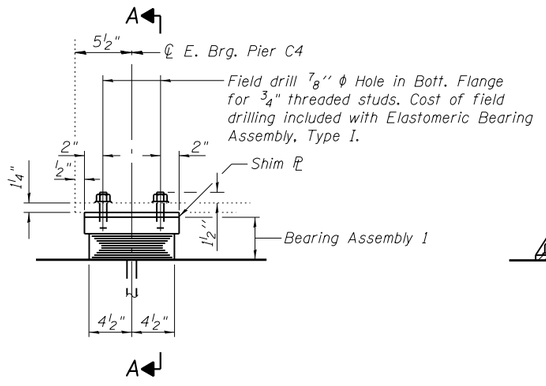
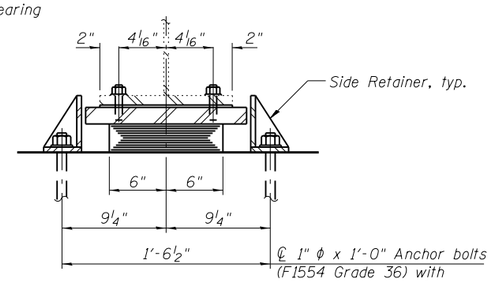


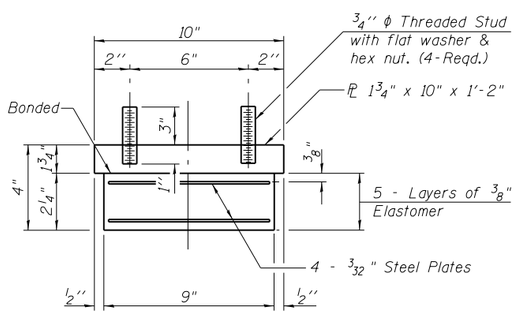
ELEVATION AT E. BRG. PIER C4



SECTION A-A

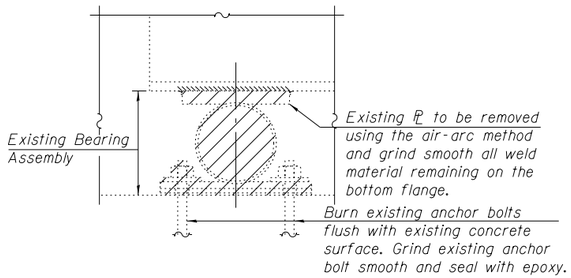
TYPE I ELASTOMERIC EXP. BRG. AT E. BRG. PIER C4

(6 Required)



BEARING ASSEMBLY 1

Shim plates shall not be placed under Bearing Assembly.

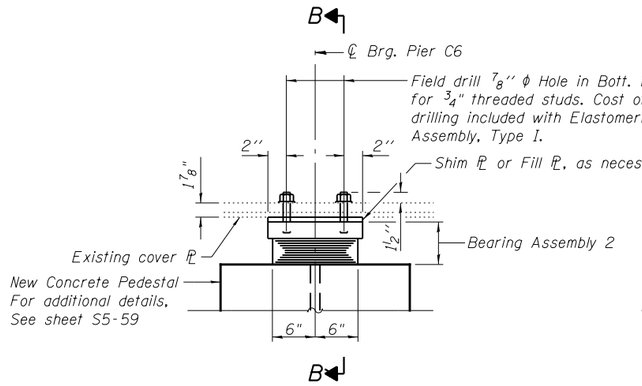


EXISTING BEARING REMOVAL DETAIL
E. BRG. PIER C4

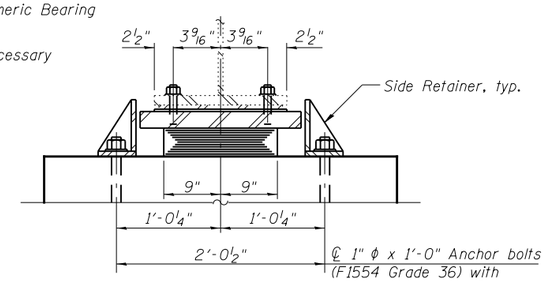
Cost included with Jack and Remove Existing Bearings.
(6 Required)

TYPE I ELASTOMERIC EXP. BRG. AT PIER C6

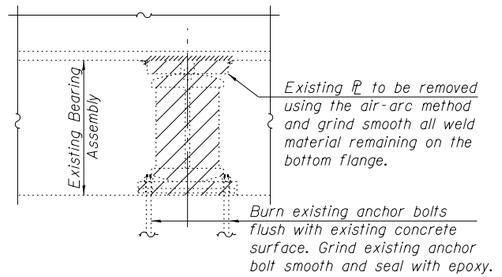
(5 Required)



ELEVATION AT PIER C6

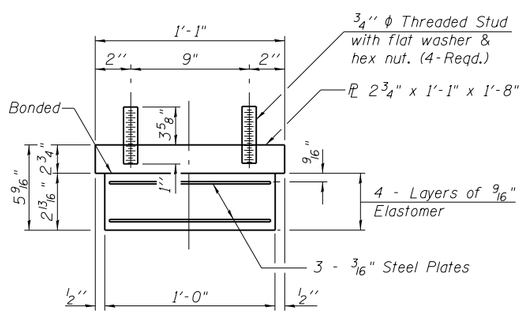


SECTION B-B



EXISTING BEARING REMOVAL DETAIL
PIERS C6, C7, & C8

Cost included with Jack and Remove Existing Bearings.
(15 Required)



BEARING ASSEMBLY 2

Shim plates shall not be placed under Bearing Assembly.

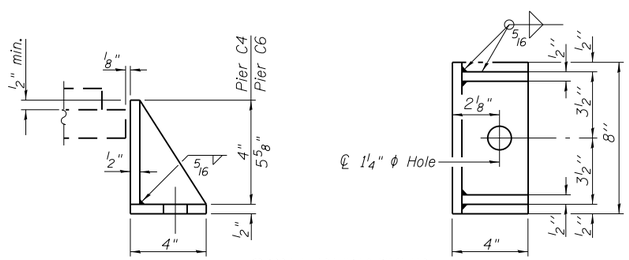
JACK AND REMOVE EXISTING BEARINGS PROCEDURE - UNIT II

A. The Contractor shall submit for approval by the Engineer, plans for jacking existing bearings and installing new bearings prior to commencing any related work.
B. Jacking and removing existing bearings shall be done after the existing deck is removed and prior to placing the new deck.
C. See table below for dead load reaction and minimum jack capacities per beam at each Pier.
D. The new pier cap and concrete pedestals shall be poured and cured prior to the lowering and removal of the jacks.

BEAM DEAD LOAD SERVICE REACTIONS

(With deck removed. Applicable to all beams)

Pier	RℓL (kips)	Min. Jack Capacity (kips)
C4 (East)	5.5	10
C6	20.2	40
C7	20.2	40
C8	18.8	30



SIDE RETAINER

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

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Elastomeric Bearing Assembly, Type I.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers at E. Brg. Pier C4 may be cast in place or installed in holes drilled before or after members are in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

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 cost of temporary shoring and cribbing of the existing beams while pier cap and pedestals are poured and cured is included in the cost of Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	11
Anchor Bolts, 1"	Each	22
Jack and Remove Existing Bearings	Each	21

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

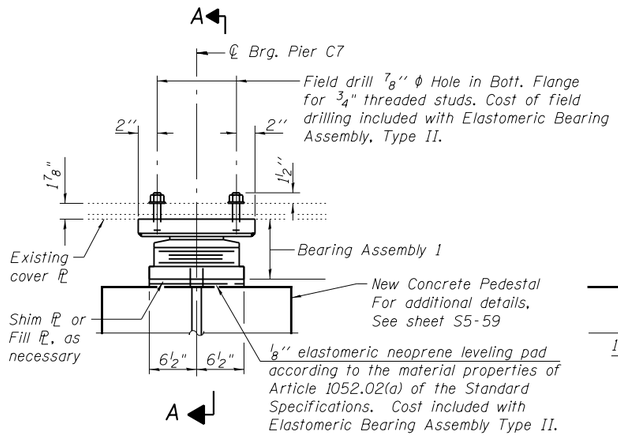
USER NAME = lbrahimm1	DESIGNED - IJL	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - IJL/DCP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

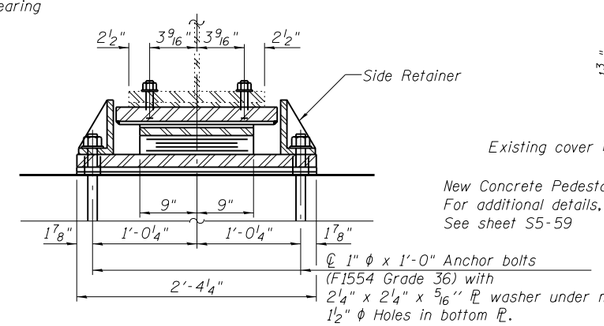
BEARING DETAILS I – UNIT II
STRUCTURE NO. 016-0461
SHEET NO. S5-49 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1001
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

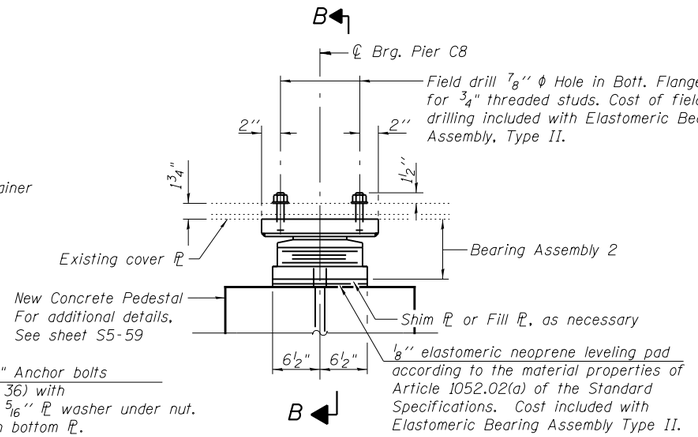
016046I-60X93-S049-BRG.dgn



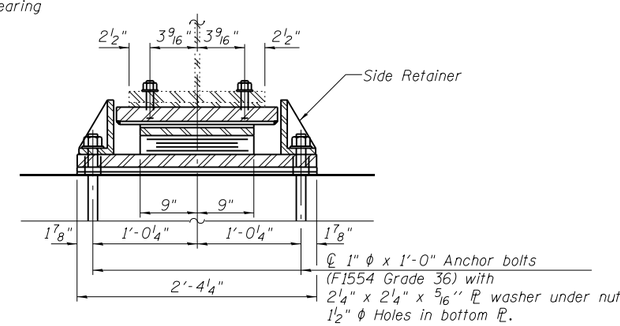
ELEVATION AT PIER C7



SECTION A-A



ELEVATION AT PIER C8

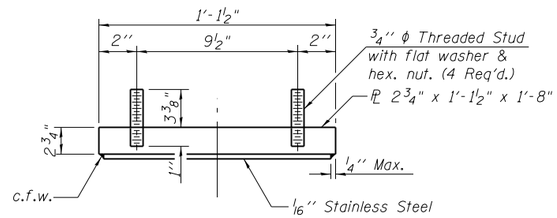


SECTION B-B

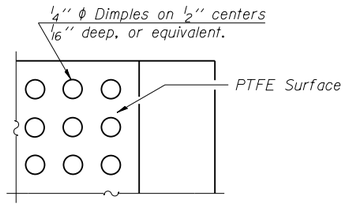
TYPE II ELASTOMERIC EXP. BRG. AT PIER C7

TYPE II ELASTOMERIC EXP. BRG. AT PIER C8

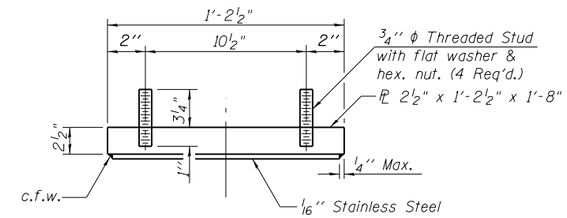
(5 Required)



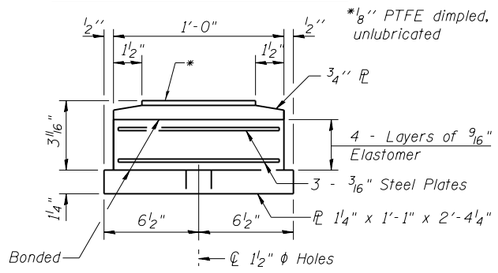
TOP BEARING ASSEMBLY 1



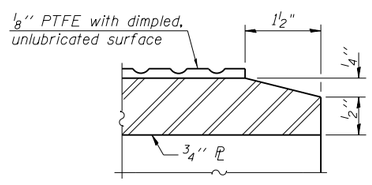
PLAN-PTFE SURFACE



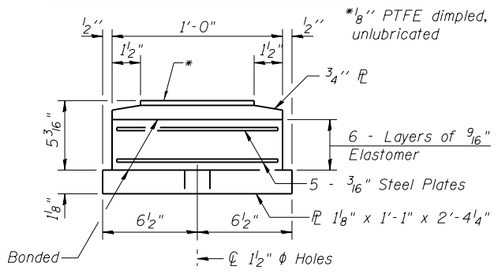
TOP BEARING ASSEMBLY 2



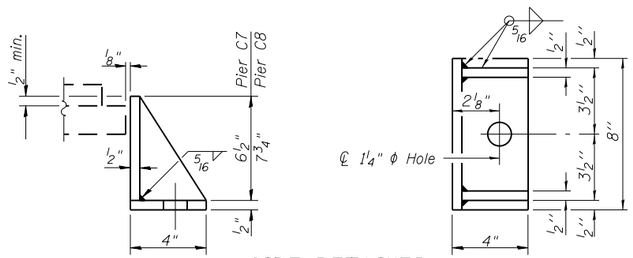
BOTTOM BEARING ASSEMBLY 1



SECTION THRU PTFE

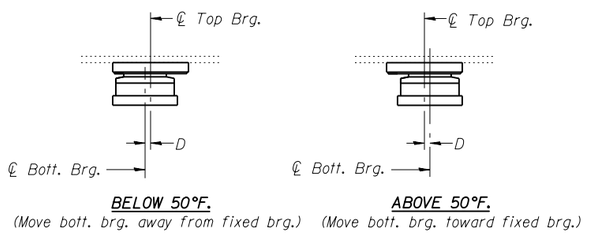


BOTTOM BEARING ASSEMBLY 2



SIDE RETAINER

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



BELOW 50°F. (Move bott. brg. away from fixed brg.)

ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

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

Notes:

For bearing removal details and quantity, see sheet S5-49.

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Elastomeric Bearing Assembly Type II.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

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

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.

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.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	10
Anchor Bolts 1"	Each	20

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

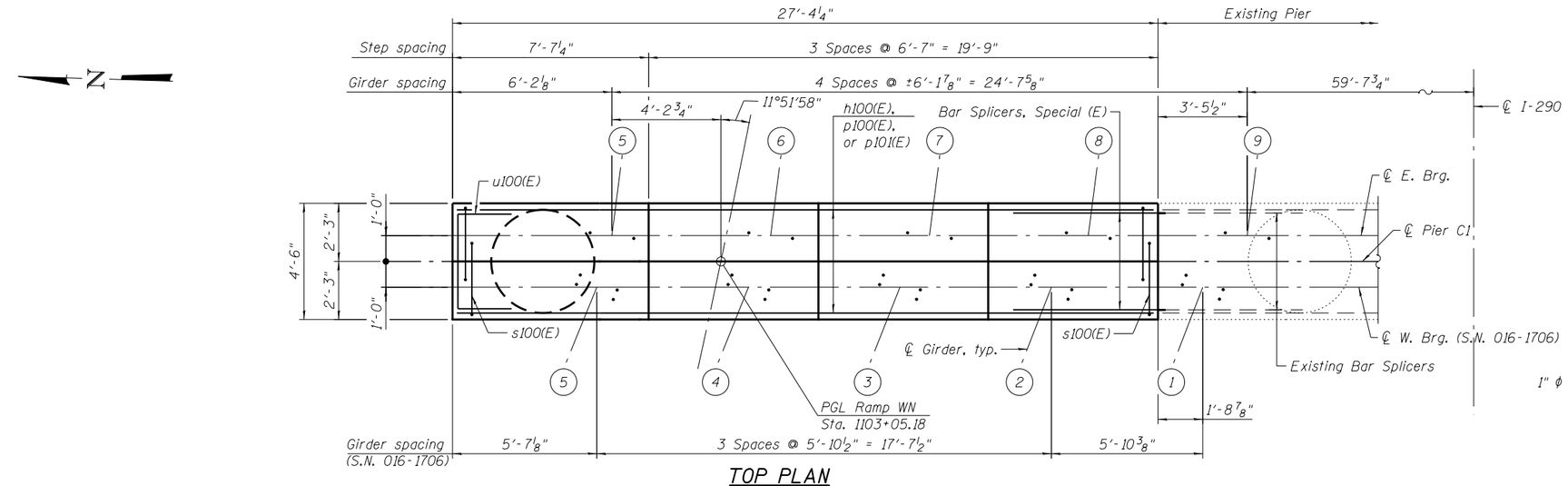
USER NAME = Ibrahimm1	DESIGNED - IJL	REVISED -
	CHECKED - PJL	REVISED -
PLOT SCALE = N.T.S.	DRAWN - IJL/DCP	REVISED -
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS II – UNIT II
STRUCTURE NO. 016-0461
SHEET NO. S5-50 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1002
			CONTRACT NO. 60X93	
	ILLINOIS	FED. AID PROJECT		

0160461-60X93-S050-BRG.dgn

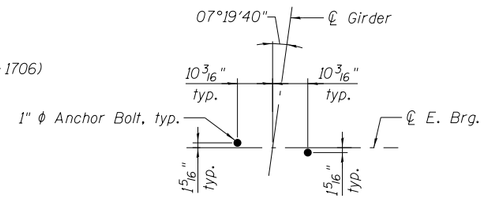


TOP PLAN

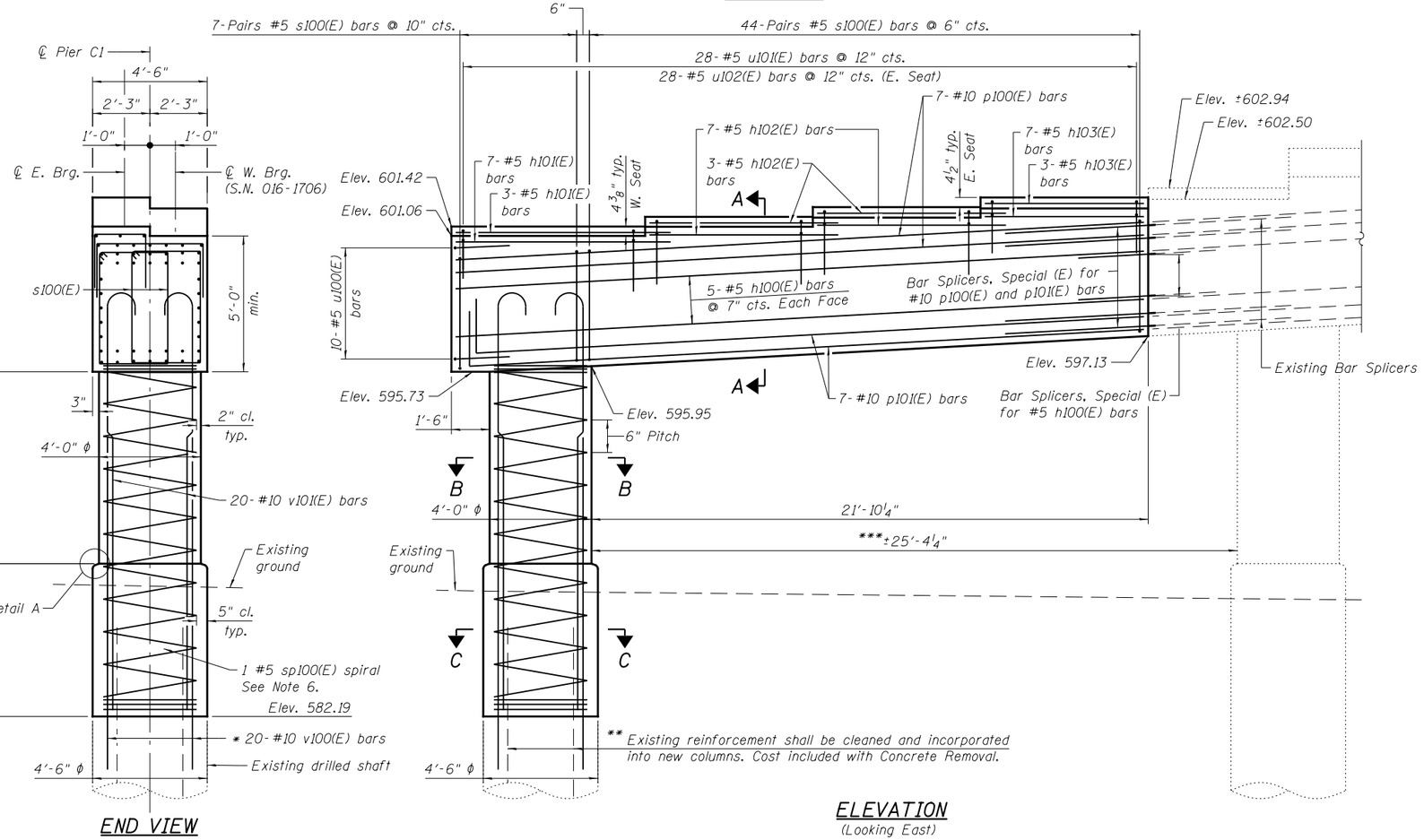
TOP OF SEAT ELEVATION

Girder No.	E. Seat Elevation (S.N. 016-0461)
5	601.42
6	601.80
7	602.18
8	602.56
9	602.93

Girder No.	W. Seat Elevation (S.N. 016-1706)
1	602.50
2	602.15
3	601.79
4	601.43
5	601.06



ANCHOR BOLT LAYOUT FOR E. BRG.



END VIEW

ELEVATION
(Looking East)

MINIMUM BAR LAP

#5 bar = 3'-3"
#10 bar = 10'-10"

* Drill and grout bars according to Article 584 of the Std. Specs., with a minimum embedment of 2'-1". Cost included in the cost of Reinforcement Bars, Epoxy Coated.

** Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.

*** Verify dimensions in field.

Notes:
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. Bars equally spaced, unless otherwise noted.
4. Apply concrete sealer to all exposed concrete surfaces of the pier.
5. All edges shall have standard 3/4" chamfer, unless otherwise noted.
6. For sp100(E) spiral:
   1) Provide 1 1/2 extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap or column cap. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 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.
7. Bar Splicers, Special (E) shall be spliced to the existing bar splicer assembly. The cost is included in the cost of Bar Splicer, Special. See Special Provisions and sheet S5-52 for details of the Bar Splicers, Special.
8. See sheet S5-52 for Sections A-A, B-B & C-C, and Detail A.
9. See sheet S5-52 for W. Brg. Anchor Bolt Layout.

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	CHECKED - MS	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - MI	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C1
STRUCTURE NO. 016-0461
SHEET NO. S5-51 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1003
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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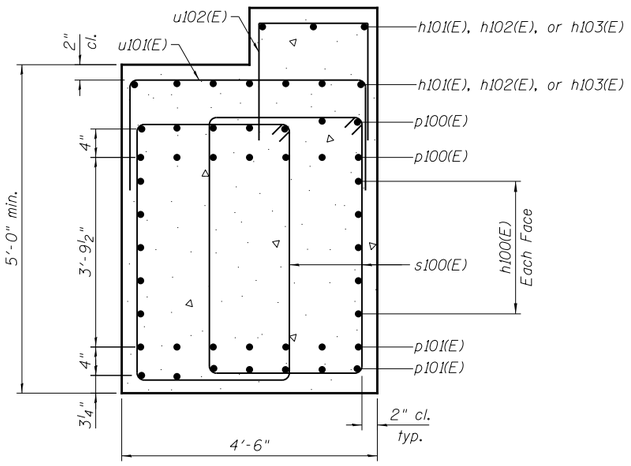
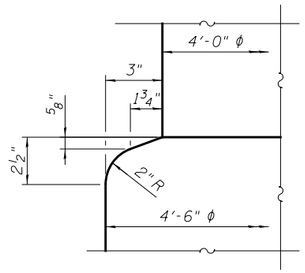
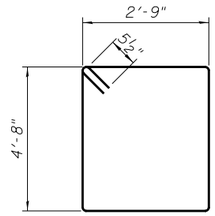


SECTION A-A

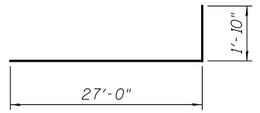
Middle of Pier Cap



DETAIL A



BAR s100(E)

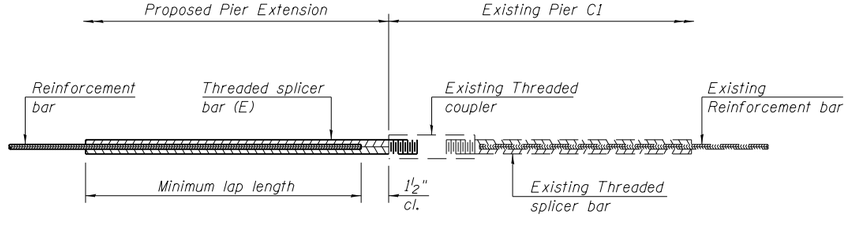


BAR p101(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h100(E)	10	#5	27'-0"	——
h101(E)	10	#5	8'-5"	——
h102(E)	20	#5	7'-5"	——
h103(E)	10	#5	6'-3"	——
p100(E)	14	#10	27'-0"	——
p101(E)	14	#10	28'-10"	⌊
s100(E)	102	#5	15'-9"	□
* sp100(E)	1	#5	13'-8"	WWW
u100(E)	10	#5	11'-0"	⊓
u101(E)	28	#5	9'-0"	⊓
u102(E)	28	#5	6'-9"	⊓
v100(E)	20	#10	13'-3"	——
v101(E)	20	#10	16'-10"	⊃
Structure Excavation			Cu. Yd.	11
Concrete Structures			Cu. Yd.	31.7
Reinforcement Bars, Epoxy Coated			Pound	9,160
Bar Splicers, Special			Each	38
Concrete Sealer			Sq. Ft.	746

* Length is height of spiral

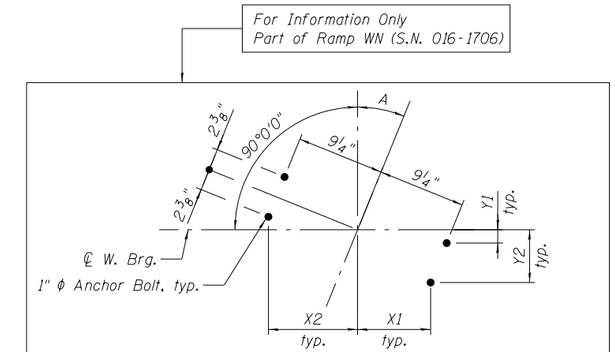


BAR SPLICERS, SPECIAL

All reinforcement shall be lapped and tied to the splicer bars.
See Sheet S5-51 for location.
See Special Provision.

Threaded splicer bar length = min. lap length + 1½" + thread length

Location	Bar size	No. required	Minimum lap length
Pier C1 Cap	#5	10	3'-3"
	#10	28	10'-10"



ANCHOR BOLT LAYOUT FOR W. BRG.

Girder	A	X1	X2	Y1	Y2
1	21°05'10"	7¾"	9½"	1⅛"	5 9/16"
2	21°20'56"	7¾"	9½"	1⅛"	5 9/16"
3	21°37'09"	7¾"	9½"	1 3/16"	5 5/8"
4	21°53'49"	7 11/16"	9 7/16"	1¼"	5 5/8"
5	22°10'57"	7 11/16"	9 7/16"	1 5/16"	5 11/16"

SECTION B-B

SECTION C-C

BARS
A & B DIMENSIONS

Bar	A	B
u100(E)	3'-6"	4'-0"
u101(E)	2'-5"	4'-2"
u102(E)	2'-5"	1'-11"

BAR sp100(E)

BAR v101(E)

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = ibrahimm1	DESIGNED - IJL	REVISED -	
	CHECKED - MS	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - MI	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

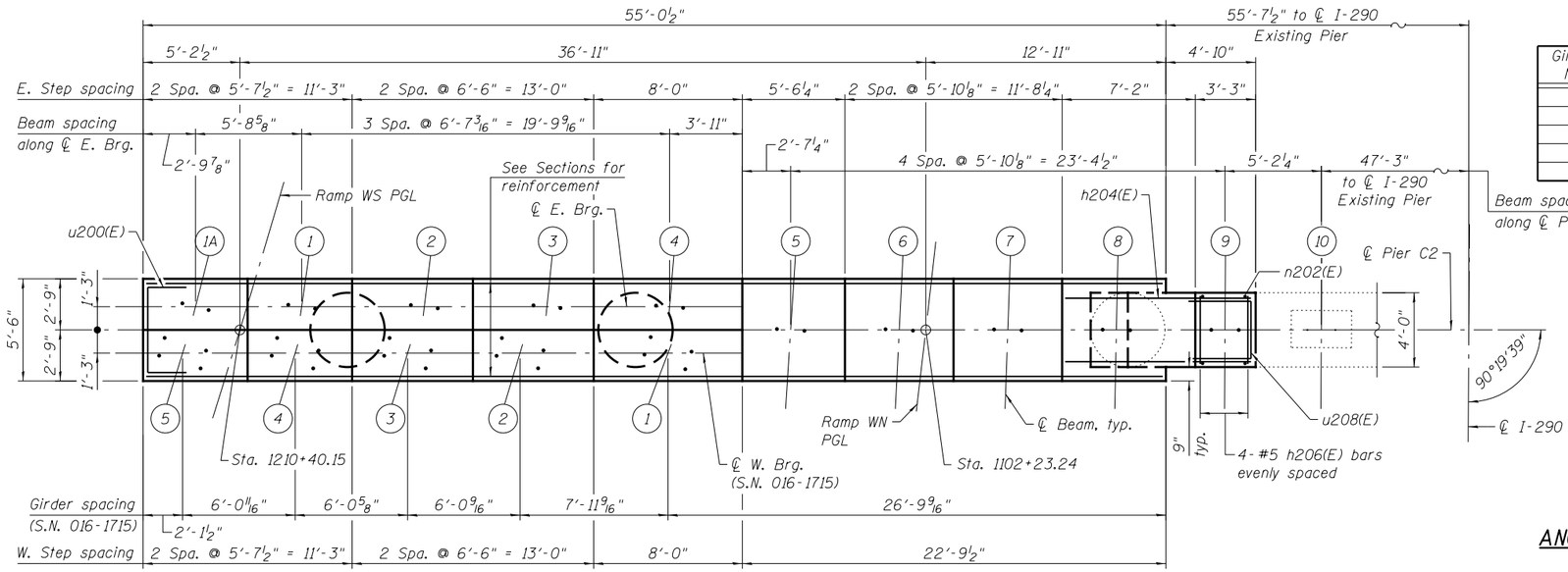
PIER C1 DETAILS
STRUCTURE NO. 016-0461
SHEET NO. S5-52 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1004
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S052-PC1.dgn

BEARING SEAT STEP HEIGHTS

E. Seat Step	"A"
1A to 1	$3\frac{1}{2}$"
1 to 2	$4\frac{1}{8}$"
2 to 3	4"
3 to 4	$1\frac{1}{4}$"
4 to 5	$-3\frac{1}{4}$"
℄ Pier Seat Step	"B"
5 to 6	$\frac{7}{8}$"
6 to 7	$2\frac{7}{8}$"
7 to 8	$3\frac{1}{2}$"
8 to 9	$3\frac{3}{8}$"
W. Seat Step	"C"
5 to 4	$1\frac{3}{8}$"
4 to 3	$3\frac{3}{4}$"
3 to 2	$3\frac{7}{8}$"
2 to 1	$1\frac{3}{4}$"

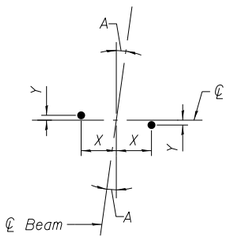


TOP PLAN

TOP OF SEAT ELEVATION

Girder No.	W. Seat Elevation (S.N. 016-1715)
1	603.33
2	603.18
3	602.86
4	602.55
5	602.44

Girder No.	E. Seat Elevation (S.N. 016-0461)
1A	603.30
1	603.60
2	603.94
3	604.29
4	604.39
5	604.12
6	604.20
7	604.43
8	604.72
9	605.00

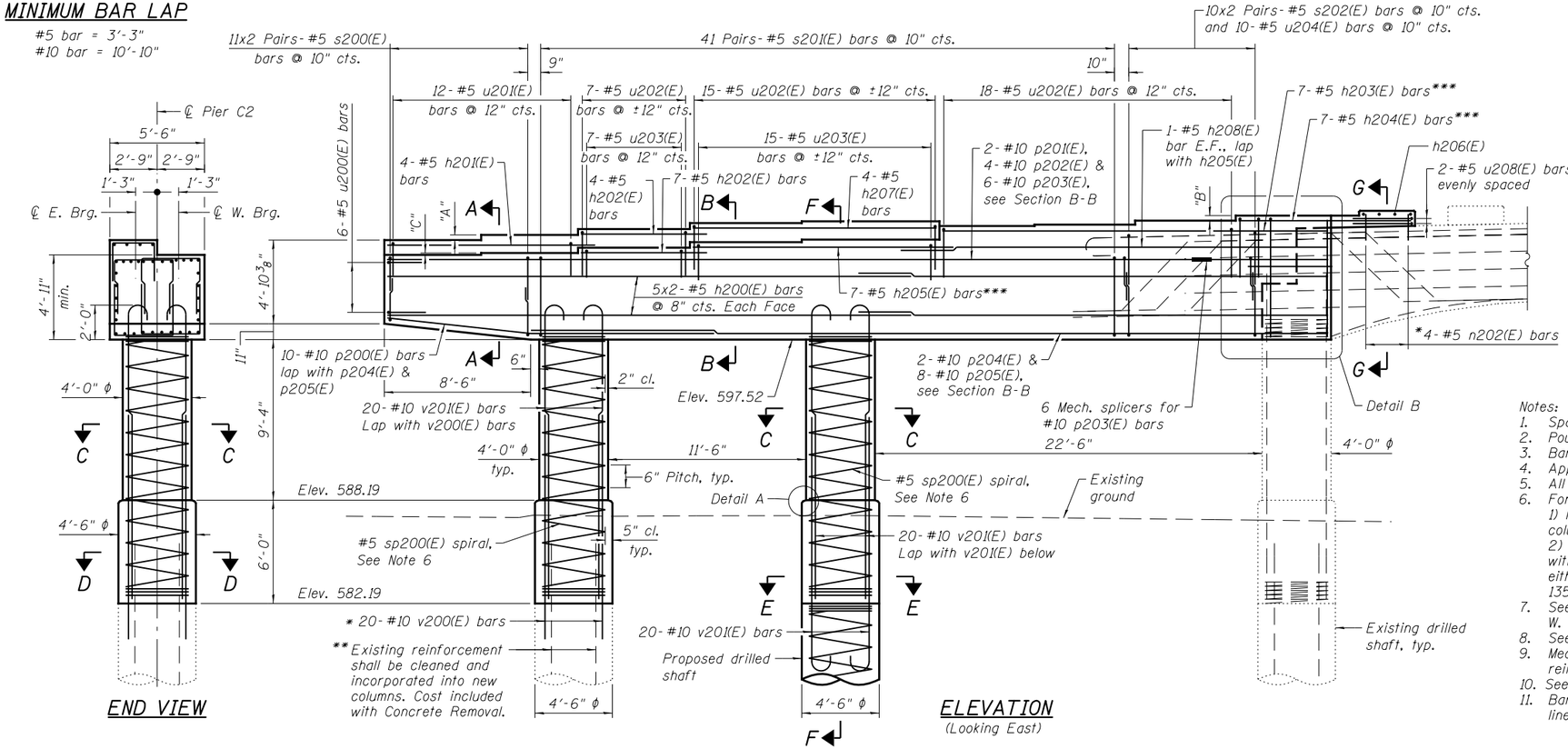


ANCHOR BOLT LAYOUT FOR E. BRG & ℄ PIER C2

Location	Beam No.	X	Y	Angle "A"
℄ E. Brg.	1A	$8\frac{1}{2}$"	$2\frac{3}{16}$"	14°19'57"
	1	$8\frac{11}{16}$"	$1\frac{1}{4}$"	08°05'58"
	2	$8\frac{11}{16}$"	$1\frac{1}{16}$"	07°00'05"
	3	$8\frac{11}{16}$"	$\frac{7}{8}$"	05°53'52"
	4	$8\frac{3}{4}$"	$\frac{3}{4}$"	04°47'23"
℄ Pier C2	5	$8\frac{7}{8}$"	$\frac{9}{16}$"	03°40'44"
	6	$8\frac{7}{8}$"	$\frac{7}{16}$"	02°50'34"
	7	$8\frac{7}{8}$"	$\frac{5}{16}$"	02°00'19"
	8	$8\frac{7}{8}$"	$\frac{3}{16}$"	01°10'00"
	9	$8\frac{7}{8}$"	$\frac{1}{16}$"	00°19'39"

MINIMUM BAR LAP

#5 bar = 3'-3"
#10 bar = 10'-10"



END VIEW

ELEVATION
(Looking East)

* Drill and grout bars according to Article 584 of the Std. Specs., with a minimum embedment of 9" for #5 bars and 2'-1" for #10 bars. Cost included in the cost of Reinforcement Bars, Epoxy Coated.
** Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal. See sheet S5-10 for removal details.
*** Cut in field to fit.

Notes:
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. Bars equally spaced, unless otherwise noted.
4. Apply concrete sealer to all exposed concrete surfaces of the proposed pier.
5. All edges shall have standard ¾" chamfer, unless otherwise noted.
6. For #5 sp200(E) spirals:
   1) Provide 1½ extra turns top and bottom. Extend spiral 2" into pier cap or column cap. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 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.
7. See sheet S5-55 for Sections A-A, B-B, C-C, D-D, E-E, F-F, Detail A, and W. Brg. Anchor Bolt Layout.
8. See sheet S5-54 for Detail B and Section G-G.
9. Mechanical splicers shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
10. See approved list of mechanical splicers for alternatives.
11. Bars indicated thus: 8x2-#5 etc. indicates 8 lines of bars with 2 lengths per line.

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	CHECKED - MI	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C2
STRUCTURE NO. 016-0461
SHEET NO. S5-53 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1005
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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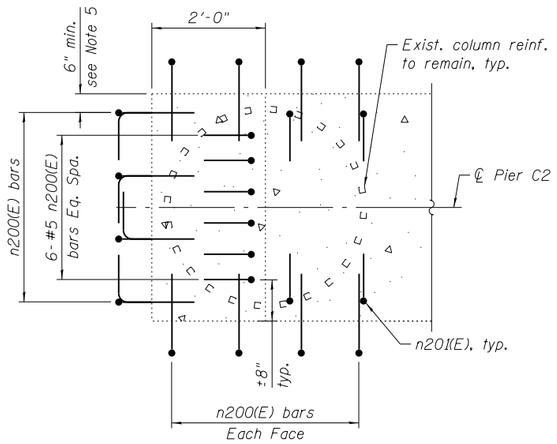
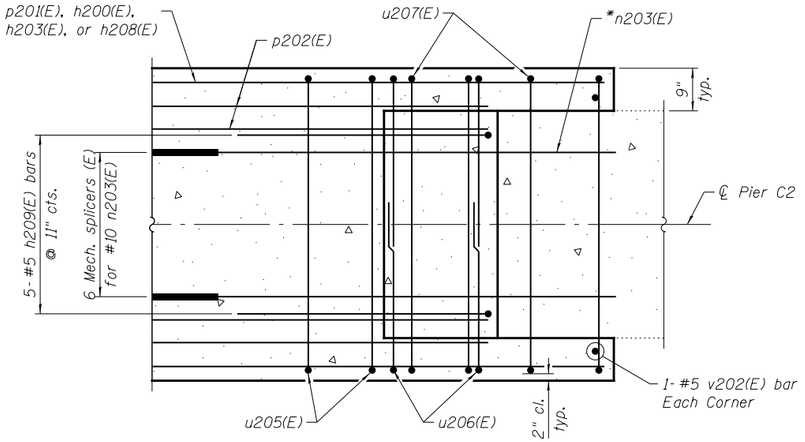


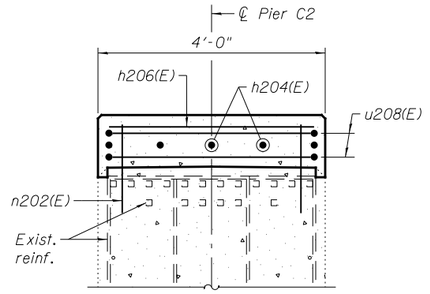
SECTION I-I

(Showing drill and epoxy grouted bars only,
n203(E) bars not shown for clarity)



SECTION I-I

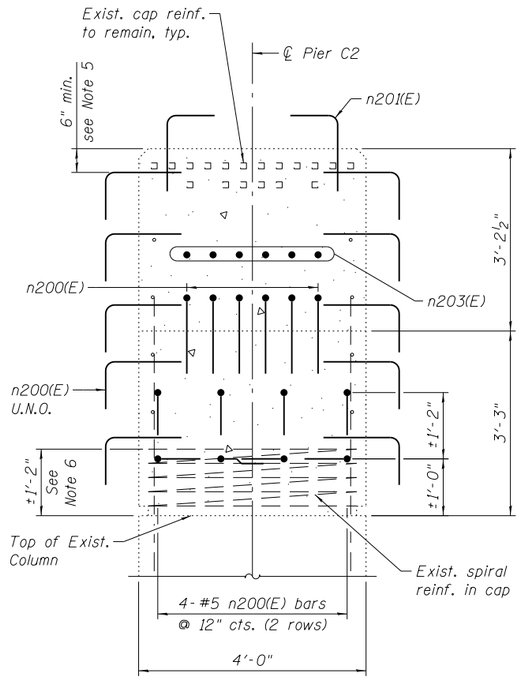
(Showing main cap reinforcement,
n200(E) drilled and grouted bars not shown for clarity)



SECTION G-G

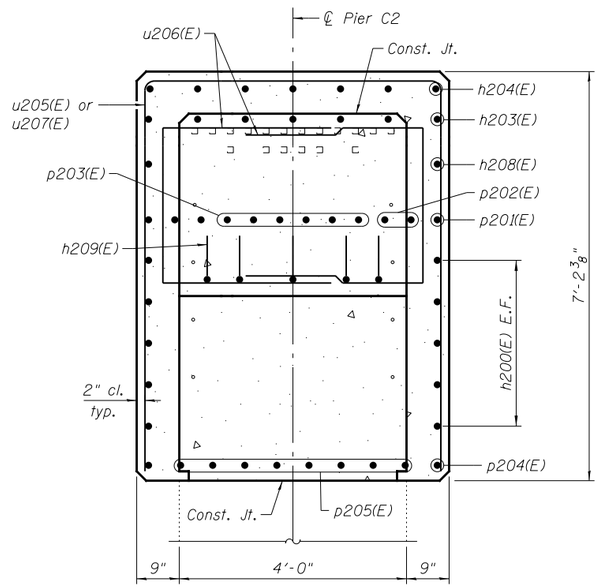
Notes:

1. *Space reinforcement in column cap to miss anchor bolts.*
2. *Bars equally spaced, unless otherwise noted.*
3. *All edges shall have standard $\frac{3}{4}$" chamfer, unless otherwise noted.*
4. *Drill and grout bars according to Article 584 of the Std. Specifications with a minimum embedment of 9" for #5 bars and 2'-1" for #10 bars. Cost included in the cost of Reinforcement Bars, Epoxy Coated.*
5. *All drilled and grouted bars shall have a minimum edge distance of 6" for #5 bars and 8" for #10 bars to the face of the existing pier cap or column.*
6. *During drilling and grouting of bars located within a distance of 1'-2" from top of existing column, the Contractor may remove the concrete cover of existing cap (up to a maximum of 2") in order to minimize damage to existing column reinforcement that extends into the cap. Cost included with Concrete Removal.*



SECTION H-H

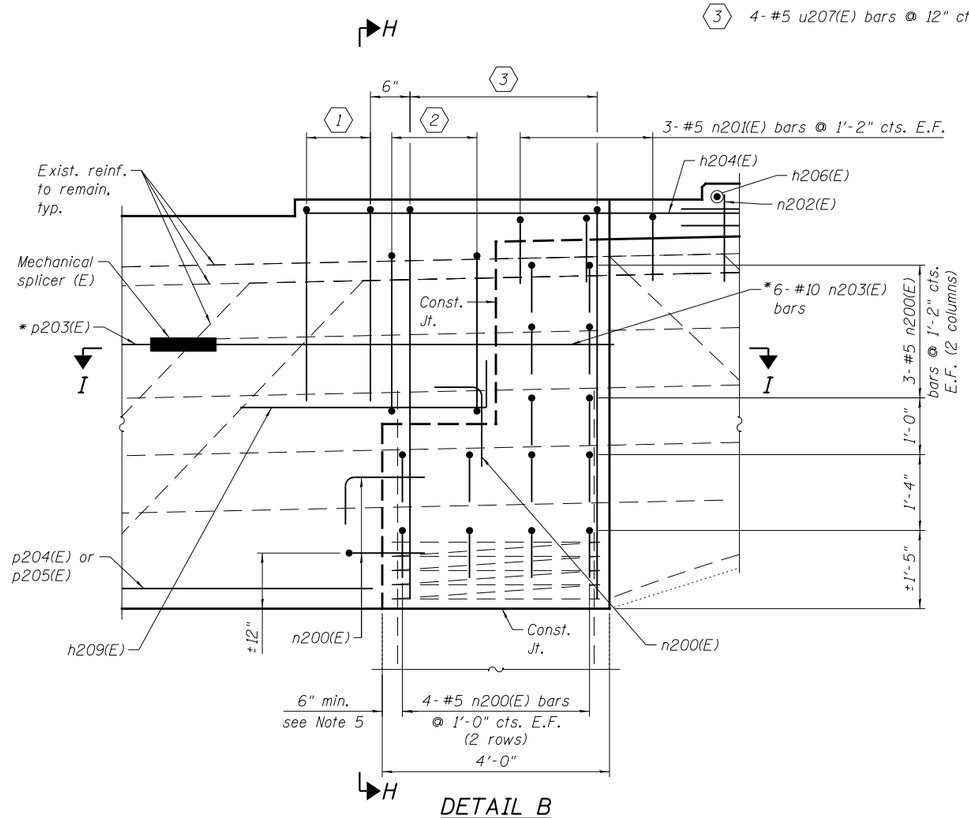
(Showing drilled and epoxy grouted bars only)



SECTION H-H

(Showing main cap reinforcement only, drilled and grouted bars,
s202(E), and u204(E) are not shown for clarity)

1. 2-#5 u205(E) bars @ 12" cts.
2. 3 Pairs-#5 u206(E) bars @ 9" cts.
3. 4-#5 u207(E) bars @ 12" cts.



DETAIL B

(New horizontal cap reinforcement along faces not shown for clarity)

* #10 p203(E) bars to be spliced with n203(E) bars using #10 Mechanical splicers (E)

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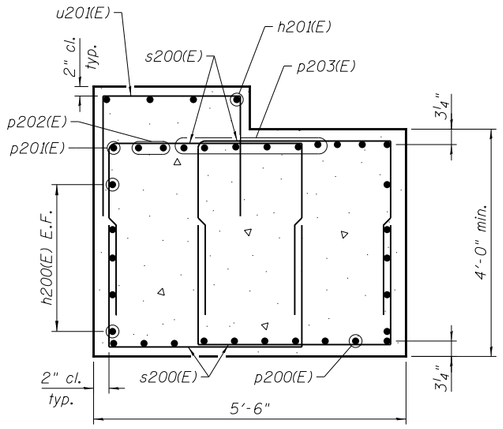
	CHECKED - MI	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

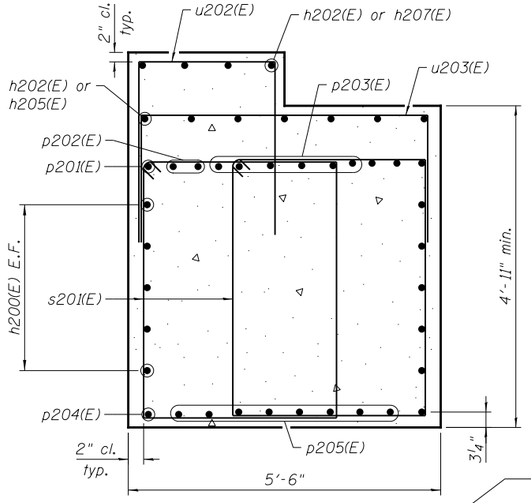
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C2 DETAILS I
STRUCTURE NO. 016-0461
SHEET NO. S5-54 OF S5-72 SHEETS

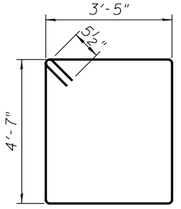
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1006
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



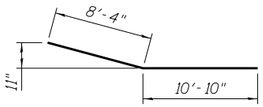
SECTION A-A



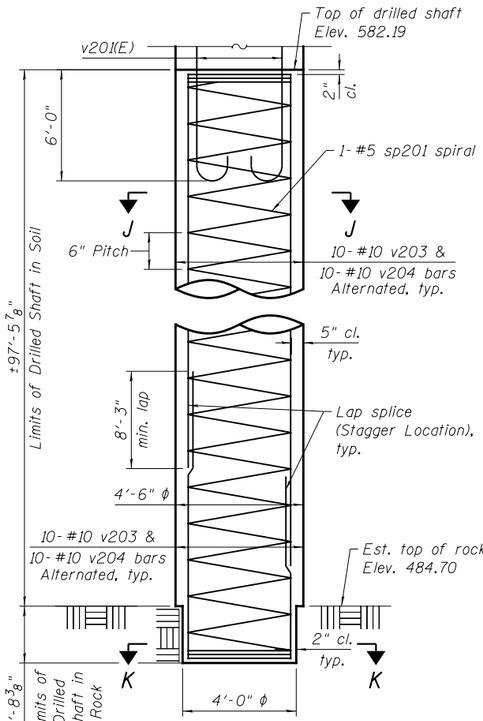
SECTION B-B



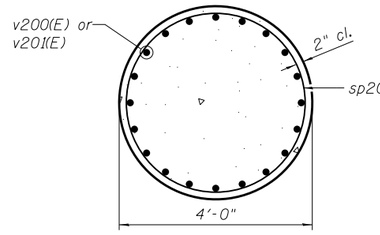
BAR s201(E)



BAR p200(E)

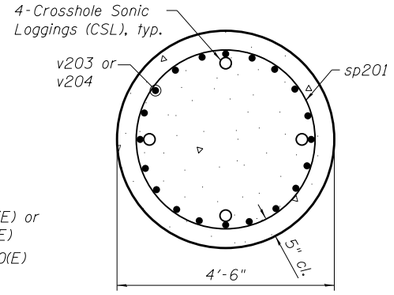


SECTION F-F

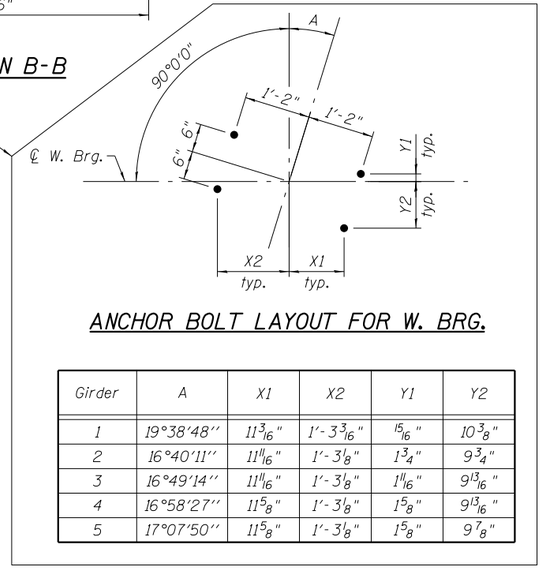


SECTION C-C

For Information Only
Part of Ramp WS (S.N. 016-1715)

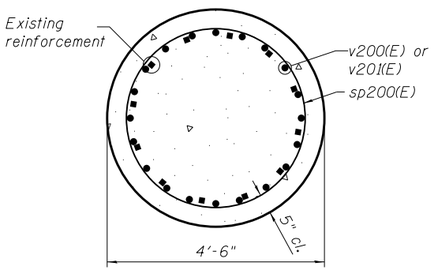


SECTION J-J

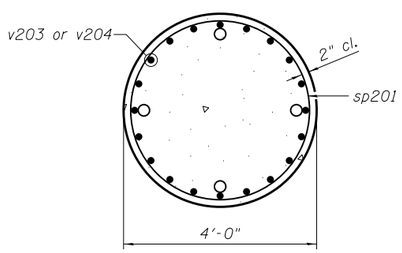


ANCHOR BOLT LAYOUT FOR W. BRG.

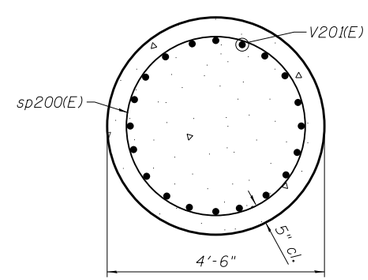
Girder	A	X1	X2	Y1	Y2
1	19°38'48''	11 3/16"	1'-3 3/16"	15/16"	10 3/8"
2	16°40'11''	11 11/16"	1'-3 1/8"	1 3/4"	9 3/4"
3	16°49'14''	11 11/16"	1'-3 1/8"	1 11/16"	9 13/16"
4	16°58'27''	11 5/8"	1'-3 1/8"	1 5/8"	9 13/16"
5	17°07'50''	11 5/8"	1'-3 1/8"	1 5/8"	9 7/8"



SECTION D-D



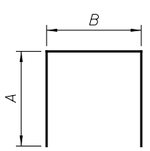
SECTION K-K



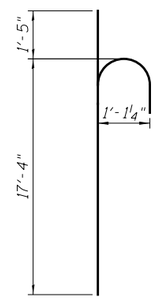
SECTION E-E

A & B DIMENSIONS

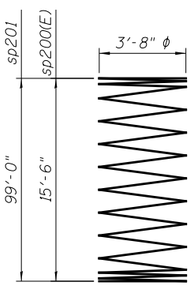
Bar	A	B
s200(E)	3'-10"	3'-5"
s202(E)	3'-11"	3'-5"
u200(E)	3'-3"	5'-0"
u201(E)	1'-9"	2'-4"
u202(E)	2'-4"	2'-4"
u203(E)	1'-10"	5'-2"
u204(E)	4'-3"	5'-2"
u205(E)	3'-3"	5'-2"
u206(E)	3'-7"	2'-10"
u207(E)	6'-9"	5'-2"
u208(E)	4'-3"	3'-8"



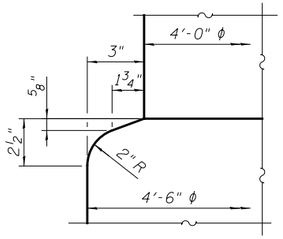
BARS



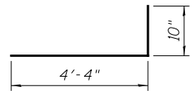
BAR v201(E)



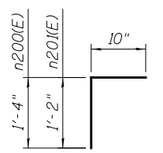
BARS sp200(E) & sp201



DETAIL A



BAR h209(E)



BARS n200(E) & n201(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200(E)	20	#5	29'-0"	
h201(E)	4	#5	13'-1"	
h202(E)	11	#5	8'-4"	
h203(E)	7	#5	22'-5"	
h204(E)	7	#5	10'-1"	
h205(E)	7	#5	15'-4"	
h206(E)	4	#5	3'-8"	
h207(E)	4	#5	14'-2"	
h208(E)	2	#5	24'-10"	
h209(E)	5	#5	5'-2"	
n200(E)	42	#5	2'-2"	
n201(E)	6	#5	2'-0"	
n202(E)	8	#5	1'-6"	
** n203(E)	6	#10	4'-11"	
p200(E)	10	#10	19'-2"	
p201(E)	2	#10	54'-8"	
p202(E)	4	#10	52'-8"	
** p203(E)	6	#10	50'-0"	
p204(E)	2	#10	46'-4"	
p205(E)	8	#10	42'-2"	
s200(E)	44	#5	11'-1"	
s201(E)	82	#5	16'-11"	
s202(E)	40	#5	11'-3"	
* sp200(E)	2	#5	15'-6"	
* sp201	1	#5	99'-0"	
u200(E)	6	#5	11'-6"	
u201(E)	12	#5	5'-10"	
u202(E)	40	#5	7'-0"	
u203(E)	22	#5	8'-10"	
u204(E)	10	#5	13'-8"	
u205(E)	2	#5	11'-8"	
u206(E)	6	#5	10'-0"	
u207(E)	4	#5	18'-8"	
u208(E)	2	#5	12'-2"	
v200(E)	20	#10	13'-1"	
v201(E)	60	#10	18'-9"	
v202(E)	2	#5	6'-10"	
v203	20	#10	60'-0"	
v204	20	#10	47'-3"	
Mechanical Splicers		Each	6	
Structure Excavation		Cu. Yd.	39	
Concrete Structures		Cu. Yd.	82.9	
Reinforcement Bars, Epoxy Coated		Pound	17,050	
Reinforcement Bars		Pound	11,650	
Concrete Sealer		Sq. Ft.	1,775	
Drilled Shaft in Soil		Cu. Yd.	58	
Drilled Shaft in Rock		Cu. Yd.	1	
Crosshole Sonic Logging Access Ducts		Foot	100	
Crosshole Sonic Logging Testing		Each	1	

* Length is height of spiral
** Length is estimated and shall be verified based on type of Mechanical Splicer

Notes:
1. Perform Crosshole Sonic Logging (CSL) testing on Drilled Shaft.
2. The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock elevations and the final top of shaft elevation.
3. For #5 sp201 spiral:
   1) Provide 1½ extra turns top and bottom. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 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.
4. See approved list of Mechanical Splicers for alternatives.

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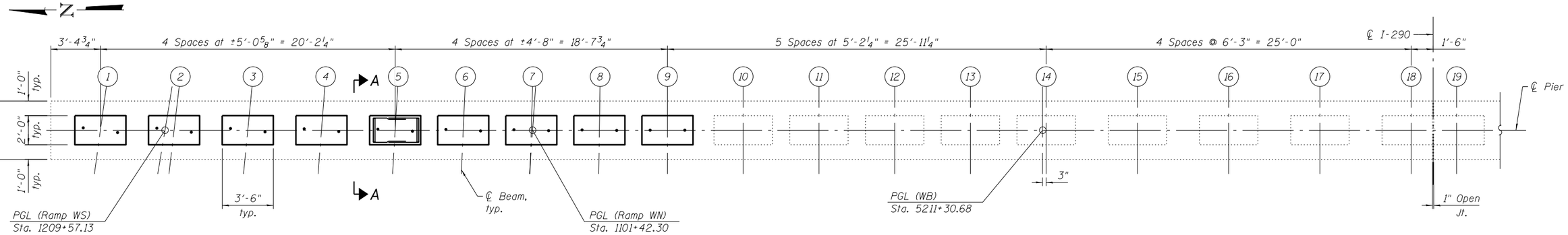
	CHECKED - MI	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -	
PLOT DATE = 9/19/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

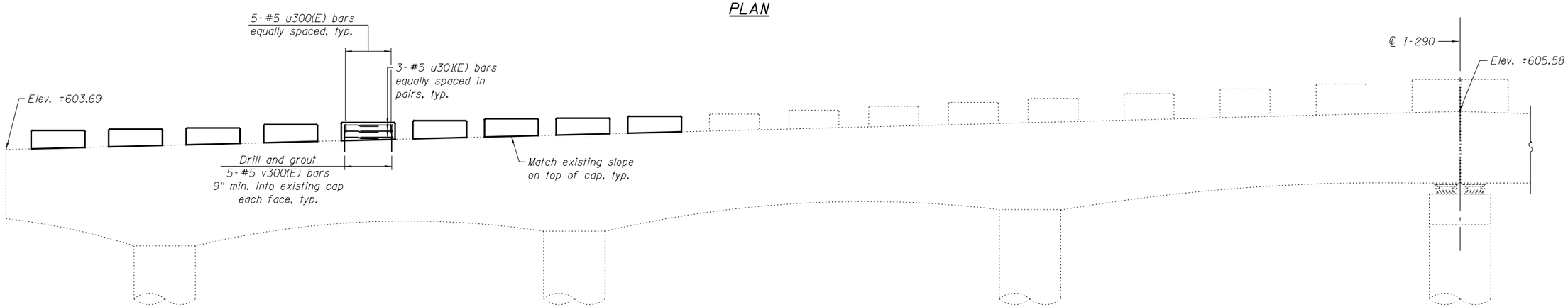
PIER C2 DETAILS II
STRUCTURE NO. 016-0461
SHEET NO. S5-55 OF S5-72 SHEETS

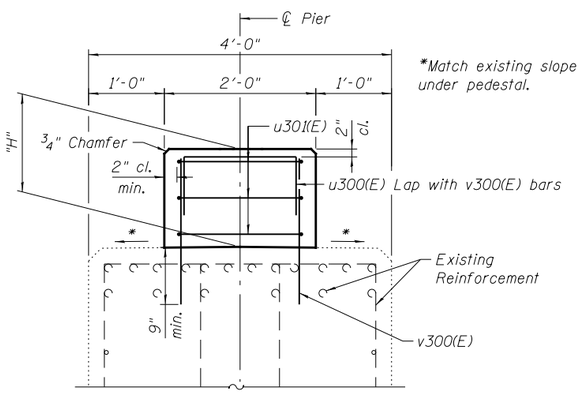
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1007
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

0160461-60X93-S055-PC2.dgn



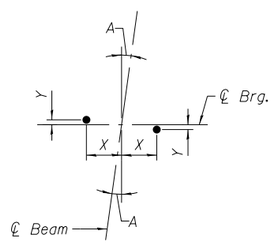
PLAN





SECTION A-A

(Anchor bolts not shown for clarity)



ANCHOR BOLT LAYOUT

ANCHOR BOLT DETAILS

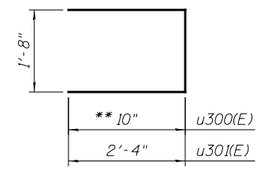
Beam	X	Y	Angle "A"
1	1'-2 1/8"	1 15/16"	7°46'19"
2	1'-2 1/8"	1 5/8"	6°40'26"
3	1'-2 3/16"	1 3/8"	5°34'13"
4	1'-2 3/16"	1 1/8"	4°27'44"
5	1'-2 1/4"	13/16"	3°21'5"
6	1'-2 1/4"	5/8"	2°30'55"
7	1'-2 1/4"	7/16"	1°40'40"
8	1'-2 1/4"	3/16"	0°50'21"
9	1'-2 1/4"	0"	0°

ELEVATION

(Looking East)

BEAM SEAT ELEVATION

Beam	Seat Elev.
1	606.15
2	606.02
3	605.88
4	605.73
5	605.58
6	605.30
7	605.01
8	604.73
9	604.44



BARS u300(E) TO u301(E)

** Cut in field to fit

PEDESTAL HEIGHT, "H"

Beam	"H"
1	1'-7 3/8"
2	1'-6 7/8"
3	1'-6 3/8"
4	1'-5 3/4"
5	1'-5"
6	1'-2 7/8"
7	1'-0 5/8"
8	10 3/8"
9	8 1/8"

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	u300(E)	45	#5	3'-4"	
	u301(E)	54	#5	6'-4"	
**	v300(E)	90	#5	2'-2"	
	Reinforcement Bars, Epoxy Coated			Pound	720
	Concrete Structures			Cu. Yd.	3.0

Notes:

1. Beam seat elevations and pedestal heights, "H", were determined based on data from existing plans. Prior to ordering any material, the Contractor shall verify in the field all beam seat heights and shim thickness dimensions. Space reinforcement in concrete pedestals to miss anchor bolts.
2. Drilling and grouting of bars into existing pier cap and column shall be done in accordance with Article 584 of the Standard Specifications. Drilled and grouted bars shall maintain 5" clearance from an existing face of concrete and shall be installed such that they miss existing pier cap reinforcement. Cost included with Reinforcement Bars, Epoxy Coated.

