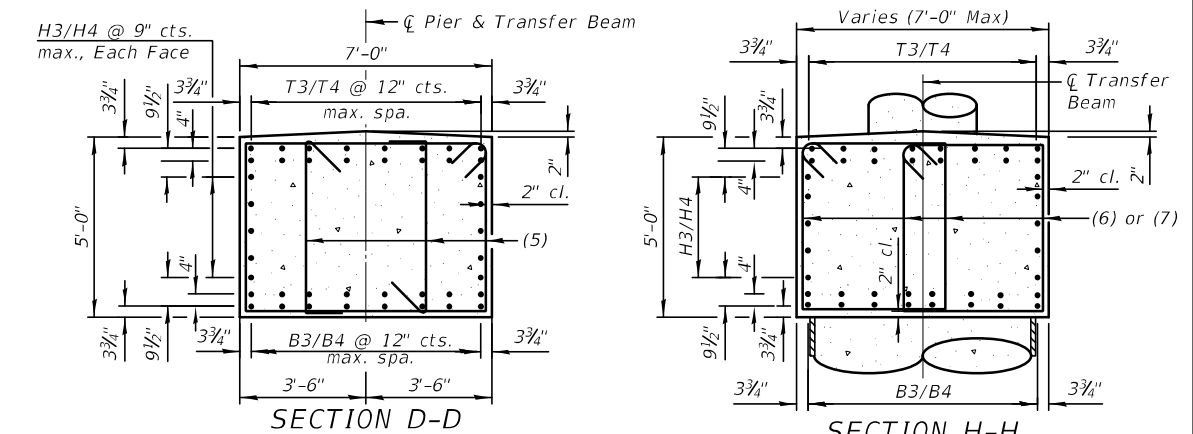
PIER NO. 4 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-152 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	336
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



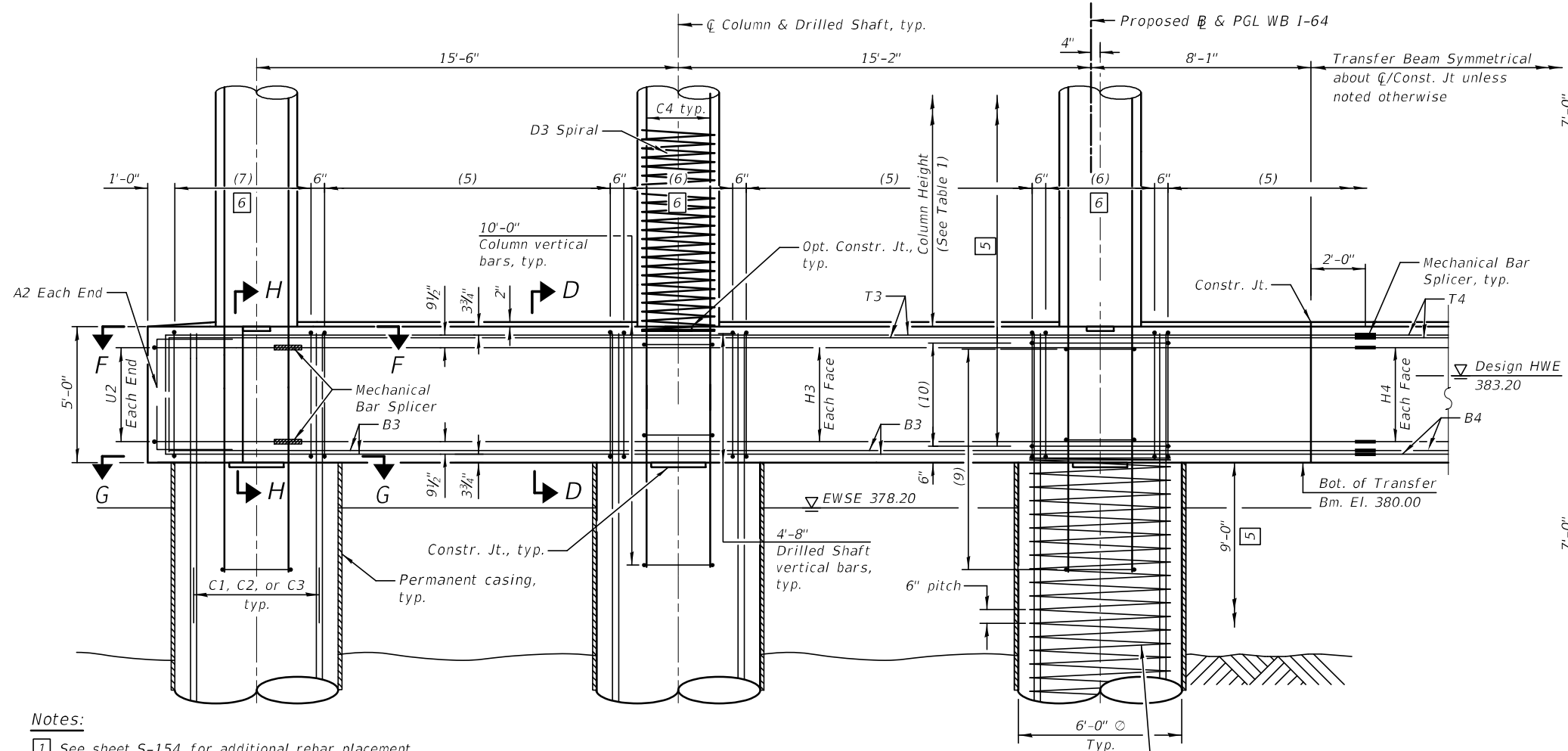
PARTIAL PLAN-TRANSFER BEAM
(WB shown - EB similar)



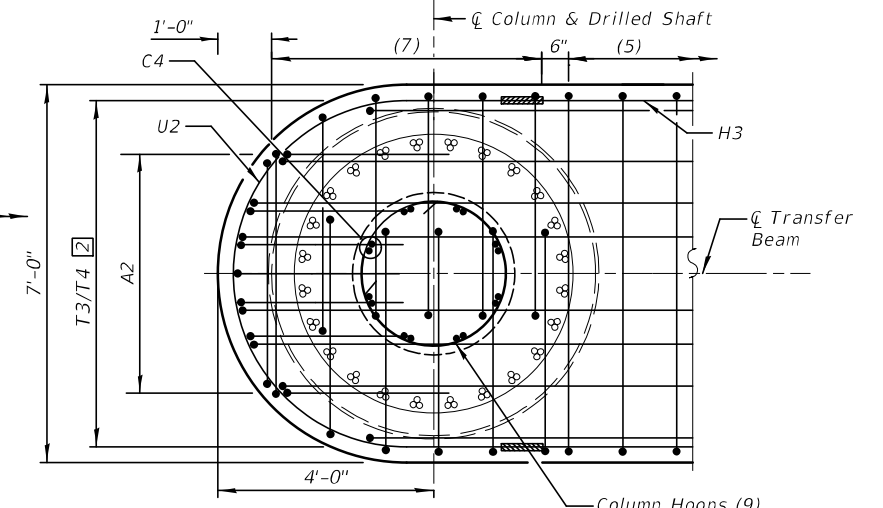
SECTION D-D

SECTION H-H

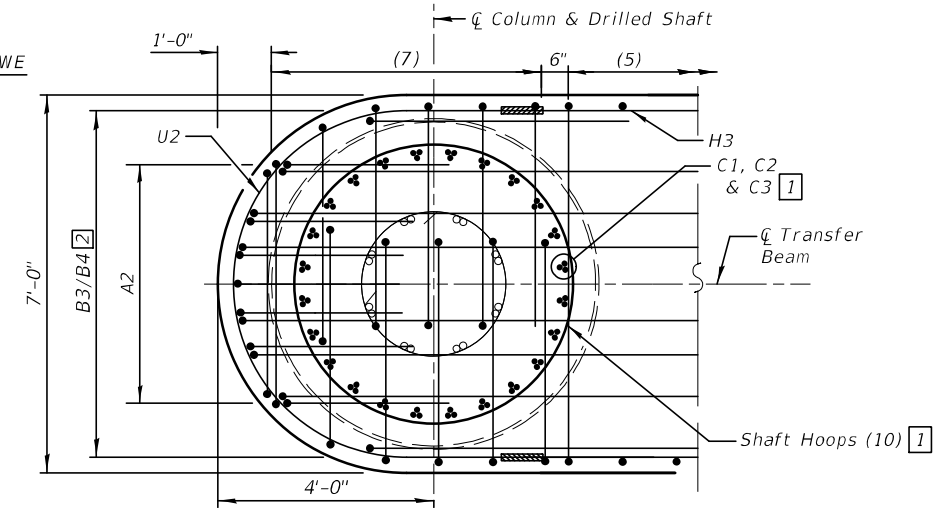
Column and shaft reinforcement not shown for clarity



PARTIAL ELEVATION-TRANSFER BEAM
(WB shown - EB similar)



SECTION F-F



SECTION G-G

- Notes:**
- 1 See sheet S-154 for additional rebar placement.
 - 2 Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - 5 No splicing of bars allowed in this region.
 - 6 Field cut bars when needed to keep 2" clear concrete cover.

- Notes:**
- For Top Plan and Partial elevation see sheet S-152
 - For Drilled Shaft details, see sheet S-154
 - For additional notes, bar details and Bill of Material see sheet S-155
 - For Table 1 see sheet S-151
 - For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
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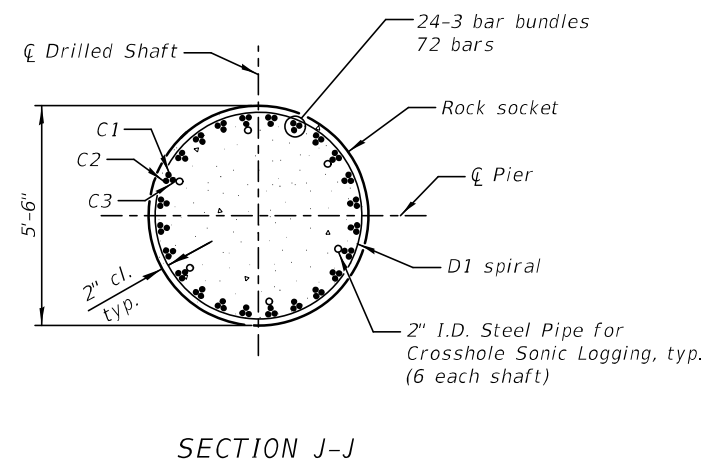
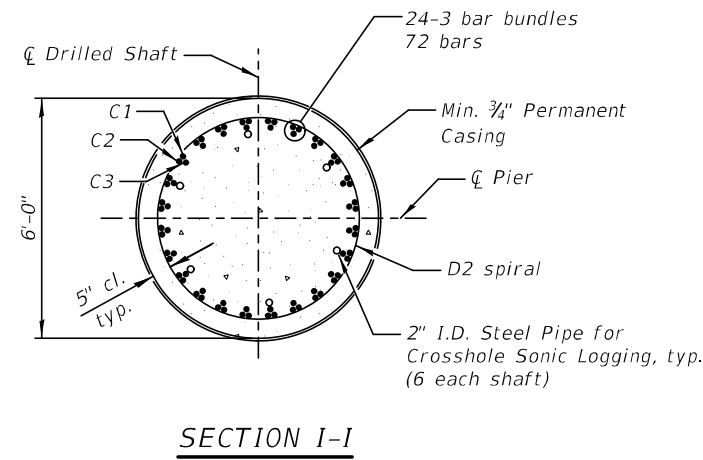
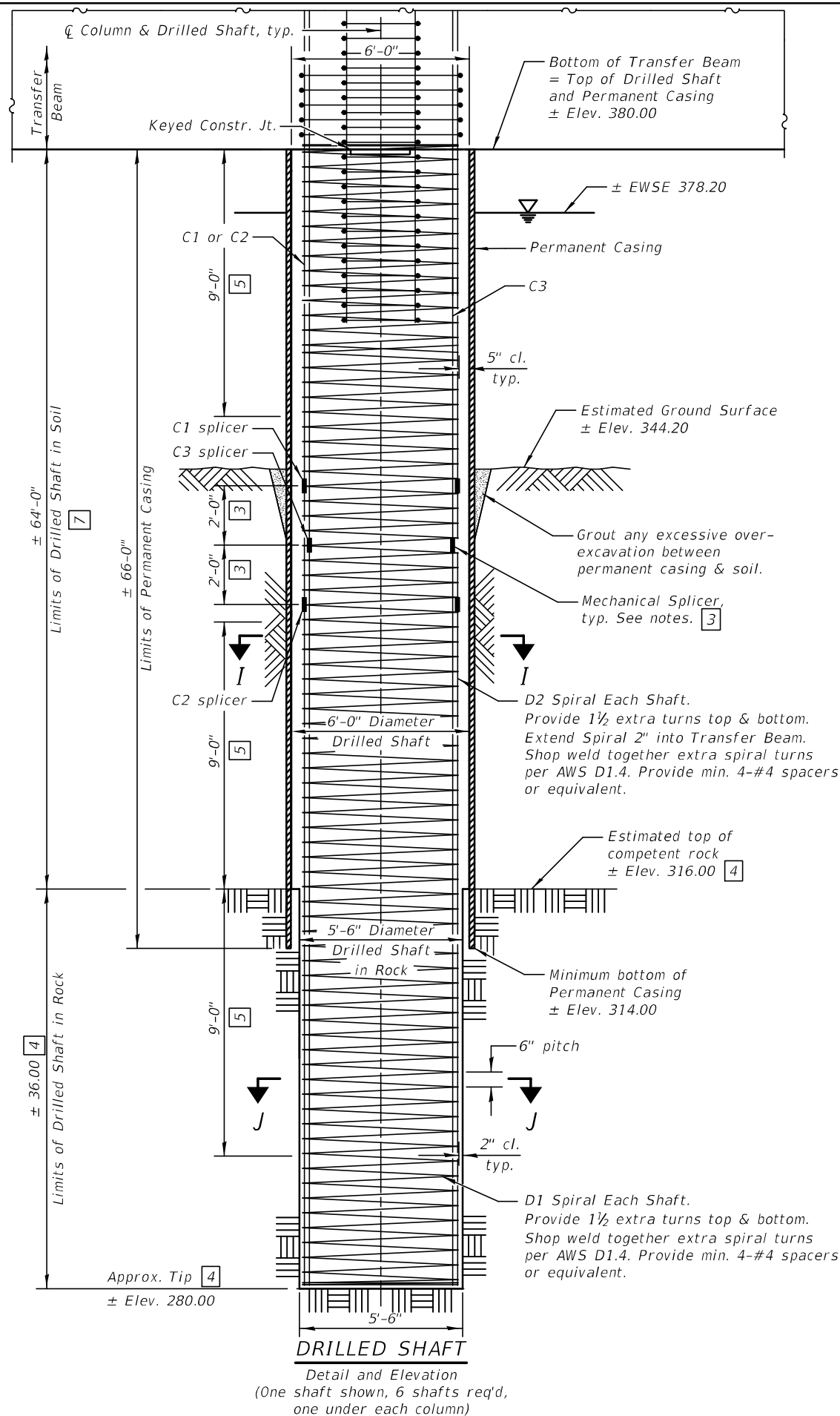
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DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 4 TRANSFER BEAM PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-153 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	337
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



Notes:

- 3 Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- 4 Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- 5 No splicing of rebars allowed in this region
- 7 If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-152

For Transfer Beam details, see sheet S-153

For additional notes, bar details and Bill of Material see sheet S-155

For Mechanical Bar Splicer details see sheet S-209

DRILLED SHAFT
Detail and Elevation
(One shaft shown, 6 shafts req'd,
one under each column)

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\PR0404.dgn

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Engineers & Architects

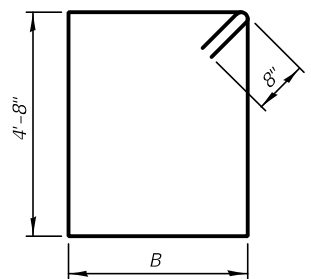
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DRAWN - MN	REVISION
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SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 4 DRILLED SHAFT ELEVATION AND DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

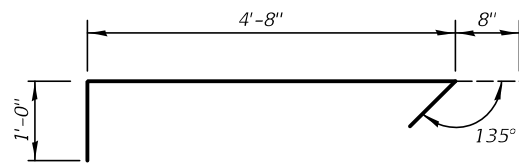
SHEET S-154 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

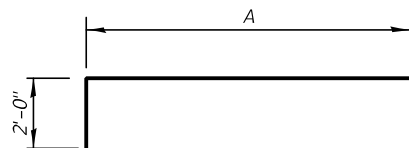


BARS s401(E), s402(E), s403(E), s404(E)

Bars	B	Bars	B
s401(E)	5'-9"	s403(E)	6'-8"
s402(E)	9'-11"	s404(E)	4'-0"



BARS s405(E) & s406(E)



BARS p401(E) thru p412(E)

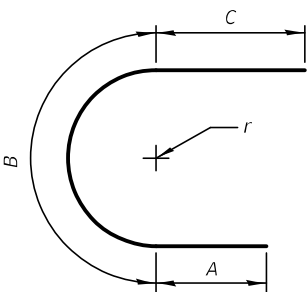
Bars	A	Bars	A
p401(E)	43'-9"	p407(E)	39'-9"
p402(E)	45'-6"	p408(E)	41'-6"
p403(E)	46'-3"	p409(E)	42'-3"
p404(E)	47'-0"	p410(E)	43'-0"
p405(E)	47'-6"	p411(E)	43'-6"
p406(E)	48'-0"	p412(E)	44'-0"

**PIER 4
BILL OF MATERIAL (CONT.)**

Concrete Structures	Cu. Yd.	303.8
Concrete Sealer	Sq. Ft	5,205
Permanent Casing	Foot	396
Drilled Shaft in Soil	Cu. Yd.	403
Drilled Shaft in Rock	Cu. Yd.	191
Crosshole Sonic Logging Access Ducts	Foot	630
Crosshole Sonic Logging	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	630

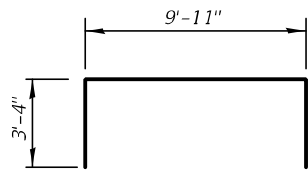
**PIER 4
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h401(E)	12	#5	41'-3"	
h402(E)	16	#5	7'-8"	
h403(E)	10	#5	39'-9"	
h404(E)	12	#5	37'-3"	
h405(E)	10	#5	35'-9"	
hp404(E)	198	#4	11'-9"	o
hp405(E)	60	#7	22'-2"	o
p401(E)	4	#11	45'-9"	
p402(E)	4	#11	47'-6"	
p403(E)	4	#11	48'-3"	
p404(E)	4	#11	49'-0"	
p405(E)	4	#11	49'-6"	
p406(E)	4	#11	50'-0"	
p407(E)	4	#11	41'-9"	
p408(E)	4	#11	43'-6"	
p409(E)	4	#11	44'-3"	
p410(E)	4	#11	45'-0"	
p411(E)	4	#11	45'-6"	
p412(E)	4	#11	46'-0"	
p413(E)	8	#11	43'-9"	
p414(E)	8	#11	45'-6"	
p415(E)	8	#11	46'-0"	
p416(E)	8	#11	46'-3"	
p417(E)	8	#11	39'-9"	
p418(E)	8	#11	41'-6"	
p419(E)	8	#11	42'-0"	
p420(E)	8	#11	42'-3"	
s401(E)	14	#6	22'-2"	
s402(E)	103	#6	30'-6"	
s403(E)	64	#6	24'-0"	
s404(E)	75	#6	18'-8"	
s405(E)	412	#6	6'-4"	
s406(E)	150	#6	6'-4"	
sp401(E)**	6	#7	36'-0"	
sp402(E)**	6	#7	64'-3"	
sp403(E)**	6	#4	10'-3"	
u401(E)	12	#5	19'-6"	
u402(E)	8	#5	16'-7"	
u403(E)	10	#5	13'-3"	
u404(E)	28	#5	6'-0"	
u405(E)	28	#5	6'-0"	
v401(E)	144	#11	54'-2"	
v402(E)	144	#11	50'-6"	
v403(E)	144	#11	58'-2"	
v404(E)	144	#11	46'-6"	
v405(E)	144	#11	56'-2"	
v406(E)	144	#11	48'-6"	
v407(E)	96	#11	24'-7"	
Reinforcement Bars, Epoxy Coated			Lbs.	343,130
Mechanical Splicers			Each	554

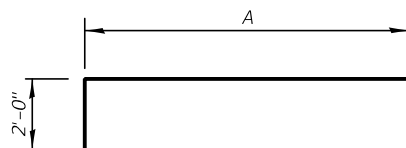


BARS u401(E) & u403(E)

Bars	A	B	C	r
u401(E)	2'-0"	15'-6"	2'-0"	4'-11"
u403(E)	1'-6"	10'-3"	1'-6"	3'-3"

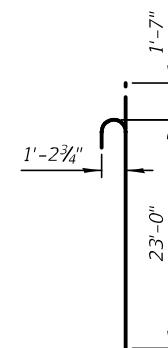


BARS u402(E)

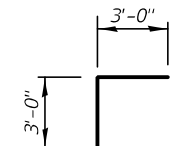


BARS p413(E) thru p420(E)

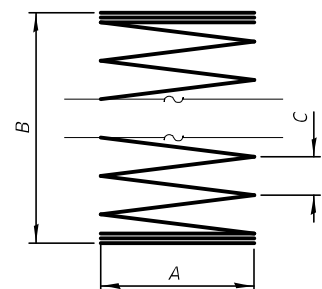
Bars	A	Bars	A
p413(E)	41'-9"	p417(E)	37'-9"
p414(E)	43'-6"	p418(E)	39'-6"
p415(E)	44'-0"	p419(E)	40'-0"
p416(E)	44'-3"	p420(E)	40'-3"



BARS v407(E)

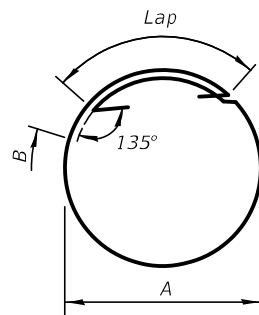


BARS u404(E) & u405(E)



BARS sp401(E), sp402(E) & sp403(E)

Bars	A	B	C
sp401(E)	5'-2"	36'-0"	6"
sp402(E)	5'-2"	64'-3"	6"
sp403(E)	2'-8"	10'-3"	4"



BARS hp404(E) & hp405(E)

Bars	A	B	Lap
hp404(E)	2'-8"	4 1/2"	2'-7"
hp405(E)	5'-2"	9"	4'-5"

PIER 4

Mark	Bar Callouts
(1)	17 sets of 1-#6 s402(E) placed with 4-#6 s405(E) at 9" cts.
(2)	3 sets of 1-#6 s402(E) placed with 4-#6 s405(E) at 12" cts.
(3)	7 sets of 2-#6 s401(E) at 9" cts.
(4)	8 sets of 1-#5 u402(E) at 12" max cts.
(5)	15 sets of 1-#6 s403(E) placed with 2-#6 s406(E) at 9" cts.
(6)	5 sets of 2-#6 s404(E) at 12" cts.
(7)	6 sets of 2-#6 s404(E) at 12" on cts.
(8)	4 sets of 1-#4 hp404(E) at 4" cts.
(9)	29 sets of 1-#4 hp404(E) at 4" cts.
(10)	10 sets of 1-#7 hp405(E) at 6" cts.
A1/A2	7 sets of 1-#5 u404(E) or u405(E) at 12" max cts.
T1	1 layer of 2-#11 each p401(E) thru p406(E)
T2	1 layer of 2-#11 each p407(E) thru p412(E)
T3	2 layers of 2-#11 each p413(E) thru p416(E)
T4	2 layers of 2-#11 each p417(E) thru p420(E)
H1/H2	6-#5 h401(E) or h404(E) at 7 1/2" max cts.
H5	8-#5 h402(E) at 12" max cts.
H3/H4	5-#5 h403(E) or h405(E) at 9" max cts.
B1	1 layer of 2-#11 each p401(E) thru p406(E)
B2	1 layer of 2-#11 each p407(E) thru p412(E)
B3	2 layers of 2-#11 each p413(E) thru p416(E)
B4	2 layers of 2-#11 each p417(E) thru p420(E)
U1	5-#5 u401(E) spaced with h401(E) or h404(E)
U2	5-#5 u403(E) spaced with h403(E) or h405(E)
C1	24 sets of 1-#11 v401(E) and 1-#11 v402(E) (Top) bundled w/ C2 and C3
C2	24 sets of 1-#11 v403(E) and 1-#11 v404(E) (Top) bundled w/ C1 and C3
C3	24 sets of 1-#11 v405(E) and 1-#11 v406(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v407(E) bundled
D1	#7 sp401(E) at 6" pitch
D2	#7 sp402(E) at 6" pitch
D3	#4 sp403(E) at 4" pitch

PLOT DATE = 10/24/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\PIER40405.dgn

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DESIGNED - KR	REVISION	10/26/2023
CHECKED - MA	REVISION	
SCALE - NONE	DRAWN - BK	REVISION
DATE - 8/11/2023	CHECKED - KR	REVISION

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER NO. 4 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

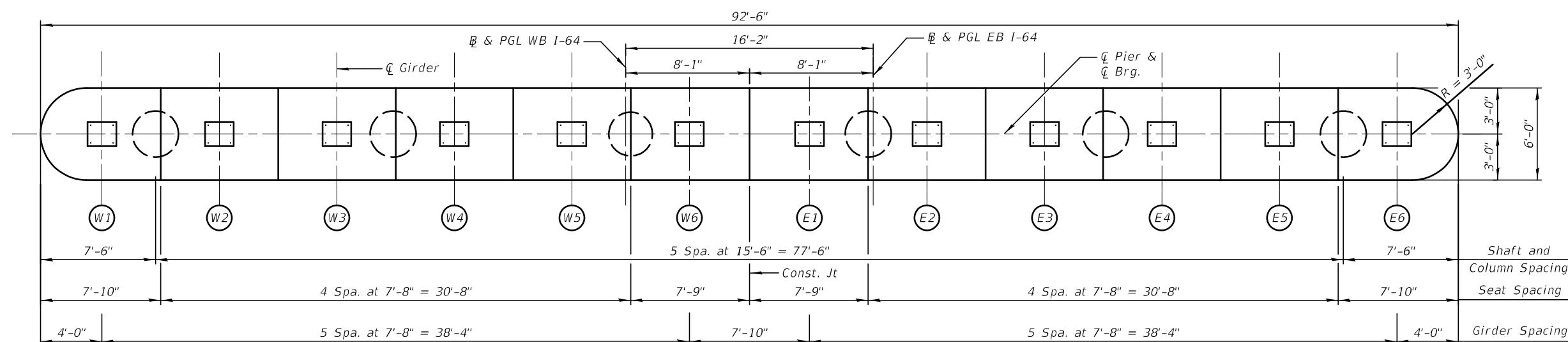
SHEET S-155 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	339
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 78057	

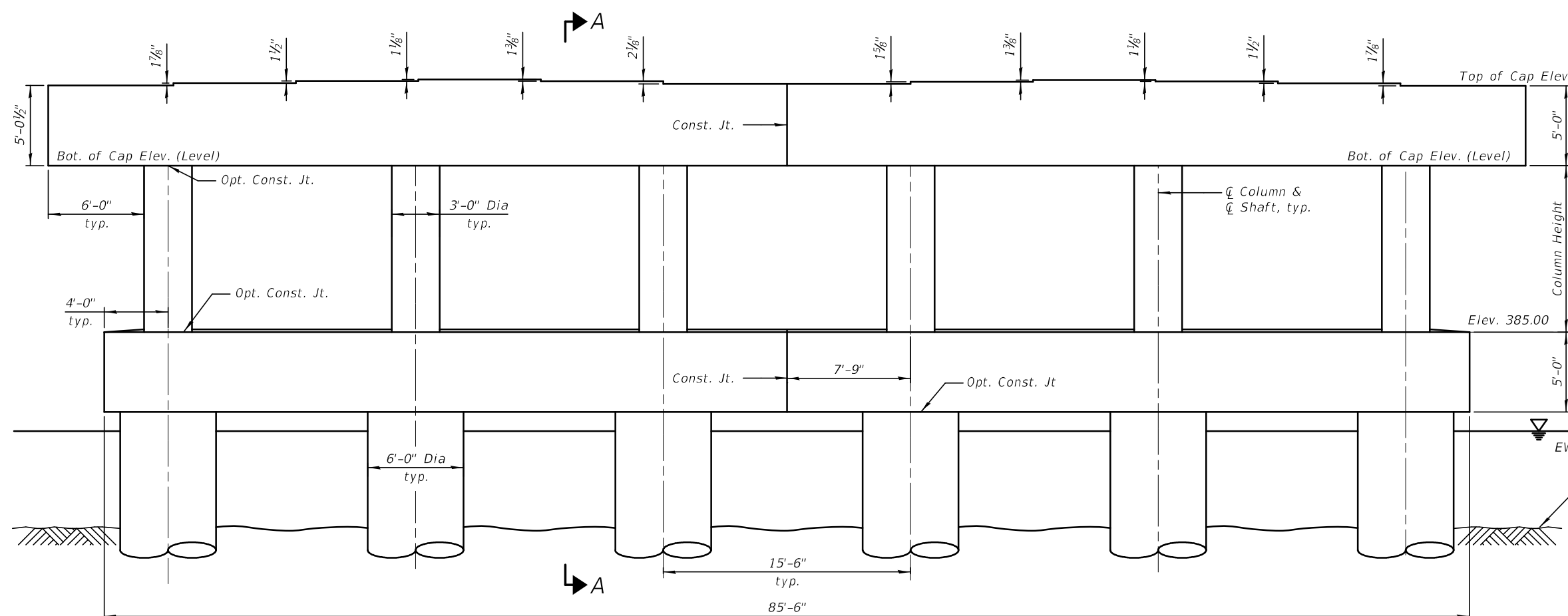
** Length shown is height of each spiral.

TABLE 1

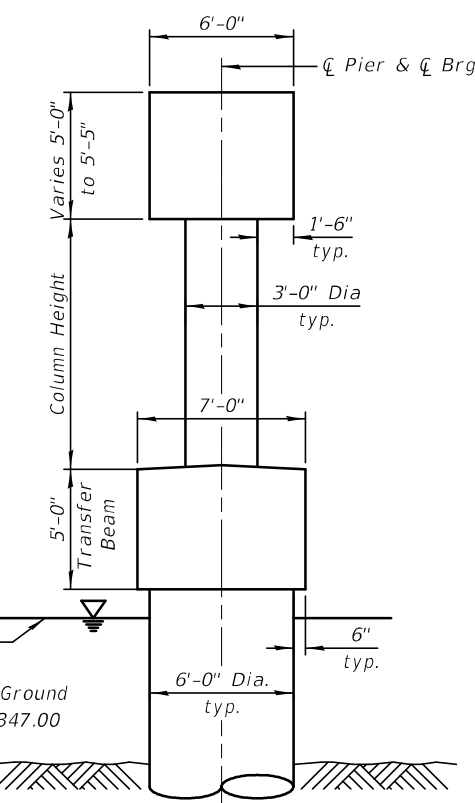
Girder No.	Bearing Seat Elev.	
W1	399.38	
W2	399.53	
W3	399.66	
W4	399.75	
W5	399.63	
W6	399.50	
E1	399.46	
E2	399.60	
E3	399.71	
E4	399.62	
E5	399.49	
E6	399.34	
Top of Cap Elevation		399.34
Bottom of Cap Elevation		394.34
Column Height		9'-4 1/8"



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\Drawings\Bridges\7660-50080-PR0501.dgn

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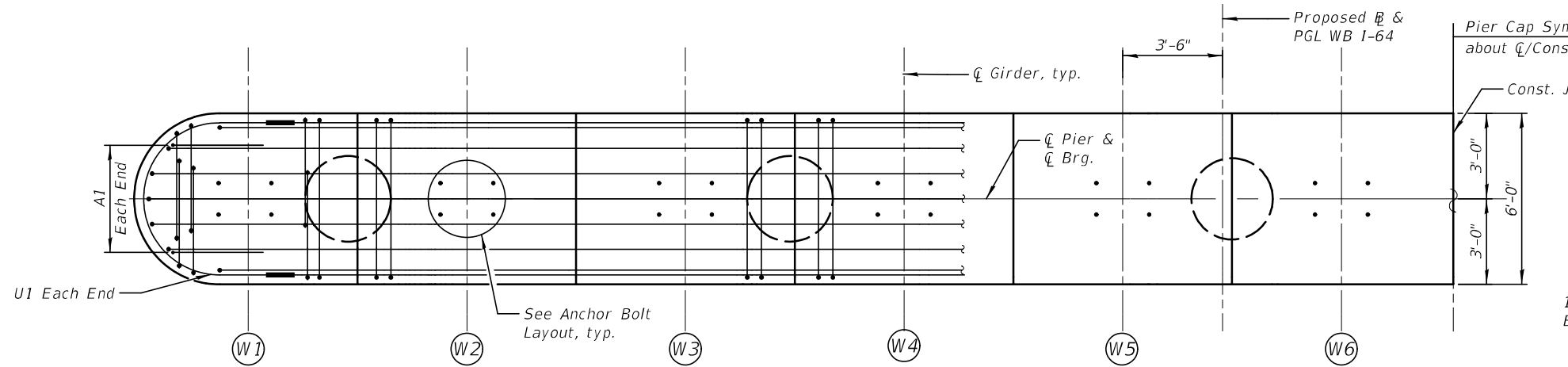
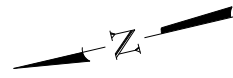
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CHECKED - MA	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 5 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

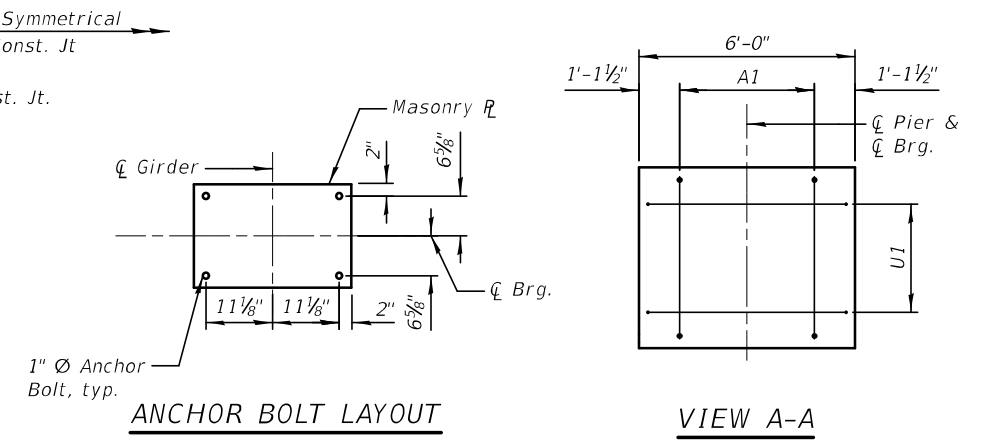
SHEET S-156 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	340
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



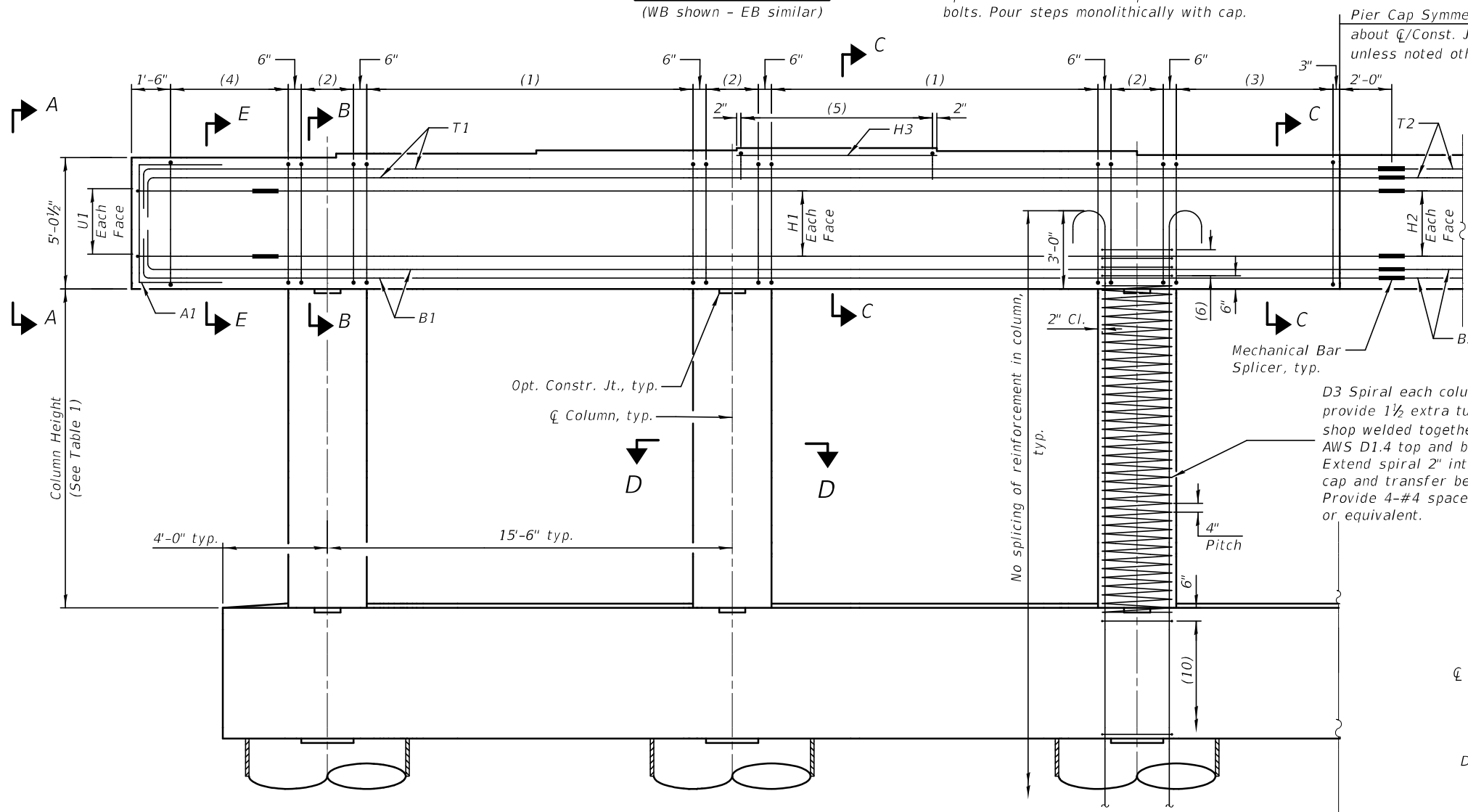
PARTIAL TOP PLAN
(WB shown - EB similar)

Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.

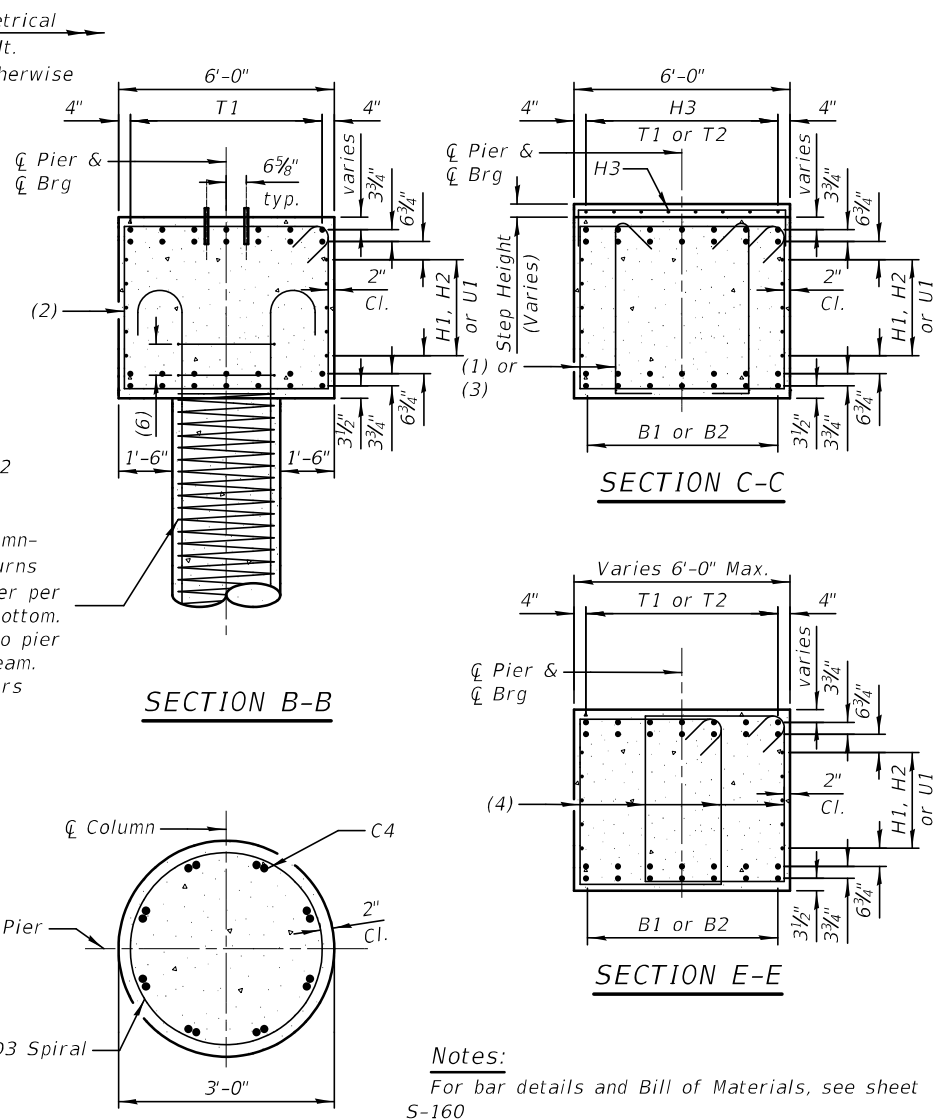


ANCHOR BOLT LAYOUT

VIEW A-A



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)



SECTION B-B

SECTION C-C

SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-160
For column height and bearing seat elevations, see Table 1 on sheet S-156
For step height, see sheet S-156
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-160

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\Drawings\7660-50088-R0502.dgn



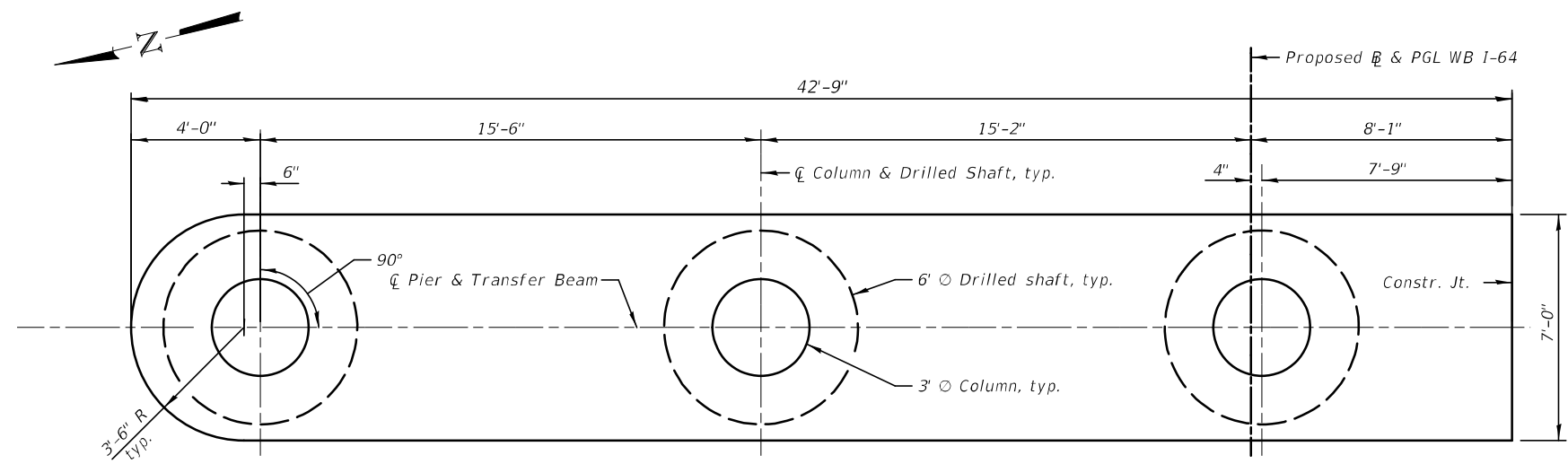
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CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

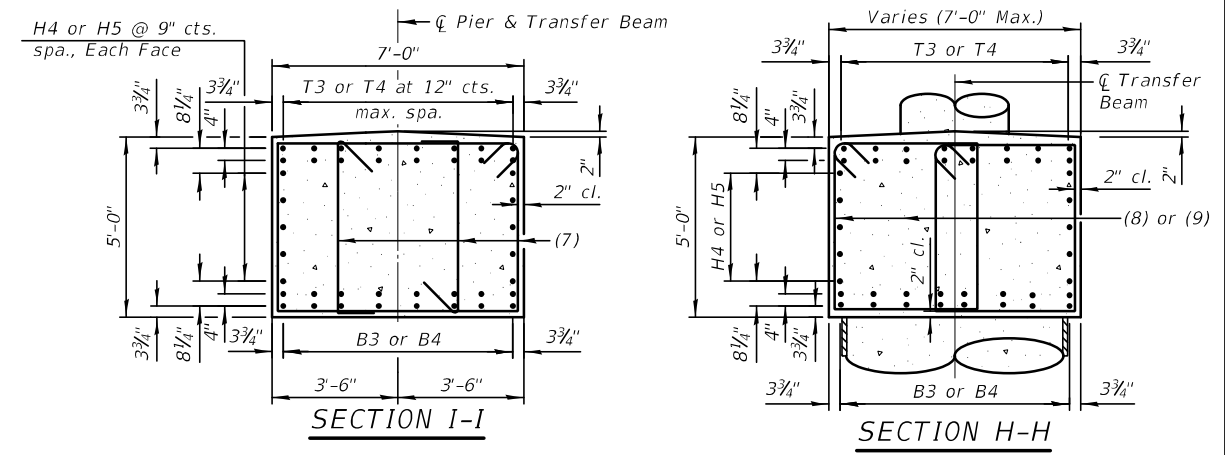
PIER NO. 5 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-157 OF 232 SHEETS

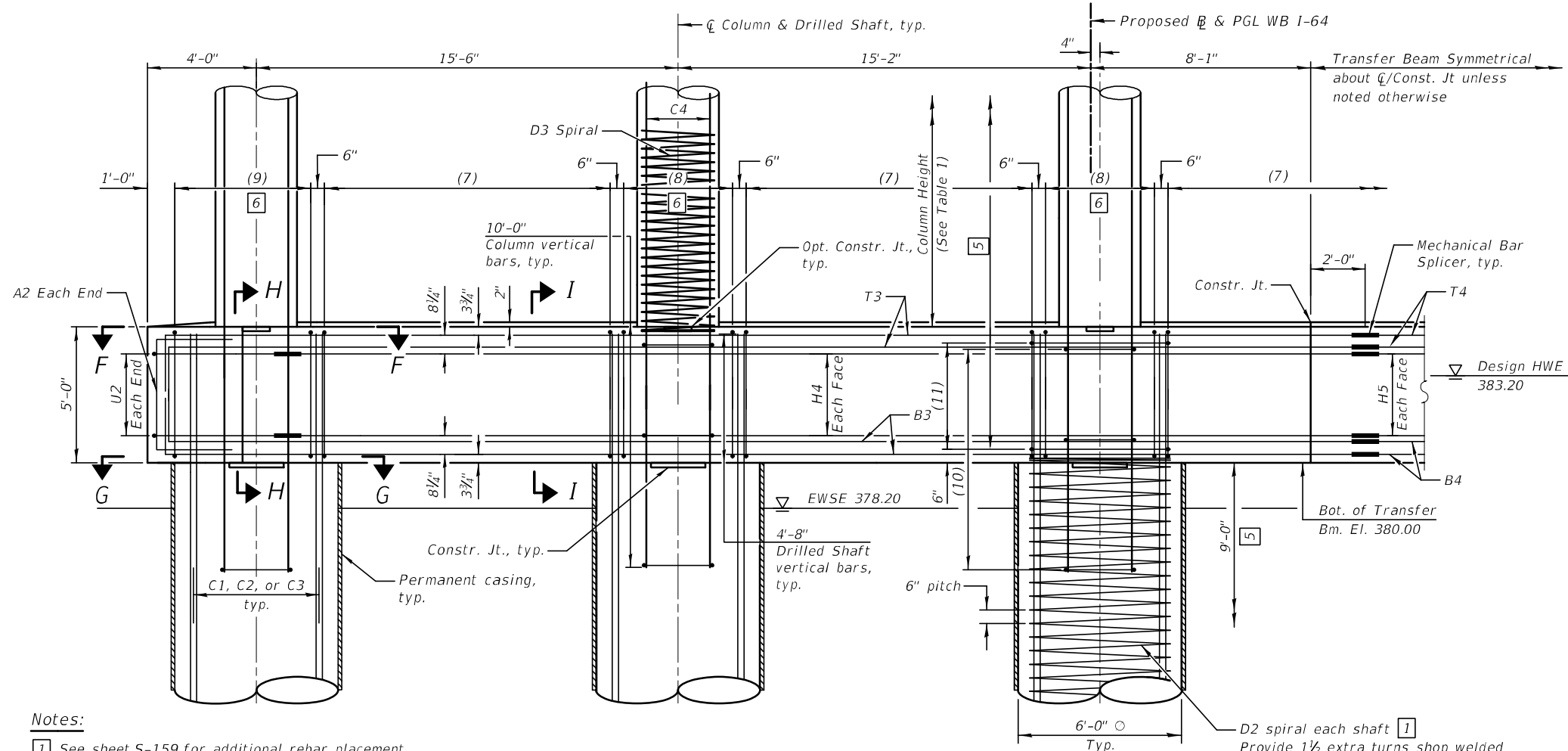
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	341
CONTRACT NO. 78057				
PUBLIC WATERS ILLINOIS FED. AID PROJECT				



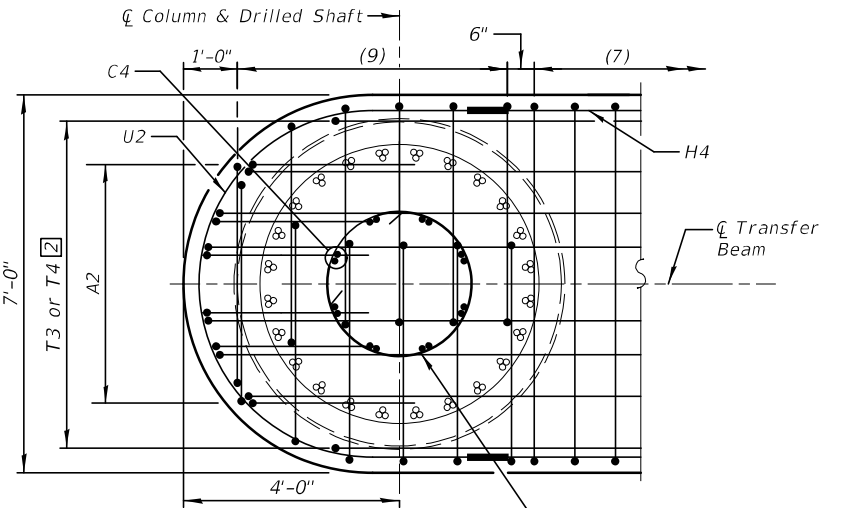
PARTIAL PLAN - TRANSFER BEAM
(WB shown - EB similar)



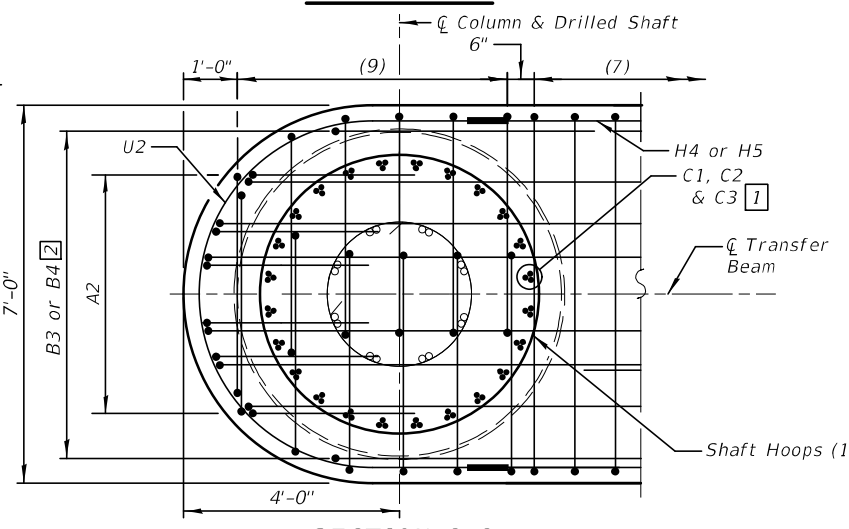
Column and shaft reinforcement not shown for clarity



PARTIAL ELEVATION - TRANSFER BEAM
(WB shown - EB similar)



SECTION F-F



SECTION G-G

- Notes:**
- See sheet S-159 for additional rebar placement.
 - Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - No splicing of bars allowed in this region.
 - Field cut bars when needed to keep 2" clear concrete cover.