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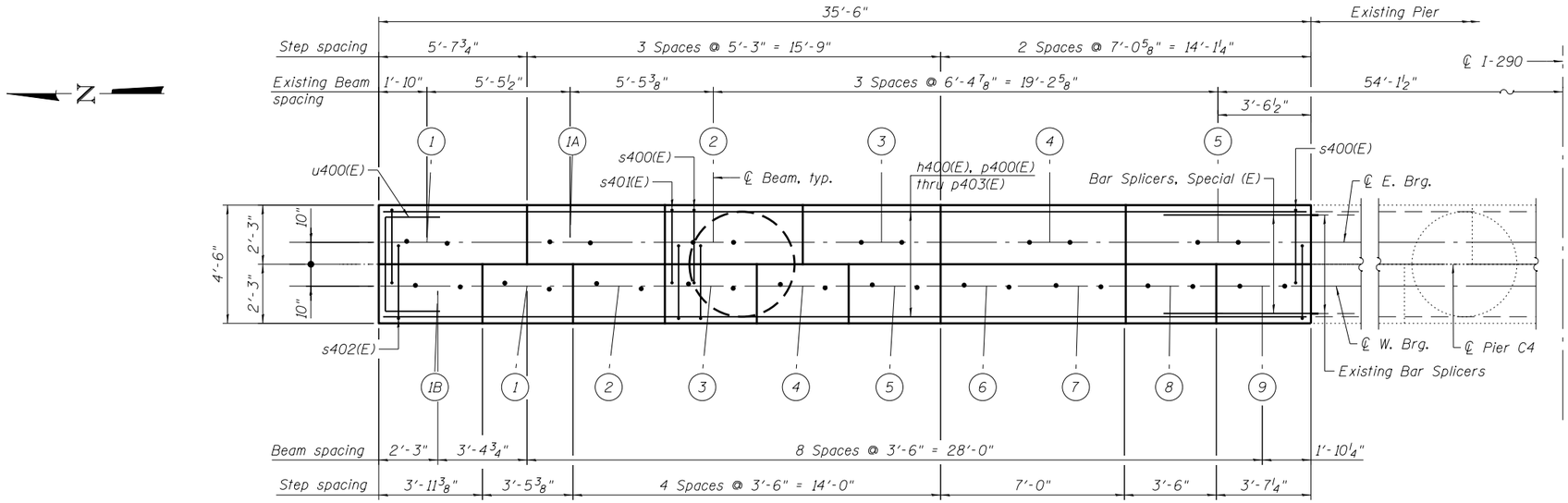
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

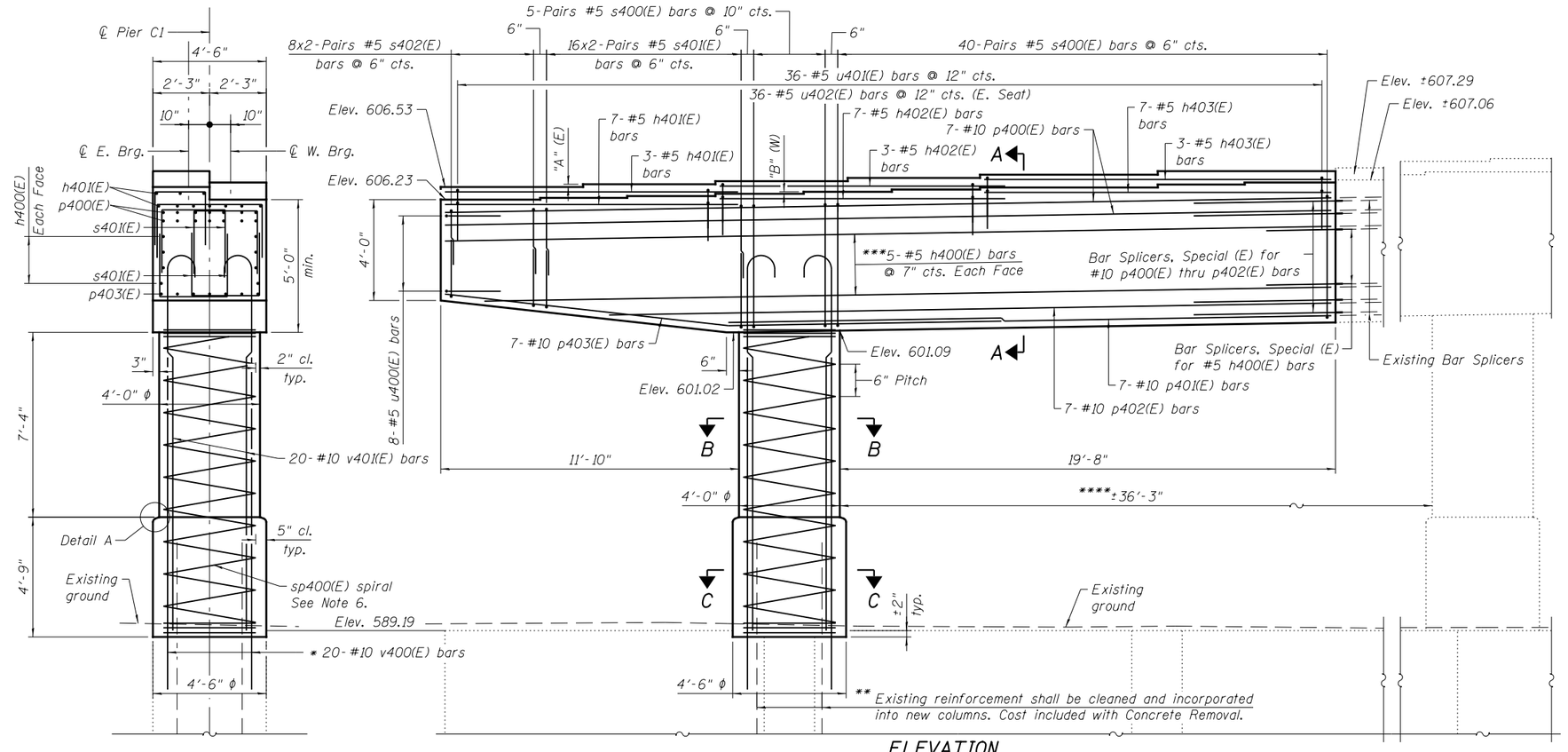
PIER C3 DETAILS
STRUCTURE NO. 016-0461
SHEET NO. S5-56 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1008
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S056-PC3.dgn



TOP PLAN



END VIEW

ELEVATION
(Looking East)

TOP OF SEAT ELEVATION

Beam No.	E. Seat Elevation (Existing Beams)
1	606.53
1A	606.64
2	606.76
3	606.89
4	607.02
5	607.16

Beam No.	W. Seat Elevation
1B	606.23
1	606.31
2	606.40
3	606.49
4	606.57
5	606.66
6	606.74
7	606.74
8	606.86
9	606.94

BEARING SEAT STEP HEIGHTS

East Seat Step	"A"
1 to 1A	1 3/8"
1A to 2	1 1/2"
2 to 3	1 1/2"
3 to 4	1 1/2"
4 to 5	1 3/8"

West Seat Step	"B"
1B to 1	1"
1 to 2	1 1/8"
2 to 3	1 1/8"
3 to 4	1"
4 to 5	1 1/8"
5 to 6/7	1"
6/7 to 8	1 1/2"
8 to 9	1"

MINIMUM BAR LAP

#5 bar = 3'-3"
#10 bar = 10'-10"

* Drill and grout bars according to Article 584 of the Std. Specs., with a minimum embedment of 2'-1". Cost included in the cost of Reinforcement Bars, Epoxy Coated.
** Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
*** Cut bottom h400(E) bars in field to fit.
**** Verify dimensions in field.

Notes:
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. Bars equally spaced, unless otherwise noted.
4. Apply concrete sealer to all exposed concrete surfaces of the pier.
5. All edges shall have standard 3/4" chamfer, unless otherwise noted.
6. For sp400(E) spiral:
   1) Provide 1 1/2 extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap or column cap. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 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.
7. Exist. Temporary Support System located south of Pier C4 removal line shall not be removed until new concrete pier cap and column have reached a minimum compressive strength of 3,500 psi or 28 days of age. See sheet S5-9 for details.
8. Bar Splicers, Special (E) shall be spliced to the existing bar splicer assembly. The cost is included in the cost of Bar Splicer, Special. See Special Provisions and sheet S5-52 for details of the Bar Splicers, Special.
9. See sheet S5-58 for Anchor Bolt Layout.
10. See sheet S5-58 for Sections A-A, B-B & C-C, and Detail A.

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	CHECKED - MS	REVISED -	
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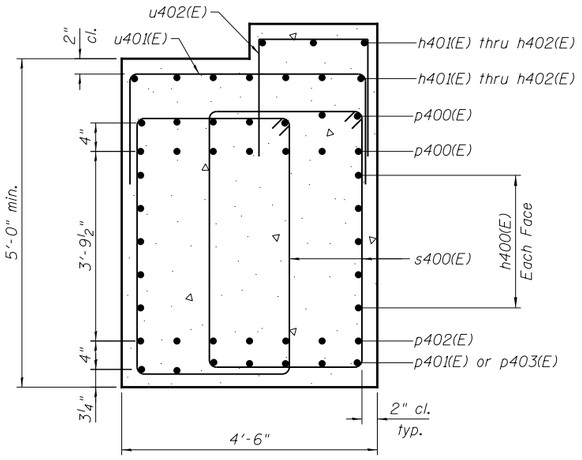
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C4
STRUCTURE NO. 016-0461
SHEET NO. S5-57 OF S5-72 SHEETS

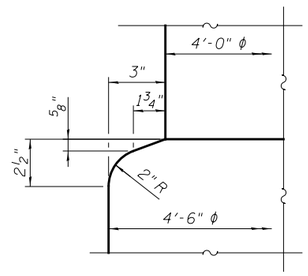
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1009
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S057-PC4.dgn

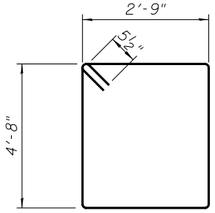


SECTION A-A

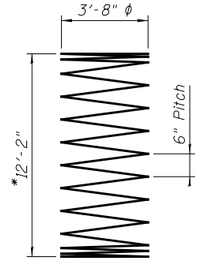
Middle of Pier Cap



DETAIL A



BAR s400(E)

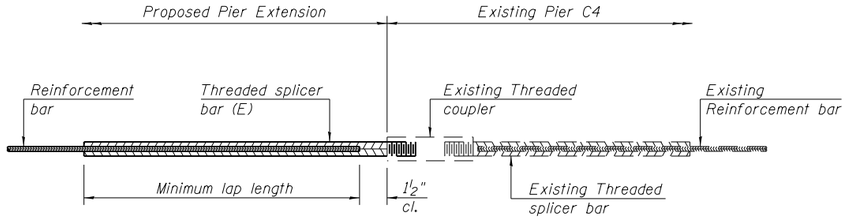


BAR sp400(E)

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h400(E)	10	#5	35'-2"	
	h401(E)	10	#5	11'-9"	
	h402(E)	10	#5	11'-4"	
	h403(E)	10	#5	13'-9"	
	p400(E)	14	#10	35'-2"	
	p401(E)	7	#10	23'-11"	
	p402(E)	7	#10	26'-8"	
	p403(E)	7	#10	22'-1"	
	s400(E)	90	#5	15'-9"	
	s401(E)	64	#5	10'-9"	
	s402(E)	32	#5	10'-1"	
*	sp400(E)	1	#5	12'-2"	
	u400(E)	8	#5	11'-0"	
	u401(E)	36	#5	9'-0"	
	u402(E)	36	#5	6'-9"	
	v400(E)	20	#10	13'-6"	
	v401(E)	20	#10	15'-7"	
	Concrete Structures			Cu. Yd.	37.2
	Reinforcement Bars, Epoxy Coated			Pound	11,110
	Bar Splicers, Special			Each	38
	Concrete Sealer			Sq. Ft.	863

* Length is height of spiral

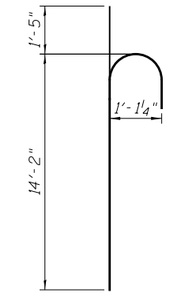


BAR SPLICERS, SPECIAL

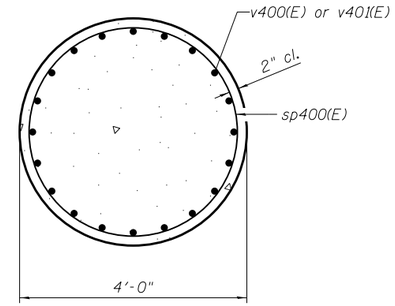
All reinforcement shall be lapped and tied to the splicer bars.
See Sheet S5-57 for location.
See Special Provision.

Threaded splicer bar length = min. lap length + 1½" + thread length

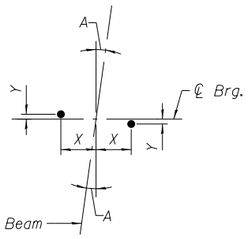
Location	Bar size	No. required	Minimum lap length
Pier C4 Cap	#5	10	3'-3"
	#10	28	10'-10"



BAR v401(E)

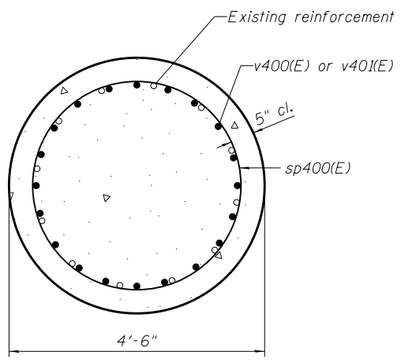


SECTION B-B

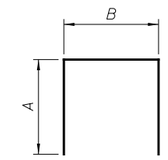


ANCHOR BOLT LAYOUT

Location	Beam No.	X	Y	Angle "A"
E. Brg.	1	9¼"	½"	02°54'49"
	1A	9¼"	¼"	01°27'28"
	2 thru 5	9¼"	0	0
W. Brg.	1B	9¼"	5/16"	02°00'02"
	1	9 3/16"	1¼"	07°46'19"
	2	9 3/16"	1 1/16"	06°40'26"
	3	9 3/16"	⅞"	05°34'13"
	4	9¼"	¾"	04°27'44"
	5	9¼"	9/16"	03°21'05"
	6	9¼"	⅜"	02°30'55"
	7	9¼"	¼"	01°40'40"
	8	9¼"	⅛"	00°50'21"
	9	9¼"	0	0

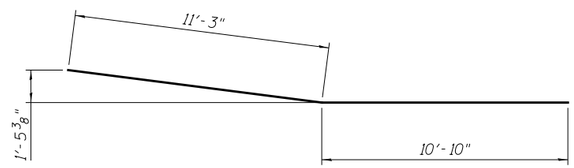


SECTION C-C



BARS
A & B DIMENSIONS

Bar	A	B
s401(E)	4'-0"	2'-9"
s402(E)	3'-8"	2'-9"
u400(E)	3'-6"	4'-0"
u401(E)	2'-5"	4'-2"
u402(E)	2'-5"	1'-11"



BAR p403(E)

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	CHECKED - MS	REVISED -	
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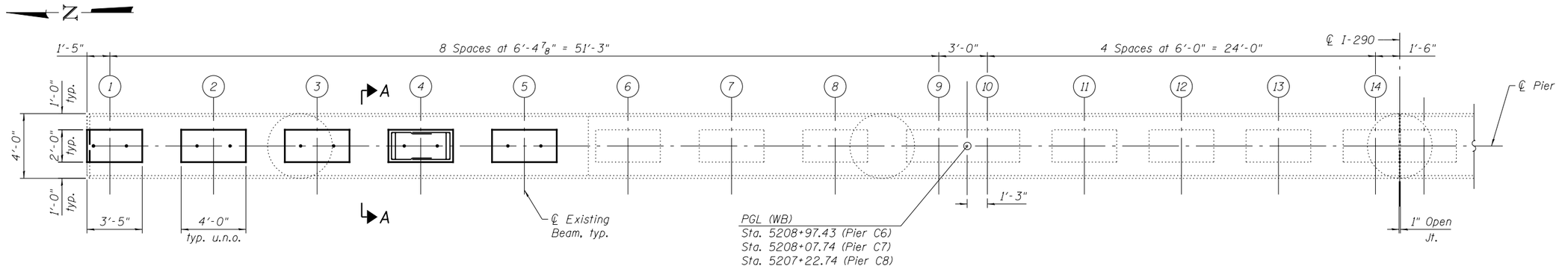
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C4 DETAILS
STRUCTURE NO. 016-0461
SHEET NO. S5-58 OF S5-72 SHEETS

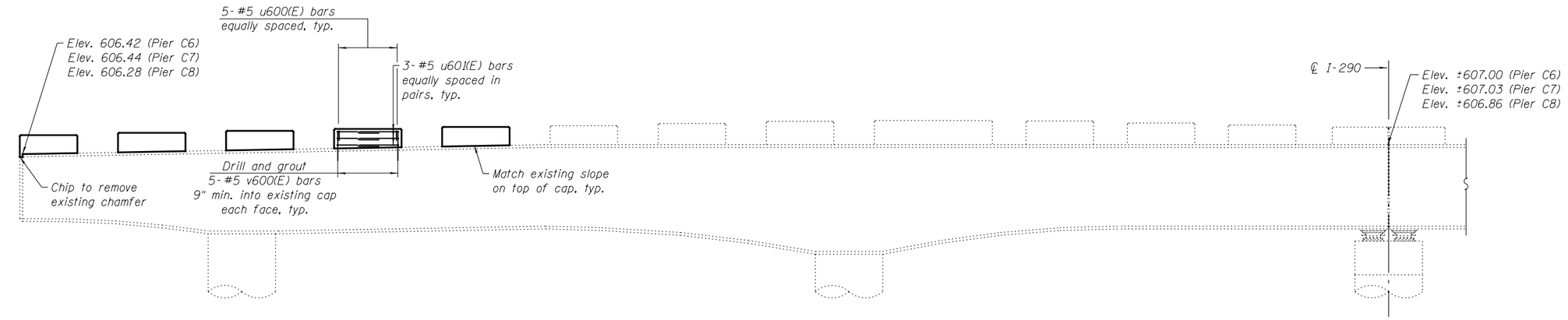
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1010
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S058-PC4.dgn



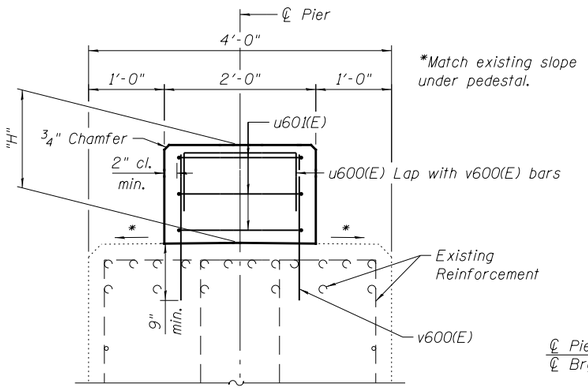
PLAN

(Pier C6 shown, Piers C7 and C8 similar)



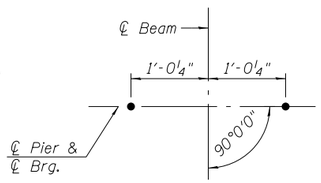
ELEVATION

(Looking East, Pier C6 shown, Piers C7 and C8 similar)



SECTION A-A

(Anchor bolts not shown for clarity)



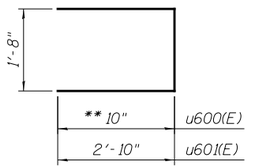
ANCHOR BOLT LAYOUT

BEAM SEAT ELEVATION

Beam	Pier C6	Pier C7	Pier C8
1	607.45	607.34	607.03
2	607.58	607.48	607.16
3	607.72	607.61	607.30
4	607.85	607.75	607.43
5	607.98	607.88	607.56

PEDESTAL HEIGHT, "H"

Beam	Pier C6	Pier C7	Pier C8
1	1'-0"	10 5/8"	8 3/4"
2	1'-0 1/4"	10 3/4"	8 7/8"
3	1'-0 3/8"	10 7/8"	9"
4	1'-0 1/2"	11"	9 1/4"
5	1'-0 3/4"	11 1/8"	9 3/8"



BARS u600(E) TO u601(E)

** Cut in field to fit

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	u600(E)	75	#5	3'-4"	
	u601(E)	90	#5	7'-4"	
**	v600(E)	150	#5	1'-6"	
	Reinforcement Bars, Epoxy Coated			Pound	1,190
	Concrete Structures			Cu. Yd.	4.0

Notes:

1. Beam seat elevations and pedestal heights, "H", were determined based on data from existing plans. Prior to ordering any material, the Contractor shall verify in the field all beam seat heights and shim thickness dimensions. Space reinforcement in concrete pedestals to miss anchor bolts.
2. Drilling and grouting of bars into existing pier cap and column shall be done in accordance with Article 584 of the Standard Specifications. Drilled and grouted bars shall maintain 5" clearance from an existing face of concrete and shall be installed such that they miss existing pier cap reinforcement. Cost included with Reinforcement Bars, Epoxy Coated.

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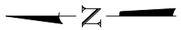
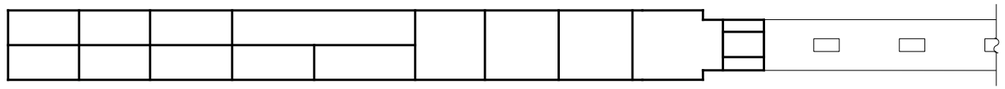
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS C6 TO C8 DETAILS
STRUCTURE NO. 016-0461
SHEET NO. S5-59 OF S5-72 SHEETS

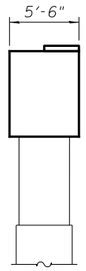
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1011
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S059-PC6.dgn

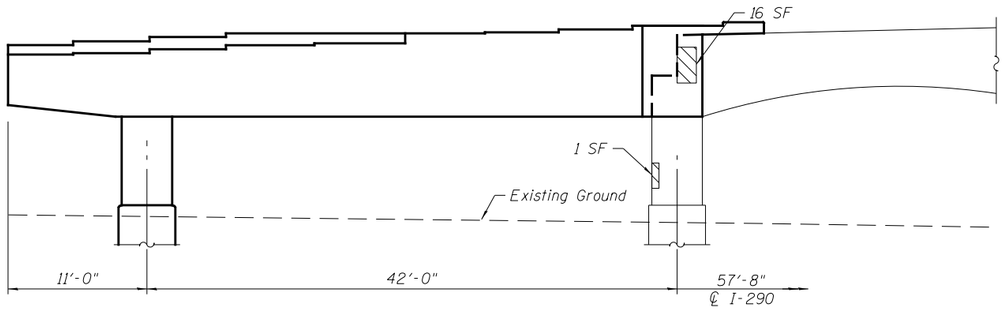




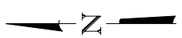
PLAN

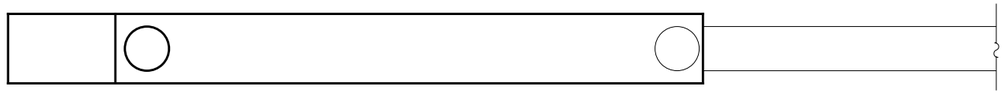


END VIEW

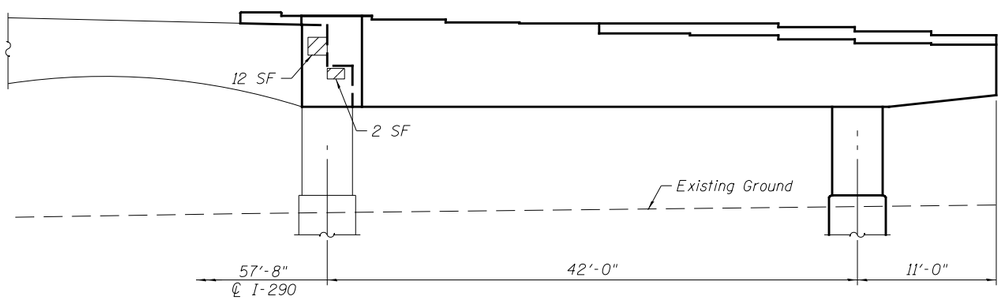


ELEVATION - PIER C2
(Looking East)

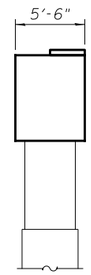




UNDERSIDE PLAN



ELEVATION - PIER C2
(Looking West)



END VIEW

Note:
Area of pier repairs shown are estimated based on inspections performed in July 2012 and "As Built" information per 60X78 contract. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less than 5 Inches)

SF = Square Feet

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	31

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	CHECKED - IJL	REVISED -	
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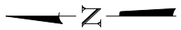
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

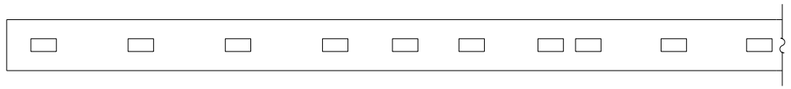
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C2 REPAIR
STRUCTURE NO. 016-0461
SHEET NO. S5-60 OF S5-72 SHEETS

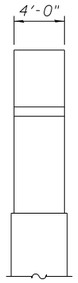
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1012
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S060-PRR.dgn

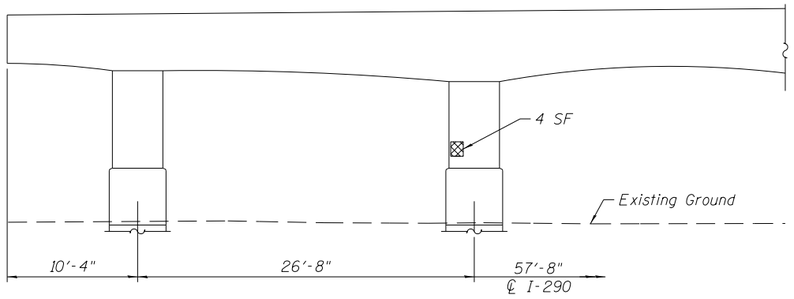




PLAN

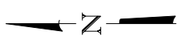


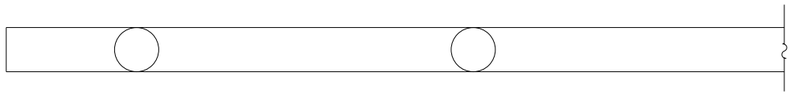
END VIEW



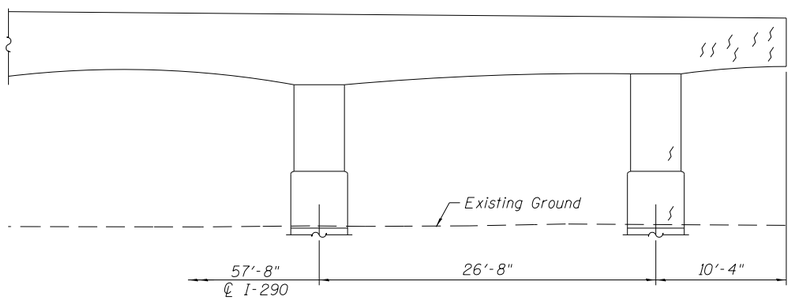
ELEVATION - PIER C3

(Looking East)



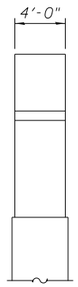


UNDERSIDE PLAN



ELEVATION - PIER C3

(Looking West)



END VIEW

Note:

Area of pier repairs shown are estimated based on inspections performed in July 2012 and "As Built" information per 60X78 contract. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

LEGEND

Structural Repair of Concrete (Depth Greater than 5 Inches)

Hairline Crack not to be sealed (Width < 0.06")

SF = Square Feet

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq. Ft.	4

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

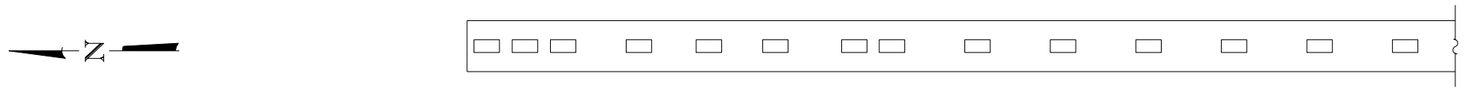
USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -
	CHECKED - IJL	REVISED -
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

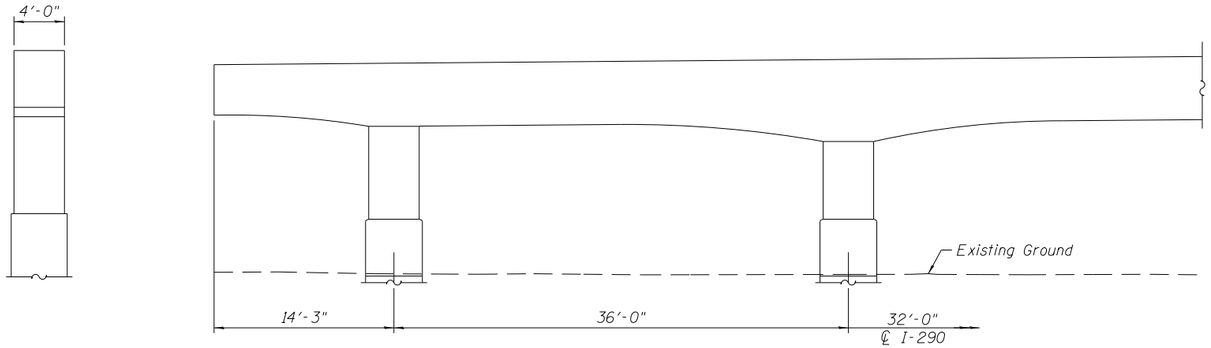
PIER C3 REPAIR
STRUCTURE NO. 016-0461
SHEET NO. S5-61 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1013
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S061-PRR.dgn

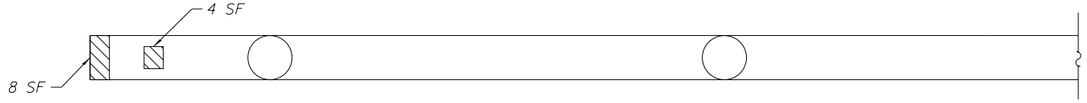


PLAN

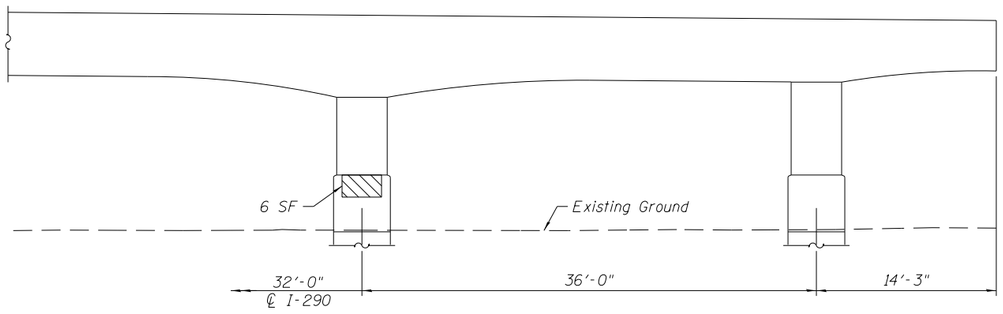


END VIEW

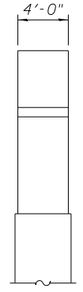
ELEVATION - PIER C5
(Looking East)



UNDERSIDE PLAN



ELEVATION - PIER C5
(Looking West)



END VIEW

Note:
Area of pier repairs shown are estimated based on inspections performed in July 2012 and "As Built" information per 60X78 contract. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

LEGEND

Structural Repair of Concrete
(Depth Equal to or Less than 5 Inches)

SF = Square Feet

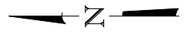
BILL OF MATERIAL

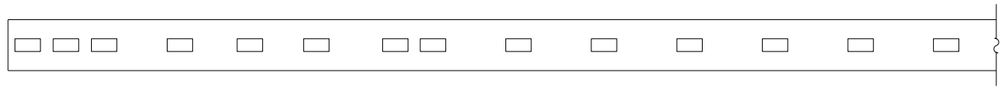
Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	18

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

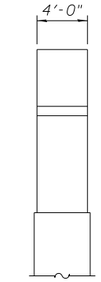
USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER C5 REPAIR STRUCTURE NO. 016-0461 SHEET NO. S5-62 OF S5-72 SHEETS	F.A.I. RTE. 90/94/290 | SECTION 2014-013R&B-R | COUNTY COOK | TOTAL SHEETS 1972 | SHEET NO. 1014 CONTRACT NO. 60X93 ILLINOIS FED. AID PROJECT
	CHECKED - IJL	REVISED -			
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -			
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -			

0160461-60X93-S062-PRR.dgn

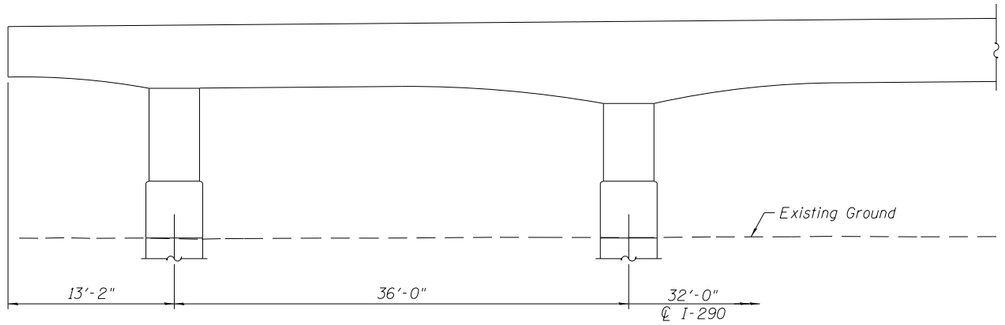




PLAN

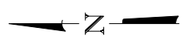


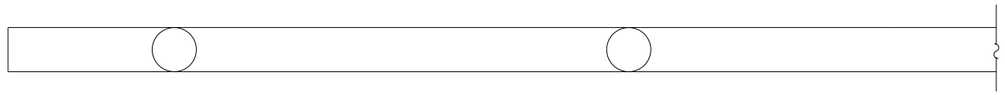
END VIEW



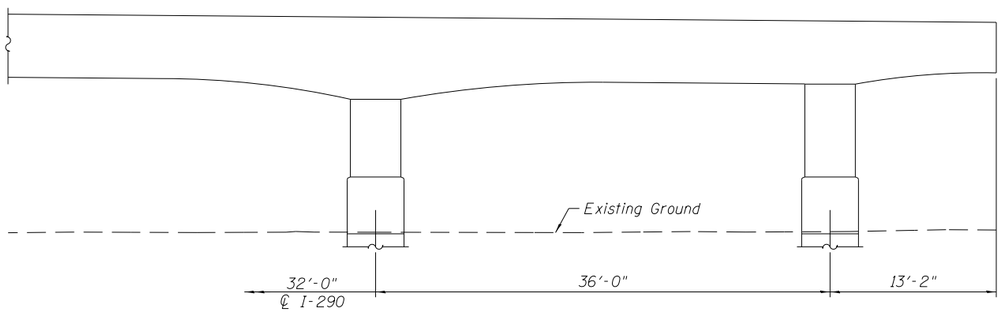
ELEVATION - PIER C6

(Looking East)



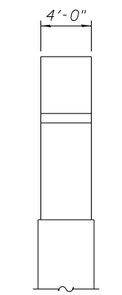


UNDERSIDE PLAN



ELEVATION - PIER C6

(Looking West)



END VIEW

Note:

Pier C6 details are shown for information only. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

0160461-60X93-S063-PRR.dgn

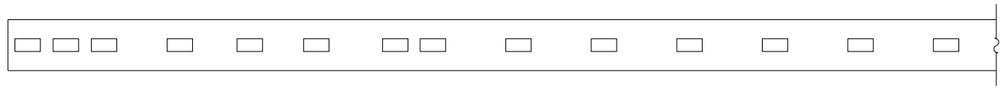
WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - IJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

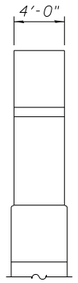
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C6 REPAIR
STRUCTURE NO. 016-0461
SHEET NO. S5-63 OF S5-72 SHEETS

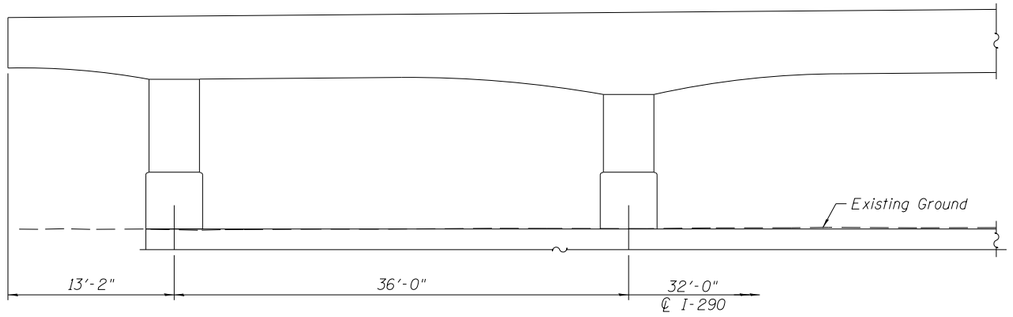
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1015
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



PLAN

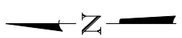


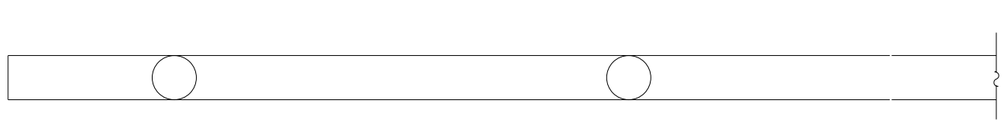
END VIEW



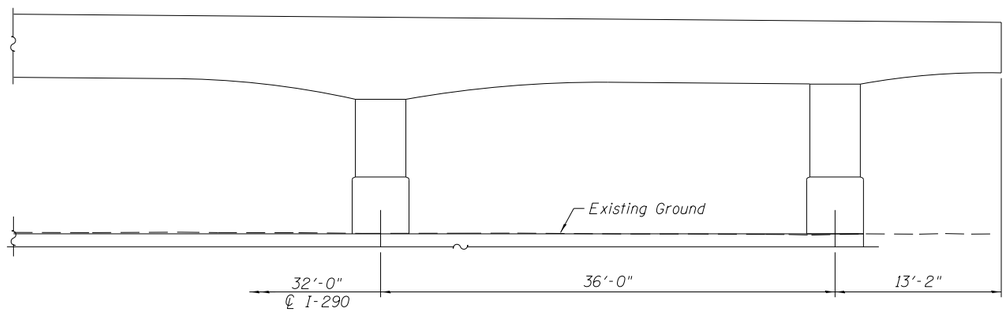
ELEVATION - PIER C7

(Looking East)



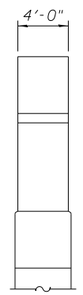


UNDERSIDE PLAN



ELEVATION - PIER C7

(Looking West)



END VIEW

Note:
Pier C7 details are shown for information only. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

0160461-60X93-S064-PRR.dgn

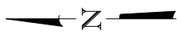
WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

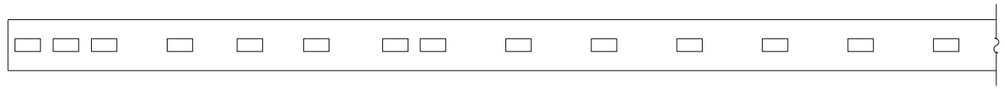
USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - IJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

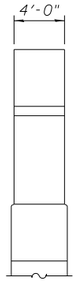
PIER C7 REPAIR
STRUCTURE NO. 016-0461
SHEET NO. S5-64 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1016
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

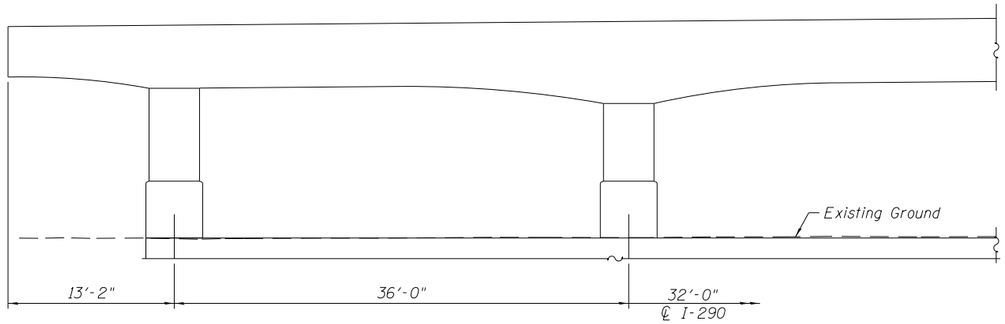




PLAN

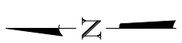


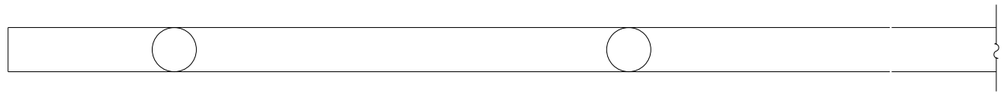
END VIEW



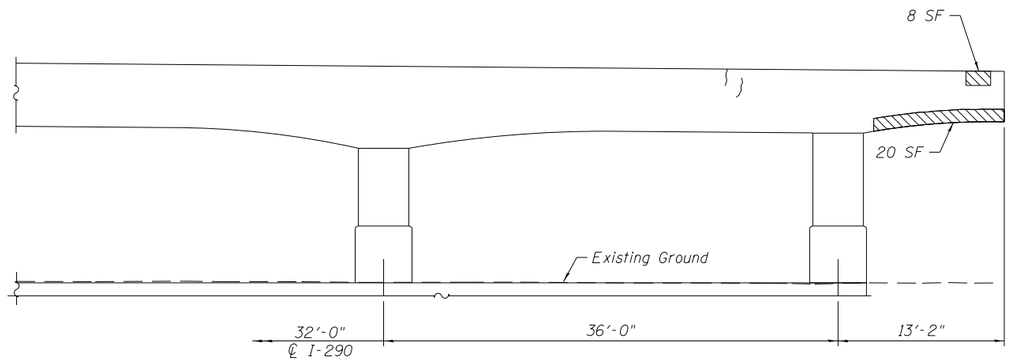
ELEVATION - PIER C8

(Looking East)



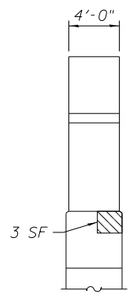


UNDERSIDE PLAN



ELEVATION - PIER C8

(Looking West)



END VIEW

Note:
Area of pier repairs shown are estimated based on inspections performed in July 2012 and "As Built" information per 60X78 Contract. The Engineer shall record the actual pier repair areas in the "As Built" plans. Changes in repair areas shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity furnished at the unit bid price for the work.

LEGEND

Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)

Hairline Crack not to be sealed (Width < 0.06")

SF = Square Feet

BILL OF MATERIAL

Item	Unit	Quantity
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.	31

WSP USA Inc.
30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - IJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER C8 REPAIR
STRUCTURE NO. 016-0461
SHEET NO. S5-65 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1017
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S065-PRR.dgn

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1703-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.8899 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel --FILL--				1	8 7 5	2.00 P	25
	581.1		5			2	4 4 5	1.48 B	22
		Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				3	2 2 3	0.66 B	24
			10			4	1 2 3	0.41 B	25
						5	1 1 2	0.33 B	24
			15			6	1 1 2	0.25 B	25
						7	1 1 3	0.25 B	25
			20			8	1 3 3	0.33 B	17
						9	2 2 3	0.25 B	25
	539.9	Very stiff to hard, gray SILTY CLAY, trace gravel	25			10	2 2 3	0.33 B	26
			30			11	2 2 2	0.25 B	22
						12	1 2 2	0.25 B	28
			35			13	1 2 2	0.16 B	28
			40			14	1 2 4	< 0.25 P	28
			45			15	1 2 3	0.25 B	21
			50			16	9 16 24	2.54 B	14

GENERAL NOTES

Begin Drilling: 10-21-2013 Complete Drilling: 10-22-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 89.00 ft
At Completion of Drilling: ▼ 89.00 ft
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 3/12/14

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1703-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.8899 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	527.9	Dense, gray SANDY LOAM, trace gravel --Moist--	55			17	12 20 29	6.64 B	14
			60			18	28 25 24	NP	15
	524.9	Hard, gray SILTY CLAY LOAM, trace gravel	65			19	18 25 31	5.41 S	13
			70			20	17 21 34	4.10 S	13
			75			21	15 27 46	8.28 B	15
	509.9	Very dense, gray SILTY LOAM, trace gravel	80			22	50/5"	NP	10
	504.9	Hard, gray SILTY CLAY LOAM, trace gravel	85			23	28 38 50/5"	10.00 S	12
		--HARD DRILLING-- --Possible Cobbles--	90			24	14 24 43	NP	23
	497.6	Very dense, gray SILT, trace gravel --Saturated-- --HARD DRILLING-- --Possible Cobbles--	95			25	50/4"	NP	17
	489.9	Very dense, gray GRAVELLY SAND --Saturated--	100			26	50/4"	NP	14

GENERAL NOTES

Begin Drilling: 10-21-2013 Complete Drilling: 10-22-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 89.00 ft
At Completion of Drilling: ▼ 89.00 ft
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 3/12/14

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Telephone: 630 953-9928
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BORING LOG 1703-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.8899 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	484.9	--HARD DRILLING-- Very dense, greenish gray SILT/SHALE, some DOLOSTONE fragments --WEATHERED BEDROCK--	105			27	50/5"	NP	16
	479.6	Boring terminated at 107.00 ft	110						
			115						
			120						
			125						

GENERAL NOTES

Begin Drilling: 10-21-2013 Complete Drilling: 10-22-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 89.00 ft
At Completion of Drilling: ▼ 89.00 ft
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 3/12/14

Note:
1. *Station and offsets are measured along baseline WB I-290.*

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30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS I
STRUCTURE NO. 016-0461
SHEET NO. S5-66 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1018
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S066-BOR.dgn

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BORING LOG 1715-PMT-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.37 ft
North: 1898101.38 ft
East: 1171922.25 ft
Station: 1211+54.22
Offset: 33.6196 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Drilled without sampling	5					
			10					
			15					
			20					
			25					
			30					
			35					
			40					
			45					
			50					

GENERAL NOTES

Begin Drilling: 04-24-2014 Complete Drilling: 04-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 3/12/14

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	531.4	Hard, gray SILTY CLAY, little gravel	55		1	11 11 20	4.10 B	16
		--Pressure Meter Test--	60	P	1	PMT		
			65					
			70		2	18 29 48	7.38 S	13
		--Pressure Meter Test--	75	P	2	PMT		
	512.1	Very dense, gray SILTY LOAM to						
		SILTY CLAY LOAM, little gravel						
		--Pressure Meter Test--	80	P	3	PMT		
					3	43	NP	11
		--Pressure Meter Test--	85	P	4	PMT		
					4	50/4"	NP	11
	499.6	Very dense, gray SANDY GRAVEL						
	496.9	Hard, gray SILTY CLAY LOAM	90		5	34 40 26/2"	NP	15
	494.6	Very dense, gray SILTY LOAM, trace gravel						
		--HARD DRILLING 95-98.5 ft-- --Possible Cobbles--	95		6	50/4"	NP	15
			100		7	50/3"	NP	13

GENERAL NOTES

Begin Drilling: 04-24-2014 Complete Drilling: 04-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 3/12/14

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	484.6	Very dense, gray SANDY GRAVEL	105		8	50/4"	NP	12
	480.4	Strong, light gray and white, poor rock mass quality, bedded, moderately vuggy porosity, fresh DOLOSTONE, up to 7-inch beds, 3-inch spaced joints, horizontal joints with 0.05 to more than 0.2-inch infilling, hard joint wall, with greenish gray argillaceous infill, and silolitic surfaces. --Run 1-RECOVERY=77%-- --RQD =40%--	110		1	CORE		
	471.9	Boring terminated at 114.50 ft	115					
			120					
			125					

GENERAL NOTES

Begin Drilling: 04-24-2014 Complete Drilling: 04-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 3/12/14

Note:
1. Boring Log 1715-PMT-01 station & offset along baseline WB I-290 is Sta. 5213+42.31, Offset 80.03' (Rt).

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TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
STRUCTURE NO. 016-0461
SHEET NO. S5-67 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1019
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S067-BOR.dgn

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Telephone: 630 953-9928
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BORING LOG 1715-VS-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.35 ft
North: 1898112.83 ft
East: 1171916.87 ft
Station: 1211+63.60
Offset: 25.6304 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Drilled without sampling						
		--In-Situ Vane Shear, 10.0 feet--	10		1	VS		
		$S_{u\,undis}$ = 1036.0 psf--						
		$S_{u\,remold}$ = 543.9 psf--						
		--Sensitivity = 1.90--						
		--In-Situ Vane Shear, 15.0 feet--	15		2	VS		
		$S_{u\,undis}$ = 880.6 psf--						
		$S_{u\,remold}$ = 466.2 psf--						
		--Sensitivity = 1.89--						
		--In-Situ Vane Shear, 20.0 feet--	20		3	VS		
		$S_{u\,undis}$ = 958.3 psf--						
		$S_{u\,remold}$ = 595.7 psf--						
		--Sensitivity = 1.61--						
		--In-Situ Vane Shear, 25.0 feet--	25		4	VS		
		$S_{u\,undis}$ = 595.7 psf--						
		$S_{u\,remold}$ = 414.4 psf--						
		--Sensitivity = 1.44--						
		--In-Situ Vane Shear, 30.0 feet--	30		5	VS		
		$S_{u\,undis}$ = 828.8 psf--						
		$S_{u\,remold}$ = 466.2 psf--						
		--Sensitivity = 1.78--						
		--In-Situ Vane Shear, 35.0 feet--	35		6	VS		
		$S_{u\,undis}$ = 1139.6 psf--						
		$S_{u\,remold}$ = 673.4 psf--						
		--Sensitivity = 1.69--						
		--In-Situ Vane Shear, 40.0 feet--	40		7	VS		
	545.9	$S_{u\,undis}$ = 1139.6 psf--						
		$S_{u\,remold}$ = 725.2 psf--						
		--Sensitivity = 1.57--						
		Boring terminated at 40.50 ft	45					
			50					

WANGENGINC 11000401.GPJ WANGENG.GDT 3/12/14

GENERAL NOTES

Begin Drilling: 03-27-2014 Complete Drilling: 03-27-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: N&J Logger: F. Bozga Checked by: C. Marin
Drilling Method: 3.25" HSA, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 0461-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 587.18 ft
North: 1898107.11 ft
East: 1172063.72 ft
Station: 1210+23.99
Offset: 19.2353 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	586.4	10-inch thick CONCRETE --PAVEMENT--						
	586.0	4-inch thick GRAVELLY SAND --BASE COURSE--			1	15 15 18	NP	21
	584.2	Dense, gray, fine SAND --FILL--						
		Very stiff, gray SILTY CLAY, trace gravel	5		2	3 3 4	2.05 B	22
	581.7	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			3	2 1 2	0.41 B	25
			10		4	0 1 2	0.33 B	24
					5	0 1 1	0.16 B	26
			15		6	0 0 0	0.16 B	27
					7	0 0 0	0.25 B	26
			20		8	0 0 2	0.25 B	26
					9	1 2 2	0.41 B	23
			25		10	0 1 2	0.25 B	23
	558.4	Stiff, gray SILTY CLAY LOAM, trace gravel			11	0 2 2	0.44 B	26
			30		12	2 2 3	1.17 N/6	14
	550.4	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			13	2 3 3	1.00 N/6	
			35					
			40		14	0 1 2	0.16 B	23
			45		15	0 1 2	0.49 B	29
	540.4	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel						
			50		16	1 7 8	2.46 B	23

WANGENGINC 11000401.GPJ WANGENG.GDT 3/26/14

GENERAL NOTES

Begin Drilling: 03-24-2014 Complete Drilling: 03-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: M de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 0461-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 587.18 ft
North: 1898107.11 ft
East: 1172063.72 ft
Station: 1210+23.99
Offset: 19.2353 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	525.4	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
			55		17	8 11 14	6.56 B	14
			60		18	6 10 13	4.10 B	20
			65		19	18 30 28	2.46 S	10
			70		20	15 17 21	8.20 S	13
			75		21	11 17 22	9.59 B	14
	500.4	Very dense, gray GRAVELLY SAND						
			80		22	50/5	NP	13
		--HARD DRILLING-- *--Possible Cobbles--*	85		23	40 50/6	NP	22
			90		24	50/4	NP	9
		--HARD DRILLING-- *--Possible Cobbles--*	95		25	54/2	NP	12
		--HARD DRILLING-- *--Possible Cobbles--*	100		26	50/4	NP	15
	487.2							

WANGENGINC 11000401.GPJ WANGENG.GDT 3/26/14

GENERAL NOTES

Begin Drilling: 03-24-2014 Complete Drilling: 03-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: M de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Notes:
1. *Boring Log 1715-VS-01 station & offset along baseline WB I-290 is Sta. 5213+49.01, Offset 90.92' (Rt).*
2. *Boring Log 0461-B-01 station & offset along baseline WB I-290 is Sta. 5211+93.35, Offset 92.32' (Rt).*

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CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS III
STRUCTURE NO. 016-0461
SHEET NO. S5-68 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1020
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

0160461-60X93-S068-BOR.dgn

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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 0461-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 587.18 ft
North: 1898107.11 ft
East: 1172063.72 ft
Station: 1210+23.99
Offset: 19.2353 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--WEATHERED BEDROCK-- --DIFFICULT DRILLING--						
	484.7	--AUGER REFUSAL-- Boring terminated at 102.50 ft						

GENERAL NOTES

Begin Drilling: 03-24-2014 Complete Drilling: 03-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: M de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 9/26/14

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BORING LOG 0461-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.44 ft
North: 1898095.48 ft
East: 1172219.91 ft
Station: 1208+62.48
Offset: 26.1117 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	588.6	9.5-inch thick CONCRETE --PAVEMENT--	0.8					
	587.9	Gray CRUSHED STONE --BASE COURSE--	1.5		1	6 5 5	NP	17
	586.4	Medium dense, brown and black SILTY LOAM --FILL--	3.0					
		Loose, brown, fine SAND	5		2	3 4 5	NP	20
	583.9	Stiff, brown SILTY CLAY LOAM, trace gravel			3	2 3 5	1.31 B	20
	581.4	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	10		4	1 2 2	0.49 B	24
					5	0 1 2	0.25 B	28
			15		6	0 1 1	0.17 B	26
					7	1 1 1	0.16 B	26
			20		8	0 1 1	0.16 B	29
					9	0 0 2	0.08 B	26
			25		10	1 1 2	0.16 B	27
			30		11	1 1 2	0.08 B	29
					12	1 1 2	0.33 B	26
			35		13	1 1 2	0.25 B	27
			40		14	1 1 2	0.49 B	26
			45		15	2 3 3	0.82 B	24
			50		16	2 3 5	0.82 B	19

GENERAL NOTES

Begin Drilling: 03-20-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 9/26/14

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BORING LOG 0461-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.44 ft
North: 1898095.48 ft
East: 1172219.91 ft
Station: 1208+62.48
Offset: 26.1117 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	537.7	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
			55		17	5 9 11	5.41 B	18
		--HARD DRILLING-- *--Possible Cobbles--*						
			60		18	12 24 36	5.25 B	17
			65		19	7 13 20	4.18 B	16
			70		20	13 27 27	6.15 B	15
			75		21	11 19 27	6.97 S	13
	502.7	Very dense, gray GRAVELLY SAND to SANDY LOAM	85		22	11 20 25	9.76 B	13
			90		23	40 50/5	5.58 S	11
					24	23 50/4	NP	13
			95		25	80/6	NP	11
			100		26	75/6	NP	14

--L_L(%)=27, P_I(%)=17--
--%Gravel=3.6--
--%Sand=18.7--80
--%Silt=58.0--
--%Clay=19.7--
--A-4 (6)--

GENERAL NOTES

Begin Drilling: 03-20-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 9/26/14

Notes:
1. *Boring Log 0461-B-01 station & offset along baseline WB I-290 is Sta. 5211+93.35, Offset 92.32' (Rt).*
2. *Boring Log 0461-B-02 station & offset along baseline WB I-290 is Sta. 5210+35.10, Offset 77.27' (Rt).*

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FAX: (312) 782-1684

USER NAME = ibrahimml	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS IV
STRUCTURE NO. 016-0461
SHEET NO. S5-69 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1021
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-S069-BOR.dgn

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Fax: 630 953-9938

BORING LOG 0461-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.44 ft
North: 1898095.48 ft
East: 1172219.91 ft
Station: 1208+62.48
Offset: 26.1117 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	487.4	--DIFFICULT DRILLING--							
		--WEATHERED BEDROCK--							
	485.4	--AUGER REFUSAL--							
		Boring terminated at 104.00 ft	105						
			110						
			115						
			120						
			125						

GENERAL NOTES

Begin Drilling: 03-20-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 3/26/14

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1145 N Main Street
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Fax: 630 953-9938

BORING LOG 0461-B-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.02 ft
North: 1898094.57 ft
East: 1172338.82 ft
Station: 1207+43.60
Offset: 28.6318 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	591.2	10-inch thick CONCRETE --PAVEMENT--							
		Medium dense, brown GRAVELLY SAND --FILL--		SS		1	12 12 6	NP	25
			5	SS		2	4 10 10	NP	11
				SS		3	12 13 14	NP	15
	584.0	Medium dense, brown and gray SAND to SANDY LOAM --WET-- --FILL--	10	SS		4	10 4 6	NP	29
	581.5	Brown GRAVELLY SAND --FILL--		SS		5	1 2 2	1.23 B	23
	580.5	Stiff, gray SILTY CLAY, trace gravel							
	579.0	Gray SAND		SS		6	6 4 2	< 0.25 P	15
	577.7	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	15	SS		7	0 1 1	0.74 B	23
			20	SS		8	0 0 0	0.41 B	25
				SS		9	0 1 1	0.49 B	29
			25	SS		10	0 1 2	0.74 B	23
			30	SS		11	1 2 1	< 0.08 B	28
				SS		12	0 1 2	< 0.25 P	27
			35	SS		13	1 1 1	< 0.08 B	27
				SS		14	0 0 0	0.16 B	27
			40	SS		15	0 0 0	0.08 B	27
			45						
	545.3	Stiff, gray SILTY CLAY, trace gravel		SS		16	0 2 4	1.00 N/6	
			50						

GENERAL NOTES

Begin Drilling: 03-23-2014 Complete Drilling: 03-23-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: M de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Fax: 630 953-9938

BORING LOG 0461-B-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.02 ft
North: 1898094.57 ft
East: 1172338.82 ft
Station: 1207+43.60
Offset: 28.6318 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	530.3	Very stiff to hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel							
			55	SS		17	4 5 7	1.64 B	21
			60	SS		18	5 7 12	1.23 B	15
			65	SS		19	6 10 15	4.10 B	17
	502.0	--HARD DRILLING-- --Possible Cobbles--	70	SS		20	12 15 30	8.61 S	14
	501.0	--WEATHERED BEDROCK-- --AUGER REFUSAL--							
		Boring terminated at 91.00 ft	75	SS		21	13 17 32	3.69 S	13
		--3-in gray SILT, wet-->	80	SS		22	11 18 24	9.02 S	13
			85	SS		23	60/5	> 8.33 N/6	11
			90	SS		24	20 28 29	4.92 S	23
			95						
			100						

GENERAL NOTES

Begin Drilling: 03-23-2014 Complete Drilling: 03-23-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: M de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: NA
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 3/26/14

Notes:
1. *Boring Log 0461-B-02 station & offset along baseline WB I-290 is Sta. 5210+35.10, Offset 77.27' (Rt).*
2. *Boring Log 0461-B-03 station & offset along baseline WB I-290 is Sta. 5209+16.25, Offset 73.35' (Rt).*

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30 N. LASALLE STREET
SUITE 4200
CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS V STRUCTURE NO. 016-0461
	CHECKED - PJL	REVISED -		
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -		
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -		SHEET NO. S5-70 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1022
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0160461-60X93-5070-BOR.dgn

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wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 0461-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.89 ft
North: 1898096.29 ft
East: 1172513.70 ft
Station: 1205+67.07
Offset: 29.6569 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	592.1	10-inch thick CONCRETE --PAVEMENT--						
	592.0	Black SAND and GRAVEL, some asphalt tar --BASE COURSE--			1	15 19 13	NP	19
		Very loose to dense, black and brown LOAM to fine SAND, trace glass and cinders --FILL--	5		2	5 7 7	NP	13
					3	2 1 2	NP	21
	583.4				4	2 2 2	NP	17
	582.4	Stiff (1.56B), brown and gray SILTY CLAY LOAM, trace gravel	10					
		Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			5	1 0 0	0.25 B	27
			15		6	0 0 0	0.33 B	27
					7	0 0 0	0.25 B	28
			20		8	0 0 0	0.16 B	20
					9	0 0 0	0.16 B	26
	546.1	Stiff to hard, gray SILTY CLAY, trace gravel						
			25		10	0 0 2	0.16 B	31
			30		11	0 1 2	0.25 B	27
					12	1 2 1	0.16 B	26
			35		13	1 2 1	0.41 B	25
			40		14	2 1 1	0.49 B	25
			45		15	2 1 2	0.25 B	26
			50		16	3 5 9	1.56 B	22

GENERAL NOTES

Begin Drilling: 03-18-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 6.00 ft
At Completion of Drilling: ▼ NA
Time After Drilling: 48 hours
Depth to Water: ▽ 72.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 2/26/14

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BORING LOG 0461-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.89 ft
North: 1898096.29 ft
East: 1172513.70 ft
Station: 1205+67.07
Offset: 29.6569 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	531.1	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	55		17	5 9 9	5.00 B	15
			60		18	6 12 17	3.53 B	21
			65		19	12 14 15	8.20 S	12
	521.1	Very dense, gray SAND, SILT and CLAY interbedded --WET--	70		20	14 11 19	8.77 S	13
			75		21	13 25 50	NP	20
	516.1	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
		--L_L(%)=NP, P_I(%)=NP-- --%Gravel=4.7-- --%Sand=18.7-- --%Silt=70.1-- --%Clay=6.5-- --A-4 (0)--	80		22	11 18 22	4.92 S	12
			85		23	10 18 19	8.61 S	14
	501.1	Very dense, gray GRAVELLY SAND --WET--	90		24	17 28 44	NP	20
			95		25	50/5"	NP	16
			100		26	50/4"	NP	10

GENERAL NOTES

Begin Drilling: 03-18-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 6.00 ft
At Completion of Drilling: ▼ NA
Time After Drilling: 48 hours
Depth to Water: ▽ 72.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 0461-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.89 ft
North: 1898096.29 ft
East: 1172513.70 ft
Station: 1205+67.07
Offset: 29.6569 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	489.4	--WEATHERED BEDROCK--						
	488.4	Strong, light gray, fair rock mass quality, bedded fresh DOLOSTONE, up to 3.5-foot beds, 7-inch joints spacing, horizontal joints with none to more than 0.2-inch greenish gray argillaceous infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity	105	CORE	1			
		--Run 1 - RECOVERY=100% --RQD=65%--	110					
	479.4	Boring terminated at 113.50 ft						
			115					
			120					
			125					

GENERAL NOTES

Begin Drilling: 03-18-2014 Complete Drilling: 03-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 6.00 ft
At Completion of Drilling: ▼ NA
Time After Drilling: 48 hours
Depth to Water: ▽ 72.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 2/26/14

Note:
1. Boring Log 0461-B-04 station & offset along baseline WB I-290 is Sta. 5207+41.38, Offset 70.65' (Rt).