- Notes:**
- For Top Plan and Partial elevation see sheet S-157
 - For Drilled Shaft details, see sheet S-159
 - For additional notes, bar details and Bill of Material see sheet S-160
 - For Table 1 see sheet S-156
 - For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-PR0503.dgn

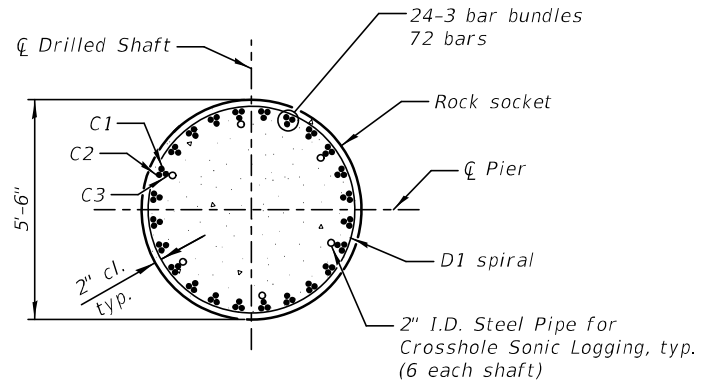
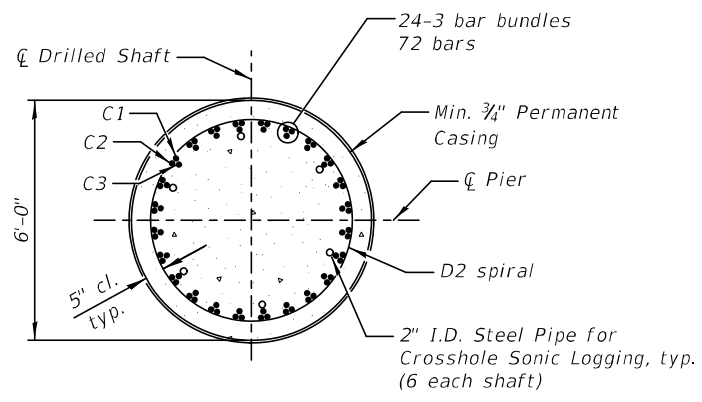
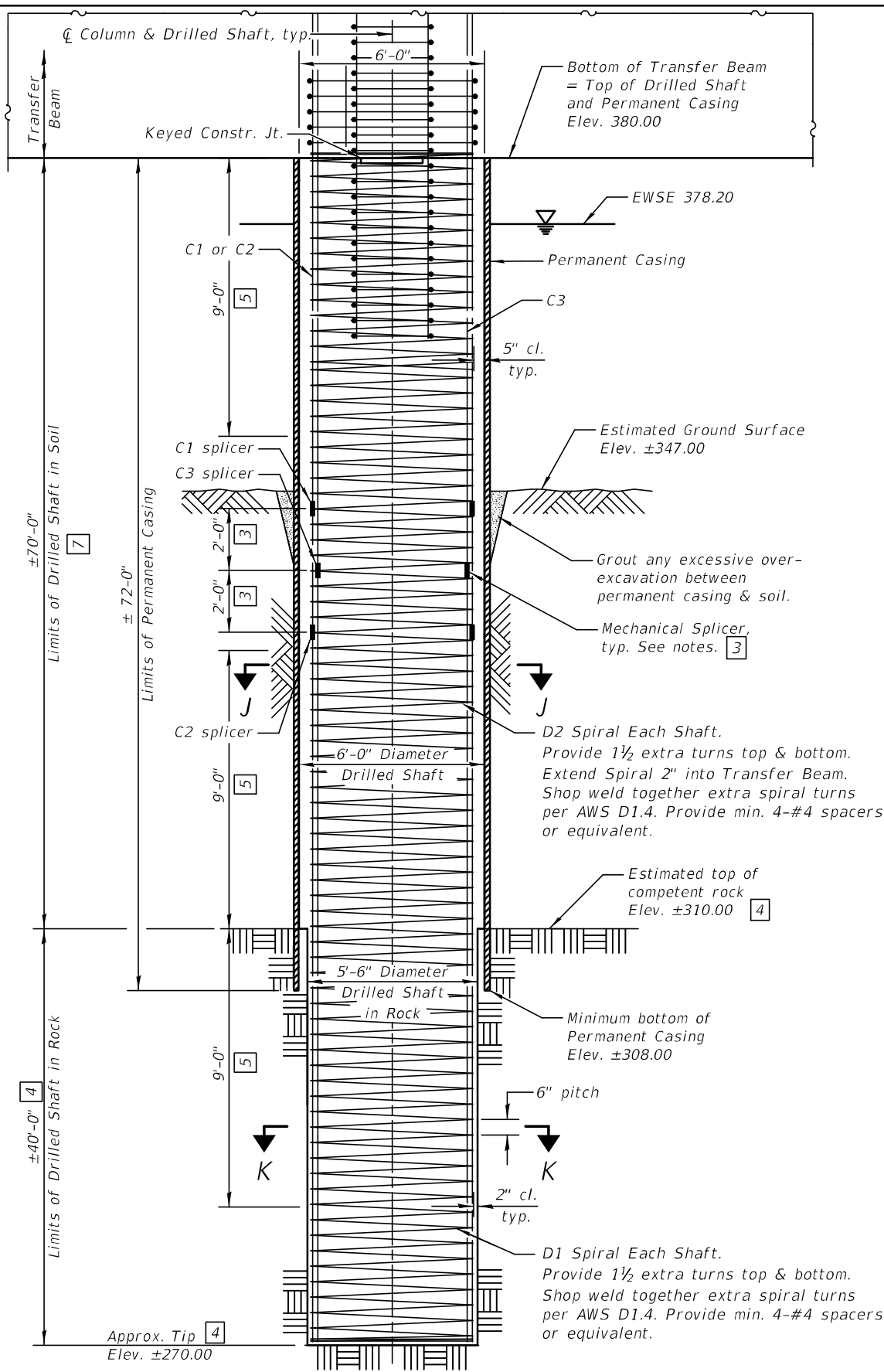
KNIGHT
Engineers & Architects

DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 5 TRANSFER BEAM PARTIAL PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	342
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



Notes:

- 3 Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- 4 Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- 5 No splicing of rebars allowed in this region
- 7 If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-157

For Transfer Beam details, see sheet S-158

For additional notes, bar details and Bill of Material see sheet S-160

For Mechanical Bar Splicer details see sheet S-209

DRILLED SHAFT
Detail and Elevation
(One shaft shown, 6 shafts req'd,
one under each column)

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\DR0504.dgn



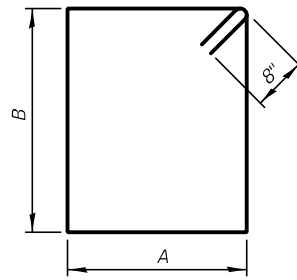
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CHECKED - KR	REVISION

SCALE - NONE
DATE - 6/30/2023

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

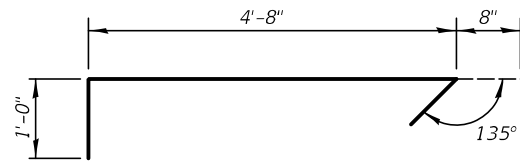
PIER NO. 5 DRILLED SHAFT ELEVATION AND DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

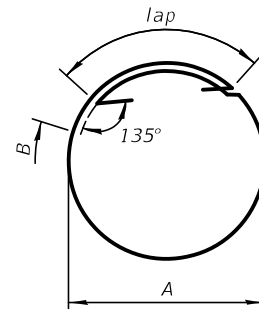


BARS s501(E), s503(E) thru s505(E)

Bars	A	B
s501(E)	3'-10"	4'-8"
s503(E)	5'-8"	4'-8"
s504(E)	6'-8"	4'-8"
s505(E)	4'-0"	4'-8"



BARS s502(E) & s506(E)



BARS hp501(E) & hp502(E)

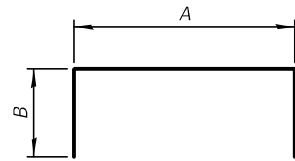
Bars	A	B	lap
hp501(E)	5'-2"	9"	4'-5"
hp502(E)	2'-8"	4 1/2"	2'-7"

PIER 5
BILL OF MATERIAL (CONT.)

Concrete Structures	Cu. Yd.	229.5
Permanent Casing	Foot	432
Drilled Shaft in Soil	Cu. Yd.	440
Drilled Shaft in Rock	Cu. Yd.	212
Crosshole Sonic Logging Access Ducts	Foot	693
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	693

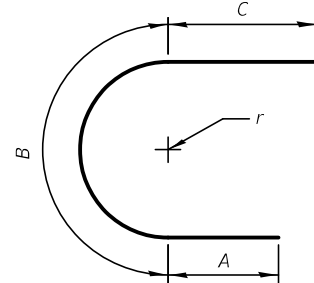
PIER 5
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h501(E)	10	#5	43'-1"	
h502(E)	10	#5	39'-1"	
h503(E)	16	#5	7'-8"	
h504(E)	10	#5	39'-9"	
h505(E)	10	#5	35'-9"	
hp501(E)	60	#7	22'-2"	o
hp502(E)	198	#4	11'-9"	o
p501(E)	4	#11	50'-0"	
p502(E)	8	#11	49'-10"	
p503(E)	8	#11	49'-4"	
p504(E)	8	#11	47'-10"	
p505(E)	4	#11	46'-0"	
p506(E)	8	#11	45'-10"	
p507(E)	8	#11	45'-4"	
p508(E)	8	#11	43'-10"	
p509(E)	8	#11	43'-10"	
p510(E)	8	#11	45'-6"	
p511(E)	8	#11	46'-0"	
p512(E)	8	#11	46'-3"	
p513(E)	8	#11	39'-10"	
p514(E)	8	#11	41'-6"	
p515(E)	8	#11	42'-0"	
p516(E)	8	#11	42'-3"	
s501(E)	40	#6	18'-4"	
s502(E)	260	#6	6'-4"	
s503(E)	148	#6	22'-0"	
s504(E)	75	#6	24'-0"	
s505(E)	68	#6	18'-8"	
s506(E)	150	#6	6'-4"	
sp501(E)	6	#7	40'-0"	
sp502(E)	6	#7	70'-2"	
sp503(E)	6	#4	9'-9"	
u501(E)	10	#5	13'-1"	
u502(E)	20	#5	12'-4"	
u503(E)	10	#5	13'-3"	
u504(E)	12	#5	10'-11"	
u505(E)	24	#5	6'-0"	
v501(E)	144	#11	57'-4"	
v502(E)	144	#11	57'-4"	
v503(E)	144	#11	53'-4"	
v504(E)	144	#11	61'-4"	
v505(E)	144	#11	55'-4"	
v506(E)	144	#11	59'-4"	
v507(E)	96	#11	24'-0"	
Reinforcement Bars, Epoxy Coated			Lbs.	371,240
Mechanical Splicers			Each	552



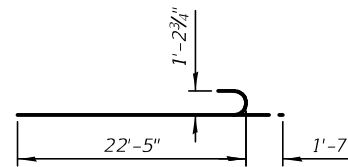
BARS u502(E) & u504(E)

Bars	A	B
u502(E)	5'-8"	3'-4"
u504(E)	4'-7"	3'-2"



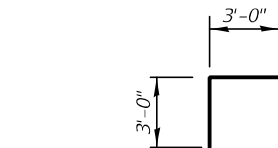
BARS u501(E) & u503(E)

Bars	A	B	C	r
u501(E)	2'-2"	8'-9"	2'-2"	2'-9"
u503(E)	1'-6"	10'-3"	1'-6"	3'-3"

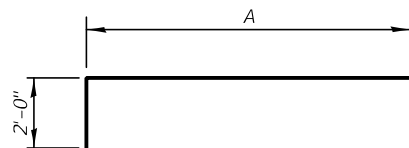


BARS v507(E)

Mark	Bar Callouts
(1)	26 sets of 2-#6 s502(E) & 1-#6 s503(E) at 6" cts.
(2)	3 sets of 1-#6 s503(E) at 12" cts.
(3)	13 sets of 2-#6 s502(E) & 1-#6 s503(E) at 6" cts.
(4)	10 sets of 2-#6 s501(E) at 6" cts.
(5)	10 sets of 1-#5 u502(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp502(E) at 4" cts.
(7)	15 sets of 1-#6 s504(E) and 2-#6 s506(E) at 9" cts.
(8)	5 sets of 2-#6 s505(E) at 12" cts.
(9)	7 sets of 2-#6 s505(E) at 12" on cts.
(10)	29 sets of 1-#4 hp502(E) at 4" cts.
(11)	10 sets of 1-#7 hp501(E) at 6" cts.
T1	2 layers of 1-#11 p501(E), 2-#11 p502(E) thru p504(E) at abt. 10 7/8" cts.
T2	2 layers of 1-#11 p505(E), 2-#11 p506(E) thru p508(E) at abt. 10 7/8" cts.
T3	2 layers of 2-#11 each p509(E) thru p512(E) at 12" cts. max
T4	2 layers of 2-#11 each p513(E) thru p516(E) at 12" cts. max
B1	2 layers of 1-#11 p501(E), 2-#11 p502(E) thru p504(E) at abt. 10 7/8" cts.
B2	2 layers of 1-#11 p505(E), 2-#11 p506(E) thru p508(E) at abt. 10 7/8" cts.
B3	2 layers of 2-#11 each p509(E) thru p512(E) at 12" cts. max
B4	2 layers of 2-#11 each p513(E) thru p516(E) at 12" cts. max
H1	5-#5 h501(E) at 8" cts.
H2	5-#5 h502(E) at 8" cts.
H3	8-#5 h503(E) at 10" cts. max
H4	5-#5 h504(E) at 9" cts.
H5	5-#5 h505(E) at 9" cts.
U1	4-#5 u501(E) spaced with h501(E) or h502(E)
U2	5-#5 u503(E) spaced with h504(E) or h505(E)
A1	6-#5 u504(E) at 9" cts.
A2	2 sets of 6-#5 u505(E) at 11" cts.
C1	24 sets of 1-#11 v501(E) and 1-#11 v502(E) (Top) bundled w/ C2 and C3
C2	24 sets of 1-#11 v503(E) and 1-#11 v504(E) (Top) bundled w/ C1 and C3
C3	24 sets of 1-#11 v505(E) and 1-#11 v506(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v507(E) bundled
D1	#7 sp501(E) at 6" pitch
D2	#7 sp502(E) at 6" pitch
D3	#4 sp503(E) at 4" pitch

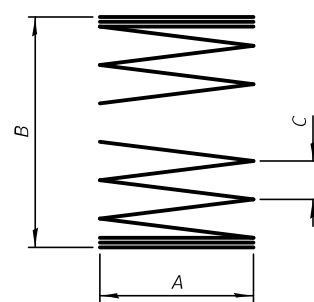


BARS u505(E)



BARS p501(E) thru p516(E)

Bars	A	Bars	A
p501(E)	48'-0"	p509(E)	41'-10"
p502(E)	47'-10"	p510(E)	43'-6"
p503(E)	47'-4"	p511(E)	44'-0"
p504(E)	45'-10"	p512(E)	44'-3"
p505(E)	44'-0"	p513(E)	37'-10"
p506(E)	43'-10"	p514(E)	39'-6"
p507(E)	43'-4"	p515(E)	40'-0"
p508(E)	41'-10"	p516(E)	40'-3"



BARS sp501(E) thru sp503(E)

Bars	A	B	C
sp501(E)	5'-2"	40'-0"	6"
sp502(E)	5'-2"	70'-2"	6"
sp503(E)	2'-8"	9'-9"	4"

PLOT DATE = 10/24/2023
FILE NAME: L:\7660\CAD\3\Sheets\Bridges\7660-50080-PR0505.dgn

KNIGHT
Engineers & Architects

DESIGNED - KR	REVISD 10/26/2023
CHECKED - MA	REVISD
SCALE - NONE	REVISD
DATE - 6/30/2023	REVISD

DESIGNED - KR	REVISD 10/26/2023
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DRAWN - MN	REVISD
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

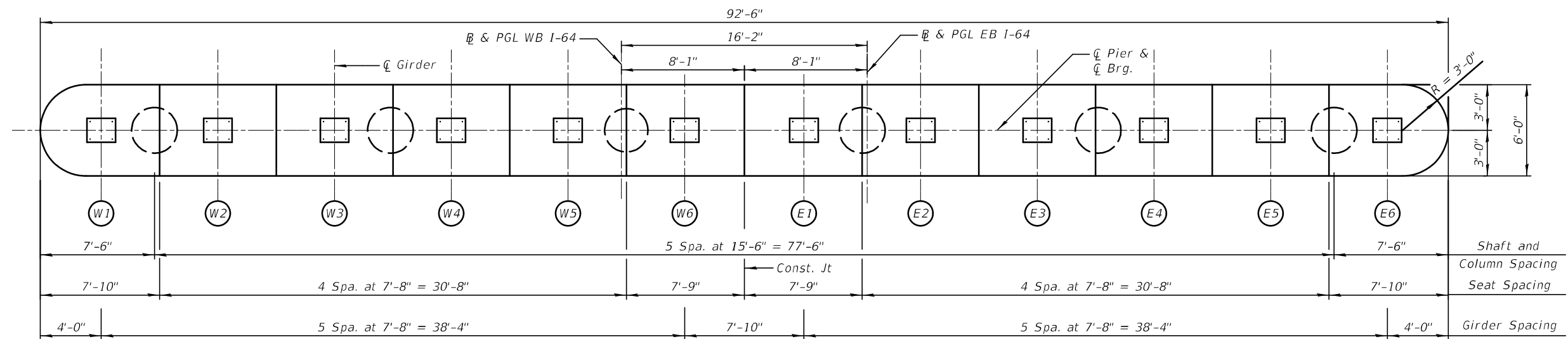
PIER NO. 5 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-160 OF 232 SHEETS

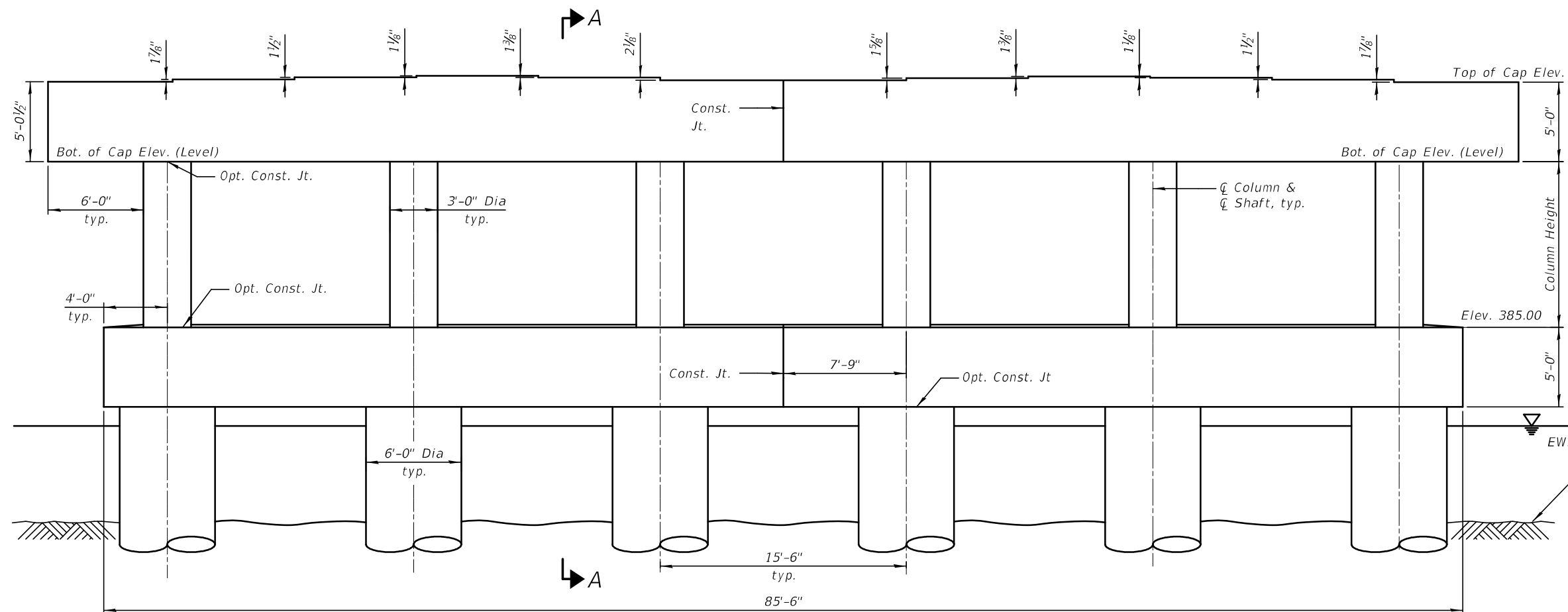
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	344
CONTRACT NO. 78057				
PUBLIC WATERS ILLINOIS FED. AID PROJECT				

TABLE 1

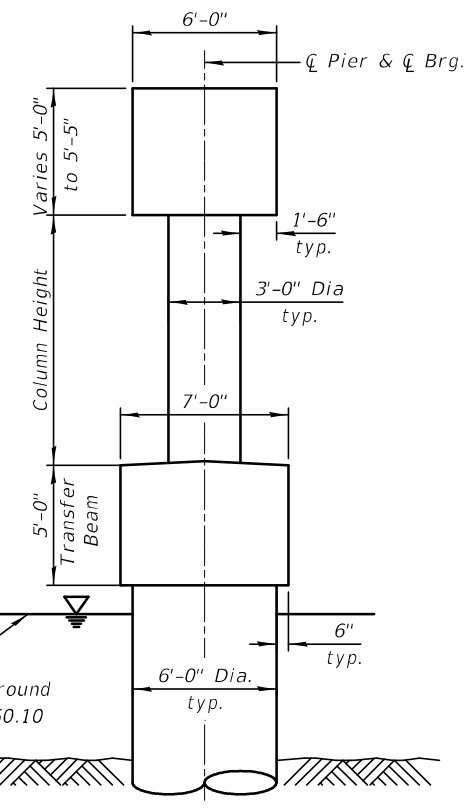
Girder No.	Bearing Seat Elev.	
W1	398.85	
W2	399.00	
W3	399.13	
W4	399.22	
W5	399.11	
W6	398.97	
E1	398.93	
E2	399.07	
E3	399.18	
E4	399.09	
E5	398.96	
E6	398.81	
Top of Cap Elevation		398.81
Bottom of Cap Elevation		393.81
Column Height		8'-9 3/4"



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\Drawings\Bridges\7660-50080-PR0601.dgn

KNIGHT
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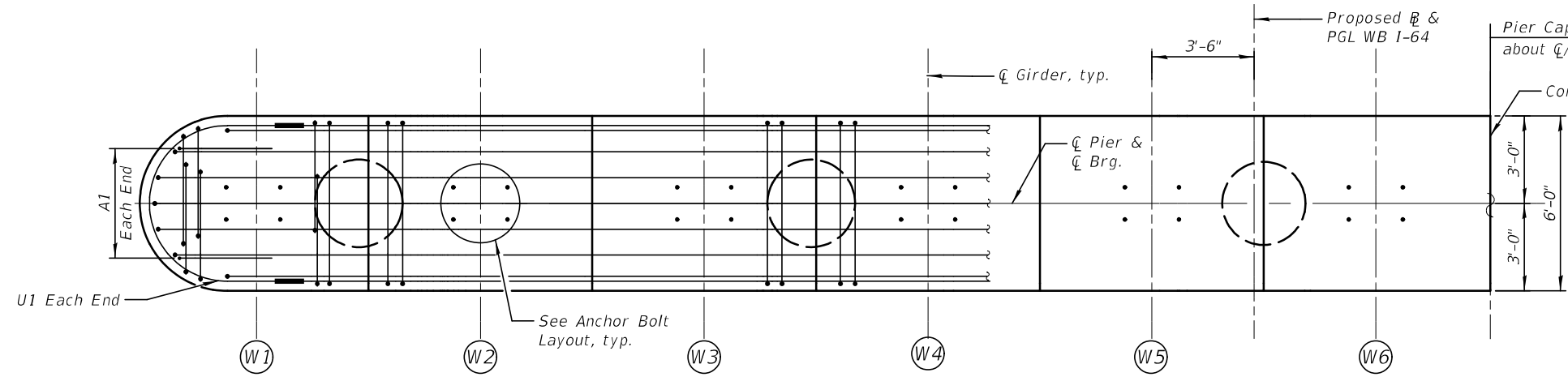
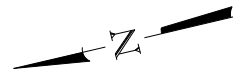
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CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 6 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

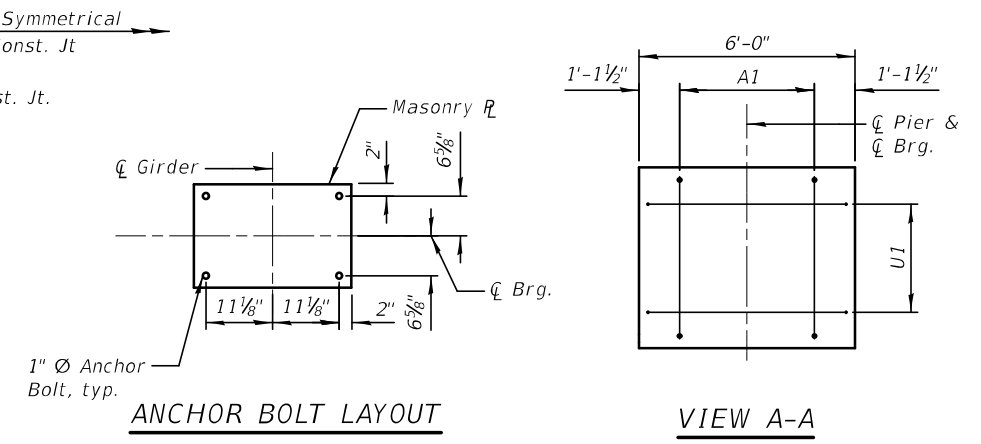
SHEET S-161 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	345
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



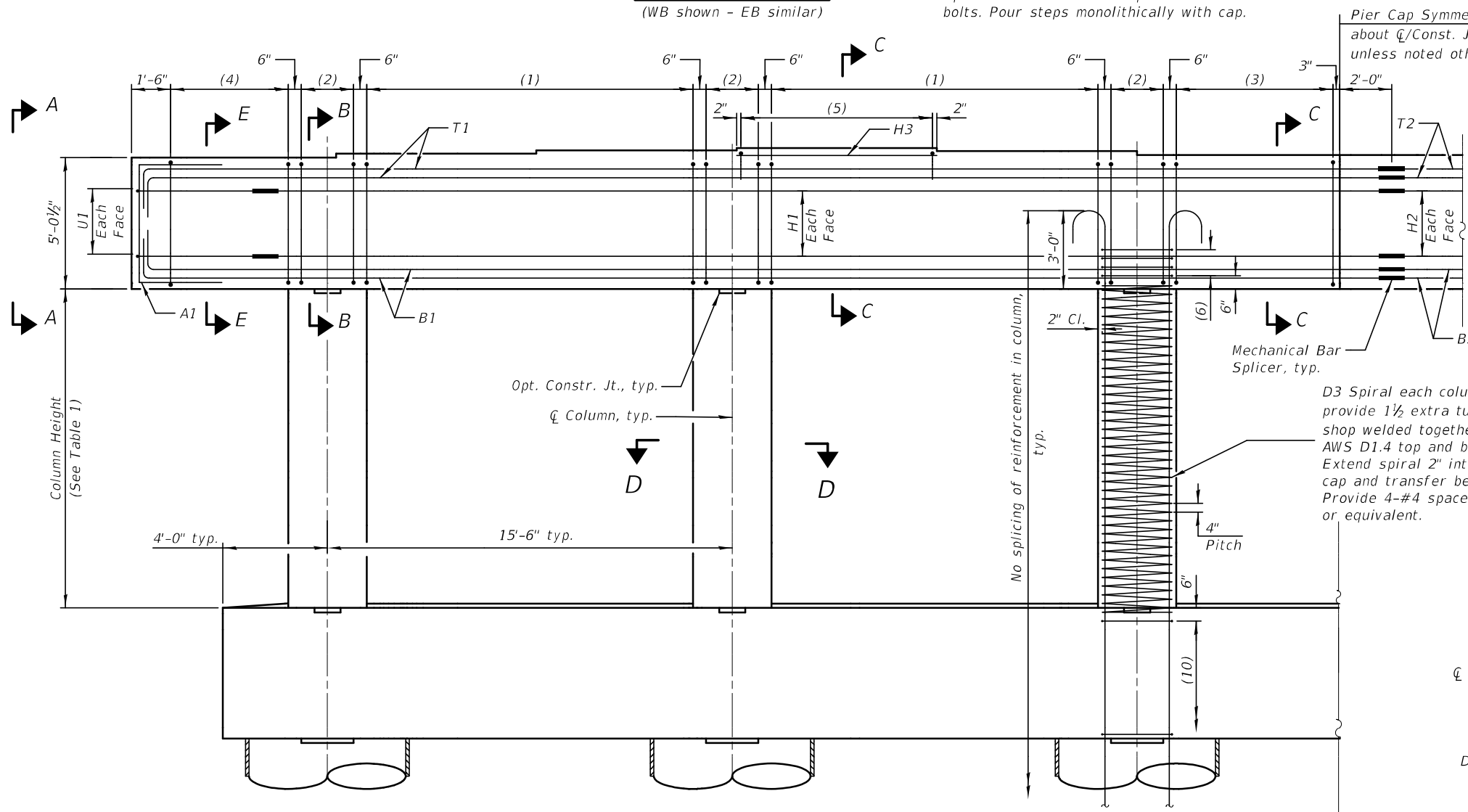
PARTIAL TOP PLAN
(WB shown - EB similar)

Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.



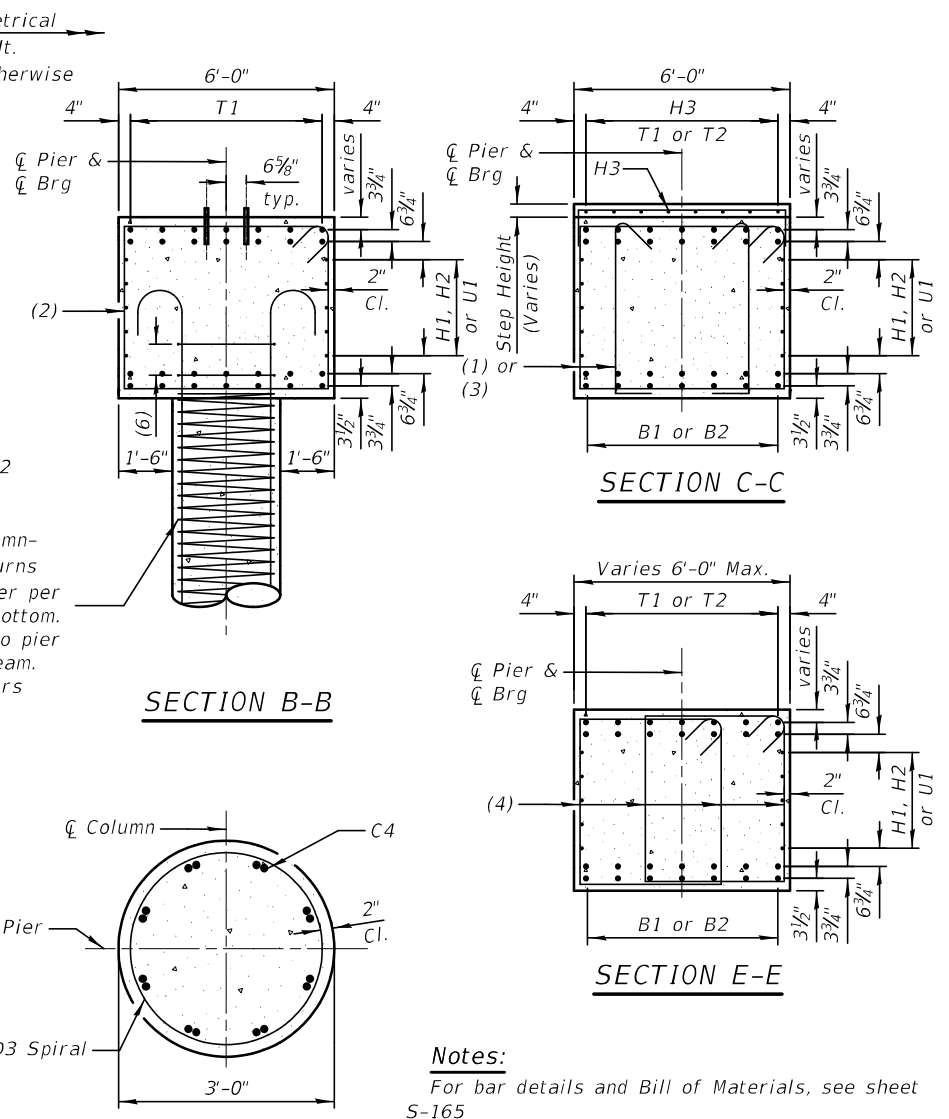
ANCHOR BOLT LAYOUT

VIEW A-A



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)

Notes:
D3 Spiral each column—provide 1 1/2 extra turns shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap and transfer beam. Provide 4-#4 spacers or equivalent.



SECTION B-B

SECTION C-C

SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-165
For column height and bearing seat elevations, see Table 1 on sheet S-161
For step height, see sheet S-161
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-165

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50088-PR0602.dgn



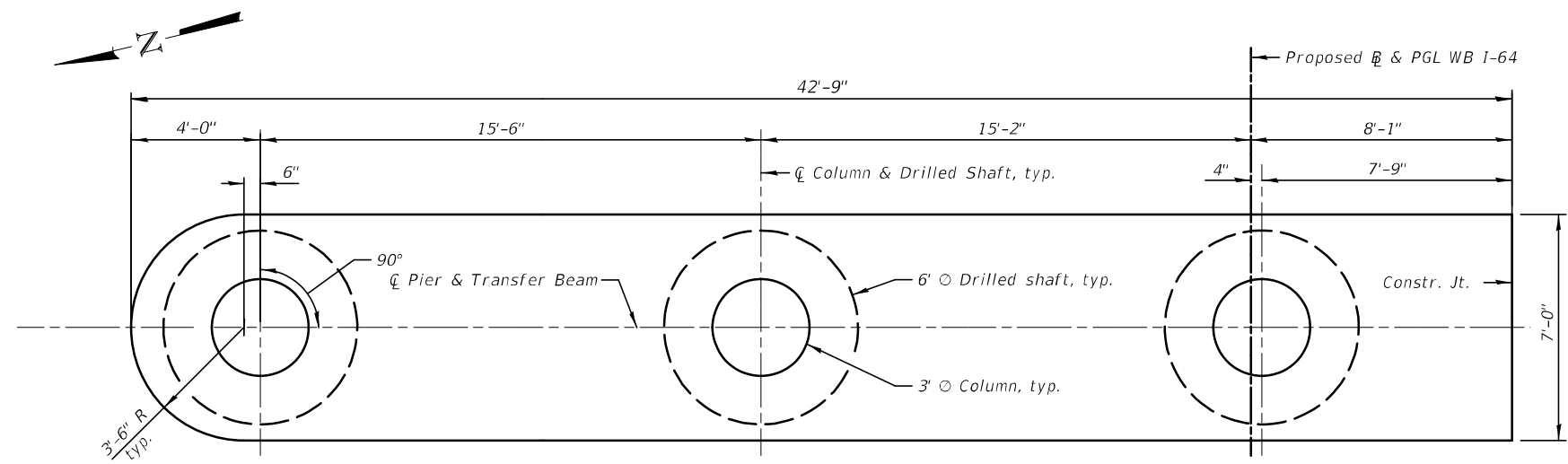
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DRAWN	- MN	REVISED	
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DATE	- 6/30/2023		

STATE OF ILLINOIS
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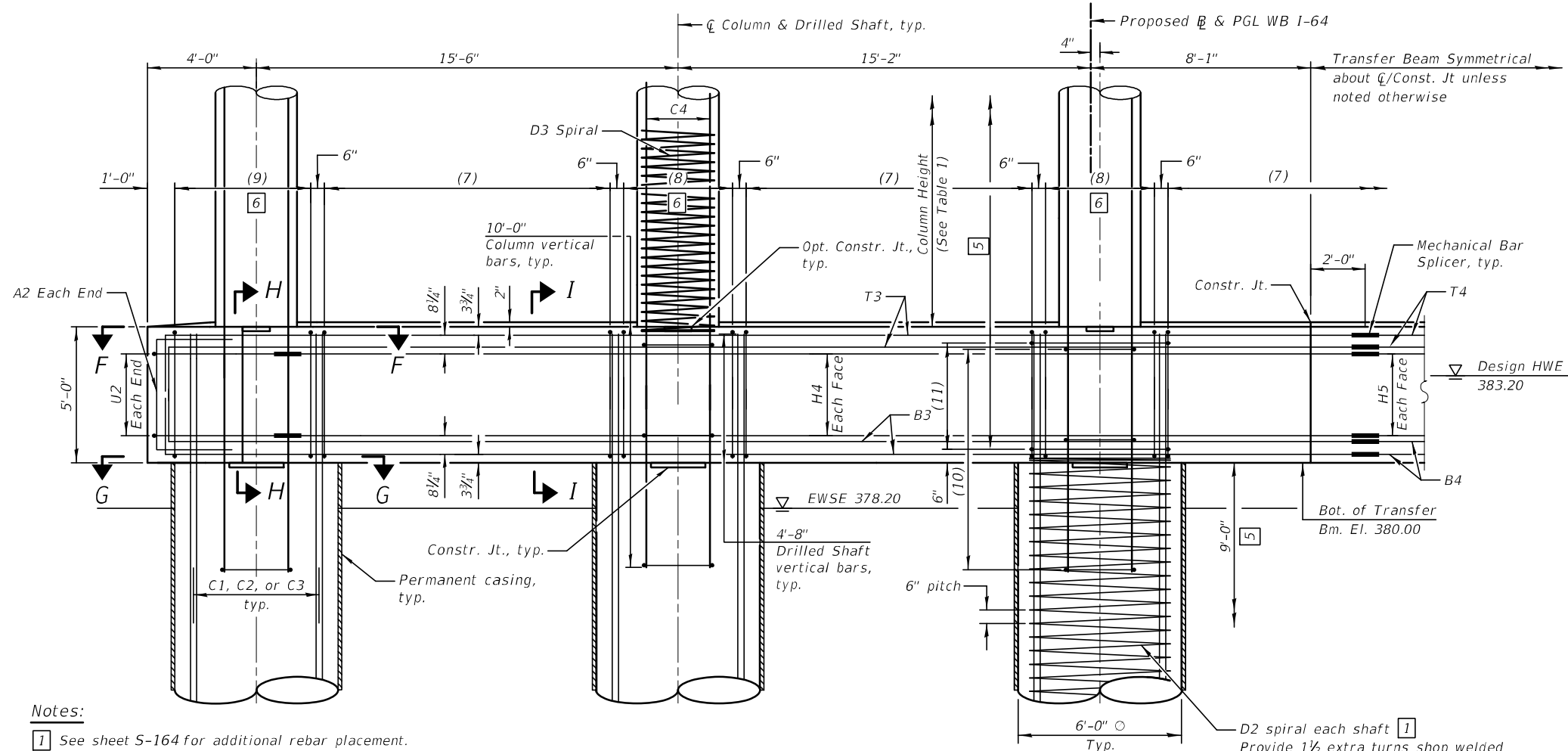
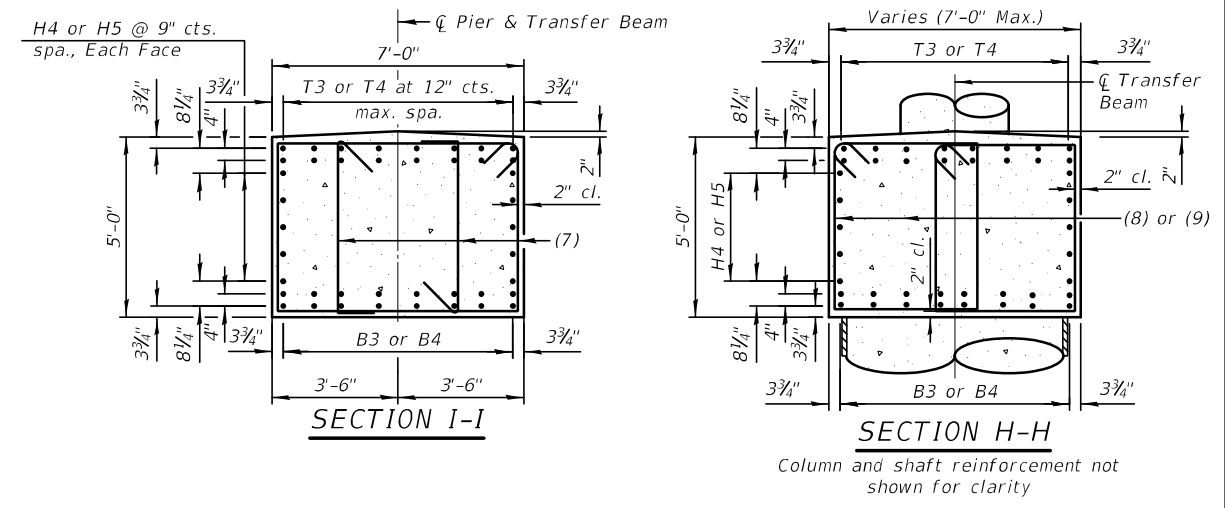
PIER NO. 6 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-162 OF 232 SHEETS

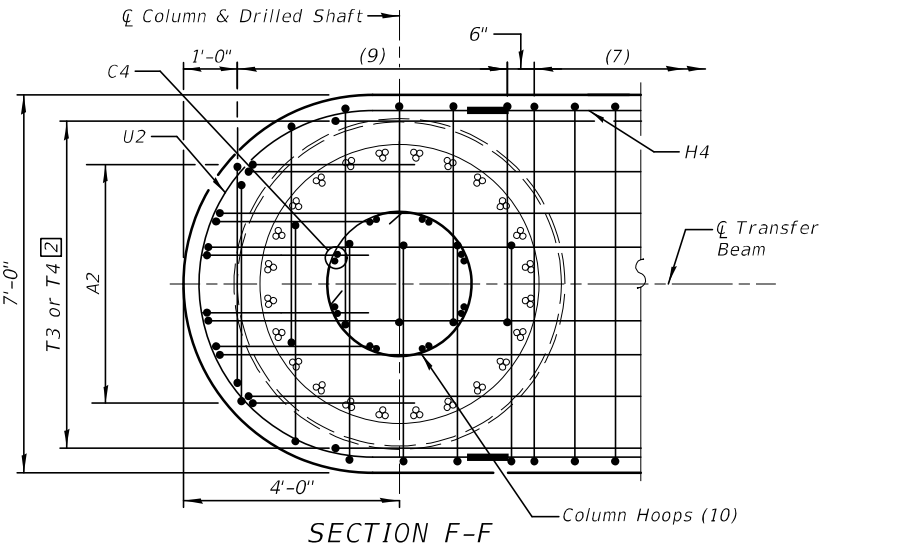
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	346
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



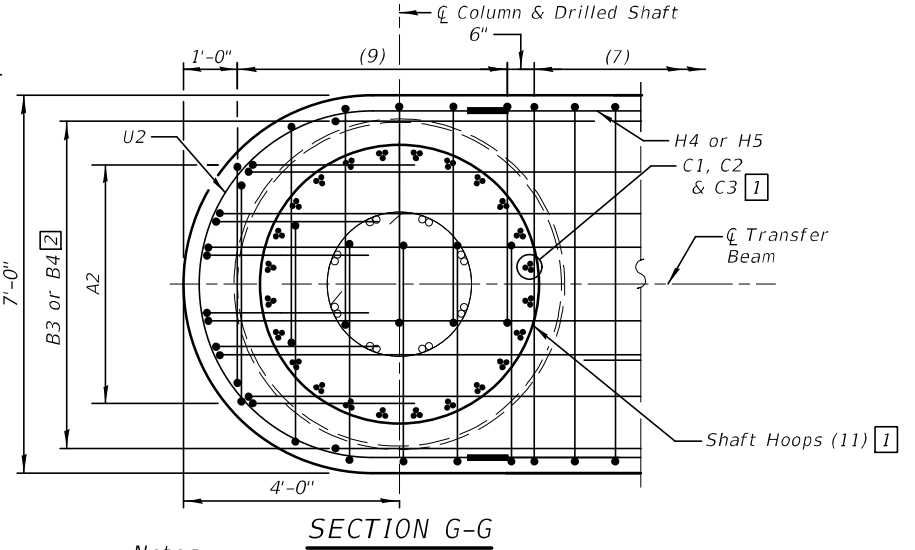
PARTIAL PLAN - TRANSFER BEAM
 (WB shown - EB similar)



PARTIAL ELEVATION - TRANSFER BEAM
 (WB shown - EB similar)



SECTION F-F

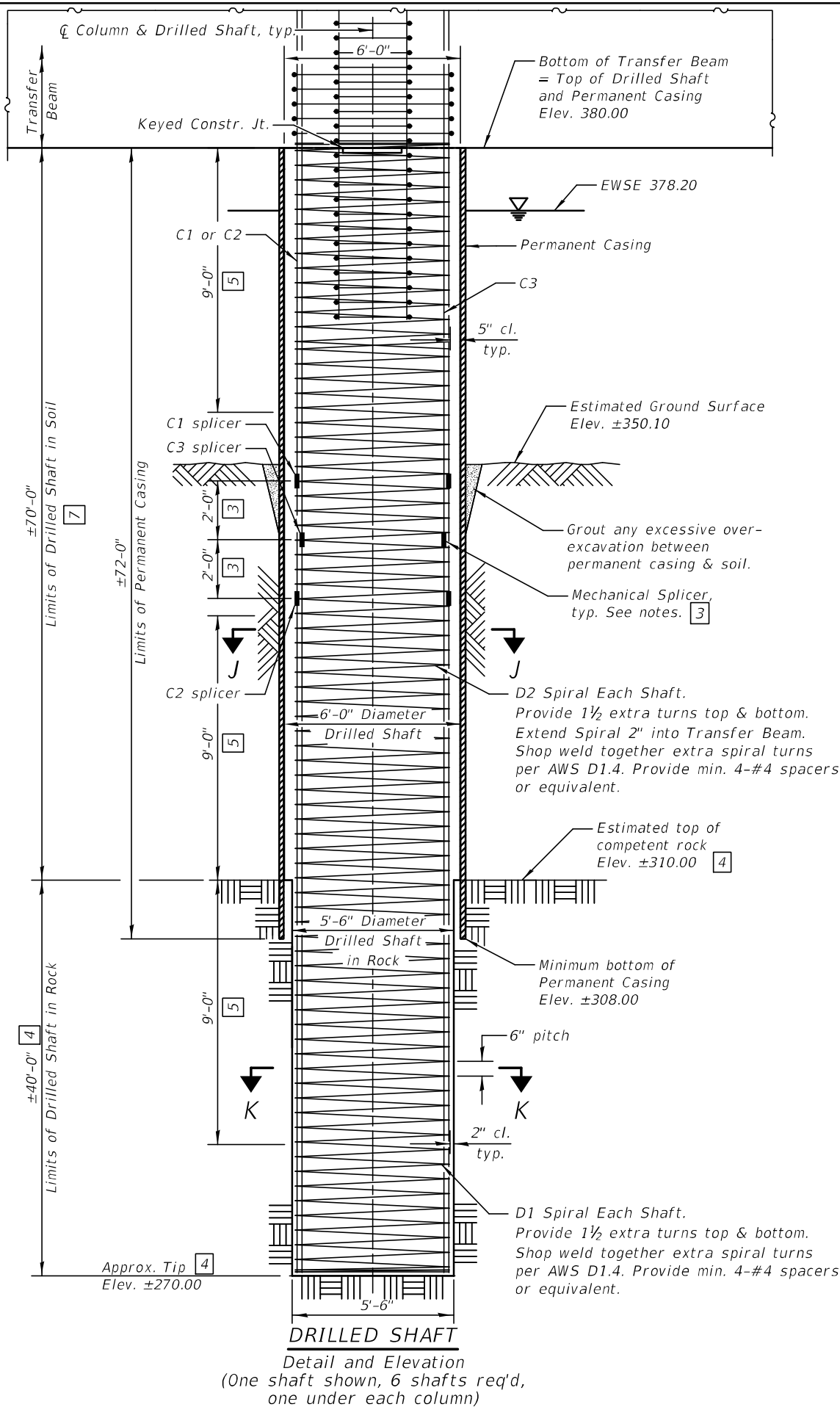


SECTION G-G

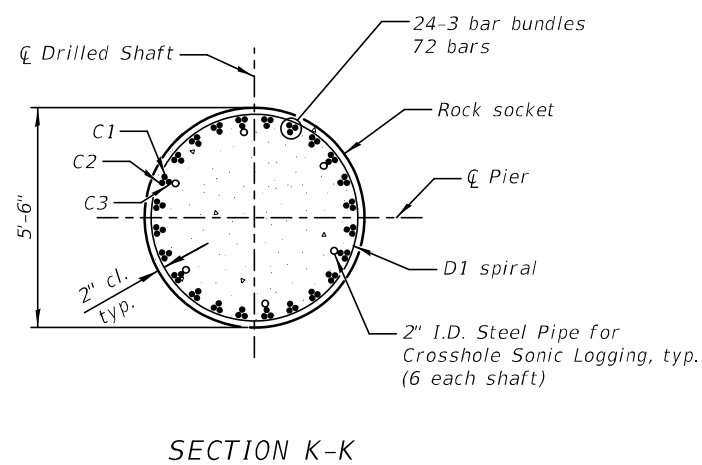
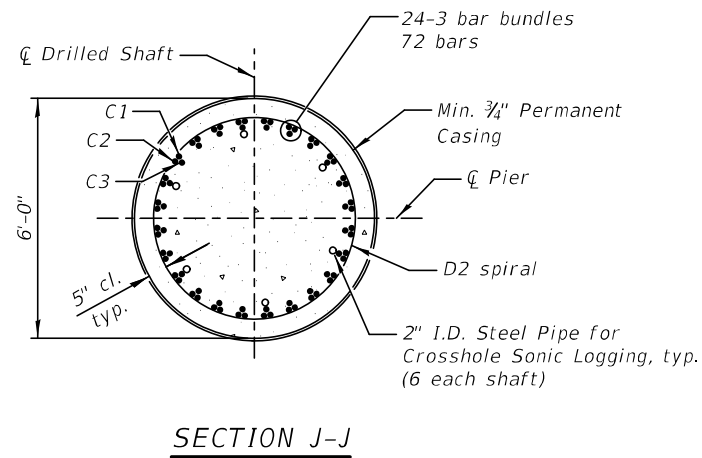
- Notes:**
- See sheet S-164 for additional rebar placement.
 - Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - No splicing of bars allowed in this region.
 - Field cut bars when needed to keep 2" clear concrete cover.

- Notes:**
- For Top Plan and Partial elevation see sheet S-162
 - For Drilled Shaft details, see sheet S-164
 - For additional notes, bar details and Bill of Material see sheet S-165
 - For Table 1 see sheet S-161
 - For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
 FILE NAME: L:\1660\CAD\15\Sheets\Bridges\660-50080-PR0603.dgn



DRILLED SHAFT
Detail and Elevation
(One shaft shown, 6 shafts req'd,
one under each column)



Notes:

- 3 Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- 4 Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- 5 No splicing of rebars allowed in this region
- 7 If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-162

For Transfer Beam details, see sheet S-163

For additional notes, bar details and Bill of Material see sheet S-165

For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-R0604.dgn

KNIGHT
Engineers & Architects

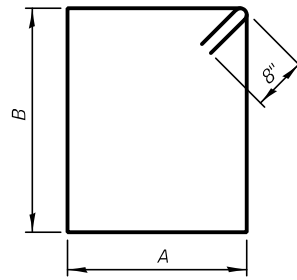
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CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 6 DRILLED SHAFT ELEVATION AND DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

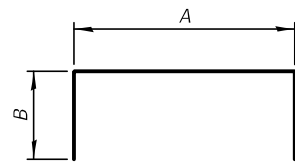
SHEET S-164 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	348
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



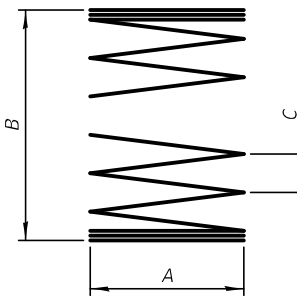
BARS s601(E), s603(E) thru s605(E)

Bars	A	B
s601(E)	3'-10"	4'-8"
s603(E)	5'-8"	4'-8"
s604(E)	6'-8"	4'-8"
s605(E)	4'-0"	4'-8"



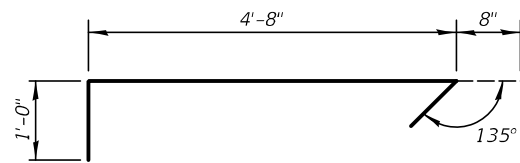
BARS u602(E) & u604(E)

Bars	A	B
u602(E)	5'-8"	3'-4"
u604(E)	4'-7"	3'-2"

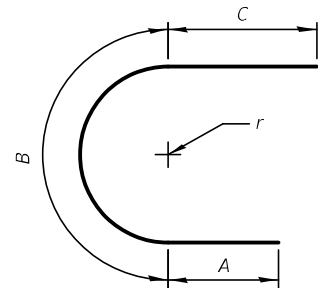


BARS sp601(E) thru sp603(E)

Bars	A	B	C
sp601(E)	5'-2"	40'-0"	6"
sp602(E)	5'-2"	70'-2"	6"
sp603(E)	2'-8"	9'-3"	4"

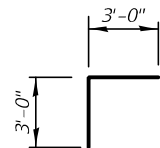


BARS s602(E) & s606(E)

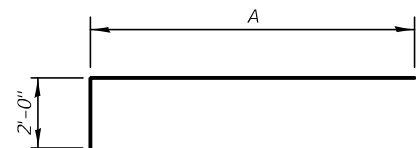


BARS u601(E) & u603(E)

Bars	A	B	C	r
u601(E)	2'-2"	8'-9"	2'-2"	2'-9"
u603(E)	1'-6"	10'-3"	1'-6"	3'-3"

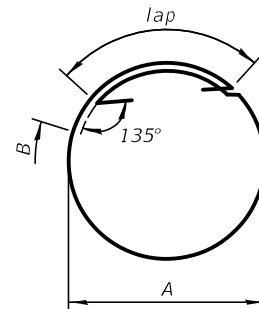


BARS u605(E)



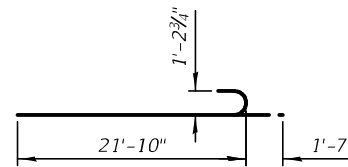
BARS p601(E) thru p616(E)

Bars	A	Bars	A
p601(E)	48'-0"	p609(E)	41'-10"
p602(E)	47'-10"	p610(E)	43'-6"
p603(E)	47'-4"	p611(E)	44'-0"
p604(E)	45'-10"	p612(E)	44'-3"
p605(E)	44'-0"	p613(E)	37'-10"
p606(E)	43'-10"	p614(E)	39'-6"
p607(E)	43'-4"	p615(E)	40'-0"
p608(E)	41'-10"	p616(E)	40'-3"



BARS hp601(E) & hp602(E)

Bars	A	B	lap
hp601(E)	5'-2"	9"	4'-5"
hp602(E)	2'-8"	4 1/2"	2'-7"



BARS v607(E)

PIER 6
BILL OF MATERIAL (CONT.)

Concrete Structures	Cu. Yd.	228.7
Permanent Casing	Foot	432
Drilled Shaft in Soil	Cu. Yd.	440
Drilled Shaft in Rock	Cu. Yd.	212
Crosshole Sonic Logging Access Ducts	Foot	693
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	693

PIER 6
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h601(E)	10	#5	43'-1"	
h602(E)	10	#5	39'-1"	
h603(E)	16	#5	7'-8"	
h604(E)	10	#5	39'-9"	
h605(E)	10	#5	35'-9"	
hp601(E)	60	#7	22'-2"	o
hp602(E)	198	#4	11'-9"	o
p601(E)	4	#11	50'-0"	
p602(E)	8	#11	49'-10"	
p603(E)	8	#11	49'-4"	
p604(E)	8	#11	47'-10"	
p605(E)	4	#11	46'-0"	
p606(E)	8	#11	45'-10"	
p607(E)	8	#11	45'-4"	
p608(E)	8	#11	43'-10"	
p609(E)	8	#11	43'-10"	
p610(E)	8	#11	45'-6"	
p611(E)	8	#11	46'-0"	
p612(E)	8	#11	46'-3"	
p613(E)	8	#11	39'-10"	
p614(E)	8	#11	41'-6"	
p615(E)	8	#11	42'-0"	
p616(E)	8	#11	42'-3"	
s601(E)	40	#6	18'-4"	
s602(E)	260	#6	6'-4"	
s603(E)	148	#6	22'-0"	
s604(E)	75	#6	24'-0"	
s605(E)	68	#6	18'-8"	
s606(E)	150	#6	6'-4"	
sp601(E)	6	#7	40'-0"	
sp602(E)	6	#7	70'-2"	
sp603(E)	6	#4	9'-2"	
u601(E)	10	#5	13'-1"	
u602(E)	20	#5	12'-4"	
u603(E)	10	#5	13'-3"	
u604(E)	12	#5	10'-11"	
u605(E)	24	#5	6'-0"	
v601(E)	144	#11	57'-4"	
v602(E)	144	#11	57'-4"	
v603(E)	144	#11	53'-4"	
v604(E)	144	#11	61'-4"	
v605(E)	144	#11	55'-4"	
v606(E)	144	#11	59'-4"	
v607(E)	96	#11	23'-5"	
Reinforcement Bars, Epoxy Coated			Lbs.	370,880
Mechanical Splicers			Each	552

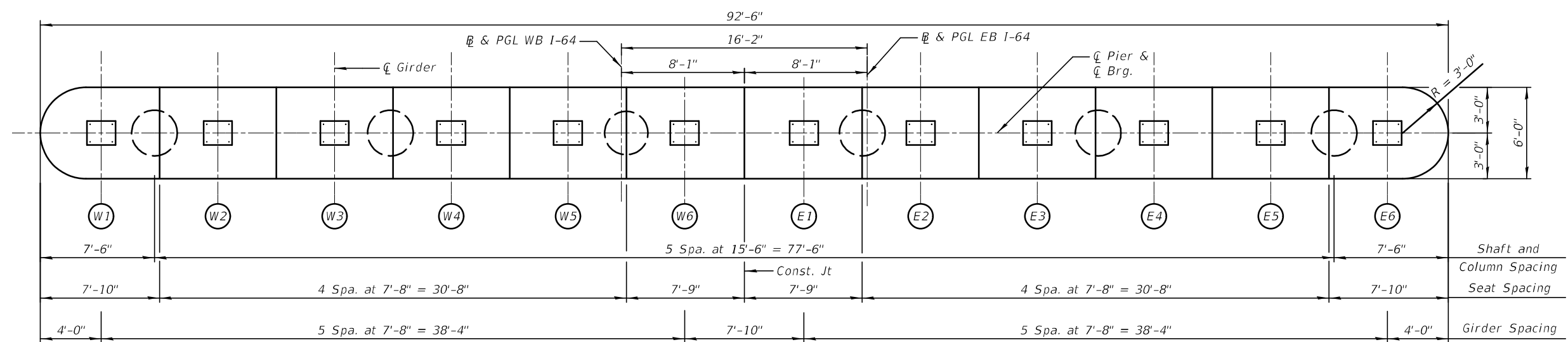
* Length shown is height of each spiral.

Mark	Bar Callouts
(1)	26 sets of 2-#6 s602(E) & 1-#6 s603(E) at 6" cts.
(2)	3 sets of 1-#6 s603(E) at 12" cts.
(3)	15 sets of 2-#6 s602(E) & 1-#6 s603(E) at 6" cts.
(4)	10 sets of 2-#6 s601(E) at 6" cts.
(5)	10 sets of 1-#5 u602(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp602(E) at 4" cts.
(7)	15 sets of 1-#6 s604(E) placed with 2-#6 s606(E) at 9" cts.
(8)	5 sets of 2-#6 s605(E) at 12" cts.
(9)	7 sets of 2-#6 s605(E) at 12" on cts.
(10)	29 sets of 1-#4 hp602(E) at 4" cts.
(11)	10 sets of 1-#7 hp601(E) at 6" cts.
T1	2 layers of 1-#11 p601(E), 2-#11 p602(E) thru p604(E) at abt. 10 7/8" cts.
T2	2 layers of 1-#11 p605(E), 2-#11 p606(E) thru p608(E) at abt. 10 7/8" cts.
T3	2 layers of 2-#11 each p609(E) thru p612(E) at 12" cts. max.
T4	2 layers of 2-#11 each p613(E) thru p616(E) at 12" cts. max.
B1	2 layers of 1-#11 p601(E), 2-#11 p602(E) thru p604(E) at abt. 10 7/8" cts.
B2	2 layers of 1-#11 p605(E), 2-#11 p606(E) thru p608(E) at abt. 10 7/8" cts.
B3	2 layers of 2-#11 each p609(E) thru p612(E) at 12" cts. max
B4	2 layers of 2-#11 each p613(E) thru p616(E) at 12" cts. max
H1	5-#5 h601(E) at 8" cts. max
H2	5-#5 h602(E) at 8" cts. max
H3	8-#5 h603(E) at 10" cts. max
H4	5-#5 h604(E) at 9" cts.
H5	5-#5 h605(E) at 9" cts.
U1	5-#5 u601(E) spaced with h601(E) or h602(E)
U2	5-#5 u603(E) spaced with h604(E) or h605(E)
A1	6-#5 u604(E) at 9" cts.
A2	2 sets of 6-#5 u605(E) at 11" cts.
C1	24 sets of 1-#11 v601(E) and 1-#11 v602(E) (Top) bundled w/ C2 and C3
C2	24 sets of 1-#11 v603(E) and 1-#11 v604(E) (Top) bundled w/ C1 and C3
C3	24 sets of 1-#11 v605(E) and 1-#11 v606(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v607(E) bundled
D1	#7 sp601(E) at 6" pitch
D2	#7 sp602(E) at 6" pitch
D3	#4 sp603(E) at 4" pitch

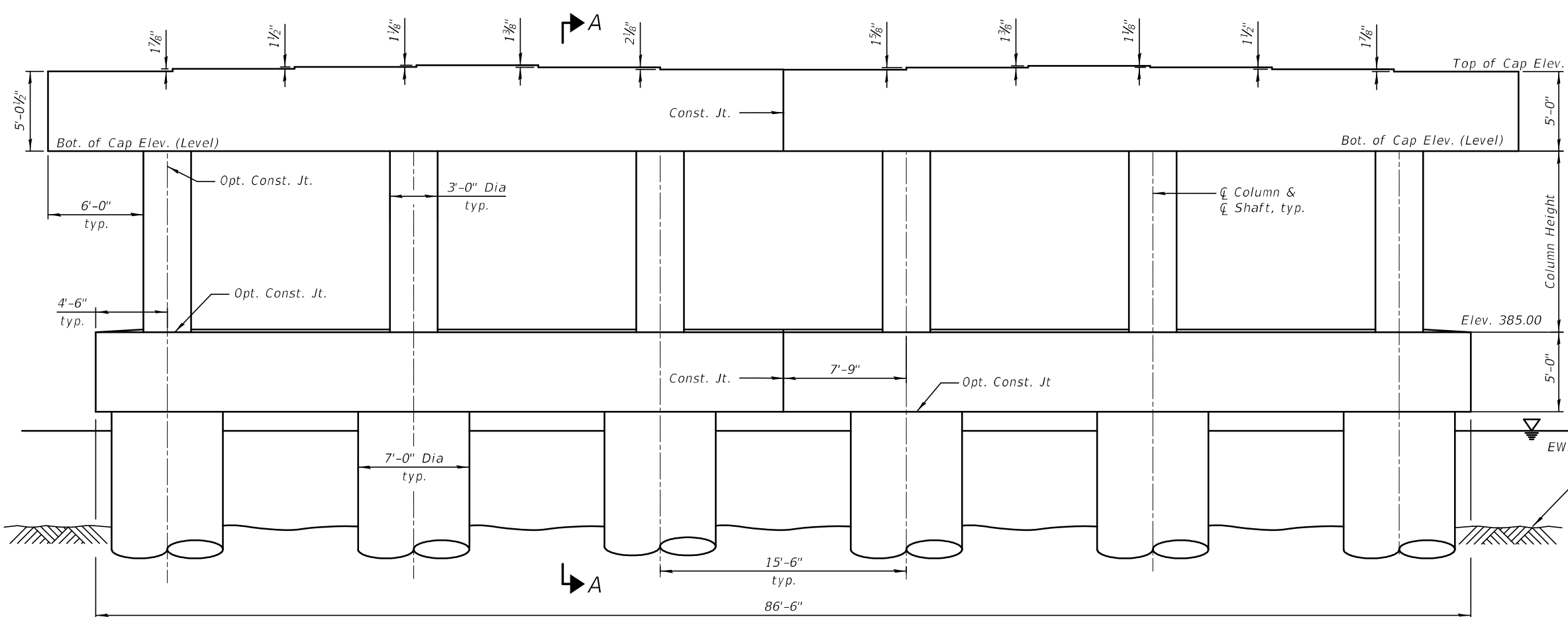
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TABLE 1

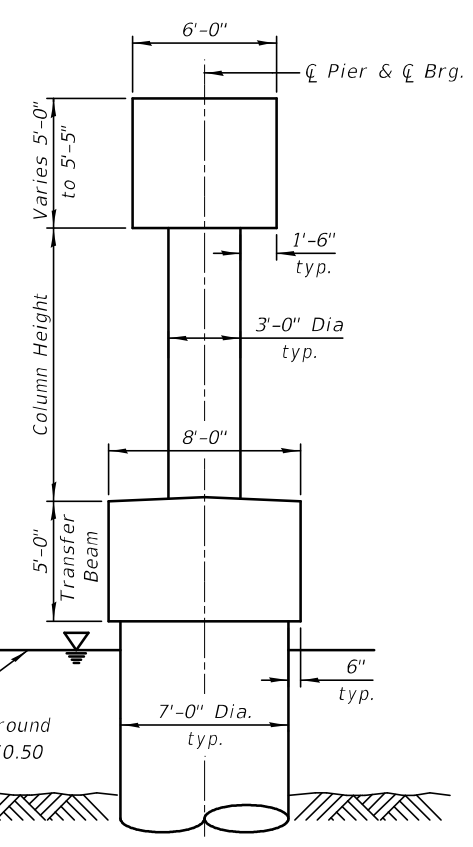
Girder No.	Bearing Seat Elev.
W1	398.23
W2	398.38
W3	398.51
W4	398.60
W5	398.49
W6	398.35
E1	398.31
E2	398.44
E3	398.56
E4	398.47
E5	398.34
E6	398.19
<hr/>	
Top of Cap Elevation	398.19
Bottom of Cap Elevation	393.19
Column Height	8'-2 1/4"



TOP PLAN



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\Drawings\Bridges\7660-5008-PR0701.dgn

KNIGHT
Engineers & Architects

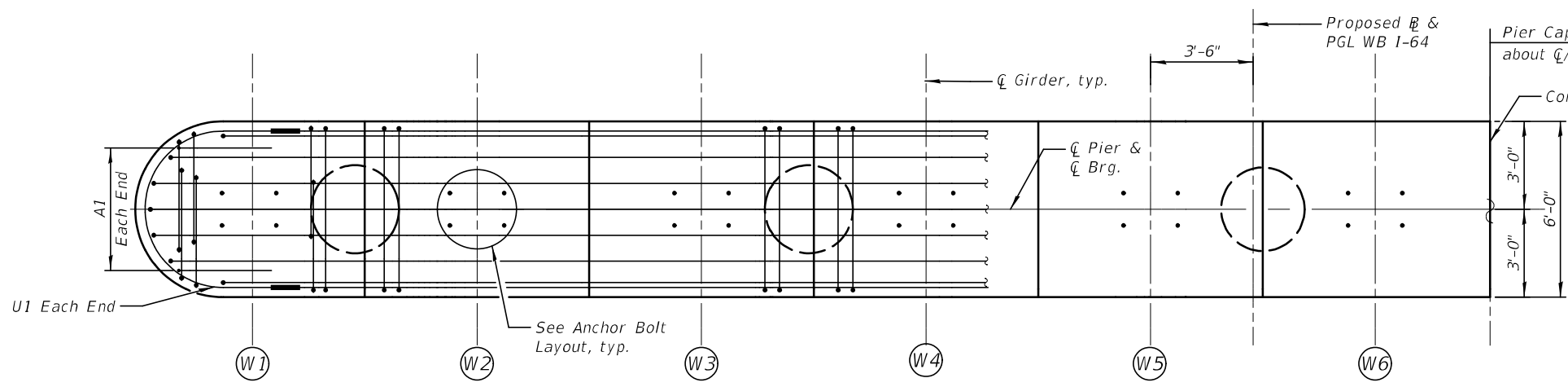
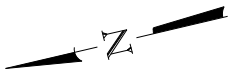
DESIGNED - KR	REVISED
CHECKED - MA	REVISED
DRAWN - MN	REVISED
CHECKED - KR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 7 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

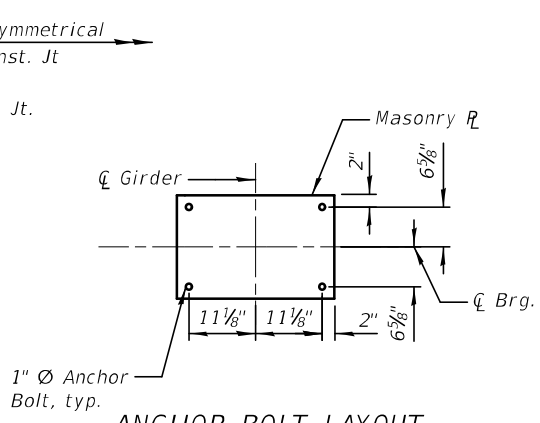
SHEET S-166 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	350
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

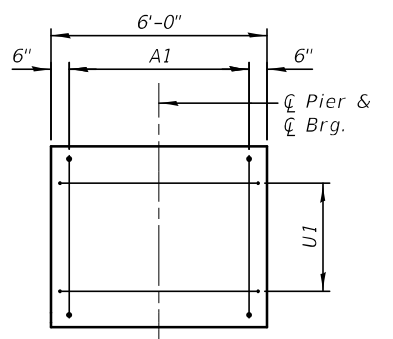


PARTIAL TOP PLAN
(WB shown - EB similar)

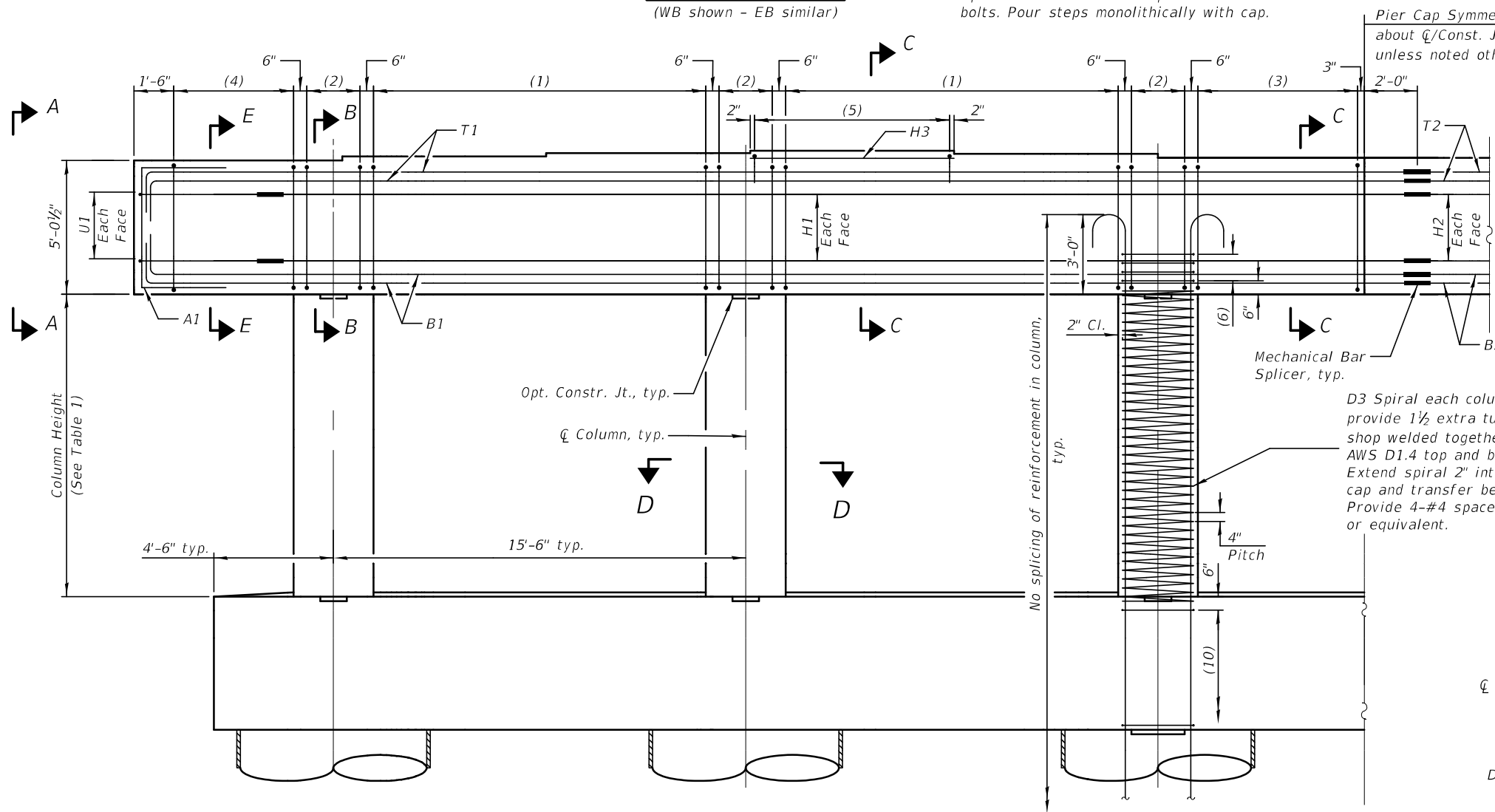
Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.



ANCHOR BOLT LAYOUT

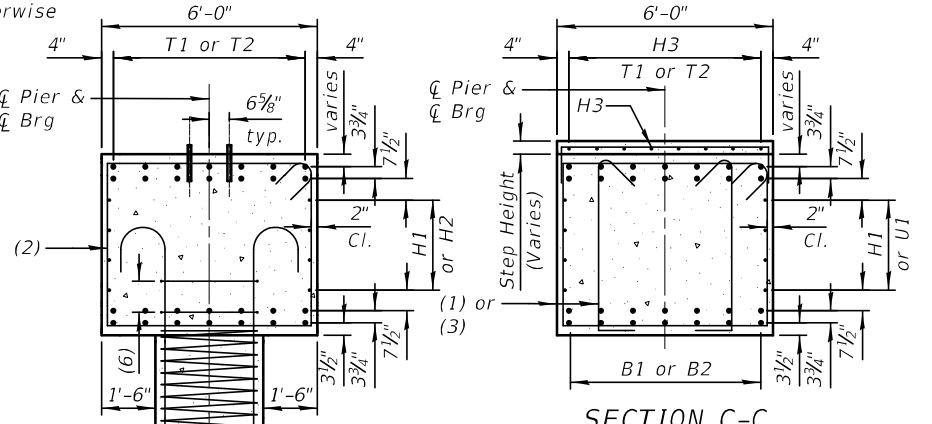


VIEW A-A

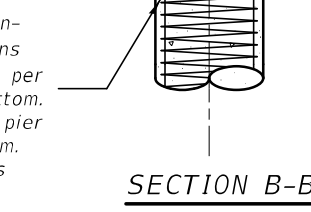


PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)

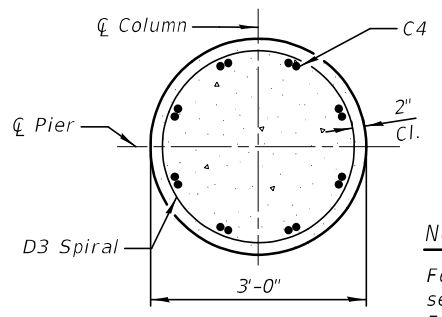
Notes:
Pier Cap Symmetrical about \bar{C} /Const. Jt. unless noted otherwise



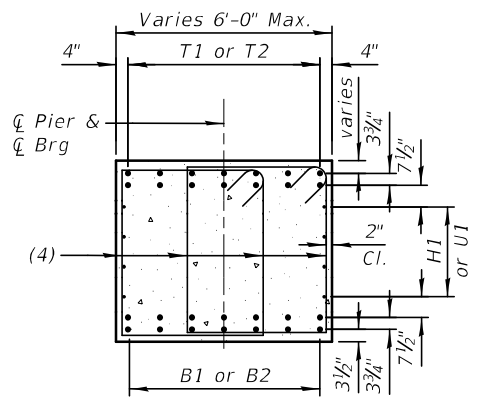
SECTION C-C



SECTION B-B



SECTION D-D



SECTION E-E

Notes:
For bar details and Bill of Materials, see sheet S-170
For column height, step height and all elevations, see Table 1 on sheet S-166
For bearing details, see sheets S-124 to S-127
For bar callouts, see sheet S-170

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-PR0702.dgn



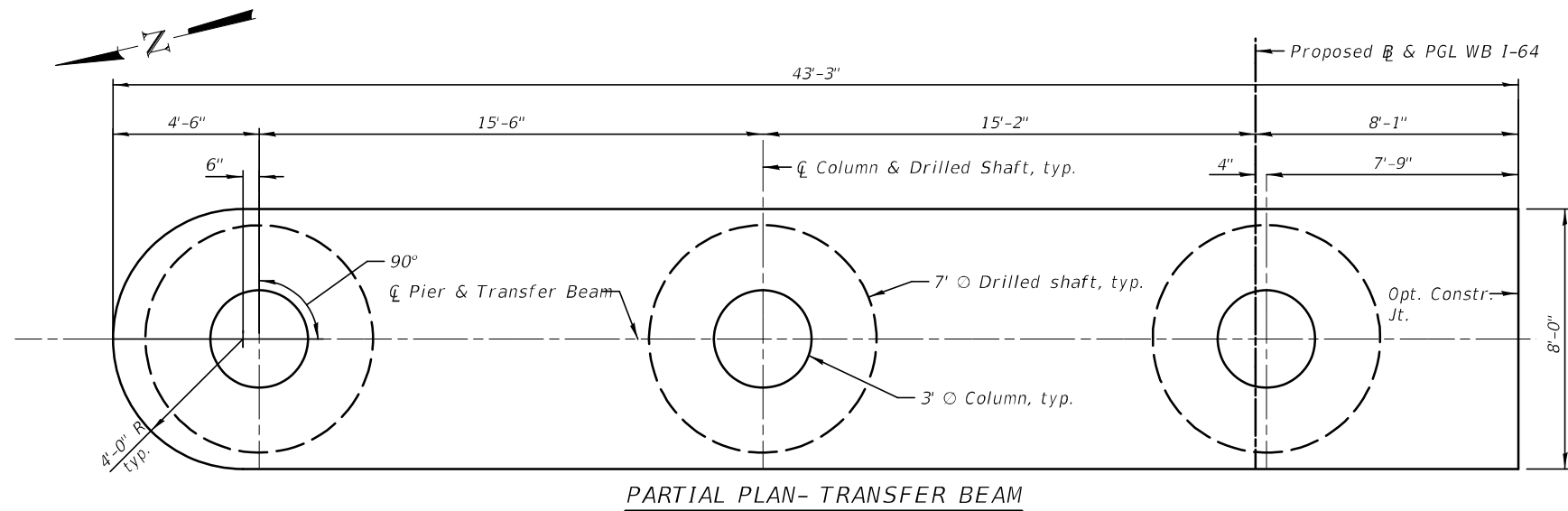
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CHECKED	- MA	REVISED	
DRAWN	- MN	REVISED	
CHECKED	- KR	REVISED	
SCALE	- NONE		
DATE	- 6/30/2023		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

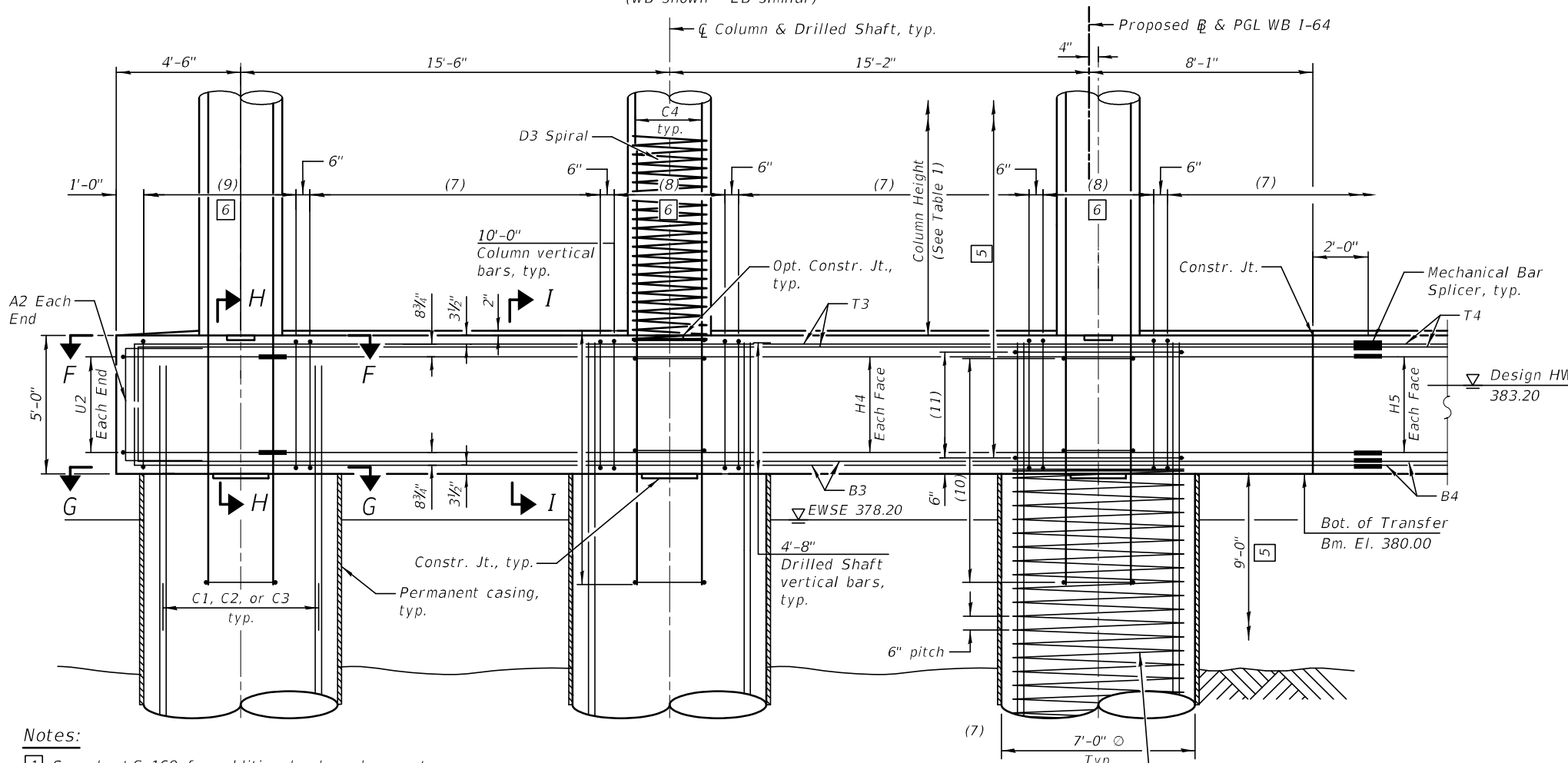
PIER NO. 7 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-167 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	351
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

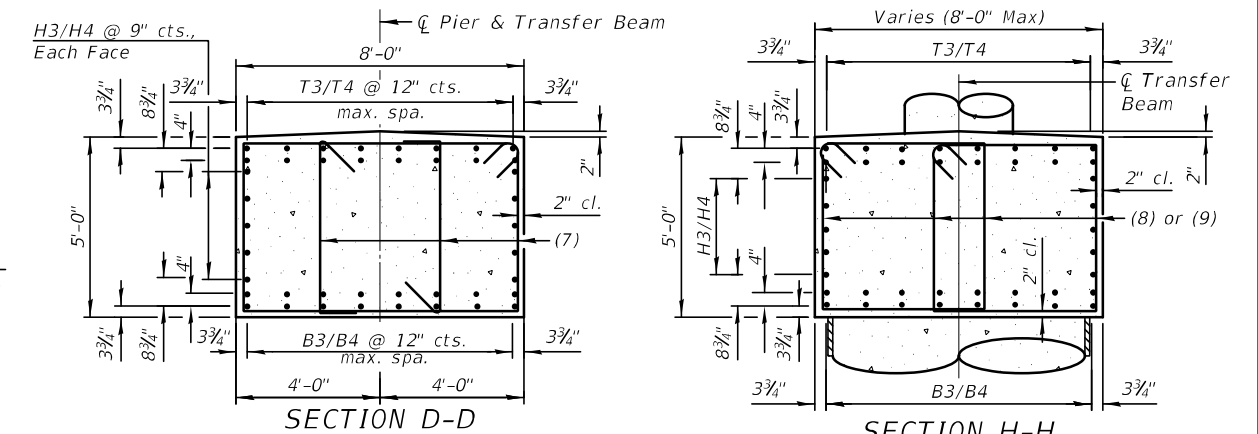


PARTIAL PLAN- TRANSFER BEAM
(WB shown - EB similar)



PARTIAL ELEVATION - TRANSFER BEAM
(WB shown - EB similar)

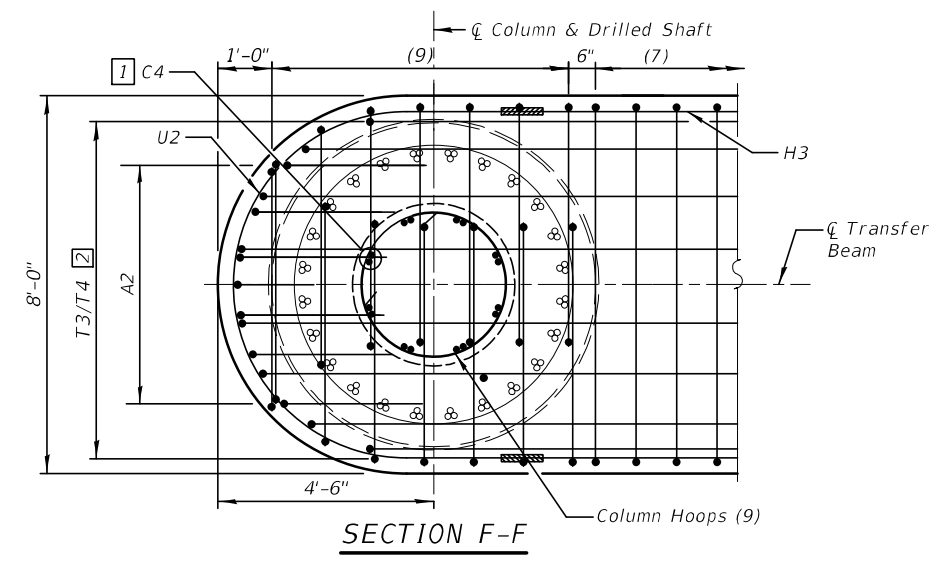
- Notes:**
- 1 See sheet S-169 for additional rebar placement.
 - 2 Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - 5 No splicing of bars allowed in this region.
 - 6 Field cut bars when needed to keep 2" clear concrete cover.



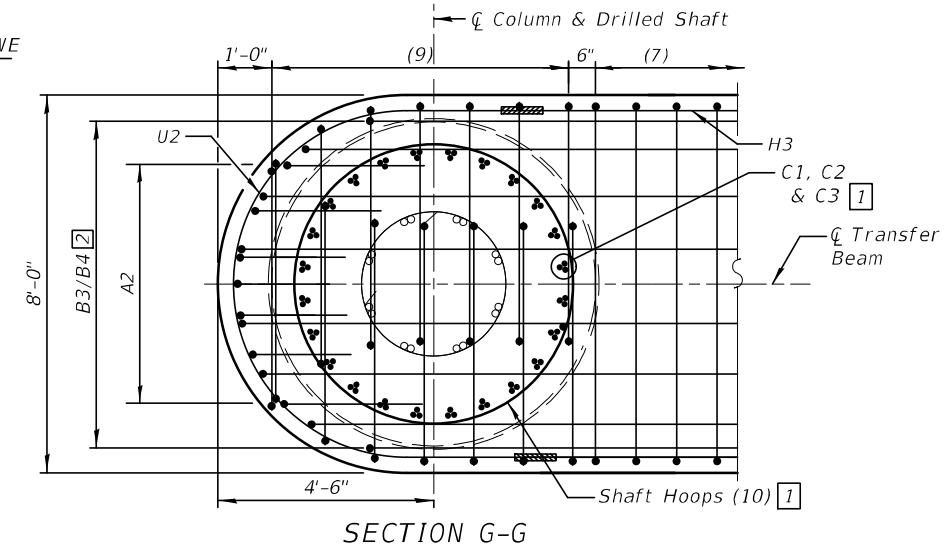
SECTION D-D

SECTION H-H

Column and shaft reinforcement not shown for clarity



SECTION F-F



SECTION G-G

- Notes:**
- For Top Plan and Partial elevation, see sheet S-167
 - For Drilled Shaft details, see sheet S-169
 - For additional notes, bar details and Bill of Material, see sheet S-170
 - For Table 1 see sheet S-166
 - For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bkagp\7660-50080-PR0703.dgn

KNIGHT
Engineers & Architects

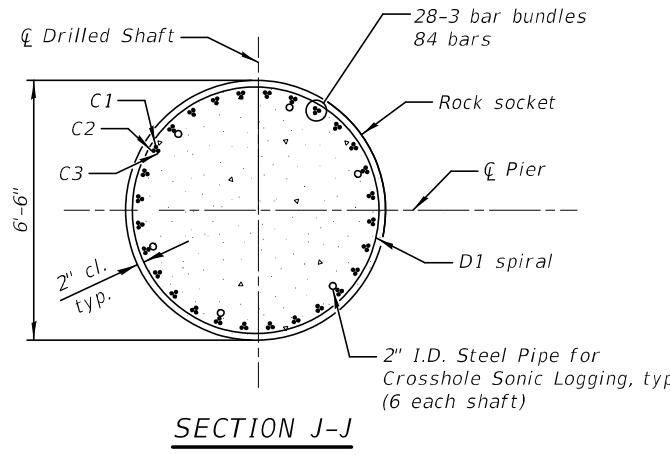
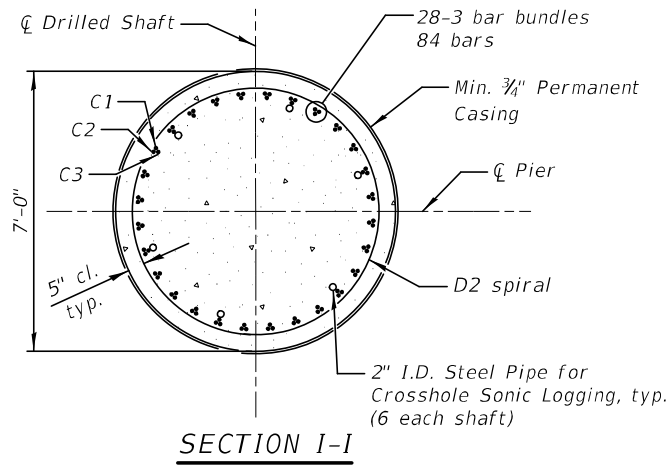
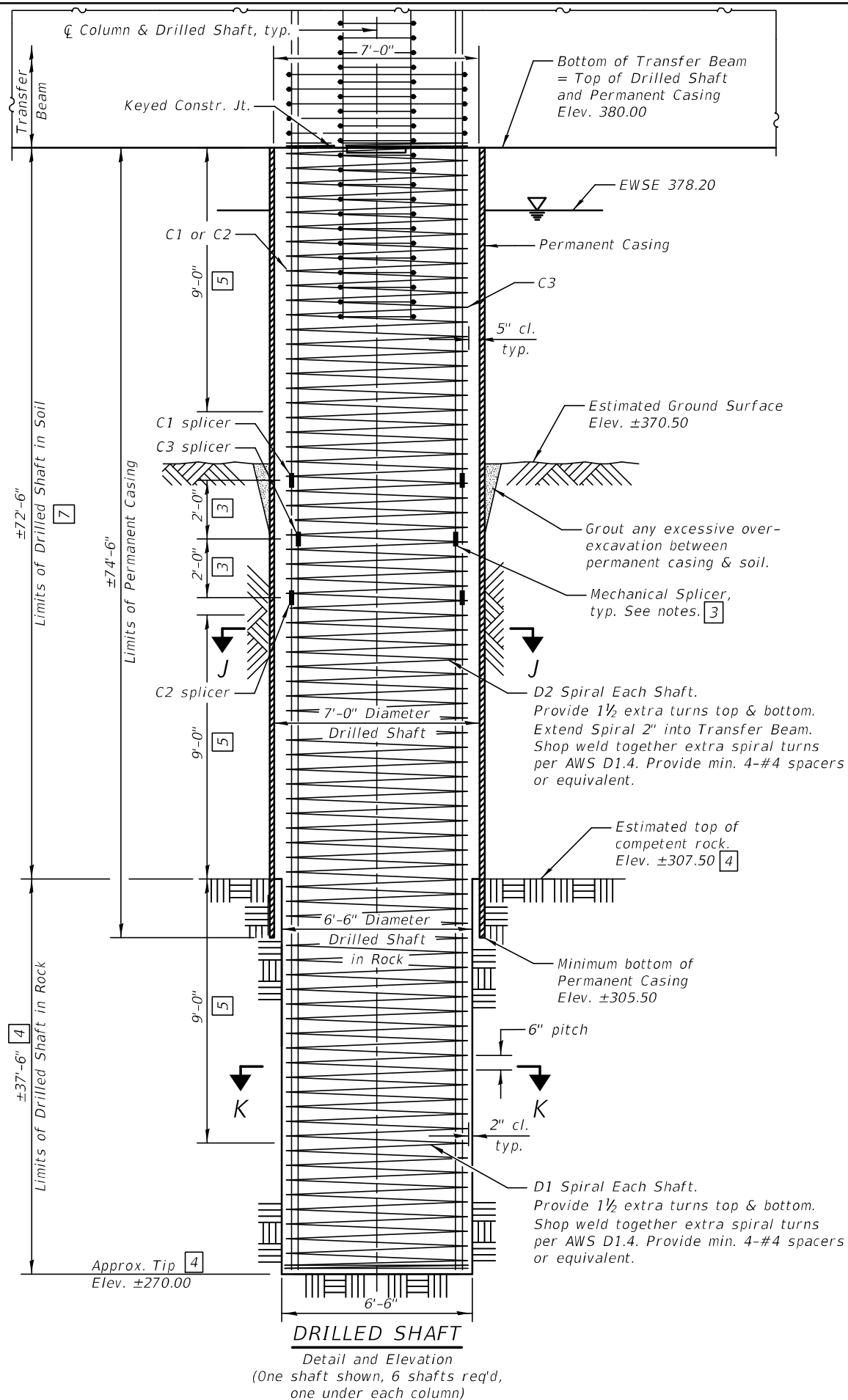
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 7 TRANSFER BEAM PARTIAL PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-168 OF 232 SHEETS

F.A.I. RTE. 64	SECTION (97-2) B-5	COUNTY WHITE	TOTAL SHEETS 575	SHEET NO. 352
PUBLIC WATERS		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 78057				



Notes:

- [3] Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- [4] Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- [5] No splicing of rebars allowed in this region
- [7] If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-167

For Transfer Beam details, see sheet S-168

For additional notes, bar details and Bill of Material see sheet S-170

For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\BR0704.dgn



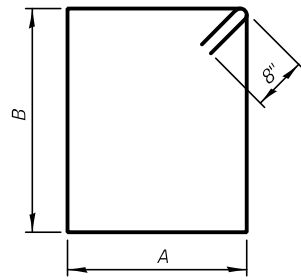
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CHECKED - MA	REVISION
DRAWN - MN	REVISION
CHECKED - KR	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 7 DRILLED SHAFT ELEVATION AND DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

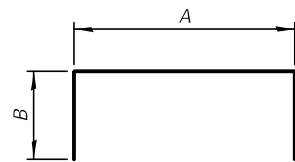
SHEET S-169 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	353
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



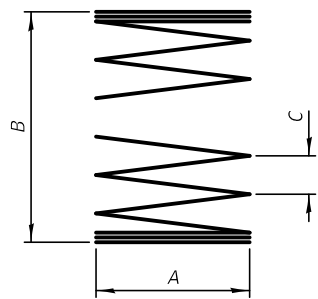
BARS s701(E), s703(E) thru s705(E)

Bars	A	B
s701(E)	3'-10"	4'-8"
s703(E)	5'-8"	4'-8"
s704(E)	7'-8"	4'-8"
s705(E)	4'-6"	4'-8"



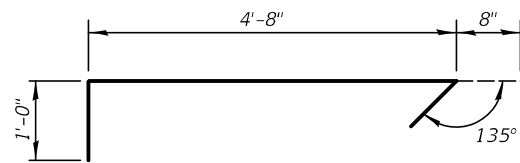
BARS u702(E) & u704(E)

Bars	A	B
u702(E)	5'-8"	3'-4"
u704(E)	4'-7"	3'-2"

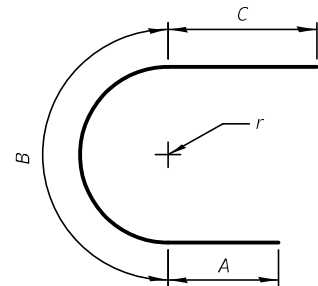


BARS sp701(E) thru sp703(E)

Bars	A	B	C
sp701(E)	6'-2"	37'-6"	6"
sp702(E)	6'-2"	72'-8"	6"
sp703(E)	2'-8"	8'-7"	4"

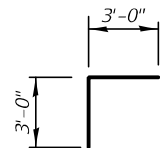


BARS s702(E) & s706(E)

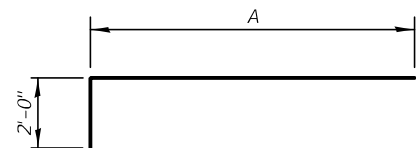


BARS u701(E) & u703(E)

Bars	A	B	C	r
u701(E)	2'-2"	8'-9"	2'-2"	2'-9"
u703(E)	1'-6"	11'-9"	1'-6"	3'-9"

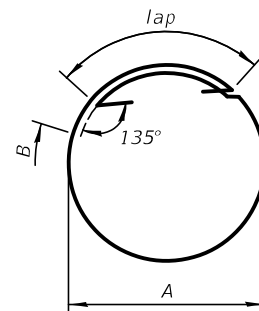


BARS u705(E)



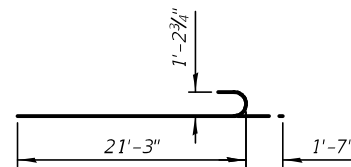
BARS p701(E) thru p716(E)

Bars	A	Bars	A
p701(E)	48'-0"	p709(E)	42'-6"
p702(E)	47'-10"	p710(E)	44'-0"
p703(E)	47'-4"	p711(E)	44'-6"
p704(E)	45'-10"	p712(E)	44'-9"
p705(E)	44'-0"	p713(E)	38'-6"
p706(E)	43'-10"	p714(E)	40'-0"
p707(E)	43'-4"	p715(E)	40'-6"
p708(E)	41'-10"	p716(E)	40'-9"



BARS hp701(E) & hp702(E)

Bars	A	B	Lap
hp701(E)	5'-2"	9"	4'-5"
hp702(E)	2'-8"	4 1/2"	2'-7"



BARS v707(E)

Mark	Bar Callouts
(1)	26 sets of 2-#6 s702(E) & 1-#6 s703(E) at 6" cts.
(2)	3 sets of 1-#6 s703(E) at 12" cts.
(3)	13 sets of 2-#6 s702(E) & 1-#6 s703(E) at 6" cts.
(4)	10 sets of 2-#6 s701(E) at 6" cts.
(5)	10 sets of 1-#5 u702(E) at abt. 10" cts.
(6)	4 sets of 1-#4 hp702(E) at 4" cts.
(7)	15 sets of 1-#6 s704(E) placed with 2-#6 s706(E) at 9" cts.
(8)	5 sets of 2-#6 s705(E) at 12" cts.
(9)	7 sets of 2-#6 s705(E) at 11" cts.
(10)	29 sets of 1-#4 hp702(E) at 4" cts.
(11)	10 sets of 1-#7 hp701(E) at 6" cts.
T1	2 layers of 1-#11 p701(E), 2-#11 p702(E) thru p704(E) at abt. 10 3/8" cts.
T2	2 layers of 1-#11 p705(E), 2-#11 p706(E) thru p708(E) at abt. 10 3/8" cts.
T3	2 layers of 2-#11 each p709(E) thru p712(E) at 12" cts. max
T4	2 layers of 2-#11 each p713(E) thru p716(E) at 12" cts. max
B1	2 layers of 1-#11 p701(E), 2-#11 p702(E) thru p704(E) at abt. 10 3/8" cts.
B2	2 layers of 1-#11 p705(E), 2-#11 p706(E) thru p708(E) at abt. 10 3/8" cts.
B3	2 layers of 2-#11 each p709(E) thru p712(E) at 12" cts. max
B4	2 layers of 2-#11 each p713(E) thru p716(E) at 12" cts. max
H1	4-#5 h701(E) at 10" cts.
H2	4-#5 h702(E) at 10" cts.
H3	8-#5 h703(E) at 10" cts. max
H4	5-#5 h704(E) at 9" cts.
H5	5-#5 h705(E) at 9" cts.
U1	4-#5 u701(E) spaced with h701(E) or h702(E)
U2	5-#5 u703(E) spaced with h704(E) or h705(E)
A1	6-#5 u704(E) at 9" cts.
A2	2 sets of 6-#5 u705(E) at 11" cts.
C1	28 sets of 1-#11 v701(E) and 1-#11 v702(E) (Top) bundled w/ C2 and C3
C2	28 sets of 1-#11 v703(E) and 1-#11 v704(E) (Top) bundled w/ C1 and C3
C3	28 sets of 1-#11 v705(E) and 1-#11 v706(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v707(E) bundled
D1	#7 sp701(E) at 6" pitch
D2	#7 sp702(E) at 6" pitch
D3	#4 sp703(E) at 4" pitch

PIER 7
BILL OF MATERIAL (CONT.)