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CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = lbrghimm1	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VI
STRUCTURE NO. 016-0461
SHEET NO. S5-71 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1023
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

0160461-60X93-S071-BOR.dgn

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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 0461-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.15 ft
North: 1898099.49 ft
East: 1172659.59 ft
Station: 1204+21.15
Offset: 29.1659 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	592.9	8-inch thick CONCRETE --PAVEMENT--						
	591.8	12-inch thick CRUSHED STONE --BASE COURSE--						
		Medium dense, brown and gray SAND to SANDY LOAM, trace cinders and construction debris --FILL--			1	3 11 30	NP	9
			5		2	7 9 9	NP	10
					3	2 2 50/4	NP	8
					4	3 3 13	NP	
			10					
		--Black, strong odor--			5	2 2 2	NP	22
	580.1	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			6	1 3 3	0.41 B	22
			15		7	0 0 1	0.17 N/6	
					8	1 1 2	0.16 B	28
			20		9	0 0 0	0.16 B	26
					10	1 1 2	0.33 B	35
			25					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
					11	1 2 2	0.49 B	25
			30		12	1 1 2	0.33 B	24
					13	1 1 2	0.33 B	24
			35					
					14	0 1 2	0.33 B	24
			40					
					15	1 2 2	0.33 B	25
			45					
					16	2 3 3	0.74 B	24
			50					

GENERAL NOTES

Begin Drilling: 03-19-2014 Complete Drilling: 03-19-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 10.50 ft
At Completion of Drilling: ▼ NA
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 3/26/14

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BORING LOG 0461-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.15 ft
North: 1898099.49 ft
East: 1172659.59 ft
Station: 1204+21.15
Offset: 29.1659 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	536.4	Very stiff to hard, gray SILTY CLAY, trace gravel						
			55		17	2 4 4	0.90 B	19
			60		18	5 10 14	3.53 B	21
			65		19	7 12 20	5.33 N/6	
		--L_L(%)=24, P_L(%)=14-- --%Gravel=5.3-- --%Sand=23.4-- --%Silt=56.4-- --%Clay=14.9-- --A-4 (4)--	70		20	11 17 20	6.64 B	13
	519.1	Very dense, gray SILT			21	14 26 30	5.49 B	17
			75					

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	516.4	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
			80		22	14 25 30	4.51 S	12
			85		23	19 27 39	5.08 S	13
			90		24	15 25 29	NP	18
	501.4	Very dense, gray GRAVELLY SANDY LOAM			25	43 50/2	NP	12
			95					
					26	80/6	NP	11
	493.1	--Possible Cobbles--	100					

GENERAL NOTES

Begin Drilling: 03-19-2014 Complete Drilling: 03-19-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 10.50 ft
At Completion of Drilling: ▼ NA
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Fax: 630 953-9938

BORING LOG 0461-B-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.15 ft
North: 1898099.49 ft
East: 1172659.59 ft
Station: 1204+21.15
Offset: 29.1659 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		--DIFFICULT DRILLING-- --WEATHERED BEDROCK--						
	491.1	--AUGER REFUSAL-- Boring terminated at 102.00 ft						
			105					
			110					
			115					
			120					
			125					

GENERAL NOTES

Begin Drilling: 03-19-2014 Complete Drilling: 03-19-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 12.5', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 10.50 ft
At Completion of Drilling: ▼ NA
Time After Drilling: NA
Depth to Water: ▼ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 3/26/14

Note:
1. Boring Log 0461-B-05 station & offset along baseline WB I-290 is Sta. 5205+95.46, Offset 70.17' (Rt).

WSP USA Inc.
30 N. LASALLE STREET
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CHICAGO, IL 60602
TEL: (312) 782-8150
FAX: (312) 782-1684

USER NAME = Ibrahimm1	DESIGNED - NJP	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - NJP	REVISED -	
PLOT DATE = 7/30/2018	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VII
STRUCTURE NO. 016-0461
SHEET NO. S5-72 OF S5-72 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1024
			CONTRACT NO. 60X93	
		ILLINOIS	FED. AID PROJECT	

016046I-60X93-S072-BOR.dgn

Bench Mark: Chisel "X" on chain bolt of fire hydrant in front of 555 W. Harrison St. Elev. 594.46.

Existing Structure: None.

The existing Ramp WS Bridge (S.N. 016-1715) will be closed and traffic will be detoured during construction. Traffic on I-290 and I-90/94 will be maintained with stage construction.

No Salvage.

Notes:
Wall offsets are measured from the ℄ of Ramp WS to the front face of panels.
F.F. denotes Front Face.
B.F. denotes Back Face.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications 7th Edition with 2015 and 2016 Interim Specifications

DESIGN STRESSES

FIELD UNITS

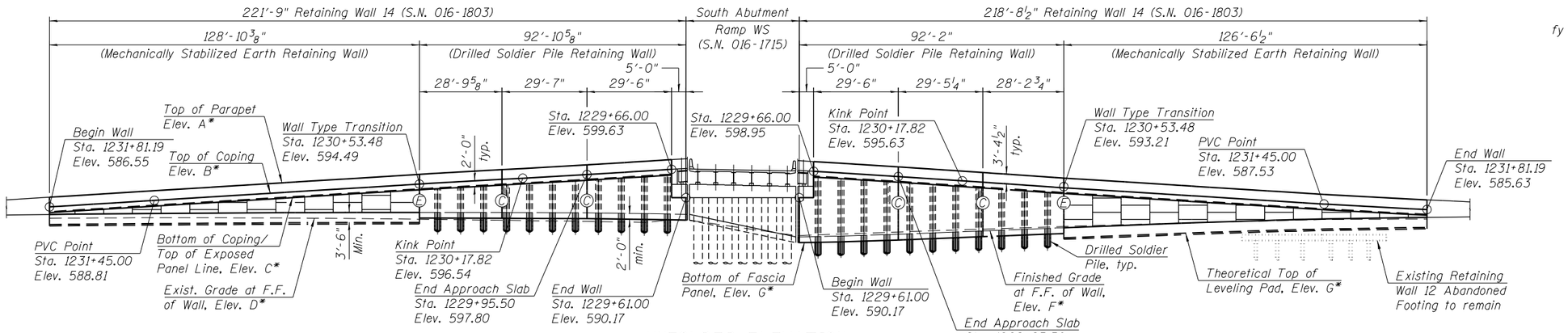
f'c = 3,500 psi (Cast-In-Place Facing)
f'c = 4,000 psi (Anchorage Slab & Concrete Slab)
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi

SOLDIER PILES

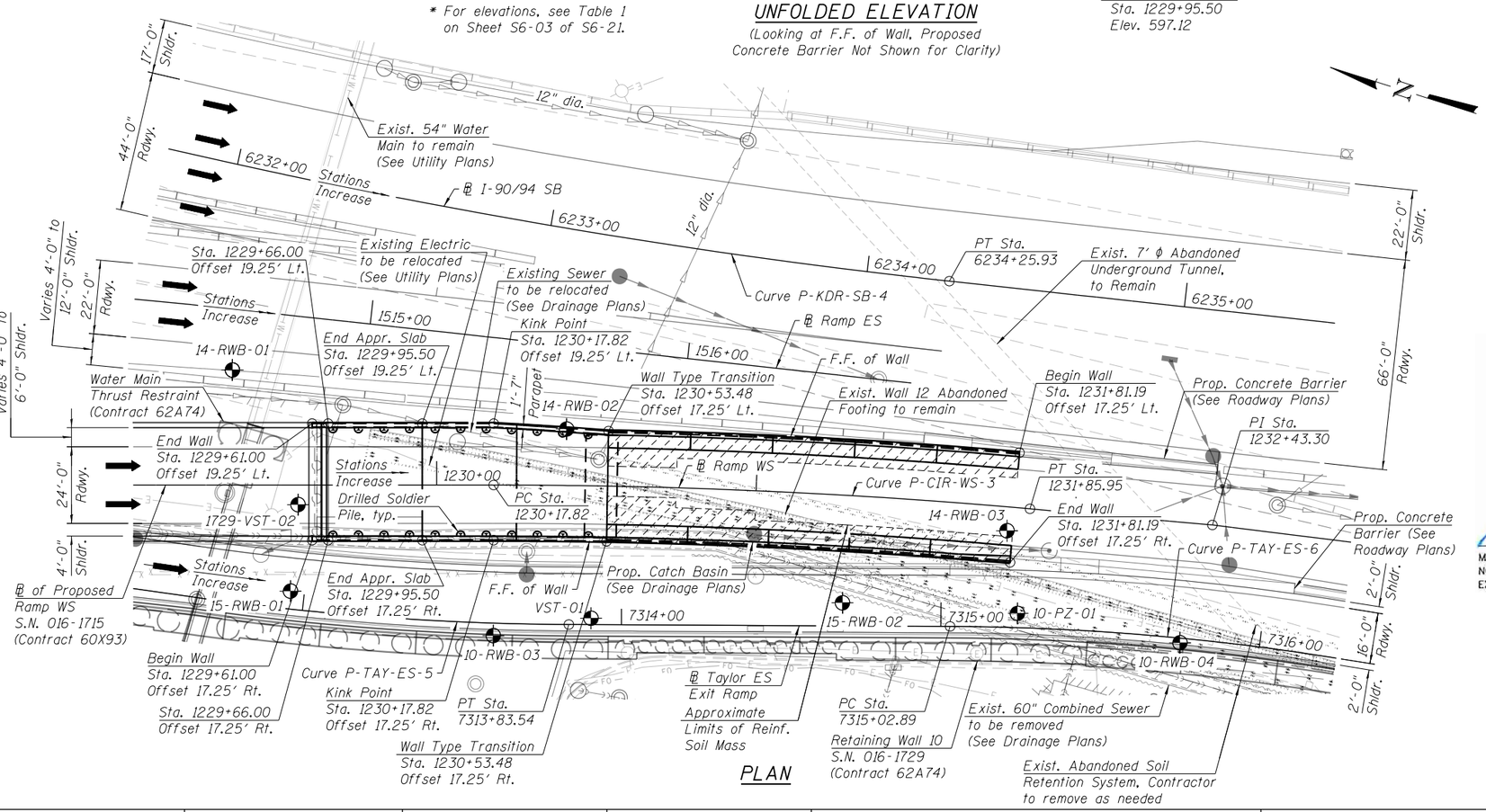
fy = 50,000 psi (AASHTO M270 Gr. 50)



* For elevations, see Table 1 on Sheet S6-03 of S6-21.

UNFOLDED ELEVATION

(Looking at F.F. of Wall, Proposed Concrete Barrier Not Shown for Clarity)



PLAN

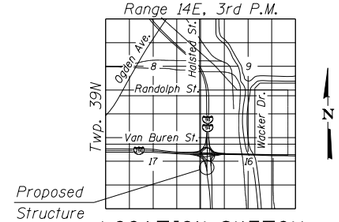
LEGEND

Electric	E	Light Pole	
Water	W	Soil Boring	
Exist. Storm Sewer		Construction Joint	C
Prop. Storm Sewer		Expansion Joint	E
Combined Sewer		Limits of Soil Reinforcement	
Prop. Catch Basin			

MATTHEW D. SANTEFORD 081-007244 LICENSED STRUCTURAL ENGINEER OF STATE OF ILLINOIS

07/30/2018

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2018



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL 14 ALONG RAMP WS
F.A.I 94 (I-290 WB TO I-90/94 SB)
SECTION 2014-013 R&B-R
COOK COUNTY
STATION 1229+61.00 TO STATION 1231+81.19
STRUCTURE NO. 016-1803

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 42.666667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S6-01 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1025
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subjected to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Concrete Sealer shall be applied to the exposed front face surfaces of the panels, anchorage slab and parapet. Protective Coat shall be applied to the top and interior face of parapet, top of exposed anchorage slab, and top of exposed concrete slab.
4. The Contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other loads applied to the structures will not have detrimental effects on the adjacent building foundations and the existing water main. Any damage during construction shall be repaired by the Contractor at his expense and no charge to the department. Driving piles and temporary sheet piling is not allowed.
5. The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/ construction activities to satisfy these requirements. See Contract Special Provisions for details.
6. Slipforming of parapets is not allowed.
7. Limited groundwater elevation data is available in the boring logs. In addition, groundwater may also be present in deeper granular layers. The groundwater may rise in the shafts to an elevation above the top of granular layers. The Contractor shall consider this information when choosing construction methods. The contractor will not be compensated for issues related to the groundwater elevation.
8. The Contractor shall provide a method to assure the soldier piles achieve at least the plan tip elevations. The soldier pile locations and elevations shall meet the tolerances provided in the Special Provisions. Any additional measures required to satisfy the construction tolerances will not be paid for separately but shall be included in Drilling and Setting Soldier Piles (In Soil).
9. All Lightweight Cellular Concrete Fill shall be Class III. See Special Provision.
10. The Contractor shall take all necessary precautions not to contaminate groundwater during the drilled shaft construction operation. Contractor is responsible for the proper containment and disposal of the contaminated groundwater spoils resulting from Contractor's means and methods. No additional cost will be paid for this effort.
11. The Contractor shall field verify locations of existing underground utilities. The Contractor shall take all precautions to protect existing utilities during construction of the wall. Any damage to the existing utilities shall be responsibility of the Contractor.
12. MSE Wall supplier shall design the MSE Wall using granular reinforced mass with minimum effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
13. The contractor shall coordinate the construction of the proposed structure with the construction of the proposed Ramp WS Bridge. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
14. Based on high squeeze potential of the clay soils, the use of temporary casing will be required to Elevation 549.00 in order to properly construct the shafts. Casing may be pulled or left in place, as determined by the contractor at no cost to the Department.
15. The Contractor may encounter abandoned foundation elements that obstruct construction of the proposed structure. Removal and disposal of portion of abandoned foundation elements shall be per special provision "Abandoned Foundation Removal". See Civil plans for approximate location and quantity.

INDEX OF SHEETS

STATION 1229+61.00 TO 1231+81.19
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 90/94 SEC. 2014-013 R&B-R
LOADING HL-93
STR. NO. 016-1803

NAME PLATE

See Std. 515001

SUGGESTED CONSTRUCTION SEQUENCE

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Utility Location Plans and ITS Plans.
2. Install drilled shafts for SN 016-1715 South Abutment.
3. Install drilled soldier piles for Retaining Wall 14.
4. Excavate for Retaining Wall 14.
5. Construct Cast-in-Place Concrete facing and begin placing Expanded Polystyrene Fill.
6. Construct Mechanically Stabilized Earth Section of Retaining Wall 14 and begin placing Lightweight Cellular Concrete Fill.
7. Complete South Abutment of SN 016-1715.
8. Construct Concrete Slab, Anchorage slab, and Ramp WS Bridge Approach slab.
9. Install Roadway pavement (See Roadway Plans).
10. No portions of the wall shall be compromised by excavation for other elements of work, including the South abutment of structure 016-1715, under the contract. If the sequencing of work requires that the wall construction is staged, the stage line shall be located at a panel edge with any exposed lightweight fill protected from damage.

TOTAL BILL OF MATERIAL

Item	Unit	Total Quantity
Filter Fabric	Sq. Yd.	343
Subbase Granular Material, Type B	Cu. Yd.	334
Structure Excavation	Cu. Yd.	798
Concrete Structures	Cu. Yd.	9.9
Concrete Superstructure	Cu. Yd.	135.3
Protective Coat	Sq. Yd.	516
Concrete Superstructure (Approach Slab)	Cu. Yd.	98.4
Stud Shear Connectors	Each	378
Reinforcement Bars, Epoxy Coated	Pound	78,440
Name Plates	Each	1
Furnishing Soldier Piles (HP Section)	Foot	1,804
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	7,079
Untreated Timber Lagging	Sq. Ft.	2,816
Concrete Structures (Retaining Wall)	Cu. Yd.	125
Concrete Sealer	Sq. Ft.	7,156
Geocomposite Wall Drain	Sq. Yd.	240
Lightweight Cellular Concrete Fill	Cu. Yd.	1,447
Expanded Polystyrene Fill	Cu. Yd.	1,603
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	330
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.	2,394
Pipe Underdrains for Structures, 4"	Foot	231

CURVE DATA

(Taylor ES Exit Ramp)

P-TAY-ES-5
P.I. Sta. = 7313+24.65
Δ = 7° 47′ 11" (LT)
D = 6° 36′ 03"
R = 868.00′
T = 59.07′
L = 117.96′
E = 2.01′
e = 4.40%
T.R. = NA′
S.E. Run = 114′
P.C. Sta. = 7312+65.57
P.T. Sta. = 7313+83.54

P-TAY-ES-6
P.I. Sta. = 7315+63.15
Δ = 8° 44′ 46" (RT)
D = 7° 16′ 16"
R = 788.00′
T = 60.26′
L = 120.29′
E = 2.30′
e = 4.60%
T.R. = NA′
S.E. Run = 119′
P.C. Sta. = 7315+02.89
P.T. Sta. = 7316+23.18

CURVE DATA

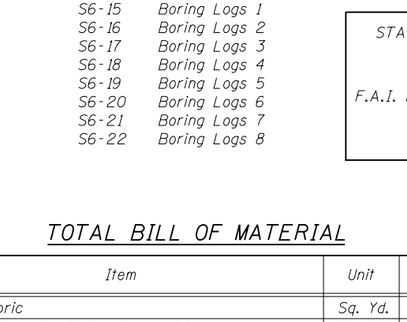
(Ramp WS)

P-CIR-WS-3
P.I. Sta. = 1231+01.94
Δ = 5° 04′ 12" (RT)
D = 3° 00′ 56"
R = 1,900.00′
T = 84.12′
L = 168.13′
E = 1.86′
e = 4.00%
T.R. = NA
S.E. Run = 44′
P.C. Sta. = 1230+17.82
P.T. Sta. = 1231+85.95

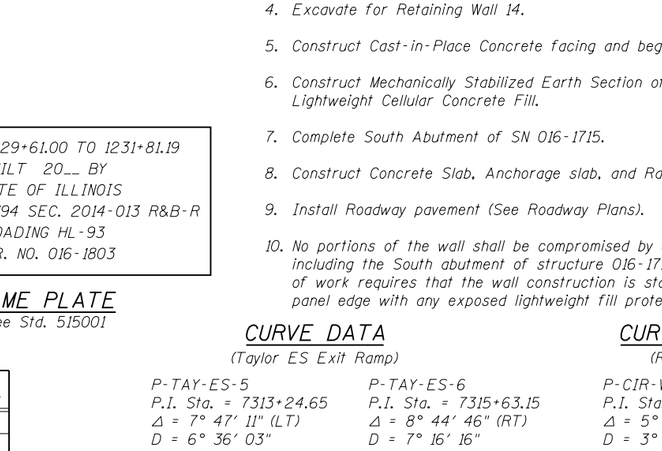
CURVE DATA

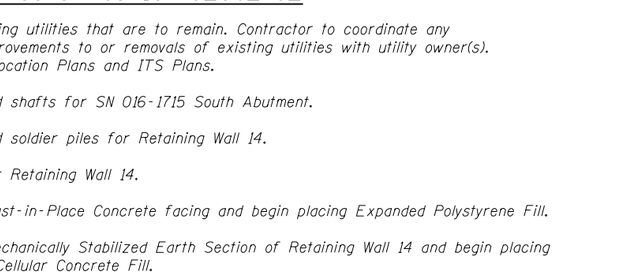
(I-90/94 SB)

P-KDR-SB-4
P.I. Sta. = 6231+84.46
Δ = 13° 18′ 21" (LT)
D = 2° 44′ 34"
R = 2,089.00′
T = 243.66′
L = 485.13′
E = 14.16′
e = 4.40%
T.R. = NA′
S.E. Run = 164′
P.C. Sta. = 6229+40.80
P.T. Sta. = 6234+25.93



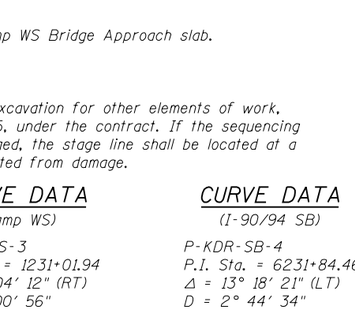
PROFILE GRADE
(Along ℄ Ramp ES)





PROFILE GRADE
(Along ℄ Taylor ES Exit Ramp)

PROFILE GRADE
(Along ℄ Ramp WS)



PROFILE GRADE
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	CHECKED - DJG	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

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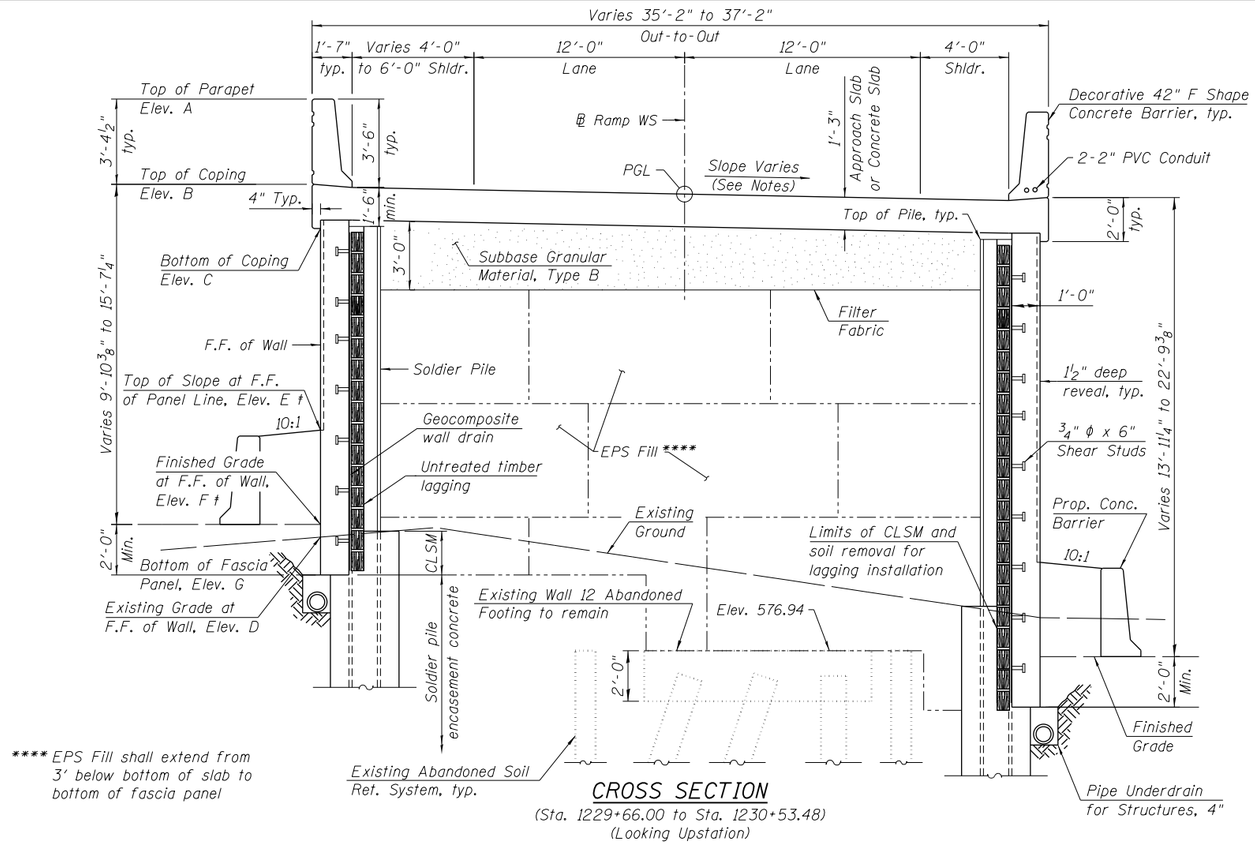
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-02 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1026
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



**** EPS Fill shall extend from 3' below bottom of slab to bottom of fascia panel

CROSS SECTION

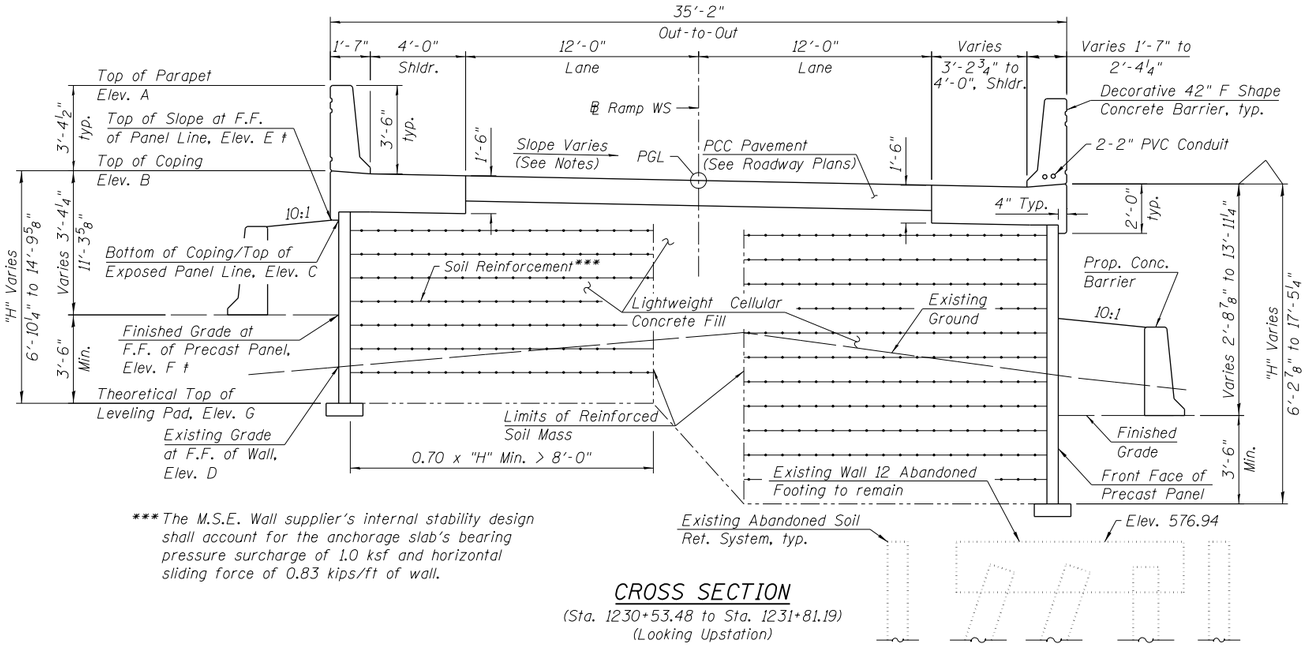
(Sta. 1229+66.00 to Sta. 1230+53.48)
(Looking Upstation)

TABLE 1 - WALL ELEVATIONS

	Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G	Wall Type
	1231+81.19	17.25' Lt.	589.92	586.55	584.55	582.60	587.41	583.91	579.70	MSE Wall
	1231+75.00	17.25' Lt.	590.30	586.93	584.93	582.64	587.49	583.99	579.71	
	1231+45.00	17.25' Lt.	592.19	588.81	586.81	582.78	587.98	584.23	579.80	
	1231+25.00	17.25' Lt.	593.43	590.05	588.05	582.75	588.21	584.36	579.73	
	1231+00.00	17.25' Lt.	594.98	591.60	589.60	582.68	588.52	584.51	579.62	
	1230+75.00	17.25' Lt.	596.53	593.15	591.15	582.47	588.78	584.60	579.62	
**	1230+53.48	17.25' Lt.	597.86	594.49	592.49	582.24	588.98	584.62	579.69	
*	1230+53.48	17.25' Lt.	597.86	594.49	592.49	582.24	588.98	584.62	581.19	Drilled Shafts Wall
	1230+50.00	17.44' Lt.	598.09	594.71	592.71	582.19	588.99	584.62	581.15	
	1230+25.00	18.85' Lt.	599.51	596.14	594.14	581.87	588.98	584.57	580.94	
	1230+17.82	19.25' Lt.	599.91	596.54	594.54	581.79	588.95	584.55	580.94	
	1229+95.50	19.25' Lt.	601.18	597.80	595.80	581.51	588.97	584.45	581.30	
	1229+75.00	19.25' Lt.	602.45	599.07	597.07	581.13	588.83	584.19	581.45	
	1229+66.00	19.25' Lt.	603.01	599.63	597.63	582.13	588.72	584.03	581.36	
	1229+61.00	19.25' Lt.	-	-	590.17	581.87	588.66	583.94	581.31	
	1229+61.00	17.25' Rt.	-	-	590.17	576.55	579.84	576.08	574.08	Drilled Shafts Wall
	1229+66.00	17.25' Rt.	602.33	598.95	596.95	576.74	579.98	576.17	574.17	
	1229+75.00	17.25' Rt.	601.77	598.39	596.39	577.05	580.24	576.35	574.35	
	1229+95.50	17.25' Rt.	600.50	597.12	595.12	577.80	581.03	576.99	574.99	
	1230+17.82	17.25' Rt.	599.01	595.63	593.63	578.56	582.02	577.88	575.88	
	1230+25.00	17.25' Rt.	598.51	595.14	593.14	578.79	582.32	578.16	576.16	
	1230+50.00	17.25' Rt.	596.80	593.42	591.42	579.58	583.30	579.14	577.14	
*	1230+53.48	17.25' Rt.	596.58	593.21	591.21	579.72	583.42	579.27	577.27	
**	1230+53.48	17.25' Rt.	596.58	593.21	591.21	579.72	583.42	579.27	575.77	MSE Wall
	1230+75.00	17.25' Rt.	595.25	591.87	589.87	580.35	584.20	580.09	576.59	
	1231+00.00	17.25' Rt.	593.70	590.32	588.32	581.06	585.07	581.04	577.54	
	1231+25.00	17.25' Rt.	592.15	588.77	586.77	581.66	585.76	581.84	578.34	
	1231+45.00	17.25' Rt.	590.91	587.53	585.53	582.17	586.15	582.33	578.83	
	1231+75.00	17.25' Rt.	589.29	585.92	583.92	582.27	586.44	582.83	579.33	
	1231+81.19	17.25' Rt.	589.00	585.63	583.63	582.29	586.47	582.89	579.39	

Elevation A- Top of Parapet
Elevation B- Top of Coping
Elevation C- Bottom of Coping / Top of Exposed Panel Line
Elevation D- Existing Grade at F.F. of Wall
Elevation E- Top of Slope at F.F. of Wall †
Elevation F- Finished Grade at F.F. of Wall †
Elevation G- Theoretical Top of Leveling Pad / Bottom of Fascia Panel

* Elevations just upstation of joint
** Elevations just downstation of joint



† Barrier and backfill in front of left wall will be installed as part of Future Contract 62A77. See Roadway Cross Sections for interim grading at Front Face of Wall.

*** The M.S.E. Wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.83 kips/ft of wall.

CROSS SECTION

(Sta. 1230+53.48 to Sta. 1231+81.19)
(Looking Upstation)

Notes:
Direction of slope referenced from right edge of pavement.
Constant Cross Slope (2.00%) Sta. 1226+31.89 to Sta. 1230+03.45
Slope Transition (2.00% to 4.00%) Sta. 1230+03.45 to Sta. 1230+47.45
Constant Cross Slope (4.00%) Sta. 1230+47.45 to Sta. 1231+56.32
Slope Transition (4.00% to 2.00%) Sta. 1231+56.32 to Sta. 1232+00.32
Constant Cross Slope (2.00%) Sta. 1232+00.32 to Sta. 1233+72.63
The overlapping sections of the MSE wall with the Existing Wall 12 Abandoned Footing will require special MSE wall installation and design to ensure that excessive differential settlement between the MSE wall and the rigid existing footing supported on deep foundations are minimized.

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TranSystems

USER NAME = wjcollett1	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 6.0000 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

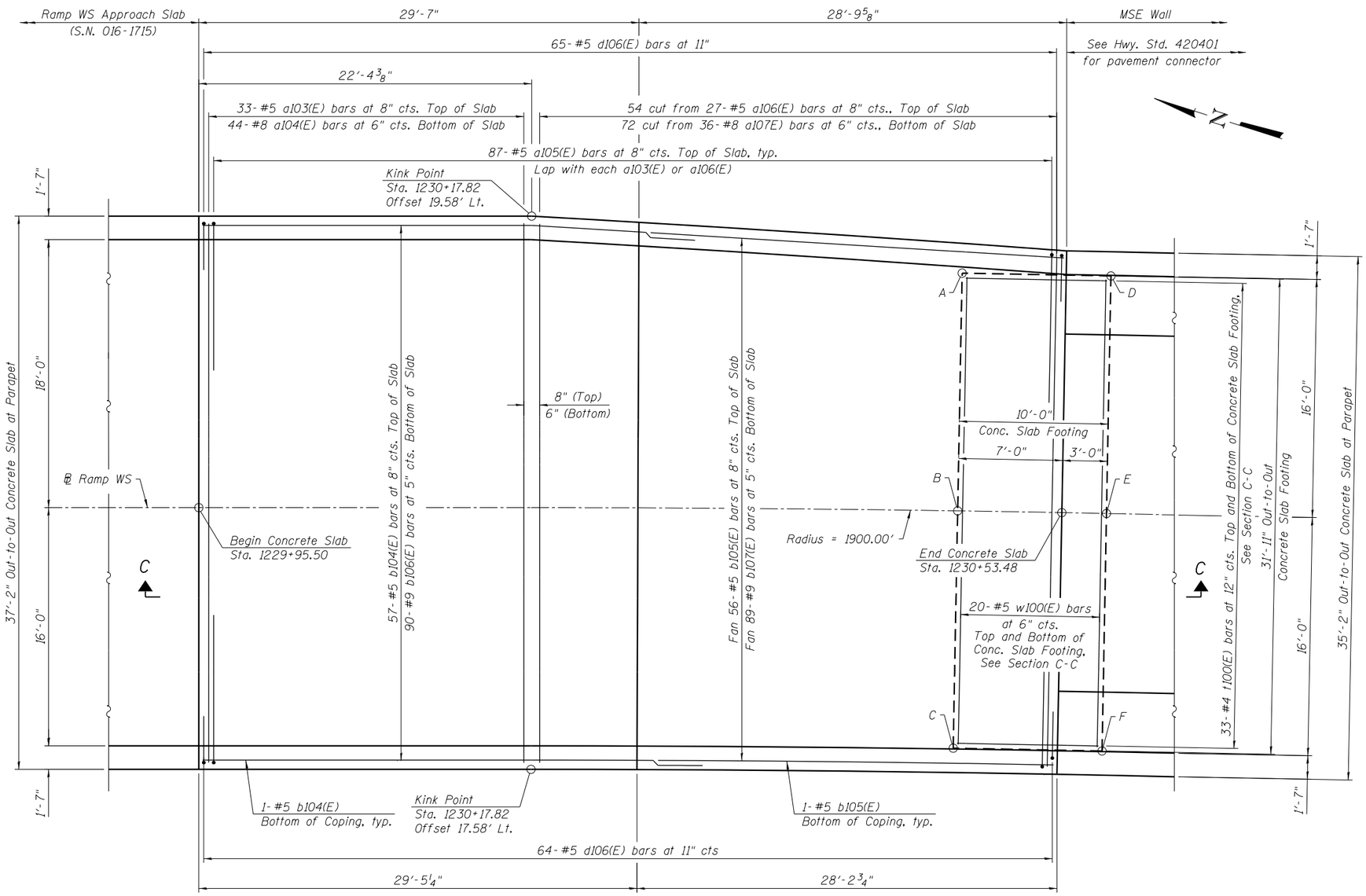
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-03 OF S6-22 SHEETS

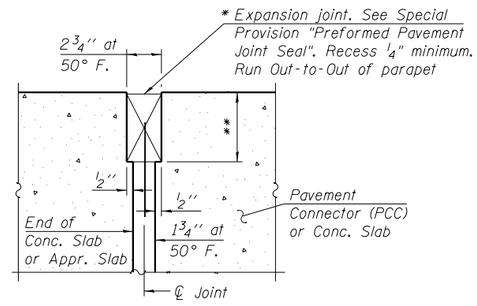
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1027
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

TOP AND BOTTOM ELEVATIONS FOR CONCRETE SLAB FOOTING

Concrete Slab Footing		
Point	Top	Bottom
A	593.05	592.21
B	592.41	591.58
C	591.77	590.94
D	592.43	591.60
E	591.79	590.96
F	591.15	590.31



PLAN



DETAIL A

* Cost included with Concrete Superstructure (Approach Slab)

** Per manufacturer recommendations

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016-1803-60X93-S004-ConcSlab_Plan.dgn

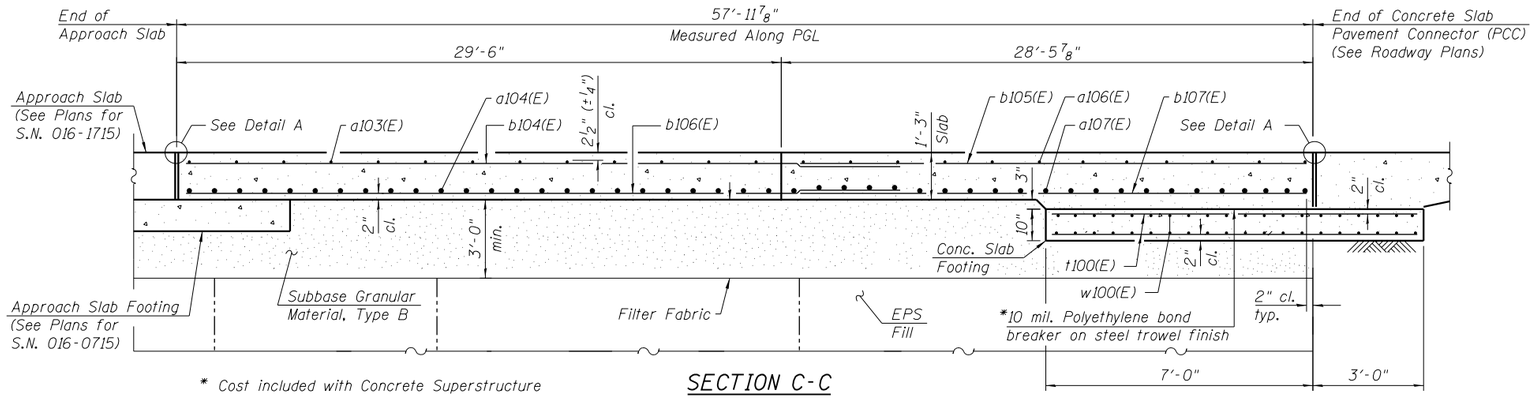
TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 8.0000 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

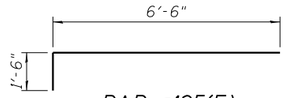
PARAPET AND CONCRETE SLAB PLAN
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-04 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1028
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

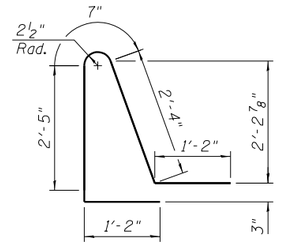


* Cost included with Concrete Superstructure (Approach Slab).

SECTION C-C



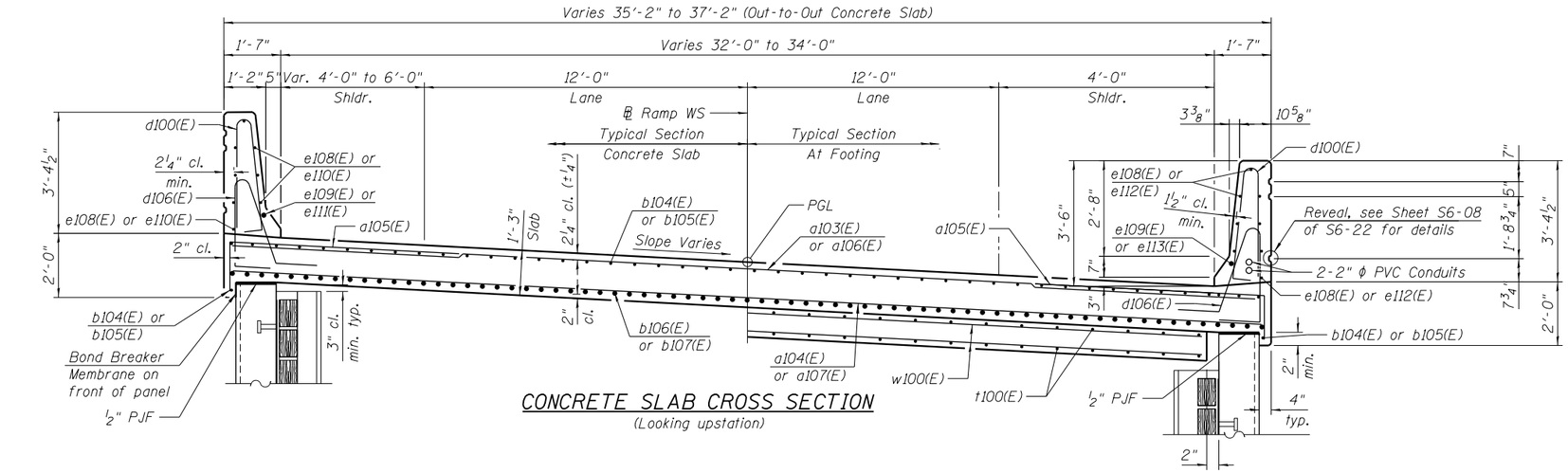
BAR a105(E)



BAR d106(E)

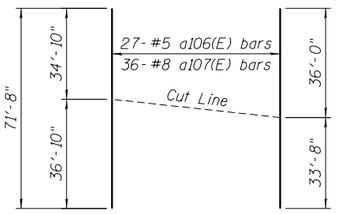
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a103(E)	33	#5	36'-10"	——
a104(E)	44	#8	36'-10"	——
a105(E)	174	#5	8'-0"	⌐
a106(E)	27	#5	71'-8"	——
a107(E)	36	#8	71'-8"	——
b104(E)	59	#5	32'-11"	——
b105(E)	58	#5	27'-11"	——
b106(E)	90	#9	38'-2"	——
b107(E)	89	#9	27'-11"	——
d100(E)	129	#5	6'-10"	⌐
d106(E)	129	#5	7'-8"	⌐
e108(E)	16	#4	32'-3"	——
e109(E)	2	#8	36'-2"	——
e110(E)	8	#4	28'-6"	——
e111(E)	1	#8	28'-6"	——
e112(E)	8	#4	27'-11"	——
e113(E)	1	#8	27'-11"	——
w100(E)	40	#5	31'-8"	——
t100(E)	66	#4	9'-8"	——
Concrete Structures		Cu. Yd.	9.9	
Concrete Superstructure		Cu. Yd.	16.7	
Protective Coating		Sq. Yd.	274	
Concrete Superstructure (Approach Slab)		Cu. Yd.	98.4	
Reinforcement Bars, Epoxy Coated		Pound	44,480	
Concrete Sealer		Sq. Ft.	624	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	215	



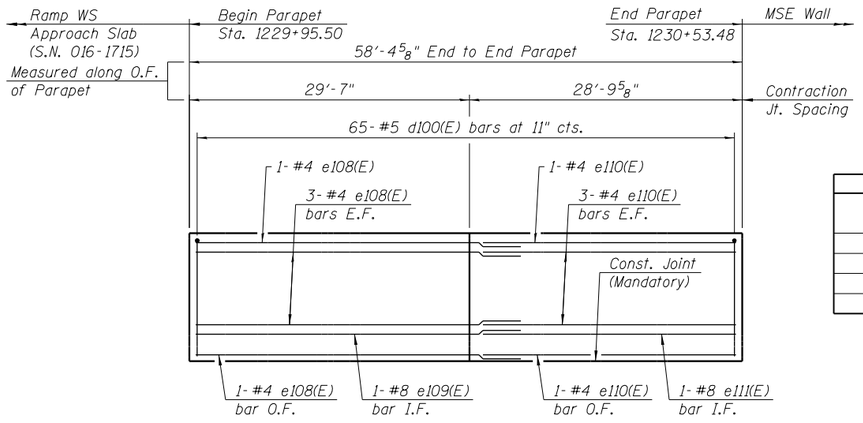
CONCRETE SLAB CROSS SECTION

(Looking upstation)



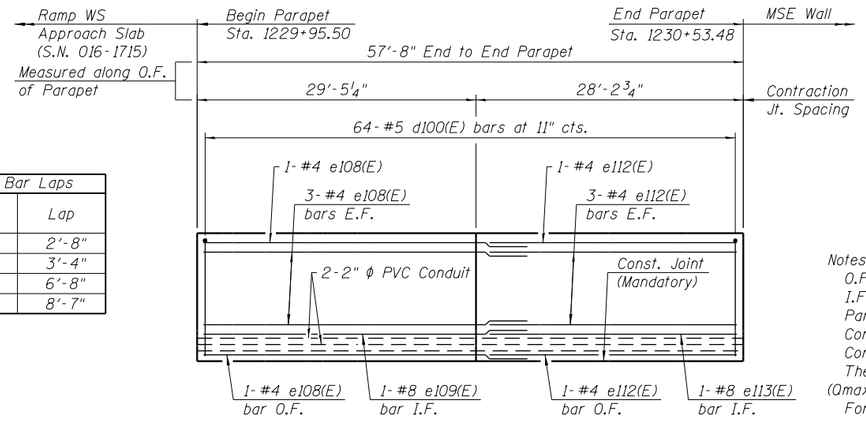
FIELD CUTTING DIAGRAM

Order a106(E) and a107(E) bars full length



INSIDE ELEVATION OF LEFT PARAPET

Minimum Bar Laps	
Bar	Lap
#4	2'-8"
#5	3'-4"
#8	6'-8"
#9	8'-7"



OUTSIDE ELEVATION OF RIGHT PARAPET

Notes:
- O.F. = Outside Face.
- I.F. = Inside Face.
- Parapet concrete shall be paid for as Concrete Superstructure.
- Concrete slab shall be paid for as Concrete Superstructure (Approach Slab).
- Concrete slab footing concrete shall be paid for as Concrete Structures.
- The concrete footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
- For Detail A, see Sheet S6-04 of S6-22 .

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018803-60X93-S005-ConcSlab_Details.dgn

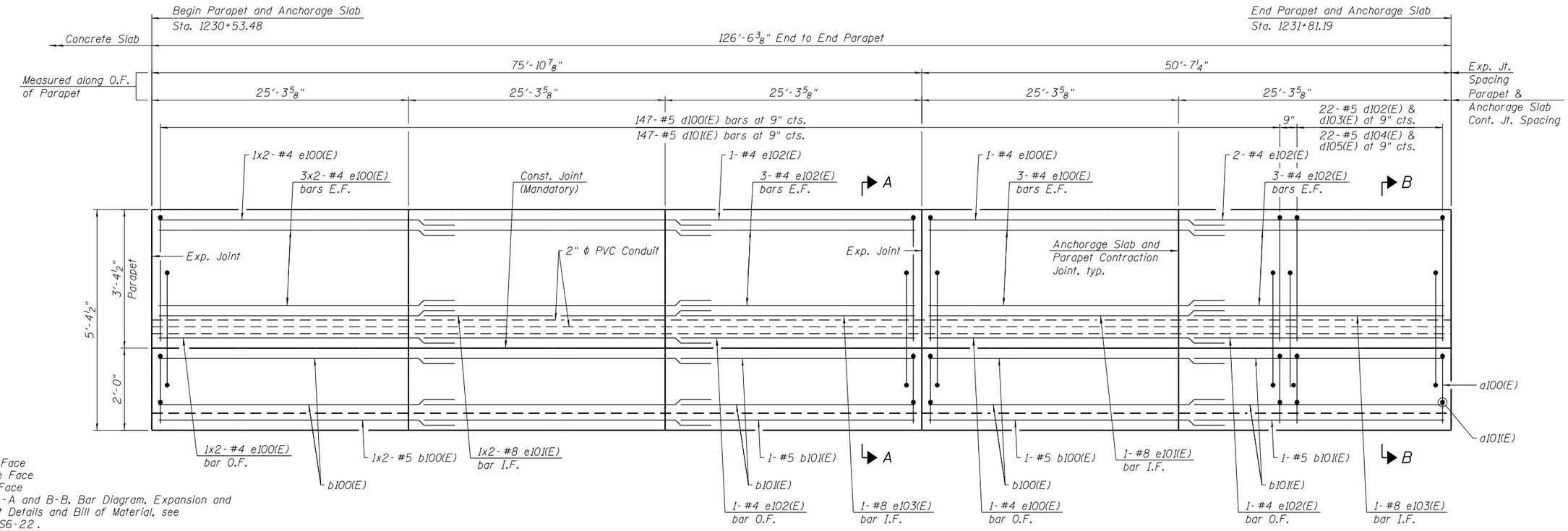
TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND CONCRETE SLAB DETAILS
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-05 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1029
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

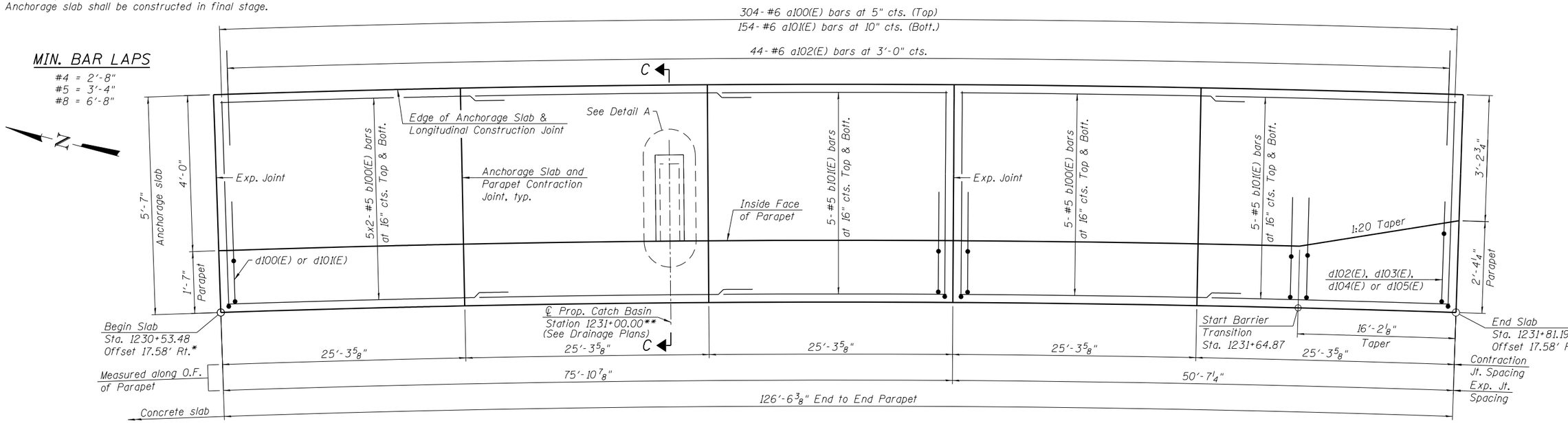


OUTSIDE ELEVATION OF RIGHT PARAPET AND ANCHORAGE SLAB

Notes:
I.F. = Inside Face
O.F. = Outside Face
E.F. = Each Face
For Section A-A and B-B, Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see Sheet S6-08 of S6-22.
For Detail A and Section C-C, see Sheet S6-12 of S6-22.
Preformed Flexible Foam Expansion Joint Filler (called out as PJF in plans) shall follow Article 1051.09 of IDOT Standard Specifications. Cost included in Concrete Superstructure.
Anchorage slab shall be constructed in final stage.

MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"



RIGHT PARAPET AND ANCHORAGE SLAB PLAN

* Offsets measured to front face of anchorage slabs.
** Cut bars to fit around catch basin.

TranSystems	USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
		CHECKED - DJG	REVISED -
	PLOT SCALE = 0.17 '/ in.	DRAWN - MJR	REVISED -
	PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION 1
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-06 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1030
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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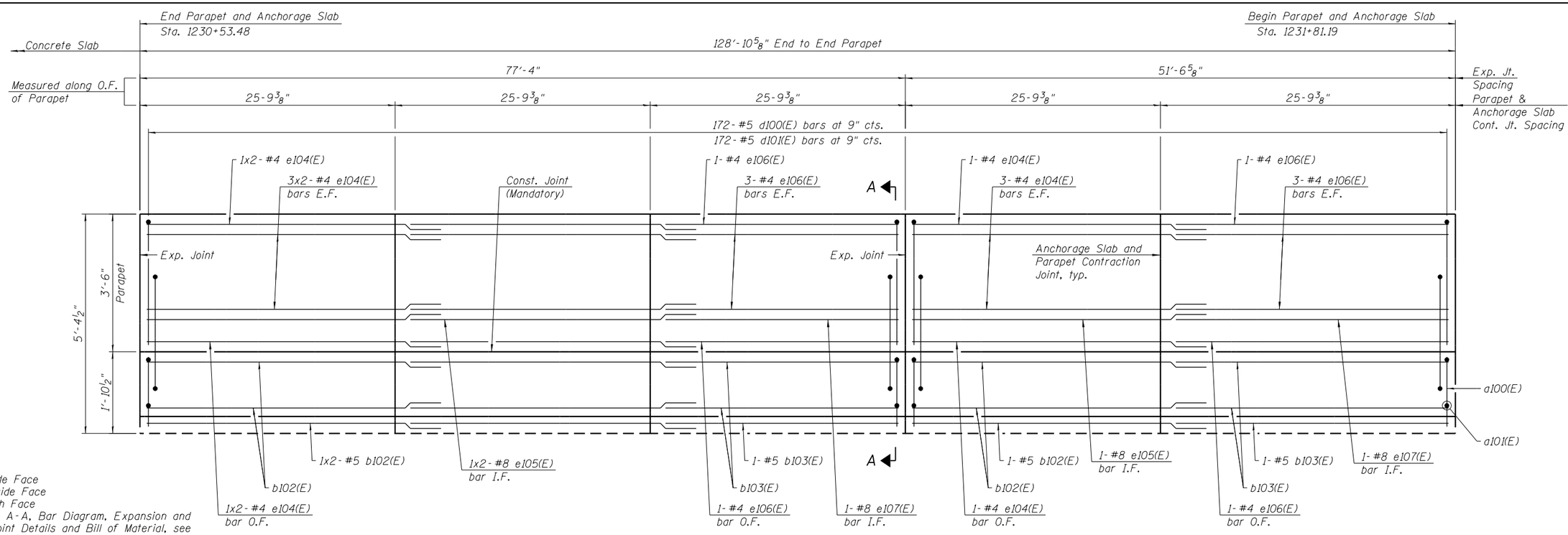
016803-60X93-S006-AnchSlab_Plan1.dgn



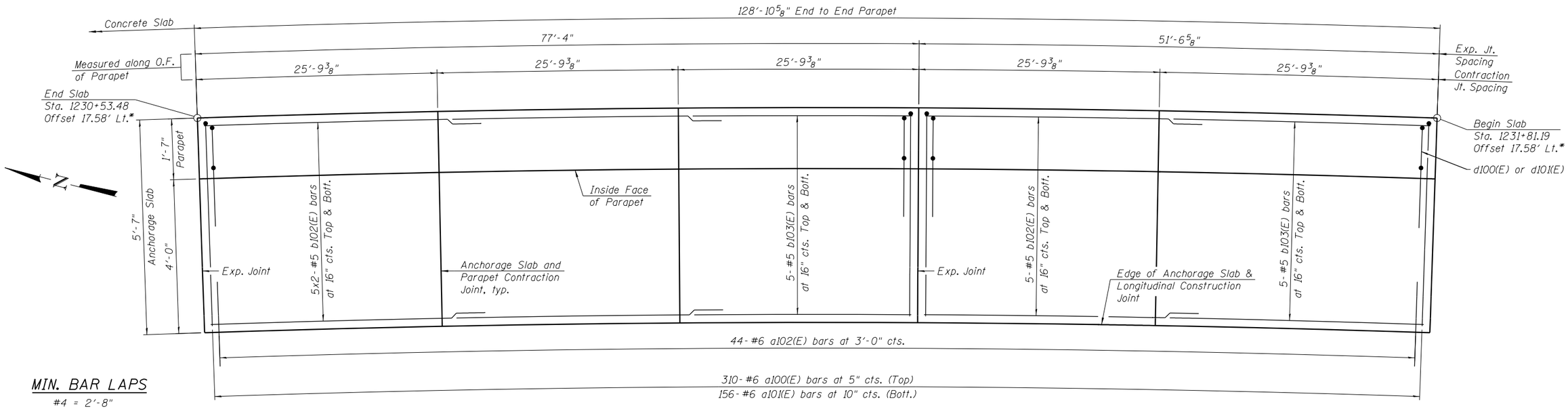
INSIDE ELEVATION OF LEFT PARAPET AND ANCHORAGE SLAB

Notes:
I.F. = Inside Face
O.F. = Outside Face
E.F. = Each Face

For Section A-A, Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see Sheet S6-08 of S6-22.

Preformed Flexible Foam Expansion Joint Filler (called out as PJF in plans) shall follow Article 1051.09 of IDOT Standard Specifications. Cost included in Concrete Superstructure.

Anchorage slab shall be constructed in final stage.



MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"

LEFT PARAPET AND ANCHORAGE SLAB PLAN

* Offsets measured to front face of anchorage slabs.

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016-1803 60X93-S007-AnchSlab_Plan2.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 '/ in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION 2
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-07 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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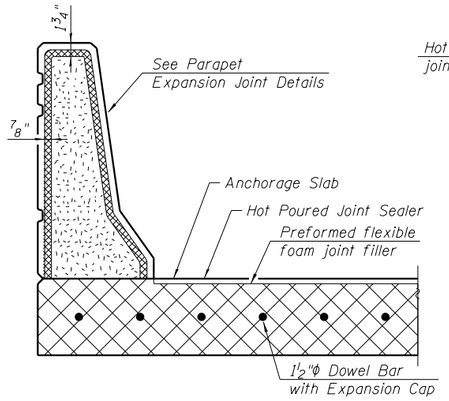
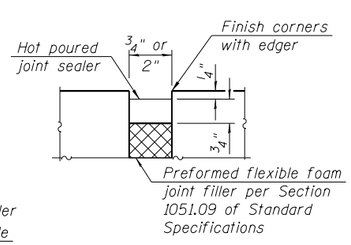
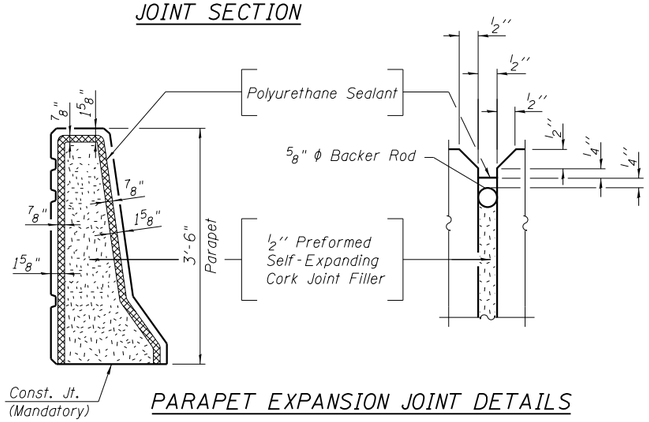
		CONTRACT NO. 60X93		
ILLINOIS	FED. AID PROJECT			



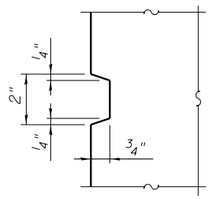
TRANSVERSE EXPANSION JOINT SECTION



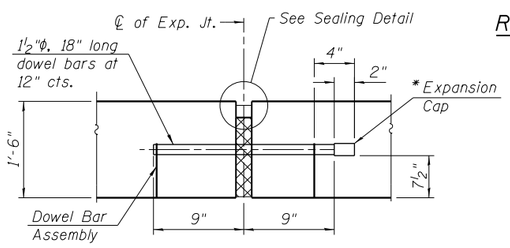
SEALER DETAIL



PARAPET EXPANSION JOINT DETAILS



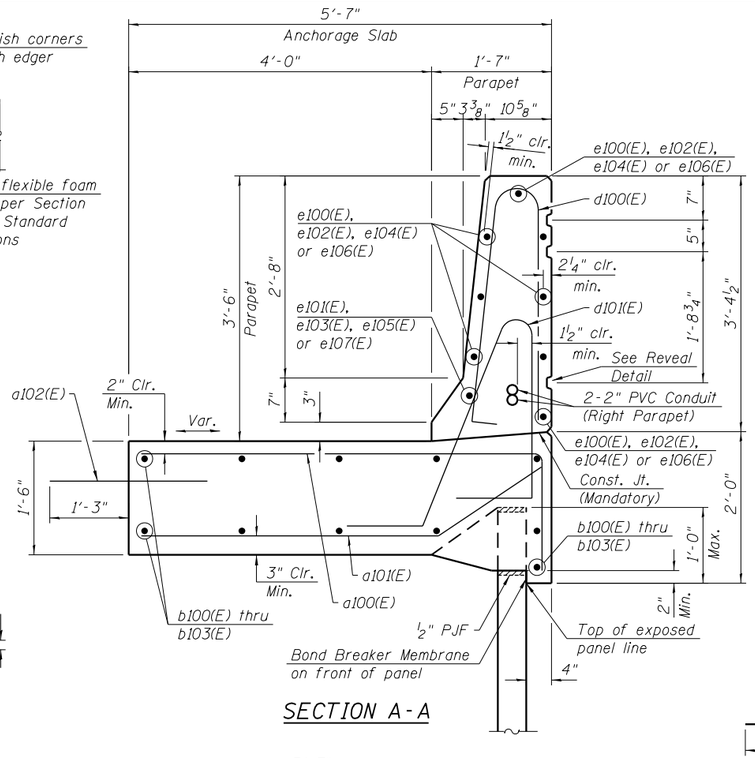
REVEAL DETAIL



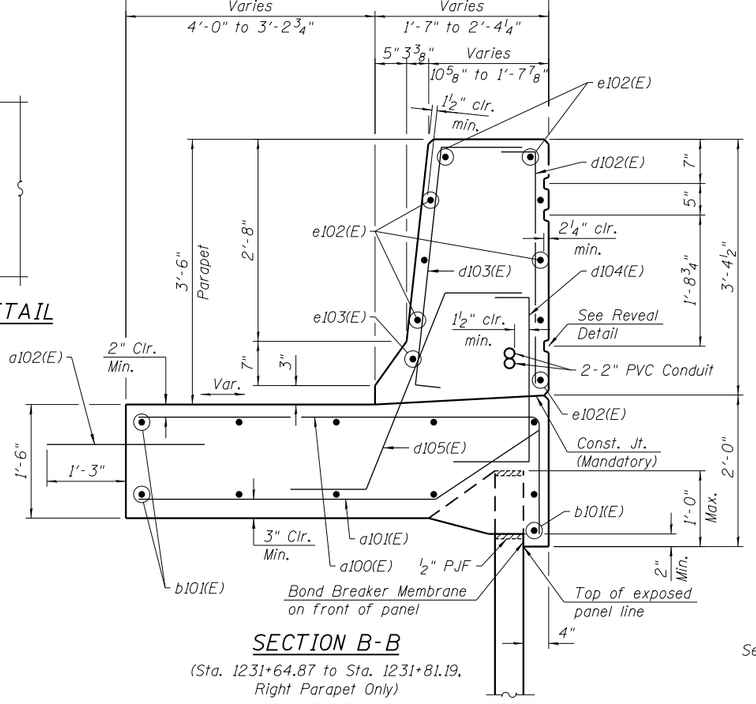
ANCHORAGE SLAB TO ANCHORAGE SLAB TRANSVERSE EXPANSION JOINT

Expansion Joint Filler, Sealer and Dowel Bars included in cost of Concrete Superstructure.