Concrete Structures	Cu. Yd.	244.5
Permanent Casing	Foot	447
Drilled Shaft in Soil	Cu. Yd.	621
Drilled Shaft in Rock	Cu. Yd.	277
Crosshole Sonic Logging Access Ducts	Foot	693
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	693

PIER 7
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h701(E)	10	#5	43'-1"	
h702(E)	10	#5	39'-1"	
h703(E)	16	#5	7'-8"	
h704(E)	10	#5	39'-9"	
h705(E)	10	#5	35'-9"	
hp701(E)	60	#7	25'-4"	o
hp702(E)	198	#4	11'-9"	o
p701(E)	4	#11	50'-0"	
p702(E)	8	#11	49'-10"	
p703(E)	8	#11	49'-4"	
p704(E)	8	#11	47'-10"	
p705(E)	4	#11	46'-0"	
p706(E)	8	#11	45'-10"	
p707(E)	8	#11	45'-4"	
p708(E)	8	#11	43'-10"	
p709(E)	8	#11	44'-6"	
p710(E)	8	#11	46'-0"	
p711(E)	8	#11	46'-6"	
p712(E)	8	#11	46'-9"	
p713(E)	8	#11	42'-6"	
p714(E)	8	#11	42'-0"	
p715(E)	8	#11	42'-6"	
p716(E)	8	#11	42'-9"	
s701(E)	40	#6	18'-4"	
s702(E)	260	#6	6'-4"	
s703(E)	148	#6	22'-0"	
s704(E)	75	#6	26'-0"	
s705(E)	68	#6	18'-4"	
s706(E)	150	#6	10'-0"	
sp701(E)	6	#7	37'-6"	
sp702(E)	6	#7	72'-8"	
sp703(E)	6	#4	8'-7"	
u701(E)	10	#5	13'-1"	
u702(E)	20	#5	12'-4"	
u703(E)	10	#5	14'-10"	
u704(E)	12	#5	10'-11"	
u705(E)	24	#5	6'-0"	
v701(E)	168	#11	57'-4"	
v702(E)	168	#11	57'-4"	
v703(E)	168	#11	53'-4"	
v704(E)	168	#11	61'-4"	
v705(E)	168	#11	55'-4"	
v706(E)	168	#11	59'-4"	
v707(E)	96	#11	22'-10"	
Reinforcement Bars, Epoxy Coated			Lbs.	424,810
Mechanical Splicers			Each	624

* Length shown is height of each spiral.

PLOT DATE = 10/24/2023
FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\B-PR0705.dgn

KNIGHT
Engineers & Architects

DESIGNED - KR	REVISION	10/26/2023
CHECKED - MA	REVISION	
SCALE - NONE	DRAWN - MN	REVISION
DATE - 6/30/2023	CHECKED - KR	REVISION

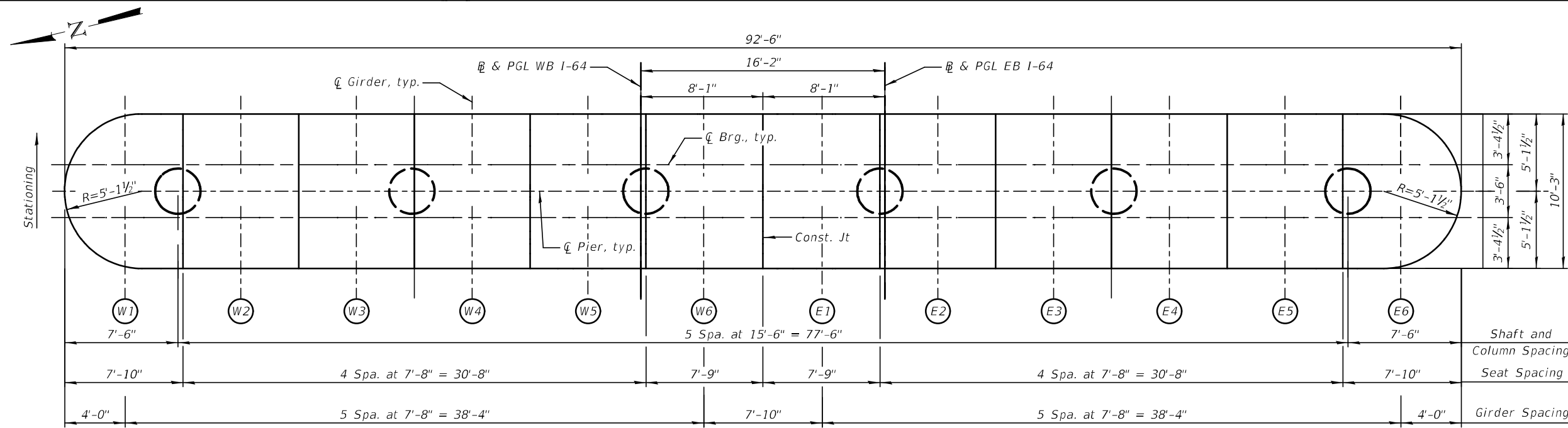
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CHECKED - MA	REVISION	
DRAWN - MN	REVISION	
CHECKED - KR	REVISION	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 7 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-170 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	354
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

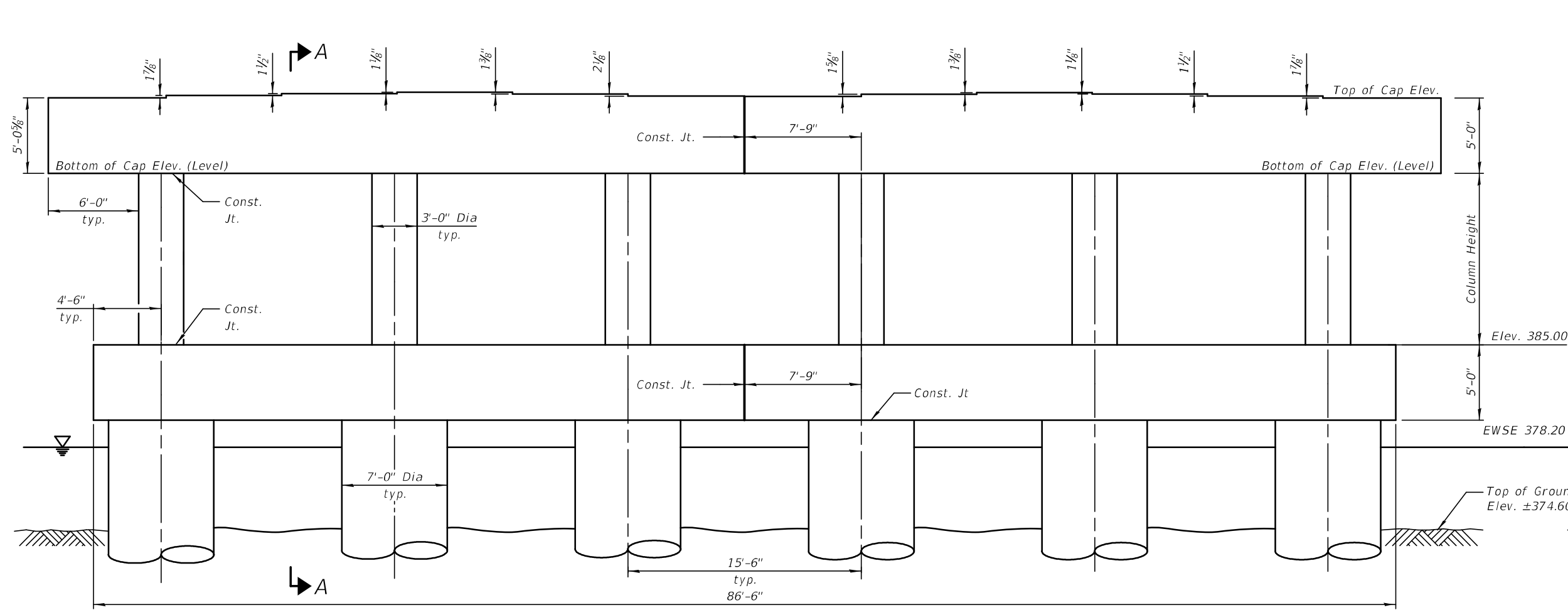


TOP PLAN

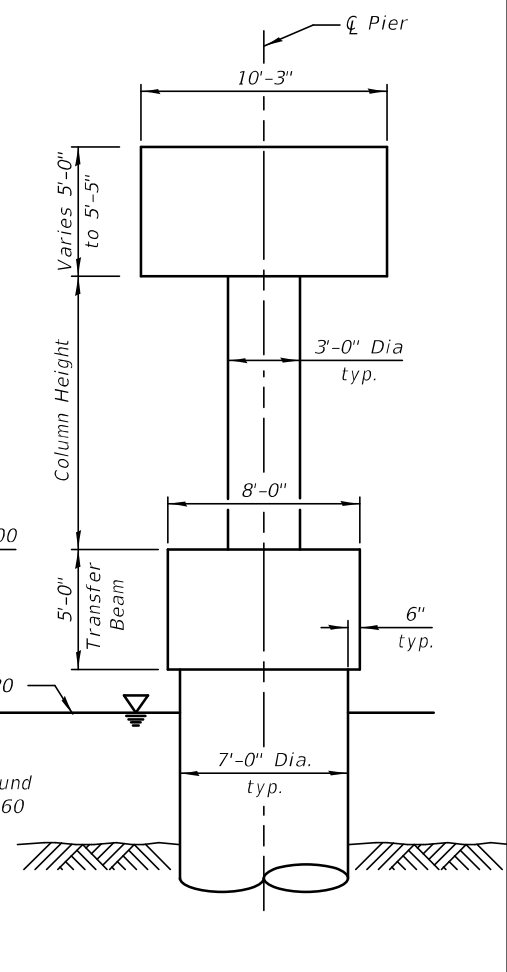
TABLE 1

Girder No.	Bearing Seat Elev.
W1	397.90
W2	398.05
W3	398.18
W4	398.27
W5	398.15
W6	398.02
E1	397.97
E2	398.11
E3	398.22
E4	398.13
E5	398.01
E6	397.85

Top of Cap Elevation	397.85
Bottom of Cap Elevation	392.85
Column Height	7'-10 1/4"



ELEVATION
(Looking East)



SECTION A-A
(Looking South)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-50080-PR0801.dgn

KNIGHT
Engineers & Architects

DESIGNED - KR	REVISED
CHECKED - MA	REVISED
DRAWN - BK	REVISED
CHECKED - KR	REVISED

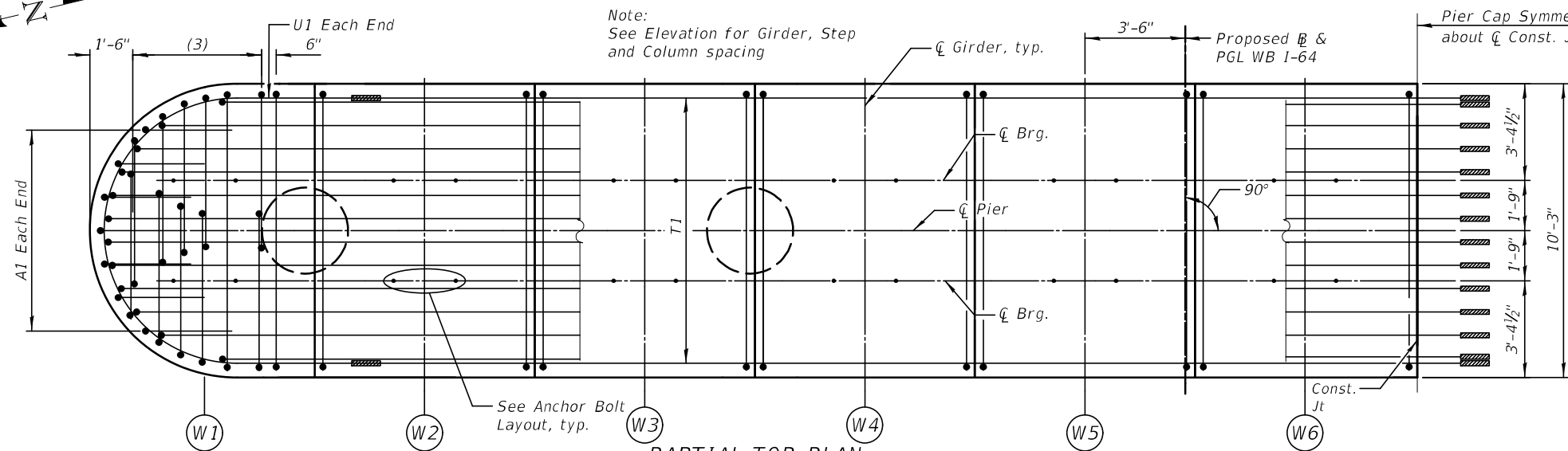
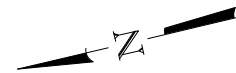
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 8 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

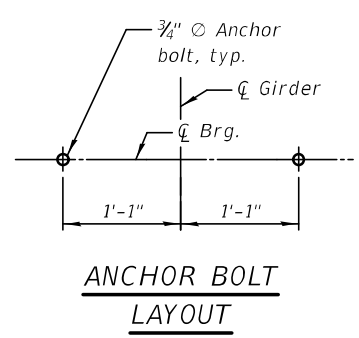
SHEET S-171 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	355
CONTRACT NO. 78057				

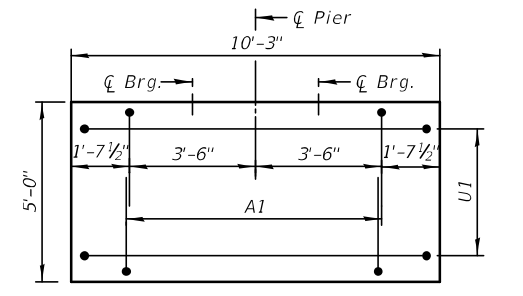
PUBLIC WATERS ILLINOIS FED. AID PROJECT



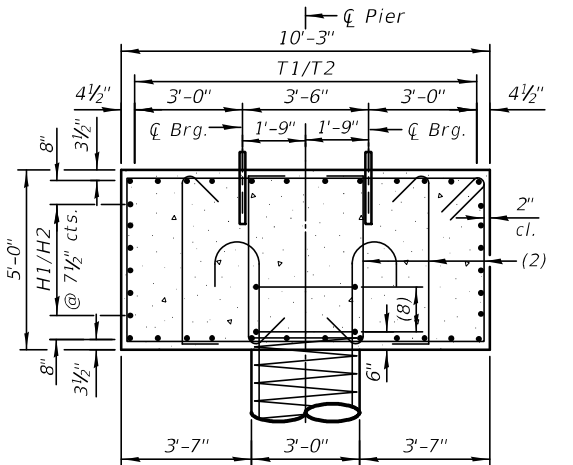
PARTIAL TOP PLAN
(WB shown - EB similar)



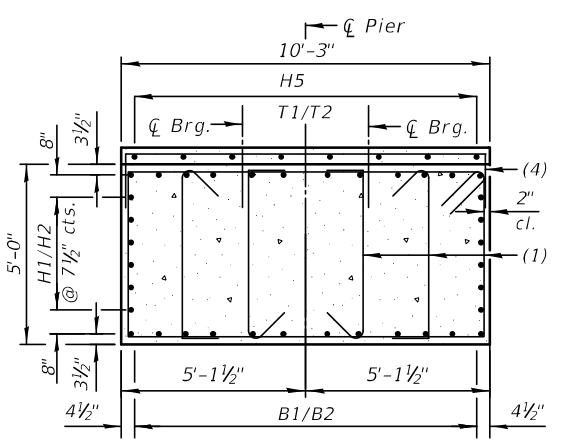
ANCHOR BOLT LAYOUT



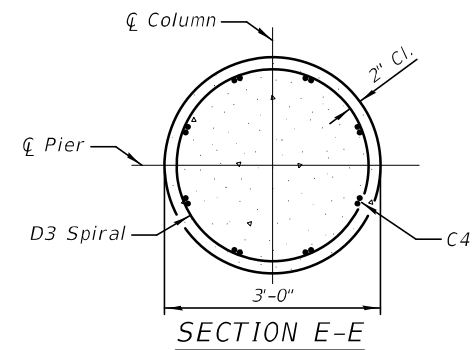
VIEW A-A



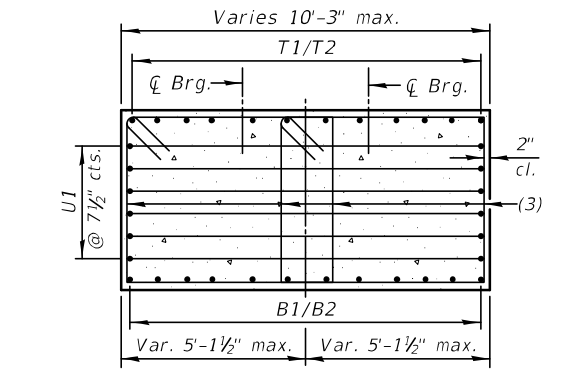
SECTION B-B



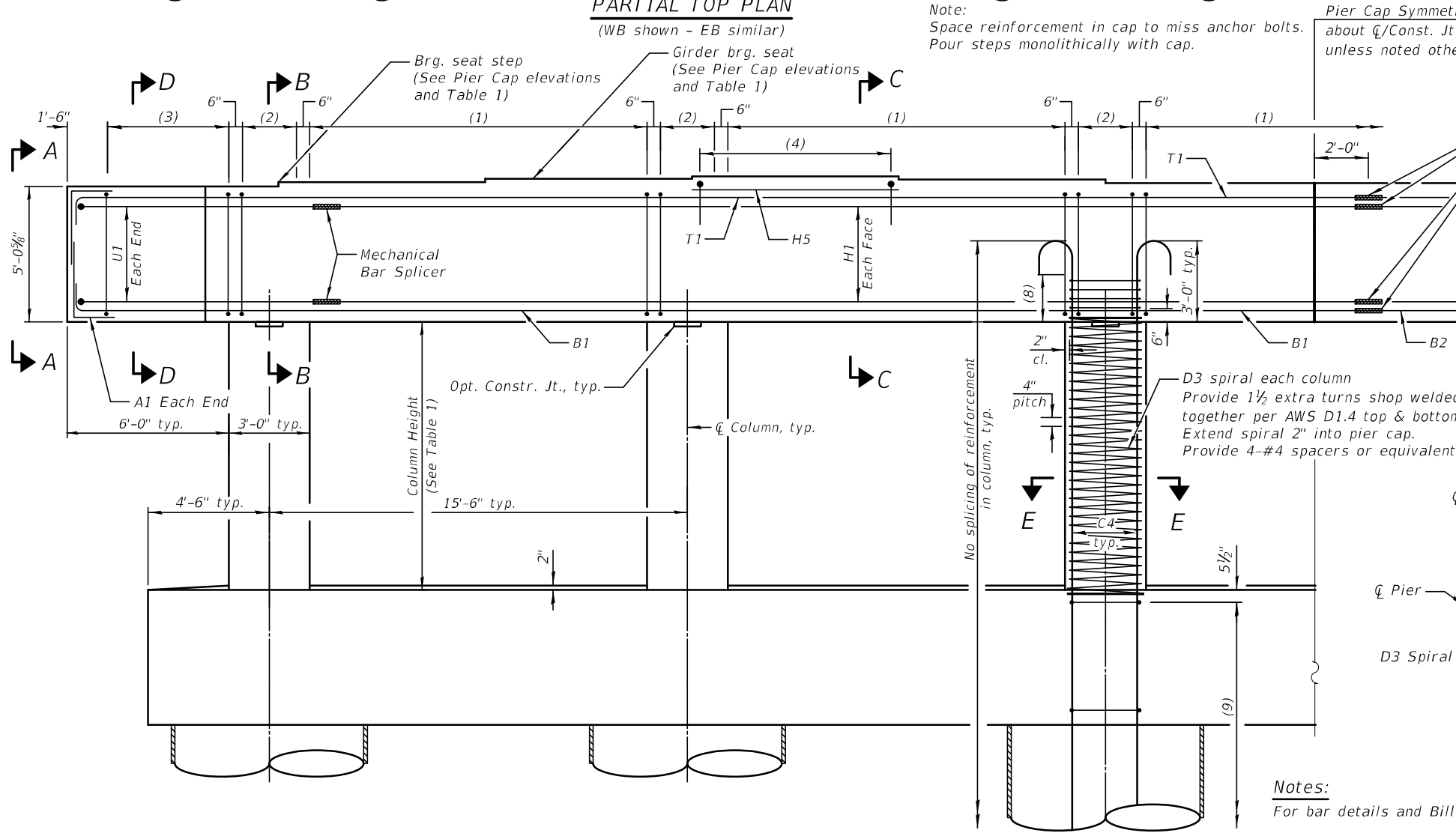
SECTION C-C



SECTION E-E



SECTION D-D



PARTIAL ELEVATION PIER CAP AND COLUMN
(WB shown - EB similar)

Notes:
For bar details and Bill of Material, see sheet S-175
For column height, step height and all elevations see Table 1 on sheet S-171
For bearing details see sheets S-124 to S-127
For bar callouts see sheet S-175

PLOT DATE = 8/9/2023
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KNIGHT
Engineers & Architects

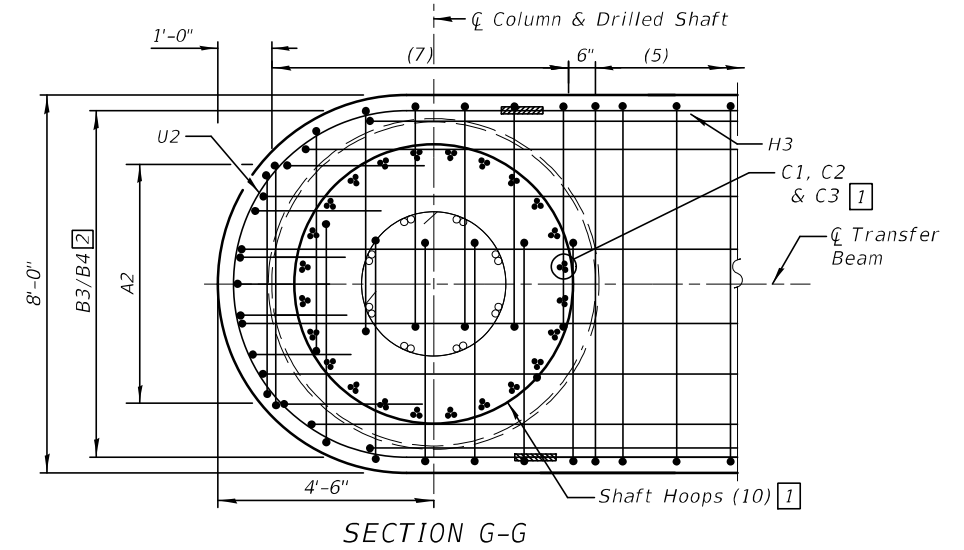
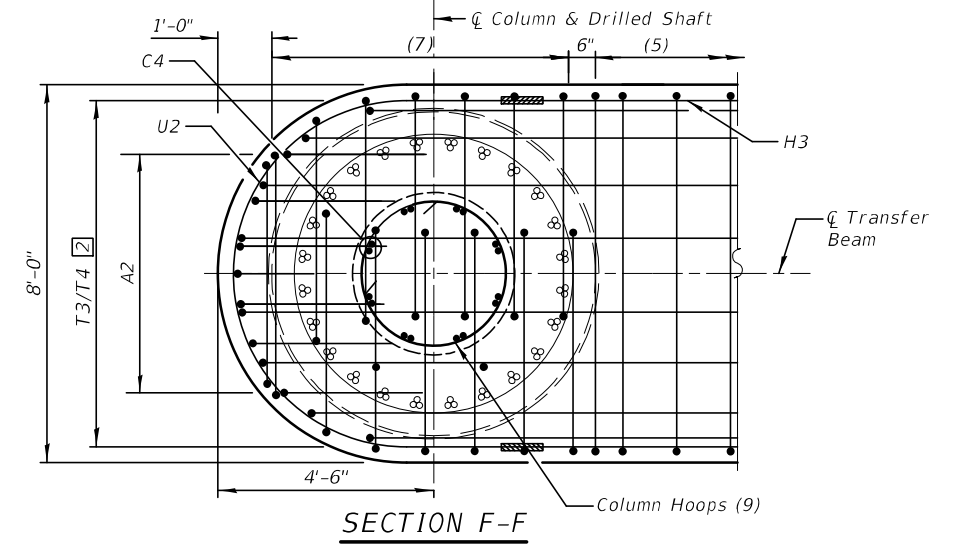
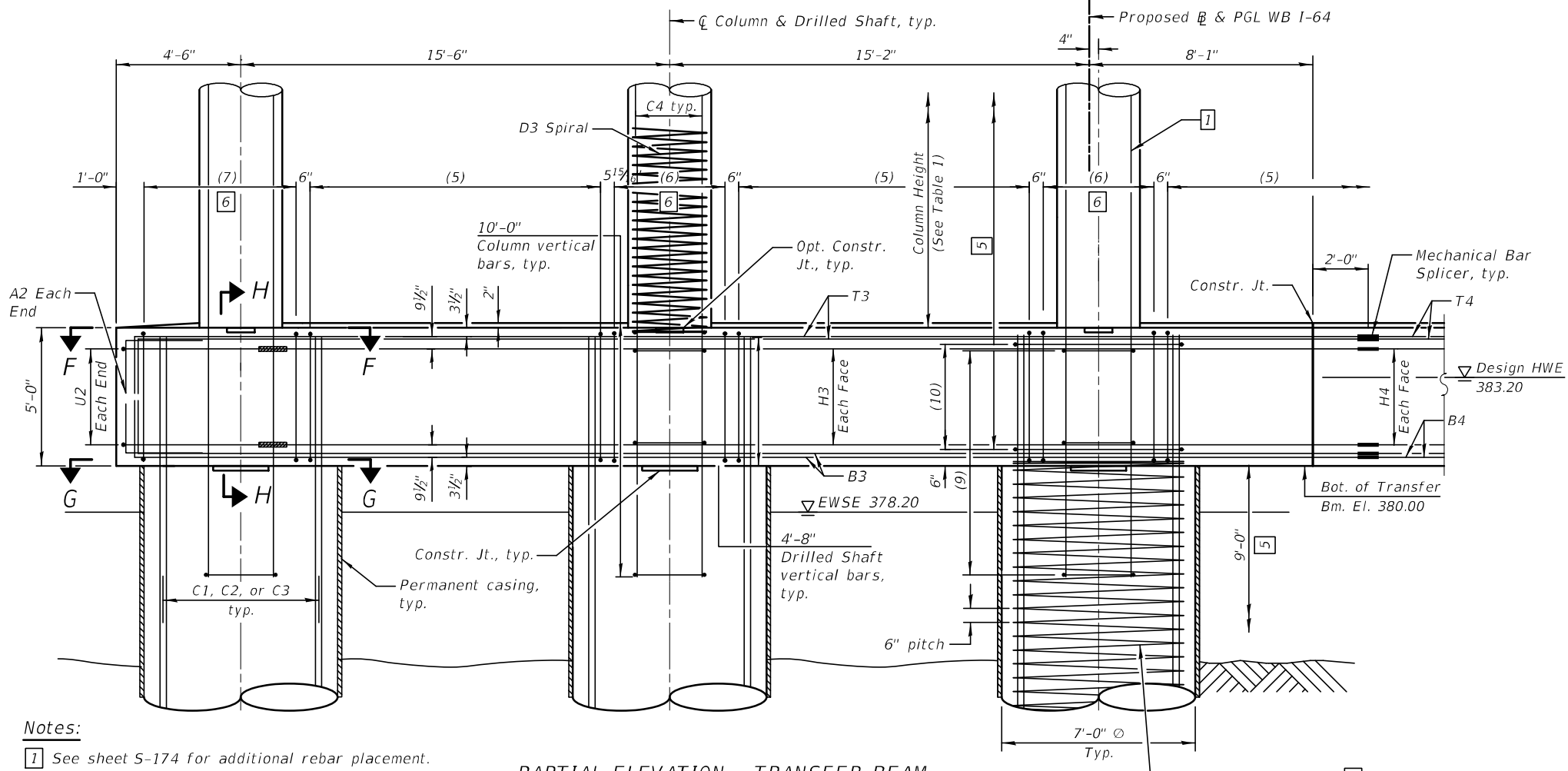
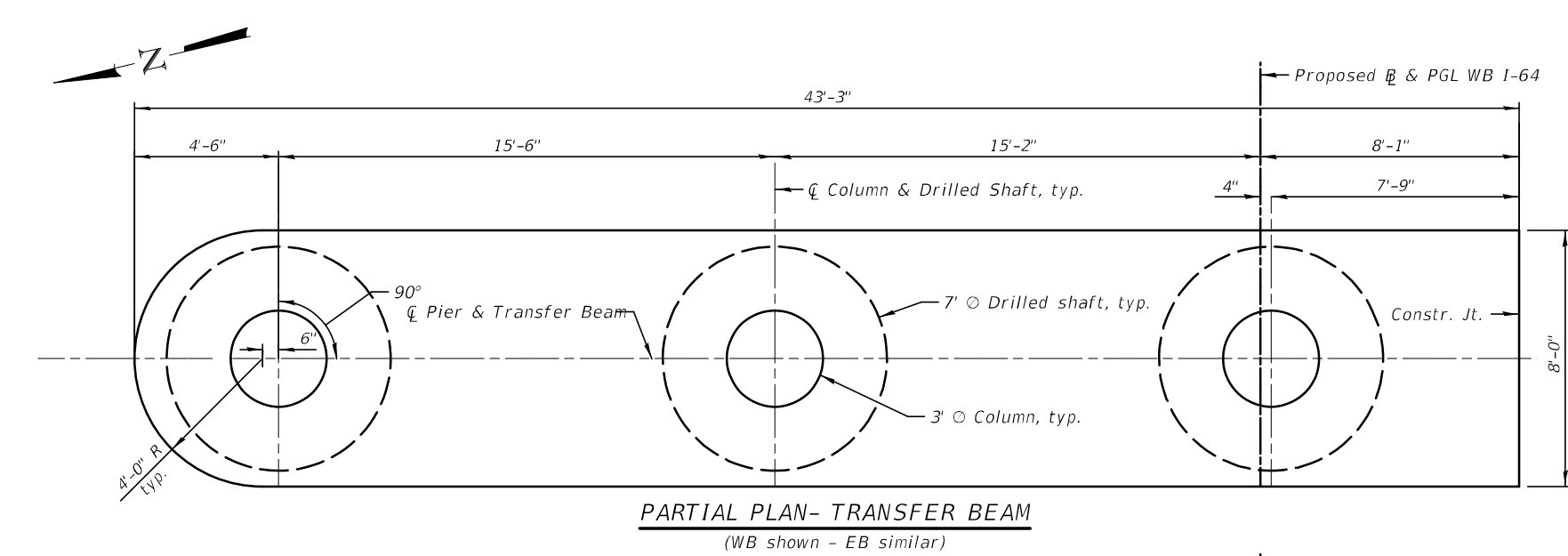
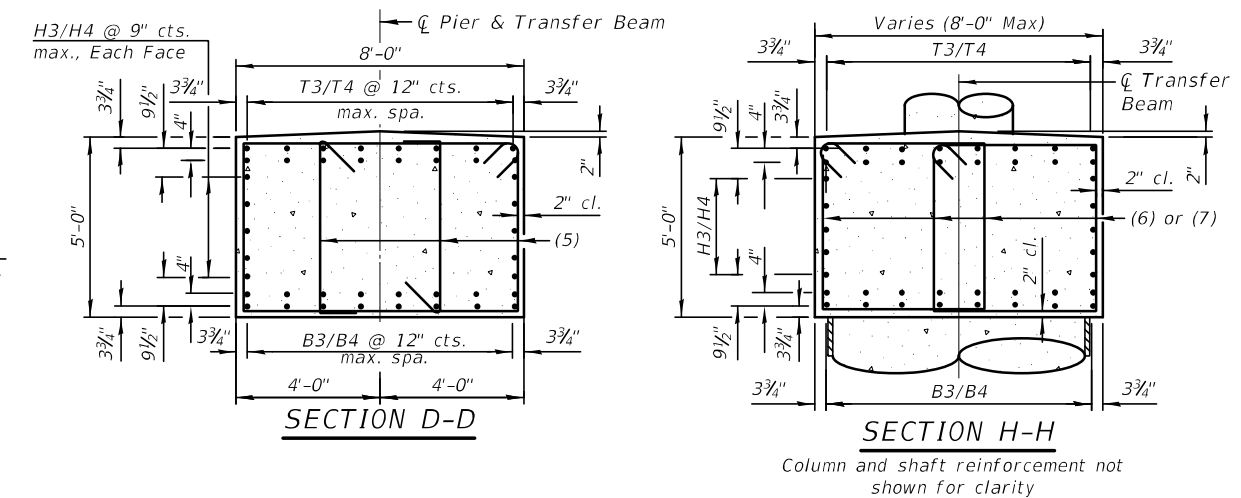
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CHECKED - KR	REVISION
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DATE - 8/11/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 8 PARTIAL PLAN AND ELEVATION (WB)
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-172 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	356
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



- Notes:**
- [1] See sheet S-174 for additional rebar placement.
 - [2] Adjust transfer beam rebar slightly when conflicting with column or drilled shaft vertical bar.
 - [5] No splicing of bars allowed in this region.
 - [6] Field cut bars when needed to keep 2" clear concrete cover.

- Notes:**
- For Top Plan and Partial elevation see sheet S-172
 - For Drilled Shaft details, see sheet S-174
 - For additional notes, bar details and Bill of Material see sheet S-175
 - For Table 1 see sheet S-171
 - For Mechanical Bar Splicer details see sheet S-209

PLOT DATE = 8/9/2023
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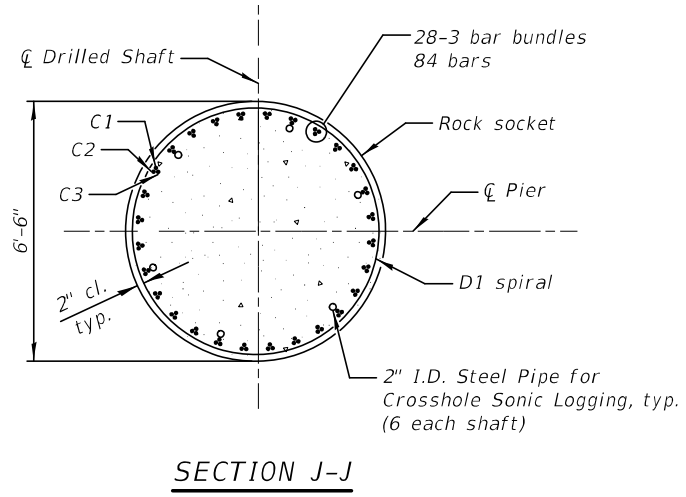
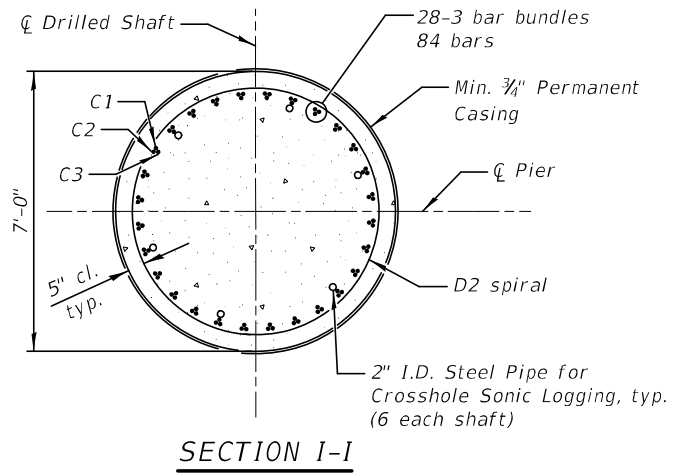
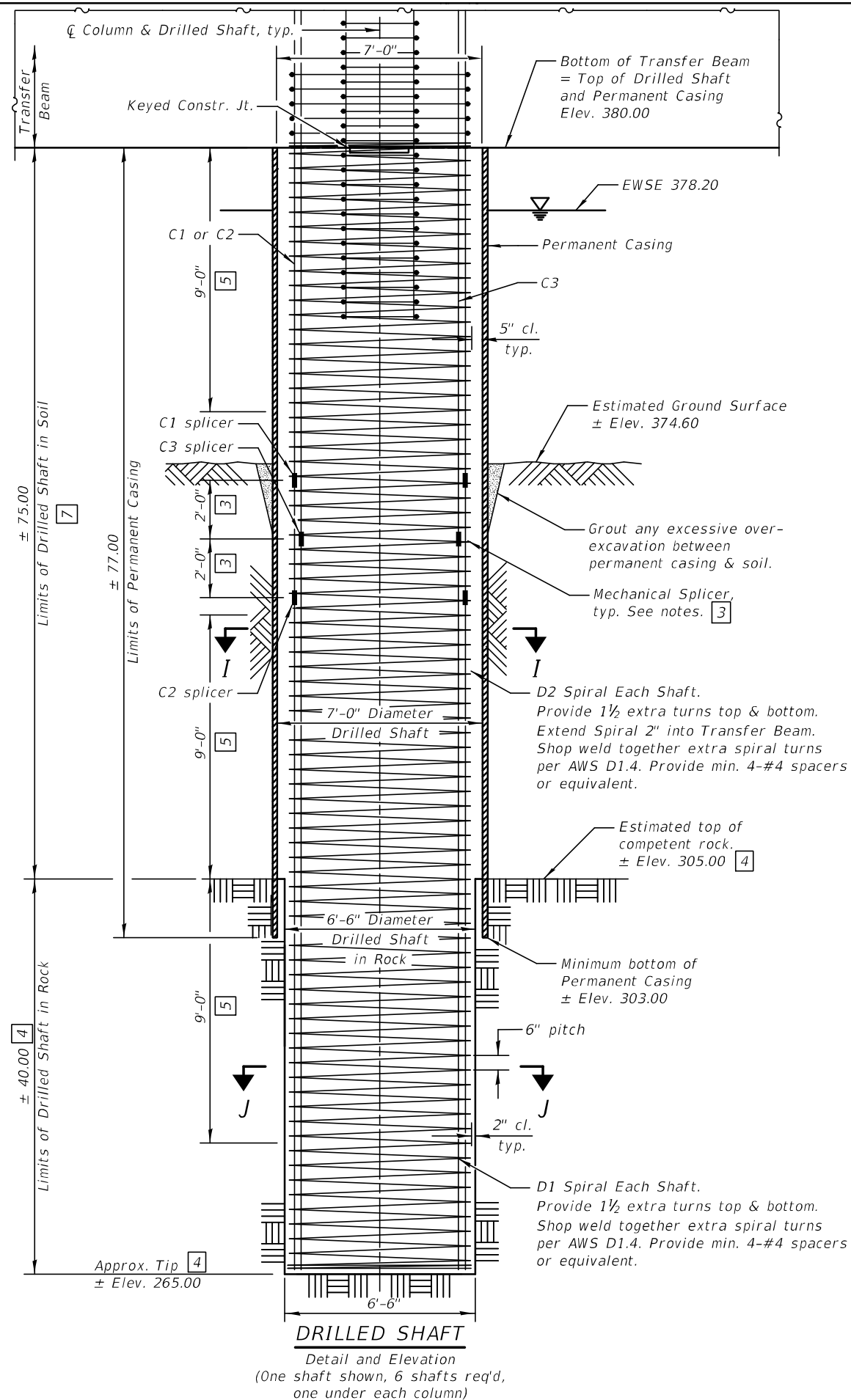
DESIGNED - KR	REVISION
CHECKED - MA	REVISION
DRAWN - BK	REVISION
CHECKED - KR	REVISION

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER NO. 8 TRANSFER BEAM PARTIAL PLAN AND ELEVATION (WB)
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-173 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	357
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



Notes:

- [3] Stagger Mechanical Bar Splicers 2'-0" each, both between bars C1 and C2 and between C1 or C2 and C3.
- [4] Tip Elevation is based on minimum embedment shown in competent rock for lateral/seismic analysis. Any change to this elevation will require approval of the Engineer.
- [5] No splicing of rebars allowed in this region
- [7] If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the Contractor may propose an adjustment to the top of drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

The Contractor may propose a construction joint in the drilled shaft so separate pours can be made if the shaft can be poured in the dry, subject to approval from the Engineer.

The Permanent Casing is shown embedded 2'-0" into rock for estimate of quantities. Pay Limits for Permanent Casing shall be based on the minimum length shown.

When splicing of spiral reinforcement is necessary, the spirals shall be provided 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

The Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See special provisions for Drilled Shafts. Pay Limits for the Permanent Casing shall be based on minimum length shown.

Wet construction methods within the Permanent Casing may be required. The Contractor's installation procedure shall clearly address cleaning and inspection methods proposed for use with wet construction methods which ensure adequate end bearing on rock is achieved.

For Partial Top Plan and Partial Elevation, see sheet S-172

For Transfer Beam details, see sheet S-173

For additional notes, bar details and Bill of Material see sheet S-175

For Mechanical Bar Splicer details see sheet S-209

DRILLED SHAFT
 Detail and Elevation
 (One shaft shown, 6 shafts req'd, one under each column)

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-500808-PR0804.dgn



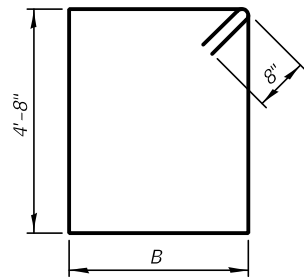
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER NO. 8 DRILLED SHAFT ELEVATION AND DETAILS
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

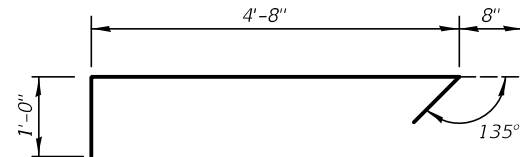
SHEET S-174 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	358
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

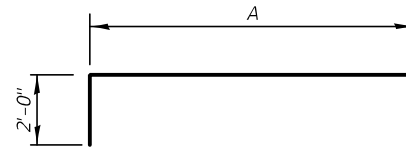


BARS s801(E), s802(E), s803(E), s804(E)

Bars	B	Bars	B
s801(E)	5'-6"	s803(E)	7'-8"
s802(E)	9'-11"	s804(E)	4'-6"



BARS s805(E) & s806(E)



BARS p801(E) thru p812(E)

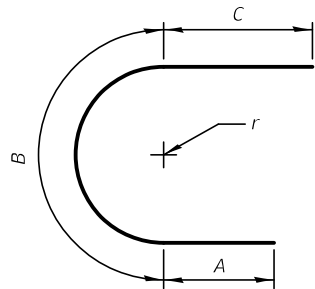
Bars	A	Bars	A
p801(E)	43'-9"	p807(E)	39'-9"
p802(E)	45'-6"	p808(E)	41'-6"
p803(E)	46'-3"	p809(E)	42'-3"
p804(E)	47'-0"	p810(E)	43'-0"
p805(E)	47'-6"	p811(E)	43'-6"
p806(E)	48'-0"	p812(E)	44'-0"

**PIER 8
BILL OF MATERIAL (CONT.)**

Concrete Structures	Cu. Yd.	317.2
Concrete Sealer	Sq. Ft	5,228
Permanent Casing	Foot	462
Drilled Shaft in Soil	Cu. Yd.	642
Drilled Shaft in Rock	Cu. Yd.	295
Crosshole Sonic Logging Access Ducts	Foot	725
Crosshole Sonic Logging Testing	Each	6
Thermal Integrity Profile Testing	Each	6
Thermal Integrity Profile Data Collection	Foot	725

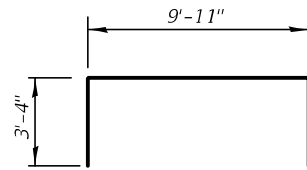
**PIER 8
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h801(E)	12	#5	41'-3"	
h802(E)	16	#5	7'-6"	
h803(E)	10	#5	39'-9"	
h804(E)	12	#5	37'-3"	
h805(E)	10	#5	35'-9"	
hp804(E)	198	#4	11'-9"	o
hp805(E)	60	#7	25'-4"	o
p801(E)	4	#11	45'-9"	
p802(E)	4	#11	47'-6"	
p803(E)	4	#11	48'-3"	
p804(E)	4	#11	49'-0"	
p805(E)	4	#11	49'-6"	
p806(E)	4	#11	50'-0"	
p807(E)	4	#11	41'-9"	
p808(E)	4	#11	43'-6"	
p809(E)	4	#11	44'-3"	
p810(E)	4	#11	45'-0"	
p811(E)	4	#11	45'-6"	
p812(E)	4	#11	46'-0"	
p813(E)	8	#11	44'-0"	
p814(E)	8	#11	46'-0"	
p815(E)	8	#11	46'-6"	
p816(E)	8	#11	46'-9"	
p817(E)	8	#11	40'-0"	
p818(E)	8	#11	42'-0"	
p819(E)	8	#11	42'-6"	
p820(E)	8	#11	42'-9"	
s801(E)	14	#6	22'-2"	
s802(E)	103	#6	30'-6"	
s803(E)	64	#6	24'-0"	
s804(E)	75	#6	19'-8"	
s805(E)	412	#6	6'-4"	
s806(E)	150	#6	6'-4"	
sp801(E)**	6	#7	40'-0"	
sp802(E)**	6	#7	75'-3"	
sp803(E)**	6	#4	8'-3"	
u801(E)	12	#5	19'-6"	
u802(E)	8	#5	16'-7"	
u803(E)	10	#5	14'-10"	
u804(E)	28	#5	6'-0"	
u805(E)	28	#5	6'-0"	
v801(E)	168	#11	59'-8"	
v802(E)	168	#11	60'-0"	
v803(E)	168	#11	63'-8"	
v804(E)	168	#11	56'-0"	
v805(E)	168	#11	61'-8"	
v806(E)	168	#11	58'-0"	
v807(E)	96	#11	22'-5"	
Reinforcement Bars, Epoxy Coated		Lbs.	437,910	
Mechanical Splicers		Each	626	

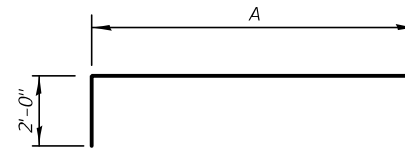


BARS u801(E) & u803(E)

Bars	A	B	C	r
u801(E)	2'-0"	15'-6"	2'-0"	4'-11"
u803(E)	1'-6"	11'-9"	1'-6"	3'-9"

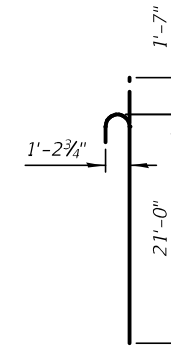


BARS u802(E)

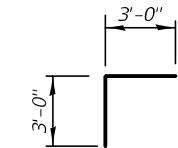


BARS p813(E) thru p820(E)

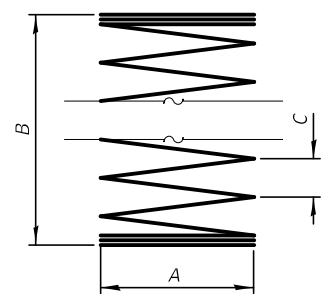
Bars	A	Bars	A
p813(E)	42'-0"	p817(E)	38'-0"
p814(E)	44'-0"	p818(E)	40'-0"
p815(E)	44'-6"	p819(E)	40'-6"
p816(E)	44'-9"	p820(E)	40'-9"



BARS v807(E)

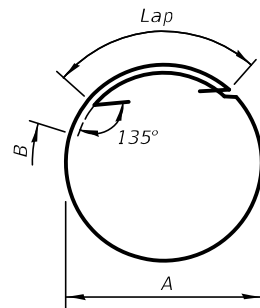


BARS u804(E) & u805(E)



BARS sp801(E), sp802(E) & sp803(E)

Bars	A	B	C
sp801(E)	6'-2"	40'-0"	6"
sp802(E)	6'-2"	75'-3"	6"
sp803(E)	2'-8"	10'-3"	4"



BARS hp804(E) & hp805(E)

Bars	A	B	Lap
hp804(E)	2'-8"	4 1/2"	2'-7"
hp805(E)	6'-2"	9"	4'-5"

PIER 8

Mark	Bar Callouts
(1)	17 sets of 1-#6 s802(E) placed with 4-#6 s805(E) at 9" cts.
(2)	3 sets of 1-#6 s802(E) placed with 4-#6 s805(E) at 12" cts.
(3)	7 sets of 3-#6 s801(E) at 9" cts.
(4)	8 sets of 1-#5 u802(E) at 12" max cts.
(5)	15 sets of 1-#6 s803(E) placed with 2-#6 s806(E) at 9" cts.
(6)	5 sets of 2-#6 s804(E) at 12" cts.
(7)	7 sets of 2-#6 s804(E) @ 11" on cts.
(8)	4 sets of 1-#4 hp804(E) at 4" cts.
(9)	29 sets of 1-#4 hp804(E) at 4" cts.
(10)	10 sets of 1-#7 hp805(E) at 6" cts.
A1/A2	7 sets of 1-#5 u804(E) or u805(E) at 12" max cts.
T1	1 layer of 2-#11 each p801(E) thru p806(E)
T2	1 layer of 2-#11 each p807(E) thru p812(E)
T3	2 layer of 2-#11 each p813(E) thru p816(E)
T4	2 layer of 2-#11 each p817(E) thru p820(E)
H1/H2	6-#5 h801(E) or h804(E) at 7 1/2" max cts.
H5	8-#5 h802(E) at 12" max cts.
H3/H4	5-#5 h803(E) or h805(E) at 9" max cts.
B1	1 layer of 2-#11 each p801(E) thru p806(E)
B2	1 layer of 2-#11 each p807(E) thru p812(E)
B3	2 layer of 2-#11 each p813(E) thru p816(E)
B4	2 layer of 2-#11 each p817(E) thru p820(E)
U1	4-#5 u801(E) spaced with h801(E) or h804(E)
U2	5-#5 u803(E) spaced with h803(E) or h805(E)
C1	28 sets of 1-#11 v801(E) and 1-#11 v802(E) (Top) bundled w/ C2 and C3
C2	28 sets of 1-#11 v803(E) and 1-#11 v804(E) (Top) bundled w/ C1 and C3
C3	28 sets of 1-#11 v805(E) and 1-#11 v806(E) (Top) bundled w/ C1 and C2
C4	8 sets of 2-#11 v807(E) bundled
D1	#7 sp801(E) at 6" pitch
D2	#7 sp802(E) at 6" pitch
D3	#4 sp803(E) at 4" pitch

PLOT DATE = 10/24/2023
FILE NAME: L:\7660\CADD\Sheet3\Bridges\7660-5008-08-0805.dgn



DESIGNED - KR	REVISION	10/26/2023
CHECKED - MA	REVISION	
SCALE - NONE	DRAWN - BK	REVISION
DATE - 8/11/2023	CHECKED - KR	REVISION

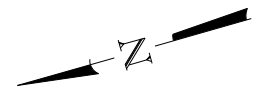
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER NO. 8 REINFORCEMENT DETAILS AND BILL OF MATERIAL
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-175 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	359
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 78057	

** Length shown is height of each spiral.



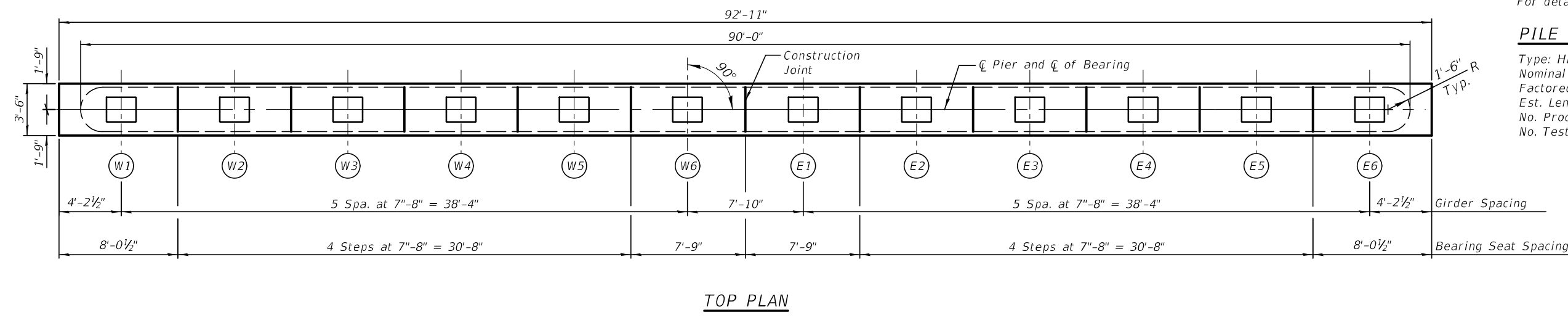
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet S-208

PILE DATA

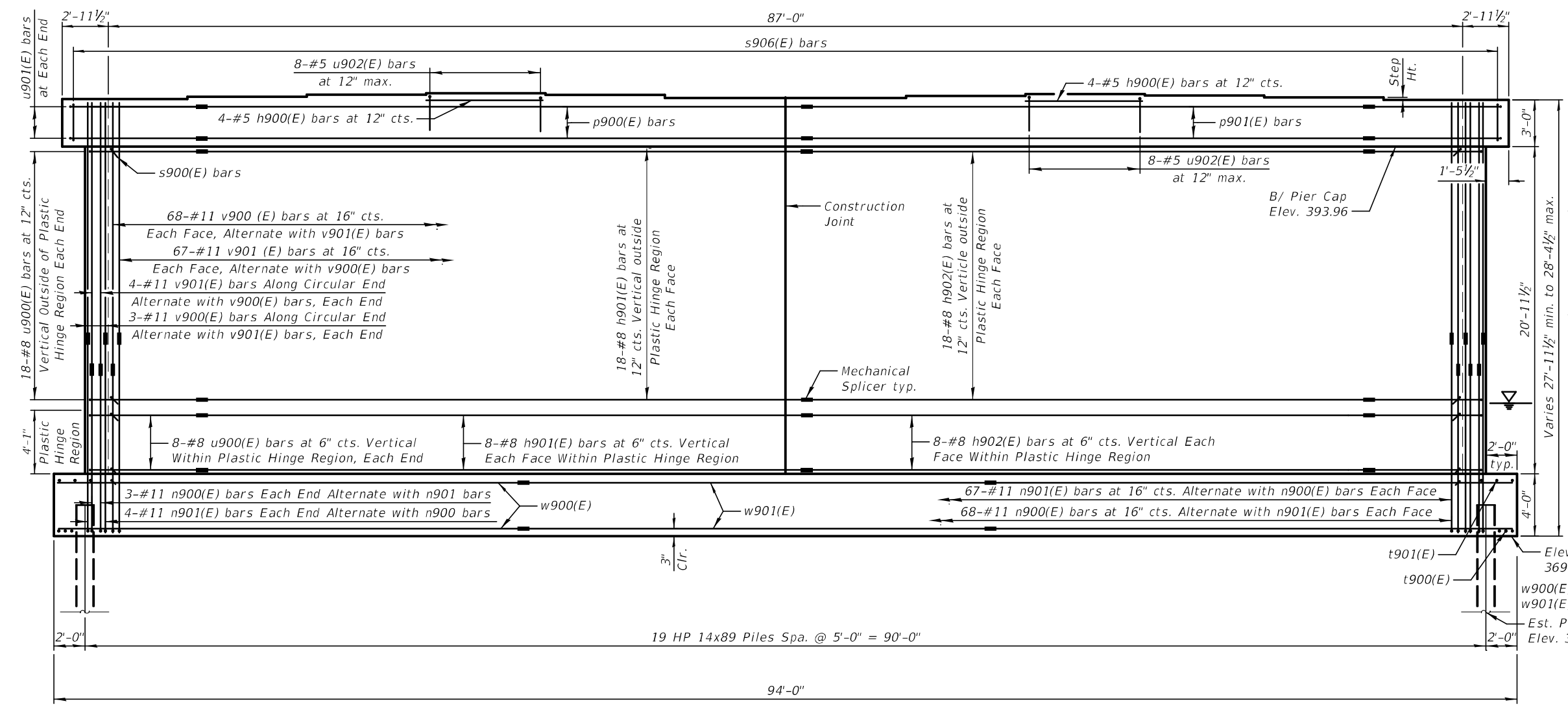
Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 378 kips
 Est. Length: 71 ft
 No. Production Piles: 37
 No. Test Piles: 1

Pier 9 Bearing Seat Elevation

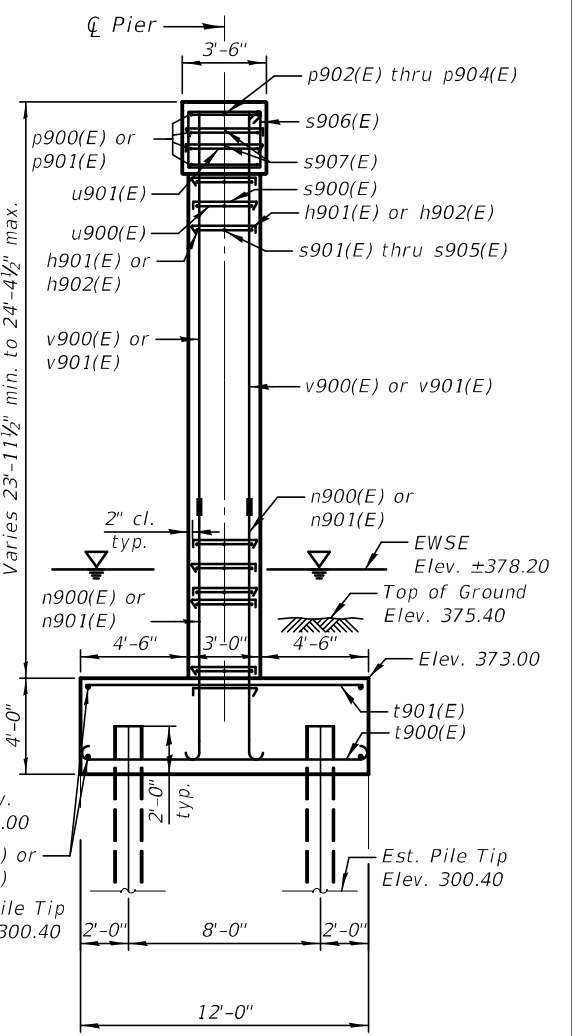
Girder	T/Bearing Seat	Step Height
W1	397.01	1 1/8"
W2	397.17	1 1/2"
W3	397.29	1 1/8"
W4	397.38	1 1/8"
W5	397.27	2 1/4"
W6	397.08	-
E1	397.08	1 1/8"
E2	397.22	1 3/8"
E3	397.34	1 1/8"
E4	397.25	1 1/2"
E5	397.12	1 1/8"
E6	396.96	-



TOP PLAN



ELEVATION
(Looking East)



END VIEW

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PIR0901.dgn



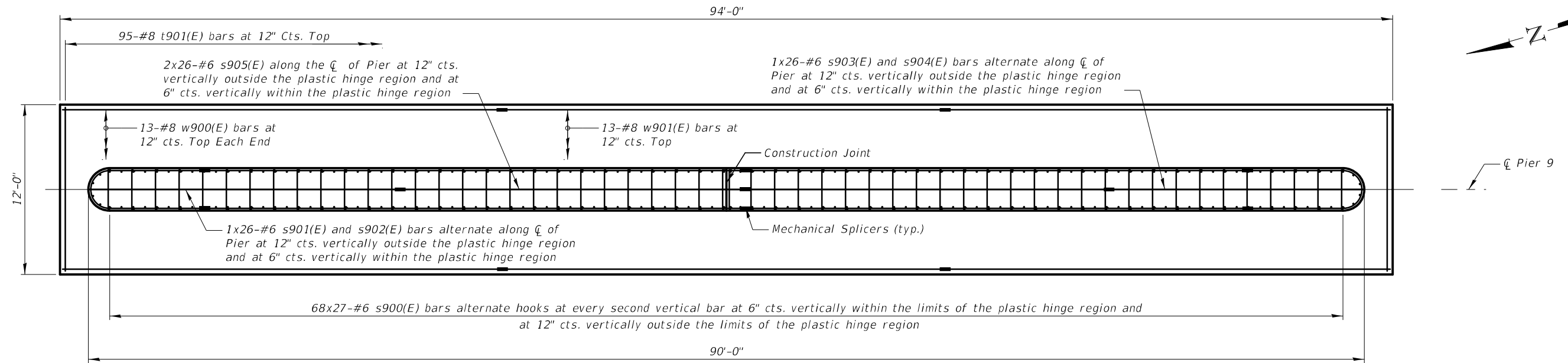
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

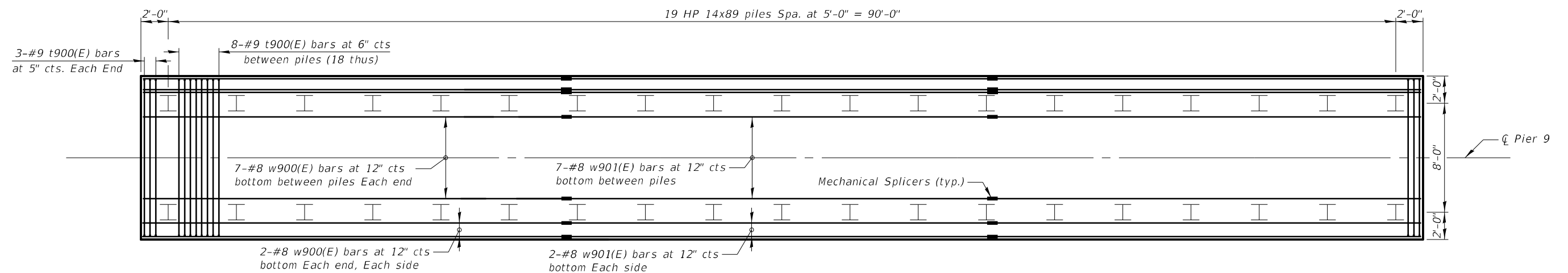
PIER NO. 9 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-176 OF 232 SHEETS


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	360
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
(SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP)



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
 HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Struct\Bridges\7660-50080-PR0902.dgn

KNIGHT
Engineers & Architects

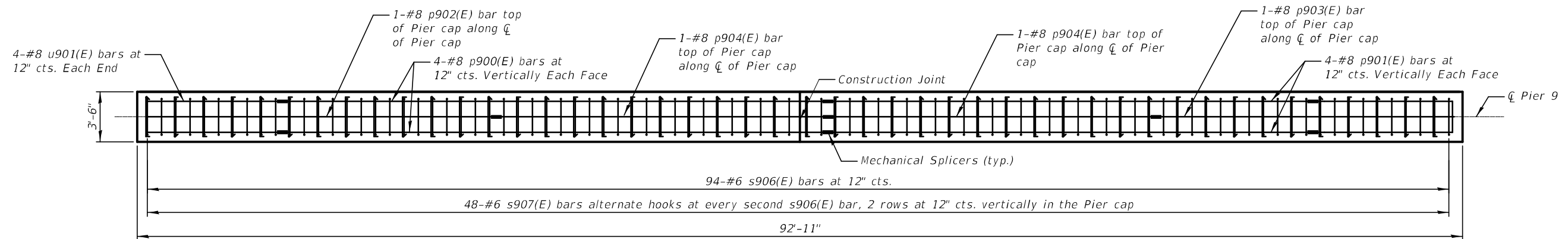
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CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

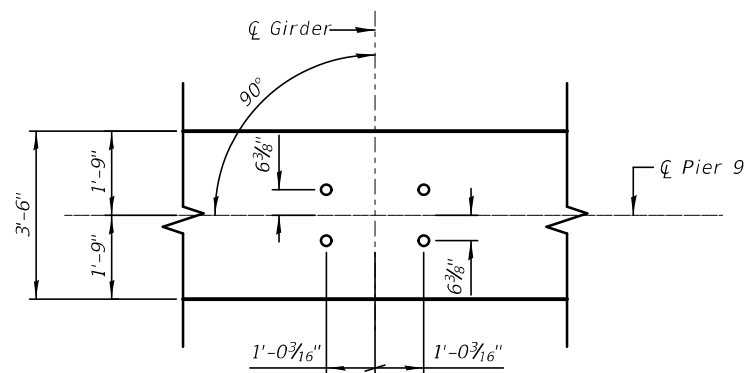
**PIER NO. 9 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-177 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	361
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



TOP PLAN
(SHOWING PIER CAP REINFORCEMENT DETAILS)



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\15\Sheets\Bridges\7660-50080-PR0903.dgn



DESIGNED - MA	REVISED
CHECKED - LS	REVISED
DRAWN - PP	REVISED
CHECKED - MA	REVISED
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

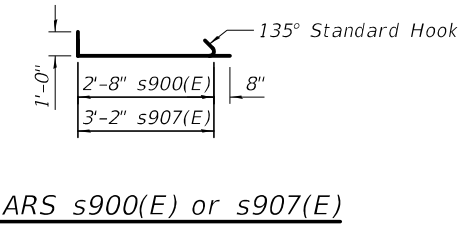
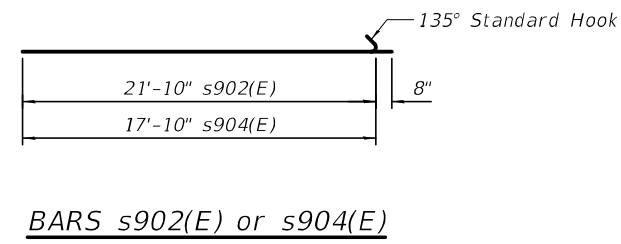
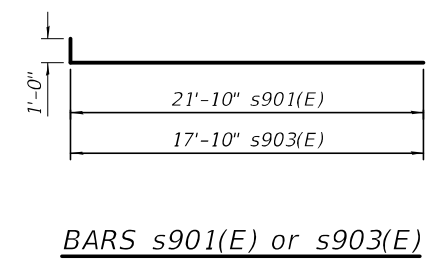
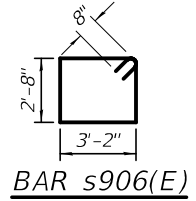
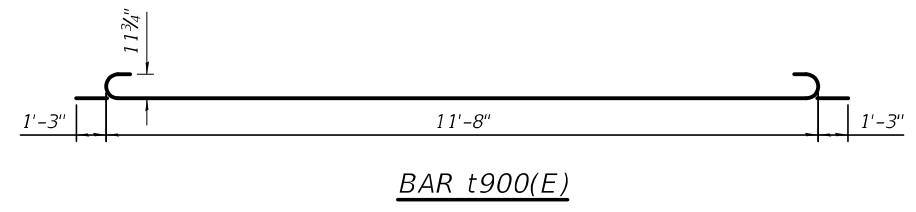
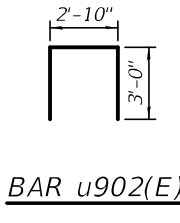
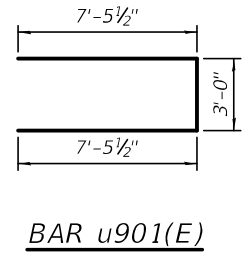
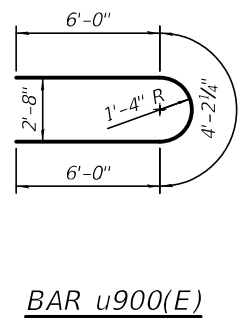
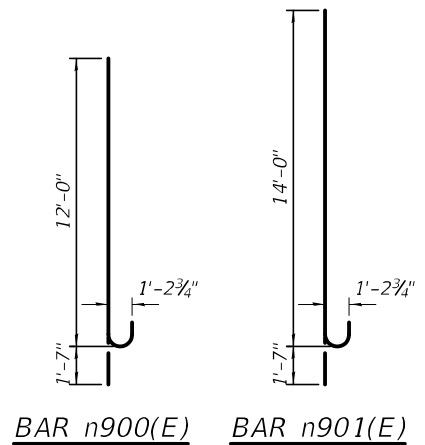
PIER NO. 9 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-178 OF 232 SHEETS

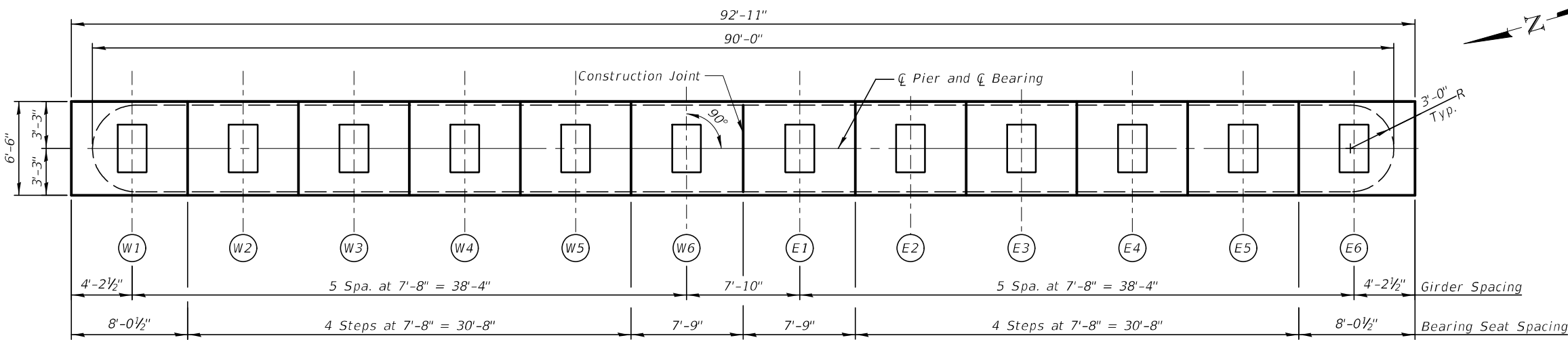
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	362
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

PIER - 9
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h900(E)	8	#5	7'-4"	—
h901(E)	52	#8	39'-6"	—
h902(E)	52	#8	35'-6"	—
n900(E)	142	#11	13'-7"	U
n901(E)	142	#11	15'-7"	U
p900(E)	8	#8	40'-10"	—
p901(E)	8	#8	36'-10"	—
p902(E)	1	#8	23'-4"	—
p903(E)	1	#8	19'-3"	—
p904(E)	2	#8	25'-0"	—
s900(E)	1,836	#6	4'-4"	L
s901(E)	13	#6	22'-10"	L
s902(E)	13	#6	22'-6"	L
s903(E)	13	#6	18'-10"	L
s904(E)	13	#6	18'-6"	L
s905(E)	52	#6	25'-0"	—
s906(E)	94	#6	13'-0"	□
s907(E)	96	#6	4'-10"	L
t900(E)	150	#9	14'-2"	U
t901(E)	95	#8	11'-8"	—
u900(E)	52	#8	16'-3"	U
u901(E)	8	#8	17'-11"	U
u902(E)	16	#5	8'-10"	U
v900(E)	142	#11	15'-7"	—
v901(E)	142	#11	13'-7"	—
w900(E)	48	#8	30'-0"	—
w901(E)	24	#8	33'-8"	—
Concrete Structures		Cu. Yd.	422.6	
Reinforcement Bars, Epoxy Coated		Pound	93,630	
Furnishing Steel Piles HP14x89		Foot	2,627	
Driving Piles		Foot	2,627	
Test Pile steel HP 14x89		Each	1	
Mechanical Splicer		Each	593	
Pile Shoes		Each	38	



PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-PR0904.dgn



TOP PLAN

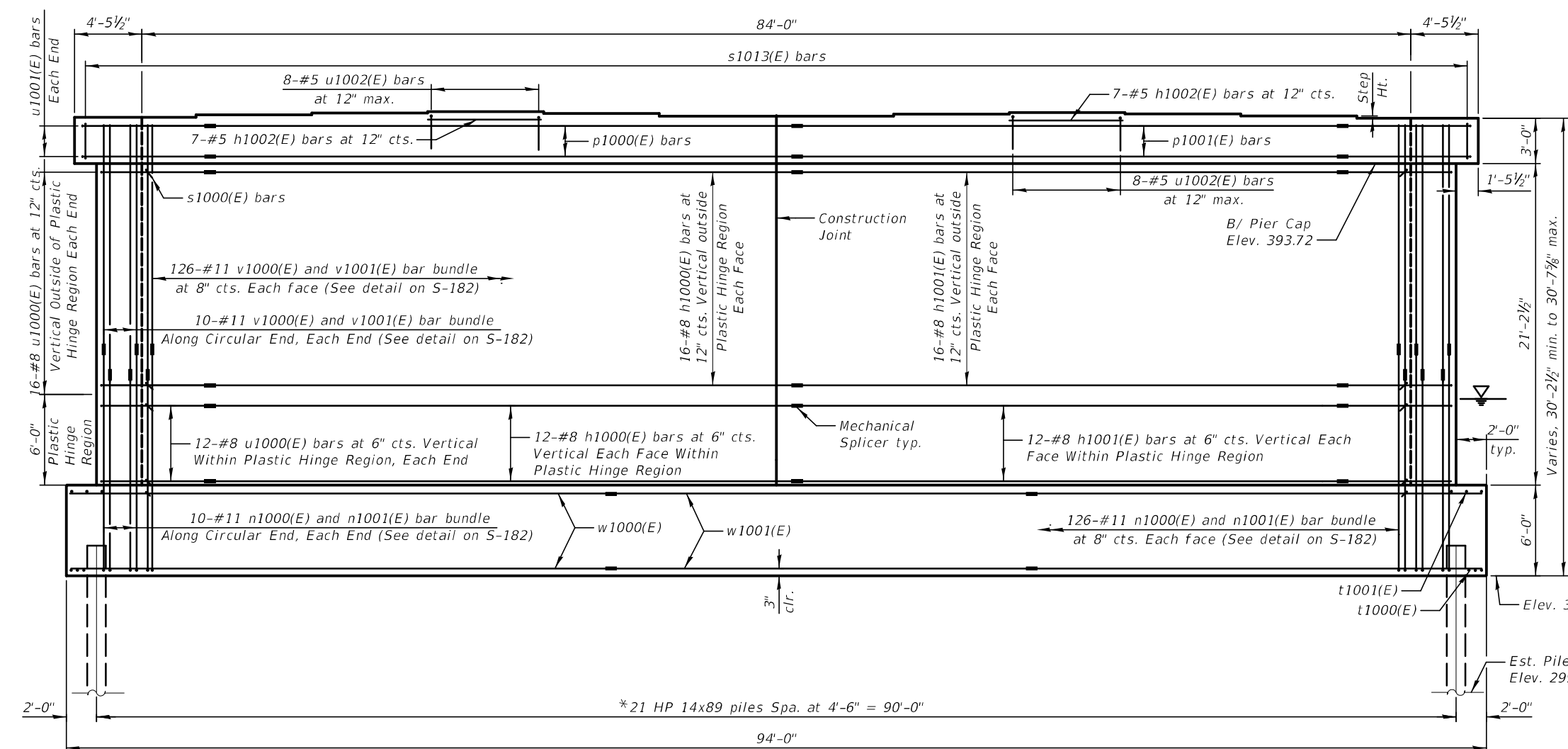
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet S-208

PILE DATA

Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 377 kips
 Est. Length: 70 ft
 No. Production Piles: 104
 No. Test Piles: 1

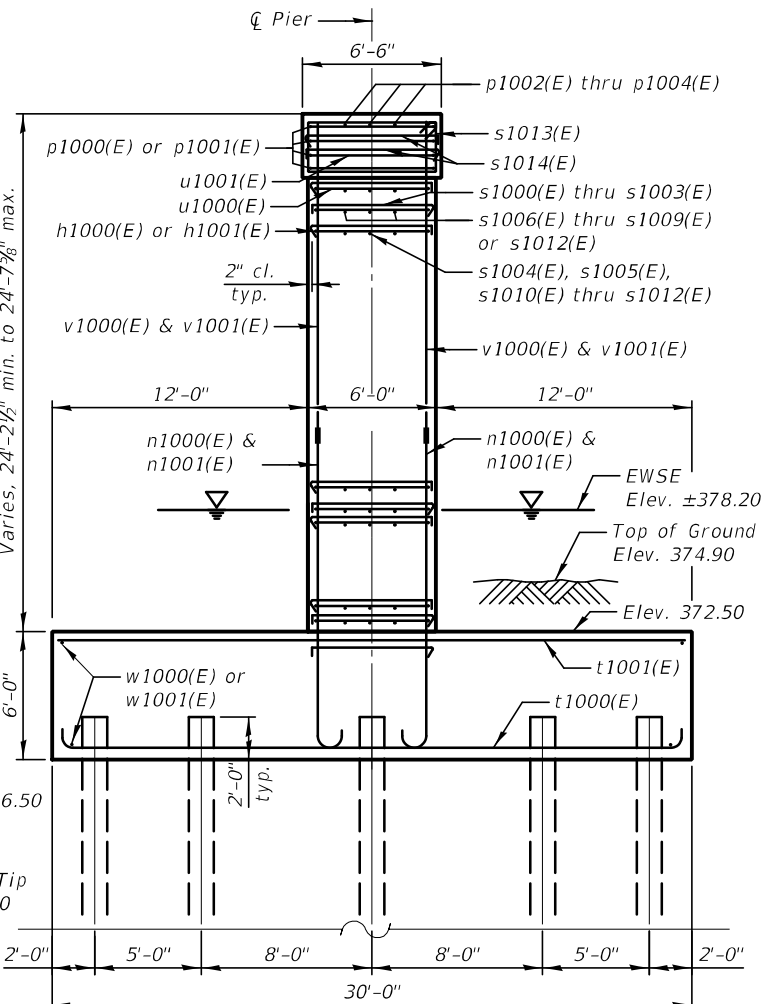
Pier 10 Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	396.77	1 7/8"
W2	396.92	1 1/2"
W3	397.05	1 7/8"
W4	397.14	1 7/8"
W5	397.02	2 1/4"
W6	396.84	-
E1	396.84	1 3/8"
E2	396.97	1 3/8"
E3	397.09	1 1/2"
E4	397.00	1 1/2"
E5	396.87	1 7/8"
E6	396.72	-



ELEVATION
(Looking East)

*Piles shall be driven a minimum of 2 ft. into bedrock to resist uplift during a seismic event.



END VIEW

PLOT DATE = 8/23/2023
 FILE NAME: L:\7660\CADD\Sheet\Bridges\7660-5008\PR1001.dgn

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 Engineers & Architects

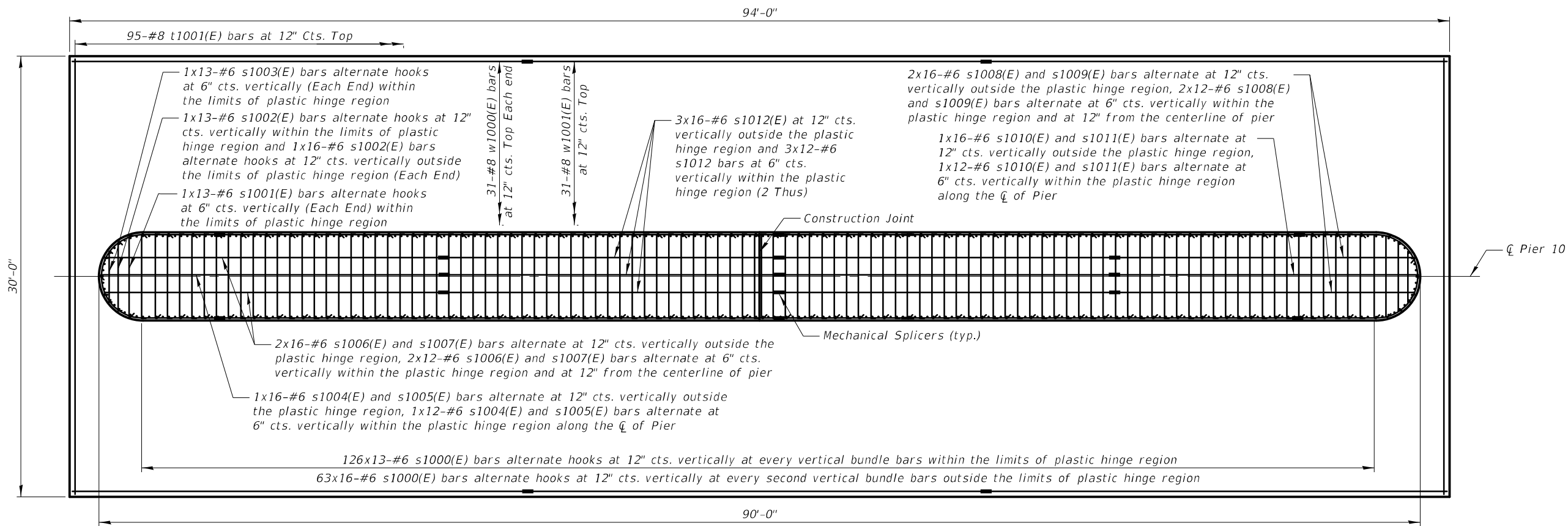
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 8/11/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

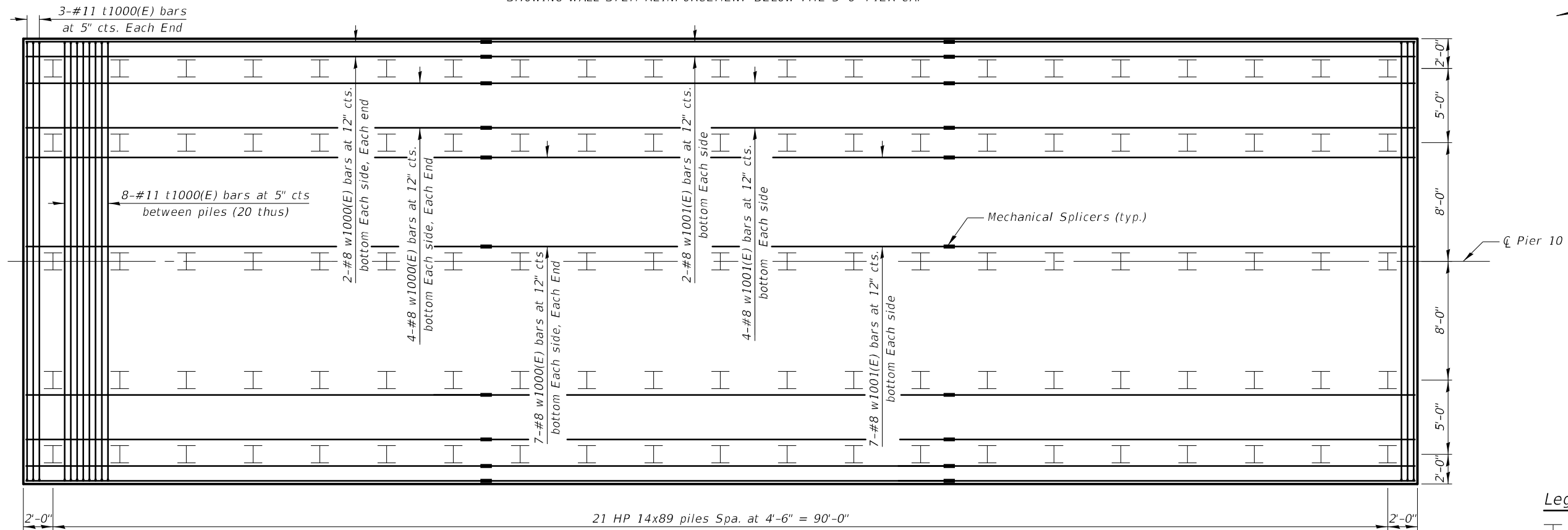
PIER NO. 10 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-180 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	364
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\1\Sheets\Bridges\7660-5008\PR1002.dgn

KNIGHT
Engineers & Architects

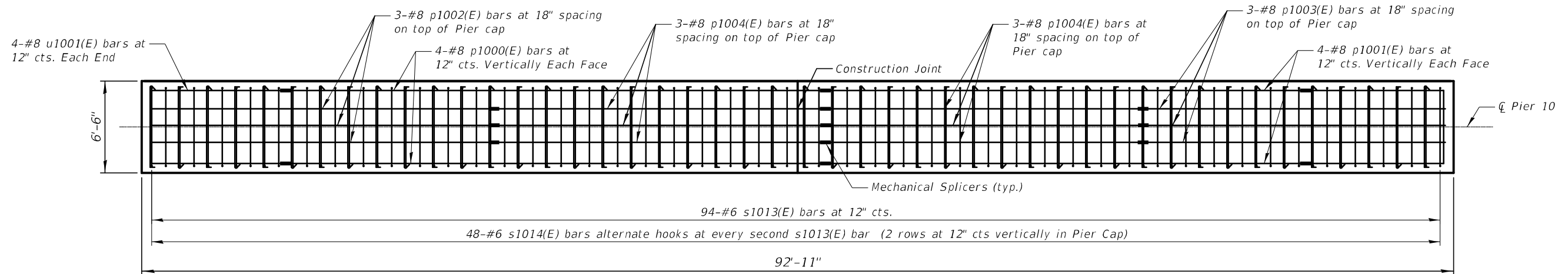
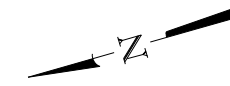
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CHECKED - LS	REVISOR
DRAWN - PP	REVISOR
CHECKED - MA	REVISOR
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

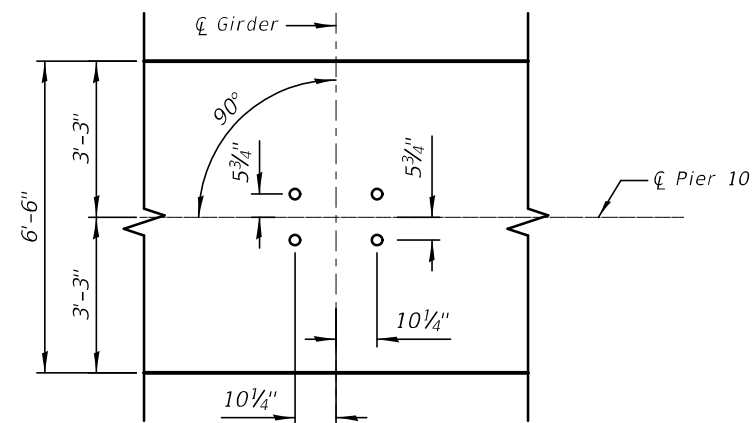
PIER NO. 10 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-181 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	365
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\3\Sheets\Bridges\7660-50080\PIR1003.dgn



DESIGNED - MA	REVISED
CHECKED - LS	REVISED
DRAWN - PP	REVISED
CHECKED - MA	REVISED
SCALE - NONE	
DATE - 8/11/2023	

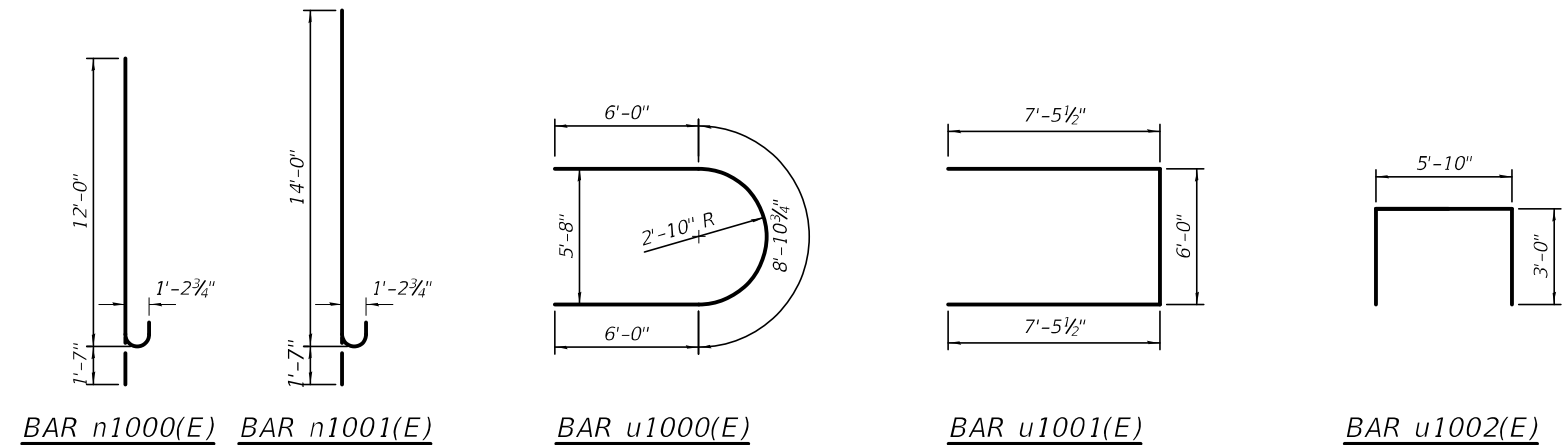
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 10 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

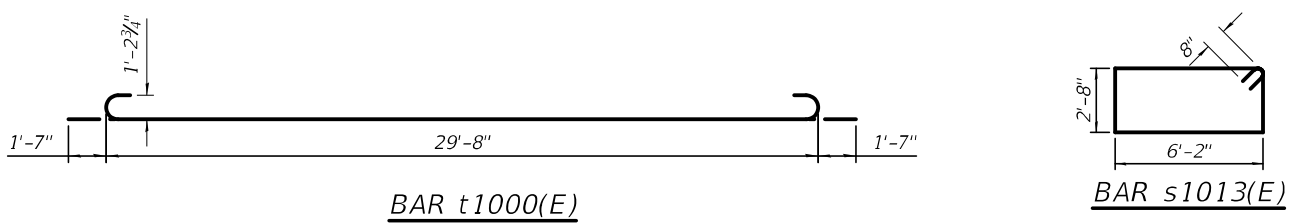
SHEET S-182 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	366
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

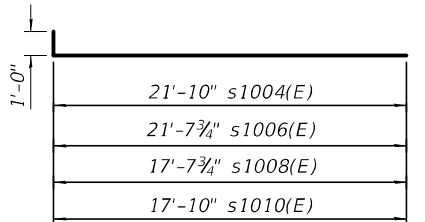
**PIER - 10
BILL OF MATERIAL**



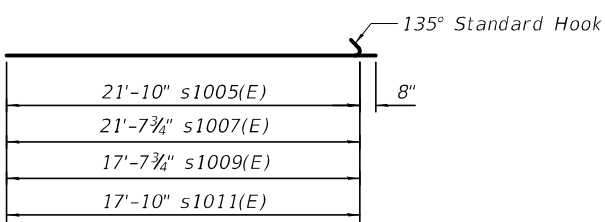
BAR n1000(E) BAR n1001(E) BAR u1000(E) BAR u1001(E) BAR u1002(E)



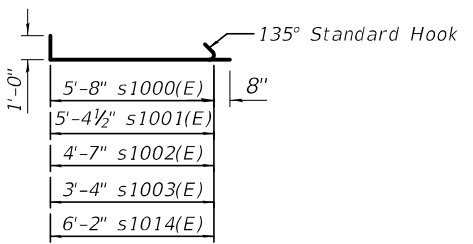
BAR t1000(E) BAR s1013(E)



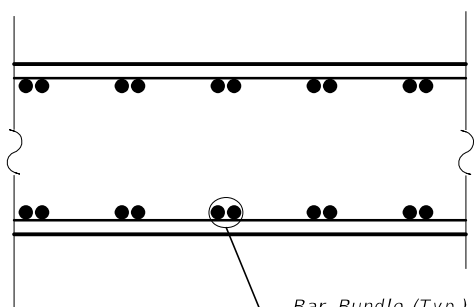
BARS s1004(E), s1006(E), s1008(E) or s1010(E)



BARS s1005(E), s1007(E), s1009(E) or s1011(E)



BARS s1000(E), s1001(E), s1002(E), s1003(E) and s1014(E)



Bar Bundle (Typ.)
272 sets of 1-n1000(E) mechanically spliced to 1-v1000(E)
272 sets of 1-n1001(E) mechanically spliced to 1-v1001(E)

BAR BUNDLE DETAIL

Bar	No.	Size	Length	Shape
h1000(E)	56	#8	38'-0"	
h1001(E)	56	#8	34'-0"	
h1002(E)	14	#5	7'-4"	
n1000(E)	272	#11	13'-7"	U
n1001(E)	272	#11	15'-7"	U
p1000(E)	8	#8	40'-10"	
p1001(E)	8	#8	36'-10"	
p1002(E)	3	#8	23'-4"	
p1003(E)	3	#8	19'-3"	
p1004(E)	6	#8	25'-0"	
s1000(E)	2,646	#6	7'-4"	
s1001(E)	26	#6	7'-1"	
s1002(E)	58	#6	6'-3"	
s1003(E)	26	#6	5'-0"	
s1004(E)	14	#6	22'-10"	
s1005(E)	14	#6	22'-6"	
s1006(E)	28	#6	22'-8"	
s1007(E)	28	#6	22'-4"	
s1008(E)	28	#6	18'-8"	
s1009(E)	28	#6	18'-4"	
s1010(E)	14	#6	18'-10"	
s1011(E)	14	#6	18'-6"	
s1012(E)	168	#6	25'-0"	
s1013(E)	94	#6	19'-0"	
s1014(E)	96	#6	7'-10"	
t1000(E)	166	#11	32'-10"	U
t1001(E)	95	#8	29'-8"	
u1000(E)	56	#8	20'-11"	U
u1001(E)	8	#8	20'-11"	U
u1002(E)	16	#5	11'-10"	U
v1000(E)	272	#11	17'-10"	
v1001(E)	272	#11	15'-10"	
w1000(E)	114	#8	30'-0"	
w1001(E)	57	#8	33'-8"	
Concrete Structures			Cu. Yd.	1139.6
Reinforcement Bars, Epoxy Coated			Pound	204,050
Furnishing Steel Piles HP14x89			Foot	7,280
Driving Piles			Foot	7,280
Test Pile Steel HP 14x89			Each	1
Mechanical Splicer			Each	1,111
Pile Shoes			Each	105

PLOT DATE = 6/23/2023
FILE NAME: L:\7660\CADD\Struct\Bridges\7660-50080-PR1004.dgn

KNIGHT
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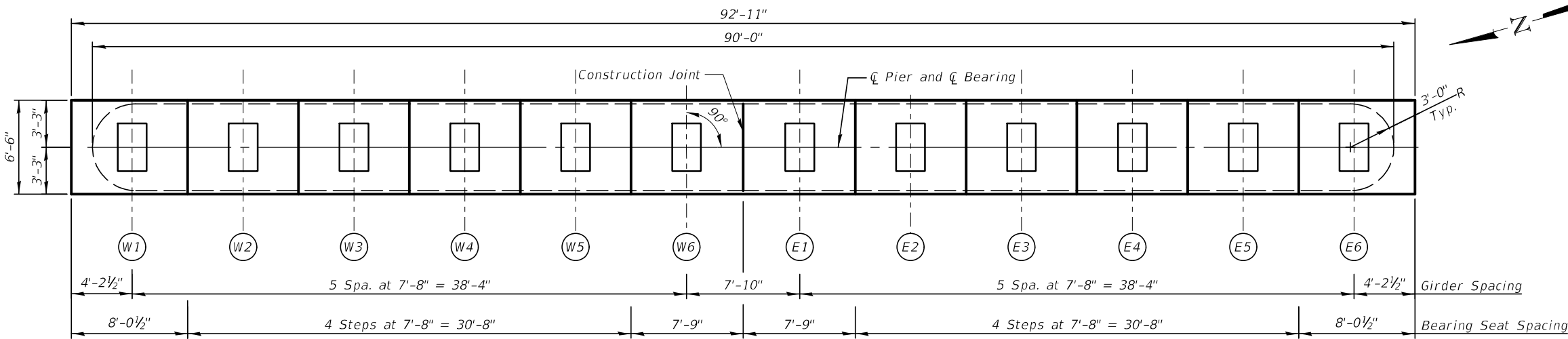
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CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

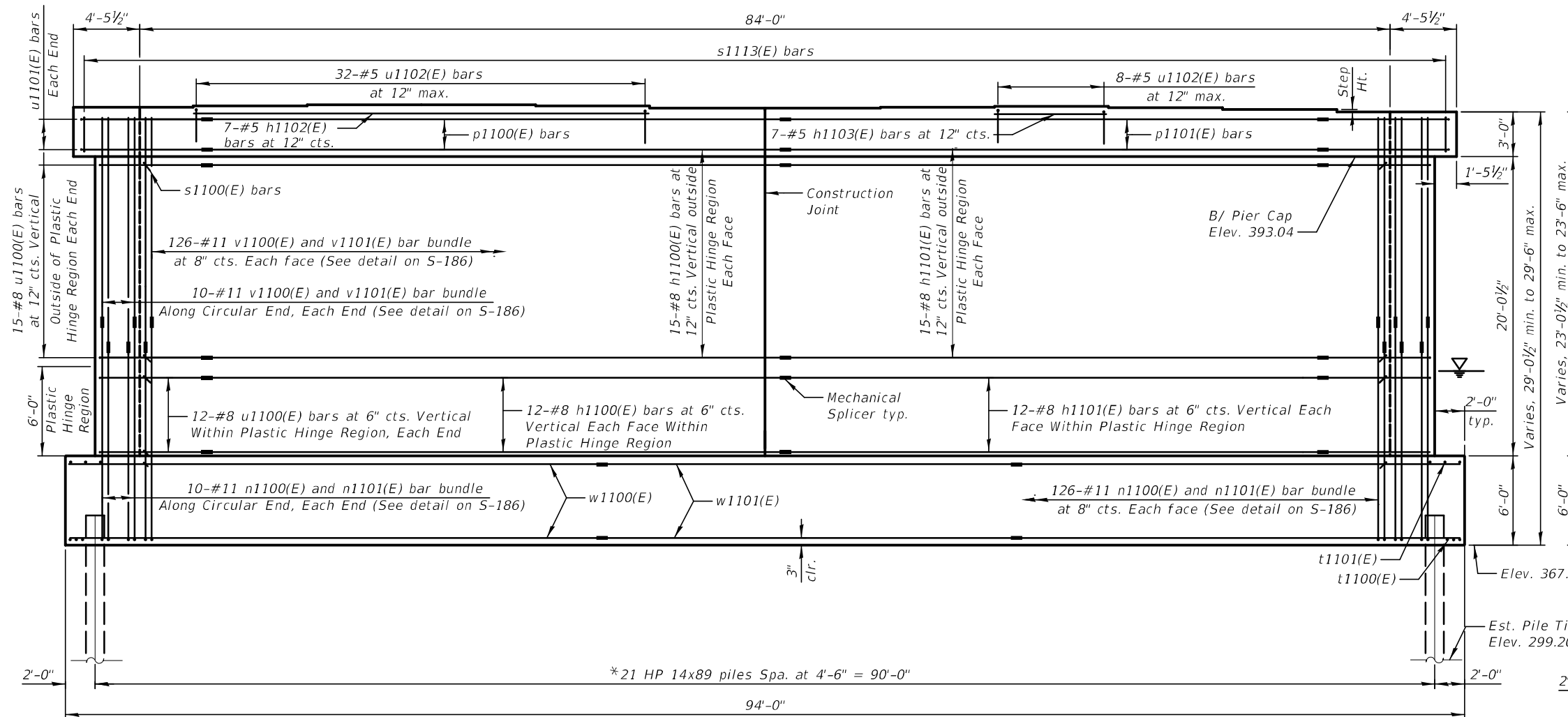
**PIER NO. 10 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-183 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	367
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 78057				



TOP PLAN



ELEVATION
(Looking East)

*Piles shall be driven a minimum of 2 ft. into bedrock to resist uplift during a seismic event.