*Expansion caps shall be installed on the exposed end of each dowel bar once header has been removed and the joint filler material has been installed.

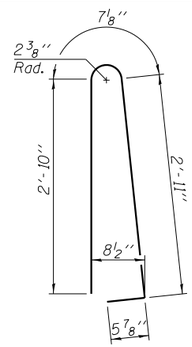


SECTION A-A

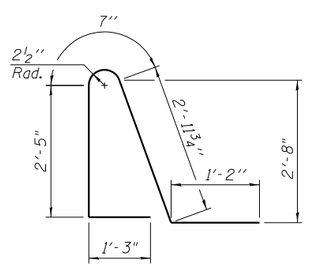


SECTION B-B

(Sta. 1231+64.87 to Sta. 1231+81.19. Right Parapet Only)



BAR d100(E)



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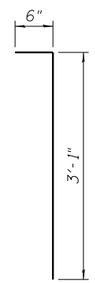
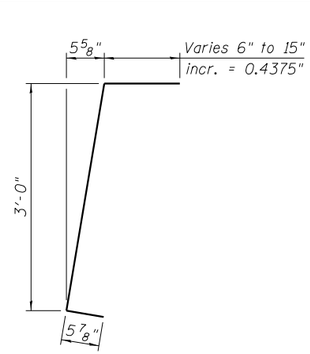
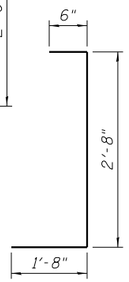


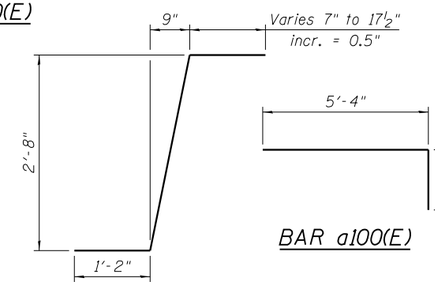
BAR d102(E)



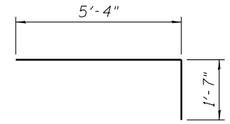
BAR d103(E)



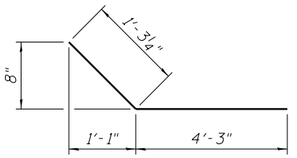
BAR d104(E)



BAR d105(E)



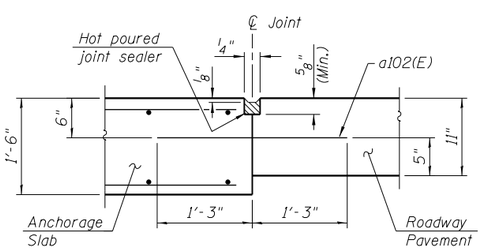
BAR a100(E)



BARS a101(E)

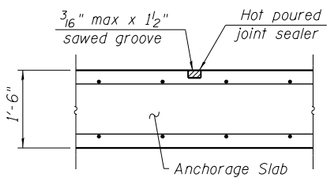
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100(E)	614	#6	6'-11"	⌐
a101(E)	310	#6	5'-6"	⌐
a102(E)	88	#6	2'-6"	—
b100(E)	33	#5	28'-8"	—
b101(E)	22	#5	25'-0"	—
b102(E)	33	#5	29'-5"	—
b103(E)	22	#5	25'-6"	—
d100(E)	319	#5	6'-10"	⌐
d101(E)	319	#5	8'-5"	⌐
d102(E)	22	#5	3'-7"	⌐
d103(E)	22	#5	4'-5"	⌐
d104(E)	22	#5	4'-6"	⌐
d105(E)	22	#5	4'-6"	⌐
e100(E)	24	#4	28'-0"	—
e101(E)	3	#8	32'-0"	—
e102(E)	16	#4	25'-0"	—
e103(E)	2	#8	25'-0"	—
e104(E)	24	#4	28'-6"	—
e105(E)	3	#8	32'-6"	—
e106(E)	16	#4	25'-5"	—
e107(E)	2	#8	25'-5"	—
Structure Excavation		Cu. Yd.	576	
Concrete Superstructure		Cu. Yd.	118.6	
Protective Coat		Sq. Yd.	242	
Reinforcement Bars, Epoxy Coated		Pound	20,120	
Concrete Sealer		Sq. Yd.	2,811	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	115	



LONGITUDINAL CONSTRUCTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications



TRANSVERSE CONTRACTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications

Notes:

All edges shall be chamfered 3/4 inches.

Protective coat shall be applied to the parapet top and interior vertical surface above ground line and top face of anchorage slab.

Bars indicated thus 3x4- #5 etc. indicates 3 lines of bars with 4 lengths per line.

See Sheet S6-02 of S6-21 for additional notes for MSE wall suppliers.

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

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TranSystems

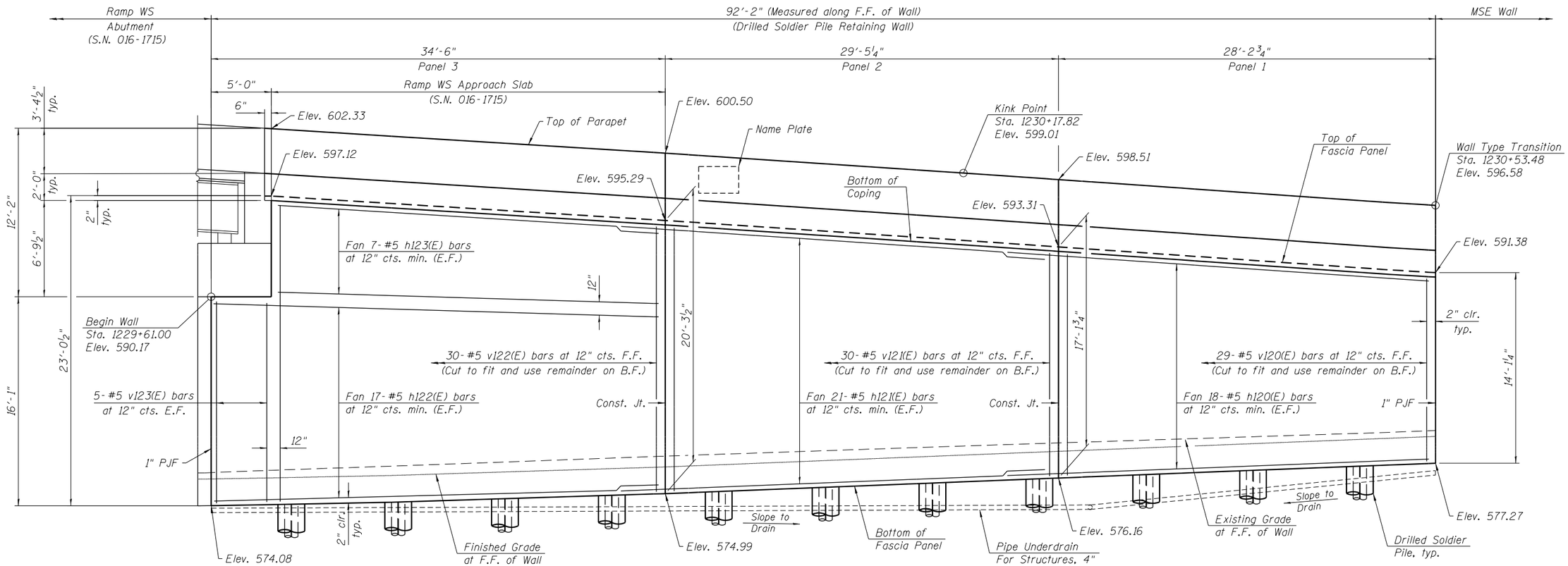
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 9/19/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB DETAILS
RETAINING WALL 14 (STRUCTURE NO. 016-1803)

SHEET NO. S6-08 OF S6-22 SHEETS

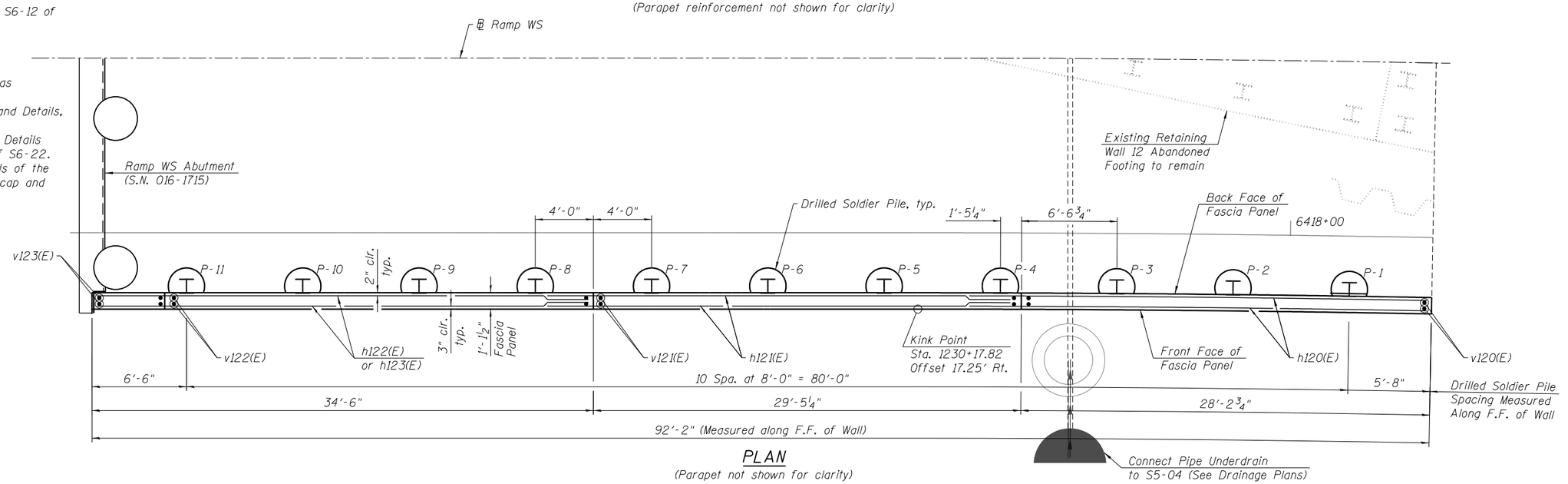
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1032
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



RIGHT WALL ELEVATION

(Looking East)
(Parapet reinforcement not shown for clarity)

Notes:
Work this sheet with Sheets S6-10 to S6-12 of S6-22 .
F.F. = Front Face
B.F. = Back Face
E.F. = Each Face
Concrete fascia panels shall be paid as Concrete Structures (Retaining Wall).
For Soldier Pile Wall Cross Sections and Details, see Sheet S6-11 of S6-22.
For Soldier Pile Layout, Sections and Details and Bill of Material, see Sheet S6-12 of S6-22.
See Sheet S6-13 of S6-22 for details of the architectural reveals and joint between cap and fascia panels.



PLAN

(Parapet not shown for clarity)

N

MIN. BAR LAPS

#5 = 3'-7"

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = Ø2 '-' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL ELEVATION DETAILS 1
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-09 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1033
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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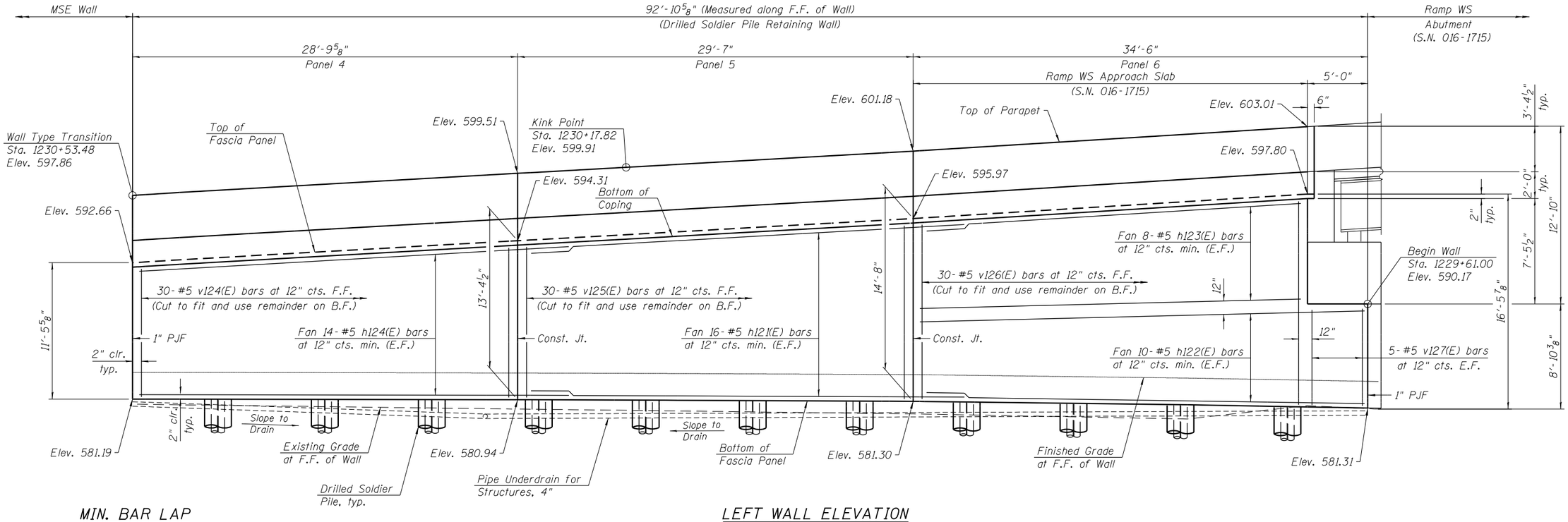
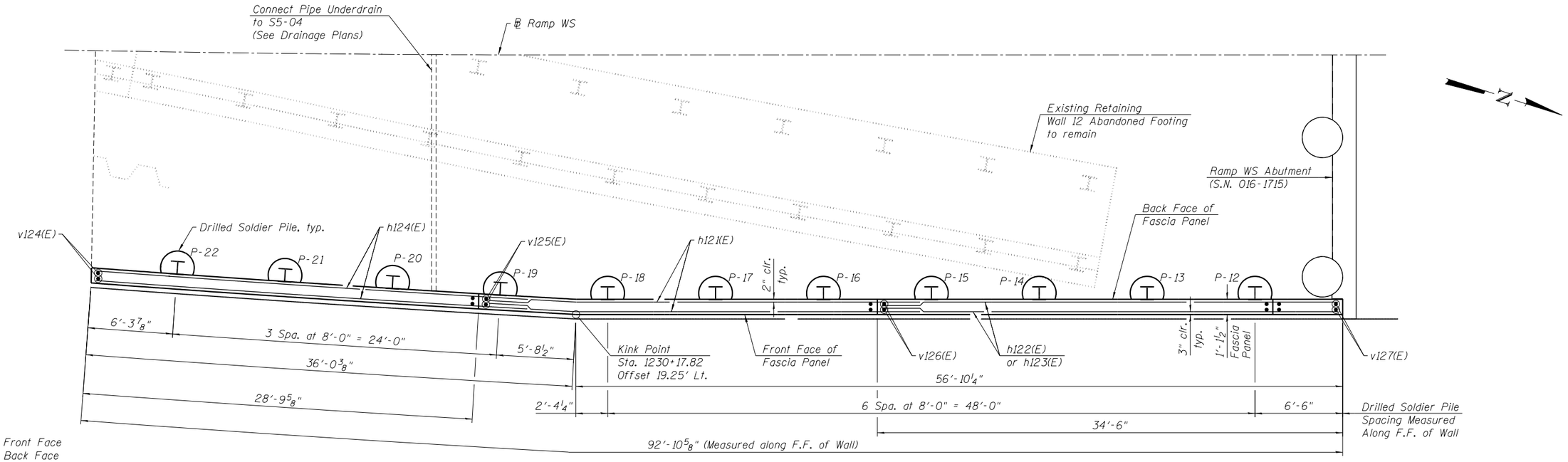


MIN. BAR LAP

#5 = 3'-2"

LEFT WALL ELEVATION

(Looking West)
(Parapet reinforcement not shown for clarity)



PLAN

(Parapet not shown for clarity)

Notes:
F.F. = Front Face
B.F. = Back Face
E.F. = Each Face
See additional notes on Sheet S6-09 of S6-22.

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TranSystems

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	CHECKED - DJG	REVISED -
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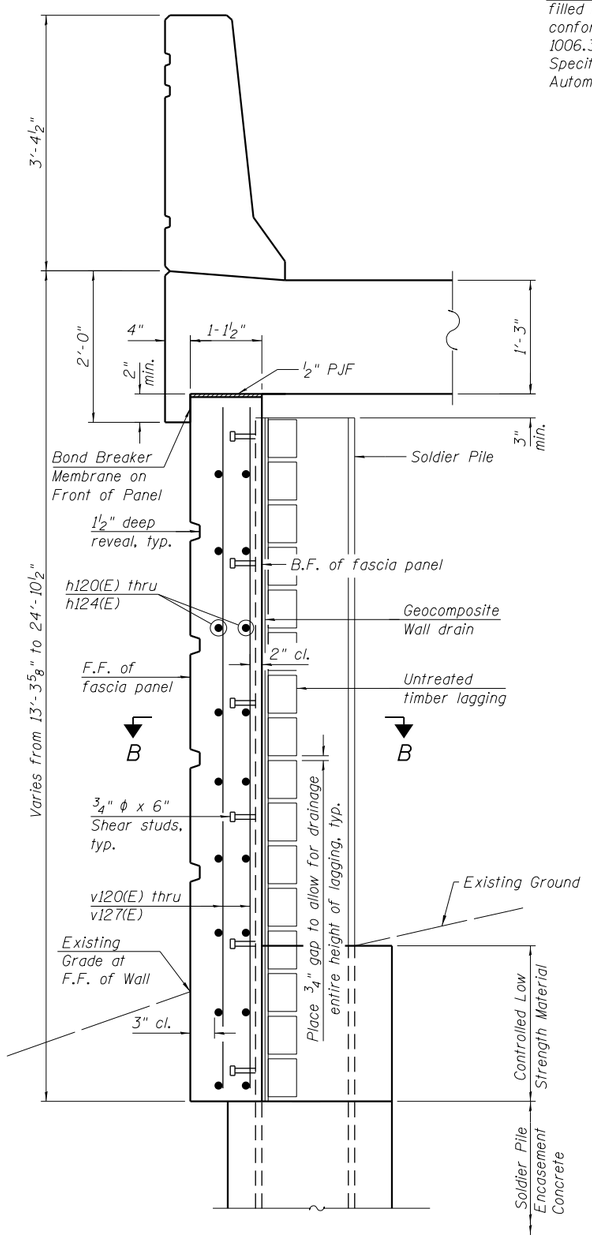
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

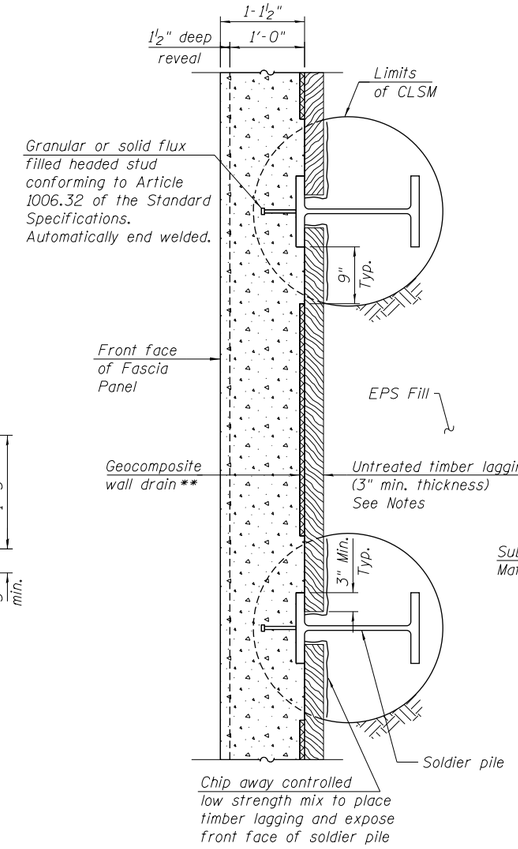
WALL ELEVATION DETAILS 2
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-10 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1034
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

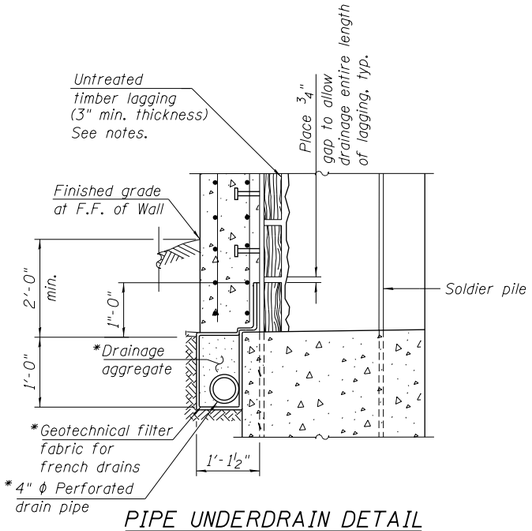
* Cost included with Pipe Underdrains for Structures, 4".
** Geocomposite wall drain thickness shall not exceed $^{15}/_{16}$".



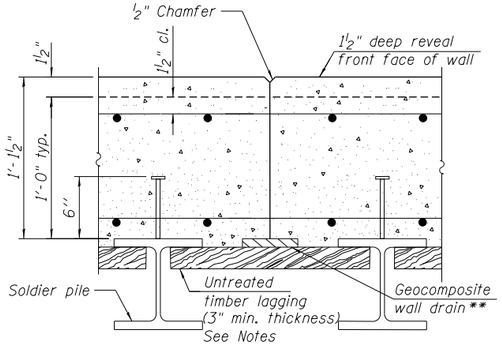
TYPICAL SOLDIER PILE WALL CROSS SECTION



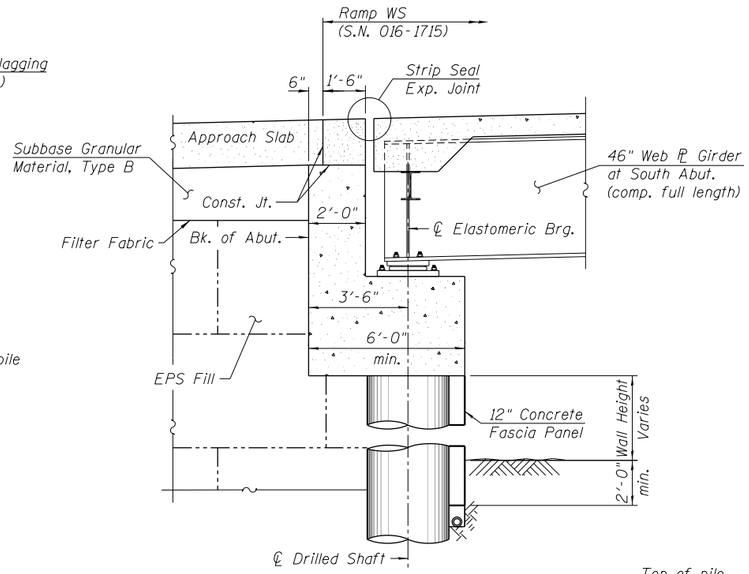
SECTION B-B



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE

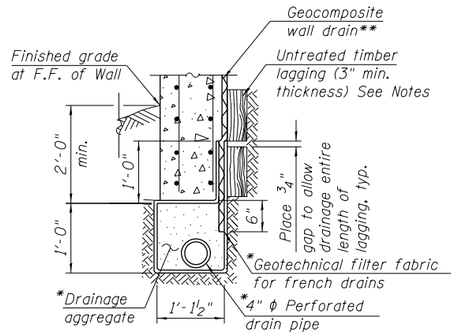


CONSTRUCTION JOINT DETAILS

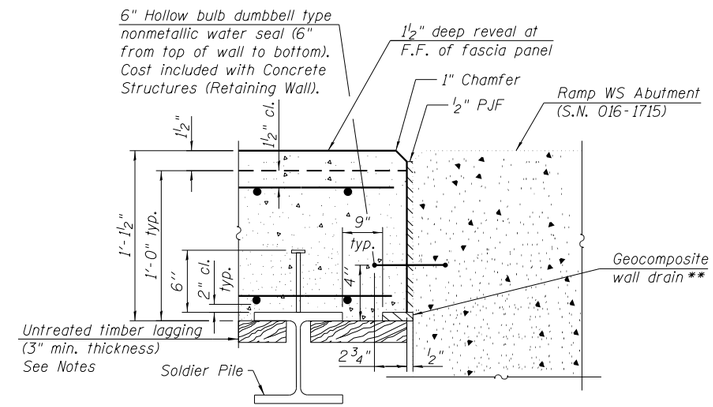


SECTION THRU ABUTMENT

(Horiz. Dim. @ Rt. L's)

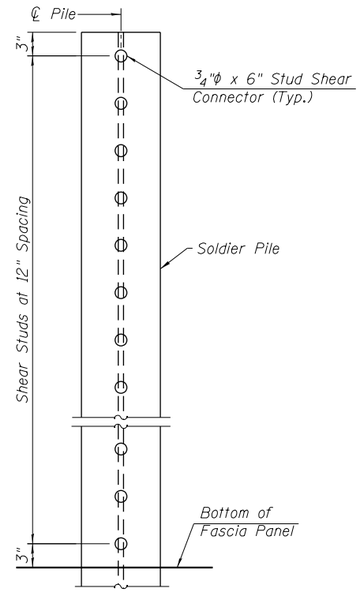


PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



EXPANSION JOINT DETAIL AT RAMP WS ABUTMENT

LIFTING HOLE DETAIL



SHEAR STUD DETAIL

Notes:
F.F. = Front Face.
B.F. = Back Face.
E.F. = Each Face.
Work this sheet with Sheets S6-09 thru S6-10 of S6-22.
For Drilled Soldier Pile Layout Table, see Sheet S6-12 of S6-22.
Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand.
The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer.

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TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 6.0000 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

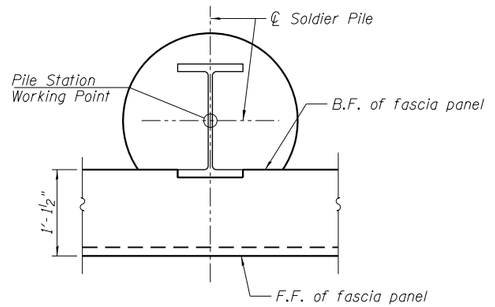
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WALL SECTIONS AND DETAILS 1
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-11 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1035
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

DRILLED SOLDIER PILE LAYOUT TABLE

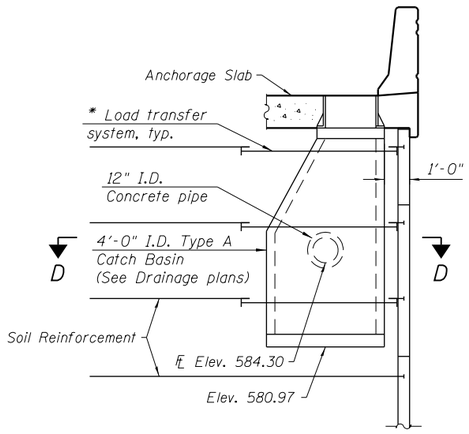
Pile No.	Station at Working Point	Offset	Top of Parapet Elevation	Top of Pile Elevation	Bottom of Wall Elevation	Section	Auger Diameter	Pile Tip Elevation	Pile Length
P-1	1230+47.75	15.67' Rt.	596.95	591.49	577.05	HP12x53	2'-6"	509.49	82'-0"
P-2	1230+39.69	15.67' Rt.	597.51	592.05	576.73	HP12x53	2'-6"	510.05	82'-0"
P-3	1230+31.62	15.67' Rt.	598.06	592.60	576.42	HP12x53	2'-6"	510.60	82'-0"
P-4	1230+23.55	15.67' Rt.	598.61	593.15	576.10	HP12x53	2'-6"	511.15	82'-0"
P-5	1230+15.50	15.67' Rt.	599.16	593.71	575.79	HP12x53	2'-6"	511.71	82'-0"
P-6	1230+07.50	15.67' Rt.	599.70	594.24	575.47	HP12x53	2'-6"	512.24	82'-0"
P-7	1229+99.50	15.67' Rt.	600.23	593.94	575.15	HP12x53	2'-6"	511.94	82'-0"
P-8	1229+91.50	15.67' Rt.	600.75	594.45	574.87	HP12x53	2'-6"	512.45	82'-0"
P-9	1229+83.50	15.67' Rt.	601.24	595.78	574.62	HP12x53	2'-6"	513.78	82'-0"
P-10	1229+75.50	15.67' Rt.	601.74	596.28	574.37	HP12x53	2'-6"	514.28	82'-0"
P-11	1229+67.50	15.67' Rt.	602.23	596.78	574.20	HP12x53	2'-6"	514.78	82'-0"
P-12	1229+67.50	17.67' Lt.	602.91	597.46	581.38	HP12x53	2'-6"	515.46	82'-0"
P-13	1229+75.50	17.67' Lt.	602.42	596.96	581.45	HP12x53	2'-6"	514.96	82'-0"
P-14	1229+83.50	17.67' Lt.	601.92	596.46	581.39	HP12x53	2'-6"	514.46	82'-0"
P-15	1229+91.50	17.67' Lt.	601.43	595.13	581.33	HP12x53	2'-6"	513.13	82'-0"
P-16	1229+99.50	17.67' Lt.	600.95	594.66	581.24	HP12x53	2'-6"	512.66	82'-0"
P-17	1230+07.50	17.67' Lt.	600.50	595.04	581.11	HP12x53	2'-6"	513.04	82'-0"
P-18	1230+15.50	17.67' Lt.	600.04	594.58	580.98	HP12x53	2'-6"	512.58	82'-0"
P-19	1230+23.41	17.36' Lt.	599.60	594.14	580.94	HP12x53	2'-6"	512.14	82'-0"
P-20	1230+31.33	16.91' Lt.	599.15	593.69	580.99	HP12x53	2'-6"	511.69	82'-0"
P-21	1230+39.24	16.47' Lt.	598.72	593.24	581.06	HP12x53	2'-6"	511.24	82'-0"
P-22	1230+47.16	16.02' Lt.	598.25	592.79	581.13	HP12x53	2'-6"	510.79	82'-0"



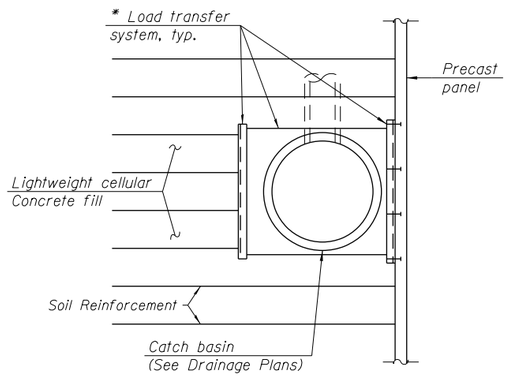
SOLDIER PILE WORKING POINT

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h120(E)	36	#5	32'-0"	———
h121(E)	74	#5	33'-3"	———
h122(E)	54	#5	34'-3"	———
h123(E)	30	#5	29'-3"	———
h124(E)	28	#5	32'-5"	———
v120(E)	29	#5	30'-7"	———
v121(E)	30	#5	36'-9"	———
v122(E)	30	#5	42'-8"	———
v123(E)	10	#5	15'-9"	———
v124(E)	30	#5	24'-6"	———
v125(E)	30	#5	27'-9"	———
v126(E)	30	#5	31'-2"	———
v127(E)	10	#5	8'-6"	———
Structure Excavation			Cu. Yd.	222
Stud Shear Connectors			Each	378
Reinforcement Bars, Epoxy Coated			Pound	13,840
Furnishing Soldier Piles (HP Section)			Foot	1,804
Drilling and Setting Soldier Piles (In Soil)			Cu. Ft.	7,079
Untreated Timber Lagging			Sq. Ft.	2,816
Concrete Structures (Retaining Wall)			Cu. Yd.	125
Concrete Sealer			Sq. Yd.	3,721
Geocomposite Wall Drain			Sq. Yd.	240
Pipe Underdrain for Structures 4"			Foot	231

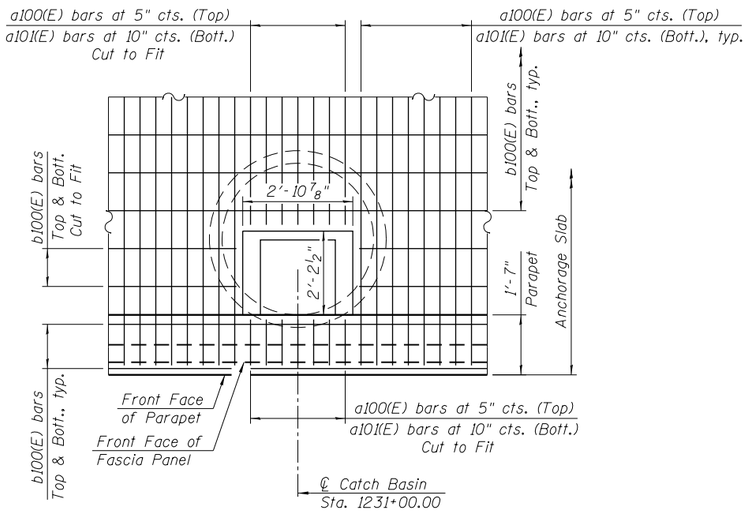


SECTION C-C



SECTION D-D

* M.S.E. supplier to design load transfer system to accommodate concrete pipe and catch basin.



DETAIL A

Notes:
Offsets are measured from the ℄ of Ramp WS to the center of the pile.
Work Section C-C and Detail A with Sheet S6-06 of S6-22.

4:33:34 PM
0161803-60X93-S012-WallDetails_2.dgn

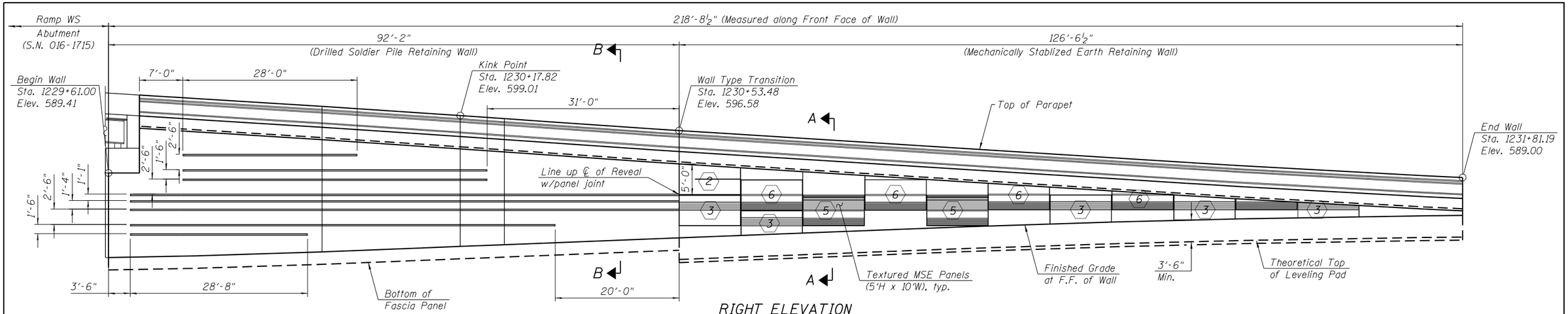
TranSystems

USER NAME = wjcollett1	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 6.0000 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

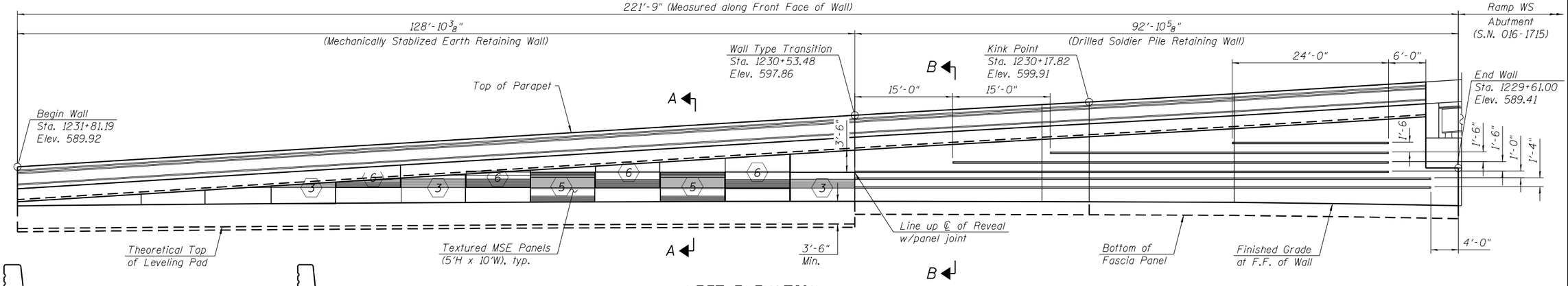
WALL SECTIONS AND DETAILS 2
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-12 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1036
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		



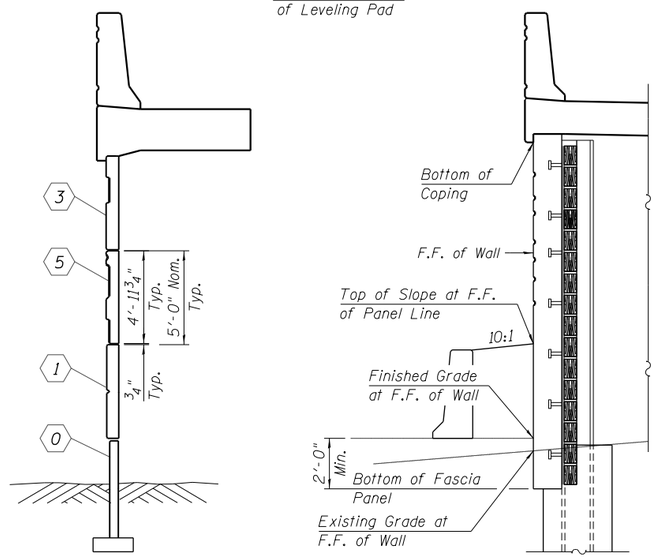
RIGHT ELEVATION

(Looking East at F.F. of Wall)



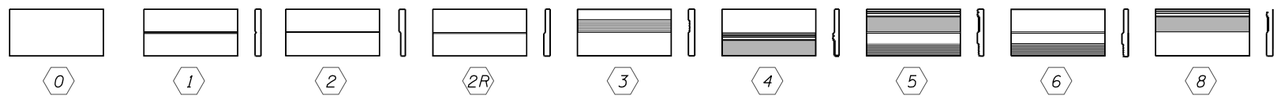
LEFT ELEVATION

(Looking West at F.F. of Wall)



SECTION A-A

SECTION B-B



PRECAST PANEL TYPES

LEGEND:

⟨0⟩ ⟨1⟩ ⟨2⟩ ⟨2R⟩ ⟨3⟩ ⟨4⟩ ⟨5⟩ ⟨6⟩ ⟨7⟩ ⟨8⟩ Precast Panel Type Designation Based on Formliner Layout

Notes:

For Precast Panel and Formliner pattern details, see Sheet S6-14 of S6-22.

Textured formliner for precast panels will not be paid separately and will be included in the cost of Mechanical Stabilized Earth Retaining Wall, Special.

MSE Supplier to determine precast panel dimensions based on proprietary design. The suggested 10'-0" nominal width shown here may change depending on supplier. If this is the case, any needed changes to the Architectural Details will be coordinated with the engineer and the supplier during the shop drawing submittal and reviews.

4:33:38 PM
016803 60X93-S013-Architectural1.dgn

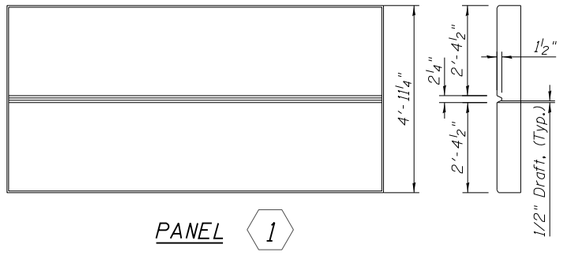
TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.2 '/ in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

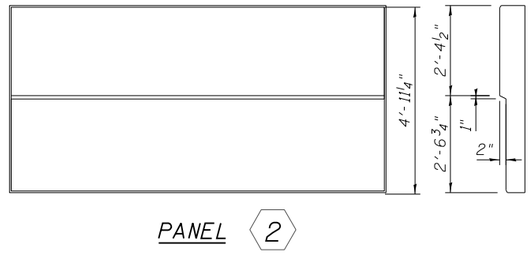
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS 1
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-13 OF S6-22 SHEETS

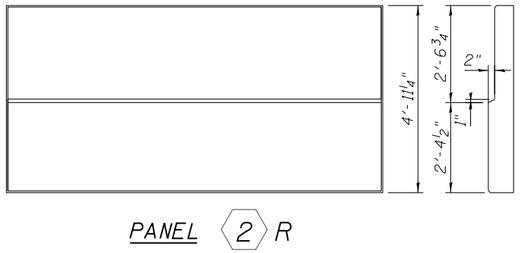
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1037
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



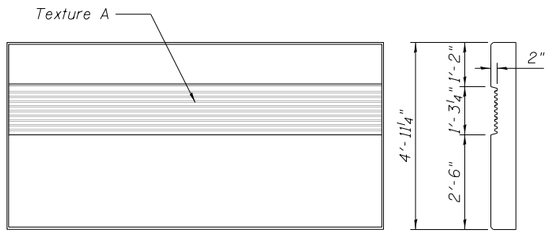
PANEL 1



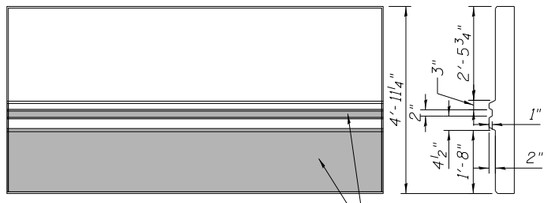
PANEL 2



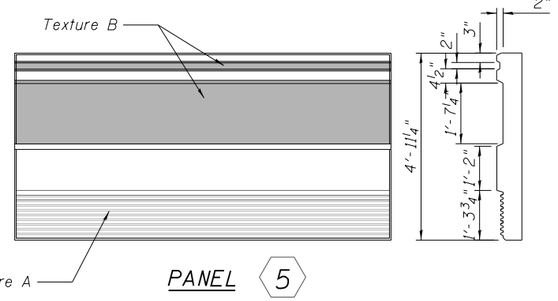
PANEL 2 R



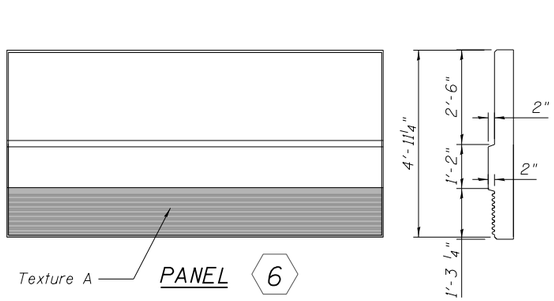
PANEL 3



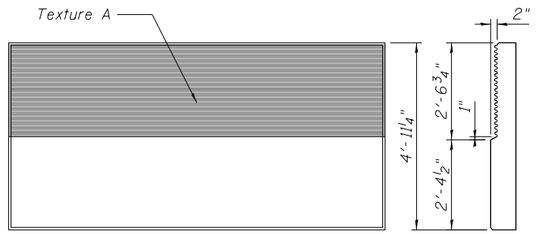
PANEL 4



PANEL 5

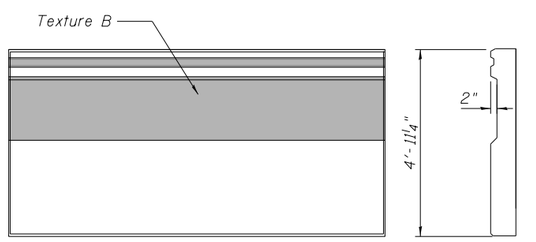


PANEL 6



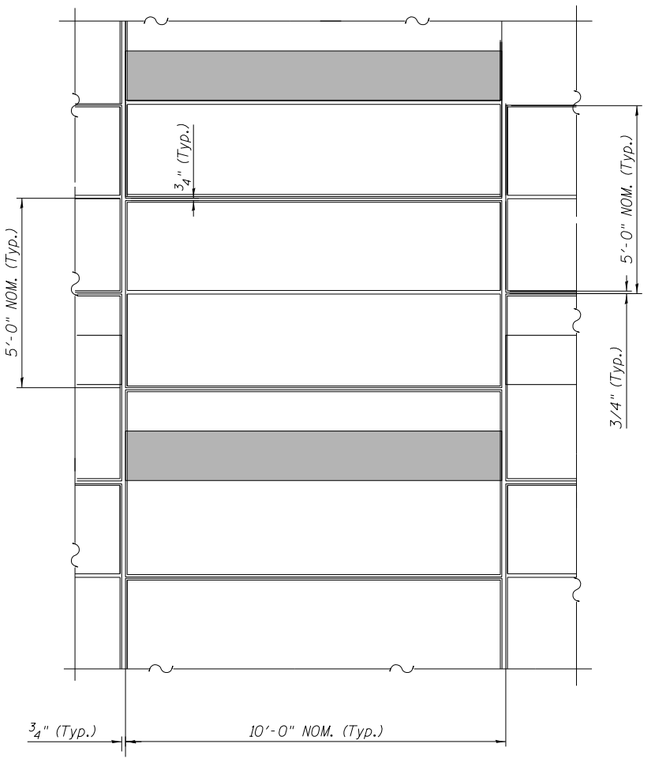
PANEL 7

PANEL 7 R

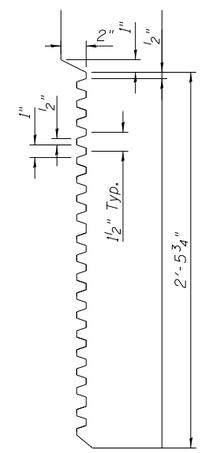


PANEL 8

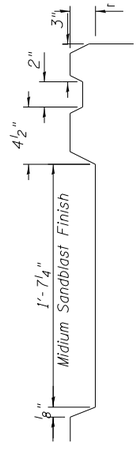
PANEL 0



DETAIL



FORMLINER TEXTURE A



FORMLINER TEXTURE B

TYPICAL CONCRETE PANELS DETAILS

Notes:

Textured formliner for precast panels will not be paid separately and will be included in the cost of the pay item Mechanically Stabilized Earth Retaining Wall, Special.

Formliner layout numbering is typical for all MSE retaining walls in this Contract. Formliner details for precast panels are typ. for all panels shown in this Contract.

Verify / coordinate all dimensions with bridge plans.

MSE Supplier to determine precast panel dimensions based on proprietary design. The suggested 10'-0" Nom. width shown here may change depending on supplier. If this is the case, it will be addressed by the engineer and coordinated with the supplier during the Shop Drawing submittal and review.

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Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 10-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.93 ft
North: 1897019.14 ft
East: 1171462.69 ft
Station: 7315+23.85
Offset: 4.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type and recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--Drilled without sampling--	5					
			10					
			15					
			20					
		Piezometer Data: --Installed in Dec. 11, 2014 --Bentonite Seal 66 to 71 feet --Top of Sand Pack at 71 feet --Top of Screen at 73 feet --Screen Length 20 feet --Bottom of Screen at 93 feet	25					
			30					
			35					
			40					

GENERAL NOTES

Begin Drilling: 12-10-2014 Complete Drilling: 12-11-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: A. Happel Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well; pizometer installed on 12/11/2014

WATER LEVEL DATA

While Drilling: ▽ 68.00 ft
At Completion of Drilling: ▽ 74.00 ft
Time After Drilling: 24 hours
Depth to Water: ▽ 45.04 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100040I.GPJ WANGENG.GDT 8/24/17

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Fax: 630 953-9938

BORING LOG 10-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.93 ft
North: 1897019.14 ft
East: 1171462.69 ft
Station: 7315+23.85
Offset: 4.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type and recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--piezometer stabilized water level reading -- --reading during well development (12/15/2014) = 43.85 feet bgs-- --reading date: 12/26/2014 = 43.72 feet bgs--	45					
			50					
			55					
			60					
		Piezometer Data: --Installed in Dec. 11, 2014 --Bentonite Seal 66 to 71 feet --Top of Sand Pack at 71 feet --Top of Screen at 73 feet --Screen Length 20 feet --Bottom of Screen at 93 feet	65					
			70					
	521.2	Very dense, gray SILTY LOAM --Wet--	75	1		18 27 24	1.00 P	18
	516.2	Very dense, gray SANDY LOAM, trace to little gravel --Saturated--	80	2		7 14 16	NP	20

GENERAL NOTES

Begin Drilling: 12-10-2014 Complete Drilling: 12-11-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: A. Happel Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well; pizometer installed on 12/11/2014

WATER LEVEL DATA

While Drilling: ▽ 68.00 ft
At Completion of Drilling: ▽ 74.00 ft
Time After Drilling: 24 hours
Depth to Water: ▽ 45.04 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100040I.GPJ WANGENG.GDT 8/24/17

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Fax: 630 953-9938

BORING LOG 10-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.93 ft
North: 1897019.14 ft
East: 1171462.69 ft
Station: 7315+23.85
Offset: 4.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type and recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			85	3		50/5	NP	16
	505.2	Very dense, gray SILTY LOAM, trace gravel						
		--Moist--	90	4		50/3	4.50 P	9
		--Wet--		5		50/5	NP	11
	497.9	--HARD DRILLING--	95					
		Boring terminated at 95.00 ft						
			100					

GENERAL NOTES

Begin Drilling: 12-10-2014 Complete Drilling: 12-11-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: A. Happel Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well; pizometer installed on 12/11/2014

WATER LEVEL DATA

While Drilling: ▽ 68.00 ft
At Completion of Drilling: ▽ 74.00 ft
Time After Drilling: 24 hours
Depth to Water: ▽ 45.04 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100040I.GPJ WANGENG.GDT 8/24/17

Notes:
Boring Log 10-PZ-01 station and offset along ℄ Ramp WS is: Sta. 1231+44.21, Offset 38.79' Rt.

4:37:45 PM
01803-60X93-S015-Boring_1.dgn

TranSystems

USER NAME = wjcollett	DESIGNED - KRS	REVISED -	
	CHECKED - DJG	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-15 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1039
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

Wang Engineering
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1145 N Main Street
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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 10-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.09 ft
North: 1897135.88 ft
East: 1171421.19 ft
Station: 7313+60.00
Offset: 3.91 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	592.2	11-inch thick, dark brown SILTY LOAM --TOPSOIL--							
		Medium dense, black and reddish brown SILTY LOAM, trace gravel --FILL--				1	16 9 10	NP	25
	589.1	Loose to medium dense. brown SAND, trace gravel --FILL--	5			2	5 7 10	NP	6
						3	2 2 2	NP	22
	584.3	Stiff to very stiff, gray CLAY, trace gravel	10			4	2 4 8	2.46 B	24
						5	4 4 5	2.46 B	28
		--L_L(%)=37, P_L(%)=19-- --%Gravel=2.0-- --%Sand=15.8-- --%Silt= 39.6-- --%Clay=42.5-- --A-6 (14)--	15			6	2 3 4	2.21 B	22
						7	3 4 5	1.72 B	29
	575.1	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel							
			20			8	2 1 2	0.33 B	28

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
						9	1 1 1	0.16 B	31
			25			10	1 2 2	0.16 B	29
						11	2 2 2	0.16 B	27
			30			12	2 2 2	0.16 B	22
						13	2 1 3	0.16 B	26
			35			14	2 2 2	0.25 B	25
			40						

GENERAL NOTES

Begin Drilling: 02-21-2014 Complete Drilling: 02-25-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/24/17

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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 10-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.09 ft
North: 1897135.88 ft
East: 1171421.19 ft
Station: 7313+60.00
Offset: 3.91 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45			15	2 3 4	0.16 B	24
	543.8	Hard, gray SILTY CLAY, trace gravel	50			16	3 6 6	0.90 B	26
			55			17	10 17 25	6.15 B	17
	534.1	Dense to very dense, gray, fine SAND and SILT laminations	60			18	16 28 34	NP	17

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--Moist to wet--	65			19	12 21 27	NP	22
		--L_L(%)=NP, P_L(%)=NP-- --%Gravel=0.1-- --%Sand=44.4-- --%Silt=51.6-- --%Clay=4.0-- --A-4 (0)--	70			20	16 21 31	NP	21
			75			21	21 20 25	NP	22
	514.4	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	80			22	18 27 31	4.50 P	14

GENERAL NOTES

Begin Drilling: 02-21-2014 Complete Drilling: 02-25-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/24/17

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BORING LOG 10-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.09 ft
North: 1897135.88 ft
East: 1171421.19 ft
Station: 7313+60.00
Offset: 3.91 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	505.3	Very dense, gray SILTY LOAM, trace to little gravel --Damp to dry--	85			23	20 27 46	4.92 S	14
			90			24	50/5	NP	12
			95			25	50/5	NP	14
		--HARD DRILLING--							
	495.6	Very dense, gray DOLOSTONE fragments -- WEATHERED BEDROCK--	100			26	50/1	NP	11

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--DIFFICULT DRILLING-- --AUGER REFUSAL--							
	490.1	Boring terminated at 103.00 ft	105						
			110						
			115						
			120						

GENERAL NOTES

Begin Drilling: 02-21-2014 Complete Drilling: 02-25-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/24/17

Notes:
Boring Log 10-RWB-03 station and offset along ℄ Ramp WS is: Sta. 1230+17.72, Offset 47.14' Rt.

4:37:49 PM
016803-60X93-S016-Boring_2.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -	
	CHECKED - DJG	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-16 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1040
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

BORING LOG 10-RWB-04

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Telephone: 630 953-9928
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WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.40 ft
North: 1896930.29 ft
East: 1171484.09 ft
Station: 7315+75.12
Offset: 1.47 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
592.9	6-inch thick ASPHALT --PAVEMENT--					
	Dense, brown GRAVELLY LOAM --BASE COURSE--		1	29 29 20	NP	16
590.4	Very loose to medium dense, brown, coarse SAND --Dry to saturated-- --FILL--	5	2	6 9 7	NP	4
			3	3 3 4	NP	16
		10	4	4 8 6	NP	6
			5	3 2 3	NP	7
		15	6	2 2 1	NP	15
577.9	Medium dense, gray GRAVELLY SAND --Wet--		7	3 7 9	NP	8
574.4	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	20	8	10 3 2	0.33 B	22
			9	0 0 1	0.08 B	36
		25	10	1 1 2	0.25 P	17
			11	0 0 2	0.33 N/6	
		30	12	1 1 1	0.16 B	27
		35	13	0 0 2	< 0.25 P	26
		40	14	1 2 3	< 0.25 P	27

GENERAL NOTES

Begin Drilling 03-10-2014 Complete Drilling 03-13-2014
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR [85%]
Driller P&N Logger F. Bozga Checked by C. Marin
Drilling Method 2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ∇ 13.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling 72 hours
Depth to Water ▼ 35.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

BORING LOG 10-RWB-04

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WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.40 ft
North: 1896930.29 ft
East: 1171484.09 ft
Station: 7315+75.12
Offset: 1.47 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		45	15	4 4 4	0.75 P	27
		50	16	1 3 6	0.57 B	26
541.7	Hard, gray SILTY LOAM, trace gravel	55	17	15 50/3	6.15 S	14
	--L_L(%)=24, P_L(%)=14-- --%Gravel=4.5-- --%Sand=26.8--	60	18	18 19 27	7.71 B	13
	--%Silt=51.5-- --%Clay=17.2-- --A-4 (4)--					
531.7	Very stiff, gray SILTY CLAY LOAM, trace gravel		19	7 11 19	3.61 B	15
528.9	Dense to very dense, gray, medium to coarse SAND, trace gravel --Wet--	65				
		70	20	14 22 20	NP	16
		75	21	16 17 36	NP	11
		80	22	16 18 20	NP	11

GENERAL NOTES

Begin Drilling 03-10-2014 Complete Drilling 03-13-2014
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR [85%]
Driller P&N Logger F. Bozga Checked by C. Marin
Drilling Method 2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ∇ 13.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling 72 hours
Depth to Water ▼ 35.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/24/17

BORING LOG 10-RWB-04

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WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.40 ft
North: 1896930.29 ft
East: 1171484.09 ft
Station: 7315+75.12
Offset: 1.47 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	--HARD DRILLING-- --*Possible Cobbles*--					
511.7	Very dense, gray GRAVELLY SAND --Wet--	85	23	45 50/5	NP	10
	-HARD DRILLING up to 89.5 ft- --*Possible Cobbles*--		24	50/2	NP	
503.9	Hard, gray SILTY LOAM, trace to little gravel --Dry--	90				
		95	25	70/5	> 4.50 P	9
	--HARD DRILLING at 97 ft-- --*Possible Cobbles*--					
496.4	--WEATHERED BEDROCK-- --HARD DRILLING--	100	26	75/3	NP	
492.4	Strong, light gray, fair rock mass quality, bedded fresh DOLOSTONE, up to 19-inch beds, 11-inch joint spacing, horizontal and vertical joints with none to more than 0.2-inch greenish gray infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity. --Run 1 - RECOVERY=96%-- --RQD=71%--	105, 110	1	CORE		
482.4	Boring terminated at 111.00 ft	115, 120				

GENERAL NOTES

Begin Drilling 03-10-2014 Complete Drilling 03-13-2014
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR [85%]
Driller P&N Logger F. Bozga Checked by C. Marin
Drilling Method 2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ∇ 13.00 ft
At Completion of Drilling ▼ mud in the borehole
Time After Drilling 72 hours
Depth to Water ▼ 35.00 ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/24/17

Notes:
Boring Log 10-RWB-04 station and offset along ℄ Ramp WS is:
Sta. 1232+36.44, Offset 37.64' Rt.

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BORING LOG 14-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 580.85 ft
North: 1897238.90 ft
East: 1171475.76 ft
Station: 1229+27.47
Offset: 39.6372 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		15-inch thick CONCRETE --PAVEMENT--							
	579.6								
	579.3	3-inch thick ASPHALT							
		Medium dense, brownish white CRUSHED STONE --BASE COURSE--				1	15 17 9	NP	15
	577.6	Soft, gray CLAY to SILTY CLAY, trace gravel				2	3 2 3	0.49 B	22
			5			3	1 2 2	0.57 B	28
						4	1 2 1	0.41 B	27
			10			5	2 1 2	0.41 B	23
						6	2 2 2	0.25 B	27
			15			7	2 1 3	0.25 B	26
						8	1 1 1	0.25 B	28
			20						
	544.1	Very stiff to hard, gray SILTY CLAY, trace gravel							
			25			9	1 2 1	0.16 B	23
						10	1 2 1	0.25 B	25
						11	0 2 2	0.33 B	26
			30			12	2 3 3	0.49 B	25
						13	2 3 4	0.25 B	21
			35						
						14	3 4 5	3.00 P	19
			40						

GENERAL NOTES

Begin Drilling: 07-28-2014 Complete Drilling: 07-29-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC T1100401.GPJ WANGENG.GDT 8/24/17

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BORING LOG 14-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 580.85 ft
North: 1897238.90 ft
East: 1171475.76 ft
Station: 1229+27.47
Offset: 39.6372 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	534.1	Very stiff, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel							
			45			15	12 18 47	5.17 B	17
			50			16	33 46 32/4	3.28 S	15
	529.1	Very dense, gray SAND to SANDY LOAM, trace gravel							
			55			17	17 23 36	NP	18
			60			18	13 30 22	NP	19
			65			19	14 23 33	NP	17
	515.8	Boring terminated at 65.00 ft							
			70						
			75						
			80						

GENERAL NOTES

Begin Drilling: 07-28-2014 Complete Drilling: 07-29-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC T1100401.GPJ WANGENG.GDT 8/24/17

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BORING LOG 14-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.26 ft
North: 1897133.58 ft
East: 1171489.78 ft
Station: 6233+15.05
Offset: 62.0541 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	581.9	4-inch thick, ASPHALT --PAVEMENT--							
	580.8	14-inch thick, CONCRETE --PAVEMENT--							
		Dense, grayish white CRUSHED STONE --FILL--				1	37 30 18	NP	5
	579.3	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				2	1 2 3	0.41 B	24
			5			3	0 1 1	0.41 B	25
						4	0 0 1	0.25 B	27
			10			5	0 0 0	0.16 B	26
						6	0 0 2	0.49 B	24
			15			7	0 0 0	0.41 B	26
						8	0 0 0	0.25 B	20
			20						
			25			9	0 0 1	0.08 B	27
						10	0 0 1	0.57 B	25
			30			11	0 1 1	0.57 B	24
						12	0 0 2	0.41 B	25
			35			13	0 1 2	0.66 B	26
						14	0 0 1	0.25 B	37
			40						

GENERAL NOTES

Begin Drilling: 07-30-2014 Complete Drilling: 07-30-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC T1100401.GPJ WANGENG.GDT 8/24/17

Notes:
Boring Log 14-RWB-01 station and offset are measured along ℄ Ramp WS.
Boring Log 14-RWB-02 station and offset along ℄ Ramp WS is: Sta. 1230+40.45, Offset 17.67' Lt.

4:31:57 PM
01/18/03 60X93-S018-Boring_4.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-18 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1042
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 14-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.26 ft
North: 1897133.58 ft
East: 1171489.78 ft
Station: 6233+15.05
Offset: 62.0541 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	540.5	Hard, gray SILTY CLAY, trace gravel	45			15	6 11 19	7.13 B	19
	535.5	Gray SILTY LOAM, trace gravel							
	533.1	Medium dense, brown, fine SAND --Moist--	50			16	14 23 18	NP	17
			55			17	12 14 14	NP	27
	525.5	Dense, gray SILT --Moist--	60			18	11 17 19	NP	22
	520.5	Medium dense, brown fine SAND --Moist--	65			19	9 11 13	NP	21
	517.3	Boring terminated at 65.00 ft	70						
			75						
			80						

GENERAL NOTES

Begin Drilling: 07-30-2014 Complete Drilling: 07-30-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

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BORING LOG 14-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.96 ft
North: 1896992.53 ft
East: 1171501.15 ft
Station: 6234+52.32
Offset: 75.7462 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	582.8	16-inch thick CONCRETE --PAVEMENT--							
	581.34	4-inch thick ASPHALT --PAVEMENT--							
		Dense, grayish white SANDY GRAVEL --FILL--				1	22 22 13	NP	3
	579.0	Stiff, gray SILTY CLAY, trace gravel	5			2	4 3 5	1.64 B	23
						3	2 2 3	1.07 B	24
	575.0	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	10			4	1 2 2	0.41 B	32
						5	0 0 0	0.16 B	39
			15			6	0 0 1	0.41 B	26
						7	0 0 0	0.25 B	25
			20			8	0 0 0	0.25 B	25
			25			9	0 0 0	0.16 B	27
						10	0 0 0	0.25 B	26
						11	0 1 1	0.33 B	24
			30			12	1 1 2	< 0.25 P	26
			35			13	1 2 2	0.82 B	24
			40			14	1 1 2	0.57 B	27

GENERAL NOTES

Begin Drilling: 07-20-2014 Complete Drilling: 07-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

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Telephone: 630 953-9928
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BORING LOG 14-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.96 ft
North: 1896992.53 ft
East: 1171501.15 ft
Station: 6234+52.32
Offset: 75.7462 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	541.2	Dense to very dense, gray CLAY LOAM to SILTY LOAM, trace gravel --Dry--	45			15	8 12 20	5.74 B	13
		--L_L(%)=26, P_I(%)=15-- --%Gravel=5.1-- --%Sand=25.2-- --%Silt=47.0-- --%Clay=22.7-- --A-6 (5)--	50			16	13 20 20	NP	12
	528.5	--5-inch, brown, coarse SAND--	55			17	9 18 47	NP	12
	528.2	Dense to very dense, brown, fine SAND --Moist--	60			18	15 21 37	NP	22
	518.0	Boring terminated at 65.00 ft	65			19	16 20 22	NP	22
			70						
			75						
			80						

GENERAL NOTES

Begin Drilling: 07-20-2014 Complete Drilling: 07-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

Notes:
Boring Log 14-RWB-02 station and offset along ℄ Ramp WS is: Sta. 1230+40.45, Offset 17.67' Lt.
Boring Log 14-RWB-03 station and offset along ℄ Ramp WS is: Sta. 1231+79.37, Offset 7.46' Rt.