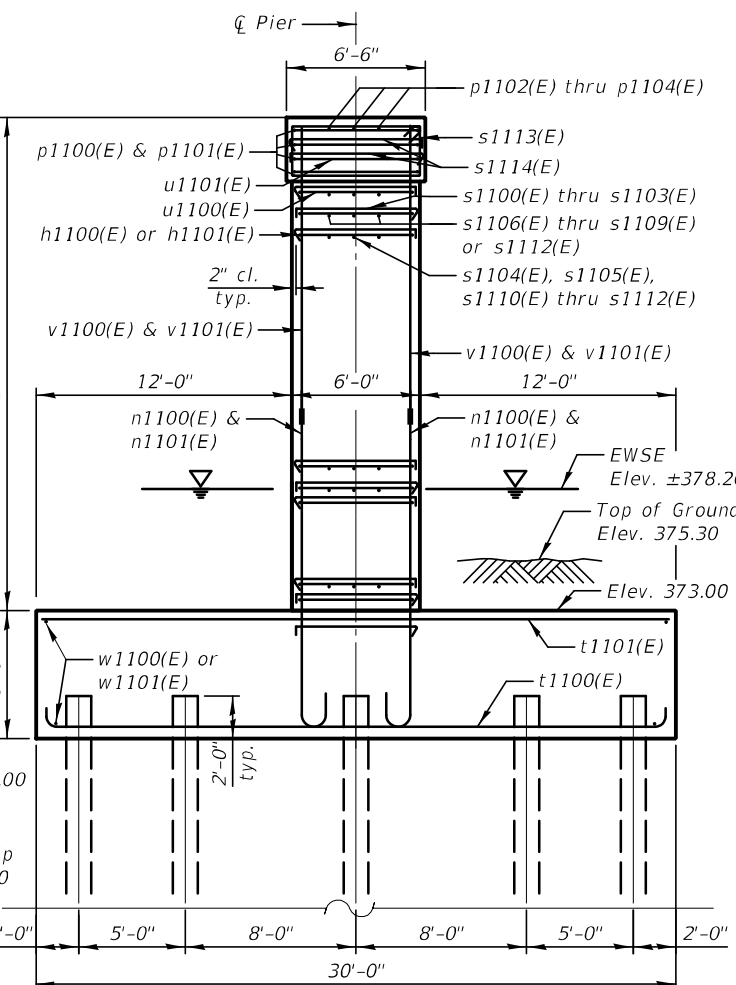
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet S-208

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 380 kips
Est. Length: 70 ft
No. Production Piles: 104
No. Test Piles: 1

Pier 11 Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	396.35	1 1/8"
W2	396.44	7/8"
W3	396.51	-
W4	396.51	7/8"
W5	396.44	1 1/8"
W6	396.28	-
E1	396.28	7/8"
E2	396.36	3/4"
E3	396.42	1 1/8"
E4	396.32	1 1/2"
E5	396.19	1 1/8"
E6	396.04	-



END VIEW

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1101.dgn

KNIGHT
Engineers & Architects

DESIGNED - MA
CHECKED - LS
SCALE - NONE
DATE - 6/30/2023

REVISOR
DRAWN - PP
CHECKED - MA

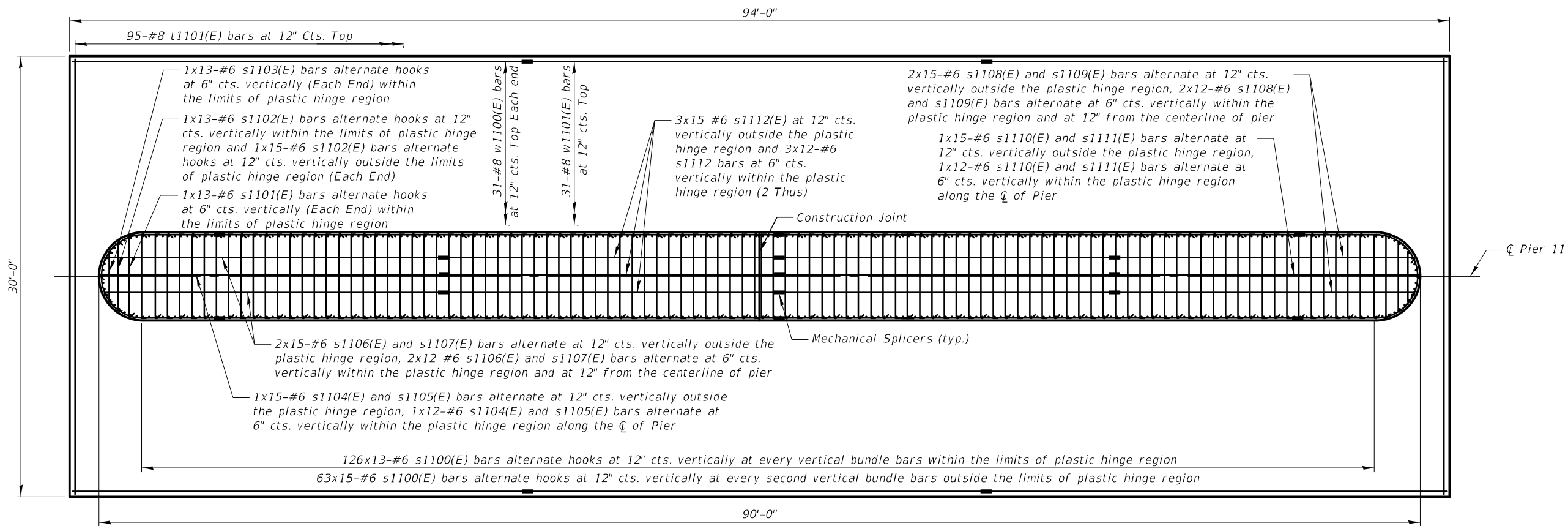
REVISED
REVISED
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

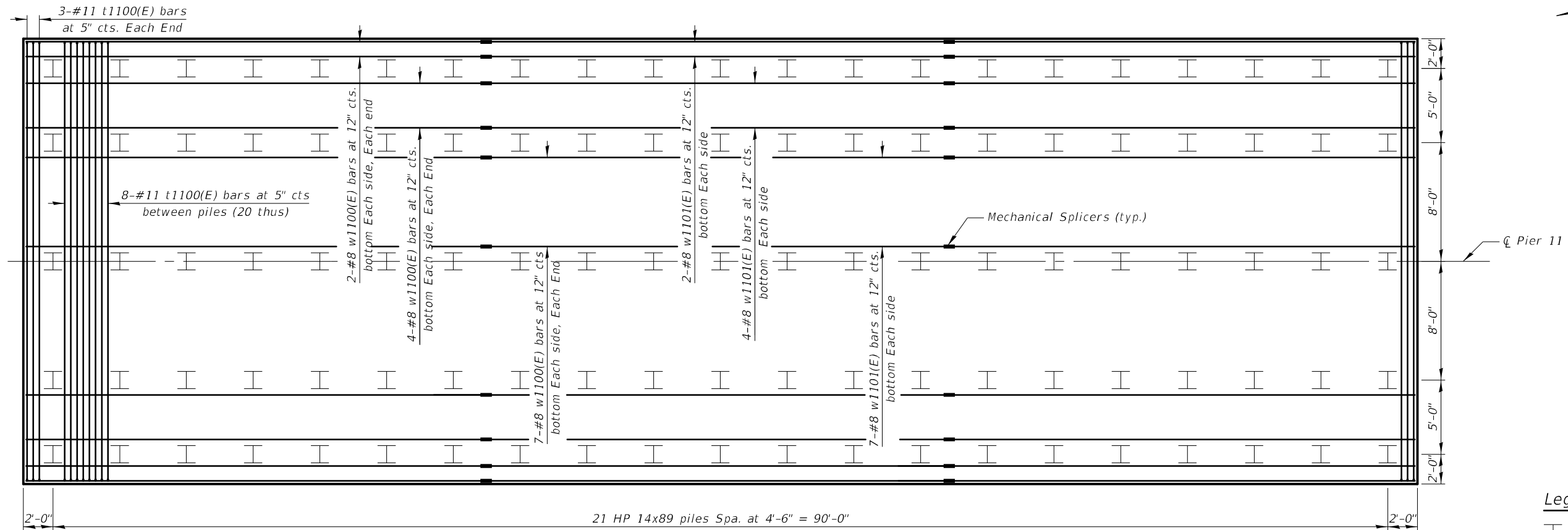
PIER NO. 11 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-184 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	368
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\Drawings\7660-5008\PR1102.dgn

KNIGHT
Engineers & Architects

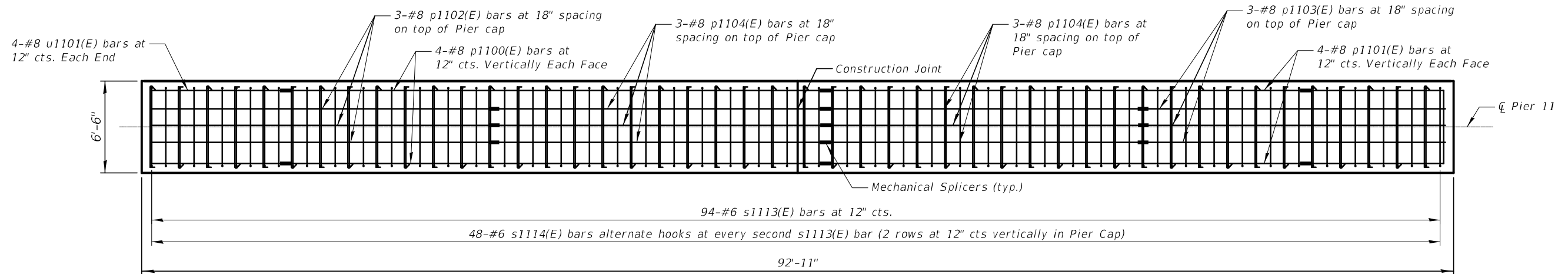
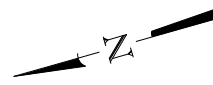
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CHECKED - MA	REVISOR
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

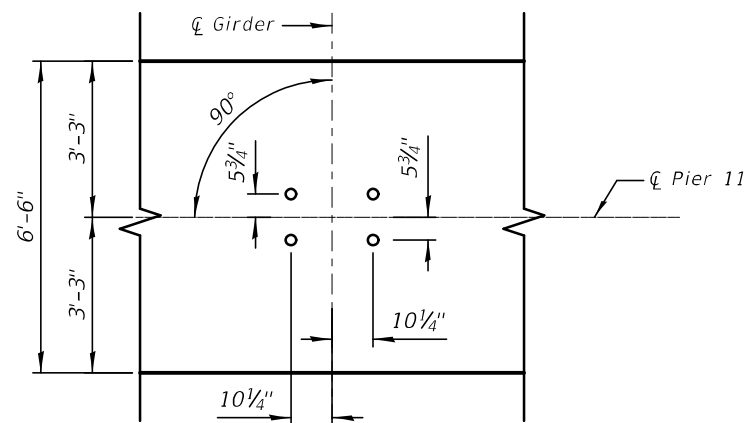
PIER NO. 11 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-185 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	369
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\1\Sheets\Bridges\7660-5008\PR1103.dgn



DESIGNED - MA	REVISED
CHECKED - LS	REVISED
DRAWN - PP	REVISED
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DATE - 6/30/2023	

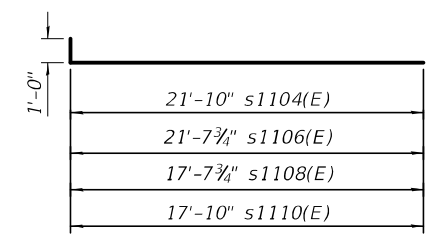
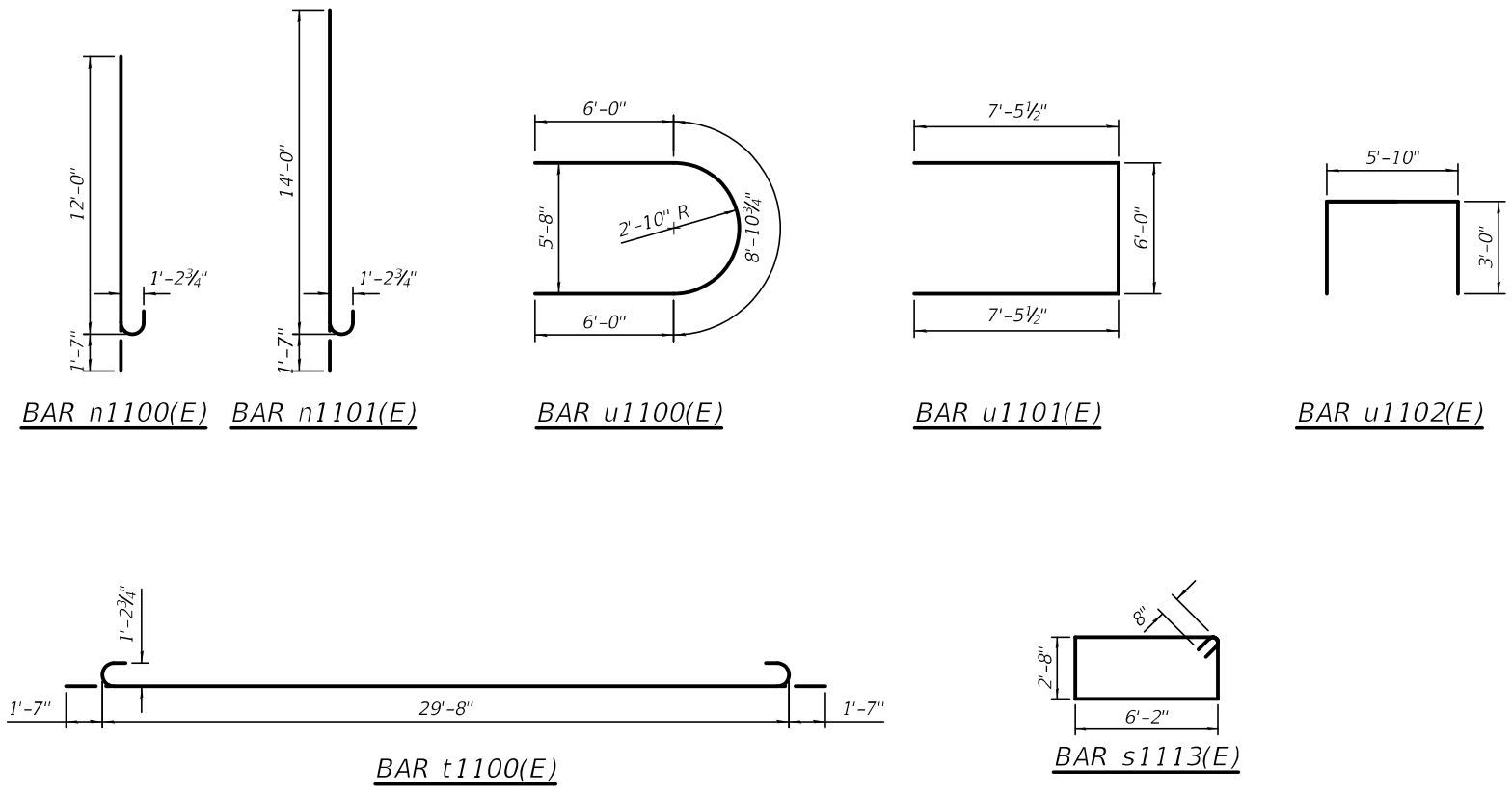
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 11 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

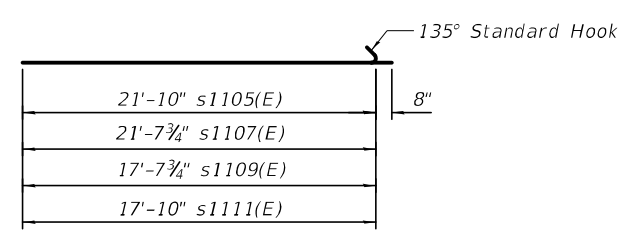
SHEET S-186 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	370
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

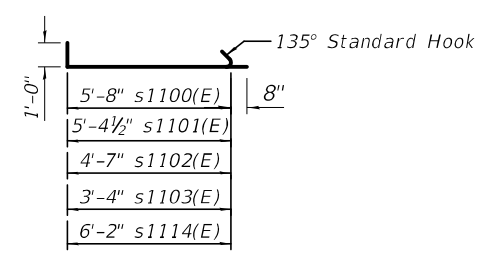
**PIER - 11
BILL OF MATERIAL**



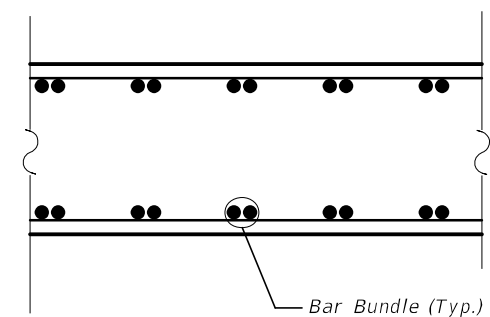
BARS s1104(E), s1106(E), s1108(E) or s1110(E)



BARS s1105(E), s1107(E), s1109(E) or s1111(E)



BARS s1100(E), s1101(E), s1102(E), s1103(E) and s1114(E)



BAR BUNDLE DETAIL

Bar Bundle (Typ.)
272 sets of 1-n1100(E) mechanically spliced to 1-v1100(E)
272 sets of 1-n1101(E) mechanically spliced to 1-v1101(E)

Bar	No.	Size	Length	Shape
h1100(E)	54	#8	38'-0"	
h1101(E)	54	#8	34'-0"	
h1102(E)	7	#5	30'-4"	
h1103(E)	7	#5	7'-4"	
n1100(E)	272	#11	13'-7"	U
n1101(E)	272	#11	15'-7"	U
p1100(E)	8	#8	40'-10"	
p1101(E)	8	#8	36'-10"	
p1102(E)	3	#8	23'-4"	
p1103(E)	3	#8	19'-3"	
p1104(E)	6	#8	25'-0"	
s1100(E)	2,583	#6	7'-4"	
s1101(E)	26	#6	7'-1"	
s1102(E)	56	#6	6'-3"	
s1103(E)	26	#6	5'-0"	
s1104(E)	13	#6	22'-10"	
s1105(E)	14	#6	22'-6"	
s1106(E)	26	#6	22'-8"	
s1107(E)	28	#6	22'-4"	
s1108(E)	26	#6	18'-8"	
s1109(E)	28	#6	18'-4"	
s1110(E)	13	#6	18'-10"	
s1111(E)	14	#6	18'-6"	
s1112(E)	162	#6	25'-0"	
s1113(E)	94	#6	19'-0"	
s1114(E)	96	#6	7'-10"	
t1100(E)	166	#11	32'-10"	U
t1101(E)	95	#8	29'-8"	
u1100(E)	54	#8	20'-11"	U
u1101(E)	8	#8	20'-11"	U
u1102(E)	40	#5	11'-10"	U
v1100(E)	272	#11	16'-8"	
v1101(E)	272	#11	14'-8"	
w1100(E)	114	#8	30'-0"	
w1101(E)	57	#8	33'-8"	
Concrete Structures		Cu. Yd.	1,117.8	
Reinforcement Bars, Epoxy Coated		Pound	199,510	
Furnishing Steel Piles HP14x89		Foot	7,280	
Driving Piles		Foot	7,280	
Test Pile steel HP 14x89		Each	1	
Mechanical Splicer		Each	1,096	
Pile Shoes		Each	105	

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Struct\Bridges\7660-50080-PR1104.dgn

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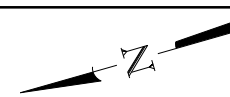
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CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

DESIGNED - MA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER NO. 11 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	371
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	



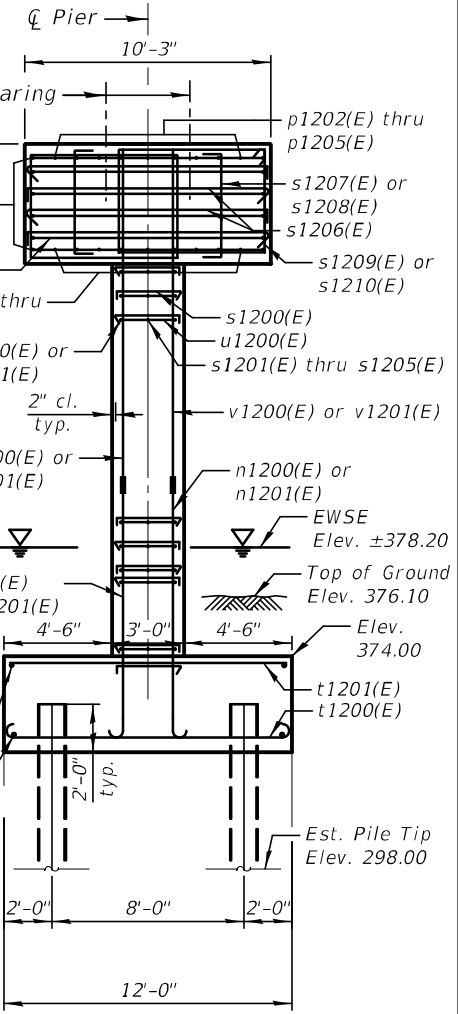
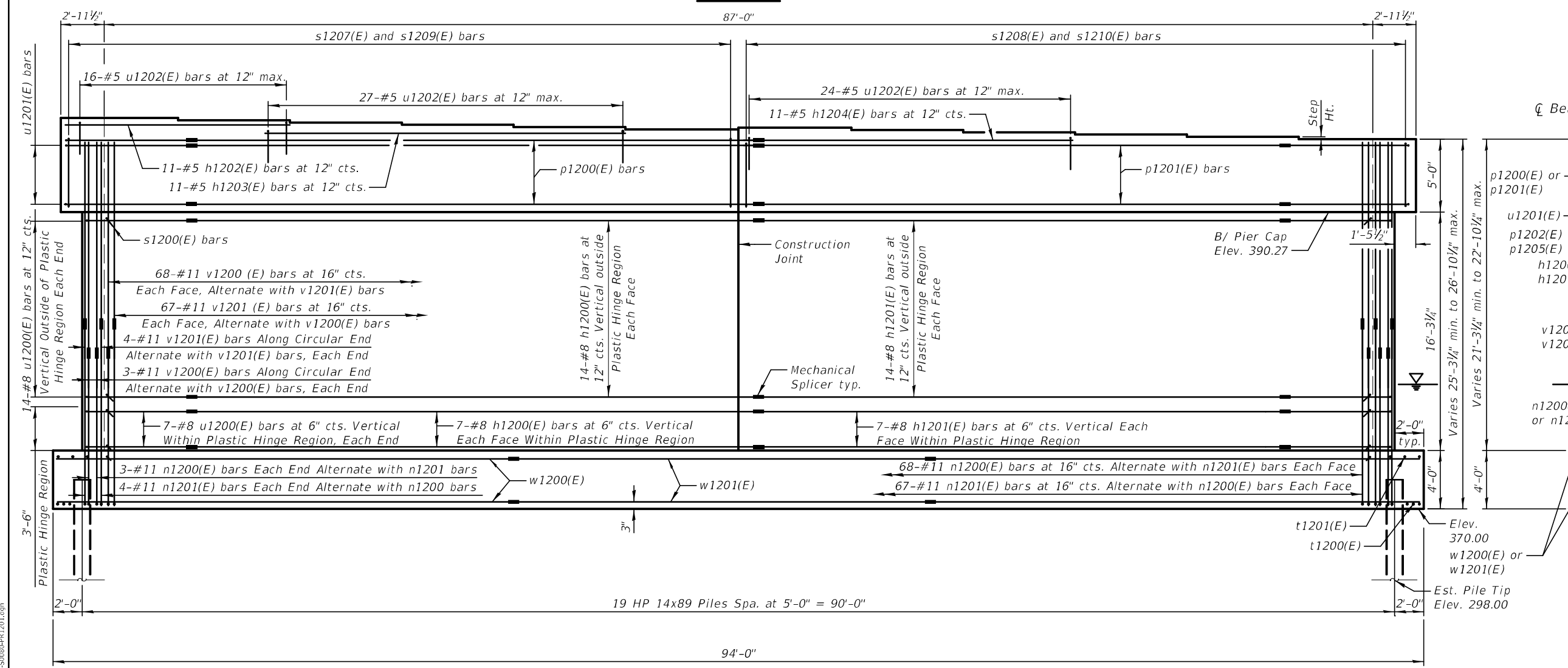
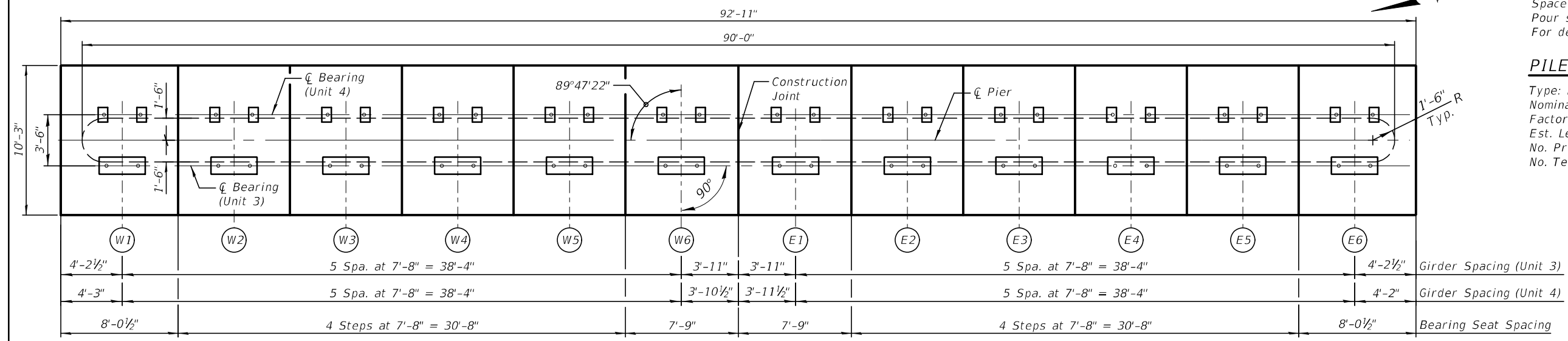
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet S-208

PILE DATA

Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 382 kips
 Est. Length: 74 ft
 No. Production Piles: 37
 No. Test Piles: 1

Pier 12 Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	396.85	2"
W2	369.69	2"
W3	396.52	2 1/8"
W4	396.34	2 1/8"
W5	396.17	2 1/8"
W6	396.00	1 1/2"
E1	396.13	2"
E2	395.96	2 1/8"
E3	395.78	2 1/8"
E4	395.61	2 1/8"
E5	395.44	2 1/8"
E6	395.27	-



PLOT DATE = 9/7/2023
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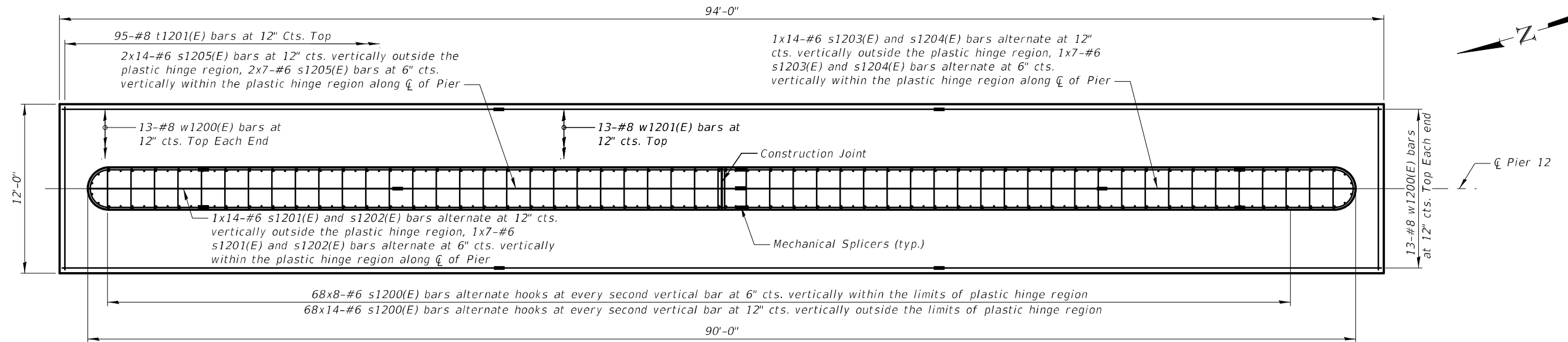


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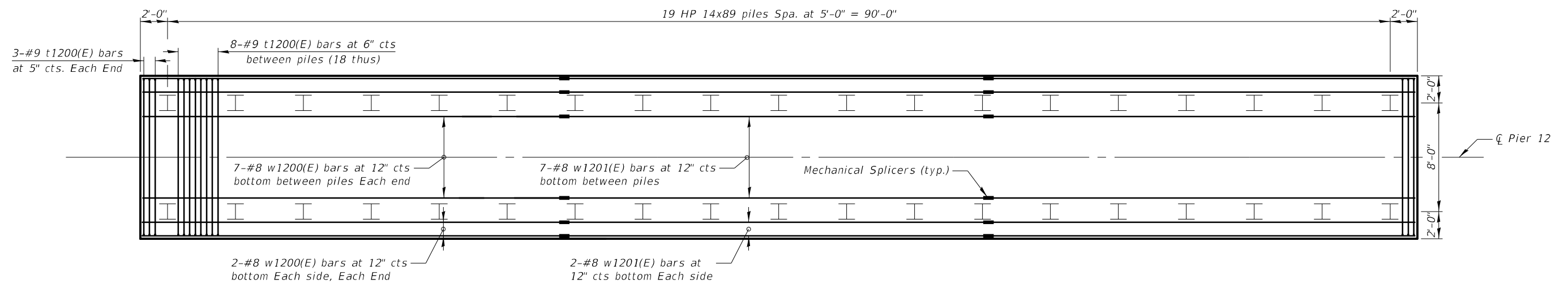
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER NO. 12 PLAN AND ELEVATION
 STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	372
CONTRACT NO. 78057				



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 5'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
 HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1202.dgn

KNIGHT
Engineers & Architects

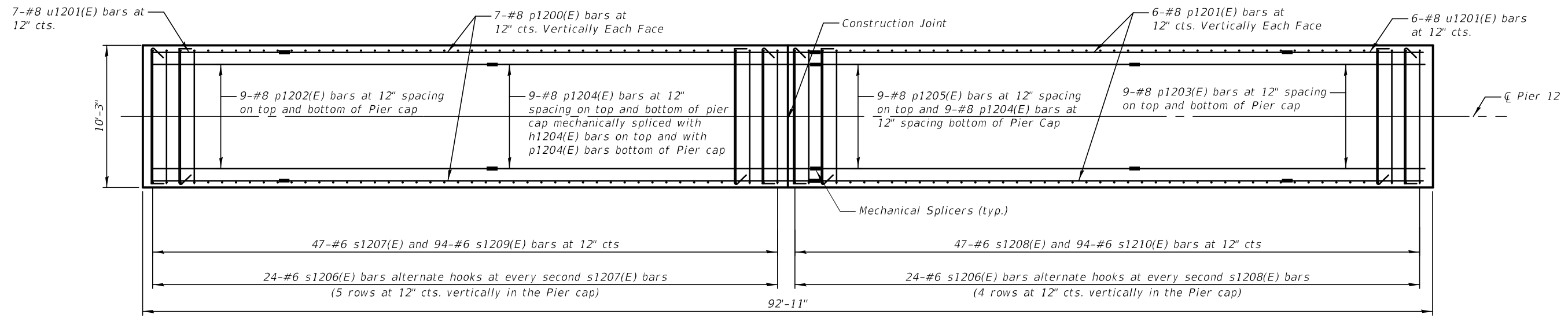
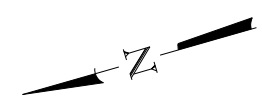
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CHECKED - LS	REVISED
DRAWN - PP	REVISED
CHECKED - MA	REVISED
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

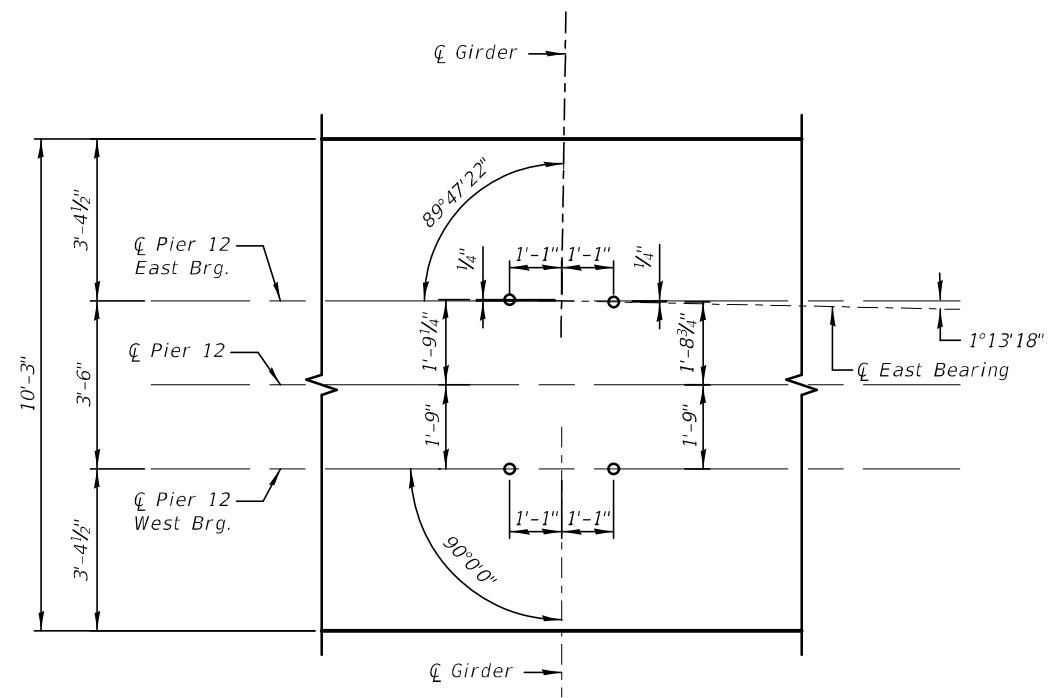
PIER NO. 12 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-189 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	373
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



PIER 12 BEARING ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\BR1203.dgn



DESIGNED	-	MA
CHECKED	-	LS
SCALE	-	NONE
DATE	-	6/30/2023

REVIS	-	
CHECKED	-	MA

REVIS	-	
CHECKED	-	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

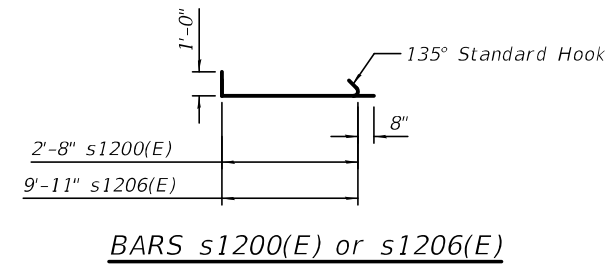
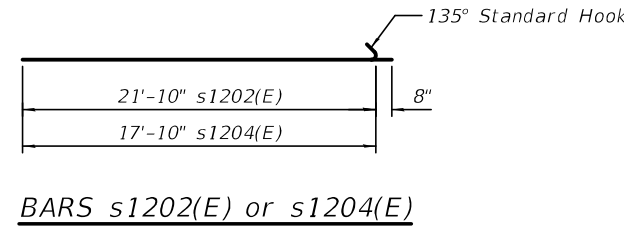
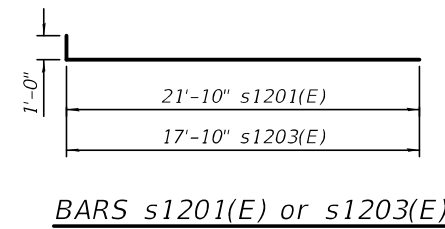
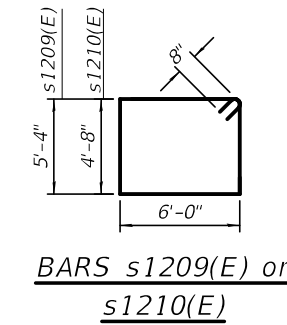
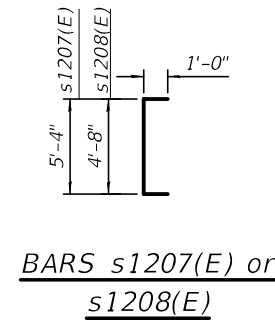
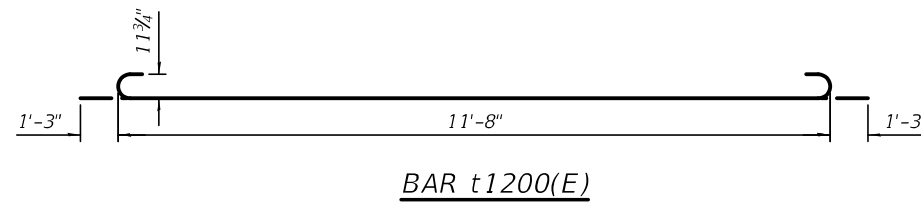
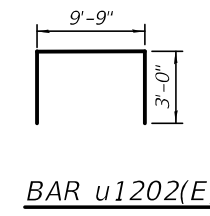
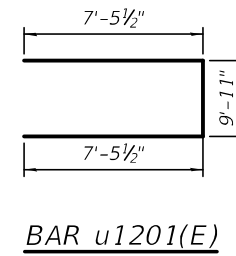
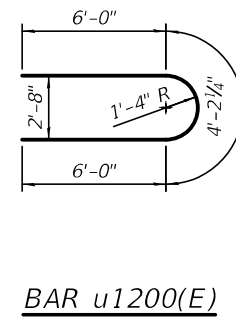
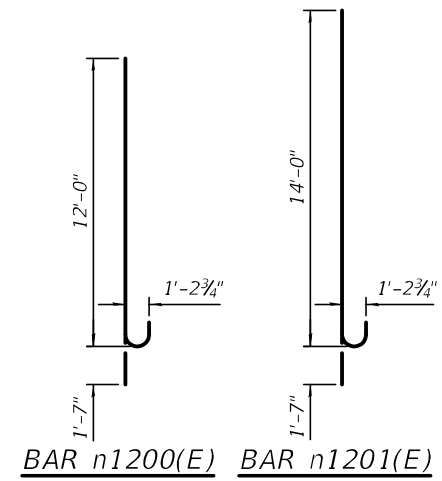
PIER NO. 12 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-190 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	374
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

PIER - 12
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1200(E)	42	#8	39'-6"	=====
h1201(E)	42	#8	35'-6"	=====
h1202(E)	11	#5	15'-5"	=====
h1203(E)	11	#5	25'-8"	=====
h1204(E)	11	#5	20'-11"	=====
n1200(E)	142	#11	13'-7"	=====
n1201(E)	142	#11	15'-7"	=====
p1200(E)	14	#8	40'-10"	=====
p1201(E)	12	#8	36'-10"	=====
p1202(E)	18	#8	23'-4"	=====
p1203(E)	18	#8	19'-3"	=====
p1204(E)	27	#8	25'-0"	=====
p1205(E)	9	#8	26'-10"	=====
s1200(E)	1,496	#6	4'-4"	=====
s1201(E)	11	#6	22'-10"	=====
s1202(E)	10	#6	22'-6"	=====
s1203(E)	10	#6	18'-10"	=====
s1204(E)	11	#6	18'-6"	=====
s1205(E)	42	#6	25'-0"	=====
s1206(E)	216	#6	11'-10"	=====
s1207(E)	47	#6	7'-4"	=====
s1208(E)	47	#6	6'-8"	=====
s1209(E)	94	#6	24'-1"	=====
s1210(E)	94	#6	22'-8"	=====
t1200(E)	150	#9	14'-2"	=====
t1201(E)	95	#8	11'-8"	=====
u1200(E)	42	#8	16'-3"	=====
u1201(E)	13	#8	24'-10"	=====
u1202(E)	67	#5	15'-9"	=====
v1200(E)	142	#11	12'-11"	=====
v1201(E)	142	#11	10'-11"	=====
w1200(E)	48	#8	30'-0"	=====
w1201(E)	24	#8	33'-8"	=====
Concrete Structures		Cu. Yd.	544.1	
Concrete Sealer		Cu. Yd.	6,456	
Reinforcement Bars, Epoxy Coated		Pound	100,280	
Furnishing Steel Piles HP14x89		Foot	2,738	
Driving Piles		Foot	2,738	
Test Pile Steel HP 14x89		Foot	1	
Mechanical Splicer		Each	615	
Pile Shoes		Each	38	



PLOT DATE = 6/23/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-PR1204.dgn

KNIGHT
Engineers & Architects

DESIGNED - MA	REVISIONS
CHECKED - LS	REVISIONS
DRAWN - PP	REVISIONS
CHECKED - MA	REVISIONS
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 12 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-191 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	375
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS	FED. AID PROJECT	



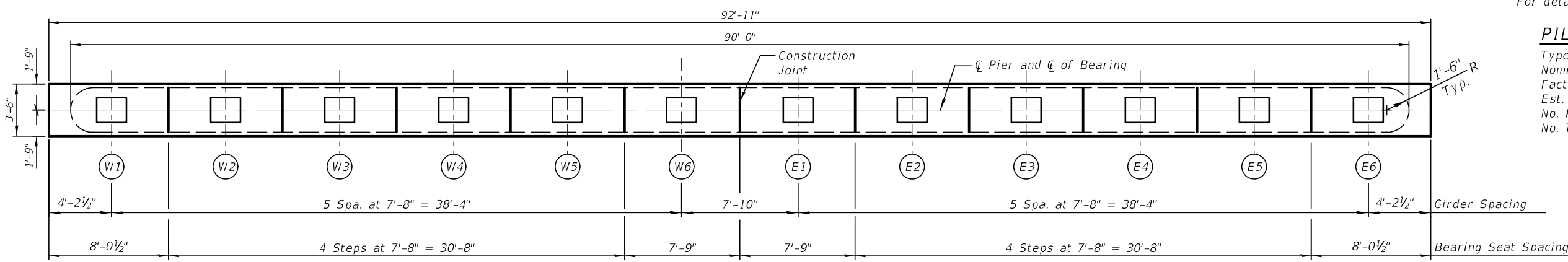
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet S-208

PILE DATA

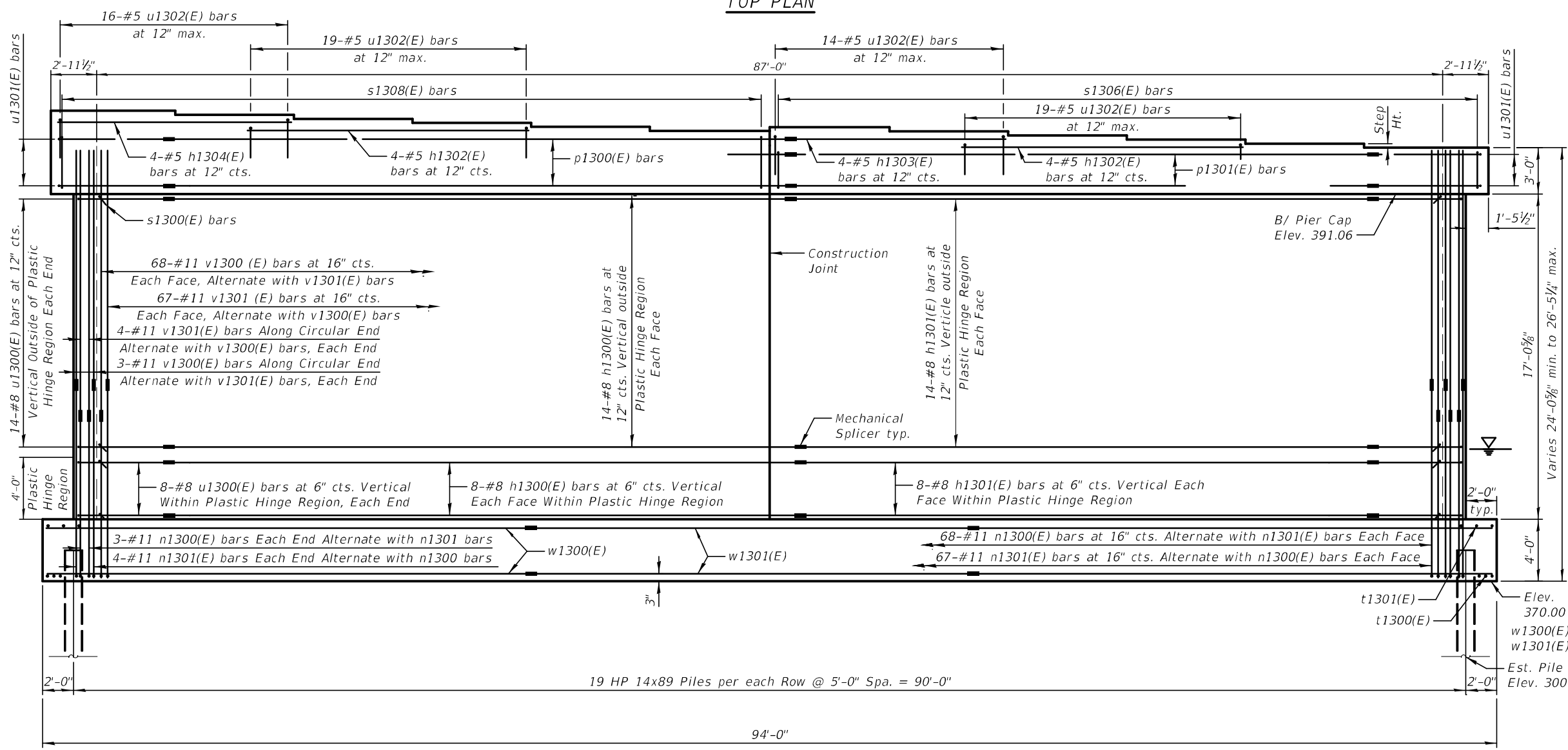
Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 389 kips
 Est. Length: 72 ft
 No. Production Piles: 37
 No. Test Piles: 1

Pier 13 Bearing Seat Elevation

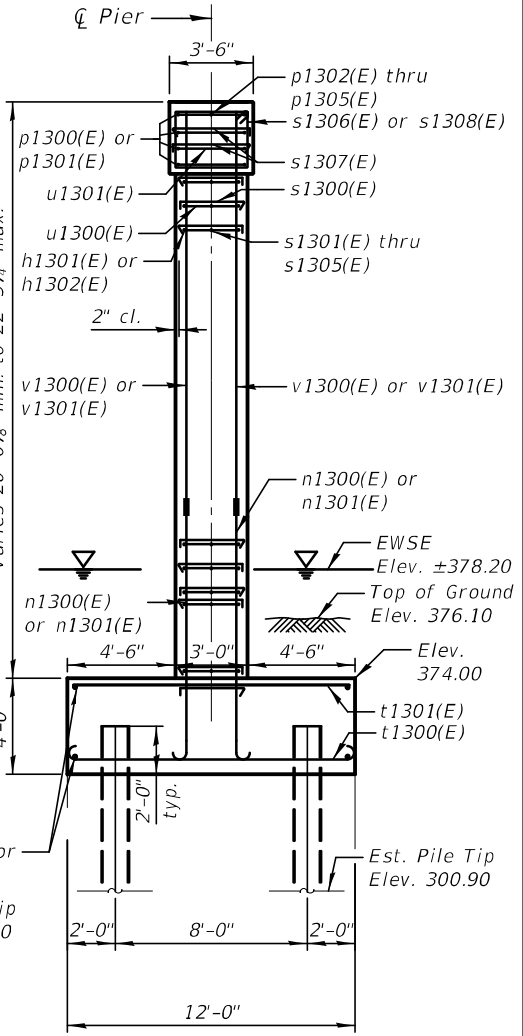
Girder	T/Bearing Seat	Step Height
W1	396.44	3 1/8"
W2	396.18	3 1/8"
W3	395.92	3 1/8"
W4	395.66	3 1/8"
W5	395.39	3 1/8"
W6	395.13	2 3/4"
E1	395.36	3 1/8"
E2	395.10	3 1/8"
E3	394.84	3 1/8"
E4	394.58	3 1/8"
E5	394.32	3 1/8"
E6	394.06	-



TOP PLAN



ELEVATION
(Looking East)



END VIEW

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1301.dgn

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 Engineers & Architects

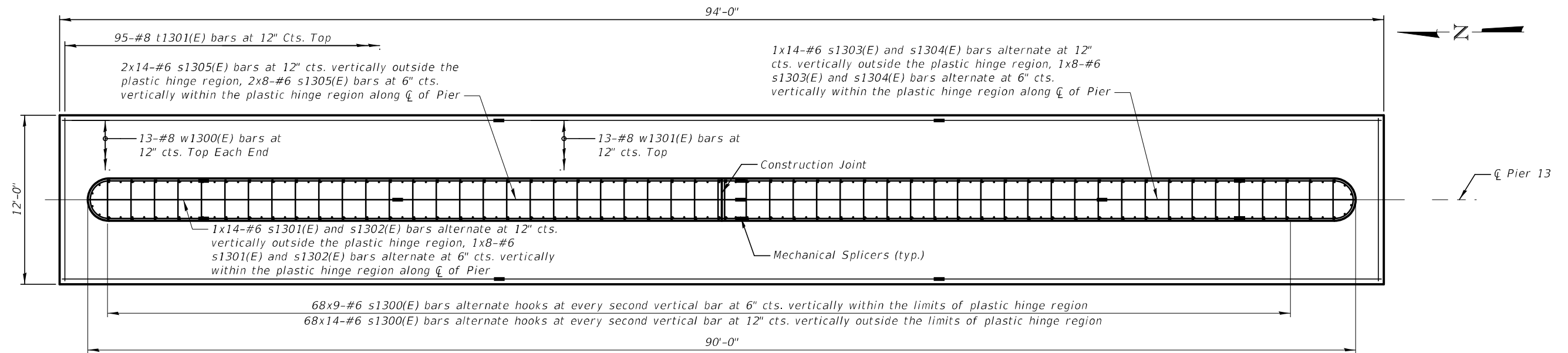
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

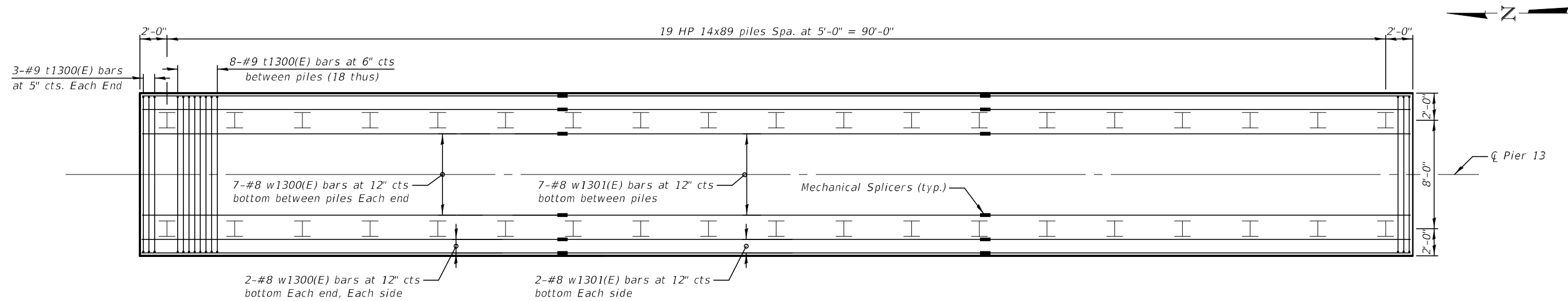
PIER NO. 13 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-192 OF 232 SHEETS


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	376
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
 HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1302.dgn

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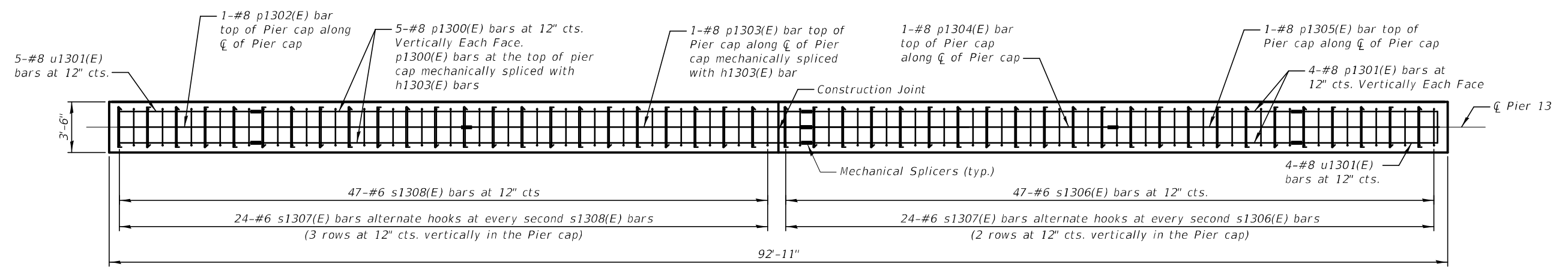
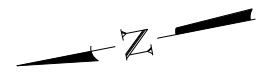
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

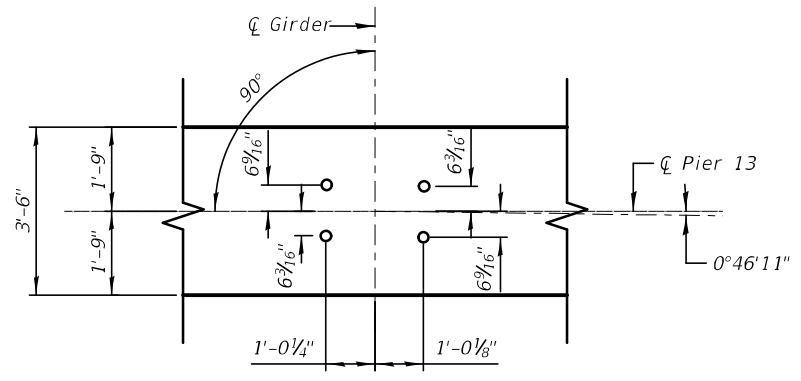
PIER NO. 13 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-193 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	377
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\15\Sheet3\Bridges\7660-50080-PR1303.dgn

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DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

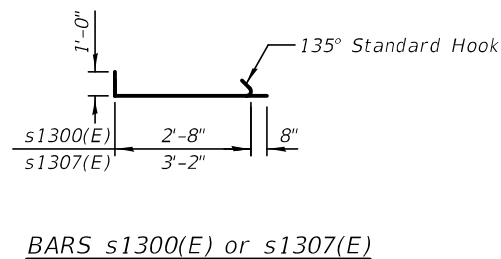
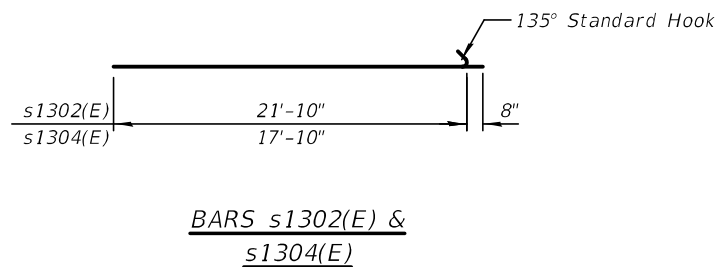
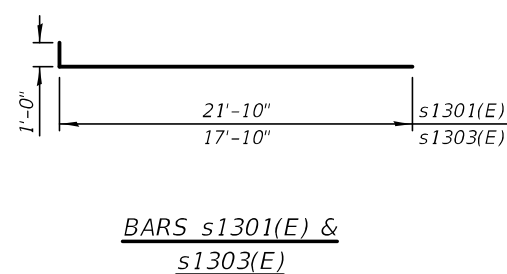
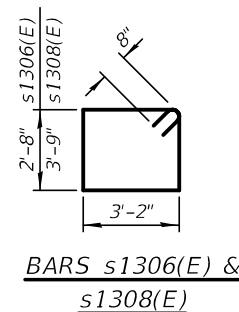
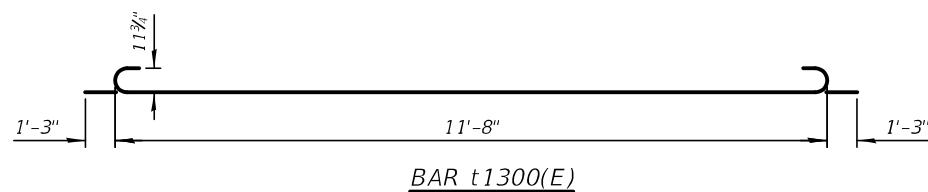
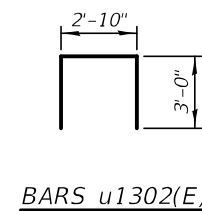
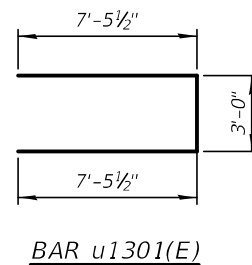
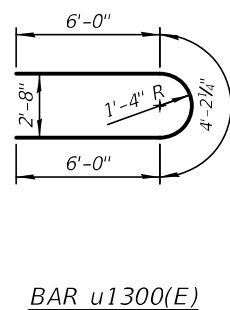
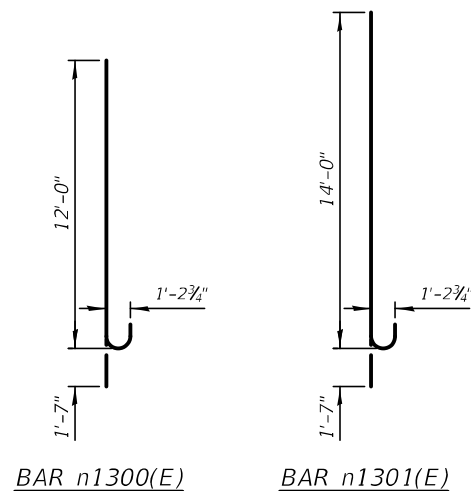
PIER NO. 13 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-194 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	378
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

PIER - 13
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1300(E)	44	#8	39'-6"	=====
h1301(E)	44	#8	35'-6"	=====
h1302(E)	8	#5	18'-4"	=====
h1303(E)	4	#5	13'-5"	=====
h1304(E)	4	#5	15'-5"	=====
n1300(E)	142	#11	13'-7"	=====
n1301(E)	142	#11	15'-7"	=====
p1300(E)	10	#8	40'-10"	=====
p1301(E)	8	#8	36'-10"	=====
p1302(E)	1	#8	23'-4"	=====
p1303(E)	1	#8	25'-0"	=====
p1304(E)	1	#8	26'-10"	=====
p1305(E)	1	#8	19'-3"	=====
s1300(E)	1,564	#6	4'-4"	=====
s1301(E)	11	#6	22'-10"	=====
s1302(E)	11	#6	18'-6"	=====
s1303(E)	11	#6	18'-10"	=====
s1304(E)	11	#6	18'-6"	=====
s1305(E)	44	#6	25'-0"	=====
s1306(E)	47	#6	13'-0"	=====
s1307(E)	120	#6	4'-10"	=====
s1308(E)	47	#6	15'-2"	=====
t1300(E)	150	#9	14'-2"	=====
t1301(E)	95	#8	11'-8"	=====
u1300(E)	44	#8	16'-3"	=====
u1301(E)	9	#8	17'-11"	=====
u1302(E)	68	#5	8'-10"	=====
v1300(E)	142	#11	11'-6"	=====
v1301(E)	142	#11	9'-6"	=====
w1300(E)	48	#8	30'-0"	=====
w1301(E)	24	#8	33'-8"	=====
Concrete Structures			Cu. Yd.	390.3
Reinforcement Bars, Epoxy Coated			Pound	84,280
Furnishing Steel Piles HP14x89			Foot	2,664
Driving Piles			Foot	2,664
Test Pile steel HP 14x89			Each	1
Mechanical Splicer			Each	561
Pile Shoes			Each	38



PLOT DATE = 8/9/2023
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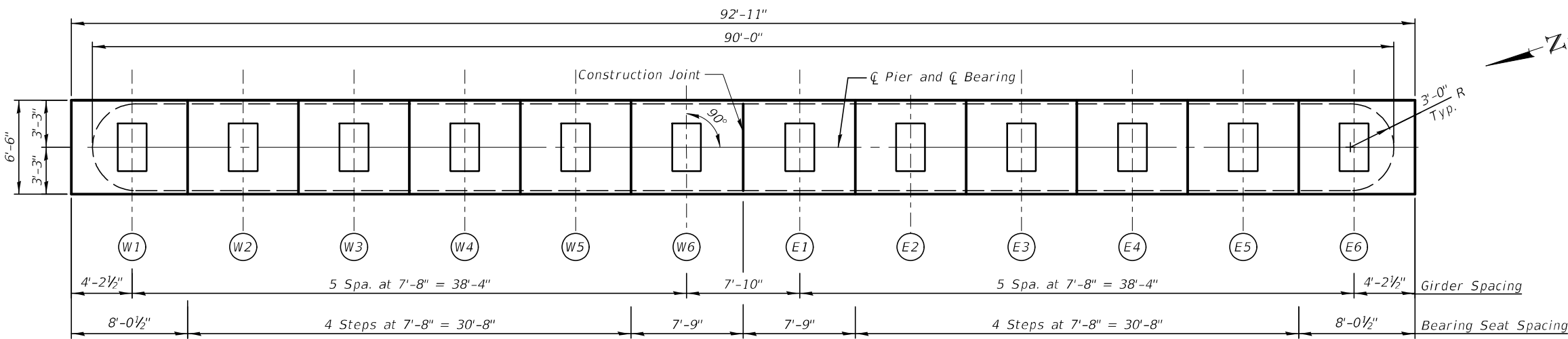
KNIGHT
Engineers & Architects

DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

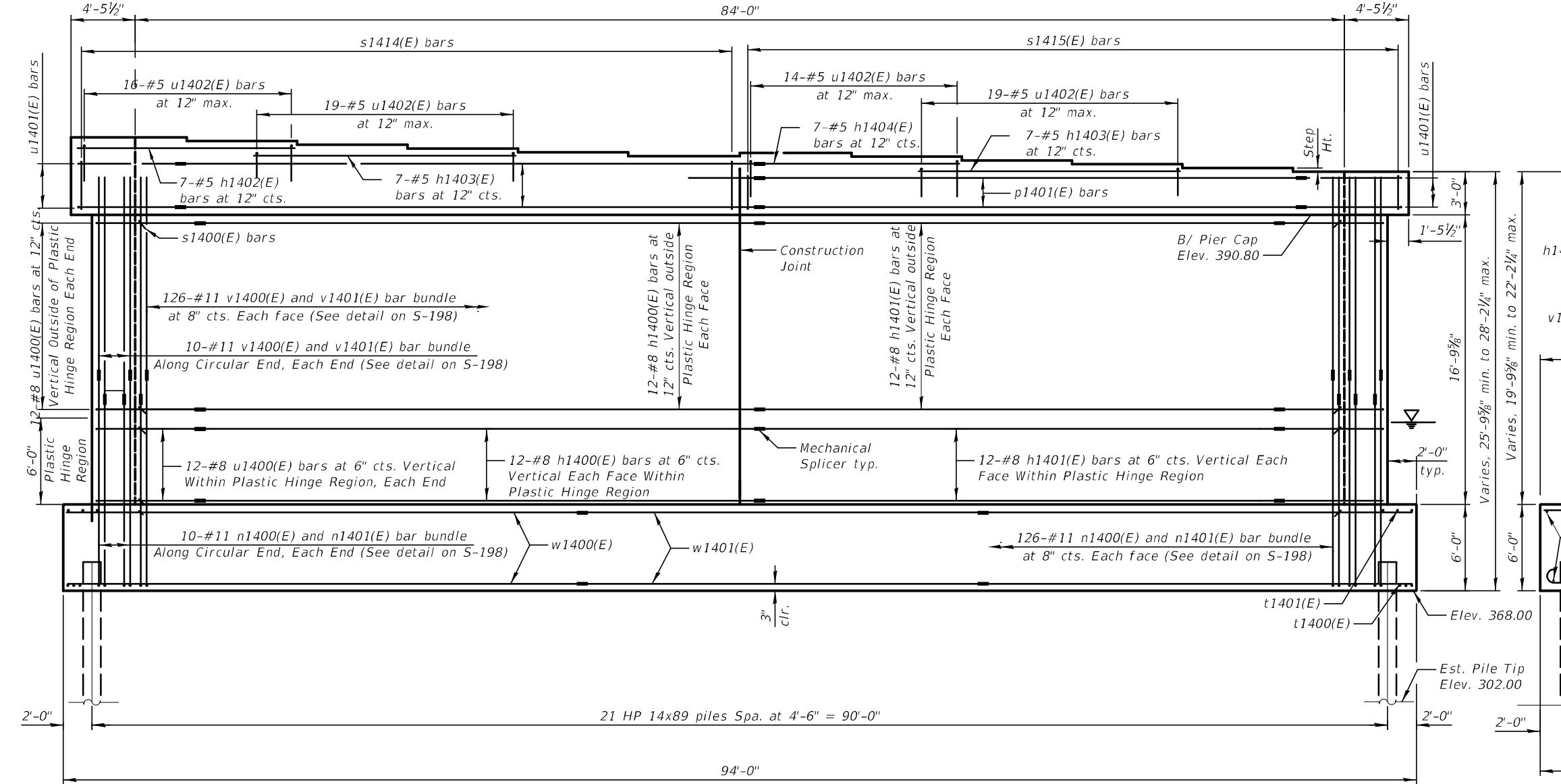
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 13 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

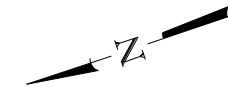
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	379
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



TOP PLAN
84'-0"



ELEVATION
(Looking East)



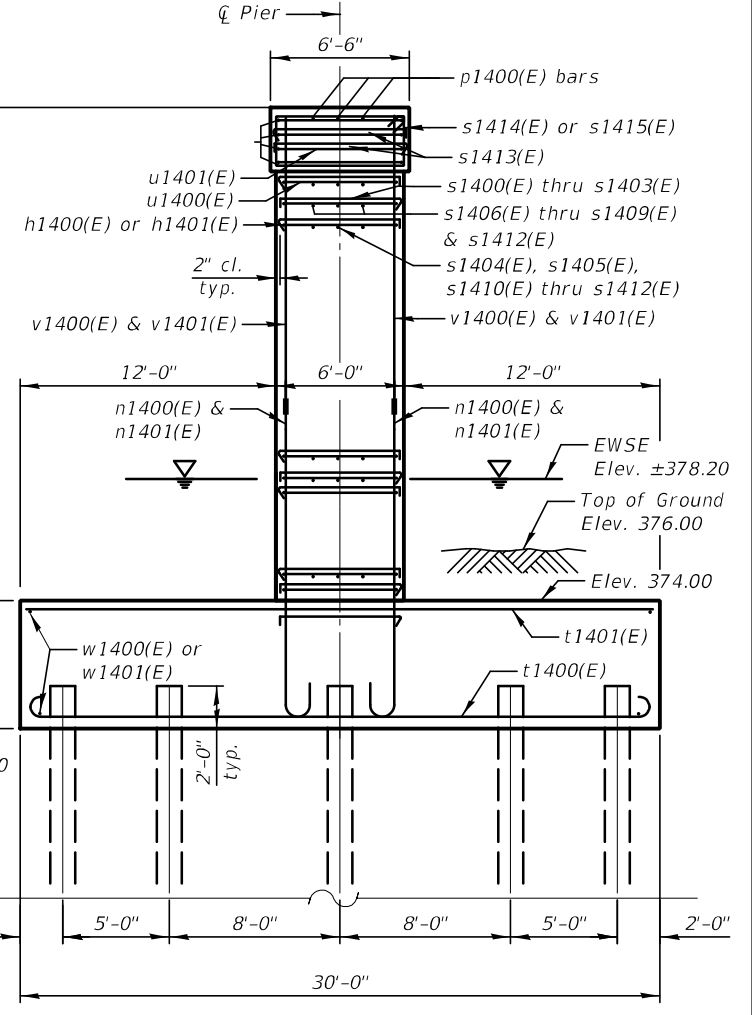
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet S-208

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 383 kips
Est. Length: 68 ft
No. Production Piles: 104
No. Test Piles: 1

Pier 14 Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	396.18	3 1/8"
W2	395.92	3 1/8"
W3	395.66	3 1/8"
W4	395.40	3 1/8"
W5	395.14	3 1/8"
W6	394.88	2 7/8"
E1	395.10	3 1/8"
E2	394.85	3 1/8"
E3	394.58	3 1/8"
E4	394.32	3 1/8"
E5	394.06	3 1/8"
E6	393.80	-



END VIEW

PLOT DATE = 6/23/2023
FILE NAME: L:\7660\CADD\Sheet\Bridges\7660-5008\PR1401.dgn



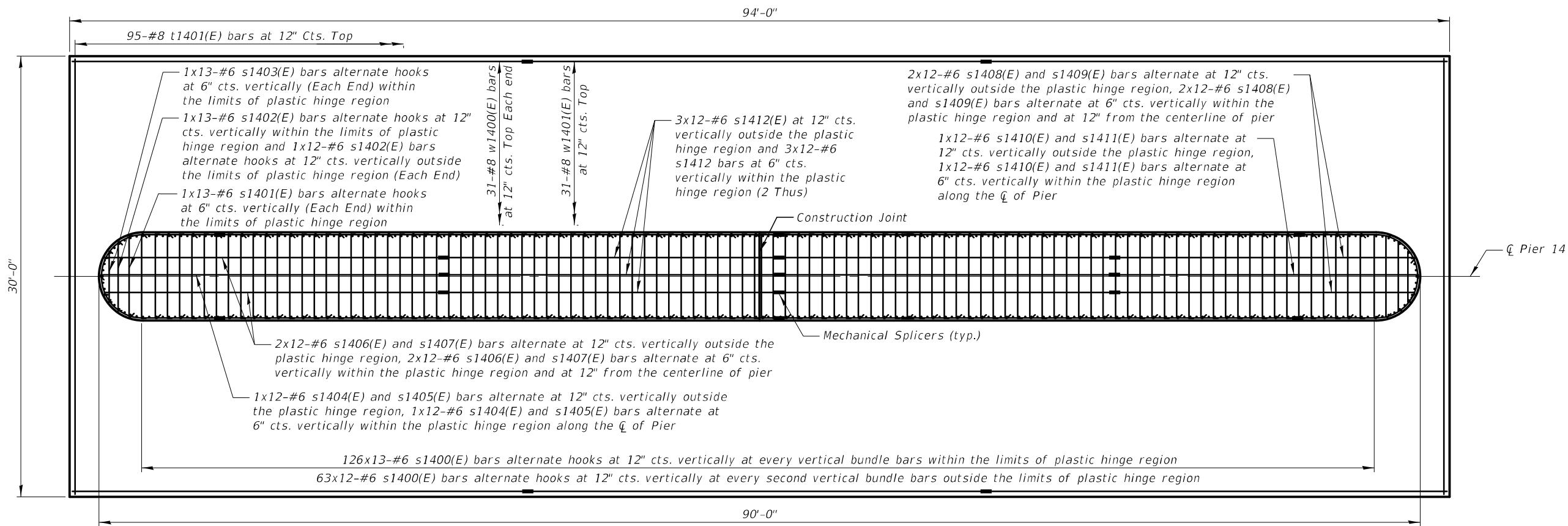
DESIGNED - MA	REVISOR
CHECKED - LS	REVISOR
DRAWN - PP	REVISOR
CHECKED - MA	REVISOR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

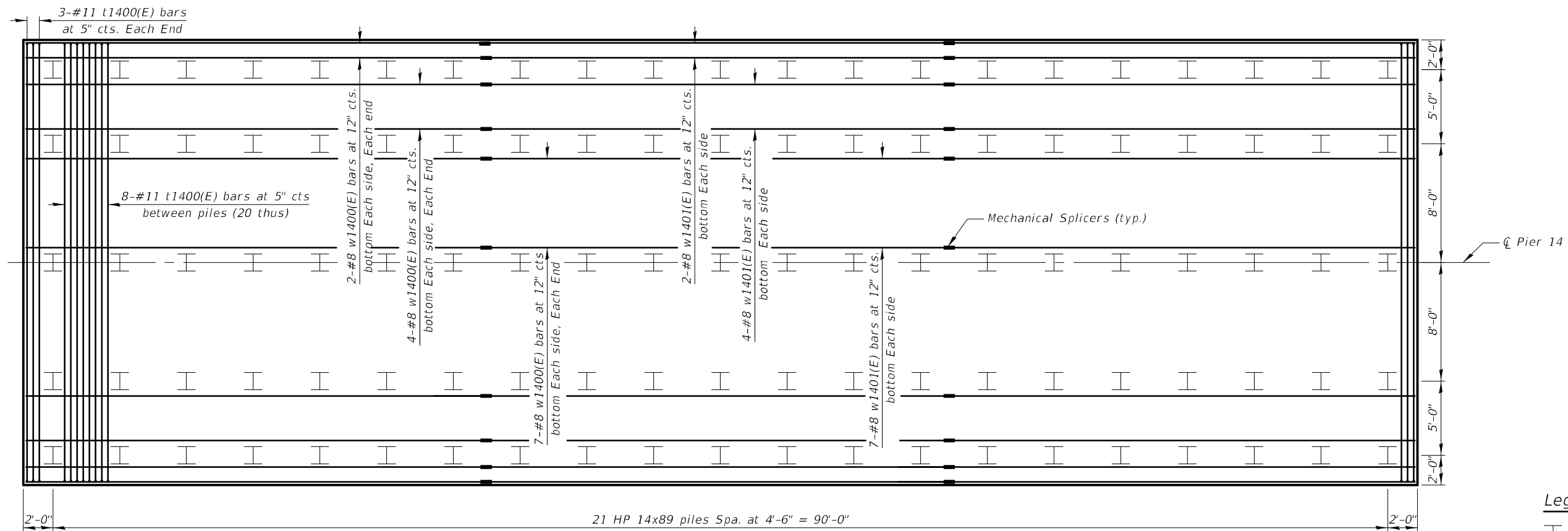
PIER NO. 14 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	380
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

SHEET S-196 OF 232 SHEETS



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
HP 14x89 Pile

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CADD\Sheets\Bridges\7660-5008\PIR1402.dgn

KNIGHT
Engineers & Architects

DESIGNED	-	MA
CHECKED	-	LS
SCALE	-	NONE
DATE	-	6/30/2023

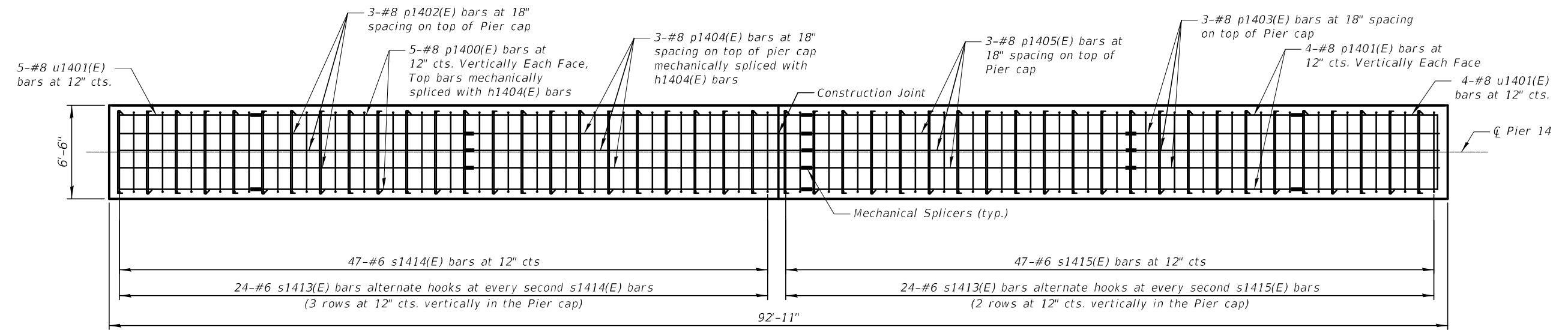
DESIGNED	-	MA	REVISED
CHECKED	-	LS	REVISED
DRAWN	-	PP	REVISED
CHECKED	-	MA	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

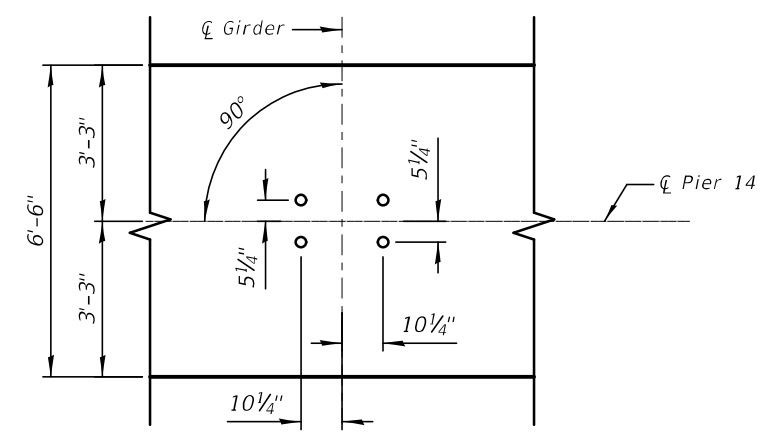
PIER NO. 14 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-197 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	381
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\3\Sheets\Bridges\7660-50080\PIR1403.dgn

KNIGHT
Engineers & Architects

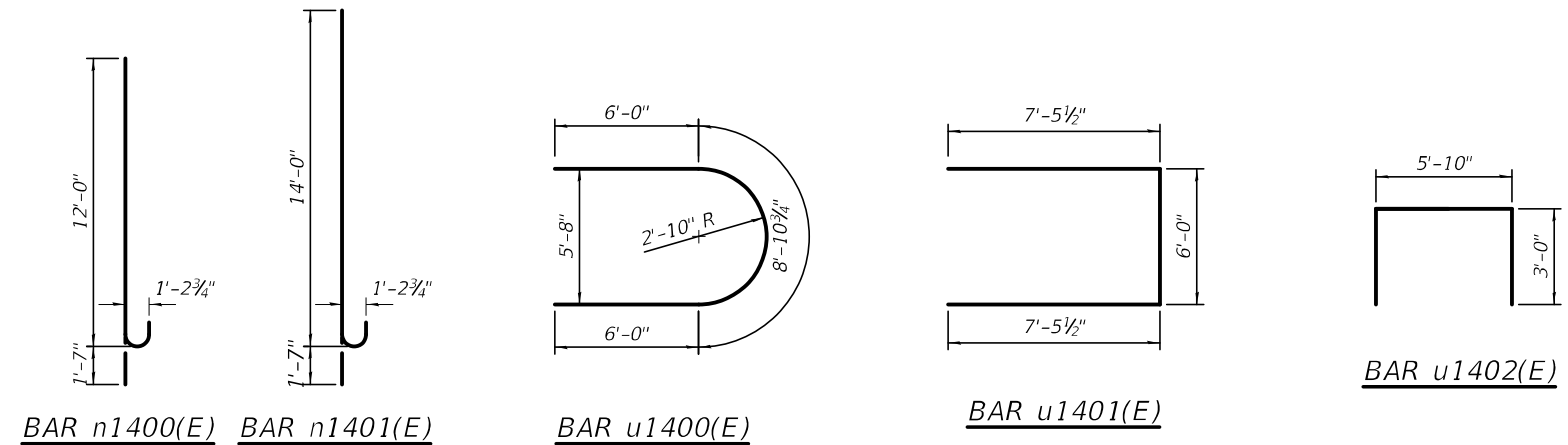
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SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

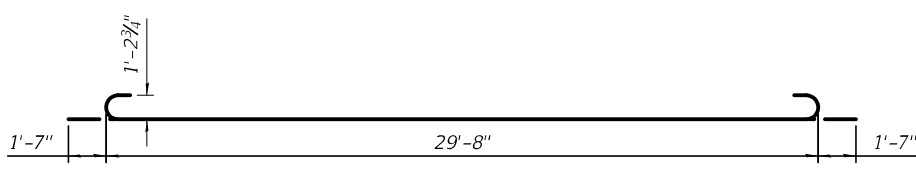
PIER NO. 14 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
 SHEET S-198 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	382
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

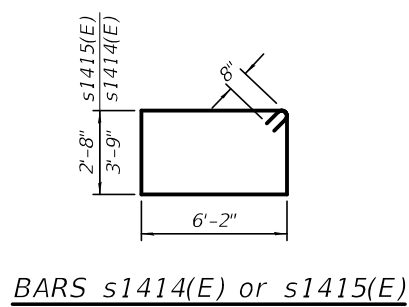
**PIER - 14
BILL OF MATERIAL**



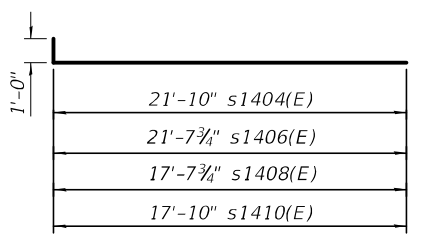
BAR n1400(E) BAR n1401(E) BAR u1400(E) BAR u1401(E) BAR u1402(E)



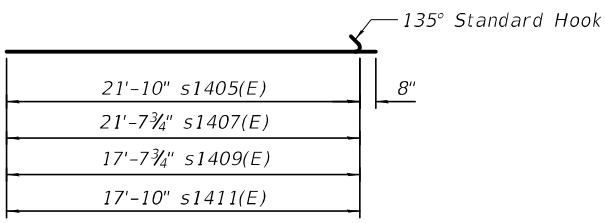
BAR t1400(E)



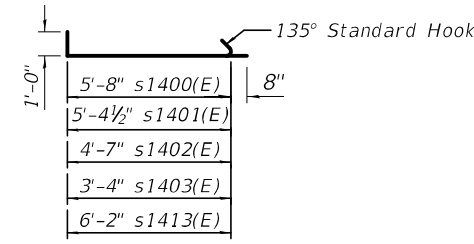
BARS s1414(E) or s1415(E)



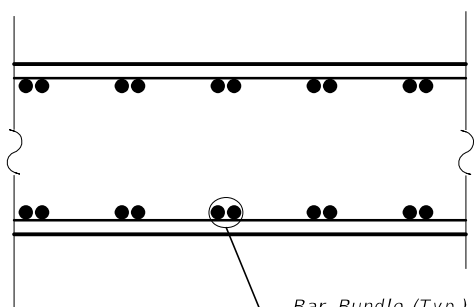
BARS s1404(E), s1406(E), s1408(E) or s1410(E)



BARS s1405(E), s1407(E), s1409(E) or s1411(E)



BARS s1400(E), s1401(E), s1402(E), s1403(E) and s1413(E)



Bar Bundle (Typ.)
272 sets of 1-n1400(E) mechanically spliced to 1-v1400(E)
272 sets of 1-n1401(E) mechanically spliced to 1-v1401(E)

BAR BUNDLE DETAIL

Bar	No.	Size	Length	Shape
h1400(E)	48	#8	38'-0"	=====
h1401(E)	48	#8	34'-0"	=====
h1402(E)	7	#5	15'-4"	=====
h1403(E)	14	#5	18'-2"	=====
h1404(E)	7	#5	15'-1"	=====
n1400(E)	272	#11	13'-7"	=====
n1401(E)	272	#11	15'-7"	=====
p1400(E)	10	#8	40'-10"	=====
p1401(E)	8	#8	36'-10"	=====
p1402(E)	3	#8	23'-4"	=====
p1403(E)	3	#8	19'-3"	=====
p1404(E)	3	#8	25'-0"	=====
p1405(E)	3	#8	26'-10"	=====
s1400(E)	2,394	#6	7'-4"	=====
s1401(E)	26	#6	7'-1"	=====
s1402(E)	50	#6	6'-3"	=====
s1403(E)	26	#6	5'-0"	=====
s1404(E)	12	#6	22'-10"	=====
s1405(E)	12	#6	22'-6"	=====
s1406(E)	24	#6	22'-8"	=====
s1407(E)	24	#6	22'-4"	=====
s1408(E)	24	#6	18'-8"	=====
s1409(E)	24	#6	18'-4"	=====
s1410(E)	12	#6	18'-10"	=====
s1411(E)	12	#6	18'-6"	=====
s1412(E)	144	#6	25'-0"	=====
s1413(E)	120	#6	7'-10"	=====
s1414(E)	47	#6	21'-2"	=====
s1415(E)	47	#6	19'-0"	=====
t1400(E)	166	#11	32'-10"	=====
t1401(E)	95	#8	29'-8"	=====
u1400(E)	48	#8	20'-11"	=====
u1401(E)	9	#8	20'-11"	=====
u1402(E)	68	#5	11'-10"	=====
v1400(E)	272	#11	13'-5"	=====
v1401(E)	272	#11	11'-5"	=====
w1400(E)	114	#8	30'-0"	=====
w1401(E)	57	#8	33'-8"	=====
Concrete Structures		Cu. Yd.	1,054.9	
Reinforcement Bars, Epoxy Coated		Pound	185,110	
Furnishing Steel Piles HP14x89		Foot	7,072	
Driving Piles		Foot	7,072	
Test Pile Steel HP 14x89		Each	1	
Mechanical Splicer		Each	1,055	
Pile Shoes		Each	105	

PLOT DATE = 6/23/2023
FILE NAME: L:\7660\CADD\Struct\Bridges\7660-5008\PIR1404.dgn

KNIGHT
Engineers & Architects

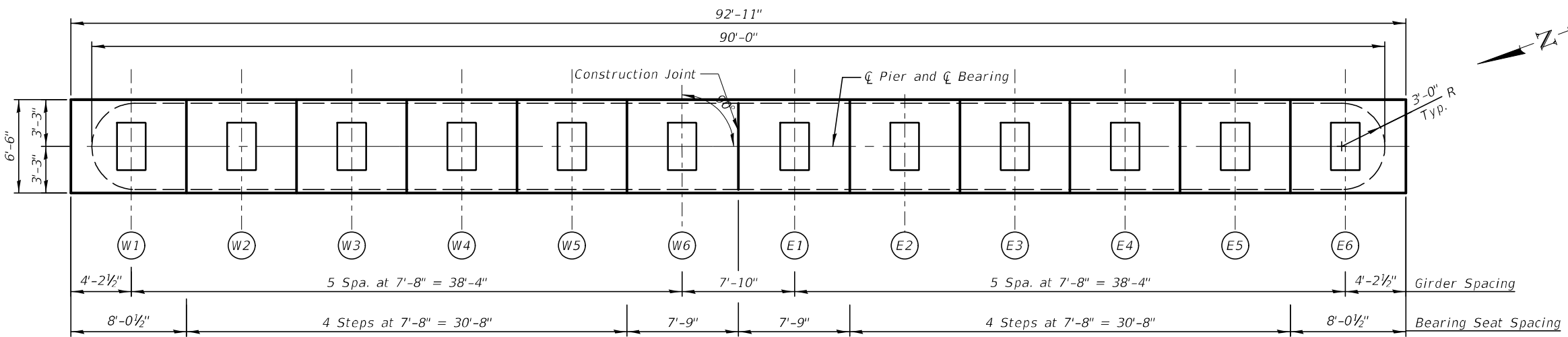
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

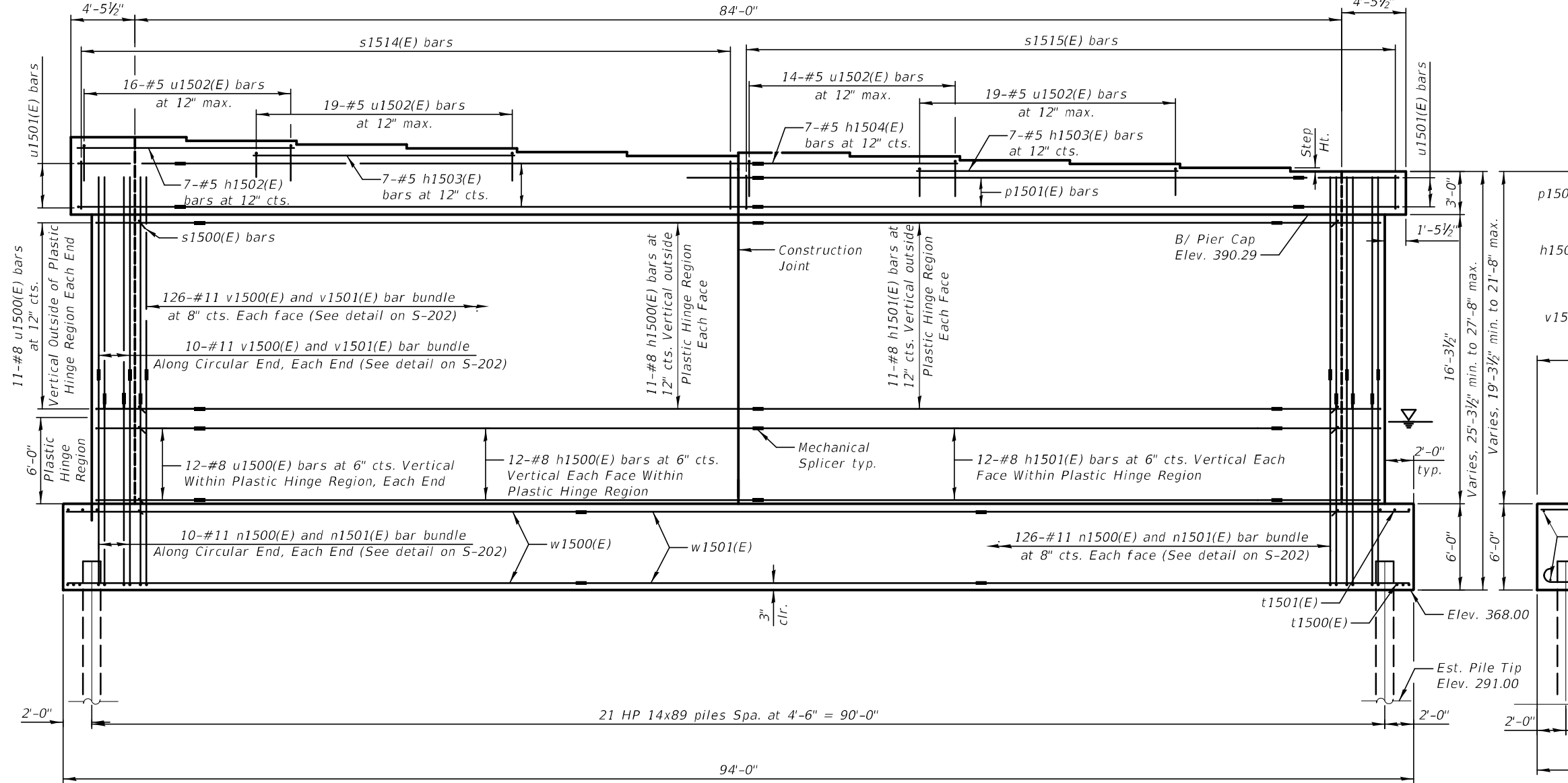
**PIER NO. 14 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

SHEET S-199 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	383
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 78057				



TOP PLAN
84'-0"



ELEVATION
(Looking East)

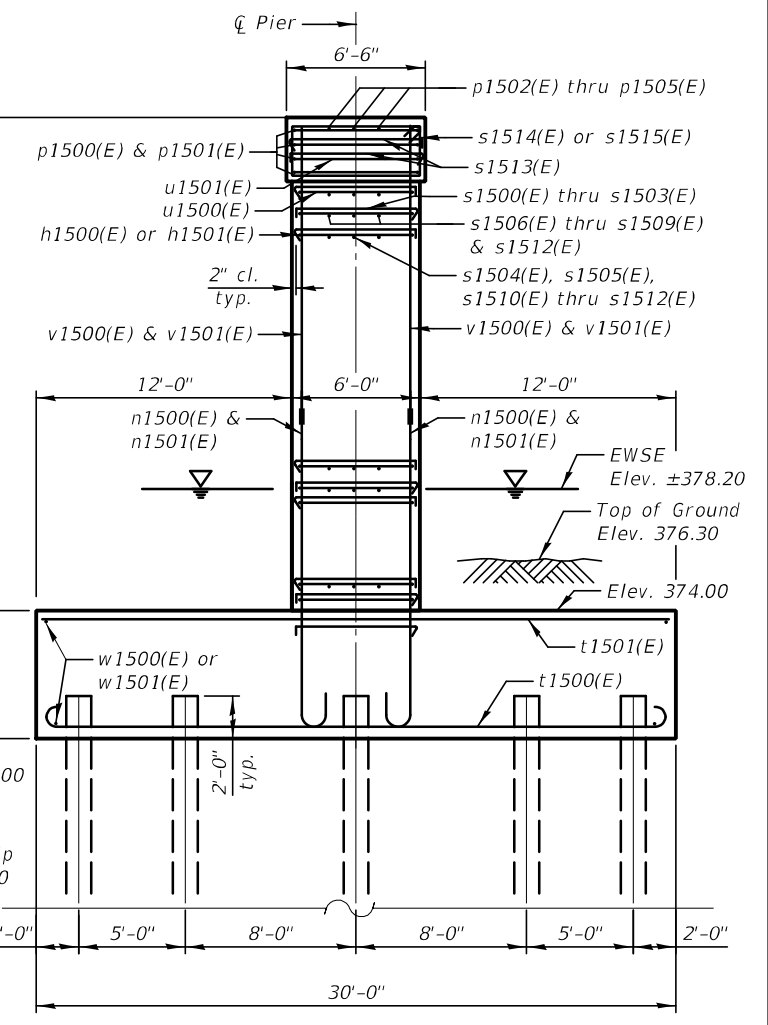
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet S-208

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 373 kips
Est. Length: 74 ft
No. Production Piles: 104
No. Test Piles: 1

Pier 15 Bearing Seat Elevation

Girder	T/Bearing Seat	Step Height
W1	395.68	3 1/8"
W2	395.42	3 1/8"
W3	395.16	3 1/8"
W4	394.90	3 1/8"
W5	394.63	3 1/8"
W6	394.37	2 7/8"
E1	394.60	3 1/8"
E2	394.34	3 1/8"
E3	394.08	3 1/8"
E4	393.82	3 1/8"
E5	393.56	3 1/8"
E6	393.29	-



END VIEW

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1501.dgn



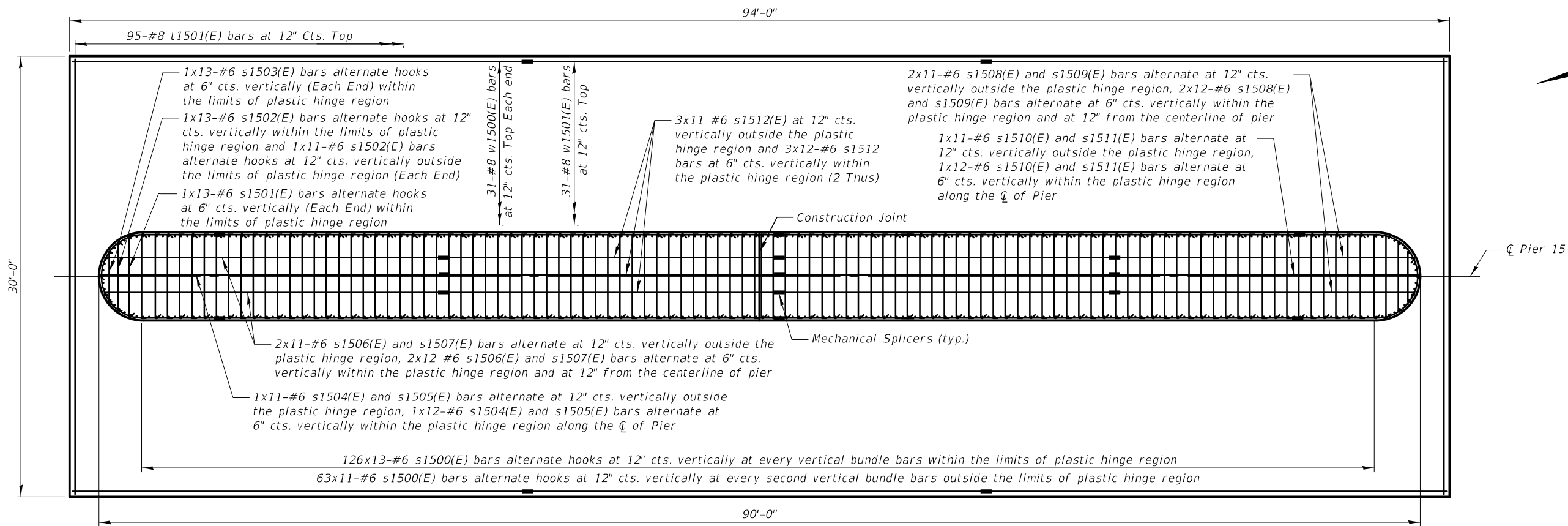
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

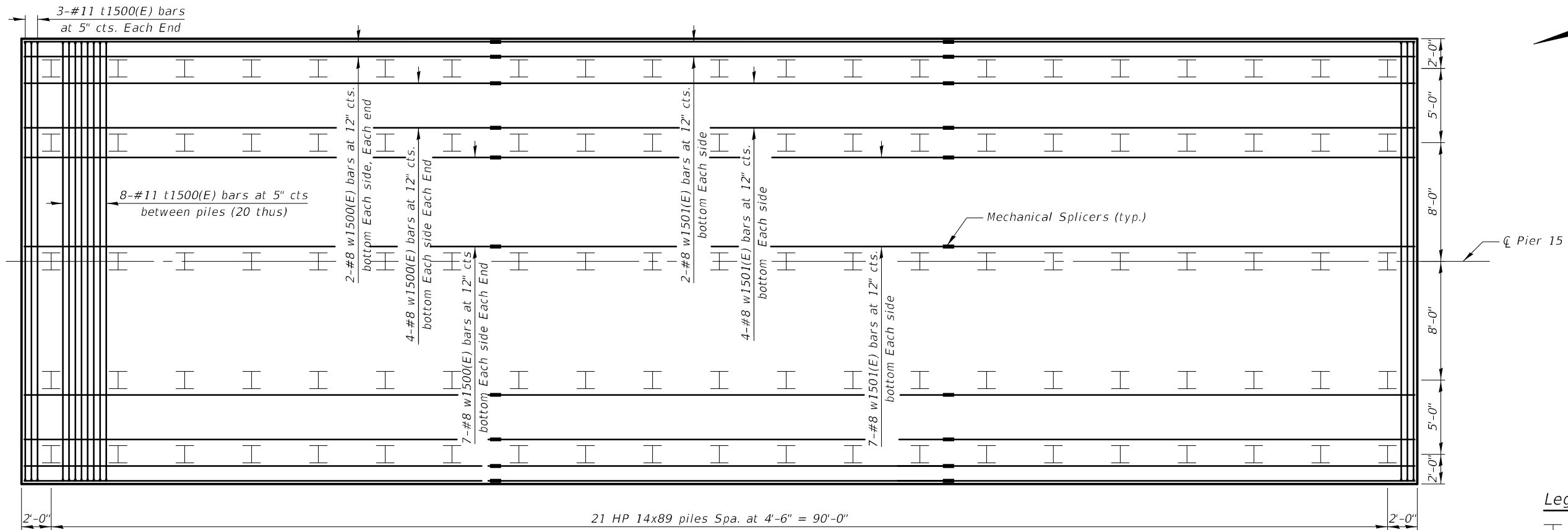
PIER NO. 15 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	384
CONTRACT NO. 78057				
PUBLIC WORKS		ILLINOIS FED. AID PROJECT		

SHEET S-200 OF 232 SHEETS



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\3\Sheets\Bridges\7660-5008\PR1502.dgn

KNIGHT
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DESIGNED	-	MA
CHECKED	-	LS
SCALE	-	NONE
DATE	-	6/30/2023

DESIGNED	-	MA
CHECKED	-	LS
DRAWN	-	PP
CHECKED	-	MA

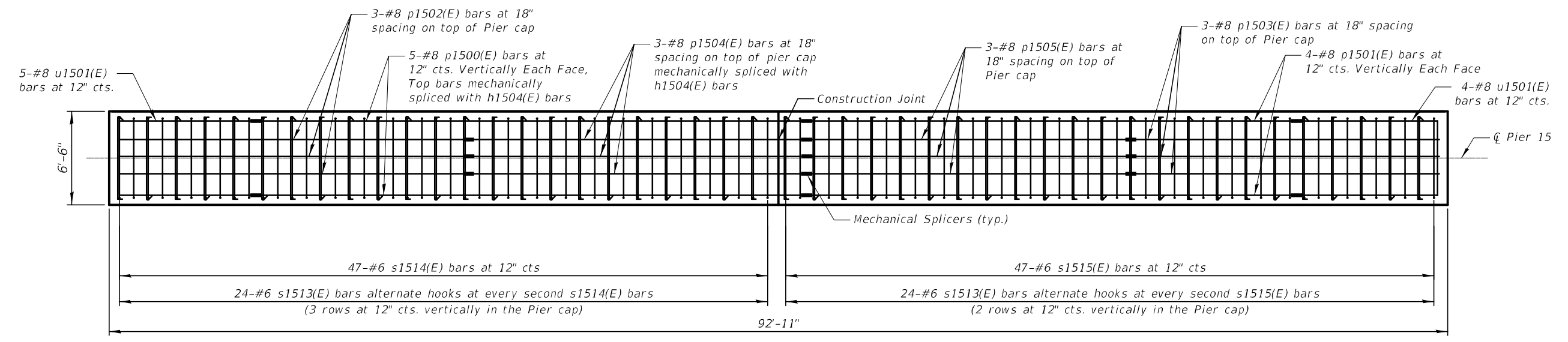
REVISED	
REVISED	
REVISED	
REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

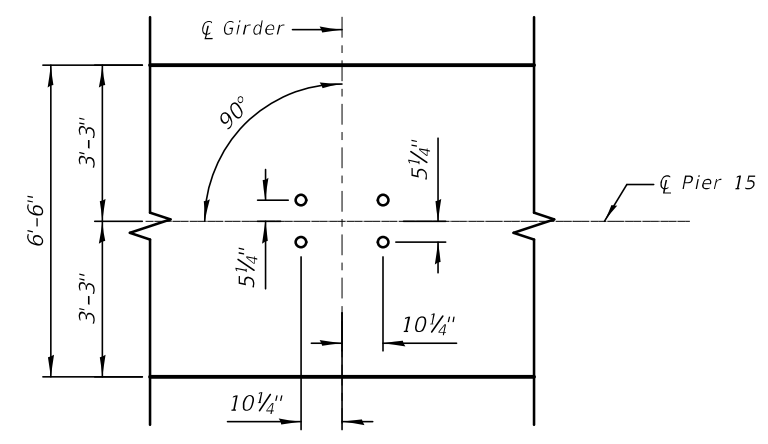
PIER NO. 15 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-201 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	385
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME: L:\7660\CAD\3\Sheets\Bridges\7660-50080-PR1503.dgn

KNIGHT
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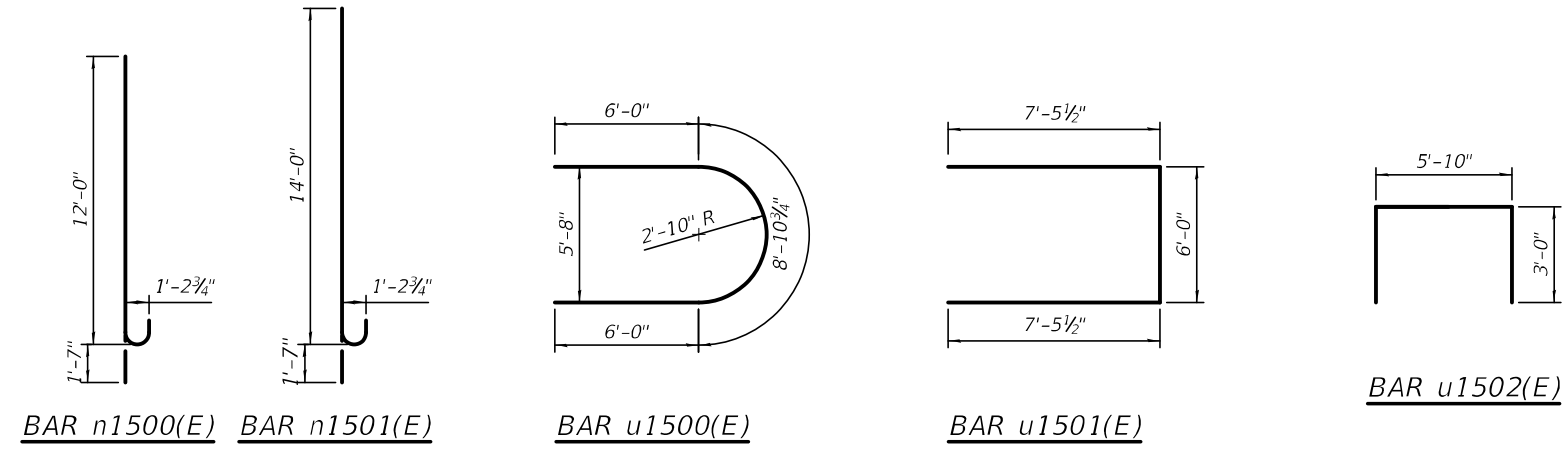
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 15 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
 SHEET S-202 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	386
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		

**PIER - 15
BILL OF MATERIAL**

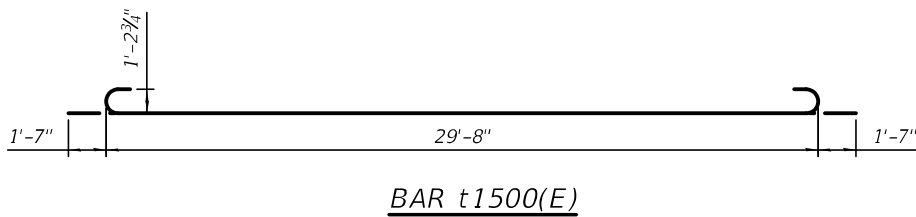


BAR n1500(E) BAR n1501(E)

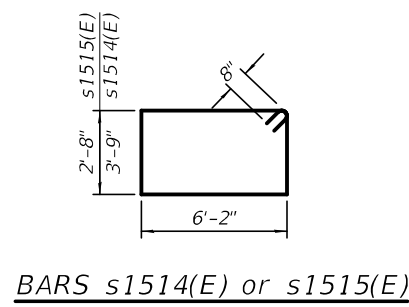
BAR u1500(E)

BAR u1501(E)

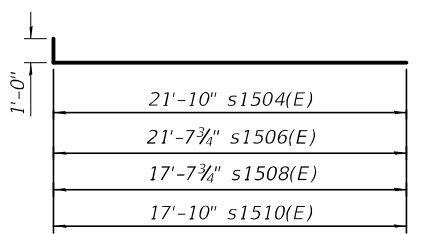
BAR u1502(E)



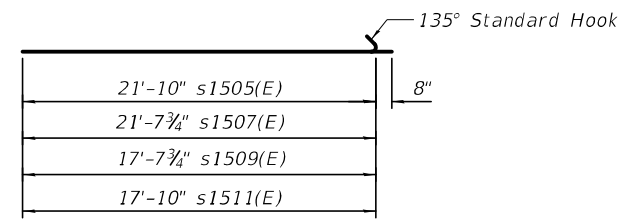
BAR t1500(E)



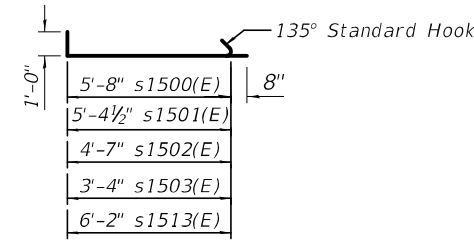
BARS s1514(E) or s1515(E)



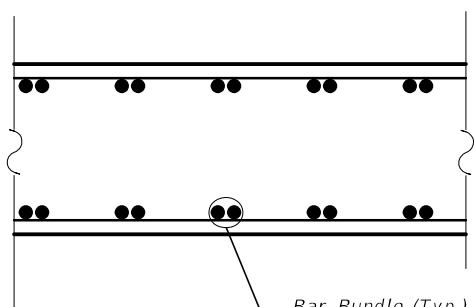
BARS s1504(E), s1506(E), s1508(E) or s1510(E)



BARS s1505(E), s1507(E), s1509(E) or s1511(E)



BARS s1500(E), s1501(E), s1502(E), s1503(E) and s1513(E)



BAR BUNDLE DETAIL

Bar Bundle (Typ.)
272 sets of 1-n1500(E) mechanically spliced to 1-v1500(E)
272 sets of 1-n1501(E) mechanically spliced to 1-v1501(E)