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 5
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-19 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1043
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

Wang Engineering
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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 15-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.54 ft
North: 1897200.61 ft
East: 1171415.26 ft
Station: 1229+54.23
Offset: 33.2105 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		14-inch thick, black SILTY LOAM --TOPSOIL--							
	592.4								
		Medium dense, black and brown LOAM, some gravel and brick fragments --FILL--				1	6 10 10	NP	15
	590.5								
		Medium dense to dense, black and brown SILTY LOAM, trace gravel and brick fragments --FILL--	5			2	3 17 14	NP	57
						3	9 6 5	NP	22
	585.5								
	584.5	Gray, medium SAND, trace gravel							
		Very stiff, gray SILTY CLAY, trace gravel	10			4	2 3 6	3.36 B	23
						5	5 6 7	3.03 B	26
	580.5								
		Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	15			6	2 1 2	0.33 B	27
						7	1 1 1	0.16 B	24
			20			8	1 1 1	0.16 B	29

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
						9	2 1 3	0.16 B	24
			25			10	2 2 2	0.25 B	20
						11	2 1 2	0.33 B	24
			30			12	1 2 3	0.16 B	26
			35			13	1 2 2	0.16 B	25
			40			14	2 3 3	0.25 B	24

GENERAL NOTES

Begin Drilling: 02-25-2014 Complete Drilling: 02-28-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100041.GPJ WANGENG.GDT 8/24/17

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BORING LOG 15-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.54 ft
North: 1897200.61 ft
East: 1171415.26 ft
Station: 1229+54.23
Offset: 33.2105 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--L_L(%)=34, P_L(%)= 18-- --%Gravel=4.4-- --%Sand=14.5-- --%Silt=47.7-- --%Clay=33.3-- --A-6 (12)--	45			15	3 4 5	0.50 P	25
	541.8								
		Hard, gray SILTY CLAY LOAM, trace gravel	55			17	14 18 30	5.33 S	13
			60			18	14 22 26	6.72 S	13

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	531.8								
		Dense, gray, medium SAND, trace gravel --Moist to wet--	65			19	13 20 25	NP	24
		--HARD DRILLING-- --*Possible Cobbles*--							
		--%Gravel=0.2-- --%Sand=79.5-- --%Silt=18.3-- --%Clay=2.0-- --A-2-4 (0)--	70			20	22 16 24	NP	24
	516.8								
		Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	75			21	14 18 21	NP	19
			80			22	18 39 50	4.50 P	13

GENERAL NOTES

Begin Drilling: 02-25-2014 Complete Drilling: 02-28-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

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BORING LOG 15-RWB-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.54 ft
North: 1897200.61 ft
East: 1171415.26 ft
Station: 1229+54.23
Offset: 33.2105 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			85			23	22 32 50	9.02 S	13
		--L_L(%)=26, P_L(%)=16-- --%Gravel=0.1-- --%Sand=11.7-- --%Silt=62.6-- --%Clay=25.6-- --A-4 (7)--				24	25 33 48	10.25 S	13
	503.5		90						
		Boring terminated at 90.00 ft							
			95						
			100						

GENERAL NOTES

Begin Drilling: 02-25-2014 Complete Drilling: 02-28-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&J Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100041.GPJ WANGENG.GDT 8/24/17

Notes:
Station and offsets are measured along ℄ Ramp WS.

4:34:05 PM
01/18/03 60X93-S020-Boring_6.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 6
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-20 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1044
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 15-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.37 ft
North: 1897034.79 ft
East: 1171464.06 ft
Station: 7314+69.17
Offset: 7.23 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		12-inch thick, brown SANDY LOAM							
	591.4	--FILL--							
		Very stiff, gray SILTY CLAY LOAM, trace gravel and roots				1	3 6 7	2.05 S	17
		--FILL--							
	589.4	Medium dense, SILTY LOAM to SILTY CLAY LOAM, trace gravel, sand and brick				2	6 5 5	NP	17
		--FILL--	5						
	586.9	Very loose to loose, brown, fine SAND				3	3 4 4	NP	18
		--Wet--							
	582.0	Stiff, brown and gray SILTY CLAY, trace gravel	10			4	2 3 2	NP	17
						5	2 2 3	1.00 P	29
			15			6	0 2 2	1.23 B	24
	576.9	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				7	0 2 2	0.82 B	24
			20			8	0 1 2	0.57 B	24
						9	0 0 2	0.41 B	24
			25			10	0 0 0	0.74 B	30
						11	1 1 1	0.74 B	22
			30			12	0 2 2	0.57 B	23
						13	0 0 1	0.41 B	25
			35						
			40			14	0 1 2	0.41 B	25

GENERAL NOTES

Begin Drilling: 04-03-2014 Complete Drilling: 04-03-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: M. de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 11', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

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BORING LOG 15-RWB-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.37 ft
North: 1897034.79 ft
East: 1171464.06 ft
Station: 7314+69.17
Offset: 7.23 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45			15	0 2 3	0.82 B	25
	540.6	Very stiff to hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel				16	0 1 2	0.41 B	28
		--HARD DRILLING--	55			17	7 7 14	4.10 B	20
		--Possible Cobbles--							
			60			18	10 25 50/5	3.28 S	14
			70						
			75						
			80						

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	530.6	Very dense, gray SILT							
		--Wet--				19	55/5		NP
	527.4	Boring terminated at 65.00 ft	65						

GENERAL NOTES

Begin Drilling: 04-03-2014 Complete Drilling: 04-03-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: M. de los Reyes Checked by: C. Marin
Drilling Method: 2.25" SSA to 11', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 5.50 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

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BORING LOG 1729-VST-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.70 ft
North: 1897206.55 ft
East: 1171441.79 ft
Station: 7312+95.08
Offset: 32.79 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Drilled without sampling							
			5						
			10						
			15						
	574.2	Very soft to medium stiff, gray SILTY CLAY, trace gravel	20			1	2 2 3	NR	
			25			2	2 3 5	< 0.25 P	23
		--In-Situ Vane Shear, 27.0 feet--				1	VS		
		--Failed test--							
			30			2	VS		
		--In-Situ Vane Shear, 30.0 feet--							
		--$S_{u\ undis}$ = 624.85 psf--							
		--$S_{u\ remold}$ = 409.38 psf--							
		--Sensitivity = 1.53--							
			35			3	VS		
		--In-Situ Vane Shear, 35.0 feet--							
		--$S_{u\ undis}$ = 603.31 psf--							
		--$S_{u\ remold}$ = 387.84 psf--							
		--Sensitivity = 1.56--							
			40			4			
		--In-Situ Vane Shear, 40.0 feet--							

GENERAL NOTES

Begin Drilling: 07-27-2016 Complete Drilling: 07-27-2016
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV [93%]
Driller: N&N Logger: F. Bozga Checked by: M. Seyhun
Drilling Method: 2.25" IDA HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ Mud at 22.5 ft
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

Notes:
Boring Log 15-RWB-02 station and offset along ℄ Ramp WS is: Sta. 1231+29.07, Offset 33.67' Rt.
Boring Log 1729-VST-02 station and offset along ℄ Ramp WS is: Sta. 1229+56.59, Offset 6.13' Rt.

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BORING LOG 1729-VST-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.70 ft
North: 1897206.55 ft
East: 1171441.79 ft
Station: 7312+95.08
Offset: 32.79 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	$-S_{u\ undis}$ = 743.36 psf-- $-S_{u\ remold}$ = 452.48 psf-- --Sensitivity = 1.64--						
	--In-Situ Vane Shear, 45.0 feet-- --Failed test--	45		5	VS		
	--In-Situ Vane Shear, 47.5 feet-- $-S_{u\ undis}$ = 1422.08 psf-- $-S_{u\ remold}$ = 775.68 psf-- --Sensitivity = 1.83--			6	VS		
	--In-Situ Vane Shear, 49.5 feet-- $-S_{u\ undis}$ = 1422.07 psf-- $-S_{u\ remold}$ = 775.68 psf-- --Sensitivity = 1.83--	50		7	VS		
542.4				3		0.50 P	23
542.2	Hard, gray SILTY CLAY, trace gravel						
	Boring terminated at 52.50 ft	55					
		60					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	07-27-2016	Complete Drilling	07-27-2016	While Drilling	Rotary wash
Drilling Contractor	Wang Testing Services	Drill Rig	D-25 ATV [93%]	At Completion of Drilling	Mud at 22.5 ft
Driller	N&N	Logger	F. Bozga	Checked by	M. Seyhun
Drilling Method	2.25" IDA HSA to 10', mud rotary thereafter, boring			Time After Drilling	NA
	backfilled upon completion			Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG VST-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.55 ft
North: 1897108.36 ft
East: 1171435.63 ft
Station: 7313+90.47
Offset: 2.00 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	Very stiff, brown SILTY CLAY LOAM, trace gravel --FILL--			1	3 5 7	2.75 P	14
590.5	Medium dense, fine SAND	5		2	5 5 6	NP	7
586.8	Medium stiff to stiff, gray SILTY CLAY	10		3	2 2 3	1.31 B	26
		15		4	2 2 3	0.98 B	28
578.0	Soft, gray SILTY CLAY			5	1 2 2	0.25 P	29
575.3	--In-Situ Vane Shear, 19.5 feet--	20		1			

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	$-S_{u\ undis}$ = 786.3 psf-- $-S_{u\ remold}$ = 371.3 psf-- --Sensitivity = 2.1--						
	--In-Situ Vane Shear, 22.0 feet-- $-S_{u\ undis}$ = 742.6 psf-- $-S_{u\ remold}$ = 305.8 psf-- --Sensitivity = 2.4--	25		2	VS		
	--In-Situ Vane Shear, 24.5 feet-- $-S_{u\ undis}$ = 578.8 psf-- $-S_{u\ remold}$ = 382.2 psf-- --Sensitivity = 1.5--			3	VS		
	--In-Situ Vane Shear, 27.0 feet-- $-S_{u\ undis}$ = 742.6 psf-- $-S_{u\ remold}$ = 415.0 psf-- --Sensitivity = 1.8--	30		4	VS		
	--In-Situ Vane Shear, 29.5 feet-- $-S_{u\ undis}$ = 589.7 psf-- $-S_{u\ remold}$ = 283.9 psf-- --Sensitivity = 2.1--			5	VS		
	--In-Situ Vane Shear, 32.0 feet-- $-S_{u\ undis}$ = 1026.6 psf-- $-S_{u\ remold}$ = 447.8 psf-- --Sensitivity = 2.3--	35		6	VS		
	--In-Situ Vane Shear, 34.5 feet-- $-S_{u\ undis}$ = 764.5 psf-- $-S_{u\ remold}$ = 480.5 psf-- --Sensitivity = 1.6--			7	VS		
	--In-Situ Vane Shear, 37.0 feet-- $-S_{u\ undis}$ = 1026.6 psf-- $-S_{u\ remold}$ = 589.7 psf-- --Sensitivity = 1.7--	40		8	VS		

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-01-2015	Complete Drilling	12-01-2015	While Drilling	Rotary wash
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR [85%]	At Completion of Drilling	mud in the borehole
Driller	R&N	Logger	F. Bozga	Checked by	A. Kurnia
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring			Time After Drilling	NA
	backfilled upon completion			Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Telephone: 630 953-9928
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BORING LOG VST-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.55 ft
North: 1897108.36 ft
East: 1171435.63 ft
Station: 7313+90.47
Offset: 2.00 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	--Equipment Slipped--	45		9	VS		
	--In-Situ Vane Shear, 46.5 feet-- $-S_{u\ undis}$ = 1070.2 psf-- $-S_{u\ remold}$ = 633.4 psf-- --Sensitivity = 1.7--			10	VS		
544.0	--In-Situ Vane Shear, 49.0 feet-- $-S_{u\ undis}$ = 1157.6 psf-- $-S_{u\ remold}$ = 611.6 psf-- --Sensitivity = 2.3--	50		11	VS		
	Boring terminated at 49.50 ft	55					
		60					

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-01-2015	Complete Drilling	12-01-2015	While Drilling	Rotary wash
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR [85%]	At Completion of Drilling	mud in the borehole
Driller	R&N	Logger	F. Bozga	Checked by	A. Kurnia
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring			Time After Drilling	NA
	backfilled upon completion			Depth to Water	NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Notes:
Boring Log 1729-VST-02 station and offset along ℄ Ramp WS is: Sta. 1229+56.59, Offset 6.13' Rt.
Boring Log VST-01 station and offset along ℄ Ramp WS is: Sta. 1230+49.00, Offset 41.45' Rt.

TranSystems

USER NAME = wjcolletti	DESIGNED - KRS	REVISED -	
	CHECKED - DJG	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

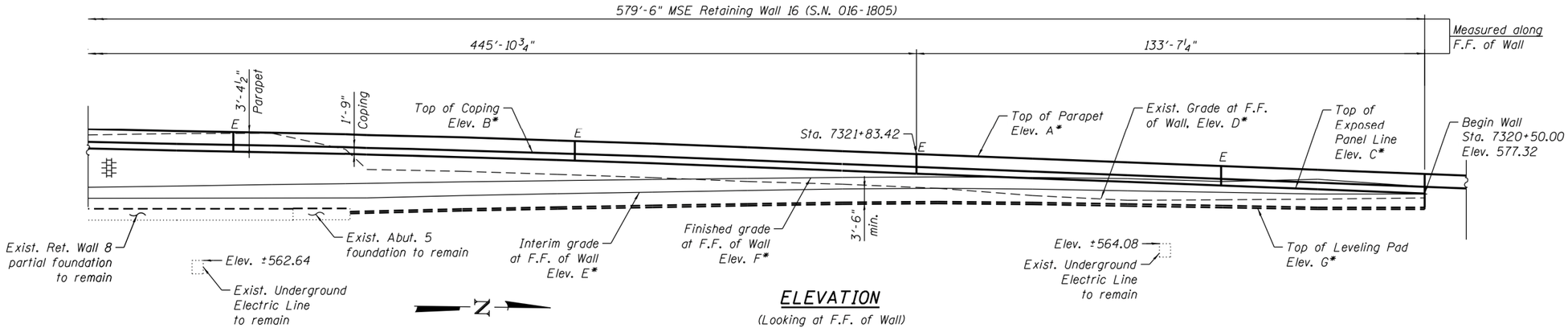
BORING LOGS 8
RETAINING WALL 14 (STRUCTURE NO. 016-1803)
SHEET NO. S6-22 OF S6-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1046
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

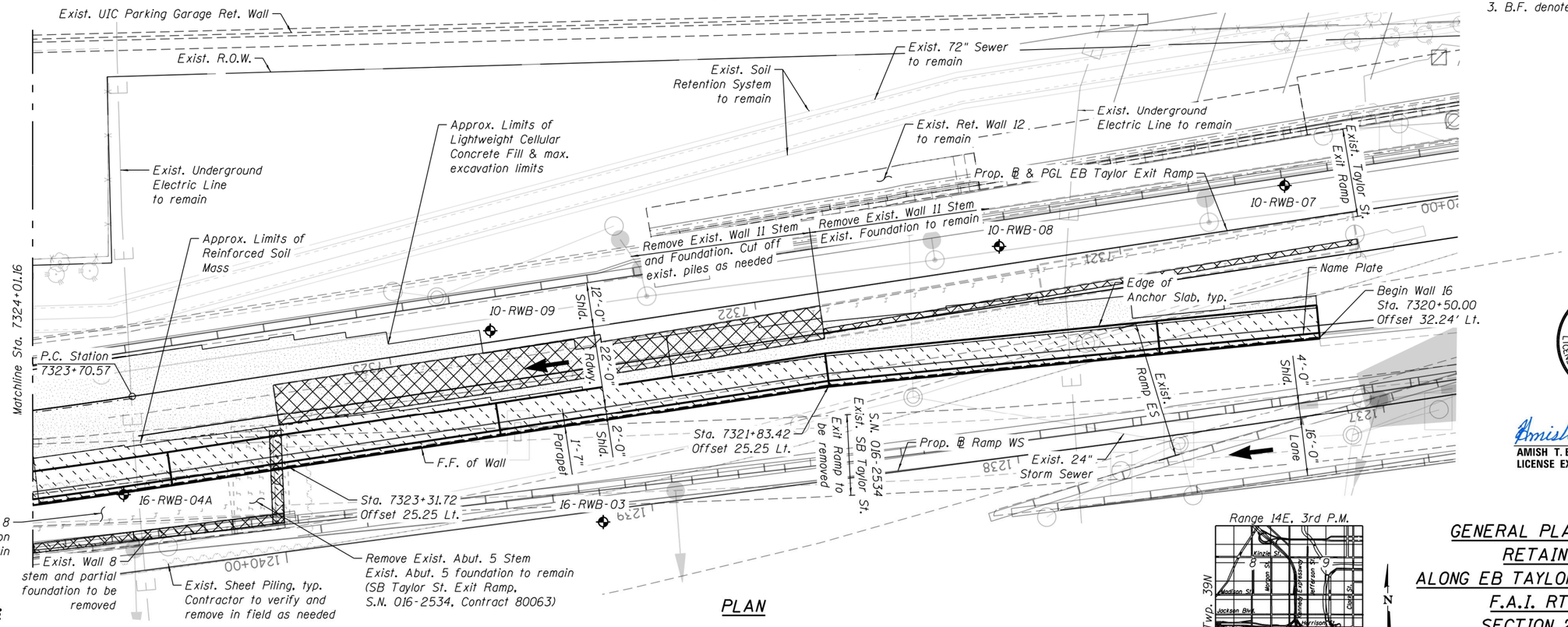
Bench Mark: Cut "X" on NE Bolt of Taylor St. on SW corner of Roosevelt and Union St. Elev. 593.36.

Existing Structure: S.N. 016-2534 was built in 1988 and carries traffic for Taylor St exit ramp from SB I-90/94. Exist. four span structure has an overall length of approx. 428'. The exist. superstructure consists of steel beams with 7 1/2" thick concrete deck. The exist. substructure consists of reinforced concrete high wall abutment and piers supported on steel pile foundation. Existing structure to be removed.
Exist. Cast-In-Place Ret. Wall 8 was built under two separate contracts in 1986 & 1987. Total length of the wall is approx. 282'-9" with max. height of 23'-11". Exist. wall is supported on steel H-pile foundation. Steel sheet piling used during wall construction was cut-off at the top of wall footing elev.
Exist. Cast-In-Place Ret. Wall 11 was built in 1987. Total length of wall is approx. 296'-4" with max. height of 10'-6". Wall is supported on steel H-piles.

Traffic Control: SB Taylor St. Exit Ramp Structure and EB Taylor St. Exit Ramp will be closed and traffic will be detoured during construction. Traffic along SB I-90/94 will be maintained.



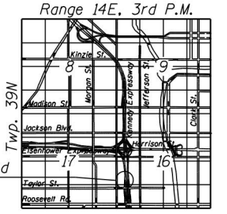
ELEVATION
(Looking at F.F. of Wall)



PLAN

LEGEND:

- Soil Boring Location
- W — Water Line
- E — Electric
- FO — Fiber Optic
- CTV — Television Line
- Combined Sewer
- Exist. Storm Sewer
- Proposed Storm Sewer
- G — Gas Line
- Fire Hydrant
- Light Pole
- Exist. HP Pile
- T — Telephone line
- E Expansion Joint
- Proposed Barrier
- Exist. Ret. Wall 8 & 11 and Exist. Abut. 5 Removal
- Lightweight Fill outside of Reinf. Soil Mass
- Aprox. limits of reinforced soil mass



LOCATION SKETCH

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi (Precast Panels)

* For Elevations, see Elevations Table on Sheets S7-08 thru S7-11.

NOTES:

1. Stations and offsets are measured along Prop. ℄ & PGL EB Taylor Exit Ramp to the front face the precast panels.
2. F.F. denotes Front Face.
3. B.F. denotes Back Face.

STATE OF ILLINOIS
AMISH T. BHATT
081-006249
LICENSED STRUCTURAL ENGINEER

Amish T. Bhatt 07/30/2018
AMISH T. BHATT — DATE
LICENSE EXPIRES 11/30/2018

GENERAL PLAN & ELEVATION I
RETAINING WALL 16
ALONG EB TAYLOR STREET EXIT RAMP
F.A.I. RTE. 90/94/290
SECTION 2014-013R&B-R
COOK COUNTY
STA. 7320+50.00 TO STA. 7326+25.98
STRUCTURE NO. 016-1805

AECOM

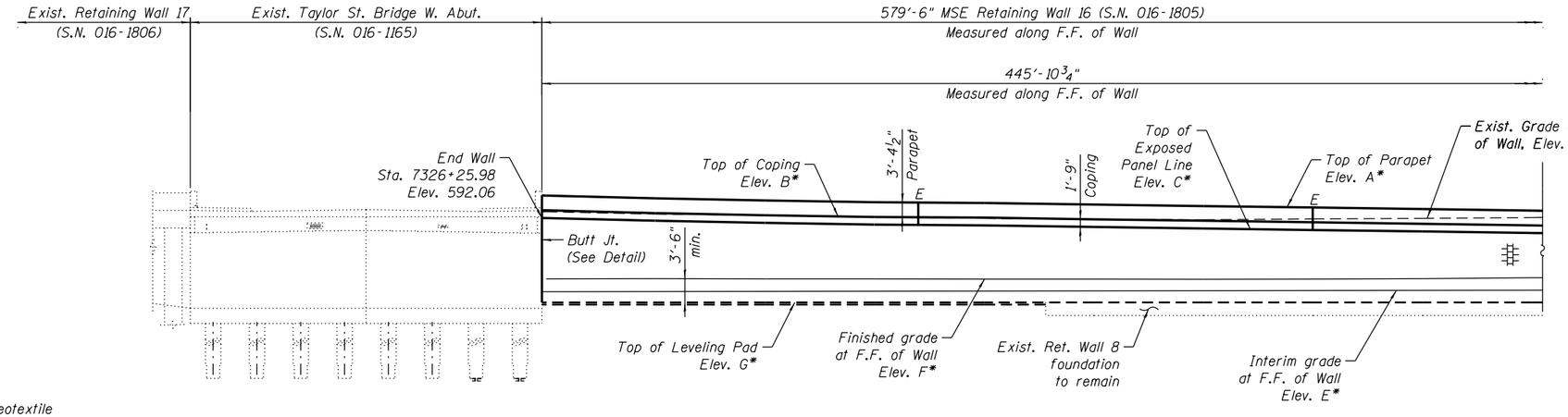
USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-01 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1047
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

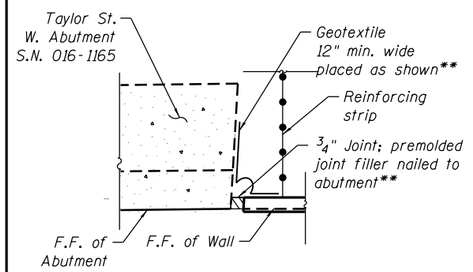
0161805-60X93-S7-01-GPE



* For Elevations, see Elevations Table on Sheets S7-08 thru S7-11.

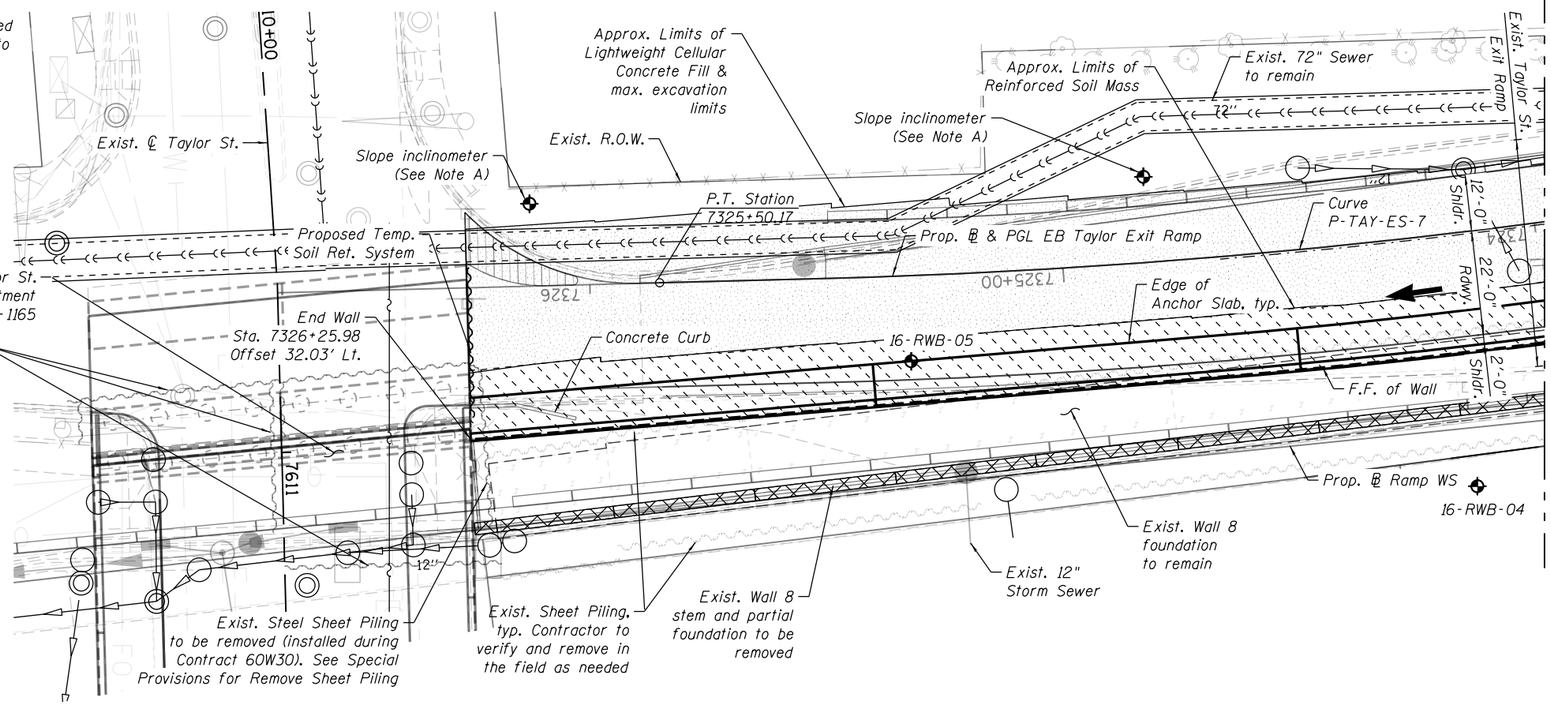
ELEVATION

(Looking at F.F. of Wall)



BUTT JOINT DETAIL

** Cost of Geotextile Fabric and Joint is included in cost of Mechanically Stabilized Earth Retaining Wall, Special.



PLAN

NOTE A:

In addition to vibration and displacement monitoring, the contractor shall monitor ground movements with slope inclinometers. Install Slope inclinometer at: Station 7324+81.67, offset 18.1' Rt. and Station 7326+12.30, offset 17.39' Rt . All Inclinometers shall be installed prior to excavation for MSE Wall. See special provision for Slope Inclinometers.

CURVE DATA

Prop. Curve P-TAY-ES-7
P.I. Sta. = 7324+60.48
Δ = 7° 04' 21" (Rt.)
D = 3° 56' 16"
R = 1,455.00'
T = 89.92'
L = 179.61'
E = 2.78'
e = 3.00%
T.R. = NA
S.E. Run = 25'
P.C. Sta. = 7323+70.57
P.T. Sta. = 7325+50.17
DS = 30

LEGEND:

- Soil Boring Location
- W — Water Line
- E — Electric
- FO — Fiber Optic
- CTV — Television Line
- Combined Sewer
- Exist. Storm Sewer
- Proposed Storm Sewer
- G — Gas Line
- Fire Hydrant
- Light Pole
- Exist. HP Pile
- T — Telephone Line
- E Expansion Joint
- Proposed Barrier

- Exist. Ret. Wall 8 & 11 and Exist. Abut. 5 Removal
- Lightweight Fill outside of Reinf. Soil Mass
- Aprox. limits of reinforced soil mass

NOTES:

1. Stations and offsets are measured along Prop. ℄ & PGL EB Taylor Exit Ramp to the front face of the precast panels.
2. F.F. denotes Front Face.
3. B.F. denotes Back Face.

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-02 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1048
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

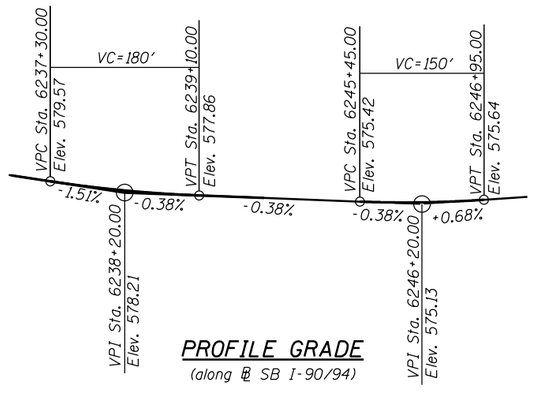
0161805-60X93-S7-02-GPE

GENERAL NOTES

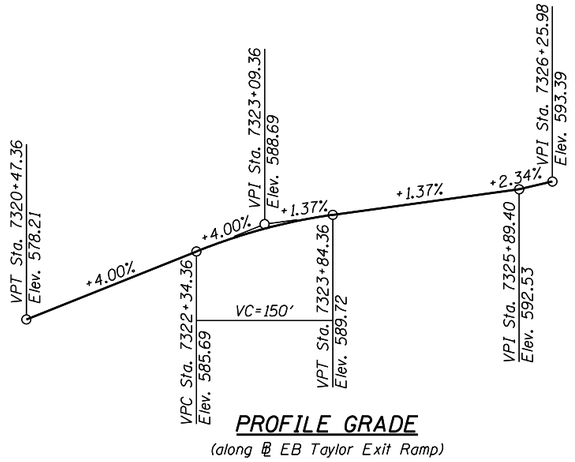
1. Stations and offsets for the wall are given from the ℄ EB Taylor St. Exit Ramp to the front face of the precast panels.
2. MSE Wall length measured along front face of the precast panels.
3. Reinforcement bars designated (E) shall be epoxy coated.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths per line.
5. Protective coat shall be applied to the designated surfaces of the Parapet and Anchor Slab.
6. Slip forming of the parapets is not allowed.
7. Plan dimensions and details relative to existing plans are subjected to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
8. Lightweight Cellular Concrete Fill shall be Class III (District I), see Special Provisions.
9. MSE Wall supplier shall design the MSE Wall using granular reinforced mass with minimum effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
10. Quantity for Lightweight Cellular Concrete Fill includes MSE Reinforced Soil Mass and fill area behind reinforced soil mass as shown in the cross sections; Type is specified as Class III (District I), See Special Provisions.
11. See Special Provision for Mechanically Stabilized Earth Retaining Wall, Special for design and construction requirements.
12. MSE Supplier to design load transfer systems to accommodate drainage structures. For drainage structure location, type and size, see Drainage Sheets.
13. The Contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other load applied to the structures will not have detrimental effects on the adjacent building foundations, utilities and retaining wall foundations. See Contract Special Provision for details.
14. The Contractor shall field verify location of existing utilities prior to construction. The Contractor shall take precautions not to damage existing utilities. Any such damage shall be repaired by the Contractor at no additional cost.
15. The contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/construction activities to satisfy these requirements. See Contract Special Provisions for details.
16. Earth Excavation beyond the limits of Structure Excavation shall be sloped as shown in the cross-sections. For Earth Excavation quantity see Civil sheets.
17. Concrete for Anchor Slab and Parapet shall be paid for as Concrete Superstructure.

TOTAL BILL OF MATERIAL

Description	Unit	Total
Structure Excavation	Cu Yd	3695
Removal of Existing Structures No. 3	Each	1
Removal of Existing Structures No. 4	Each	1
Removal of Existing Structures No. 5	Each	1
Concrete Superstructure	Cu Yd	338
Protective Coat	Sq Yd	771
Bridge Deck Grooving (Longitudinal)	Sq Yd	387
Reinforcement Bars, Epoxy Coated	Pound	49350
Mechanically Stabilized Earth Retaining Wall, Special	Sq Ft	7432
Lightweight Cellular Concrete Fill	Cu Yd	5618
Temporary Soil Retention System	Sq Ft	502
Name Plates	Each	1
Remove Sheet Piling	LSum	1
Protective Shield	Sq Yd	1686
Slope inclinometer	Each	2



PROFILE GRADE
(along ℄ SB I-90/94)



PROFILE GRADE
(along ℄ EB Taylor Exit Ramp)

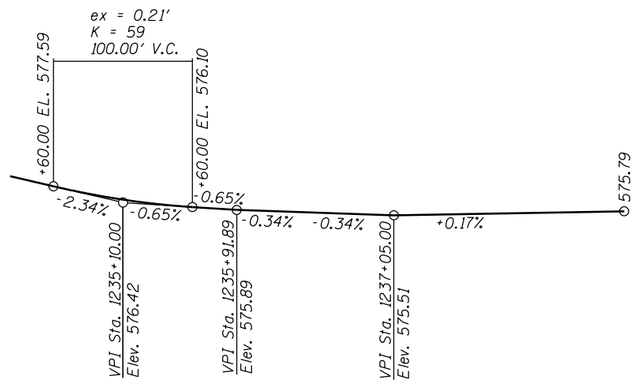
STATION 7320+50.00 TO 7326+25.98
BUILT BY
STATE OF ILLINOIS
F.A.I. RTE. 90/94/290 - SECTION 2014-013R&B-R
LOADING HL-93
STRUCTURE NO. 016-1805

NAME PLATE
See Std. 515001

INDEX OF SHEETS

SUGGESTED SEQUENCE OF CONSTRUCTION

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s).
2. Excavate for proposed MSE wall and remove Existing Wall 11 Stem and partially remove Foundation, as shown on removal sheets.
3. Remove existing SB Taylor St. Exit Ramp (S.N. 016-2534) and existing Abutment 5 Stem as shown.
4. Install proposed Soil Retention System along North side of W. Abut. of Taylor Street Bridge (S.N. 016-1165) and remove Existing Soil Retention System installed during Contract 60W30.
5. Excavate for proposed MSE wall and remove Existing Wall 8 stem as shown on removal sheets.
6. Construct proposed Retaining Wall 16, S.N. 016-1805.
7. Place lightweight cellular concrete fill.
8. Install Anchor Slab, Parapet and Roadway pavement.
9. Finish interim grading in front of the wall.
10. No portions of the wall shall be compromised by excavation for other elements of work. If the sequencing of work requires that the wall construction is staged, the stage line shall be located at a panel edge with any exposed lightweight fill protected from damage.



PROFILE GRADE
(along ℄ Ramp WS)

0161805-60X93-S7-03-Gen Notes.dgn

AECOM

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	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, TOTAL BILL OF MATERIALS AND INDEX OF SHEETS
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-03 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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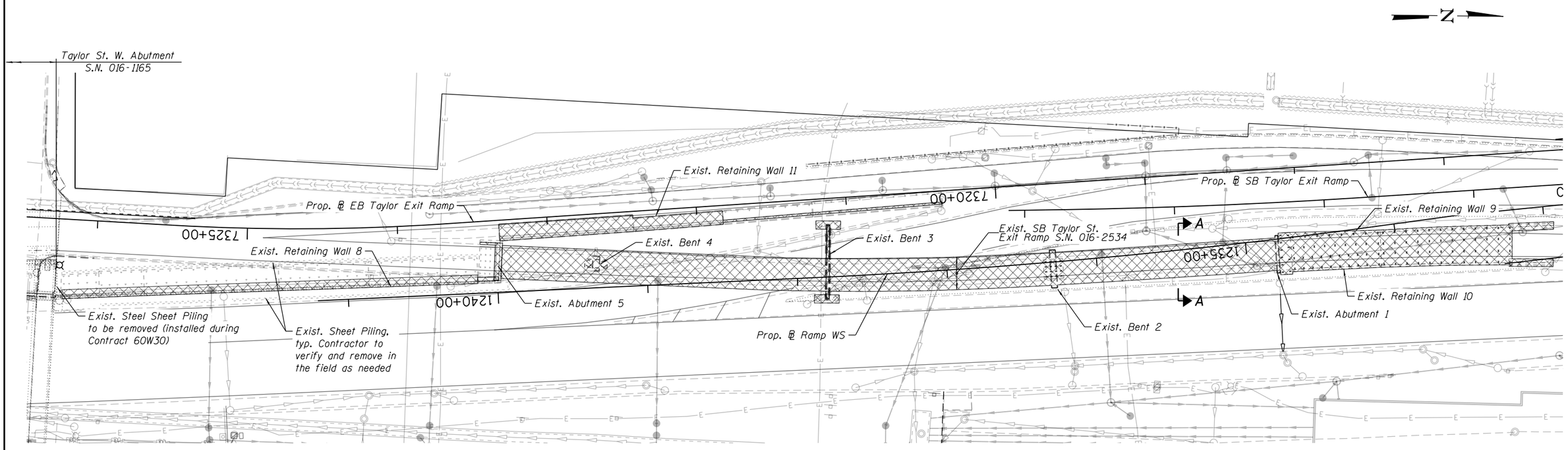
		CONTRACT NO. 60X93		
ILLINOIS	FED. AID PROJECT			



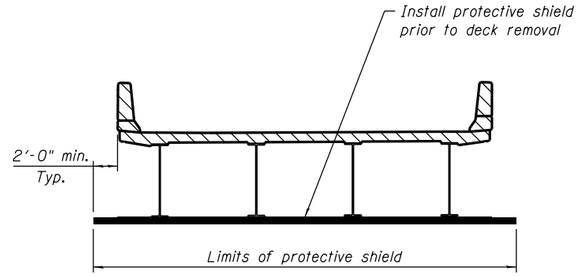
PLAN - EXISTING STRUCTURES REMOVAL

NOTES:

1. See Sheets S7-05 to S7-07 for additional existing structure removal details.
2. Removal of the existing SB I-90/94 to Taylor Street Exist Ramp structure (S.N. 016-2534) and the existing North approcah Retaining Wall 9 and 10 shall be per Special Provision for the See Removal of Existing Structures No. 3. See Table 1 for Minimum Removal Elevation at each substructure unit of existing Taylor Street Exit Ramp structure (S.N. 016-2534). See Sheet S7-05 for existing Abutment 5 removal details.
3. See Removal of Existing Structures No. 4 Special Provisions for the removal of the existing Retaining Wall 8 along SB I-90/94.
4. See Removal of Existing Structures No. 5 Special Provisions for the removal of the existing Retaining Wall 11 along East side of SB I-90/94 to Taylor Street Exit Ramp.
5. The Contractor shall install protective sheild system to protect travelling public from falling objects during the removal of existing S.N. 016-2534 (SB Taylor Street Exit Ramp). See Section A-A for the limits of Protective Shield.
6. See Remove Sheet Piling Special Provisions for the removal of the existing Steel Sheet Piling at North end of the West Abutment of Taylor Street Bridge (S.N. 016-1165).
7. Sheet piling left in place during the construction of Existing Retaining Wall 8 may be in conflict with proposed wall construction. Contractor shall verify in the field and remove sheet piling that is in conflicts with proposed wall construction. Cost shall be included with the Removal of Existing Structures No. 5.

EXISTING STRUCTURES REMOVAL ELEVATION TABLE

Exist. Structure	Minimum Removal Elev.
Retaining Wall 9	Bottom of Footing
Retaining Wall 10	Bottom of Footing
Abutment 1	±573.94
Bent 2	±571.69
Bent 3 West Column	±568.69
Bent 3 East Column	±568.69
Bent 4	±568.19



SECTION A-A

Note: Approximate length of the existing structure that requires Protective Shield is ±520'-0".

LEGEND:

- Exist. Structure Removal
- W — Water Line
- E — Electric
- Combined Sewer
- Exist. Storm Sewer
- Proposed Storm Sewer
- Light Pole
- Fire Hydrant

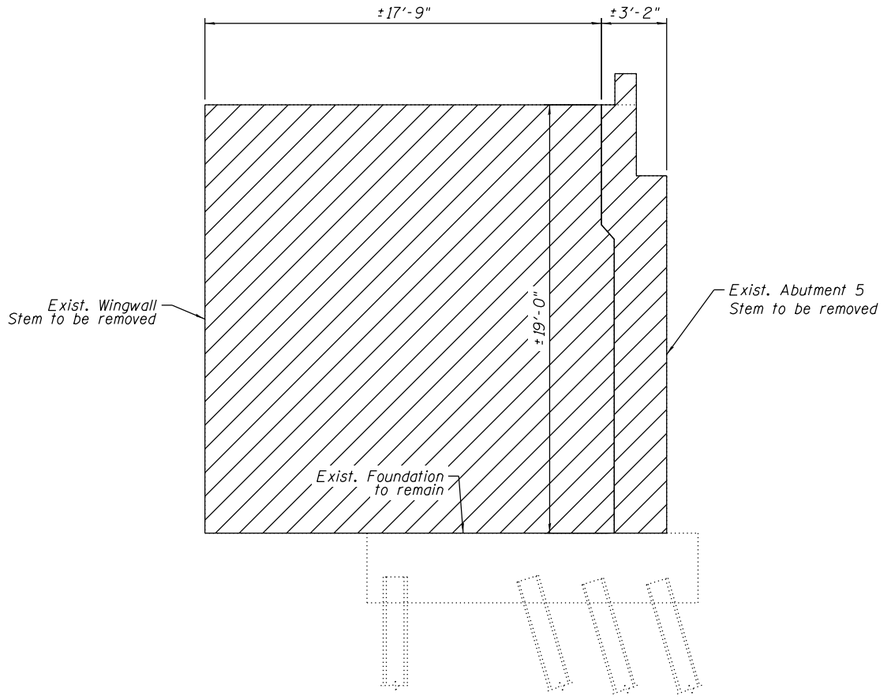
01618O5-60X93-S7-04-RemPlan.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	
		CHECKED - ATB	REVISED	
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
	PLOT DATE = 9/10/2018	CHECKED - ATB	REVISED	

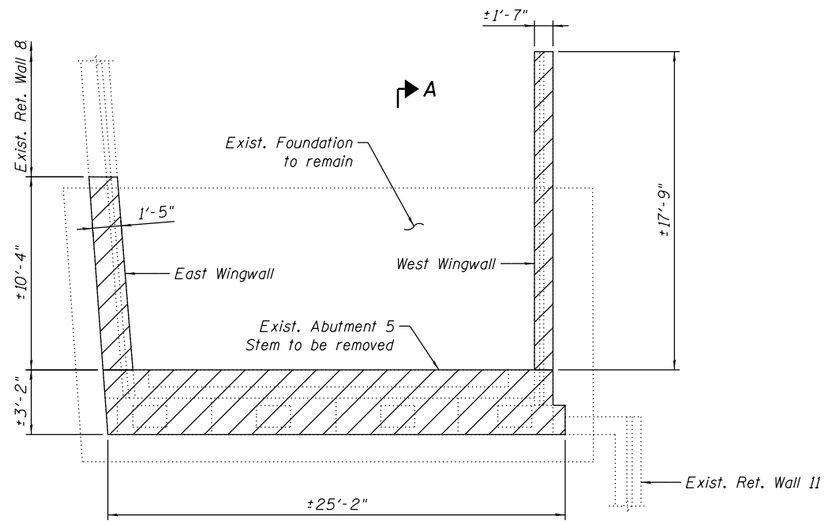
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURES REMOVAL I
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-04 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1050
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



SECTION A-A



PLAN - EXISTING ABUTMENT 5 STEM REMOVAL

NOTES:

1. Removal of Existing Abutment 5 and wingwalls as shown shall be included with removal of Existing SB Taylor Exit Ramp (S.N. 016-2534) as per special provisions for Removal of Existing Structures No. 3.
2. See Table 1 on Sheet S7-04 for Minimum Removal Elevation at each substructure unit of existing Taylor Street Exit Ramp structure (S.N. 016-2534), approach Retaining Wall 9 & 10.

LEGEND:

Removal of Existing Abutment 5 and Wingwall (stem only)

BILL OF MATERIAL

Item	Unit	Quantity
Removal of Existing Structures No. 3	Each	1

AECOM

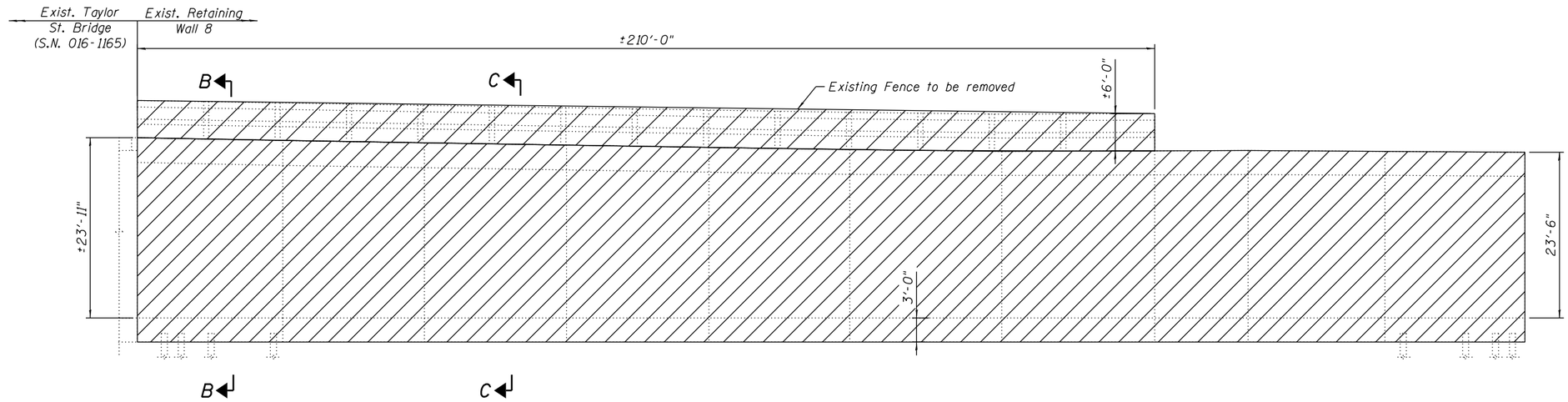
USER NAME = $USER	DESIGNED - MK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

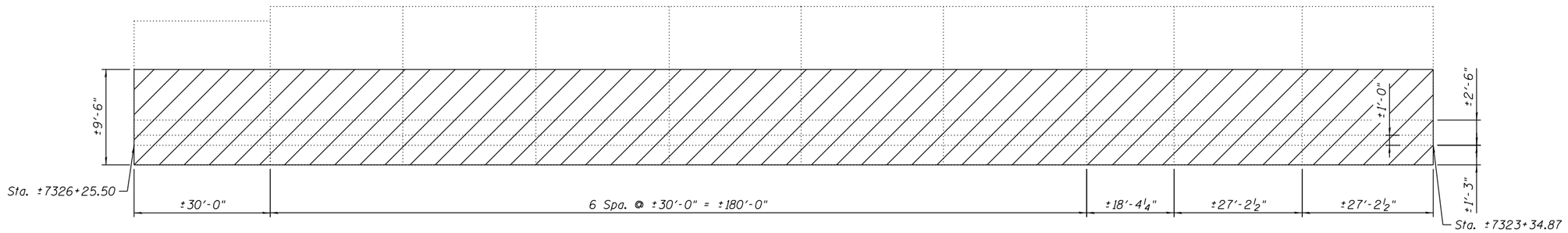
EXISTING STRUCTURES REMOVAL II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-05 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1051
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0161805-60X93-S7-05-ExistStr3.dgn

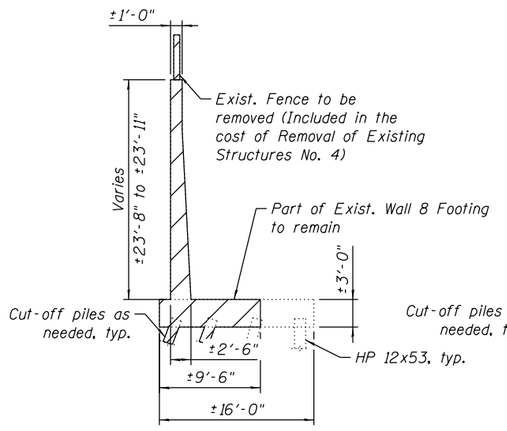


ELEVATION - EXISTING RETAINING WALL 8

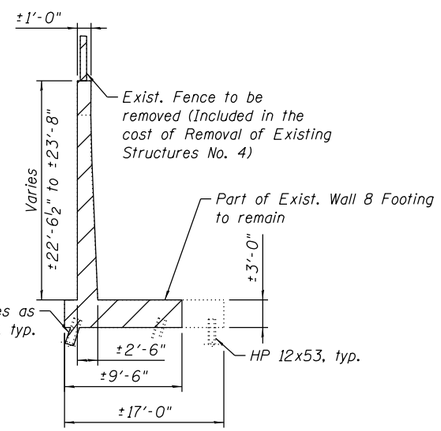


PLAN - EXISTING RETAINING WALL 8

(Piles not shown for clarity)



SECTION B-B



SECTION C-C

BILL OF MATERIAL

Item	Unit	Quantity
Removal of Existing Structures No. 4	Each	1

NOTES:

1. Removal of Existing Retaining Wall 8 shall be as per special provisions for Removal of Existing Structures No. 4.
2. Removal of Concrete Barrier in front of Existing Retaining Wall 8 is paid for separately. See Civil Plans.

LEGEND:

Removal of Existing Retaining Wall 8

0161805-60X93-S7-06-ExistStr4.dgn

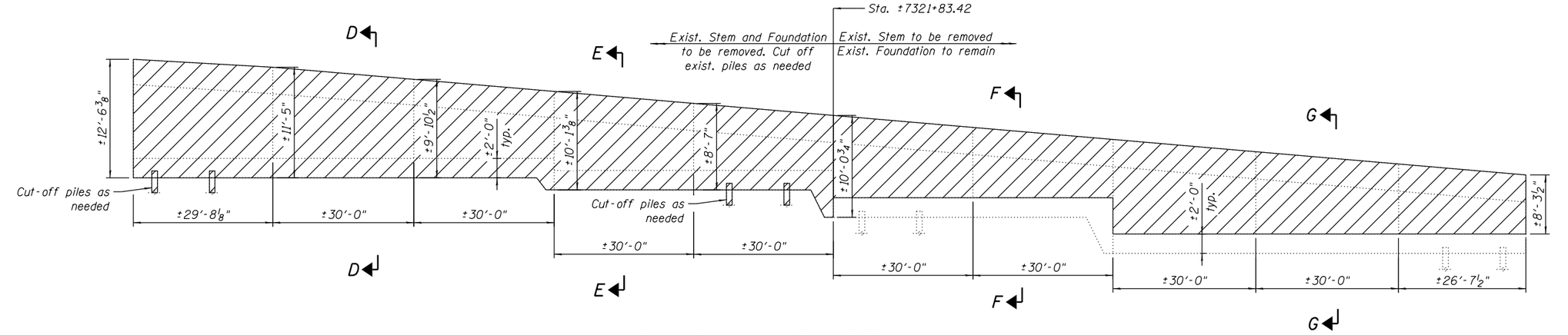
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

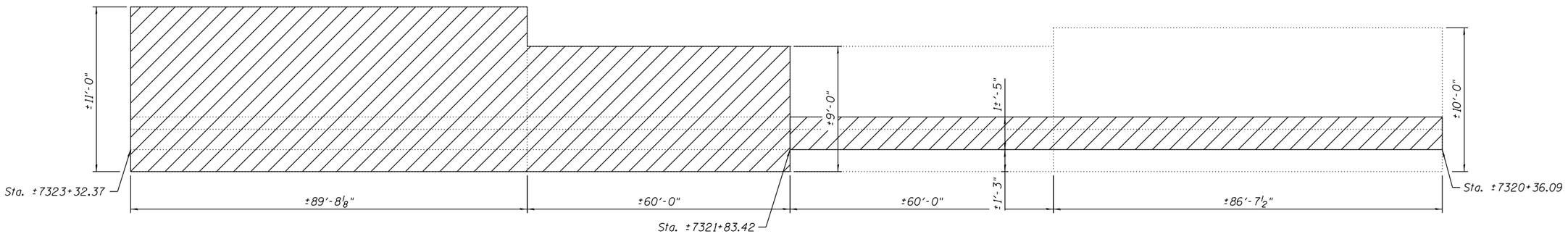
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURES REMOVAL III
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-06 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1052
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

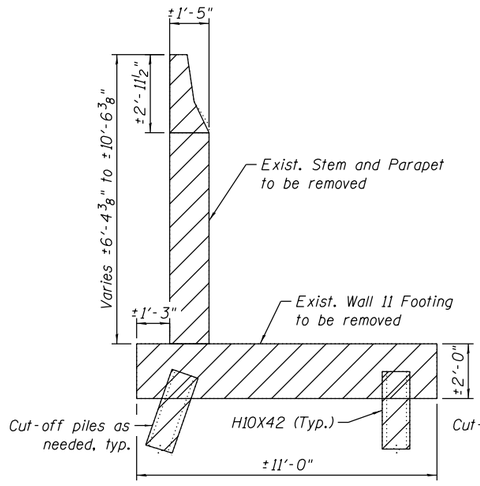


ELEVATION - EXISTING RETAINING WALL 11

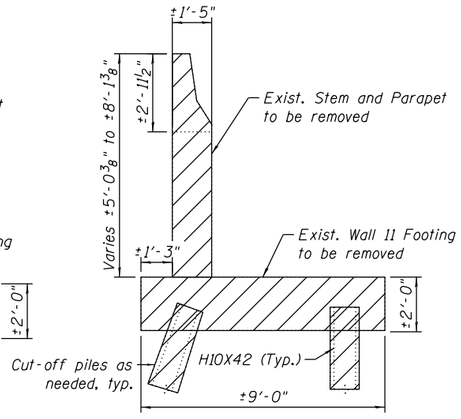


PLAN - EXISTING RETAINING WALL 11

(Piles not shown for clarity)



SECTION D-D



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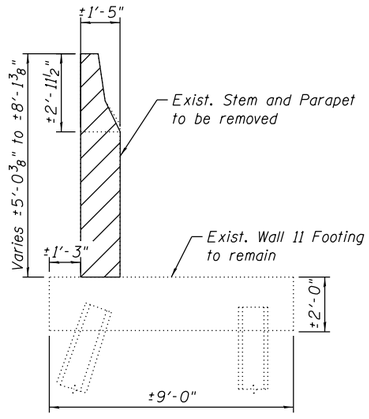
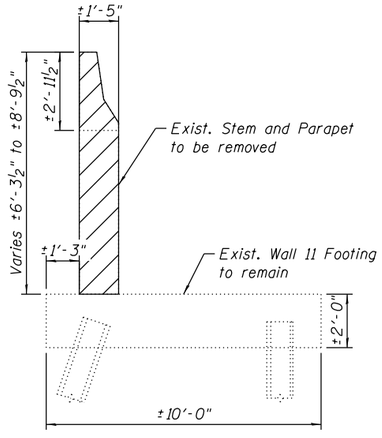


SECTION F-F



SECTION G-G

BILL OF MATERIAL

Item	Unit	Quantity
Removal of Existing Structures No. 5	Each	1

NOTES:

1. Removal of Existing Retaining Wall 11 shall be as per special provisions for Removal of Existing Structures No. 5.

LEGEND:

Removal of Existing Retaining Wall 11

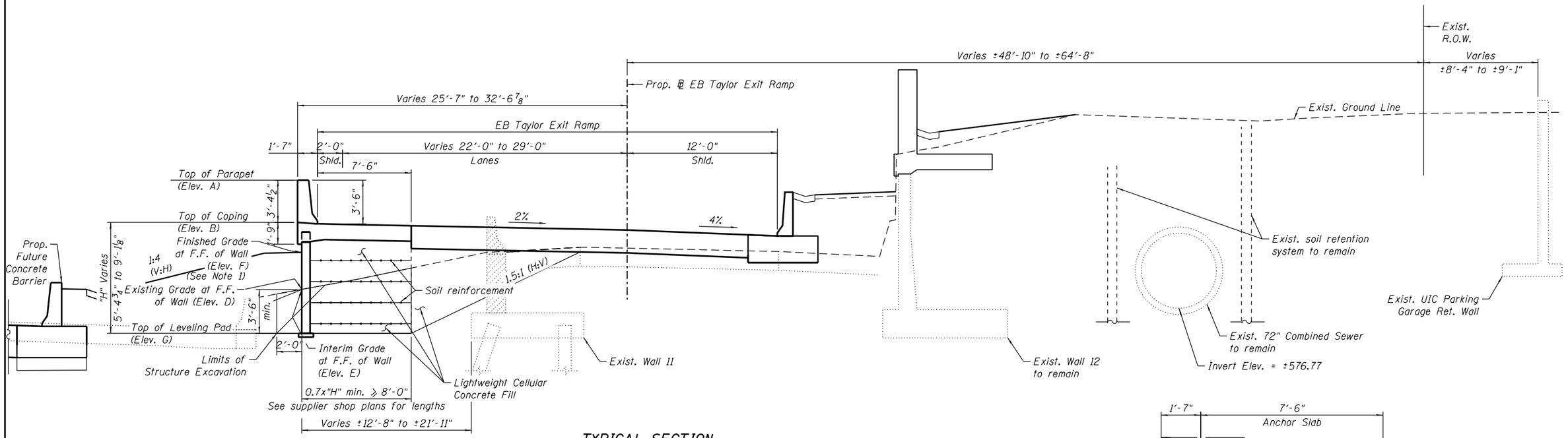
0161805-60X93-S7-07-ExistStr5.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

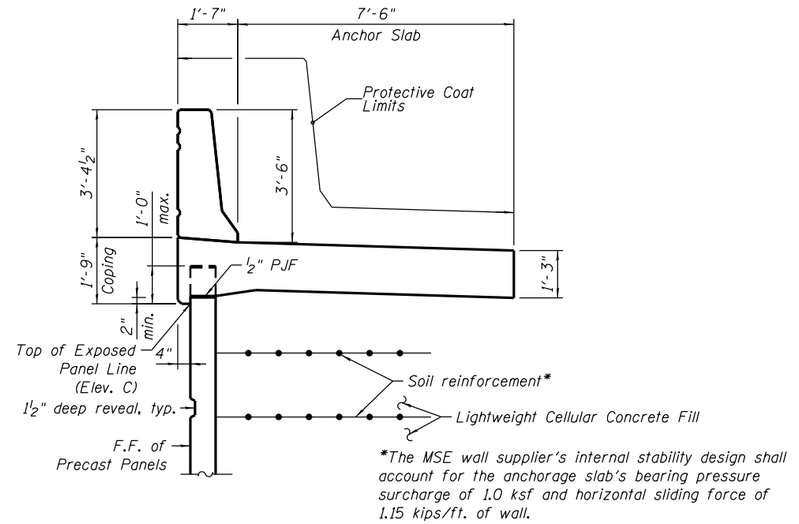
EXISTING STRUCTURES REMOVAL IV
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-07 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1053
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION

(Sta. 7320+50.00 to Sta. 7321+83.42)
(Looking Upstation)



SECTION THRU PARAPET AND ANCHORAGE SLAB

(Looking Upstation)

ELEVATION TABLE

Wall Type	Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
MSE	7320+50.00	32.24 Lt.	582.44	579.07	577.32	575.97	578.15	578.80	573.67
MSE	7320+75.00	30.93 Lt.	583.41	580.04	578.29	575.74	577.68	579.45	574.18
MSE	7321+00.00	29.62 Lt.	584.38	581.01	579.26	575.55	577.78	580.61	574.28
MSE	7321+25.00	28.31 Lt.	585.36	581.99	580.24	575.41	578.18	580.95	574.68
MSE	7321+50.00	27.00 Lt.	586.33	582.96	581.21	577.25	578.59	581.26	575.09
MSE	7321+75.00	25.69 Lt.	587.30	583.93	582.18	578.63	578.82	581.61	575.32
MSE	7321+83.42	25.25 Lt.	587.64	584.27	582.52	578.90	578.67	581.49	575.17

Elevation A - Top of Parapet
Elevation B - Top of Coping
Elevation C - Top of Exposed Panel Line
Elevation D - Existing Grade at F.F. of Wall
Elevation E - Interim Grade at F.F. of Wall
Elevation F - Finished Grade at F.F. of Wall
Elevation G - Top of Leveling Pad

NOTES:

1. Earth Excavation beyond the limits of Structure Excavation shall be sloped as shown in the cross-sections. For Earth Excavation quantity see Civil sheets.
2. MSE reinforced soil mass and area behind reinforced soil mass, as shown in the cross-section, shall be backfilled with Lightweight Cellular Concrete Fill.

LEGEND:

Removal of Existing Wall 11

Limits of Structure Excavation

0161805-60X93-S7-08-TypSect1

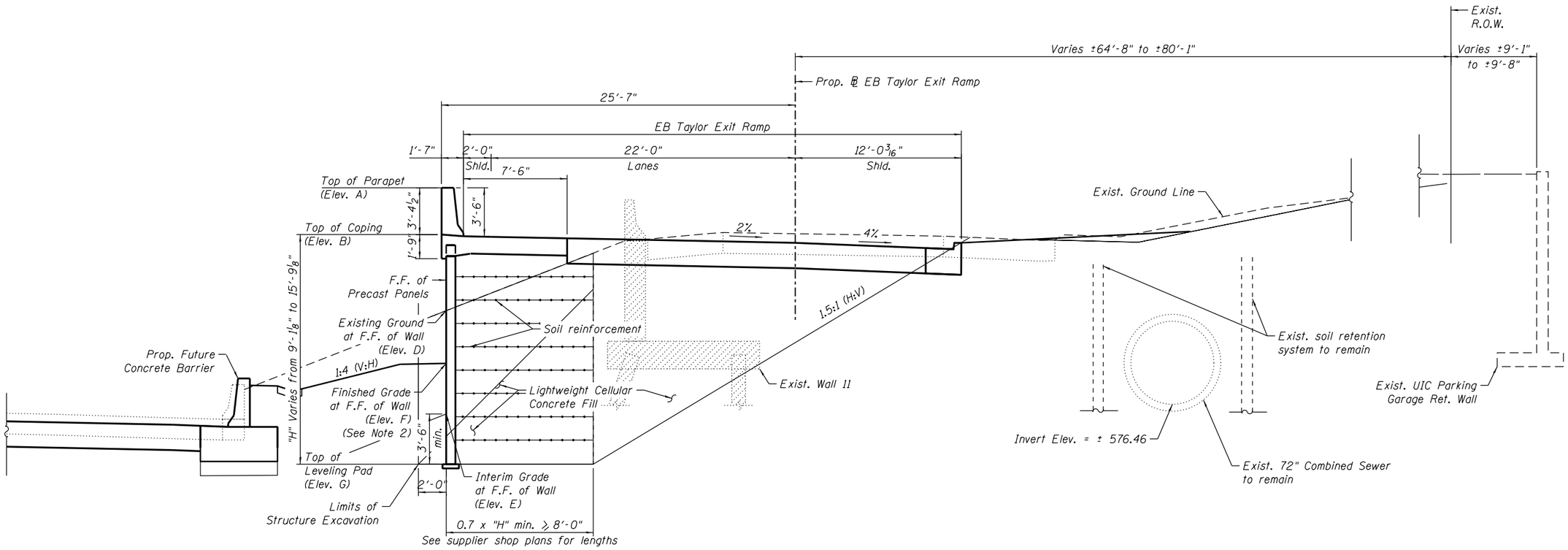
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION I
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-08 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1054
		CONTRACT NO. 60X93		
ILLINOIS	FED. AID PROJECT			



TYPICAL SECTION

(Sta. 7321+83.42 to Sta. 7323+11.00)
(Looking Upstation)

ELEVATION TABLE

Wall Type	Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
MSE	7321+83.42	25.25 Lt.	587.64	584.27	582.52	578.90	578.67	581.49	575.17
MSE	7322+00.00	25.25 Lt.	588.30	584.93	583.18	579.35	578.64	581.31	575.14
MSE	7322+25.00	25.25 Lt.	589.30	585.93	584.18	581.98	578.25	580.99	574.75
MSE	7322+50.00	25.25 Lt.	590.27	586.90	585.15	579.87	577.83	580.66	574.33
MSE	7322+75.00	25.25 Lt.	591.15	587.78	586.03	580.49	578.03	580.34	573.94
MSE	7323+00.00	25.25 Lt.	591.92	588.55	586.80	581.77	578.22	579.99	573.39
MSE	7323+11.00	25.25 Lt.	592.22	588.85	587.10	585.30	578.30	579.92	573.08

Elevation A - Top of Parapet
Elevation B - Top of Coping
Elevation C - Top of Exposed Panel Line
Elevation D - Existing Grade at F.F. of Wall
Elevation E - Interim Grade at F.F. of Wall
Elevation F - Finished Grade at F.F. of Wall
Elevation G - Top of Leveling Pad

LEGEND:

Removal of Existing Wall 11

Limits of Structure Excavation

NOTES:

1. For Section thru Parapet and Anchorage Slab, see Sheet S7-08
2. Earth Excavation beyond the limits of Structure Excavation shall be sloped as shown in the cross-sections. For Earth Excavation quantity see Civil sheets.
3. MSE reinforced soil mass and area behind reinforced soil mass, as shown in the cross-section, shall be backfilled with Lightweight Cellular Concrete Fill.

0161805-60X93-S7-09-TypSect2

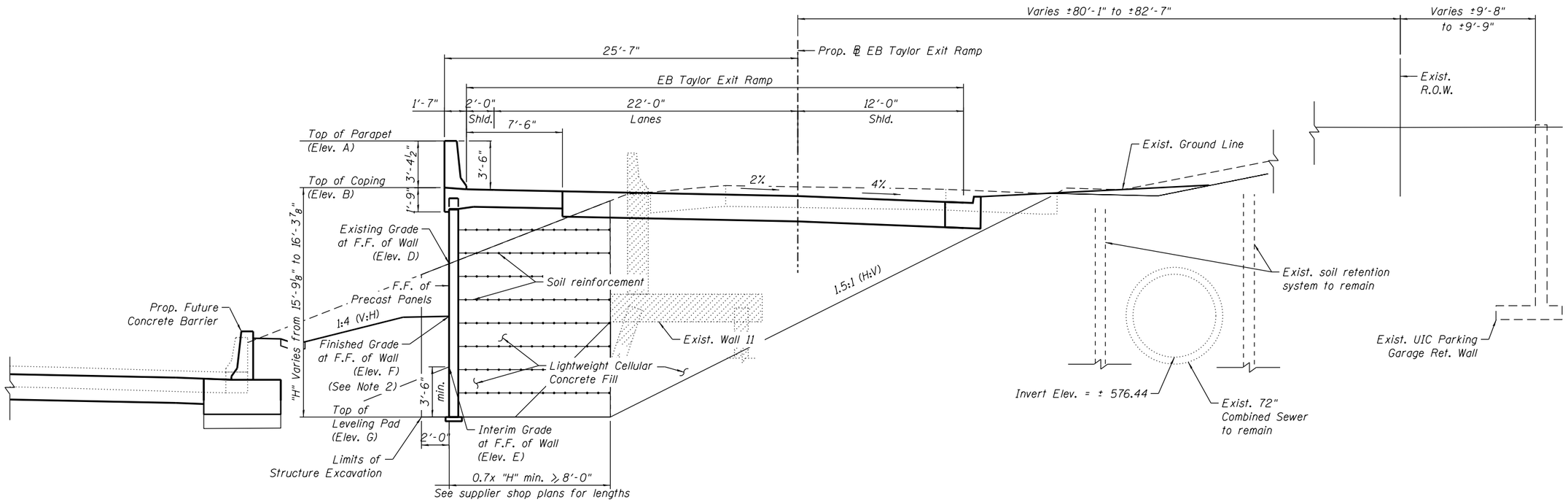
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-09 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1055
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION

(Sta. 7323+11.00 to Sta. 7323+31.72)
(Looking Upstation)

ELEVATION TABLE

Wall Type	Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
MSE	7323+11.00	25.25 Lt.	592.22	588.85	587.10	585.30	578.30	579.92	573.08
MSE	7323+25.00	25.25 Lt.	592.57	589.20	587.45	587.72	578.41	579.58	572.87
MSE	7323+31.72	25.25 Lt.	592.73	589.36	587.61	588.30	578.46	579.55	573.31

Elevation A - Top of Parapet
Elevation B - Top of Coping
Elevation C - Top of Exposed Panel Line
Elevation D - Existing Grade at F.F. of Wall
Elevation E - Interim Grade at F.F. of Wall
Elevation F - Finished Grade at F.F. of Wall
Elevation G - Top of Leveling Pad

LEGEND:

Removal of Existing Wall 11

Limits of Structure Excavation

NOTES:

1. For Section thru Parapet and Anchorage Slab, see Sheet S7-08.
2. Earth Excavation beyond the limits of Structure Excavation shall be sloped as shown in the cross-sections. For Earth Excavation quantity see Civil sheets.
3. MSE reinforced soil mass and area behind reinforced soil mass, as shown in the cross-section, shall be backfilled with Lightweight Cellular Concrete Fill.

0161805-60X93-S7-10-TypSect3

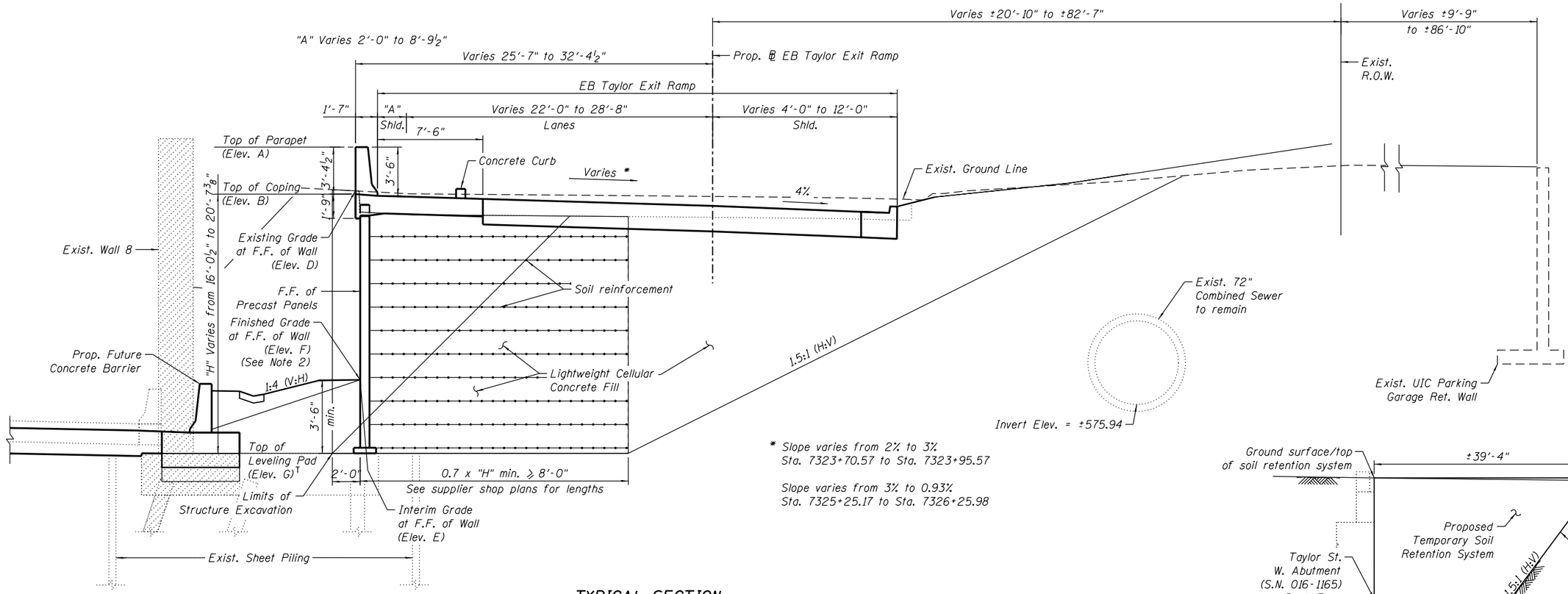
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION III
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-10 OF S7-26 SHEETS

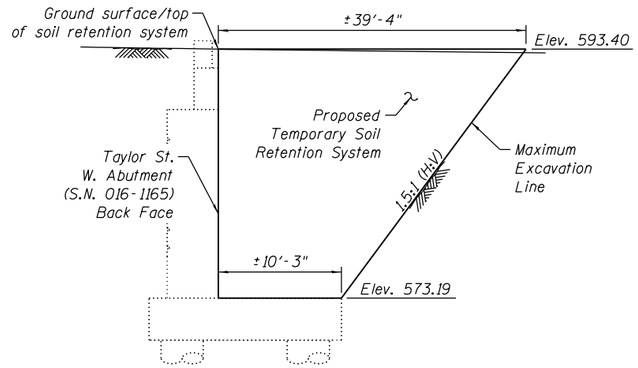
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1056
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION

(Sta. 7323+31.72 to Sta. 7326+25.98)
(Looking Upstation)

T From Sta. 7323+31.72 to Sta. 7325+11.88 MSE Precast Panels are supported on the existing Ret. Wall 8 footing.



TEMPORARY SOIL RETENTION SYSTEM

ELEVATION TABLE

Wall Type	Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
MSE	7323+31.72	25.25 Lt.	592.73	589.36	587.61	588.30	578.46	579.55	573.31
MSE	7323+50.00	25.25 Lt.	593.12	589.75	588.00	594.09	578.05	579.18	573.19
MSE	7323+75.00	25.25 Lt.	593.61	590.24	588.49	592.94	577.48	578.79	573.19
MSE	7324+00.00	25.25 Lt.	594.15	590.78	589.03	592.54	577.01	578.45	573.19
MSE	7324+25.00	25.25 Lt.	594.50	591.13	589.38	592.90	576.73	578.24	573.19
MSE	7324+50.00	25.25 Lt.	594.84	591.47	589.72	592.23	576.60	578.11	573.19
MSE	7324+75.00	25.27 Lt.	595.18	591.81	590.06	592.03	576.66	578.10	573.19
MSE	7325+00.00	25.64 Lt.	595.54	592.17	590.42	592.14	576.84	578.12	573.19
MSE	7325+25.00	26.44 Lt.	595.90	592.53	590.78	592.34	577.03	578.14	573.19
MSE	7325+50.00	27.67 Lt.	596.15	592.78	591.03	592.70	577.22	578.15	573.19
MSE	7325+75.00	29.11 Lt.	596.38	593.01	591.26	578.65	577.40	578.17	573.19
MSE	7326+00.00	30.54 Lt.	596.71	593.34	591.59	593.33	577.58	578.18	573.19
MSE	7326+25.00	31.98 Lt.	597.16	593.79	592.04	593.87	577.74	578.18	573.19
MSE	7326+25.98	32.03 Lt.	597.18	593.81	592.06	593.84	577.75	578.17	573.19

Elevation A - Top of Parapet
Elevation B - Top of Coping
Elevation C - Top of Exposed Panel Line
Elevation D - Existing Grade at F.F. of Wall
Elevation E - Interim Grade at F.F. of Wall
Elevation F - Finished Grade at F.F. of Wall
Elevation G - Top of Leveling Pad

NOTES:

1. For Section thru Parapet and Anchorage Slab, see Sheet S7-08.
2. Earth Excavation beyond the limits of Structure Excavation shall be sloped as shown in the cross-sections. For Earth Excavation quantity see Civil sheets.
3. MSE reinforced soil mass and area behind reinforced soil mass, as shown in the cross-section, shall be backfilled with Lightweight Cellular Concrete Fill.
4. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
5. Temporary Soil Retention System shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of Temporary Soil Retention System shall be submitted to the Engineer for approval prior to their use. If vibratory equipment utilized, the Contractor shall also submit documentation regarding the operating noise levels and operating vibration characteristics of the equipment proposed. The approval of the equipment and procedure by the Engineer does not guarantee the performance in the field of the equipment will be acceptable. All provisions and requirements required under Constrction Vibration Monitoring, Monitoing Adjacent Structures and Noise Compliance shall apply to work performed under this item. The costs incurred finding suitable equipment and procedures shall be included in the cost of Temporary Soil Retention System. No additional costs shall be paid for this effort.

BILL OF MATERIAL

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	502

LEGEND:

Removal of Existing Wall 8

Limits of Structure Excavation

0161805-60X93-S7-11-TypSect4

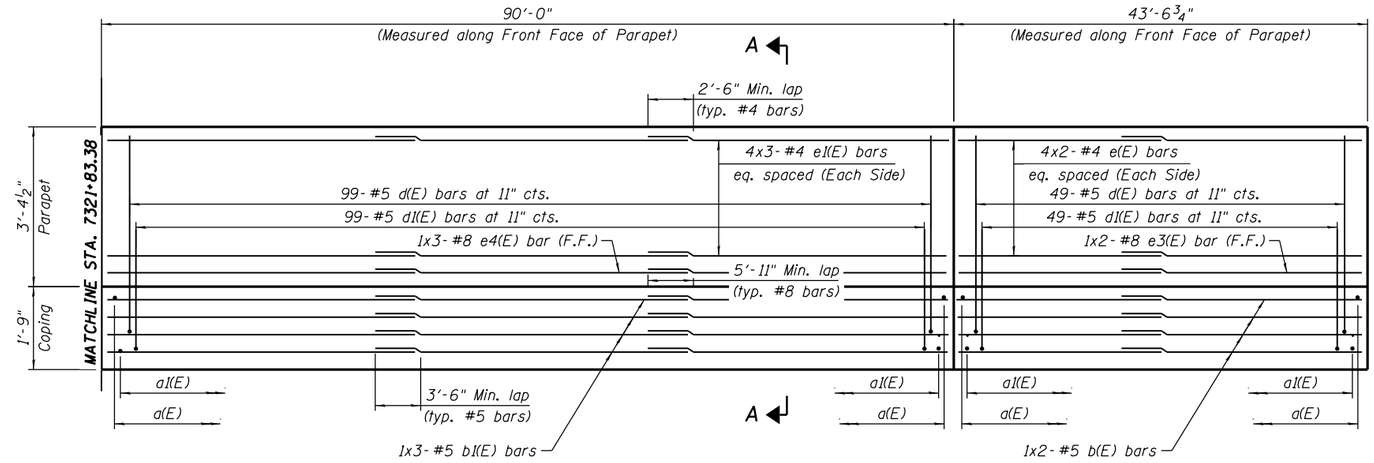
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

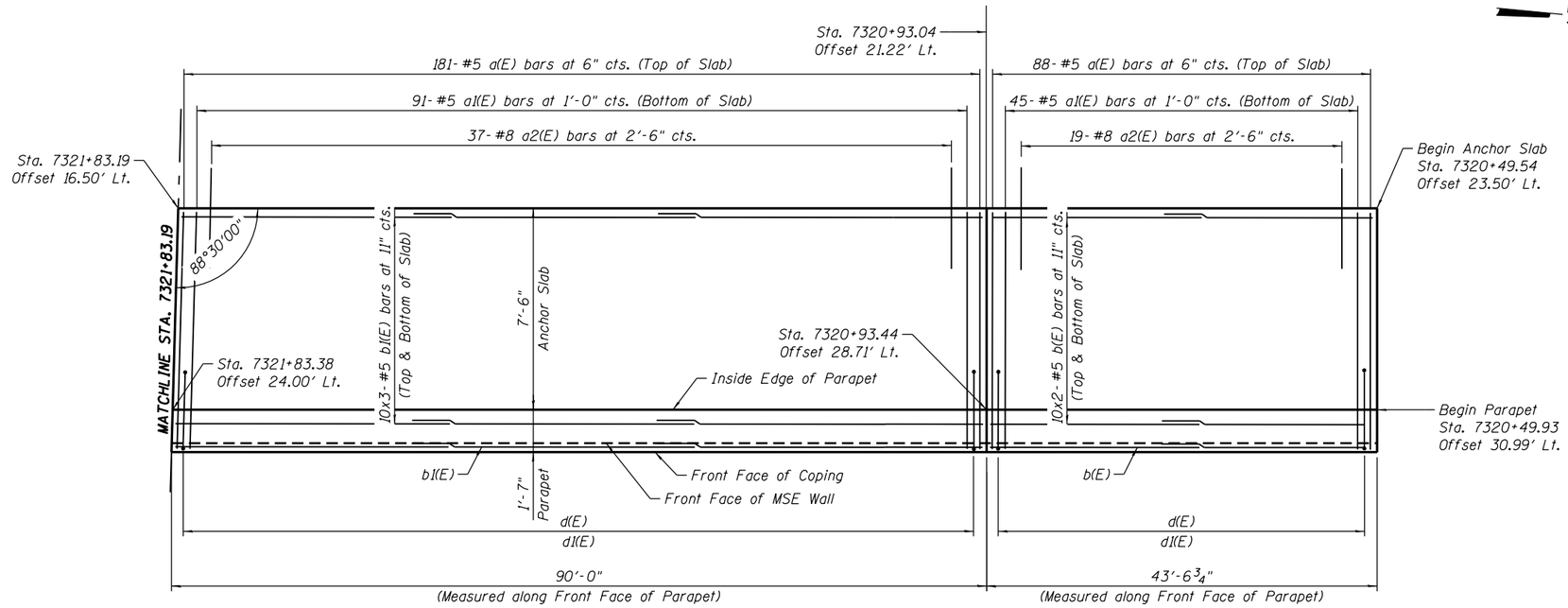
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION IV
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-11 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1057
		CONTRACT NO. 60X93		
ILLINOIS FED. AID PROJECT				



OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHOR SLAB

NOTES:

1. For Wall Elevations and Typical Section, see Sheet S7-08.
2. For Section A-A & Bill of Material, see Sheet S7-16.

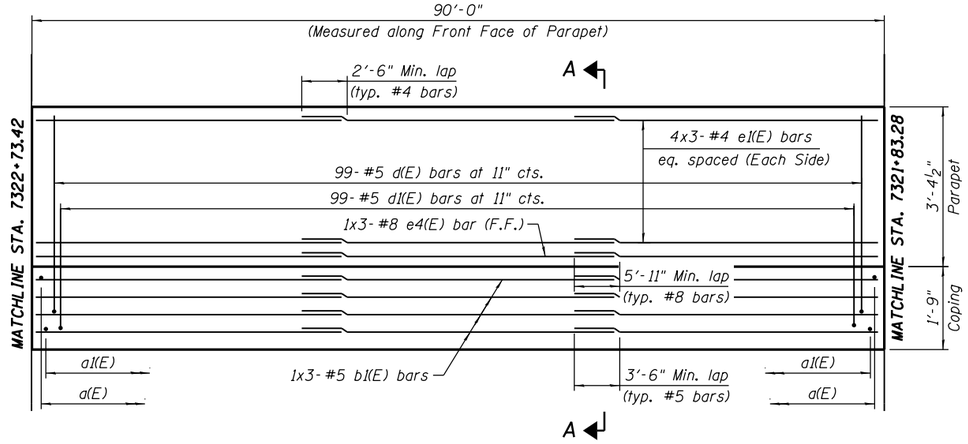
0161805-60X93-S7-12-Parapet-1.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

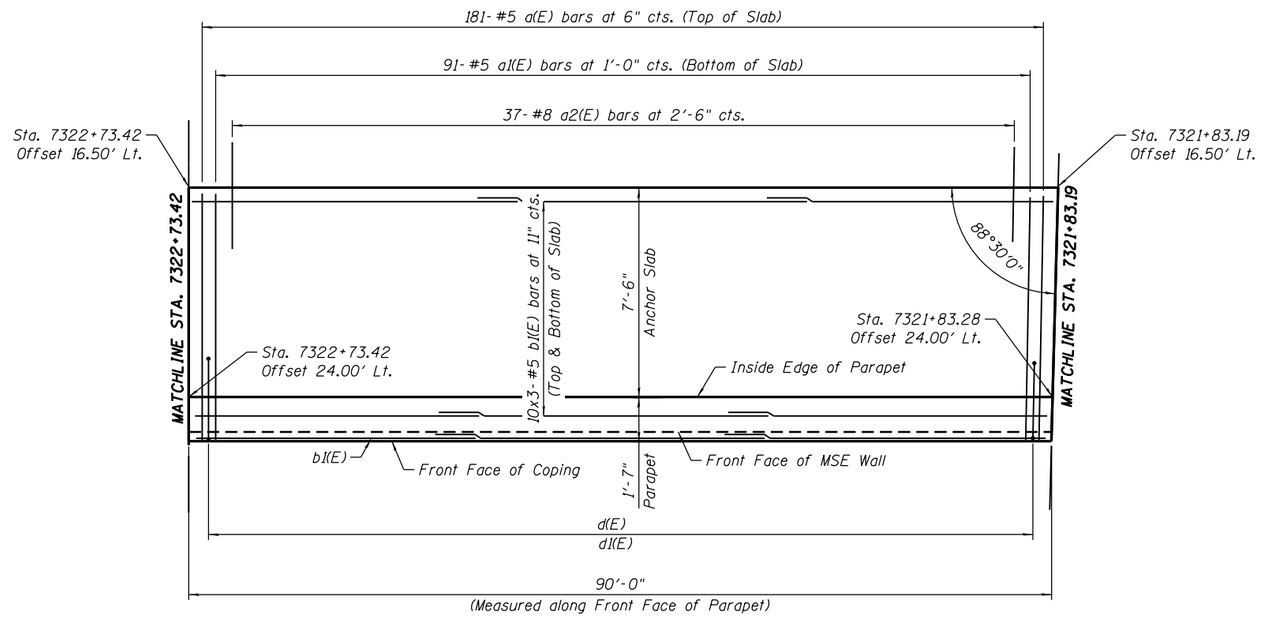
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHOR SLAB I
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-12 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1058
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		



OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHOR SLAB

N

NOTES:

1. For Wall Elevations and Typical section see Sheet S7-09.
2. For Section A-A & Bill of Material, see Sheet S7-16.

0161805-60X93-S7-13-Parapet-2.dgn

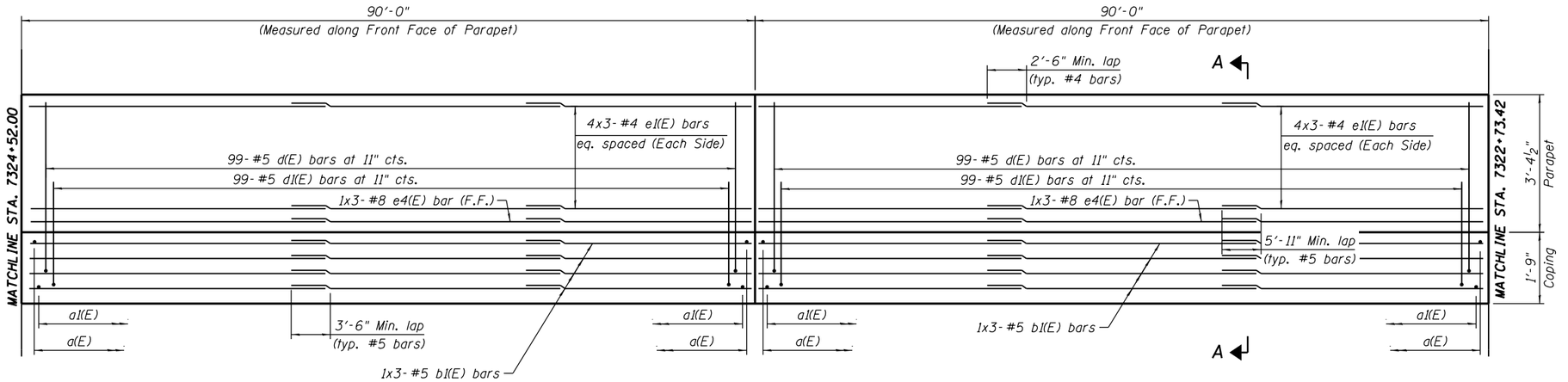
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

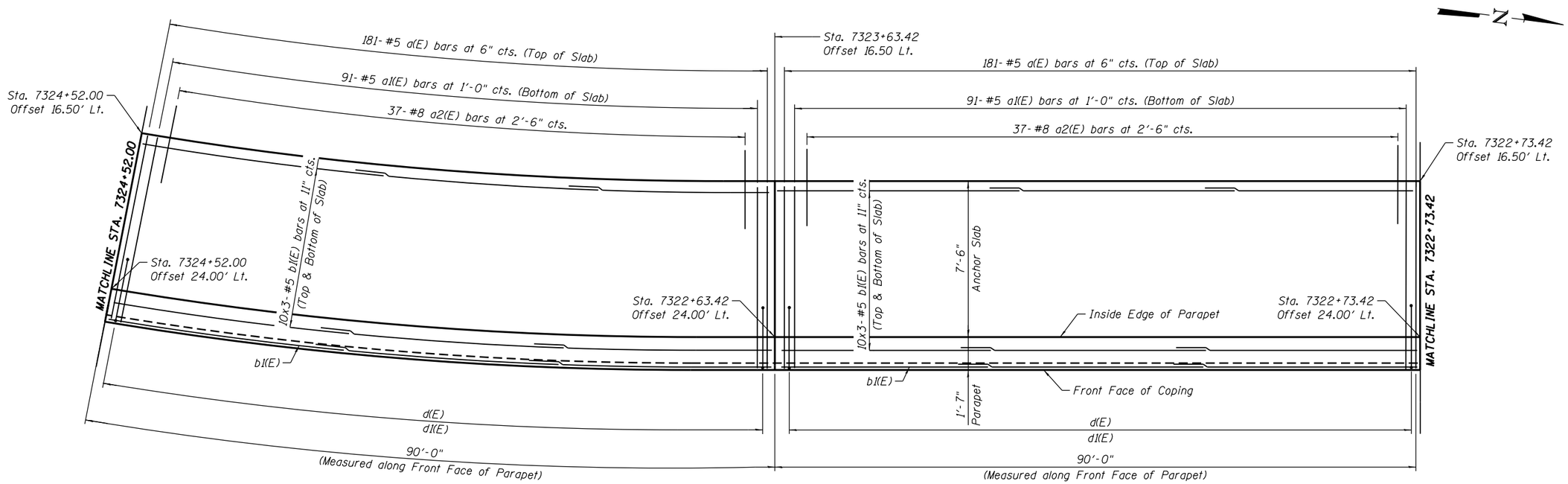
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHOR SLAB II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-13 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1059
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		



OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHOR SLAB

NOTES:

1. For Wall Elevations and Typical sections see Sheets S7-09 thru S7-11.
2. For Section A-A & Bill of Material, see Sheet S7-16.

0161805-60X93-S7-14-Parapet-3.dgn

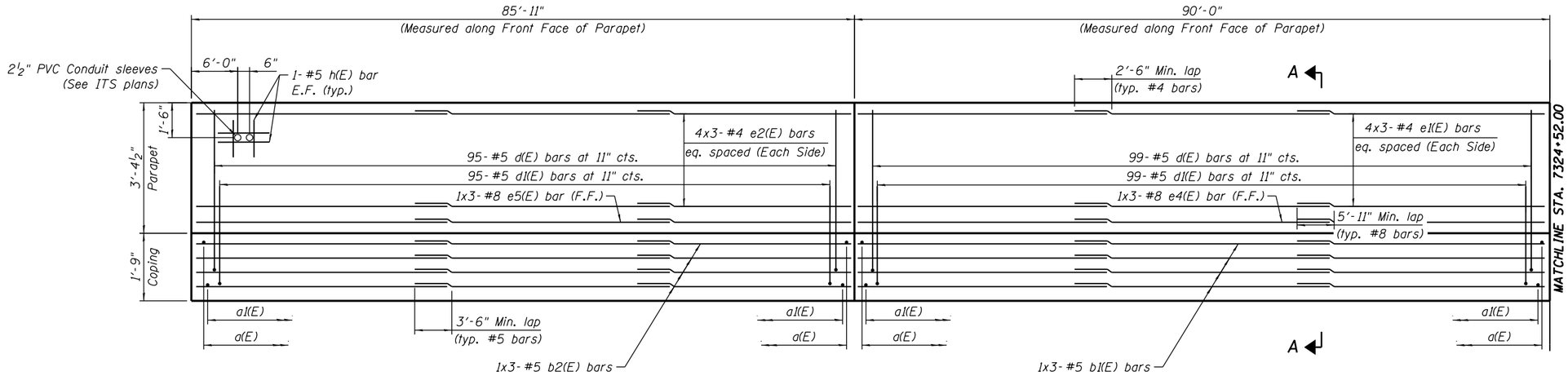
AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

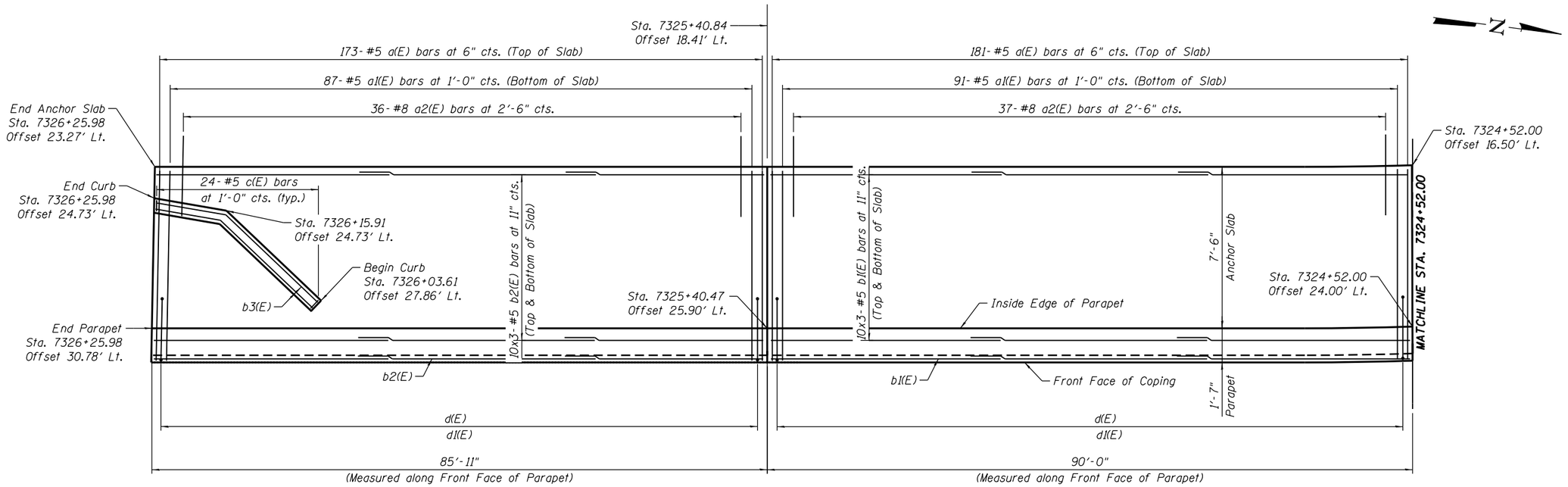
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHOR SLAB III
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-14 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1060
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHOR SLAB

NOTES:

1. For Wall Elevations and Typical section, see Sheet S7-11.
2. For Section A-A & Bill of Material, see Sheet S7-16.

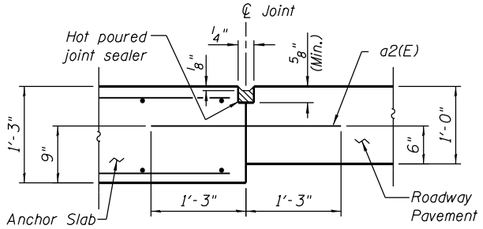
0161805-60X93-S7-15-Parapet-4.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - GF	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

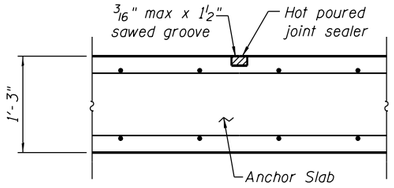
PARAPET AND ANCHOR SLAB IV
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-15 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1061
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



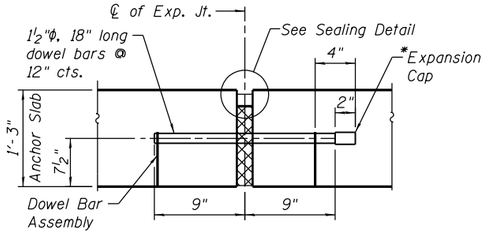
LONGITUDINAL CONSTRUCTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications



TRANSVERSE CONTRACTION JOINT

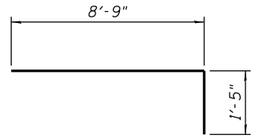
See Article 420.05 & 420.12 of the Standard Specifications



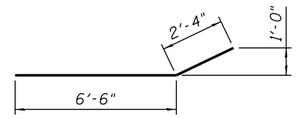
ANCHOR SLAB TO ANCHOR SLAB TRANSVERSE EXPANSION JOINT

(Expansion Joint filler, sealer, Dowel Bars, Dowel Bar Assembly, and Expansion Caps included in cost of Concrete Superstructure)

* Expansion Caps shall be installed on the exposed end of each dowel bar once header has been removed and the joint filler material has been installed.



BAR a(E)



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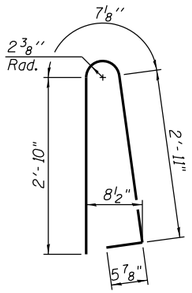
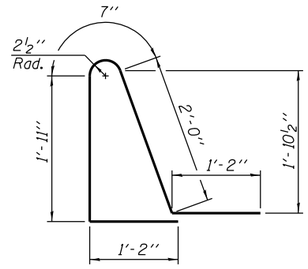
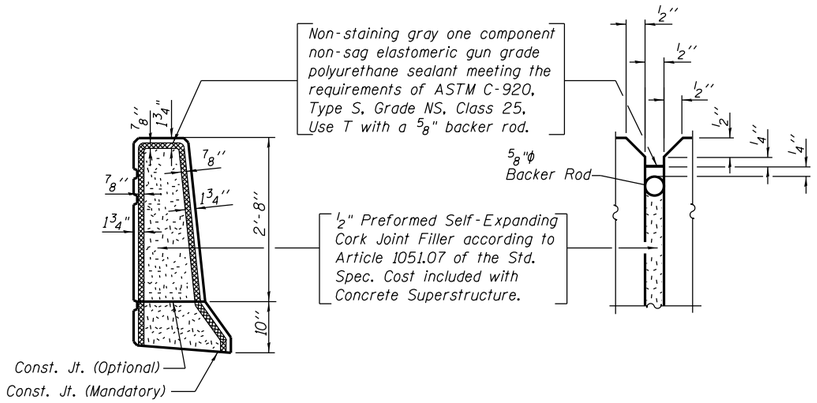


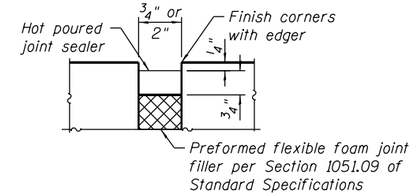
BAR d(E)



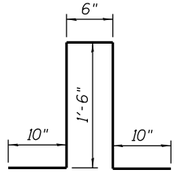
BAR d1(E)



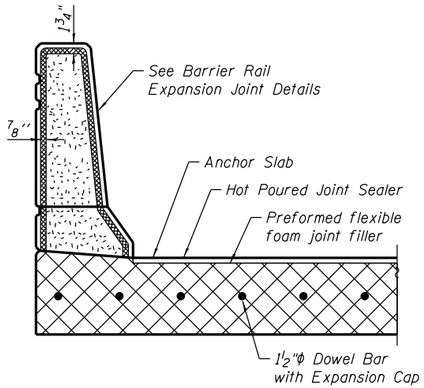
PARAPET JOINT DETAILS



SEALING DETAIL



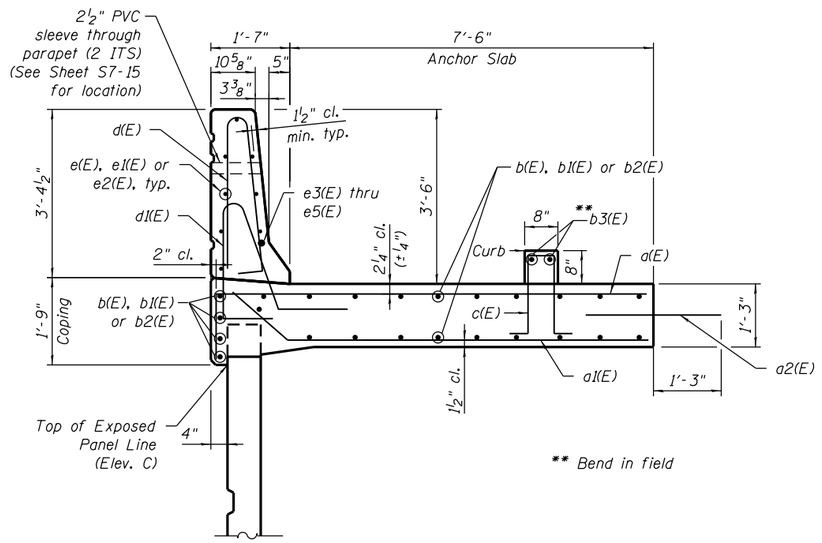
BAR c(E)



TRANSVERSE EXPANSION JOINT SECTION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	1166	#5	10'-2"	
a1(E)	587	#5	8'-10"	
a2(E)	240	#8	2'-6"	
b(E)	48	#5	23'-5"	
b1(E)	360	#5	32'-4"	
b2(E)	72	#5	30'-11"	
b3(E)	2	#5	22'-6"	
c(E)	24	#5	5'-2"	
d(E)	639	#5	6'-10"	
d1(E)	639	#5	6'-10"	
e(E)	16	#4	23'-1"	
e1(E)	120	#4	31'-10"	
e2(E)	24	#4	30'-6"	
e3(E)	2	#8	24'-7"	
e4(E)	15	#8	33'-11"	
e5(E)	3	#8	32'-6"	
h(E)	8	#5	1'-6"	
Protective Coat		Sq. Yd.	771	
Concrete Superstructure		Cu. Yd.	338	
Reinforcement Bars, Epoxy Coated		Pound	49,350	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	387	
Structure Excavation		Cu. Yd.	3695	



SECTION A-A

(Looking Upstation)

** Bend in field

NOTES:

1. See Civil plans for roadway details.
2. Protective Coat is applied to top of Anchor Slab, inside vertical and top faces of parapet and top and sides of curb. Apply after Bridge Deck Grooving is complete.

0161805-60X93-S7-16-ParapetDet.dgn

AECOM

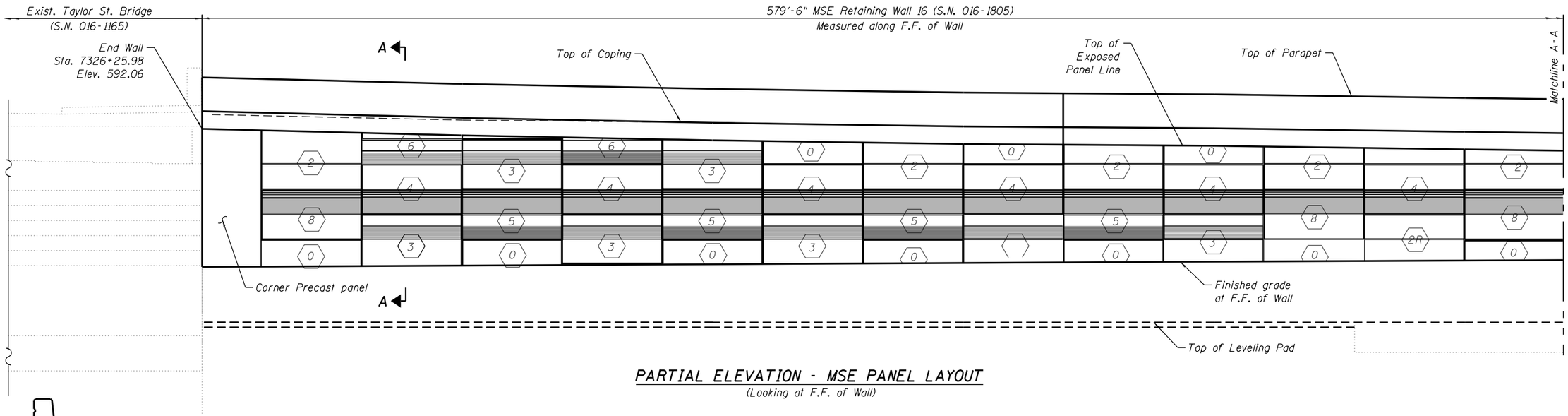
USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - GF	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHOR SLAB SECTION AND DETAILS
RETAINING WALL 16 (STRUCTURE NO. 016-1805)

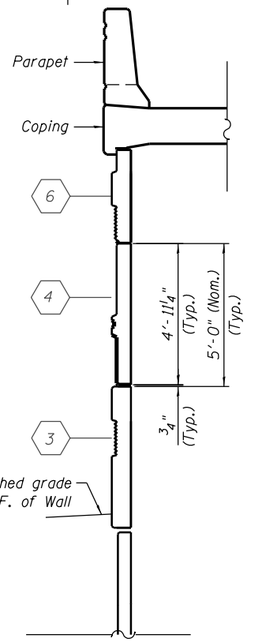
SHEET NO. S7-16 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1062
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

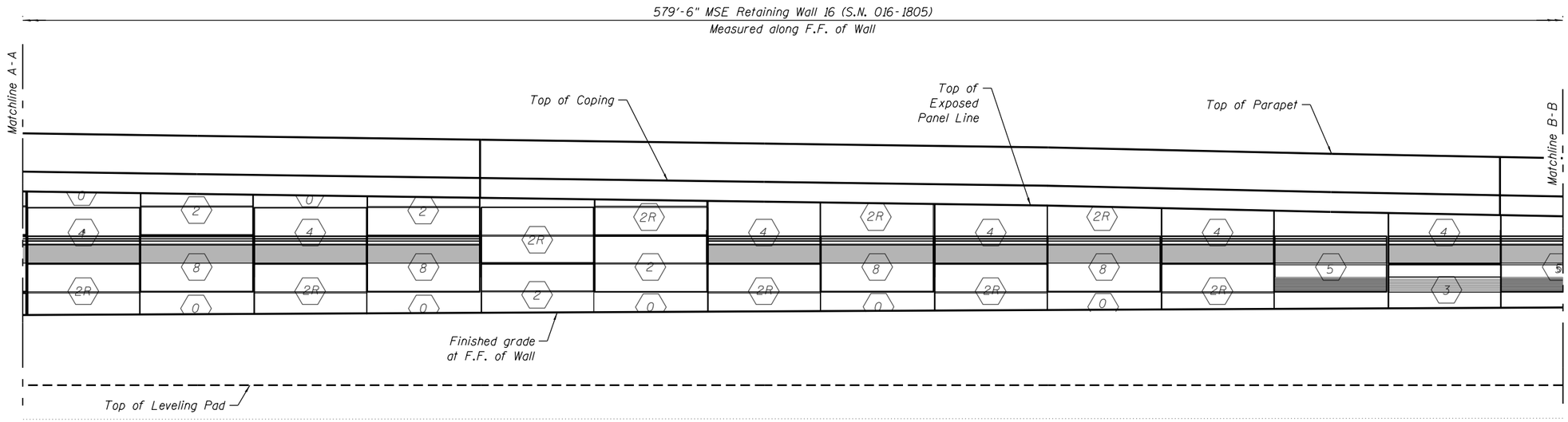


PARTIAL ELEVATION - MSE PANEL LAYOUT

(Looking at F.F. of Wall)



SECTION A-A



PARTIAL ELEVATION - MSE PANEL LAYOUT

(Looking at F.F. of Wall)

LEGEND:

0 1 2 2R 3 4 5 6 7 8 Precast Panel Type Designation Based on Formliner Layout

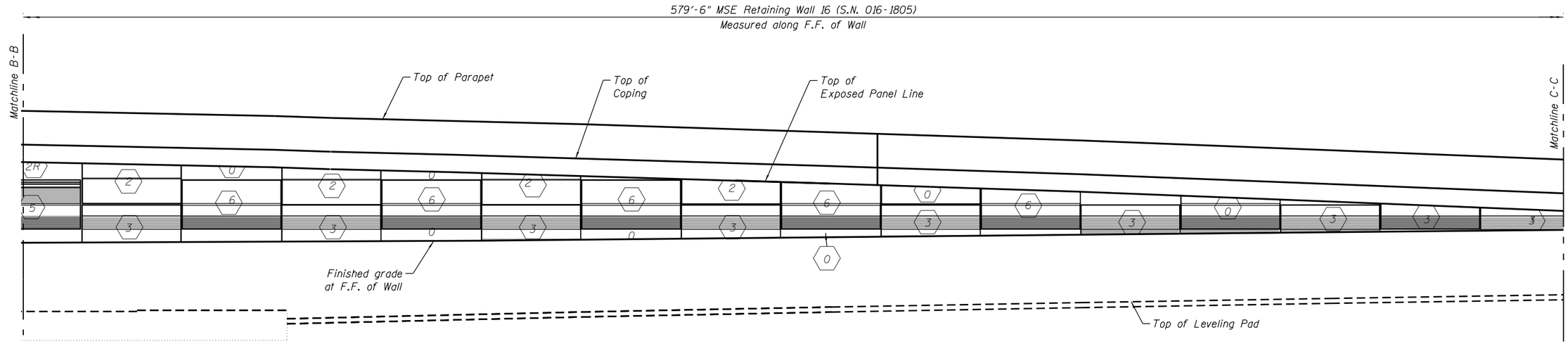
0161805-60X93-S7-17-ARCH_1.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

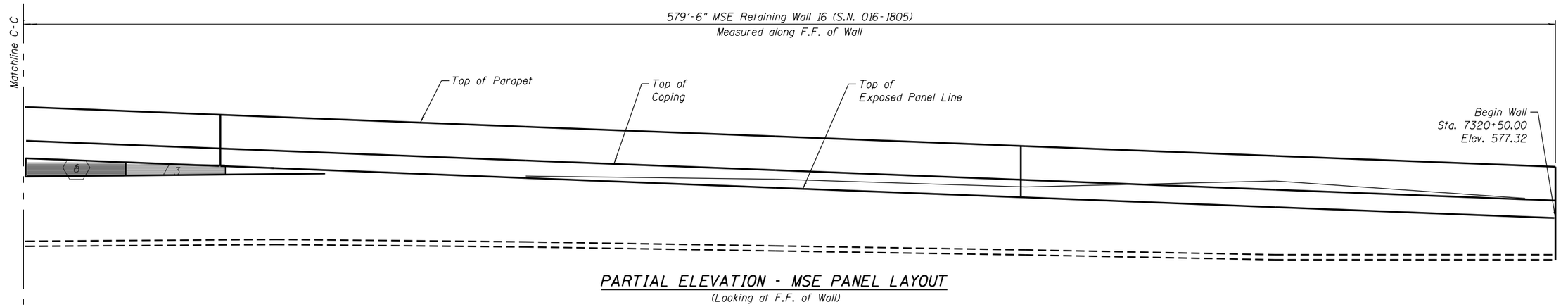
ARCHITECTURAL DETAILS I
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-17 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1063
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



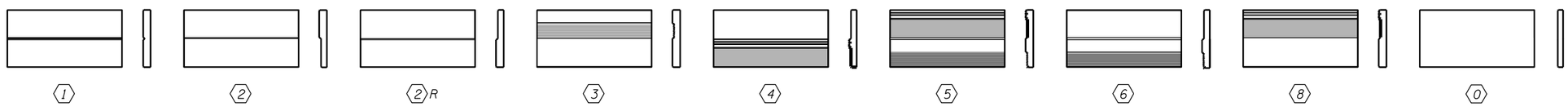
PARTIAL ELEVATION - MSE PANEL LAYOUT

(Looking at F.F. of Wall)



PARTIAL ELEVATION - MSE PANEL LAYOUT

(Looking at F.F. of Wall)



PRECAST PANEL TYPES

LEGEND:

0 1 2 2R 3 4 5 6 7 8 Precast Panel Type Designation Based on Formliner Layout

NOTES:

1. Reveals in concrete barrier will not be paid separately and will be included in the cost of the pay item "Concrete Superstructure".
2. Textured formliner for precast panels will not be paid separately and will be included in the cost of the pay item "Mechanically Stabilized Earth Retaining Wall, Special"
3. Verify / coordinate all dimensions with wall plans.
4. See Retaining Wall 14, S.N. 016-1718, architectural plans for Precast Panels and Formliner Details.

0161805-60X93-S7-18-ARCH_2.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-18 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1064
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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Fax: 630 953-9928

BORING LOG 10-RWB-07

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 576.99 ft
North: 1896456.57 ft
East: 1171549.47 ft
Station: 7320+53.06
Offset: 8.9634 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	576.99	16-inch thick CONCRETE --PAVEMENT--						
	575.7	Dense, white CRUSHED STONE --BASE COURSE--						
	573.7	Loose, brown and gray SILTY LOAM, trace gravel --FILL--	5		1	18 23 16	NP	5
					2	2 3 2	NP	16
	571.5	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			3	1 1 2	0.41 B	25
			10		4	0 0 1	0.41 B	20
					5	0 1 2	0.16 B	24
			15		6	0 1 1	0.33 N/6	
					7	0 0 1	0.16 B	27
			20		8	0 0 1	0.16 B	26
					9	0 1 2	0.16 B	27
			25		10	0 1 1	0.41 B	25
	540.2	Medium dense, gray SILTY LOAM, trace gravel --DRY--						
			30		11	0 1 2	0.41 B	26
					12	1 2 2	0.41 B	25
			35		13	2 3 7	0.82 B	25
			40		14	8 8 13	3.94 S	14
	535.2	Hard, gray SILTY CLAY LOAM, trace gravel						
	532.5	Gray, medium to coarse SAND, little gravel	45		15	5 12 13	5.08 B	12
	530.2	Stiff to hard, gray SILTY CLAY, trace gravel						
			50		16	4 9 12	4.51 B	17

GENERAL NOTES

Begin Drilling: 07-16-2014 Complete Drilling: 07-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10'; mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 44.50 ft
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

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BORING LOG 10-RWB-07

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 576.99 ft
North: 1896456.57 ft
East: 1171549.47 ft
Station: 7320+53.06
Offset: 8.9634 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			55		17	4 6 8	2.87 B	23
			60		18	2 4 5	1.31 B	22
			65		19	5 7 7	1.39 B	30
	512.2	Gray SILTY LOAM --Moist--						
	512.0	Boring terminated at 65.00 ft						
			70					
			75					

GENERAL NOTES

Begin Drilling: 07-16-2014 Complete Drilling: 07-20-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10'; mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 44.50 ft
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. Station and offset are measured along ℄ EB Taylor Exit Ramp.

0161805-60X93-S7-19-Boring1

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS I
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-19 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1065
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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Lombard, IL 60148
Telephone: 630 953-9928
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BORING LOG 10-RWB-08

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 579.69 ft
North: 1896379.22 ft
East: 1171563.12 ft
Station: 7321+31.58
Offset: 7.0147 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	578.7	12-inch thick, CONCRETE --PAVEMENT--						
	576.7	Dense, grayish white SANDY GRAVEL --BASE COURSE--			1	30 22 18	NP	4
		Medium stiff to stiff, brown and gray, SILTY CLAY LOAM, trace gravel --FILL--	5		2	4 5 5	1.39 B	13
					3	1 2 2	0.74 B	18
	571.7	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			4	1 2 3	0.49 B	24
			10		5	0 0 0	0.41 B	24
		--L_L(%)=35, P_L(%)=17-- --%Gravel=2.7-- --%Sand=15.6-- --%Silt=51.1-- --%Clay=30.6-- --A-6 (14)--			1	PUSH	< 0.25 P	26
			20		6	0 0 0	0.25 B	25
			25		2	PUS	< 0.25	
	552.9	Stiff, gray SILTY CLAY LOAM, trace gravel				H	P	
			30		7	2 3 3	1.23 B	18
	547.9	Soft, gray CLAY to SILTY CLAY, trace gravel						
			35		8	0 0 0	0.49 B	28
	542.9	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel						
			40		9	2 4 9	2.05 B	17
			45		10	5 8 13	4.18 B	18
			50		11	10 9 30	4.67 B	16

GENERAL NOTES

Begin Drilling: 07-15-2014 Complete Drilling: 07-15-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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Fax: 630 953-9928

BORING LOG 10-RWB-08

WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM
Datum: NAVD 88
Elevation: 579.69 ft
North: 1896379.22 ft
East: 1171563.12 ft
Station: 7321+31.58
Offset: 7.0147 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	522.9	Dense, gray SILTY LOAM, trace gravel	55		12	3 4 7	2.05 B	24
			60		13	14 15 18	NP	12
	514.7	Boring terminated at 65.00 ft	65		14	16 22 19	NP	23
			70					
			75					

GENERAL NOTES

Begin Drilling: 07-15-2014 Complete Drilling: 07-15-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. *Station and offset are measured along ℄ EB Taylor Exit Ramp.*

0161805-60X93-S7-20-Boring2

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS II
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-20 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1066
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

Wang Engineering
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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9928

BORING LOG 10-RWB-09

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.92 ft
North: 1896241.34 ft
East: 1171587.89 ft
Station: 7322+71.61
Offset: 3.0944 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	585.9	12-inch thick CONCRETE --PAVEMENT--						
		Medium dense to dense, grayish white SANDY GRAVEL --FILL--		1		11 20 18	NP	5
			5	2		15 13 15	NP	5
				3		13 14 14	NP	4
	578.9	Medium stiff to stiff, brown and gray SILTY CLAY LOAM, trace gravel						
			10	4		2 2 3	0.82 B	13
				5		1 2 3	1.15 B	17
			15	6		1 2 3	1.07 B	13
	571.4	Very soft to soft, gray CLAY to SILTY CLAY, trace to some gravel		7		1 1 2	0.49 B	24
			20	8		0 0 0	0.41 B	26
				9		0 0 1	< 0.25 P	31
			25	10		0 0 1	0.16 B	28
	545.2	Very stiff to hard, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel --DRY--						
			30	11		0 0 0	0.25 B	28
				12		0 0 0	0.25 B	28
			35	13		0 2 2	< 0.25 P	33
			40	14		2 2 3	< 0.25 P	34
			45	15		10 11 21	3.12 S	18
			50	16		8 11 13	4.00 N/6	18

GENERAL NOTES

Begin Drilling: 07-15-2014 Complete Drilling: 07-16-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

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Lombard, IL 60148
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Fax: 630 953-9928

BORING LOG 10-RWB-09

WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM
Datum: NAVD 88
Elevation: 586.92 ft
North: 1896241.34 ft
East: 1171587.89 ft
Station: 7322+71.61
Offset: 3.0944 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			55	17		9 14 17	5.82 S	12
			60	18		27 24 30	> 4.50 P	12
			65	19		14 19 26	10.25 S	13
	521.9	Boring terminated at 65.00 ft						
			70					
			75					

GENERAL NOTES

Begin Drilling: 07-15-2014 Complete Drilling: 07-16-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. *Station and offset are measured along ℄ EB Taylor Exit Ramp.*

0161805-60X93-S7-21-Boring3

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS III RETAINING WALL 16 (STRUCTURE NO. 016-1805)
		CHECKED - ATB	REVISED		
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED		SHEET NO. S7-21 OF S7-26 SHEETS
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1067
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 16-RWB-03

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 576.10 ft
North: 1896271.92 ft
East: 1171639.81 ft
Station: 1239+13.63
Offset: 4.6520 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	575.0	13.5-inch thick, CONCRETE --PAVEMENT--						
	574.6	4.5-inch thick, ASPHALT --BASE COURSE--						
		Dense, brown and gray SANDY GRAVEL			1	23 21 21	NP	11
	572.9	--FILL--						
		Medium stiff, gray SILTY CLAY, trace gravel	5		2	2 3 4	0.82 B	18
	570.6	Soft to very soft, gray CLAY to SILTY CLAY, trace gravel			3	1 2 2	0.25 B	24
			10		4	1 2 3	0.25 B	26
					5	1 1 2	0.08 B	27
			15		6	1 1 1	0.08 B	27
					7	1 1 1	0.16 B	26
			20		8	1 1 2	0.08 B	27
					9	1 2 2	0.41 B	25
			25		10	1 2 3	0.41 B	25
	544.4	Medium dense, gray SILTY LOAM, trace gravel --Dry--	30		11	0 2 3	0.33 B	26
					12	2 2 3	0.49 B	25
			35		13	8 11 11	NP	20
	537.4	Hard, gray CLAY to SILTY CLAY, trace gravel	40		14	11 12 18	4.92 B	20
	534.4	Very stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	45		15	10 13 14	3.20 S	15
	529.4	Very dense, gray SILTY LOAM, trace gravel --Dry--	50		16	15 27 33	2.54 S	12

GENERAL NOTES

Begin Drilling: 08-10-2014 Complete Drilling: 08-10-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

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BORING LOG 16-RWB-03

WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM
Datum: NAVD 88
Elevation: 576.10 ft
North: 1896271.92 ft
East: 1171639.81 ft
Station: 1239+13.63
Offset: 4.6520 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Very dense, gray SILTY LOAM, trace gravel --Dry--						
			55		17	16 23 35	NP	15
			60		18	15 23 50/5	NP	14
					19	50/3	NP	14
	511.1	Boring terminated at 65.00 ft	65					
			70					
			75					

GENERAL NOTES

Begin Drilling: 08-10-2014 Complete Drilling: 08-10-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. *Boring Log 16-RWB-03 station & offset along ℄ & PGL EB Taylor Exit Ramp is: Sta. 7322+49.48, Offset 52.81' LT.*

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BORING LOG 16-RWB-04A

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.85 ft
North: 1896141.99 ft
East: 1171632.40 ft
Station: 1240+42.08
Offset: 16.4134 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	592.0	10-inch thick, CONCRETE --PAVEMENT--						
		Medium dense to dense, grayish white CRUSHED STONE --FILL--		1		5 13 17	NP	7
			5	2		8 14 14	NP	4
	586.1	Medium dense, brown SAND to SANDY LOAM, trace gravel --FILL--						
			10	4		9 14 12	NP	11
				5		8 8 8	NP	14
			15	6		7 12 11	NP	15
				7		7 8 10	NP	17
	573.5	--Sampler Refusal-- Boring terminated at 19.32 ft	20	8		2 14/4	NP	14
			25					

GENERAL NOTES

Begin Drilling: 08-07-2014 Complete Drilling: 08-07-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

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BORING LOG 16-RWB-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 576.03 ft
North: 1896103.12 ft
East: 1171665.21 ft
Station: 1240+84.08
Offset: 12.2833 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	574.9	13-inch thick, CONCRETE						
		Medium dense to dense, white CRUSHED STONE --BASE COURSE--		1		13 13 20	NP	
			5	2		3 15 10	NP	4
				3		15 11 9	NP	5
	568.0	Loose, gray SANDY LOAM						
			10	4		5 2 7	NP	17
	565.5	Loose, gray SILTY LOAM, trace gravel		5		5 3 4	0.57 S	17
	563.0	Medium dense, brown fine and medium SAND, trace gravel						
			15	6		6 9 13	NP	16
				7		11 9 10	NP	14
			20	8		8 6 11	NP	22
	555.0	--Boring terminated due to obstruction-- Boring terminated at 21.00 ft		9		50/0		
			25					

GENERAL NOTES

Begin Drilling: 07-23-2014 Complete Drilling: 07-23-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: A&K Logger: A. Happel Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 8.00 ft
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTES:

1. Boring Log 16-RWB-04A station & offset along ℄ & PGL EB Taylor Exit Ramp is: Sta. 7323+76.74, Offset 26.11' LT.
2. Boring Log 16-RWB-04 station & offset along ℄ & PGL EB Taylor Exit Ramp is: Sta. 7324+18.43, Offset 53.56' LT.

0161805-60X93-S7-23-Boring5

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS V
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. ST-23 OF ST-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1069
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 16-RWB-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.35 ft
North: 1895983.56 ft
East: 1171638.82 ft
Station: 7325+32.44
Offset: 17.9588 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	591.5	10-inch thick CONCRETE --PAVEMENT--						
		Dense, white CRUSHED STONE --FILL--			1	20 22 22	NP	4
			5		2	4 14 19	NP	4
	586.2	Stiff, black and brown SILTY CLAY LOAM, trace gravel --FILL--			3	6 6 7	1.15 B	16
	584.4	Stiff, black and brown LOAM to SILTY LOAM, trace gravel --FILL--	10		4	3 2 3	NP	11
	581.9	Very stiff, brownish gray SILTY CLAY, trace gravel			5	3 4 4	2.46 B	27
	579.4	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	15		6	2 2 2	0.49 B	28
					7	0 0 0	0.16 B	33
			20		8	0 0 0	0.25 B	30
					9	0 1 2	0.41 B	19
			25		10	0 0 0	0.16 B	28
	545.6	Medium dense, gray SILT to SILTY LOAM, trace gravel --DRY--	30		11	0 0 1	< 0.25 P	25
					12	0 0 0	0.16 B	26
			35		13	0 0 0	0.08 B	28
			40		14	0 0 1	0.16 B	27
			45		15	0 0 3	0.57 B	24
			50		16	11 10 11	NP	15

GENERAL NOTES

Begin Drilling: 07-24-2014 Complete Drilling: 07-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25' SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

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BORING LOG 16-RWB-05

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.35 ft
North: 1895983.56 ft
East: 1171638.82 ft
Station: 7325+32.44
Offset: 17.9588 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	540.6	Brown, coarse SAND						
	538.5	Hard, gray SILTY CLAY LOAM, trace gravel	55		17	10 11 15	5.25 B	16
	535.6	Dense to very dense, gray SILTY LOAM to SILT, trace gravel, occasional sand seams --DRY--	60		18	14 18 18	NP	12
			65		19	28 30 32	NP	17
	527.4	Boring terminated at 65.00 ft	70					
			75					

GENERAL NOTES

Begin Drilling: 07-24-2014 Complete Drilling: 07-24-2014
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&J Logger: S. Woods Checked by: C. Marin
Drilling Method: 2.25' SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. Station and offset are measured along ℄ EB Taylor Exit Ramp.