Bar	No.	Size	Length	Shape
h1500(E)	46	#8	38'-0"	=====
h1501(E)	46	#8	34'-0"	=====
h1502(E)	7	#5	15'-4"	=====
h1503(E)	14	#5	18'-2"	=====
h1504(E)	7	#5	15'-1"	=====
n1500(E)	272	#11	13'-7"	=====
n1501(E)	272	#11	15'-7"	=====
p1500(E)	10	#8	40'-10"	=====
p1501(E)	8	#8	36'-10"	=====
p1502(E)	3	#8	23'-4"	=====
p1503(E)	3	#8	19'-3"	=====
p1504(E)	3	#8	25'-0"	=====
p1505(E)	3	#8	26'-10"	=====
s1500(E)	2,331	#6	7'-4"	=====
s1501(E)	26	#6	7'-1"	=====
s1502(E)	48	#6	6'-3"	=====
s1503(E)	26	#6	5'-0"	=====
s1504(E)	12	#6	22'-10"	=====
s1505(E)	11	#6	22'-6"	=====
s1506(E)	22	#6	22'-8"	=====
s1507(E)	24	#6	22'-4"	=====
s1508(E)	24	#6	18'-8"	=====
s1509(E)	22	#6	18'-4"	=====
s1510(E)	12	#6	18'-10"	=====
s1511(E)	11	#6	18'-6"	=====
s1512(E)	138	#6	25'-0"	=====
s1513(E)	120	#6	7'-10"	=====
s1514(E)	47	#6	21'-2"	=====
s1515(E)	47	#6	19'-0"	=====
t1500(E)	166	#11	32'-10"	=====
t1501(E)	95	#8	29'-8"	=====
u1500(E)	46	#8	20'-11"	=====
u1501(E)	9	#8	20'-11"	=====
u1502(E)	68	#5	11'-10"	=====
v1500(E)	272	#11	12'-11"	=====
v1501(E)	272	#11	10'-11"	=====
w1500(E)	114	#8	30'-0"	=====
w1501(E)	57	#8	33'-8"	=====
Concrete Structures		Cu. Yd.	1,062.7	
Reinforcement Bars, Epoxy Coated		Pound	183,460	
Furnishing Steel Piles HP14x89		Foot	7696	
Driving Piles		Foot	7696	
Test Pile steel HP 14x89		Each	1	
Mechanical Splicer		Each	1,040	
Pile Shoes		Each	105	

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheet\Bridges\7660-5008\PIR1504.dgn

KNIGHT
Engineers & Architects

DESIGNED - MA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

DESIGNED - MA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER NO. 15 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	387
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 78057				

SHEET S-203 OF 232 SHEETS



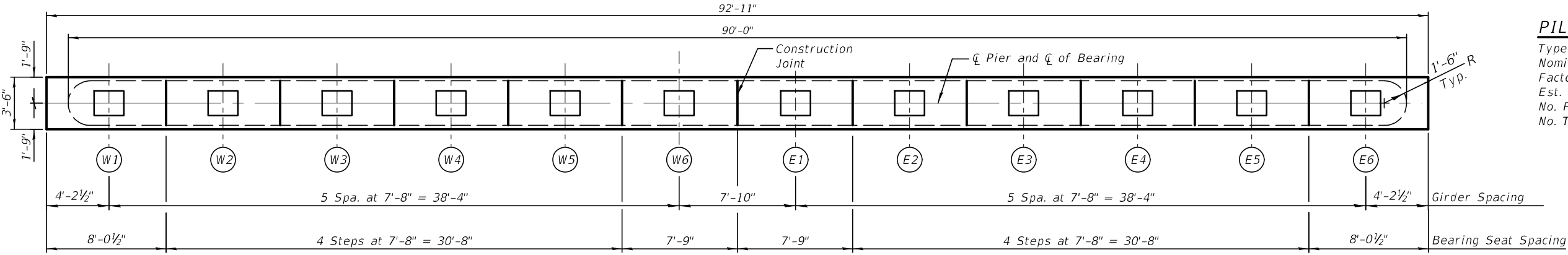
Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 For details of piles, see sheet S-208

PILE DATA

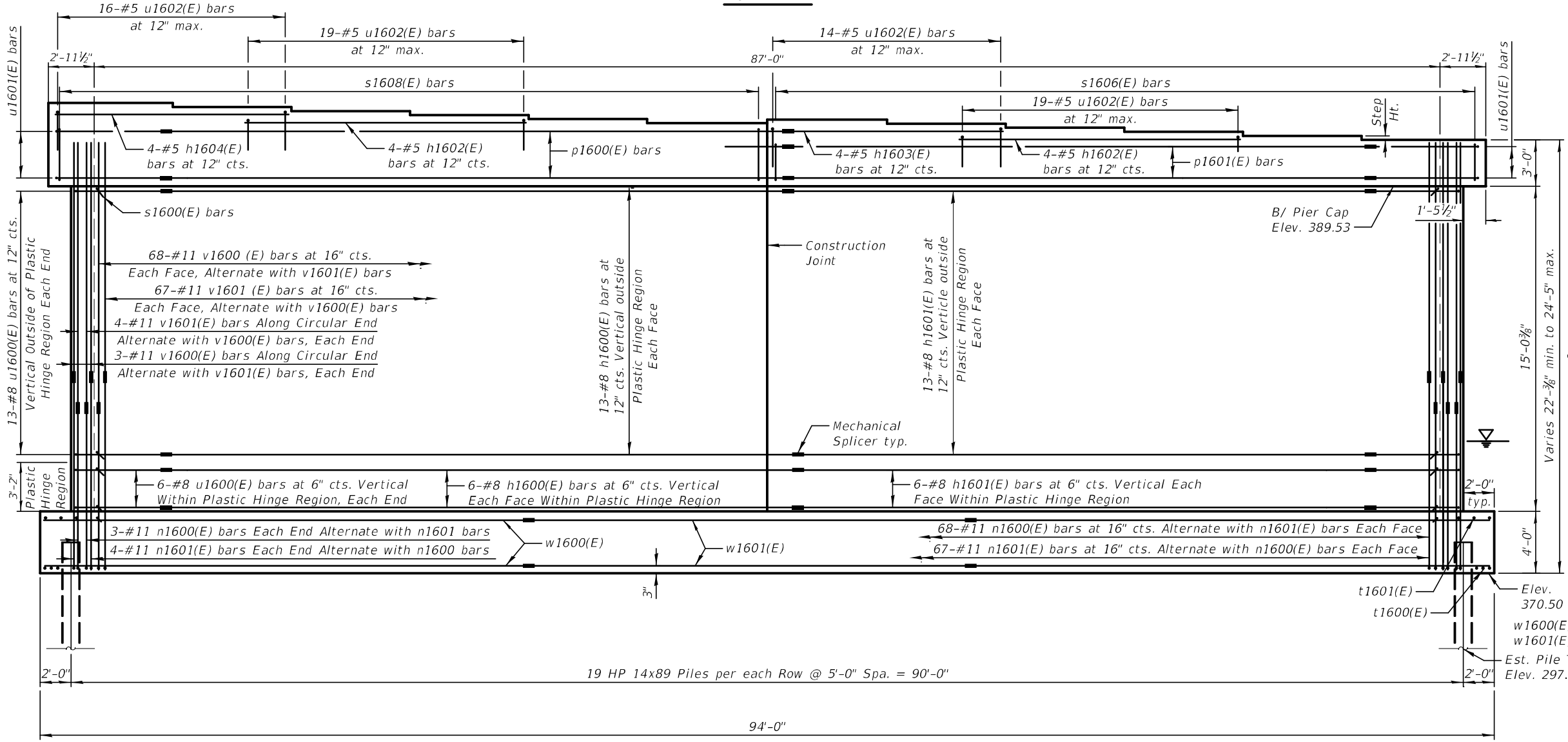
Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 378 kips
 Est. Length: 75.0 ft
 No. Production Piles: 37
 No. Test Piles: 1

Pier 16 Bearing Seat Elevation

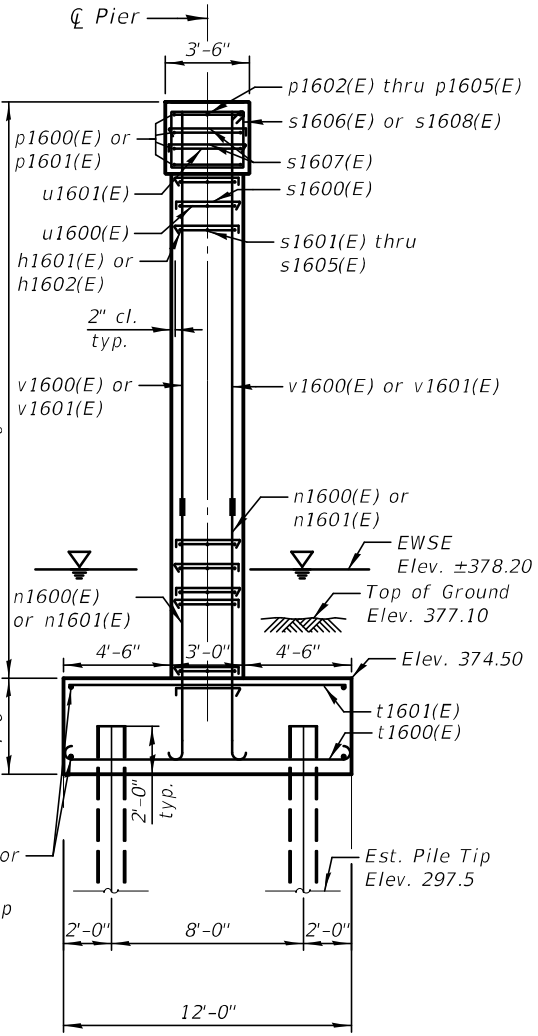
Girder	T/Bearing Seat	Step Height
W1	394.92	3 1/8"
W2	394.66	3 1/8"
W3	394.40	3 1/8"
W4	394.14	3 1/8"
W5	393.87	3 1/8"
W6	393.61	2 5/8"
E1	393.84	3 1/8"
E2	393.58	3 1/8"
E3	393.32	3 1/8"
E4	393.05	3 1/8"
E5	392.79	3 1/8"
E6	392.53	-



TOP PLAN



ELEVATION
(Looking East)



END VIEW

PLOT DATE = 6/23/2023
 FILE NAME: L:\7660\CADD\Struct\Bridges\7660-5008\PR1601.dgn

KNIGHT
 Engineers & Architects

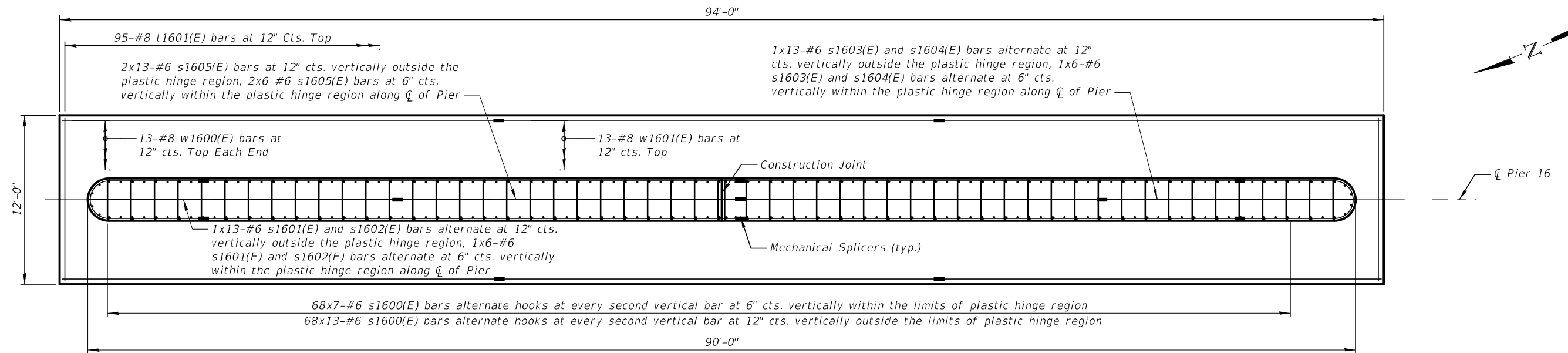
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
SCALE - NONE	REVISION
DATE - 6/30/2023	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

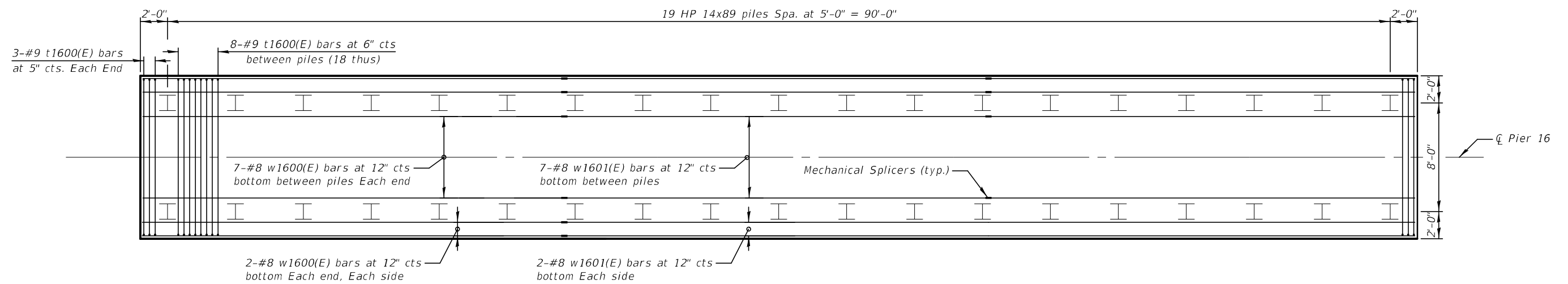
PIER NO. 16 PLAN AND ELEVATION
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-204 OF 232 SHEETS


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	388
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



FOOTING PLAN AND TOP REINFORCEMENT LAYOUT
SHOWING WALL STEM REINFORCEMENT BELOW THE 3'-0" PIER CAP



FOOTING PLAN AND BOTTOM REINFORCEMENT LAYOUT

Legend:
 HP 14x89 Pile

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-5008\PR1602.dgn

KNIGHT
Engineers & Architects

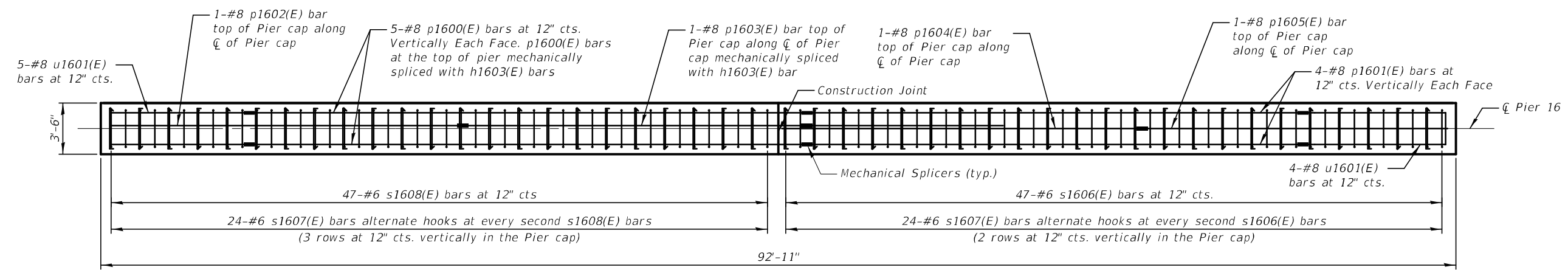
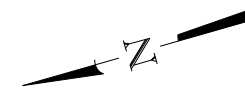
DESIGNED - MA	REVIS
CHECKED - LS	REVIS
DRAWN - PP	REVIS
CHECKED - MA	REVIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

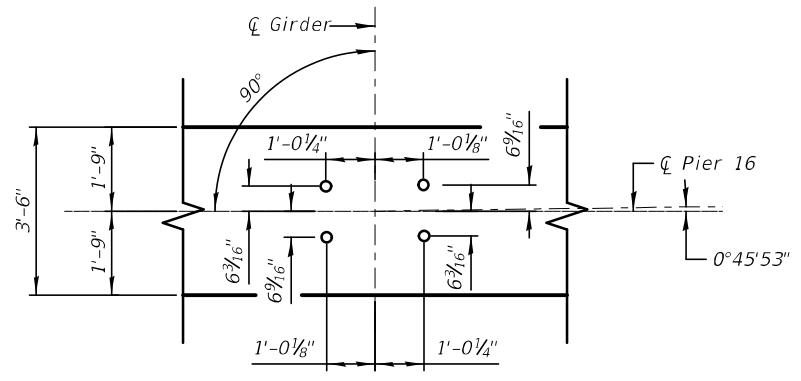
PIER NO. 16 FOOTING LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-205 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	389
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



TOP PLAN
SHOWING PIER CAP REINFORCEMENT DETAILS



ANCHOR BOLT LAYOUT

PLOT DATE = 8/9/2023
 FILE NAME = L:\7660\CAD\15\Sheets\Bridges\7660-5008\PR1603.dgn

KNIGHT
Engineers & Architects

DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

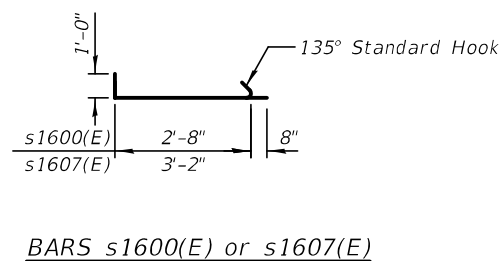
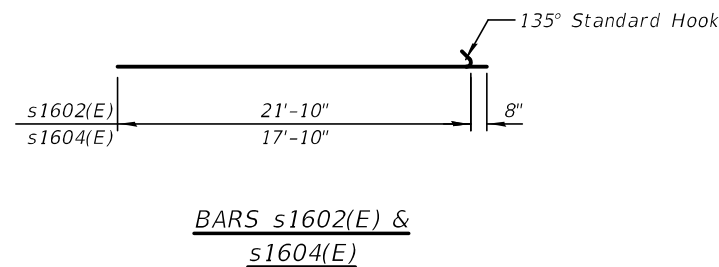
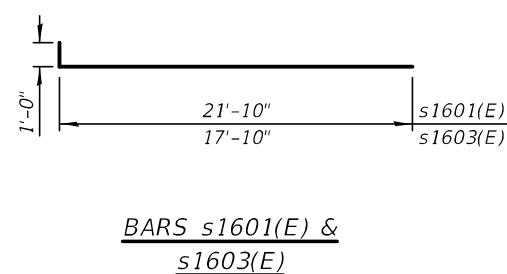
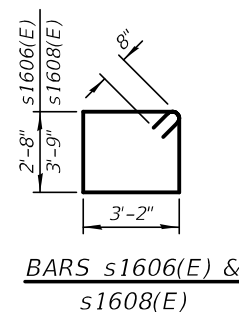
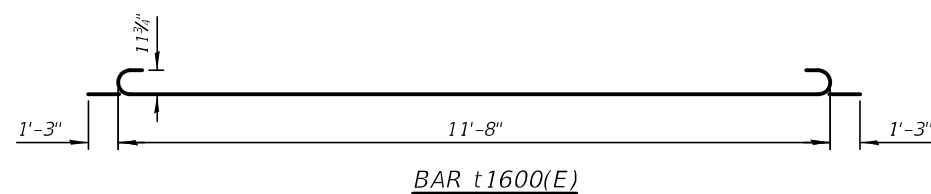
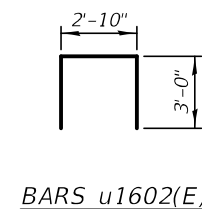
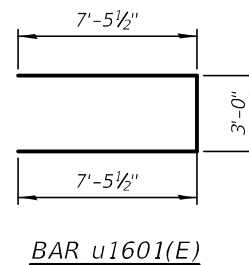
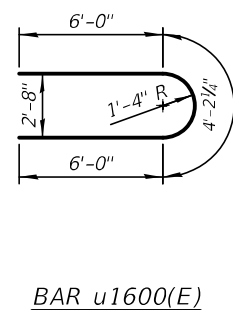
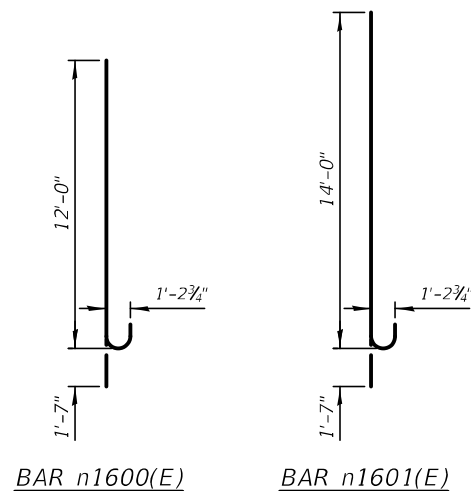
PIER NO. 16 ANCHOR BOLT LAYOUT
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-206 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	390
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		

PIER - 16
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1600(E)	38	#8	39'-6"	=====
h1601(E)	38	#8	35'-6"	=====
h1602(E)	8	#5	18'-4"	=====
h1603(E)	4	#5	13'-5"	=====
h1604(E)	4	#5	15'-5"	=====
n1600(E)	142	#11	13'-7"	=====
n1601(E)	142	#11	15'-7"	=====
p1600(E)	10	#8	40'-10"	=====
p1601(E)	8	#8	36'-10"	=====
p1602(E)	1	#8	23'-4"	=====
p1603(E)	1	#8	25'-0"	=====
p1604(E)	1	#8	26'-10"	=====
p1605(E)	1	#8	19'-3"	=====
s1600(E)	1,360	#6	4'-4"	=====
s1601(E)	10	#6	22'-10"	=====
s1602(E)	9	#6	22'-6"	=====
s1603(E)	9	#6	18'-10"	=====
s1604(E)	10	#6	18'-6"	=====
s1605(E)	38	#6	25'-0"	=====
s1606(E)	47	#6	13'-0"	=====
s1607(E)	120	#6	4'-10"	=====
s1608(E)	47	#6	15'-2"	=====
t1600(E)	150	#9	14'-2"	=====
t1601(E)	95	#8	11'-8"	=====
u1600(E)	38	#8	16'-3"	=====
u1601(E)	9	#8	17'-11"	=====
u1602(E)	68	#5	8'-10"	=====
v1600(E)	142	#11	9'-6"	=====
v1601(E)	142	#11	7'-6"	=====
w1600(E)	48	#8	30'-0"	=====
w1601(E)	24	#8	33'-8"	=====
Concrete Structures		Cu. Yd.	374.4	
Reinforcement Bars, Epoxy Coated		Pound	78,030	
Furnishing Steel Piles HP14x89		Foot	2,775	
Driving Piles		Foot	2,775	
Test Pile Steel HP 14x89		Each	1	
Mechanical Splicer		Each	534	
Pile Shoes		Each	38	



PLOT DATE = 6/23/2023
FILE NAME: L:\7660\CAD\Drawings\7660-5008\PIR1604.dgn

KNIGHT
Engineers & Architects

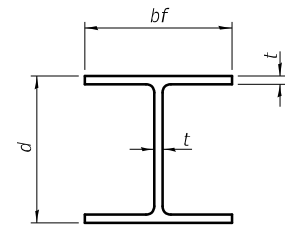
DESIGNED - MA	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - MA	REVISION
SCALE - NONE	
DATE - 6/30/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 16 DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

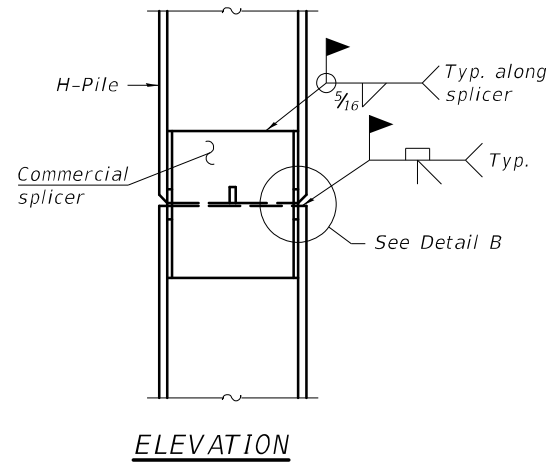
SHEET S-207 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	575	391
PUBLIC WATERS			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 78057	

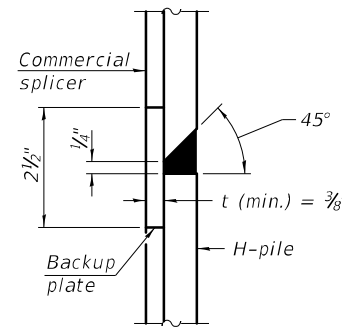


STEEL PILE TABLE

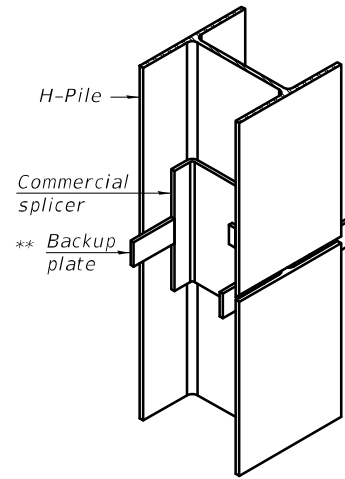
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
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

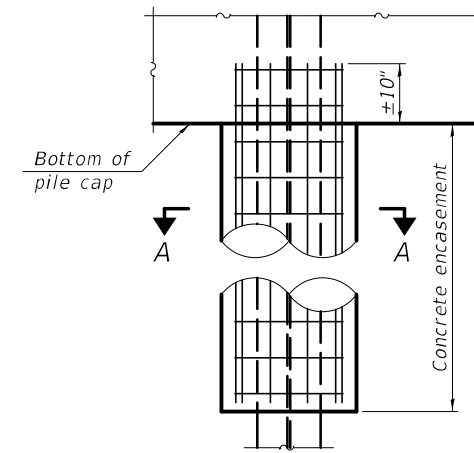


DETAIL "B"

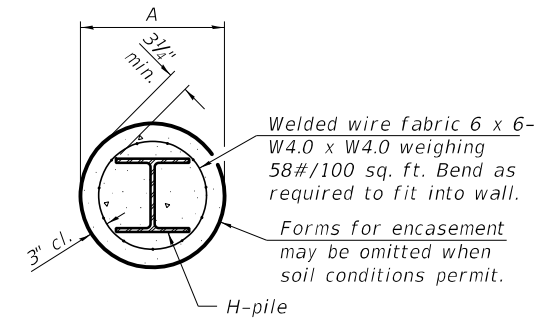


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

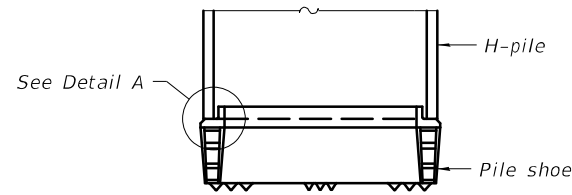


ELEVATION

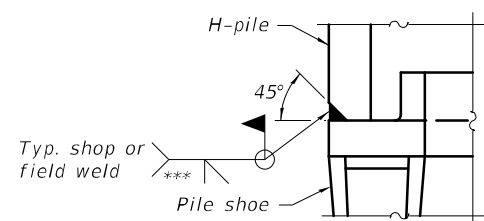


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)

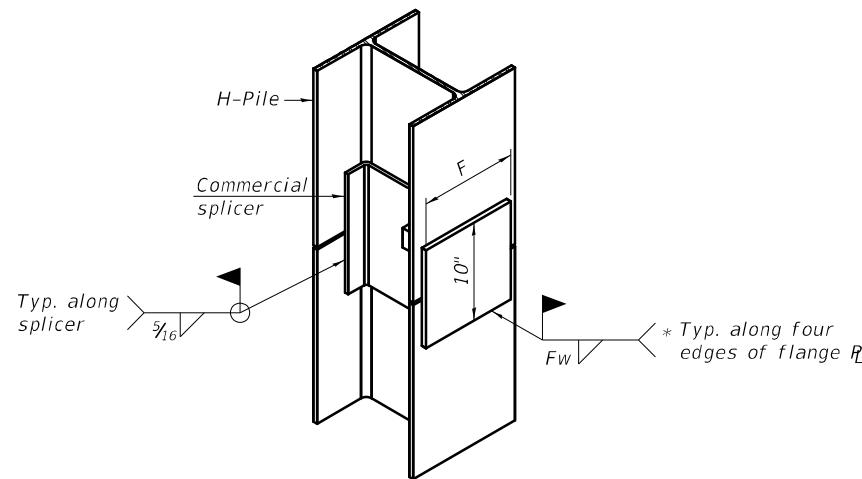


ELEVATION



DETAIL A

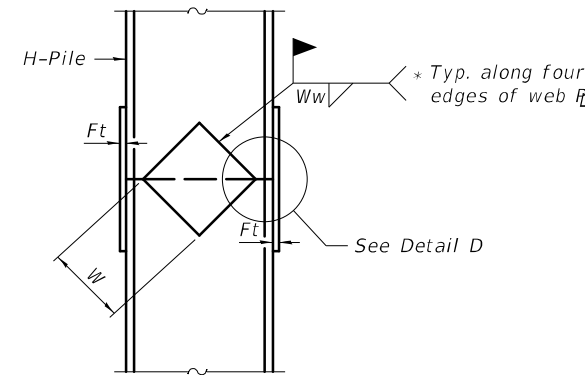
SHOE ATTACHMENT



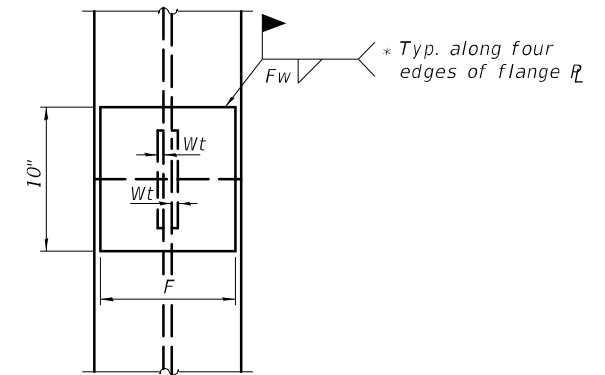
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

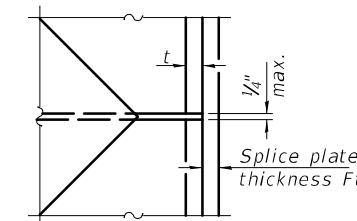
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



ELEVATION



END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
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 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 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 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.

PLOT DATE = 8/9/2023
FILE NAME = I:\7660\cadd\Sheets\Bridges\7660-50081-4501.dgn

F-HP 2-1-2023

KNIGHT
Engineers & Architects

DESIGNED - KA	REVISIONS
CHECKED - LS	REVISIONS
SCALE - NONE	REVISIONS
DATE - 8/11/2023	REVISIONS

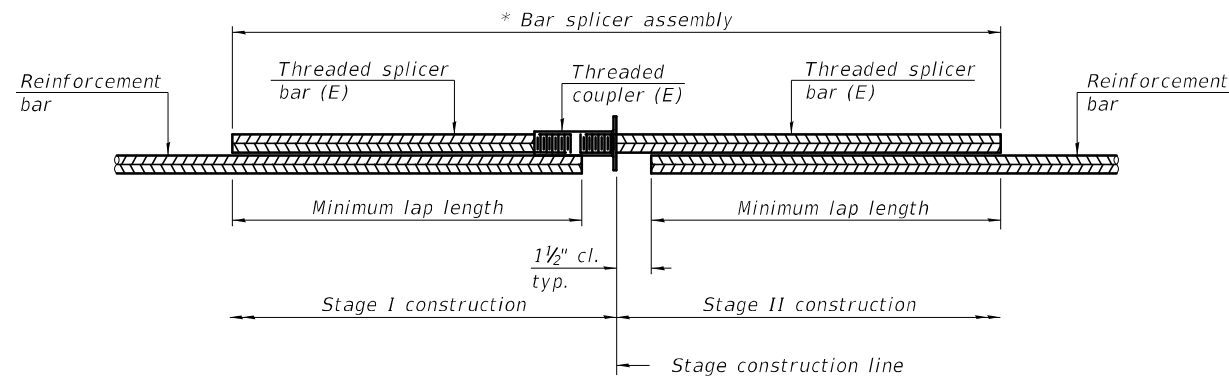
DESIGNED - KA	REVISIONS
CHECKED - LS	REVISIONS
DRAWN - KA	REVISIONS
CHECKED - LS	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-208 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	392
CONTRACT NO. 78057				
PUBLIC WATERS ILLINOIS FED. AID PROJECT				



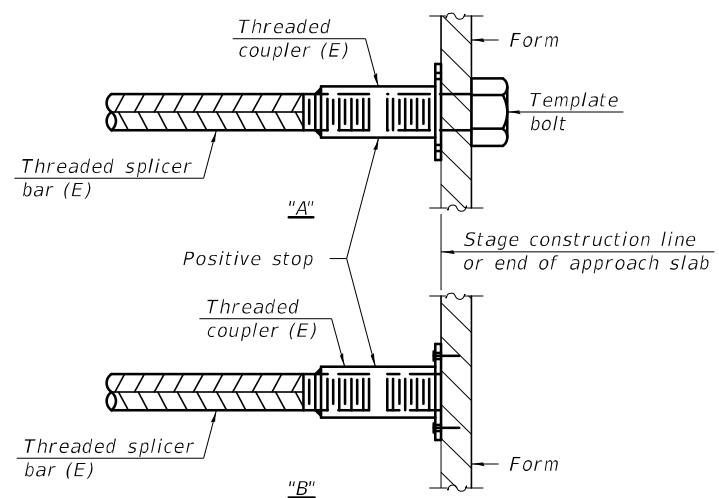
STANDARD BAR SPLICER ASSEMBLY PLAN

Only bar splicer assemblies as presented on the approved QPL list may be used.

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	Minimum lap length

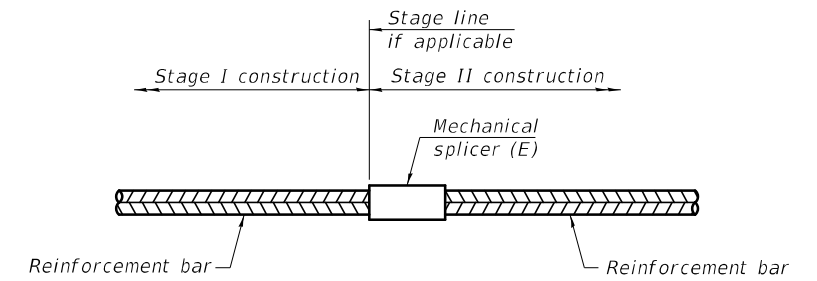


INSTALLATION AND SETTING METHODS

"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	#5	60
	#11	406
Pier 2	#5	60
	#11	406
Pier 3	#5	60
	#11	492
Pier 4	#5	66
	#11	488
Pier 5	#5	60
	#11	492
Pier 6	#5	60
	#11	492
Pier 7	#5	60
	#11	564
Pier 8	#5	66
	#11	560
Pier 9	#6	78
	#8	231
	#11	284
Pier 10	#6	252
	#8	315
	#11	544
Pier 11	#6	243
	#8	309
	#11	544
Pier 12	#6	63
	#8	268
	#11	284
Pier 13	#6	66
	#8	211
	#11	284
Pier 14	#6	216
	#8	295
	#11	544
Pier 15	#6	207
	#8	289
	#11	544
Pier 16	#6	57
	#8	193
	#11	284

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength and 80 ksi for drilled shaft reinforcing.

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.

PLOT DATE = 8/9/2023
FILE NAME = L:\7660\CAD\15\Sheet3\Bridges\7660-50080-4502.dgn

BSD-1

2-1-2023



DESIGNED - PP	REVISION
CHECKED - LS	REVISION
DRAWN - PP	REVISION
CHECKED - LS	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

SHEET S-209 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	393
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 10/9/12

ROUTE FAI 64 DESCRIPTION Sign Truss Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION WB I-64 @ Rest Area Exit, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD HSA HAMMER TYPE Automatic

STRUCT. NO. Sign Truss
Station 5871+71.8

BORING NO. SB-01
Station 5871+71.8
Offset 86.7 ft LT
Ground Surface Elev. 408.33 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter _____ ft
Upon Completion _____ ft
After Hrs. _____

DEPTH (ft)	SOIL DESCRIPTION	BL (ft)	LC (ft)	UC (ft)	MOISTURE (%)
408.08	TOPSOIL - 3 inches				
408.08 - 405.33	CLAY: Gray, trace iron stains, A-7	2	0.9	23	
405.33		5	B		
405.33 - 402.83	SILTY CLAY: Bluish gray, A-6 LL=37, PI=20	2	2.1	19	
402.83		4	B		
402.83 - 400.33	CLAY LOAM: Greenish gray, trace gravel, A-6	1	1.1	21	
400.33		2	B		
400.33 - 397.18	SHALEY CLAY LOAM: Brownish gray, trace sandstone and shale fragments	4	1.8	19	
397.18		4	B		
397.18 - 395.33	SANDY SHALE: Brown, with sandstone fragments	24	--	7	
395.33		50/5*			
395.33 - 389.25	CLAYEY SHALE: Gray, trace sand	13	--	9	
389.25		50/4*			
389.25 - 387.52		40	--	7	
387.52		50/1*			
387.52 - 383.02		30	--	7	
383.02		50/1*			

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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 10/8/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Toe of West Abutment End Slope (EB), SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD HSA HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
097-0080 PR
Station _____

BORING NO. SB-02
Station 5875+83.5
Offset 4.3 ft LT
Ground Surface Elev. 383.52 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter _____ ft
Upon Completion _____ ft
After Hrs. _____

DEPTH (ft)	SOIL DESCRIPTION	BL (ft)	LC (ft)	UC (ft)	MOISTURE (%)
383.02	TOPSOIL - 6 inches				
383.02 - 379.52	SHALEY CLAY: Gray, with iron stains, A-7-6 LL=54, PI=27	3	1.5	22	
379.52		4	P		
379.52 - 376.60	CLAYEY SHALE: Greenish gray, with iron stains	5	--	17	
376.60		9			
376.60 - 376.10	Auger refusal at 7.0 ft. LIMESTONE: Gray	6	--	12	
376.10		13			
376.10 - 371.10		50/5*			
371.10					
371.10 - 366.10					
366.10					
366.10 - 361.10					
361.10					
361.10 - 356.10					
356.10					
356.10 - 351.10					
351.10					
351.10 - 346.10					
346.10					
346.10 - 341.10					
341.10					
341.10 - 336.10					
336.10					
336.10 - 331.10					
331.10					
331.10 - 326.10					
326.10					
326.10 - 321.10					
321.10					
321.10 - 316.10					
316.10					
316.10 - 311.10					
311.10					
311.10 - 306.10					
306.10					
306.10 - 301.10					
301.10					
301.10 - 296.10					
296.10					
296.10 - 291.10					
291.10					
291.10 - 286.10					
286.10					
286.10 - 281.10					
281.10					
281.10 - 276.10					
276.10					
276.10 - 271.10					
271.10					
271.10 - 266.10					
266.10					
266.10 - 261.10					
261.10					
261.10 - 256.10					
256.10					
256.10 - 251.10					
251.10					
251.10 - 246.10					
246.10					
246.10 - 241.10					
241.10					
241.10 - 236.10					
236.10					
236.10 - 231.10					
231.10					
231.10 - 226.10					
226.10					
226.10 - 221.10					
221.10					
221.10 - 216.10					
216.10					
216.10 - 211.10					
211.10					
211.10 - 206.10					
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206.10 - 201.10					
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201.10 - 196.10					
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191.10					
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176.10 - 171.10					
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166.10					
166.10 - 161.10					
161.10					
161.10 - 156.10					
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156.10 - 151.10					
151.10					
151.10 - 146.10					
146.10					
146.10 - 141.10					
141.10					
141.10 - 136.10					
136.10					
136.10 - 131.10					
131.10					
131.10 - 126.10					
126.10					
126.10 - 121.10					
121.10					
121.10 - 116.10					
116.10					
116.10 - 111.10					
111.10					
111.10 - 106.10					
106.10					
106.10 - 101.10					
101.10					
101.10 - 96.10					
96.10					
96.10 - 91.10					
91.10					
91.10 - 86.10					
86.10					
86.10 - 81.10					
81.10					
81.10 - 76.10					
76.10					
76.10 - 71.10					
71.10					
71.10 - 66.10					
66.10					
66.10 - 61.10					
61.10					
61.10 - 56.10					
56.10					
56.10 - 51.10					
51.10					
51.10 - 46.10					
46.10					
46.10 - 41.10					
41.10					
41.10 - 36.10					
36.10					
36.10 - 31.10					
31.10					
31.10 - 26.10					
26.10					
26.10 - 21.10					
21.10					
21.10 - 16.10					
16.10					
16.10 - 11.10					
11.10					
11.10 - 6.10					
6.10					
6.10 - 1.10					
1.10					
1.10 - 0.10					
0.10					

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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 10/9/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION West Abutment EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD HSA HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
097-0080 PR
Station _____

BORING NO. SB-03
Station 5875+26.0
Offset 0.7 ft RT
Ground Surface Elev. 410.48 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter _____ ft
Upon Completion _____ ft
After Hrs. _____

DEPTH (ft)	SOIL DESCRIPTION	BL (ft)	LC (ft)	UC (ft)	MOISTURE (%)
409.98	TOPSOIL - 6 inches				
409.98 - 408.73	SILTY CLAY: Brown, trace roots, A-6	4	2.8	17	
408.73		6	P		
408.73 - 407.48	SANDY CLAY LOAM: Gray, with iron nodules and stains, trace roots, A-6	3			
407.48		5	2.4	20	
407.48 - 403.98	SILTY CLAY: Gray, with sand seams, A-6	3			
403.98		4	2.2	15	
403.98 - 402.83	SILTY LOAM: Gray, trace roots and wood fragments, A-4	7			
402.83		3			
402.83 - 401.68	With sand seams LL=24, PI=2	9	2.1	18	
401.68		15	P		
401.68 - 398.98	SANDY LOAM: Gray, A-2 (grain size test at 11.5 feet)	4			
398.98		8	NC	13	
398.98 - 397.73		13			
397.73		5			
397.73 - 396.48		7	NC	16	
396.48		7			
396.48 - 394.31					
394.31		3			
394.31 - 392.98	SHALEY CLAY: Bluish gray, with iron stains, trace shale fragments, A-7	5	2.4	23	
392.98		9	B		
392.98 - 391.73	CLAYEY SHALE: Brown, with interbedded sandy shale layers, trace coal	9			
391.73		13	--		



Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 10/8/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 1 WB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD HSA HAMMER TYPE Automatic

STRUCT. NO. 097-0004 EX
Station 097-0081 PR
BORING NO. SB-04
Station 5876+83.2
Offset 66.4 ft LT
Ground Surface Elev. 371.34 ft

DEPTH (ft)	SOIL DESCRIPTION	U (blows)	M (blows)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion (ft)	After (ft)
0	GRAVEL - 2 inches							
5	CLAY: Dark gray, trace gravel and roots, A-6	3.2	22					
7								
3	With sand seams							
3		1.2	20					
4								
4	With shale and sandstone fragments, trace gravel LL=35, PI=16		24					
3								
2	SANDY LOAM: Brown and gray, trace iron nodules and shells, A-2		25					
1		NC						
10	CLAYEY SHALE: Dark brown, with iron stains		11					
13								
15	Becomes gray		13					
50/5*								
25	COAL		9					
50/4*	SHALE: Gray, hard							
35			5					
50/1*								

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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 5/24/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 2 WB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD BLIND DRILLING HAMMER TYPE Automatic

STRUCT. NO. 097-0004 EX
Station 097-0081 PR
BORING NO. SB-5
Station 5878+75.06
Offset 64.4 ft LT
Ground Surface Elev. 347.60 ft

DEPTH (ft)	SOIL DESCRIPTION	U (blows)	M (blows)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion (ft)	After (ft)
0	SANDY SHALE (Depth of River 17' 9" at time of drilling)			362.35	347.60			
50/4*								

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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 5/24/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 2 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude, Longitude

COUNTY White DRILLING METHOD BLIND DRILLING HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-6
Station 5878+84.43
Offset 1.7 ft LT
Ground Surface Elev. 347.73 ft

DEPTH (ft)	SOIL DESCRIPTION	U (blows)	M (blows)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter Upon Completion (ft)	After (ft)
0	SHALE & SANDSTONE (17' 5' depth of river at time of drilling)			362.23	347.73			
346.98								

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)

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\Drawings\Bridges\7660-50080-5802.dgn



DESIGNED - KA	REVISED
CHECKED - LS	REVISED
DRAWN - KA	REVISED
CHECKED - LS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	395
CONTRACT NO. 78057				

SHEET S-211 OF 232 SHEETS

PUBLIC WATERS ILLINOIS FED. AID PROJECT



Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 5/28/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 4 WB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude , Longitude

COUNTY White DRILLING METHOD MUD ROTARY HAMMER TYPE Automatic

STRUCT. NO. 097-0004 EX
Station 097-0081 PR
BORING NO. SB-7
Station 5881+08.08
Offset 63.3 ft LT
Ground Surface Elev. 344.91 ft

DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)
0	0	0	0	0	0	0	0	0	0
-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
-15	-15	-15	-15	-15	-15	-15	-15	-15	-15
-20	-20	-20	-20	-20	-20	-20	-20	-20	-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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 1

Date 5/28/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 4 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude 76.64, Longitude -87.0

COUNTY White DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-08
Station 5881+08.01
Offset 3.8 ft LT
Ground Surface Elev. 339.01 ft

DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)
0	0	0	0	0	0	0	0	0	0
-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
-15	-15	-15	-15	-15	-15	-15	-15	-15	-15
-20	-20	-20	-20	-20	-20	-20	-20	-20	-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
Kaskaskia Engineering

ROCK CORE LOG

Page 1 of 2

Date 5/28/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 4 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM, Latitude 76.64, Longitude -87.0

COUNTY White CORING METHOD

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-08
Station 5881+08.01
Offset 3.8 ft LT
Ground Surface Elev. 339.01 ft

DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)	DEPTH (ft)
0	0	0	0	0	0	0	0	0	0
-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
-15	-15	-15	-15	-15	-15	-15	-15	-15	-15
-20	-20	-20	-20	-20	-20	-20	-20	-20	-20

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

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CADD\Sheets\Bridges\7660-50080-5803.dgn



DESIGNED - KA	REVISED
CHECKED - LS	REVISED
DRAWN - KA	REVISED
CHECKED - LS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
SHEET S-212 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	396
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		



Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering

ROCK CORE LOG

Date 5/28/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 4 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude 76.64, Longitude -87.0

COUNTY White CORING METHOD

STRUCT. NO.	CORING BARREL TYPE & SIZE	DEPTH (ft)	COVER (%)	RECOVERY (%)	ROCK Q. (min/ft)	STRENGTH (tsf)
097-0003 EX 097-0080 PR	Split Barrel, NX					
BORING NO. SB-08 Station 5881+08.01 Offset 3.8 ft LT Ground Surface Elev. 339.01 ft	Core Diameter _____ in Top of Rock Elev. 318.51 ft Begin Core Elev. 317.01 ft					

DEPTH (ft)	RECOVERY (%)	ROCK Q. (min/ft)	STRENGTH (tsf)
295.31			715.0
End of Boring			
-45			
-50			
-55			
-60			
-20			

Color pictures of the cores _____
Cores will be stored for examination until _____
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
Kaskaskia Engineering

SOIL BORING LOG

Date 5/24/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 5 WB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude _____, Longitude _____

COUNTY White DRILLING METHOD MUD ROTARY HAMMER TYPE Automatic

STRUCT. NO.	DRILLING METHOD	HAMMER TYPE	DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST Qu (%)
097-0004 EX 097-0081 PR						
BORING NO. SB-9 Station 5883+30.04 Offset 65.0 ft LT Ground Surface Elev. 343.41 ft						

DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST Qu (%)
317.08			
Auger Refusal on SANDSTONE End of Boring			
-25			
-30			
-35			
-40			
-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
Kaskaskia Engineering

SOIL BORING LOG

Date 5/23/13

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 5 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude _____, Longitude _____

COUNTY Posey, IN DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO.	DRILLING METHOD	HAMMER TYPE	DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST Qu (%)
097-0003 EX 097-0080 PR						
BORING NO. SB-10 Station 5883+30.04 Offset 1.7 ft RT Ground Surface Elev. 361.85 ft						

DEPTH (ft)	BLOWS (6")	UCS (tsf)	MOIST Qu (%)
334.85			
Borehole continued with rock coring.			
-25			
-30			
-35			
-40			
-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)

PLOT DATE = 8/9/2023
FILE NAME: L:\7660\CAD\1\Sheets\Bridges\7660-50080-5804.dgn



DESIGNED - KA	REVISED
CHECKED - LS	REVISED
DRAWN - KA	REVISED
CHECKED - LS	REVISED
SCALE - NONE	
DATE - 8/11/2023	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)
SHEET S-213 OF 232 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	(97-2) B-5	WHITE	578	397
CONTRACT NO. 78057				
PUBLIC WATERS		ILLINOIS FED. AID PROJECT		



Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 2

Date 10/9/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 7 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude, Longitude

COUNTY Posey, IN DRILLING METHOD HSA w/mud rotary HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-13
Station 5887+50.3
Offset 0.5 ft LT
Ground Surface Elev. 371.38 ft

DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION
0	TOPSOIL - 4.5 inches	0	SAND: Brown, fine, A-3 (continued)	0	Surface Water Elev. _____ ft
2	CLAY LOAM: Brown, trace roots, A-6	4		1	Stream Bed Elev. _____ ft
3		5		2	Groundwater Elev.: _____ ft
6		6		3	First Encounter _____ ft
		7		4	Upon Completion _____ ft
		8		5	After 24 Hrs. _____ ft
		9			
		10			
		11			
		12			
		13			
		14			
		15			
		16			
		17			
		18			
		19			
		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
Kaskaskia Engineering

SOIL BORING LOG

Page 2 of 2

Date 10/9/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 7 EB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude, Longitude

COUNTY Posey, IN DRILLING METHOD HSA w/mud rotary HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-13
Station 5887+50.3
Offset 0.5 ft LT
Ground Surface Elev. 371.38 ft

DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION
0	SAND: Brown, fine to coarse, A-1 (continued)	0	SAND: Gray, fine to coarse, trace gravel, A-1 (continued)	0	Surface Water Elev. _____ ft
		1		1	Stream Bed Elev. _____ ft
		2		2	Groundwater Elev.: _____ ft
		3		3	First Encounter _____ ft
		4		4	Upon Completion _____ ft
		5		5	After 24 Hrs. _____ ft
		6			
		7			
		8			
		9			
		10			
		11			
		12			
		13			
		14			
		15			
		16			
		17			
		18			
		19			
		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
Kaskaskia Engineering

SOIL BORING LOG

Page 1 of 2

Date 10/10/12

ROUTE FAI 64 DESCRIPTION Structure Boring LOGGED BY KEG (CRG)

SECTION 97-3B LOCATION Proposed Pier 8 WB, SEC. 33, TWP. 3S, RNG. 14W, 3rd PM,
Latitude, Longitude

COUNTY Posey, IN DRILLING METHOD HSA w/mud rotary HAMMER TYPE Automatic

STRUCT. NO. 097-0003 EX
Station 097-0080 PR
BORING NO. SB-14
Station 5888+60.3
Offset 64.7 ft LT
Ground Surface Elev. 374.00 ft

DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION	DEPTH (ft)	SOIL DESCRIPTION
0	TOPSOIL - 3.5 inches	0	SAND: Gray, fine, A-3 (continued)	0	Surface Water Elev. _____ ft
2	SANDY CLAY: Brown, A-6	4		1	Stream Bed Elev. _____ ft
3		5		2	Groundwater Elev.: _____ ft
4		6		3	First Encounter _____ ft
5		7		4	Upon Completion _____ ft
6		8		5	After 24 Hrs. _____ ft
7		9			
8		10			
9		11			
10		12			
11		13			
12		14			
13		15			
14		16			
15		17			
16		18			
17		19			
18		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)

PLOT DATE = 8/9/2012
FILE NAME = L:\7660\CAD\Drawings\Bridges\7660-50080-5907.dgn

KNIGHT
Engineers & Architects

DESIGNED - KA	REVISED
CHECKED - LS	REVISED
DRAWN - KA	REVISED
CHECKED - LS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOGS
STRUCTURE NUMBER 097-0080 (EB) AND 097-0081 (WB)**

F.A.I. RTE. <u>64</u>	SECTION <u>(97-2) B-5</u>	COUNTY <u>WHITE</u>	TOTAL SHEETS <u>578</u>	SHEET NO. <u>400</u>
CONTRACT NO. 78057				
PUBLIC WATERS	ILLINOIS	FED. AID PROJECT		