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	
		CHECKED - ATB	REVISED	
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VI
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-24 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1070
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

0161805-60X93-S7-24-Boring6

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BORING LOG 10-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.93 ft
North: 1897019.14 ft
East: 1171462.69 ft
Station: 7315+23.85
Offset: 4.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--Drilled without sampling--	5					
			10					
			15					
			20					
			25					
		Piezometer Data: *--Installed in Dec. 11, 2014* *--Bentonite Seal 66 to 71 feet* *--Top of Sand Pack at 71 feet* *--Top of Screen at 73 feet* *--Screen Length 20 feet* *--Bottom of Screen at 93 feet*	30					
			35					
			40					
		--piezometer stabilized water level reading -- --reading during well development (12/15/2014) =45 43.85 feet bgs-- --reading date: 12/26/2014 = 43.72 feet bgs--	45					
			50					

WANGENGINC 11000401.GPJ WANGENG.GDT 98/17

GENERAL NOTES

Begin Drilling: 12-10-2014 Complete Drilling: 12-11-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: A. Happel Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well; pizometer installed on 12/11/2014

WATER LEVEL DATA

While Drilling: 68.00 ft
At Completion of Drilling: 74.00 ft
Time After Drilling: 24 hours
Depth to Water: 45.04 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 10-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 592.93 ft
North: 1897019.14 ft
East: 1171462.69 ft
Station: 7315+23.85
Offset: 4.45 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	521.2	Very dense, gray SILTY LOAM --Wet--	55					
			60					
			65					
		Piezometer Data: *--Installed in Dec. 11, 2014* *--Bentonite Seal 66 to 71 feet* *--Top of Sand Pack at 71 feet* *--Top of Screen at 73 feet* *--Screen Length 20 feet* *--Bottom of Screen at 93 feet*	70					
			75	1	18 27 24	1.00 P	18	
	516.2	Very dense, gray SANDY LOAM, trace to little gravel --Saturated--	80	2	7 14 16	NP	20	
			85	3	50/6	NP	16	
	506.2	Very dense, gray SILTY LOAM, trace gravel --Moist--	90	4	50/3	4.50 P	9	
		--Wet--	95	5	50/5	NP	11	
	497.9	--HARD DRILLING-- Boring terminated at 95.00 ft	100					

WANGENGINC 11000401.GPJ WANGENG.GDT 98/17

GENERAL NOTES

Begin Drilling: 12-10-2014 Complete Drilling: 12-11-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: A. Happel Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well; pizometer installed on 12/11/2014

WATER LEVEL DATA

While Drilling: 68.00 ft
At Completion of Drilling: 74.00 ft
Time After Drilling: 24 hours
Depth to Water: 45.04 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

NOTE:

1. *Station and offset are measured along ℄ EB Taylor Exit Ramp.*

0161805-60X93-S7-25-Boring7.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS VII
RETAINING WALL 16 (STRUCTURE NO. 016-1805)
SHEET NO. S7-25 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1071
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG VST-07

WEI Job No.: 1100-04-01

Client: **AECOM**
Project: **Circle Interchange Reconstruction**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 593.11 ft
North: 1895740.00 ft
East: 1171636.91 ft
Station: 6247+22.16
Offset: 105.461 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		6-inch thick ASPHALT over 9-inch thick CONCRETE						
	591.9	--PAVEMENT--						
		Medium dense, brown SAND --FILL--						
					1	6 6 6	NP	9
			5					
	584.1							
		Medium stiff to stiff, brown and gray SILTY CLAY			2	2 2 2	1.75 P	26
			10					
					3	1 1 2	0.82 B	27
			15					
	577.6							
		--In-Situ Vane Shear, 16.5 feet-- --$S_{u\ undis}$ = 764.5 psf-- --$S_{u\ remold}$ = 305.8 psf-- --Sensitivity = 2.5--			1	VS		
		--In-Situ Vane Shear, 19.0 feet-- --$S_{u\ undis}$ = 1157.6 psf-- --$S_{u\ remold}$ = 633.4 psf-- --Sensitivity = 1.8--	20		2	VS		
		--In-Situ Vane Shear, 21.5 feet-- --$S_{u\ undis}$ = 1245.0 psf-- --$S_{u\ remold}$ = 808.1 psf-- --Sensitivity = 1.5--			3	VS		
		--In-Situ Vane Shear, 24.0 feet-- --$S_{u\ undis}$ = 808.1 psf--	25		4	VS		
		--$S_{u\ remold}$ = 546.0 psf-- --Sensitivity = 1.5--						
		--In-Situ Vane Shear, 26.5 feet-- --$S_{u\ undis}$ = 666.2 psf-- --$S_{u\ remold}$ = 371.3 psf-- --Sensitivity = 1.8--			5	VS		
		--In-Situ Vane Shear, 29.0 feet-- --$S_{u\ undis}$ = 600.6 psf-- --$S_{u\ remold}$ = 327.6 psf-- --Sensitivity = 1.8--	30		6	VS		
		--In-Situ Vane Shear, 31.5 feet-- --$S_{u\ undis}$ = 524.2 psf-- --$S_{u\ remold}$ = 316.7 psf-- --Sensitivity = 1.7--			7	VS		
		--In-Situ Vane Shear, 34.0 feet-- --$S_{u\ undis}$ = 611.6 psf-- --$S_{u\ remold}$ = 338.5 psf-- --Sensitivity = 1.8--	35		8	VS		
		--In-Situ Vane Shear, 36.5 feet-- --$S_{u\ undis}$ = 830.0 psf-- --$S_{u\ remold}$ = 535.1 psf-- --Sensitivity = 1.6--			9	VS		
		--In-Situ Vane Shear, 39.0 feet-- --$S_{u\ undis}$ = 633.4 psf-- --$S_{u\ remold}$ = 393.1 psf-- --Sensitivity = 1.6--	40		10	VS		
		--In-Situ Vane Shear, 41.5 feet-- --$S_{u\ undis}$ = 895.5 psf-- --$S_{u\ remold}$ = 655.2 psf-- --Sensitivity = 1.4--			11	VS		
	548.6	--In-Situ Vane Shear, 44.0 feet-- --$S_{u\ undis}$ = 1026.6 psf-- --$S_{u\ remold}$ = 698.9 psf-- --Sensitivity = 1.5--	45		12	VS		
		Boring terminated at 44.50 ft	50					

GENERAL NOTES

Begin Drilling: **12-10-2015** Complete Drilling: **12-10-2015**
Drilling Contractor: **Wang Testing Services** Drill Rig: **CME-55 TMR [85%]**
Driller: **R&N** Logger: **F. Bozga** Checked by: **A. Kurnia**
Drilling Method: **2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **Rotary wash**
At Completion of Drilling: **mud in the borehole**
Time After Drilling: **NA**
Depth to Water: **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 9/8/17

NOTE:

1. *Boring Log VST-07 station & offset along EB & PGL EB Taylor Exit Ramp is: Sta. 7326+65.98, Offset 9.53' LT.*

USER NAME = $USER	DESIGNED - MK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS VIII RETAINING WALL 16 (STRUCTURE NO. 016-1805)
	CHECKED - ATB	REVISED		
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED		
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED		SHEET NO. S7-26 OF S7-26 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1072
		CONTRACT NO. 60X93		
ILLINOIS FED. AID PROJECT				

0161805-60X93-S7-26-Boring8.dgn

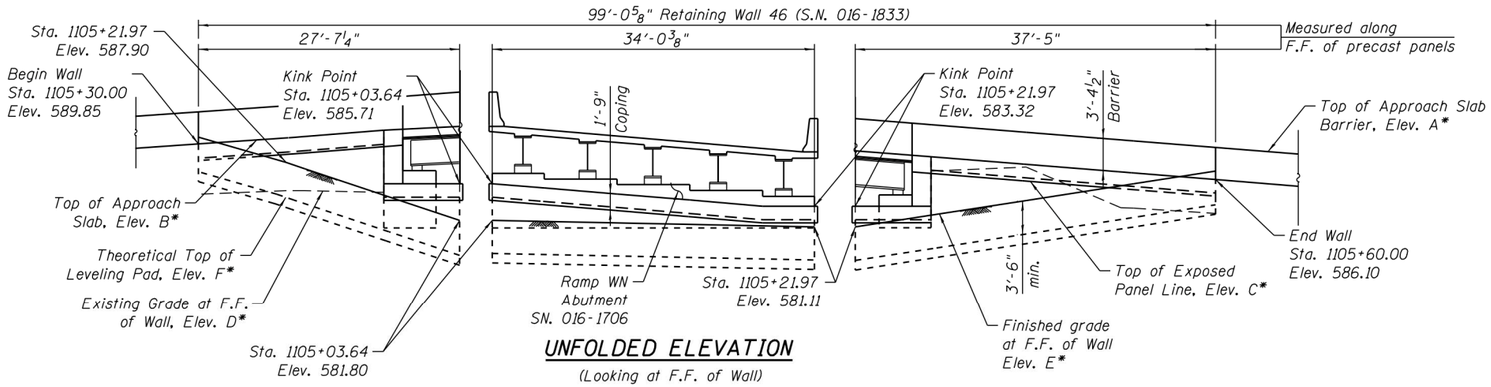
Bench Mark: Square cut at center of door entrance to 707 W. Harrison St: South side of Harrison St. ±90' west of west line of Des Plaines. Elev. 597.47.

Existing Structure: None.

Traffic Control: Exist. Ramp WN & Ramp WS will be closed and traffic will be detoured during construction. Traffic on Ramp EN, I-290 and I-90/94 will be maintained with stage construction.

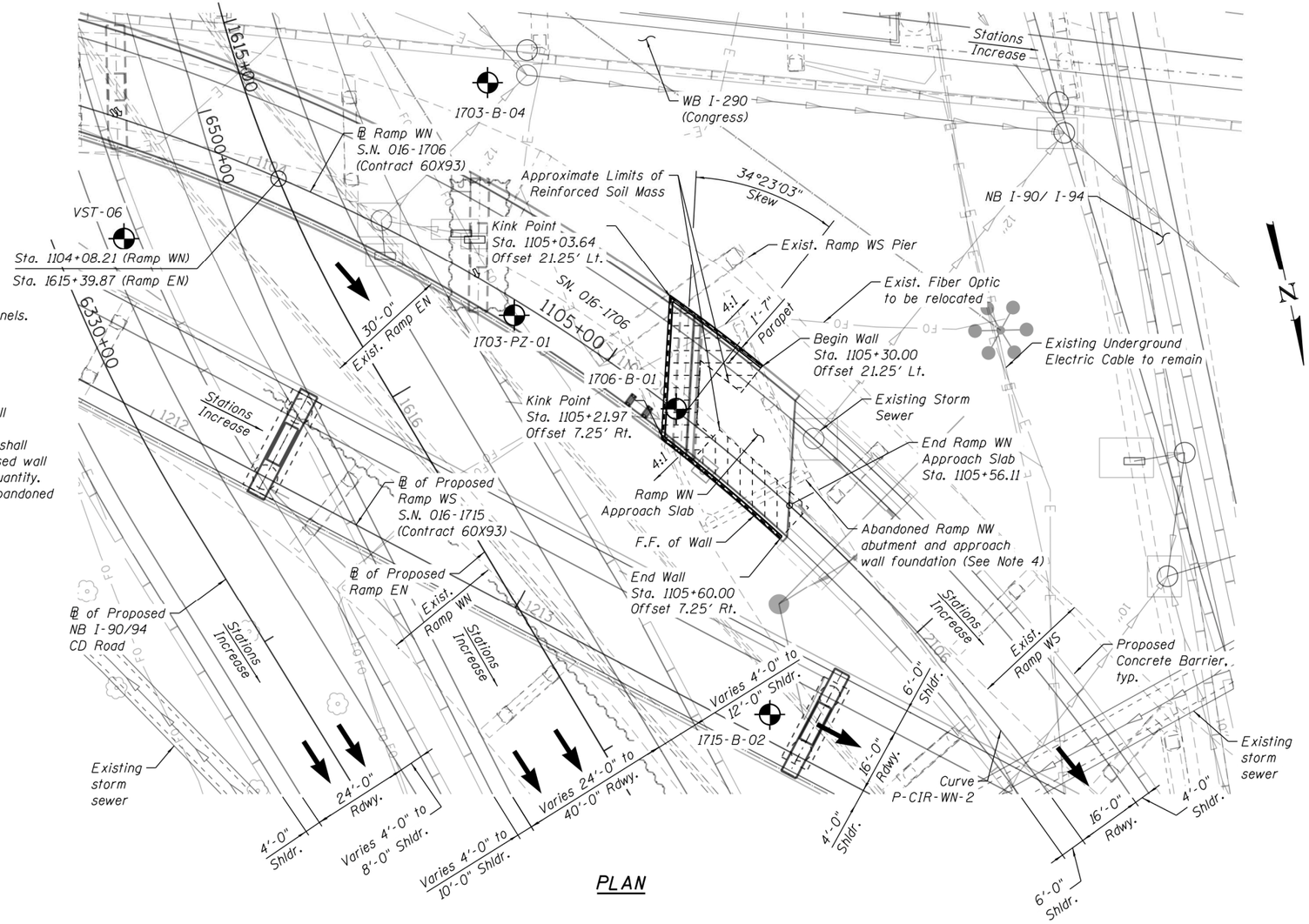
No Salvage.

* For Elevations, see Elevations Table on Sheet S8-02.



UNFOLDED ELEVATION

(Looking at F.F. of Wall)



PLAN

NOTES:

1. Stations and offsets are measured along ℄ Ramp WN to the front face of the precast panels.
2. F.F. denotes Front Face.
3. Abutment drilled shafts not shown for clarity.
4. Abandoned Ramp NW abutment and approach wall foundation elements may be in conflict with the proposed wall 46 construction. The Contractor shall remove any such conflicts that impedes proposed wall construction. See Civil plans for location and quantity. This work shall be per Special Provision for Abandoned Foundation Removal.

LEGEND:

- Soil Boring Location
- W — Water Line
- E — Electric
- T — Telephone line
- CTV — Television line
- Combined Sewer
- Storm Sewer
- FO — Fiber Optic
- G — Gas Line
- Fire Hydrant
- Light Pole
- Catch Basin

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

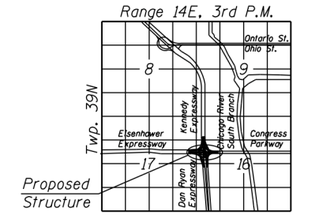
f'c = 4,500 psi

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interim Revisions

STATE OF ILLINOIS
AMISH T. BHATT
081-006249
LICENSED STRUCTURAL ENGINEER

Amish T. Bhatt 07 /30 /2018
AMISH T. BHATT DATE
LICENSE EXPIRES 11 /30 /2018



LOCATION SKETCH

GENERAL PLAN & ELEVATION
RETAINING WALL 46
ALONG RAMP WN
F.A.I. RTE. 90/94/290
SECTION 2014-013R&B-R
COOK COUNTY
STA. 1105+30.00 TO STA. 1105+60.00
STRUCTURE NO. 016-1833

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

AECOM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 016-1833
SHEET NO. S8-01 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1073
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

016-1833-60x93-SHT-01-GPE.dgn

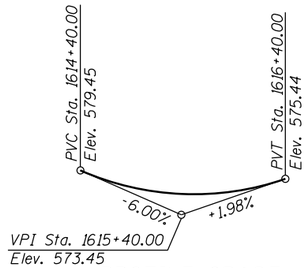
GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Protective coat shall be applied to the designated areas of the MSE Coping.
3. The Contractor shall field verify location of existing underground utilities and shall take all precautions to protect existing underground utilities during the construction of the wall. Any damage to the existing utilities shall be responsibility of the Contractor.
4. Stations and offsets for the wall are given from the baseline Ramp WN to the front face of the precast panels.
5. MSE Supplier to design load transfer systems within reinforced soil mass to accommodate drainage structures and abutment drilled shaft foundations.
6. Lightweight Cellular Concrete Fill shall be Class III, see Special Provisions.
7. MSE Wall supplier shall design the MSE Wall using granular reinforced mass with minimum effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
8. Quantity for Lightweight Cellular Concrete Fill includes reinforced soil mass and fill area between reinforced soil mass and fill area as shown in cross section; Type is specified as Class III (District 1) Lightweight Fill.
9. See Special Provision for Mechanically Stabilized Earth Retaining Wall, Special for design and construction requirements.
10. Contractor shall coordinate proposed wall 46 construction with Ramp WN abutment (Contract 60X93) and proposed Ramp EN roadway construction (Contract 60X79). See MOT plan sheets and special provisions for additional construction and coordination requirements.

TOTAL BILL OF MATERIAL

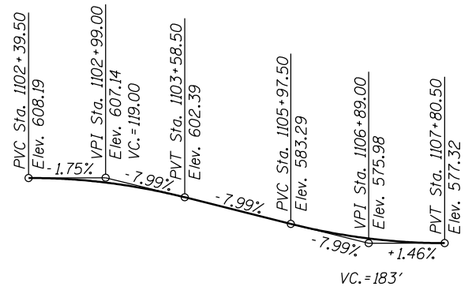
ITEM	UNIT	TOTAL
Structure Excavation	Cu Yd	276
Protective Coat	Sq Yd	18
Reinforcement Bars, Epoxy Coated	Pound	300
Mechanically Stabilized Earth Retaining Wall, Special	Sq Ft	347
Lightweight Cellular Concrete Fill	Cu Yd	176
Slope Wall 4"	Sq Yd	8
Name Plates	Each	1

INDEX OF SHEETS:



PROFILE GRADE

(Along ℄ Ramp EN)



PROFILE GRADE

(Along ℄ Ramp WN)

CURVE DATA

(Ramp EN)

PROP. CURVE P-CIR-EN-2
P.I. Sta. = 1624+72.31
Δ = 158° 53' 11" (Lt.)
D = 16° 51' 06"
R = 340.00'
T =1,824.37'
L = 942.85'
E = 1,515.78'
e = 5.60%
T.R. = 36'
S.E. Run = 102'
P.C. Sta. = 1606+47.94
P.T. Sta. = 1615+90.79
DS = 30

CURVE DATA

(NB Bypass)

PROP. CURVE P-NCD-NX-4
P.I. Sta. = 6328+76.78
Δ = 59° 05' 41" (Lt.)
D = 14° 08' 50"
R = 405.00'
T = 229.58'
L = 417.72'
E = 60.54'
e = 5.40%
T.R. = 36
S.E. Run = 98'
P.C. Sta. = 6326+47.20
P.T. Sta. = 6330+64.91
DS = 30

CURVE DATA

(Ramp WN)

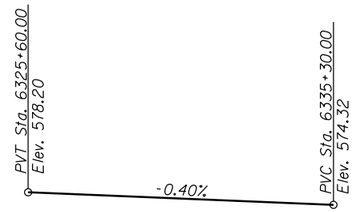
PROP. CURVE P-CIR-WN-2
P.I. Sta. = 1105+88.67
Δ = 69° 00' 44" (Rt.)
D = 12° 43' 57"
R = 450.00'
T = 309.35'
L = 542.02'
E = 96.07'
e = 5.20%
T.R. = NA
S.E. Run = 46'
P.C. Sta. = 1102+79.32
P.T. Sta. = 1108+21.34
DS = 30

ELEVATIONS TABLE

STATION	OFFSET	ELEVATION A	ELEVATION B	ELEVATION C	ELEVATION D	ELEVATION E	ELEVATION F
1105+03.64	21'-3" Lt.	595.33	585.71 *	583.96	584.55	581.80	578.30
1105+10.00	21'-3" Lt.	594.83	585.71 *	583.96	584.69	583.91	580.41
1105+20.00	21'-3" Lt.	594.03	590.65	588.90	584.92	587.24	583.74
1105+21.97	21'-3" Lt.	593.87	590.49	588.74	584.95	587.90	584.40
1105+30.00	21'-3" Lt.	593.23	589.85	588.10	584.55	590.57	587.07
1105+21.97	7'-3" Rt.	592.52	583.32 *	581.57	586.71	581.11	577.61
1105+30.00	7'-3" Rt.	591.88	588.50	586.75	587.01	582.35	578.85
1105+40.00	7'-3" Rt.	591.08	587.70	585.95	587.41	583.89	580.39
1105+50.00	7'-3" Rt.	590.28	586.90	585.15	583.12	585.43	581.93
1105+51.39	7'-3" Rt.	590.17	586.79	585.04	583.08	585.65	582.15
1105+60.00	7'-3" Rt.	589.48	586.10	584.35	582.52	586.98	583.48

Elevation A: Top of Approach Slab Barrier
Elevation B: Top of Approach Slab
Elevation C: Top of Exposed Panel Line
Elevation D: Existing Grade at F.F. of Wall
Elevation E: Finished Grade at F.F. of Wall
Elevation F: Theoretical Top of Leveling Pad

* Top of Concrete Coping Elev.



PROFILE GRADE

(Along ℄ NB Bypass)

SUGGESTED SEQUENCE OF CONSTRUCTION

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Utility Location Plans and ITS Plans.
2. Excavate for Wall 46 and remove any abandoned foundation elements of Ramp NW that are in conflict with the proposed wall 46 construction.
3. Install drilled shafts for S.N. 016-1706 West Abutment.
4. Construct Wall 46 and West Abutment of S.N. 016-1706.
5. Place lightweight fill.
6. Install Approach Slab of S.N. 016-1706.
7. No portions of the wall shall be compromised by excavation for other elements of work, including the West Abutment of S.N. 016-1706. If the sequencing of work requires that the wall construction is staged, the stage line shall be located at a panel edge with any exposed lightweight fill protected from damage.

STATION 1105+30.00 TO 1105+60.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I RTE. 90/94 SEC 2014-013R&B-R
LOADING HL-93
STRUCTURE NO. 016-1833

NAME PLATE

See Std. 515001

016-1833-60X93-SHT-02-GenNote.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
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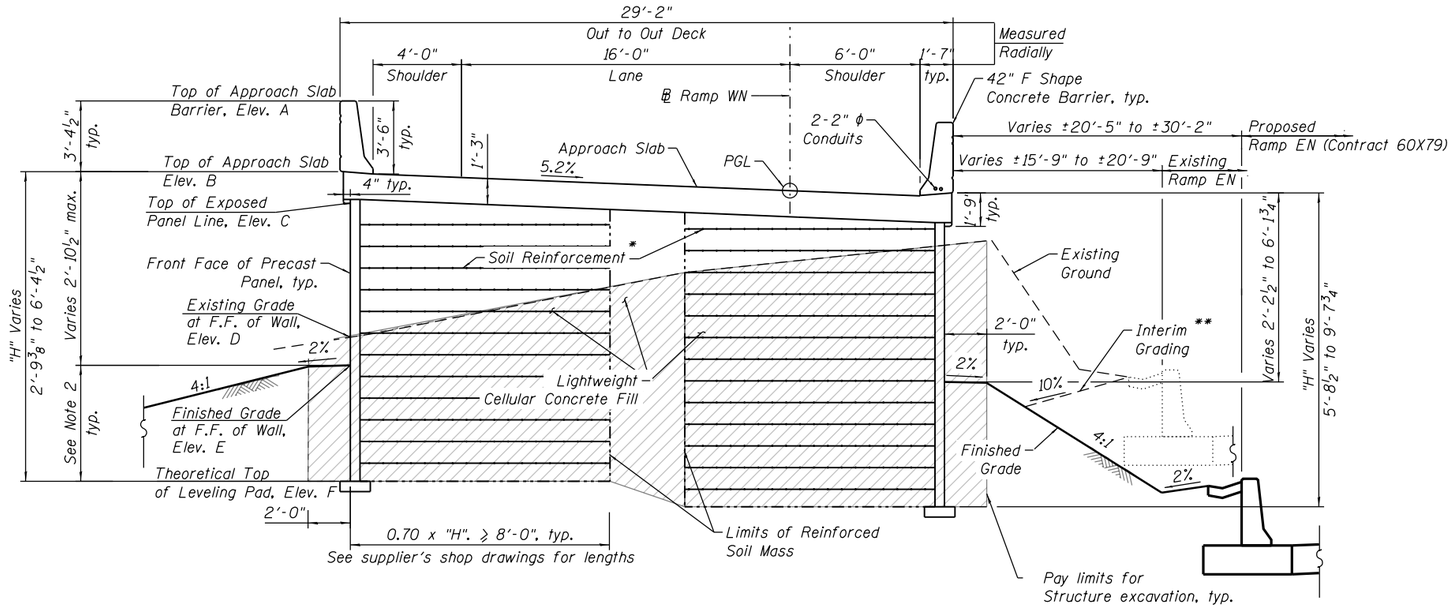
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

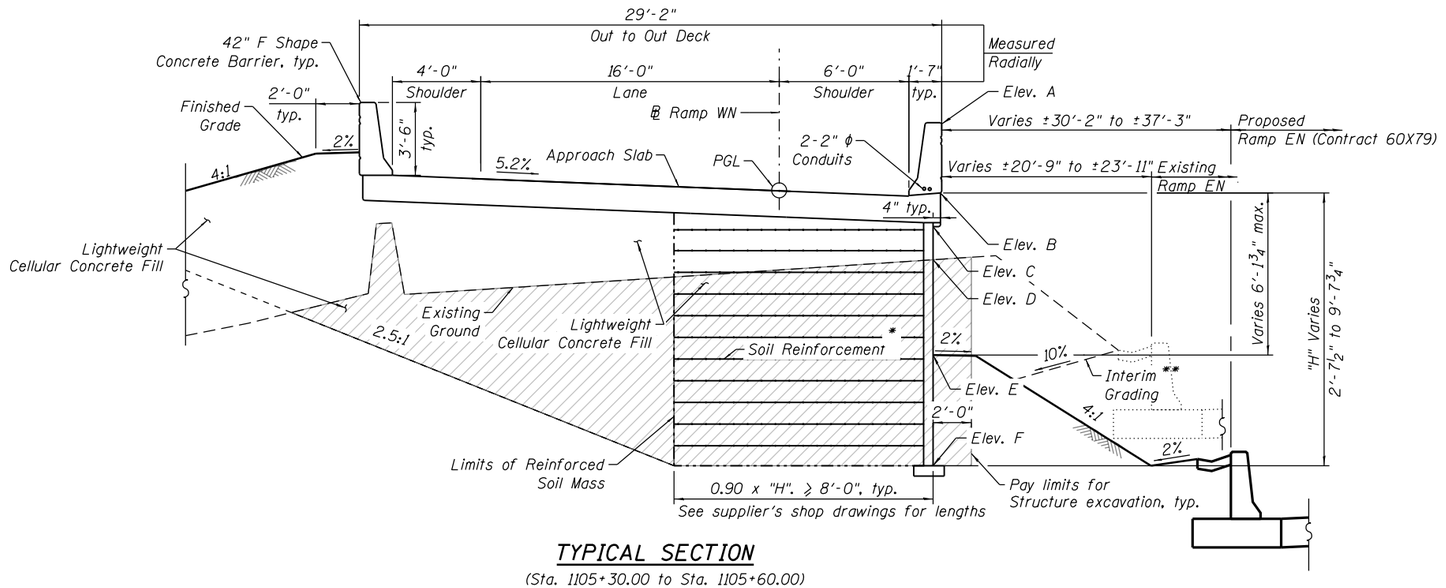
GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-1833
SHEET NO. S8-02 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1074
		CONTRACT NO. 60X93		
ILLINOIS	FED. AID PROJECT			



TYPICAL SECTION

(Sta. 1105+03.64 to Sta. 1105+30.00)



TYPICAL SECTION

(Sta. 1105+30.00 to Sta. 1105+60.00)

NOTES:

1. For Elevations, see Elevation Table on S8-02.
2. 3'-6" min. typ. except at the end of the wall where minimum embedment will transitions down to $2'\text{-}9\frac{3}{8}"$.

* The MSE Wall supplier's internal stability design shall account for the approach slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 1.15 kips/ft of wall.

** Contractor shall coordinate proposed wall 46 construction with the construction of the proposed Ramp EN roadway (Contract 60X79). If proposed wall 46 construction precedes proposed Ramp EN roadway construction then Contractor shall protect existing Ramp EN roadway and complete proposed wall 46 construction with the interim grading as shown. See MOT plan sheets and special provisions for additional construction and coordination requirements.

LEGEND:

Pay limits of structure excavation

016-1833-60X93-SHT-03-TypSect.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
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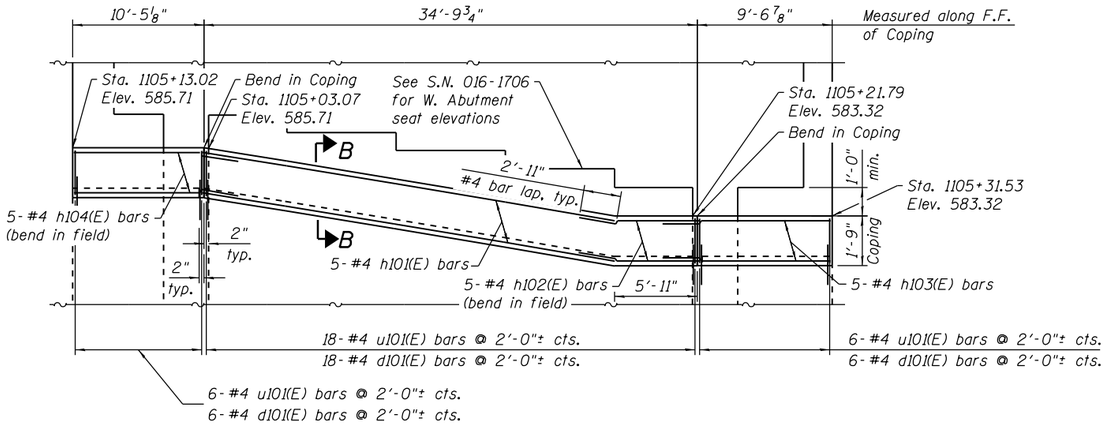
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

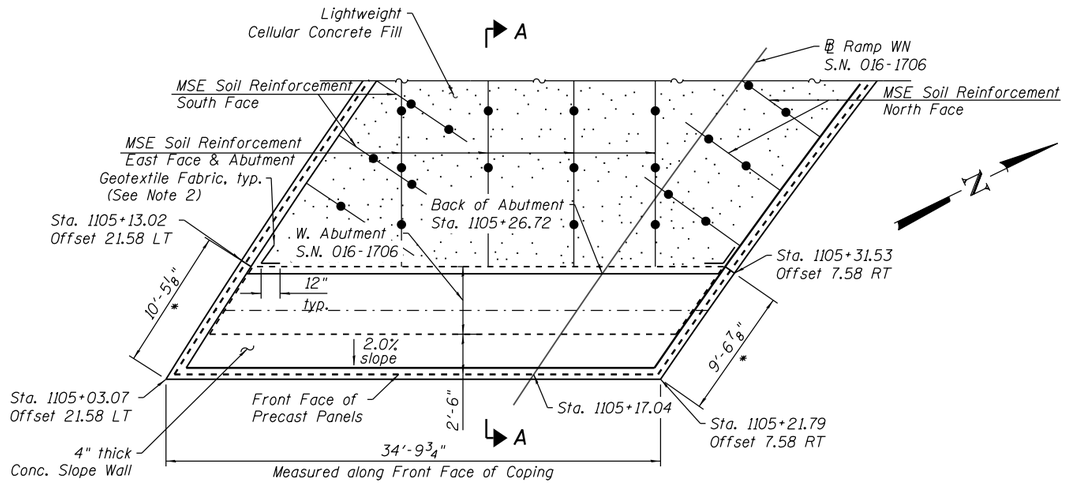
TYPICAL SECTIONS AND DETAILS
STRUCTURE NO. 016-1833
SHEET NO. S8-03 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1075
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



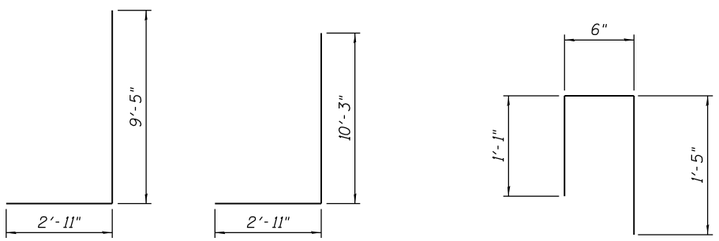
ELEVATION
EAST FACE MSE WALL CONCRETE COPING

(North and South Face unfolded)

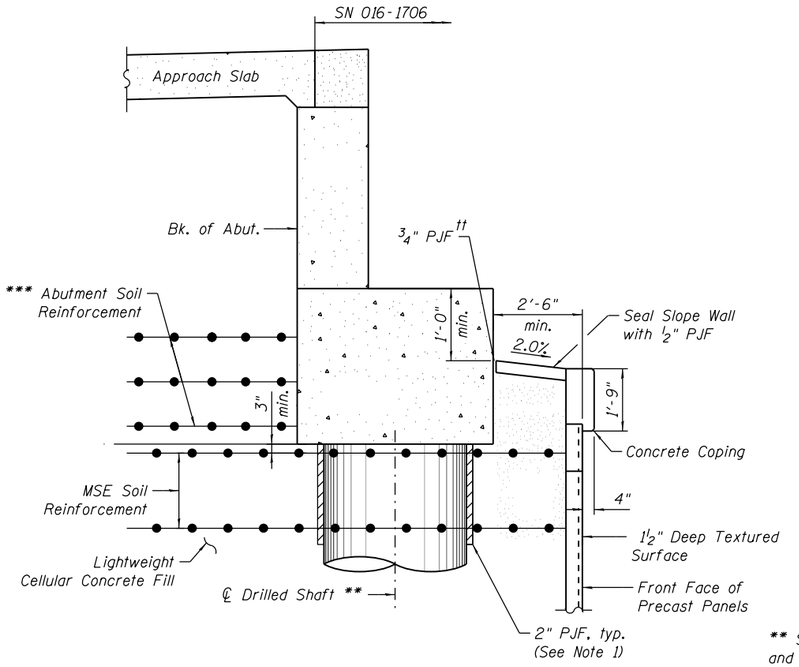


* Measured along Front Face of Coping

PLAN
CONCRETE COPING AND ABUTMENT MSE WRAP AROUND



BAR h103(E) BAR h104(E) BAR u101(E)



SECTION A-A
SECTION THROUGH ABUTMENT

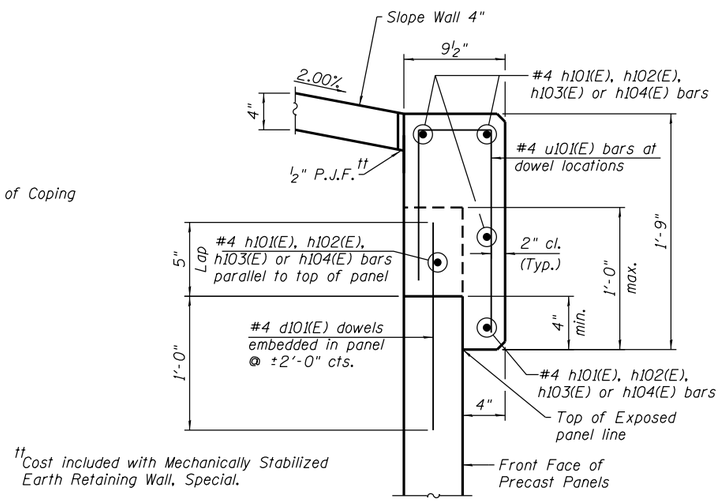
(Horiz. Dim. @ Rt. L's)

** See S.N. 016-1706 plans for size, spacing and number of drilled shafts.

*** Abutment Soil Reinforcement to resist lateral loads in lieu of drilled shafts. The MSE Wall supplier shall design the abutment soil reinforcement to resist a horizontal force of 3 kips/ft. of abutment.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d101(E)	30	#4	1'-5"	——
h101(E)	5	#4	28'-10"	——
h102(E)	5	#4	8'-9"	——
h103(E)	5	#4	12'-4"	⌐
h104(E)	5	#4	13'-2"	⌐
u101(E)	30	#4	3'-0"	⌐
Structure Excavation		Cu Yd	276	
Protective Coat		Sq Yd	18	
Reinforcement Bars, Epoxy Coated		Pound	300	
Slope Wall 4"		Sq Yd	8	



tt Cost included with Mechanically Stabilized Earth Retaining Wall, Special.

SECTION B-B
CONCRETE COPING

NOTES:

1. Install 2" PJF from bottom of abutment to top of leveling pad. Cost is included with Lightweight Cellular Concrete Fill.
2. Cost of Geotextile Fabric and Concrete Coping is included in cost of Mechanically Stabilized Earth Retaining Wall, Special.

016-1833-60X93-SHT-04-MSE Details.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
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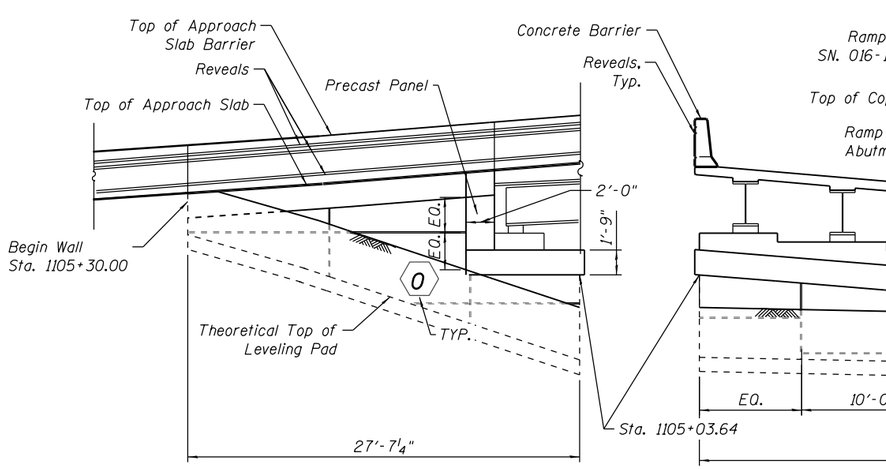
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 9/10/2018	CHECKED - ATB	REVISED	

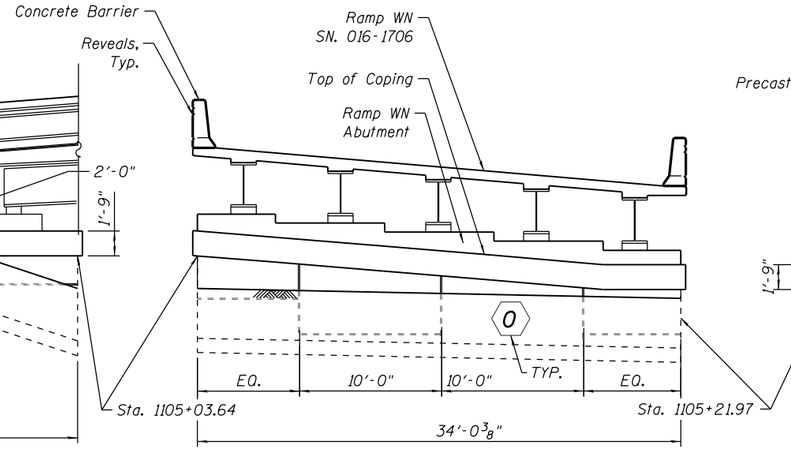
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WRAP AROUND DETAILS
STRUCTURE NO. 016–1833
SHEET NO. S8-04 OF S8-11 SHEETS

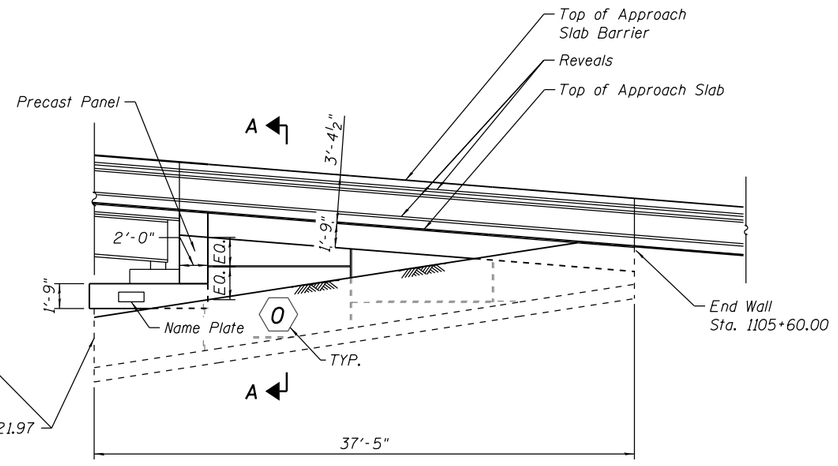
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1076
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



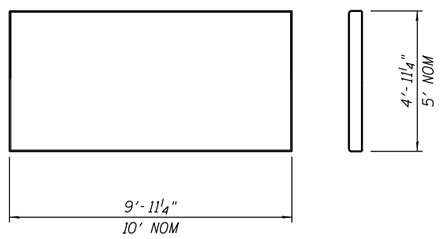
SOUTH ELEVATION



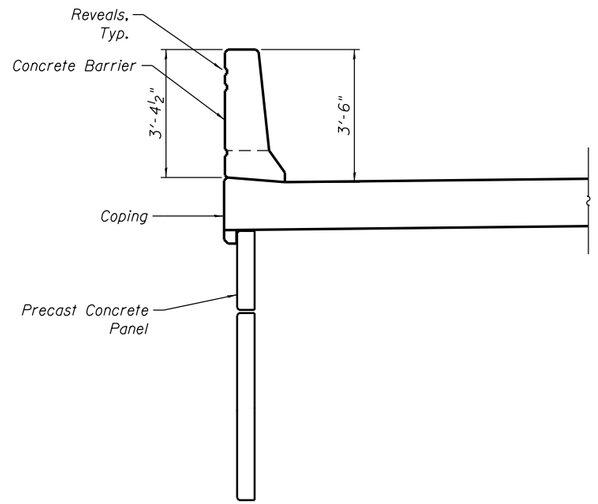
EAST ELEVATION



NORTH ELEVATION



PRECAST PANEL TYPE 0



SECTION A-A

NOTES:

1. See Ramp WN (SN 016-1706) plan for Concrete barrier architectural details.
2. Textured formliner for precast panels will not be paid separately and will be included in the cost of the pay item "Mechanically Stabilized Earth Retaining Wall, Special"
3. Verify / coordinate all dimensions with Ramp WN plans (SN 016-1706).

016-1833-60X93-SHT-05-MSE Arch_Details-1.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
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PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1833
SHEET NO. S8-05 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1077
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, Illinois 60148
Telephone: 630-953-9928
Fax: 630-953-9938

BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 1104+42.63
Offset: 42.6570 LT

Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	SOIL AND ROCK DESCRIPTION
584.5						3-inch thick CRUSHED STONE
						--FILL--
		1	5 11 15	2.25 P	26	Very stiff, dark brown and gray SILTY CLAY LOAM, trace gravel, brick and glass fragments
						--FILL--
5		2	3 7 9	2.75 P	16	
579.2						Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel
		3	2 3 4	0.66 B	19	
		4	2 2 3	0.57 B	21	--L_L(%)=29, P_L(%)=16-- --%Gravel=3.8--
10						--%Sand=16.9-- --%Silt=54.2-- --%Clay=25.1-- --A-6(8)--
		5	0 1 3	0.49 B	24	
15		6	0 2 2	0.44 B	23	
		7	0 2 2	0.41 B	25	
20		8	0 0 0	0.41 B	25	
		9	0 1 2	0.25 B	26	
25		10	0 0 2	0.25 B	26	
30		11	0 0 1	0.25 B	27	
		12	0 0 2	0.33 B	26	
35		13	0 2 2	0.16 B	25	
		14	0 1 2	0.33 B	28	--L_L(%)=36, P_L(%)=18-- --%Gravel=1.8--
45		15	3 4 4	0.66 B	20	--%Sand=10.7-- --%Silt=50.0-- --%Clay=37.5-- --A-6(15)--
538.0						Very stiff, gray SILTY CLAY, trace gravel
50		16	4 7 11	3.53 B	23	--L_L(%)=27, P_L(%)=16-- --%Gravel=6.1-- --%Sand=20.1--

GENERAL NOTES

Begin Drilling: 10-10-2013 Complete Drilling: 10-17-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 74.00 ft
At Completion of Drilling: 91.25 ft
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, Illinois 60148
Telephone: 630-953-9928
Fax: 630-953-9938

BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 1104+42.63
Offset: 42.6570 LT

Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	SOIL AND ROCK DESCRIPTION
						--%Silt=50.9-- --%Clay=22.9-- --A-6(6)--
533.0						Dense, gray SANDY LOAM, trace gravel
530.5						Hard, gray SILTY LOAM, trace gravel
		17	11 14 26	NP	12	
55						
		18	18 15 22	5.49 S	13	
60						
		19	15 25 35	8.61 S	12	--L_L(%)=23, P_L(%)=16-- --%Gravel=7.7--
65						--%Sand=23.1-- --%Silt=55.2-- --%Clay=14.0-- --A-4(2)--
		20	14 19 25	8.45 S	14	
70						
510.7						Very dense, gray SILTY LOAM, trace gravel
		21	18 36 50/5	NP	20	
75						
508.0						--Saturated-- Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel
		22	34 50/6	7.95 S	11	
80						
		23	50/6	> 4.50 P		
85						--HARD DRILLING-- --Possible Cobbles--
90		24	28 50/5	3.69 S	17	--HARD DRILLING-- --Possible Cobbles--
493.5						Very dense, gray GRAVELLY SAND --Saturated--
95		25	50/3	NP	10	
		26	19 50/2	NP	10	
100						

GENERAL NOTES

Begin Drilling: 10-10-2013 Complete Drilling: 10-17-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

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Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

NOTE:

1. Station and offset are measured along ℄ Ramp WN.

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS - I STRUCTURE NO. 016-1833	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - ATB	REVISED			90/94/290	2014-013R&B-R	COOK	1972	1078
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED						CONTRACT NO. 60X93	
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED		SHEET NO. S8-06 OF S8-11 SHEETS			ILLINOIS	FED. AID PROJECT	

016-1833-60X93-SHT-06-Boring

Wang Engineering
wangeng@wangeng.com
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BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 1104+42.63
Offset: 42.6570 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (b/w/6 in)	Qu (tsf)	Moisture Content (%)
			105		27	21 50/3	NP	14
	478.7	Strong, light gray, poor to excellent rock mass quality, bedded fresh DOLOSTONE, up to 30-inch beds, 17-inch spaced joints, horizontal joints with less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity.	110	CORE	1			
		--Run 1 - RECOVERY=88%-- --RQD=26%-- 109.5ft-Qu=10990 psi ---> --Run 2 - RECOVERY=99%-- --RQD=92%-- 113.0ft-Qu=9060 psi --->	115	CORE	2			
	466.7	Boring terminated at 118.00 ft	120					
			125					

GENERAL NOTES

Begin Drilling: 10-10-2013 Complete Drilling: 10-17-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 74.00 ft
At Completion of Drilling: ▼ 91.25 ft
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

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BORING LOG 1706-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.37 ft
North: 1898150.62 ft
East: 1171768.12 ft
Station: 1105+20.19
Offset: 0.3840' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (b/w/6 in)	Qu (tsf)	Moisture Content (%)
	586.1	3-inch thick ASPHALT --PAVEMENT--						
	585.3	10-inch thick CONCRETE --PAVEMENT--			1	7 12 8	NP	7
	583.1	Medium dense, brown CRUSHED STONE --BASE COURSE--	5		2	4 4 7	NP	23
		Medium dense, brown, fine SAND --FILL--			3	3 4 4	NP	16
	579.2	Very stiff (2.5P), brown and gray						
	578.4	SILTY CLAY LOAM, trace gravel --FILL--						
		Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	10		4	1 2 3	0.57 B	22
					5	2 1 2	0.25 B	22
			15		6	1 2 3	0.74 B	19
					7	2 2 2	0.49 B	21
			20		8	1 2 3	0.41 B	25
					9	0 0 1	0.33 B	26
			25		10	1 2 1	0.25 B	25
	539.6	Very stiff to hard, gray SILTY CLAY LOAM, trace gravel						
			30		11	0 1 1	0.16 B	27
					12	2 1 2	0.16 B	26
			35		13	0 1 1	0.16 B	26
					14	1 1 1	0.41 B	26
			40					
			45		15	3 5 8	0.66 B	13
					16	5 8 15	3.61 B	21
			50					

GENERAL NOTES

Begin Drilling: 03-16-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 57.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA hours
Depth to Water: ▽ NA ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

NOTE:

1. *Station and offset are measured along ℄ Ramp WN.*

016-1833-60X93-SHT-07-Boring.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	
		CHECKED - ATB	REVISED	
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – II
STRUCTURE NO. 016–1833
SHEET NO. S8-07 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1079
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 1706-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.37 ft
North: 1898150.62 ft
East: 1171768.12 ft
Station: 1105+20.19
Offset: 0.3840' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			55		17	8 9 19	5.08 B	15
	529.4	Very dense, gray GRAVELLY LOAM						
			60		18	15 40 25	NP	10
		--HARD DRILLING-- *--Possible Cobbles--*						
	524.6	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
			65		19	18 27 21	> 4.50 P	12
		--HARD DRILLING-- *--Possible Cobbles--*	70		20	15 22 24	> 4.50 P	14
			75		21	15 24 32	> 10.25 B	13
	504.6	Very dense, gray GRAVELLY SILTY LOAM	80		22	32 50/4"	> 8.33 N/6	9
		--Wet-- --%Gravel=19.6-- --%Sand=26.3-- --%Silt=51.0-- --%Clay=3.1-- --A-4 (0)-- --HARD DRILLING-- *--Possible Cobbles--*	85		23	50/5"	NP	11
			90		24	50/5"	NP	12
	494.6	Gray SILT --Wet--						
	492.4	Hard, gray SILTY CLAY LOAM, to SILTY LOAM, trace gravel	95		25	27 24 38	5.00 S	16
			100		26	13 26 40	4.92 S	17

GENERAL NOTES

Begin Drilling: 03-16-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 57.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA hours
Depth to Water: ▼ NA ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

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BORING LOG 1706-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 586.37 ft
North: 1898150.62 ft
East: 1171768.12 ft
Station: 1105+20.19
Offset: 0.3840' LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			105		27	50/3"	NP	11
		--HARD DRILLING-- *--Possible Cobbles--*						
	480.4	--WEATHERED BEDROCK-- --VERY HARD DRILLING--						
	477.4	Strong, light gray, good rock mass quality, bedded fresh DOLOSTONE, up to 18-inch beds, 8-inch joints spacing, horizontal and vertical joints with none to more than 0.2-inch infilling, up to 4-inch greenish gray argillaceous partings, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity.	110	CORE	1			
		--Run 1 - RECOVERY=100%-- --RQD=76%--	115					
	467.4	Boring terminated at 119.00 ft	120					
			125					

GENERAL NOTES

Begin Drilling: 03-16-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 57.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA hours
Depth to Water: ▼ NA ft
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

NOTE:

1. *Station and offset are measured along ℄ Ramp WN.*

016-1833-60X93-SHT-08-Boring.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – III
STRUCTURE NO. 016–1833
SHEET NO. S8-08 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1080
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG 1715-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 578.98 ft
North: 1898224.57 ft
East: 1171745.64 ft
Station: 1105+89.73
Offset: 39.7965 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	578.82	2-inch thick ASPHALT						
	578.0	--PAVEMENT--						
		10-inch thick CONCRETE						
		--PAVEMENT--			1	4 5 4	NP	10
	576.0	Loose, light brown CRUSHED STONE						
		--BASE COURSE--						
		Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	5		2	0 1 2	0.82 B	23
					3	2 2 3	0.41 B	19
			10		4	2 2 3	0.49 B	22
					5	1 2 2	0.74 B	20
			15		6	0 1 2	0.33 B	23
					7	1 1 2	0.33 B	26
			20		8	1 1 2	0.25 B	26
					9	0 1 2	0.25 B	27
			25		10	1 1 2	0.50 N/6	
	537.2	Very stiff, gray SILTY CLAY LOAM, trace gravel						
			30		11	0 2 2	0.41 B	26
					12	1 1 2	0.57 B	26
			35		13	2 2 2	0.33 B	28
			40		14	4 6 9	0.67 B	18
			45		15	7 7 7	3.36 B	22
			50		16	6 10 12	2.54 B	16

GENERAL NOTES

Begin Drilling: 02-23-2014 Complete Drilling: 03-23-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 3.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: 24 hours
Depth to Water: ▽ 72.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

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BORING LOG 1715-B-02

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 578.98 ft
North: 1898224.57 ft
East: 1171745.64 ft
Station: 1105+89.73
Offset: 39.7965 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	527.2	Dense, gray SILT						
		--Wet--	55		17	14 16 18	NP	16
	522.2	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel						
			60		18	18 24 27	8.19 S	12
			65		19	20 31 42	4.59 S	14
			70		20	20 50/4	5.74 S	13
	507.2	Very dense, gray SILTY LOAM, trace to some gravel						
		--WET--	75		21	30 50/4	NP	10
		--HARD DRILLING-- *--Possible Cobbles--*	80		22	50/5	NP	12
		--HARD DRILLING-- *--Possible Cobbles--*	85		23	50/3	NP	
		--HARD DRILLING-- *--Possible Cobbles--*	90		24	50/3	NP	10
	488.0	--VERY HARD, STEADY DRILLING-- --WEATHERED BEDROCK--						
	486.0	--ROLLER BIT REFUSAL-- Boring terminated at 93.00 ft	95					
			100					

GENERAL NOTES

Begin Drilling: 02-23-2014 Complete Drilling: 03-23-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ 3.00 ft
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: 24 hours
Depth to Water: ▽ 72.00 ft

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

NOTE:

1. *Station and offset are measured along ℄ Ramp WN.*

016-1833-60X93-SHT-09-Boring.dgn

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – IV
STRUCTURE NO. 016–1833
SHEET NO. S8-09 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1081
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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BORING LOG VST-06

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 585.69 ft
North: 1898109.29 ft
East: 1171902.18 ft
Station: 1103+77.81
Offset: 27.3835 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		Hard, brown SILTY CLAY LOAM, trace gravel						
		--FILL--						
			5		1	7 6 6	> 4.50 P	16
	580.2							
		Soft, gray SILTY CLAY LOAM			2	1 2 3	0.41 B	23
	576.7							
			10					
		--In-Situ Vane Shear, 10.5 feet--			1	VS		
		--$S_{u\ undis}$ = 972.0 psf--						
		--$S_{u\ remold}$ = 611.6 psf--						
		--Sensitivity = 1.6--						
		--In-Situ Vane Shear, 13.0 feet--			2	VS		
		--$S_{u\ undis}$ = 982.9 psf--						
		--$S_{u\ remold}$ = 589.7 psf--						
		--Sensitivity = 1.7--	15					
		--In-Situ Vane Shear, 15.5 feet--			3	VS		
		--$S_{u\ undis}$ = 873.7 psf--						
		--$S_{u\ remold}$ = 513.3 psf--						
		--Sensitivity = 1.7--						
		--In-Situ Vane Shear, 18.0 feet--			4	VS		
		--$S_{u\ undis}$ = 928.3 psf--						
		--$S_{u\ remold}$ = 360.4 psf--						
		--Sensitivity = 2.6--	20					
		--In-Situ Vane Shear, 20.5 feet--			5	VS		
		--$S_{u\ undis}$ = 775.4 psf--						
		--$S_{u\ remold}$ = 360.4 psf--						
		--Sensitivity = 2.2--						
		--In-Situ Vane Shear, 23.0 feet--			6	VS		
		--$S_{u\ undis}$ = 600.6 psf--						
		--$S_{u\ remold}$ = 305.8 psf--						
		--Sensitivity = 2.0--	25					
		--In-Situ Vane Shear, 25.5 feet--			7	VS		
		--$S_{u\ undis}$ = 578.8 psf--						
		--$S_{u\ remold}$ = 316.7 psf--						
		--Sensitivity = 1.8--						
		--In-Situ Vane Shear, 28.0 feet--			8	VS		
		--$S_{u\ undis}$ = 611.6 psf--						
		--$S_{u\ remold}$ = 338.5 psf--						
		--Sensitivity = 1.8--	30					
		--In-Situ Vane Shear, 30.5 feet--			9	VS		
		--$S_{u\ undis}$ = 786.3 psf--						
		--$S_{u\ remold}$ = 382.2 psf--						
		--Sensitivity = 2.1--						
		--In-Situ Vane Shear, 33.0 feet--			10	VS		
		--$S_{u\ undis}$ = 698.9 psf--						
		--$S_{u\ remold}$ = 404.1 psf--						
		--Sensitivity = 1.7--	35					
		--In-Situ Vane Shear, 35.5 feet--			11	VS		
		--$S_{u\ undis}$ = 808.1 psf--						
		--$S_{u\ remold}$ = 502.4 psf--						
		--Sensitivity = 1.6--						
		--In-Situ Vane Shear, 38.0 feet--			12	VS		
		--$S_{u\ undis}$ = 982.9 psf--						
		--$S_{u\ remold}$ = 546.0 psf--						
		--Sensitivity = 1.8--	40					
		--In-Situ Vane Shear, 40.5 feet--			13	VS		
		--$S_{u\ undis}$ = 906.4 psf--						
		--$S_{u\ remold}$ = 524.2 psf--						
		--Sensitivity = 1.7--						
	542.2	--In-Situ Vane Shear, 43.0 feet--			14	VS		
		--$S_{u\ undis}$ = 677.1 psf--						
		--$S_{u\ remold}$ = 393.1 psf--						
		--Sensitivity = 1.7--	45					
		Boring terminated at 43.50 ft						
			50					

WANGENGINC 11000401.GPJ WANGENG.GDT 8/16/17

GENERAL NOTES

Begin Drilling: 12-09-2015 Complete Drilling: 12-14-2015
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&N Logger: F. Bozga Checked by: A. Kurnia
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: Rotary wash
At Completion of Drilling: mud in the borehole
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG 1703-PZ-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.49 ft
North: 1898127.96 ft
East: 1171807.47 ft
Station: 1104+74.81
Offset: 3.30157 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--Drilled without sampling--						
			5					
			10					
			15					
			20					
			25					
		--piezometer stabilized water level reading --	30					
		--reading during well development (11/20/2014) = 32.00 feet bgs--						
		--reading date: 12/05/2014 = 31.10 feet bgs--	35					
			40					
			45					
			50					

Piezometer Data:
--Installed in Nov. 12, 2014
--Bentonite Seal 70 to 72 feet
--Top of Sand Pack at 72 feet
--Top of Screen at 75.3 feet
--Screen Length 20 feet
--Bottom of Screen at 95.3 feet

WANGENGINC 11000401.GPJ WANGENG.GDT 10/19/17

GENERAL NOTES

Begin Drilling: 11-10-2014 Complete Drilling: 11-12-2014
Drilling Contractor: Wang Testing Services Drill Rig: B-57 TMR [100%]
Driller: P&P Logger: S. Woods Checked by: C. Marin
Drilling Method: 4.25" HSA, monitoring water well

WATER LEVEL DATA

While Drilling: 78.00 ft
At Completion of Drilling: NA
Time After Drilling: NA
Depth to Water: NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

NOTE:

1. *Station and offset are measured along ℄ Ramp WN.*

016-1833-60X93-SHT-10-Boring.dgn

AECOM

USER NAME = $USER	DESIGNED - MK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – V
STRUCTURE NO. 016–1833
SHEET NO. S8-10 OF S8-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1082
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

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Fax: 630-953-9938

BORING LOG 1703-PZ-01

WEI Job No.: 1100-04-01

Client ..... AECOM
Project ..... Circle Interchange Reconstruction
Location ..... Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 582.49 ft
North: 1898127.96 ft
East: 1171807.47 ft
Station: 1104+74.81
Offset: 3.30157 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			55					
			60					
			65					
			70					
		Piezometer Data: *--Installed in Nov. 12, 2014* *--Bentonite Seal 70 to 72 feet* *--Top of Sand Pack at 72 feet* *--Top of Screen at 75.3 feet* *--Screen Length 20 feet* *--Bottom of Screen at 95.3 feet*	75					
			80					
			85					
		Very dense, gray SILTY LOAM, trace gravel --Dry--	90	1		40 42 18/3	NP	13
			95	2		10 23 50/3	NP	20
		--Dolostone fragments--	100	3		15 30/2	NP	14
	482.5	Boring terminated at 100.00 ft						

GENERAL NOTES

Begin Drilling 11-10-2014 Complete Drilling 11-12-2014
Drilling Contractor Wang Testing Services Drill Rig B-57 TMR [100%]
Driller P&P Logger S. Woods Checked by C. Marin
Drilling Method 4.25" HSA, monitoring water well

WATER LEVEL DATA

While Drilling ▽ 78.00 ft
At Completion of Drilling ▼ NA
Time After Drilling NA
Depth to Water ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 11000401.GPJ WANGENG.GDT 10/19/17

NOTE:

1. *Station and offset are measured along ℄ Ramp WN.*

016-1833-60X93-SHT-11-Boring.dgn

AECOM	USER NAME = $USER	DESIGNED - MK	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS – VI STRUCTURE NO. 016–1833	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - ATB	REVISED			90/94/290	2014-013R&B-R	COOK	1972	1083
	PLOT SCALE = N.T.S.	DRAWN - MK	REVISED					CONTRACT NO. 60X93		
	PLOT DATE = 7/30/2018	CHECKED - ATB	REVISED		SHEET NO. S8-11 OF S8-11 SHEETS		ILLINOIS	FED. AID PROJECT		

Bench Mark: Cut square at southeast corner of Van Buren St. and Halstad St., on northeast corner of first step of decorative pillar. Elev. 594.00

Existing Structure: None

The existing Ramp WS bridge will be closed and traffic will be detoured during construction. Traffic on I-290 and I-90/94 will be maintained with stage construction.

No Salvage.

Notes:
Wall offsets are measured from the ℄ of SB Taylor St. Exit Ramp to the front face of precast panels.
F.F. denotes Front Face.
B.F. denotes Back Face.
Aggregate columns must be spaced to avoid interference with existing utilities to remain, proposed utilities to be installed, and proposed substructure foundations.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications 7th Edition with 2015 and 2016 Interim Specifications

DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f'c = 4,000 psi	f'c = 4,500 psi
fy = 60,000 psi (Reinf.)	

CURVE DATA

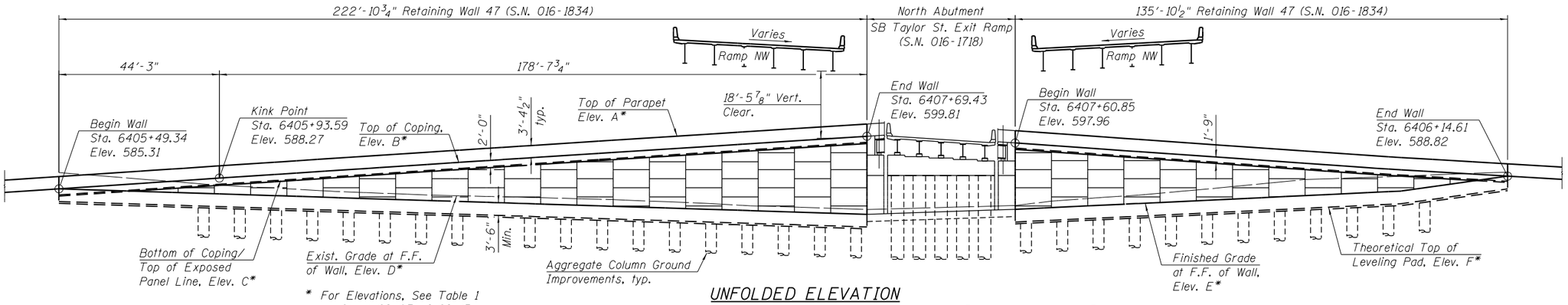
(Along ℄ SB Taylor St. Exit Ramp)

P-TAY-SX-2
P.I. Sta. = 6408+06.27
Δ = 65° 55' 10" (LT)
D = 17° 28' 06"
R = 328.00'
T = 212.68'
L = 377.37'
E = 62.92'
e = 5.00%
T.R. = 46'
S.E. Run = 114'
P.C. Sta. = 6405+93.59
P.T. Sta. = 6409+70.96

CURVE DATA

(Ramp NW)

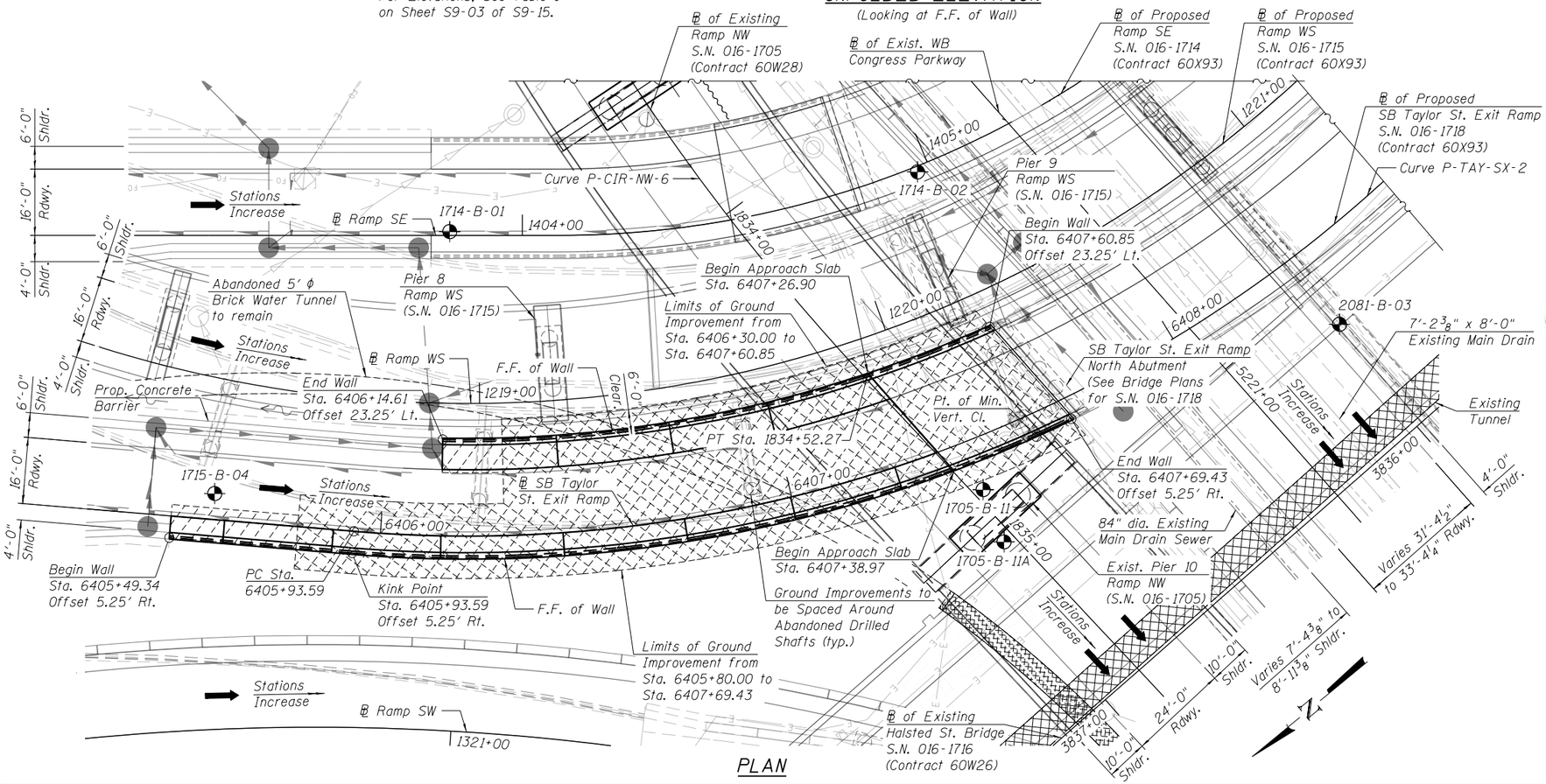
P-CIR-NW-6
P.I. Sta. = 1831+44.22
Δ = 88° 30' 25" (LT)
D = 10° 36' 37"
R = 540.00'
T = 526.11'
L = 834.16'
E = 213.92'
e = 5.4%
T.R. = NA
S.E. Run = 66'
P.C. Sta. = 1826+18.11
P.T. Sta. = 1834+52.27



* For Elevations, See Table 1 on Sheet S9-03 of S9-15.

UNFOLDED ELEVATION

(Looking at F.F. of Wall)



PLAN

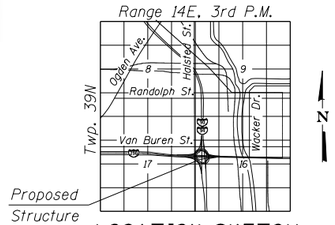
LEGEND

- Electric —E—
- Fiber Optic —FO—
- Exist. Storm Sewer
- Light Pole
- Soil Boring
- Limits of Soil Reinforcement
- Limits of Soil Reinforcement With Ground Improvements

MATTHEW D. SANTEFORD
081-007244
LICENSED STRUCTURAL ENGINEER OF
STATE OF ILLINOIS

07/30/2018

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2018



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL 47 ALONG
F.A.I 94 (SB I-90/94 TAYLOR ST. EXIT RAMP)
SECTION 2014-013 R&B-R
COOK COUNTY
STATION 6405+49.34 TO STATION 6407+69.43
STRUCTURE NO. 016-1834

TranSystems

USER NAME = wjcollett1	DESIGNED - DJG	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 32.00 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S9-01 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1084
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subjected to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Concrete Sealer shall be applied to exposed front face surfaces of the precast concrete panels, anchorage slab and parapet. Protective Coating shall be applied on the top and back face of parapet and top of exposed anchorage slab.
4. The Contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other loads applied to the structures will not have detrimental effects on the adjacent building foundations and the existing main drain. Any damage during construction shall be repaired by the Contractor at his expense and no charge to the department. Driving piles and temporary sheet piling is not allowed.
5. The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/ construction activities to satisfy these requirements. See Contract Special Provisions for details.
6. Slipforming of parapets is not allowed.
7. The Contractor shall field verify locations of existing underground utilities. The Contractor shall take all precautions to protect existing utilities during construction of the wall. Any damage to the existing utilities shall be responsibility of the Contractor.
8. MSE Wall supplier shall design the MSE Wall using granular reinforced mass with minimum effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
9. The contractor shall coordinate the construction of the proposed structure with the construction of the proposed SB Taylor Street Exit Ramp Bridge and the proposed Ramp WS Bridge. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
10. All Lightweight Cellular Concrete Fill shall be Class III. See Special Provisions.

INDEX OF SHEETS

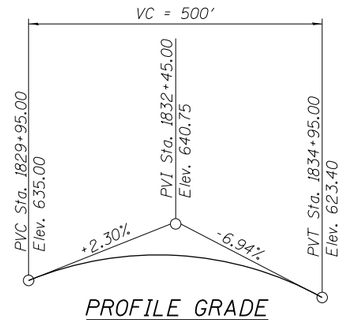
STATION 6405+49.34 TO 6407+69.43
BUILT 20-- BY
STATE OF ILLINOIS
F.A.I. RT. 90/94/290 SEC. 2014-013 R&B-R
LOADING HL-93
STRUCTURE NO. 016-1834

NAME PLATE

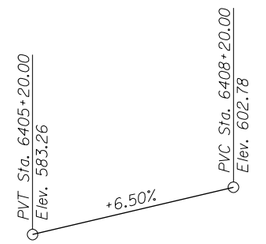
See Std. 515001

SUGGESTED SEQUENCE OF CONSTRUCTION

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Utility Location Plans and ITS Plans.
2. Excavate for Retaining Wall 47.
3. Install drilled shafts for SN 016-1718 North Abutment and form CIP fascia.
4. Install Aggregate Column Ground Improvement for Retaining Wall 47.
5. Construct Retaining Wall 47.
6. Begin placing lightweight cellular concrete fill.
7. Complete North Abutment of SN 016-1718.
8. Install Roadway pavement (See Roadway Plans).
9. No portions of the wall shall be compromised by excavation for other elements of work, including the North Abutment of Structure No. 016-1718, under the contract. If the sequencing of work requires that the wall construction is staged, the stage line shall be located at a panel edge with any exposed lightweight fill protected from damage.



PROFILE GRADE
(Along ℄ Ramp NW)



PROFILE GRADE
(Along ℄ Taylor St. Bypass Ramp)

TOTAL BILL OF MATERIAL

Item	Unit	Total Quantity
Structure Excavation	Cu. Yd.	1,203
Concrete Superstructure	Cu. Yd.	144.3
Protective Coat	Sq. Yd.	305
Reinforcement Bars, Epoxy Coated	Pound	24,610
Name Plates	Each	1
Concrete Sealer	Sq. Ft.	6,147
Lightweight Cellular Concrete Fill	Cu. Yd.	2,678
Aggregate Column Ground Improvement	L. Sum	0.8
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	156
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.	4,580

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TranSystems

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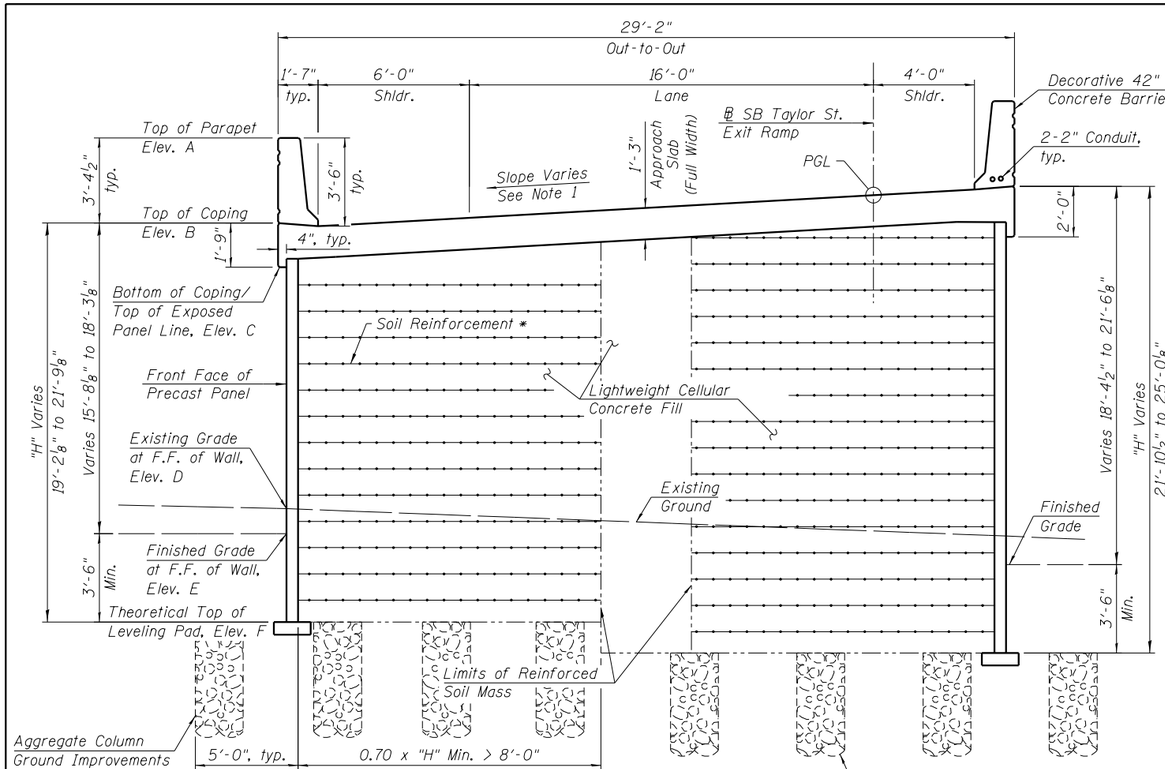
	CHECKED - KRS	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

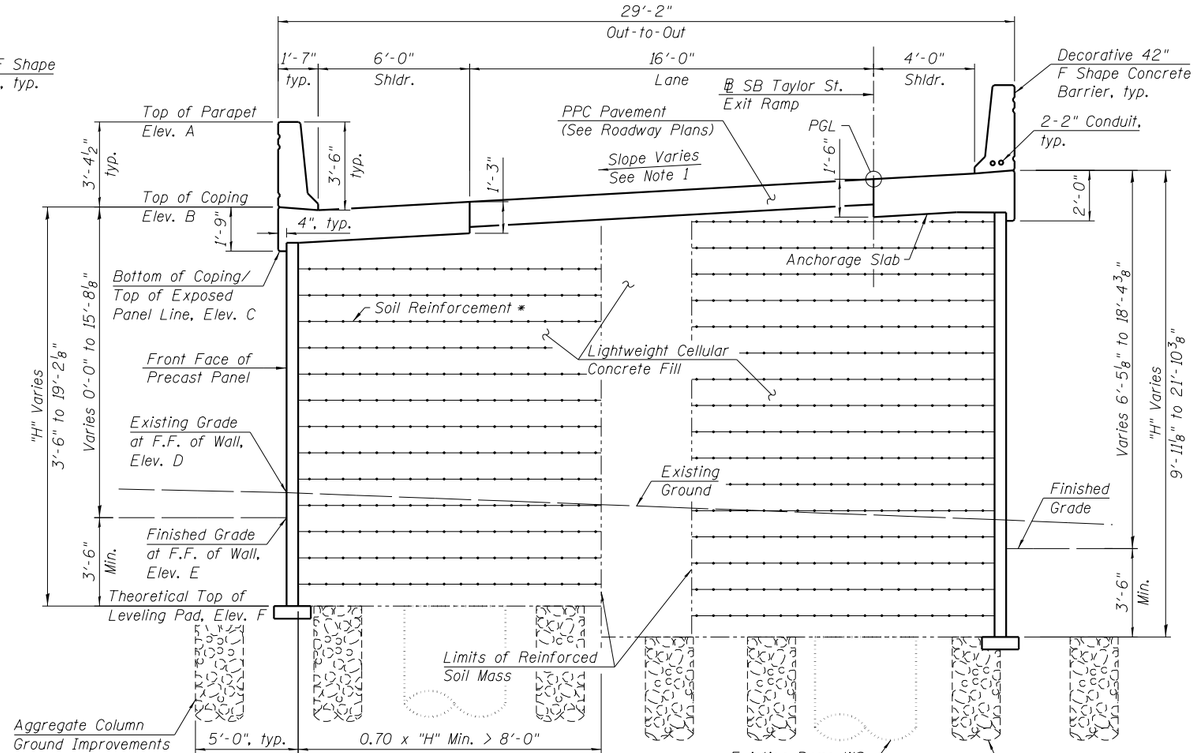
GENERAL DATA
RETAINING WALL 47 (STRUCTURE NO. 016–1834)
SHEET NO. S9-02 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1085
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



CROSS SECTION

(Right Side-Sta. 6407+38.97 to Sta. 6407+69.43)
(Left Side-Sta. 6407+26.90 to Sta. 6407+60.85)
(Looking Upstation)



CROSS SECTION

(Right Side-Sta. 6406+14.61 to Sta. 6407+38.97)
(Left Side-Sta. 6406+14.61 to Sta. 6407+26.90)
(Looking Upstation)

TABLE 1 - WALL ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F
6405+49.34	5.25' Rt.	588.68	585.31	583.31	589.78	585.31	581.81
6405+75.00	5.25' Rt.	590.40	587.02	585.02	587.77	584.50	581.00
6405+93.59	5.25' Rt.	591.64	588.27	586.27	586.31	583.92	580.42
6406+14.61	5.25' Rt.	593.05	589.67	587.67	585.19	583.25	579.75
6406+25.00	5.25' Rt.	593.74	590.37	588.37	584.61	582.92	579.42
6406+50.00	5.25' Rt.	595.42	592.04	590.04	583.61	582.12	578.62
6406+75.00	5.25' Rt.	597.05	593.67	591.67	583.02	581.32	577.82
6407+00.00	5.25' Rt.	598.67	595.30	593.30	582.36	580.53	577.03
6407+25.00	5.25' Rt.	600.30	596.92	594.92	581.36	579.73	576.23
6407+37.05	5.25' Rt.	601.08	597.71	595.71	580.68	579.34	575.84
6407+50.00	5.25' Rt.	601.92	598.55	596.55	580.28	578.93	575.43
6407+69.43	5.25' Rt.	603.19	599.81	597.81	579.62	578.31	574.81
6407+60.85	23.25' Lt.	601.33	597.96	596.21	580.71	579.69	576.19
6407+50.00	23.25' Lt.	600.62	597.25	595.50	581.94	580.17	576.67
6407+37.06	23.25' Lt.	599.78	596.41	594.66	582.82	580.73	577.23
6407+25.00	23.25' Lt.	599.00	595.62	593.87	583.53	581.26	577.76
6407+00.00	23.25' Lt.	597.37	594.00	592.25	585.60	582.35	578.85
6406+75.00	23.25' Lt.	595.75	592.37	590.62	587.87	583.45	579.95
6406+50.00	23.25' Lt.	594.14	590.76	589.01	588.64	584.54	581.04
6406+46.27	23.25' Lt.	593.94	590.56	588.81	588.76	584.70	581.20
6406+25.00	23.25' Lt.	592.77	589.39	587.64	589.62	587.47	583.97
6406+14.61	23.25' Lt.	592.20	588.82	587.07	589.88	588.82	585.32

Elevation A- Top of Parapet
Elevation B- Top of Coping
Elevation C- Bottom of Coping / Top of Exposed Panel Line
Elevation D- Existing Grade at F.F. of Wall
Elevation E- Finished Grade at F.F. of Wall
Elevation F- Theoretical Top of Leveling Pad

* The M.S.E. Wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.83 kips/ft of wall.

Notes:
Direction of slope referenced from right edge of pavement.
Slope Transition (0.00% to -5.00%) Sta. 6405+43.92 to Sta. 6406+51.92
Constant Cross Slope (-5.00%) Sta. 6406+51.92 to Sta. 6409+32.86
See Bridge Plans for S.N. 016-1718 for Approach Slab Details.

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Tran Systems

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	CHECKED - KRS	REVISED -
PLOT SCALE = 6.0000 '/ in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE CROSS SECTIONS AND DETAILS 1
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-03 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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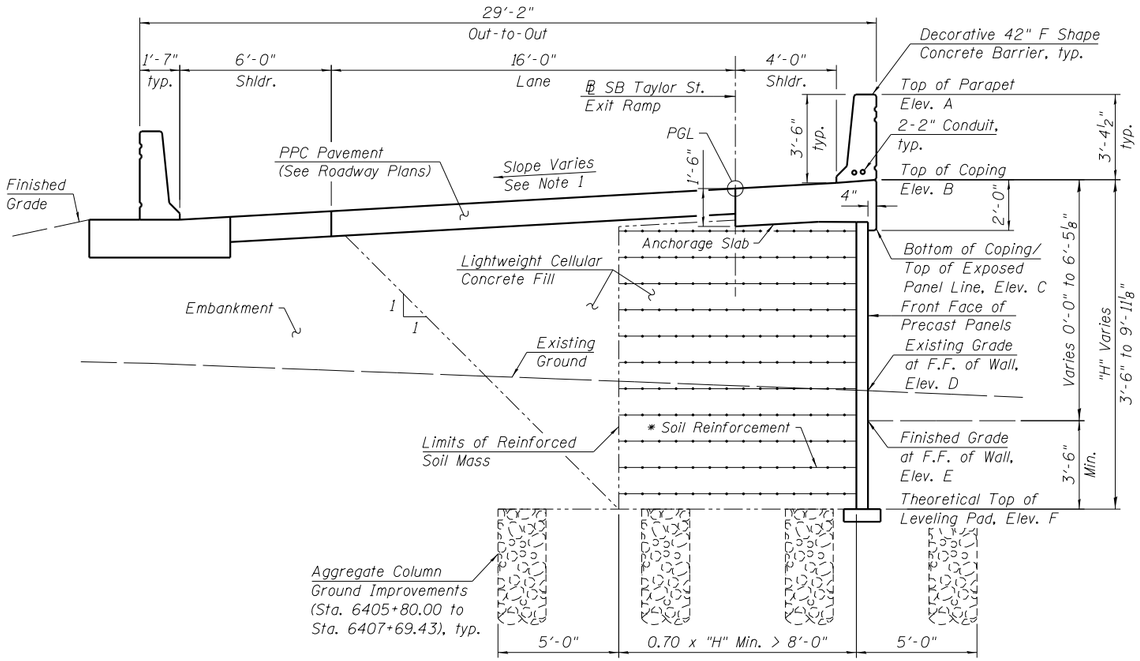
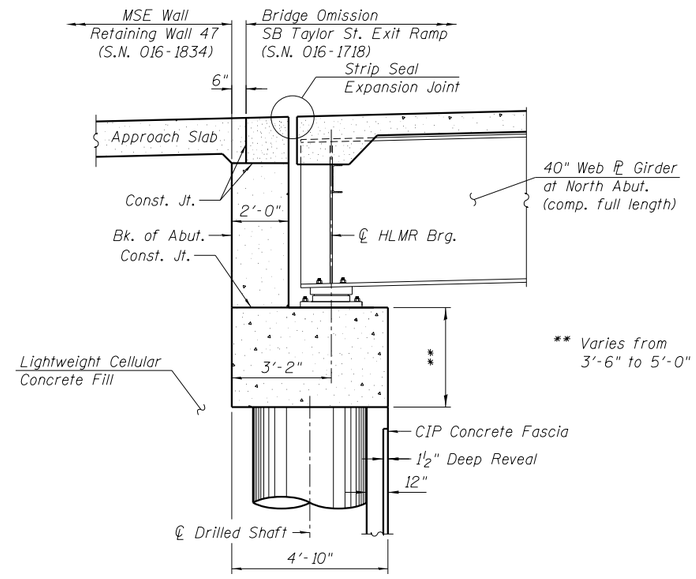
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		



CROSS SECTION

(Sta. 6405+49.34 to Sta. 6406+14.61)
(Looking Upstation)

* The M.S.E. Wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.83 kips/ft of wall.



SECTION THRU ABUTMENT

(Horiz. Dim. @ Rt. L's)

Notes:
Direction of slope referenced from right edge of pavement.
Slope Transition (0.00% to -5.00%) Sta. 6405+43.92 to Sta. 6406+51.92
Constant Cross Slope (-5.00%) Sta. 6406+51.92 to Sta. 6409+32.86

TranSystems	USER NAME = wjcolletti	DESIGNED - DJG	REVISED -
		CHECKED - KRS	REVISED -
	PLOT SCALE = 6.0000 ' / in.	DRAWN - MJR	REVISED -
	PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE CROSS SECTIONS AND DETAILS 2
RETAINING WALL 47 (STRUCTURE NO. 016–1834)
SHEET NO. S9-04 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1087
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	ILLINOIS FED. AID PROJECT			

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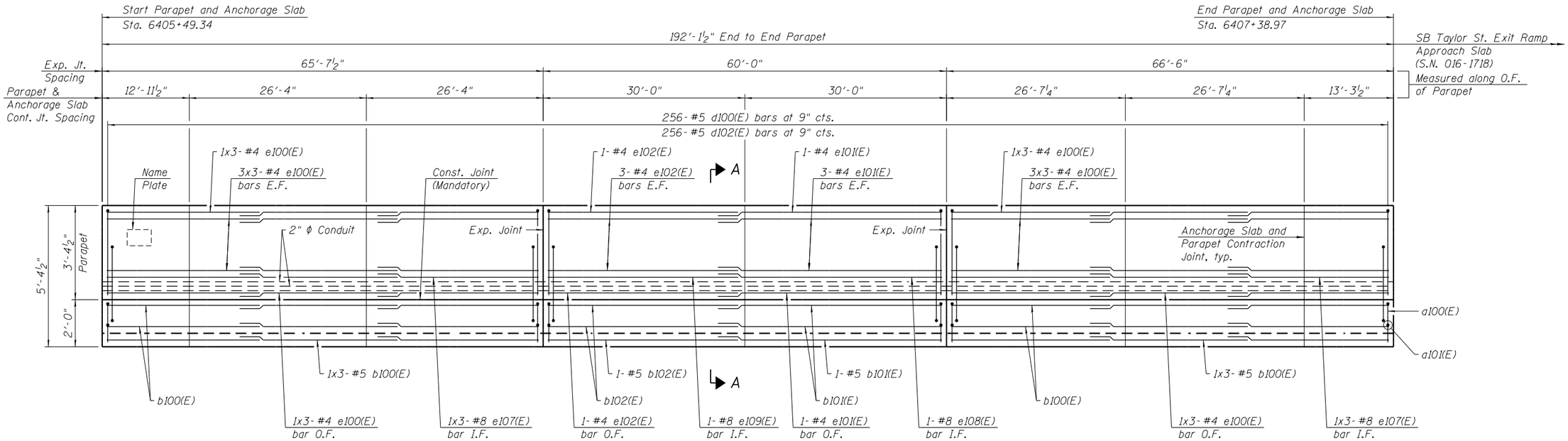
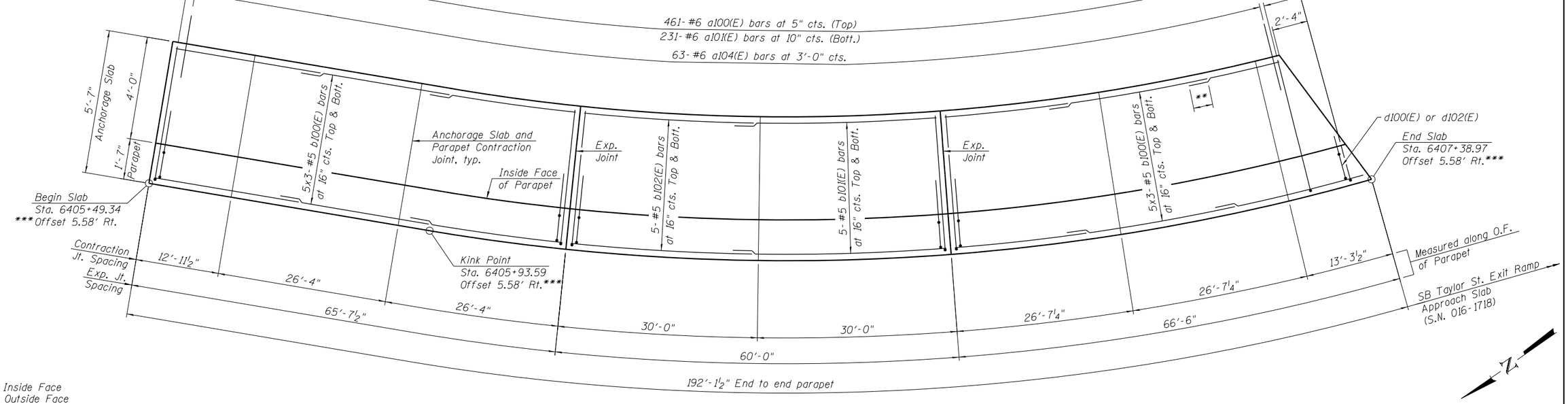


OUTSIDE ELEVATION OF RIGHT PARAPET AND ANCHORAGE SLAB



Notes:
- I.F. = Inside Face
- O.F. = Outside Face
- E.F. = Each Face

For Section A-A, see Sheet S9-06 of S9-15. For Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see Sheet S9-07 of S9-15.

Preformed Flexible Foam Expansion Joint Filler (called out as PJF in plans) shall follow Article 1051.09 of IDOT Standard Specifications. Cost included in Concrete Superstructure.

Anchorage slab shall be constructed in final stage.

RIGHT PARAPET AND ANCHORAGE SLAB PLAN

MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"

* Cut bar for edge clearance or place along skew.
** Vary lap length to adjust for the skewed end.
*** Offsets measured to front face of anchorage slabs.

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TranSystems

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PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION 1
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-05 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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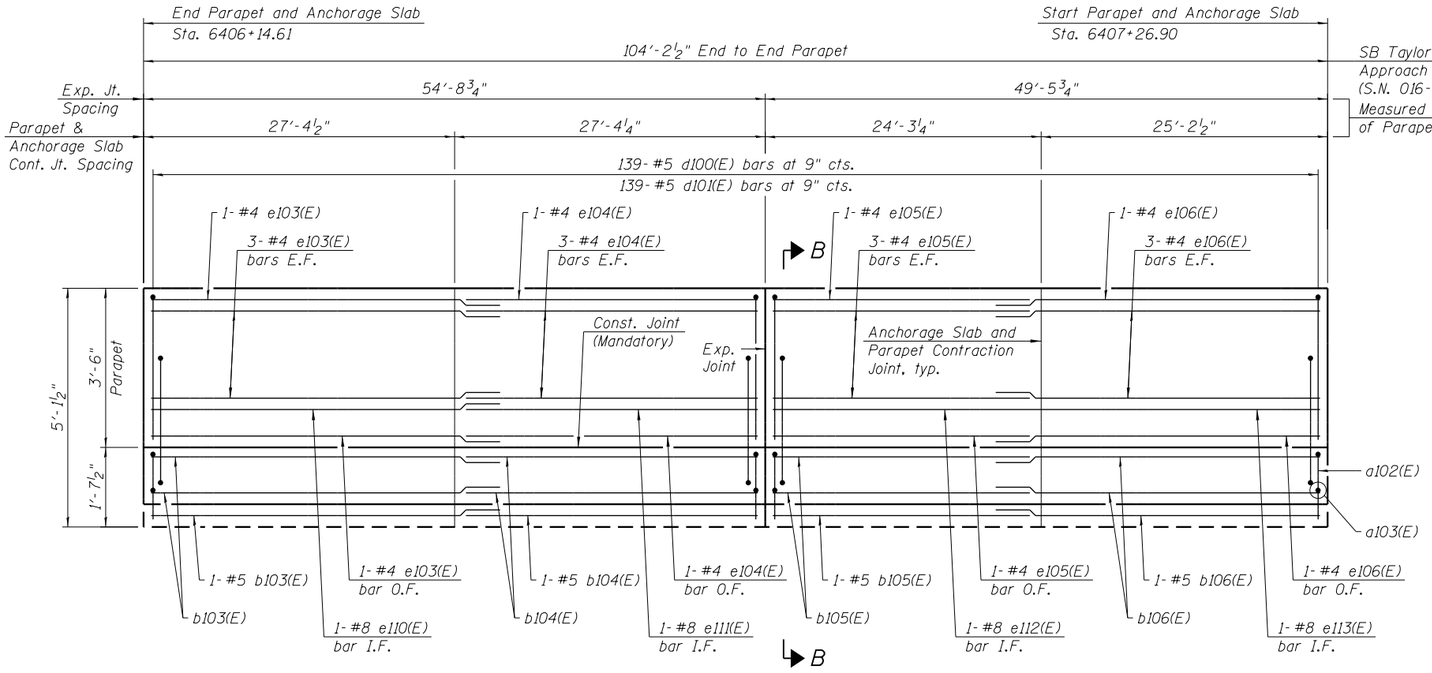
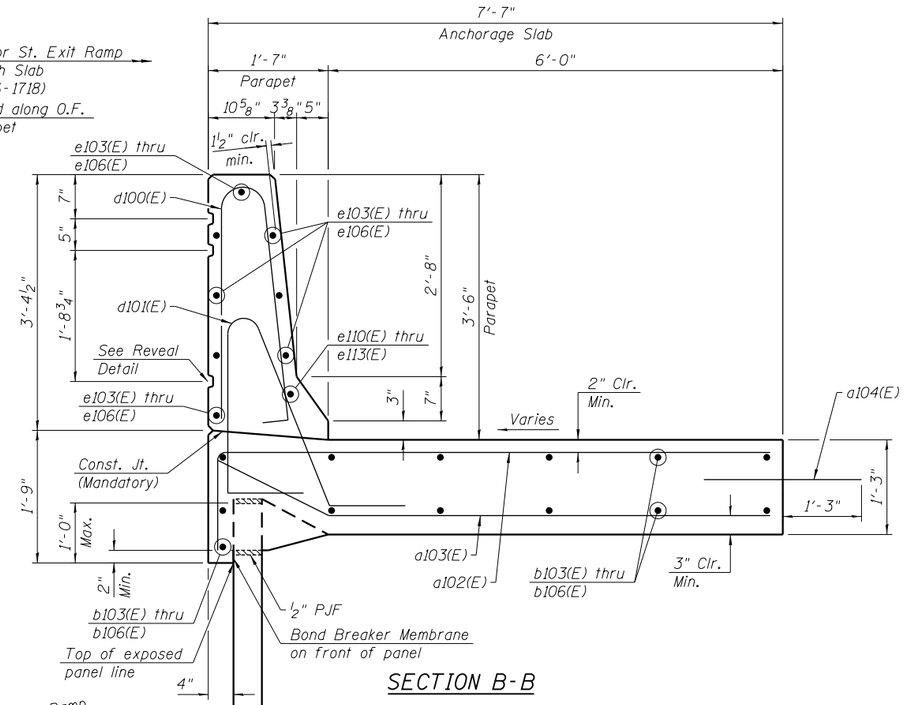
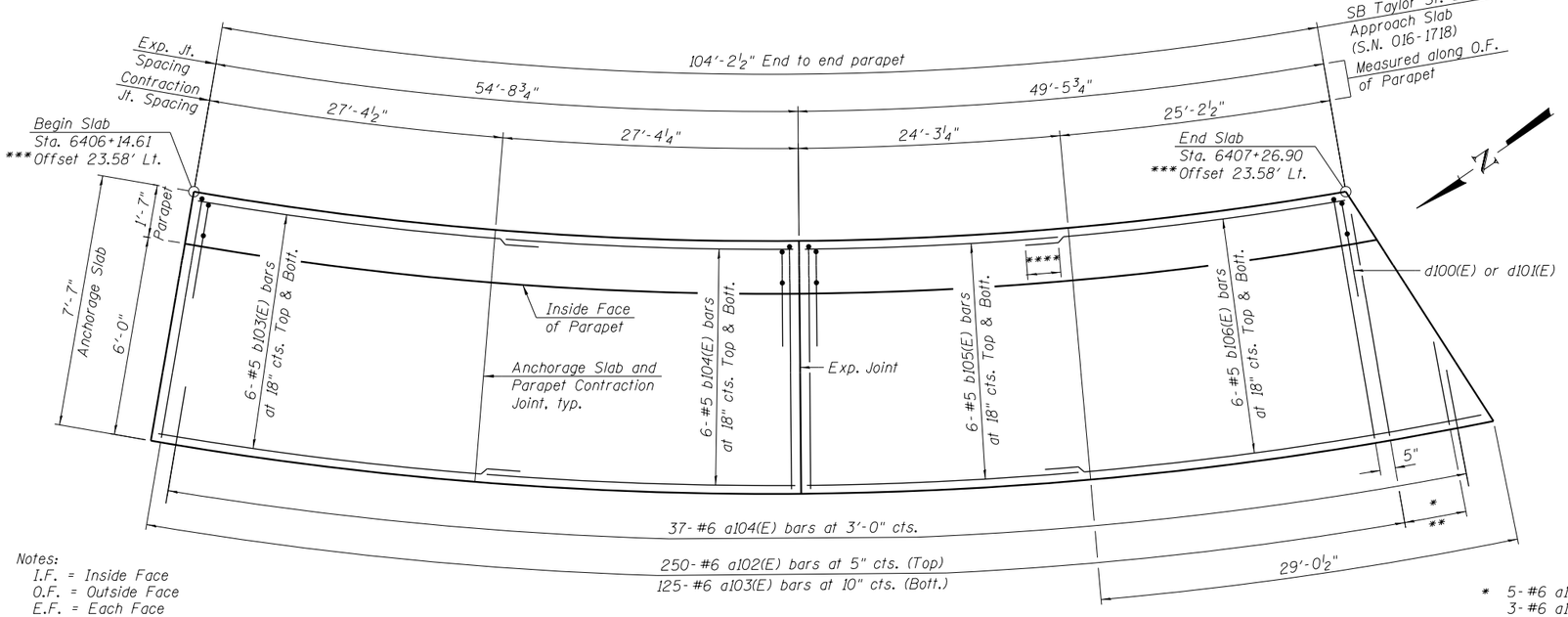


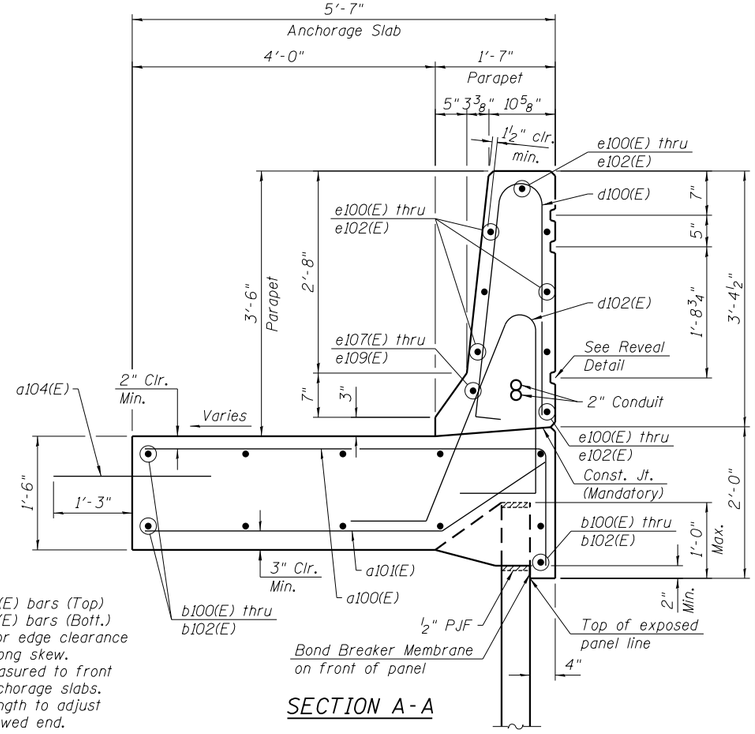
INSIDE ELEVATION OF LEFT PARAPET AND ANCHORAGE SLAB



SECTION B-B



LEFT PARAPET AND ANCHORAGE SLAB PLAN



SECTION A-A

Notes:
I.F. = Inside Face
O.F. = Outside Face
E.F. = Each Face
For Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see Sheet S9-07 of S9-15.
Preformed Flexible Foam Expansion Joint Filler (called out as PJF in plans) shall follow Article 1051.09 of IDOT Standard Specifications. Cost included in Concrete Superstructure.
Anchorage slab shall be constructed in final stage.

MIN. BAR LAPS

#4 = 2'-8"
#5 = 3'-4"
#8 = 6'-8"

* 5- #6 a102(E) bars (Top)
3- #6 a103(E) bars (Bott.)
** Cut bars for edge clearance or place along skew.
*** Offsets measured to front face of anchorage slabs.
**** Vary lap length to adjust for the skewed end.

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Tran Systems

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	CHECKED - KRS	REVISED -
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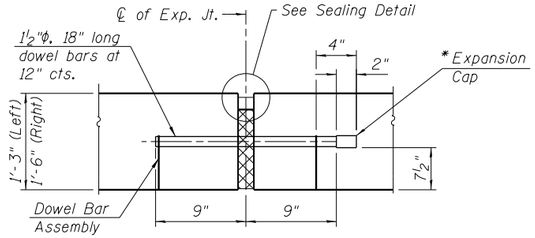
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION 2
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-06 OF S9-15 SHEETS

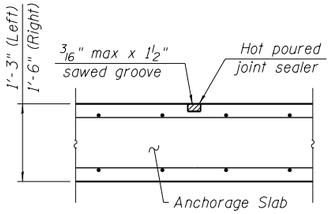
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1089
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



ANCHORAGE SLAB TO ANCHORAGE SLAB TRANSVERSE EXPANSION JOINT

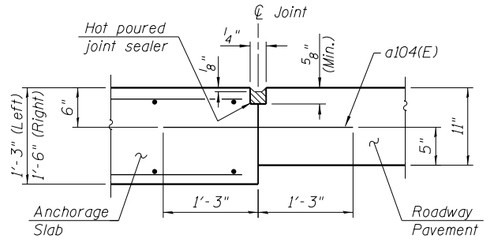
Expansion Joint Filler, Sealer and Dowel Bars included in cost of Concrete Superstructure.

*Expansion caps shall be installed on the exposed end of each dowel bar once header has been removed and the joint filler material has been installed.



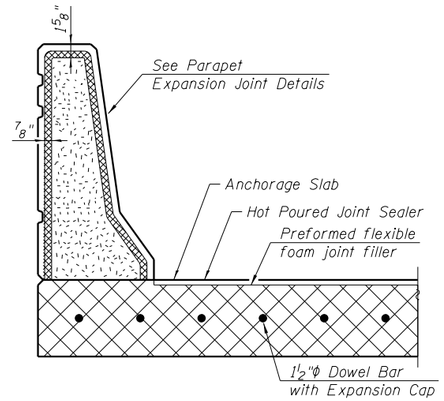
TRANSVERSE CONTRACTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications

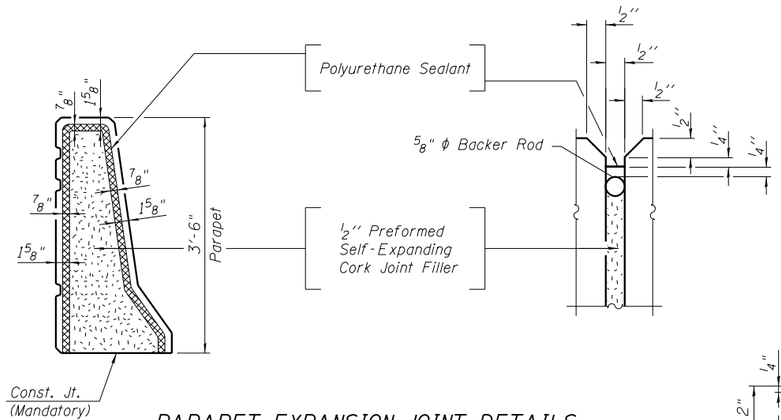


LONGITUDINAL CONSTRUCTION JOINT

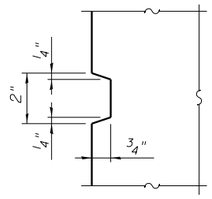
See Article 420.05 & 420.12 of the Standard Specifications



TRANSVERSE EXPANSION JOINT SECTION



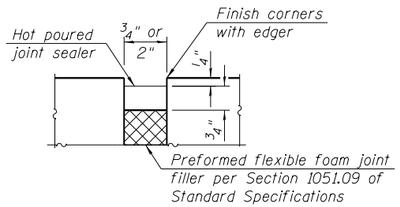
PARAPET EXPANSION JOINT DETAILS



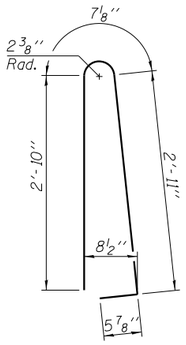
REVEAL DETAIL

BILL OF MATERIAL

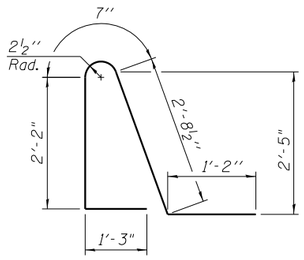
Bar	No.	Size	Length	Shape
a100(E)	461	#6	6'-11"	⌐
a101(E)	231	#6	5'-6"	⌒
a102(E)	255	#6	8'-8"	⌐
a103(E)	128	#6	7'-6"	⌒
a104(E)	100	#6	2'-6"	—
b100(E)	66	#5	24'-4"	—
b101(E)	11	#5	33'-4"	—
b102(E)	11	#5	29'-9"	—
b103(E)	13	#5	32'-1"	—
b104(E)	13	#5	27'-1"	—
b105(E)	13	#5	24'-0"	—
b106(E)	13	#5	33'-0"	—
d100(E)	395	#5	6'-10"	⌐
d101(E)	139	#5	7'-11"	⌐
d102(E)	256	#5	8'-5"	⌐
e100(E)	48	#4	23'-10"	—
e101(E)	8	#4	32'-9"	—
e102(E)	8	#4	29'-9"	—
e103(E)	8	#4	30'-1"	—
e104(E)	8	#4	27'-1"	—
e105(E)	8	#4	24'-0"	—
e106(E)	8	#4	27'-11"	—
e107(E)	6	#8	26'-6"	—
e108(E)	1	#8	36'-8"	—
e109(E)	1	#8	29'-9"	—
e110(E)	1	#8	34'-2"	—
e111(E)	1	#8	27'-0"	—
e112(E)	1	#8	24'-0"	—
e113(E)	1	#8	31'-10"	—
Concrete Superstructure		Cu. Yd.	144.3	
Protective Coat		Sq. Yd.	305	
Reinforcement Bars, Epoxy Coated		Pound	24,610	
Concrete Sealer		Sq. Ft.	6,147	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	156	



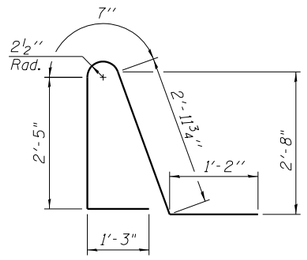
SEALER DETAIL



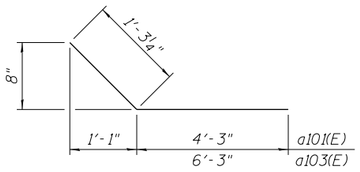
BAR d100(E)



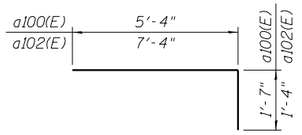
BAR d101(E)



BAR d102(E)



BARS a101(E) & a103(E)



BAR a100(E) & a102(E)

Notes:

All edges shall be chamfered ¾ inches.

Protective coat shall be applied to the parapet top and interior vertical surface above ground line and top face of anchorage slab.

Bars indicated thus 3x4-#5 etc. indicates 3 lines of bars with 4 lengths per line.

See Sheet S9-02 of S9-15 for additional notes for MSE wall suppliers.

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

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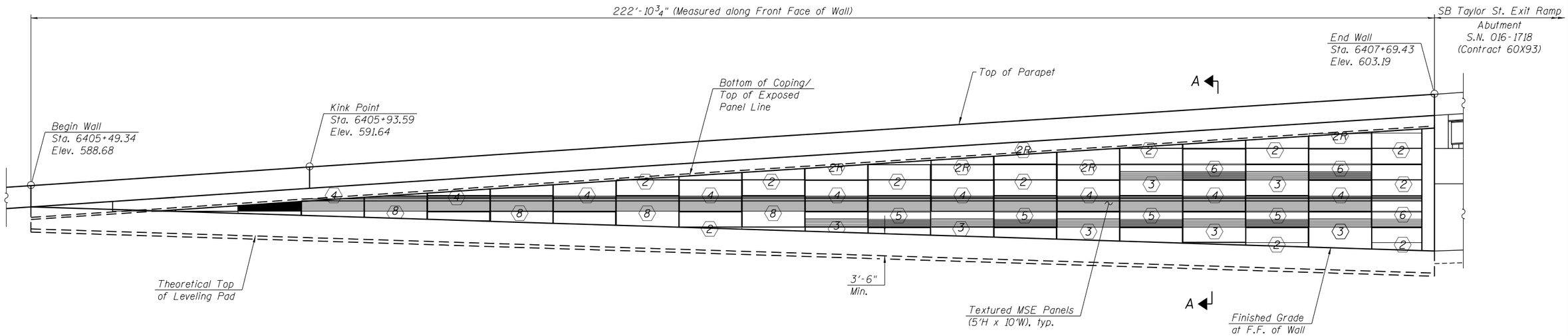
TranSystems

USER NAME = wjcollett	DESIGNED - DJG	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

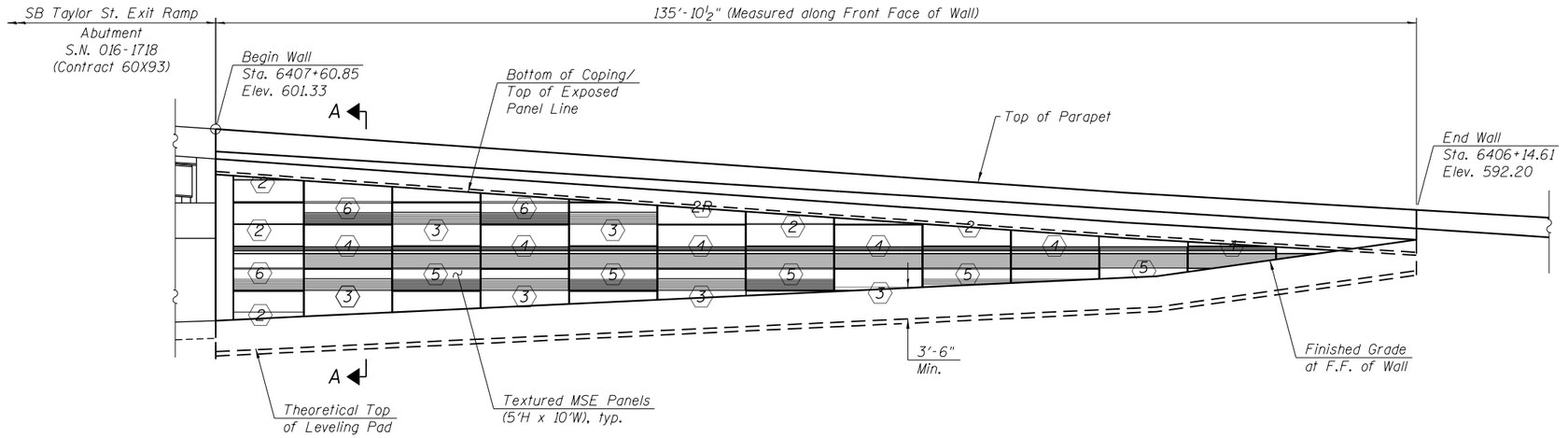
PARAPET AND ANCHORAGE SLAB DETAILS
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-07 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1090
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			



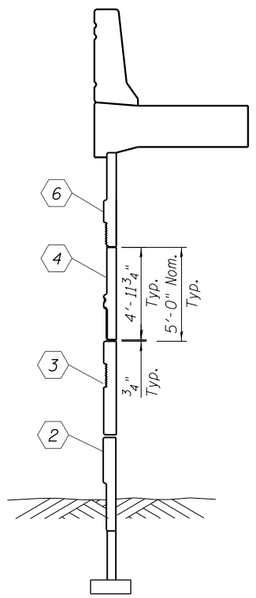
RIGHT ELEVATION - PRECAST PANEL LAYOUT

(Looking East at F.F. of Wall)

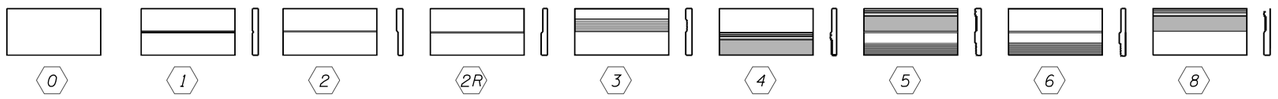


LEFT ELEVATION - PRECAST PANEL LAYOUT

(Looking West at F.F. of Wall)



SECTION A-A



PRECAST PANEL TYPES

Notes:

For Precast Panel and Formliner pattern details, see Retaining Wall 14 (S.N. 016-1803) Plans.

Textured formliner for precast panels will not be paid separately and will be included in the cost of Mechanical Stabilized Earth Retaining Wall, Special.

MSE Supplier to determine precast panel dimensions based on proprietary design. The suggested 10'-0" nominal width shown here may change depending on supplier. If this is the case, it will be addressed by the engineer and coordinated with the supplier during the shop drawing submittal and reviews.

3:07:19 PM
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TranSystems

USER NAME = wjcolletti	DESIGNED - WJC	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 0.1667 '/ in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-08 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1091
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS

Equivalent Uniform Service Bearing Pressure varies according to the Estimated Equivalent Uniform Service Pressure for Aggregate Column Design Table.

The Shop Drawings and construction procedures submittal shall indicate the sequence of construction within the limits of Aggregate Column Ground Improvement.

The aggregate column installation shall be coordinated with existing utilities, existing structural removals, and proposed utility installation.

Settlement during construction shall not exceed 3 inches, and settlement after completion of the wall and anchorage slab shall not exceed 1 inch.

Minimum factor of safety for Equivalent Uniform Service Bearing Pressure shall be 2.5.

A minimum factor of safety of 1.5 against global stability failure is required for the design of the Aggregate Column Ground Improvements. See Special Provision for more information.

Notes:

Aggregate column ground improvement shall be designed and installed by the Contractor in accordance with special provision for Aggregate Column Ground Improvement.

Within the Limits of Structure Excavation, depth of the aggregate column for Aggregate Column Ground Improvement will be measured from Top of Leveling Pad to Bottom of the Aggregate Column.

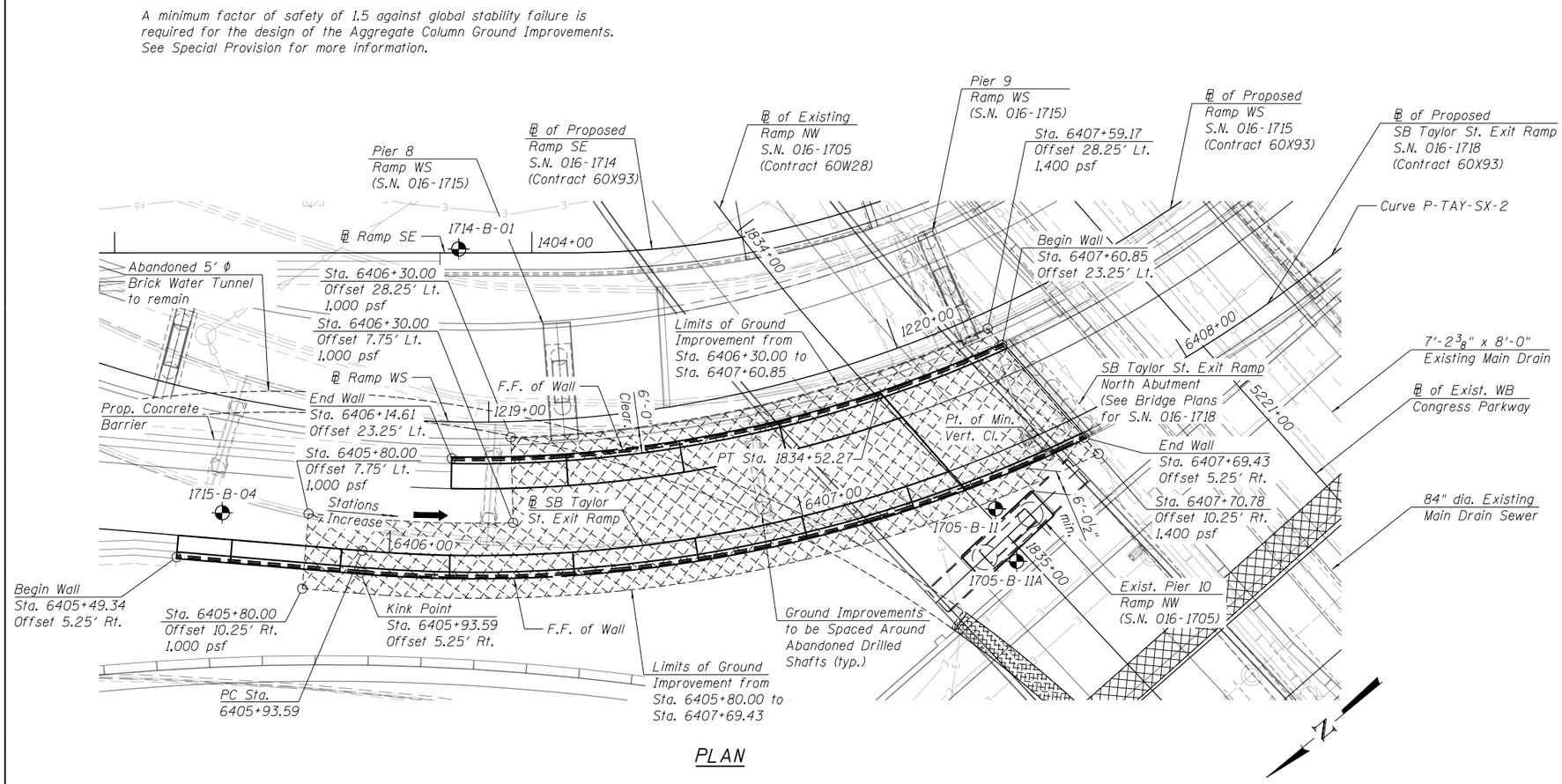
The Contractor shall field verify location of existing underground utilities. The Contractor shall take all precautions to protect existing utilities during construction of the wall. Any damages to the existing utilities shall be the responsibility of the Contractor.

Aggregate Ground Improvement for Retaining Wall 47 covers approximately 5,970 Sq. Ft.

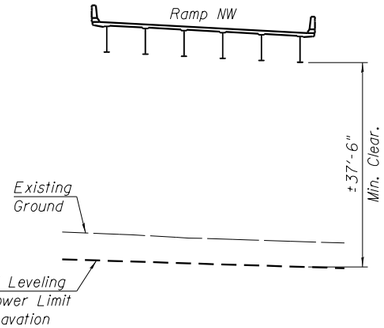
See Sheets S9-03 and S9-04 of S9-15 for section views of ground improvement.

ESTIMATED EQUIVALENT UNIFORM SERVICE PRESSURE FOR AGGREGATE COLUMN DESIGN

Limits	Equivalent Uniform Service Pressure for Design
Sta. 6405+80 to Sta. 6407+00	1,000 psf
Sta. 6407+00 to Sta. 6407+70	1,400 psf



PLAN



OVERHEAD CLEARANCE DETAIL

(Looking East)

LEGEND

Soil Boring

Aggregate Column Ground Improvements

BILL OF MATERIAL

Item	Unit	Total
Aggregate Column Ground Improvement	L. Sum	0.8

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Tran Systems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 32.00 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

AGGREGATE COLUMN GROUND IMPROVEMENT DETAILS
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-09 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1092
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

BORING LOG 2081-B-03

Page 1 of 3

Wang Engineering
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WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 581.38 ft
North: 1898040.36 ft
East: 1171151.03 ft
Station: 1220+89.44
Offset: 51.7421 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
581.1	4-inch thick ASPHALT --PAVEMENT--					
580.1	11-inch thick CONCRETE --PAVEMENT--					
	Loose to medium dense, gray CRUSHED STONE --FILL--		1	2 3 5	NP	14
		5	2	7 16 12	NP	5
575.9	Medium stiff to stiff, gray SILTY CLAY, trace gravel		3	5 8 8	1.97 B	19
		10	4	2 2 3	1.15 B	19
			5	2 3 3	0.82 B	23
568.4	Soft to medium stiff, gray CLAY	15	6	2 3 3	0.57 B	25
			7	0 2 2	0.57 B	20
		20	8	0 2 3	0.57 B	26
			9	0 0 1	0.33 B	25
		25	10	0 1 2	0.33 B	27
			11	0 0 0	0.25 B	24
		30	12	0 1 2	0.49 B	26
		35	13	0 1 2	0.41 B	29
544.6	Stiff to hard, gray SILTY CLAY, trace gravel					
		40	14	1 4 4	1.23 B	23

GENERAL NOTES

Begin Drilling 03-28-2013 Complete Drilling 03-29-2013
Drilling Contractor Wang Testing Services Drill Rig B-57 TMR [100%]
Driller P&N Logger D. Wind Checked by C. Marin
Drilling Method 3.25" HSA to 8.5', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ▽ Rotary wash
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

BORING LOG 2081-B-03

Page 2 of 3

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WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 581.38 ft
North: 1898040.36 ft
East: 1171151.03 ft
Station: 1220+89.44
Offset: 51.7421 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		45	15	7 8 12	5.99 B	13
		50	16	5 6 10	3.28 B	21
		55	17	4 9 13	4.51 B	18
524.6	Medium dense, gray SILT					
		60	18	4 7 9	NP	17
519.6	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel					
		65	19	18 24 32	7.95 S	12
		70	20	16 32 50	9.84 S	12
		75	21	35 50/6	6.23 S	10
504.6	Very dense, gray GRAVELLY SANDY LOAM					
		80	22	50/6	NP	12

GENERAL NOTES

Begin Drilling 03-28-2013 Complete Drilling 03-29-2013
Drilling Contractor Wang Testing Services Drill Rig B-57 TMR [100%]
Driller P&N Logger D. Wind Checked by C. Marin
Drilling Method 3.25" HSA to 8.5', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ▽ Rotary wash
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

BORING LOG 2081-B-03

Page 3 of 3

Wang Engineering
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WEI Job No.: 1100-04-01
Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 581.38 ft
North: 1898040.36 ft
East: 1171151.03 ft
Station: 1220+89.44
Offset: 51.7421 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
499.6	Very dense, gray SILT --MOIST--					
		85	23	39 49 50	NP	20
494.6	Very dense, gray GRAVELLY SANDY LOAM		24	50/6	NP	11
		90				
489.4	Strong, very poor rock quality 92'-94', light gray, highly fractured, slightly vuggy DOLOSTONE Run 1 = 92' to 102' --RECOVERY=100% --RQD=72% -Strong, good rock quality 94'-102', light gray, fresh, slightly fractured, joint breaks with little to no infill, slightly vuggy DOLOSTONE ROCK MASS RATING: Strength of rock material = 12 Drill core quality RQD = 13 Spacing of joints = 10 Condition of joints =12 Groundwater condition =10	95, 100	1	CORE		
479.4	Boring terminated at 102.00 ft	105, 110, 115, 120				

GENERAL NOTES

Begin Drilling 03-28-2013 Complete Drilling 03-29-2013
Drilling Contractor Wang Testing Services Drill Rig B-57 TMR [100%]
Driller P&N Logger D. Wind Checked by C. Marin
Drilling Method 3.25" HSA to 8.5', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

While Drilling ▽ Rotary wash
At Completion of Drilling ▼ mud in the borehole
Time After Drilling NA
Depth to Water ▼ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

Notes:
Boring Log 2081-B-03 station and offset along ℄ SB Taylor St. Exit Ramp is: Sta. 6408+34.18, Offset 19.74' Rt.

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BORING LOG 1715-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.41 ft
North: 1898275.77 ft
East: 1171292.09 ft
Station: 1218+40.95
Offset: 27.5424 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	589.23	3-inch thick, black SILTY LOAM --TOPSOIL--							
		Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel --FILL--				1	50/5	2.50 P	14
			5			2	2 3 2	1.15 B	18
						3	4 5 7	2.13 B	15
	581.4	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel							
			10			4	1 2 3	0.57 B	24
						5	0 0 2	0.16 B	24
			15			6	1 2 2	0.33 B	21
						7	1 2 3	0.41 B	20
			20			8	1 2 3	0.49 B	23
			25			9	2 2 3	0.49 B	21
						10	1 2 3	0.49 B	24
						11	1 2 2	0.49 B	25
			30			12	1 1 2	0.33 B	26
						13	0 1 2	0.25 B	26
			35			14	1 2 3	0.74 B	24
			40						

GENERAL NOTES

Begin Drilling: 03-17-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud at 8 ft
Time After Drilling: 24 hours
Depth to Water: ▼ 8.00 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

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BORING LOG 1715-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.41 ft
North: 1898275.77 ft
East: 1171292.09 ft
Station: 1218+40.95
Offset: 27.5424 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45			15	2 2 3	0.74 B	26
			50			16	2 3 5	0.74 B	21
	537.7	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel							
			55			17	4 7 11	3.20 B	15
		--L_L(%)=31, P_L(%)=15-- --%Gravel=2.8-- --%Sand=19.7-- --%Silt=49.4-- --%Clay=28.0-- --A-6 (10)--				18	3 5 11	3.03 B	18
	522.7	Medium dense, gray SILT, trace fine sand interbeds --Wet--	65			19	4 10 12	4.10 B	23
			70			20	6 11 14	NP	17
	517.7	Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel							
			75			21	13 17 30	10.25 B	14
			80			22	19 29 42	8.53 B	14

GENERAL NOTES

Begin Drilling: 03-17-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud at 8 ft
Time After Drilling: 24 hours
Depth to Water: ▼ 8.00 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

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BORING LOG 1715-B-04

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 589.41 ft
North: 1898275.77 ft
East: 1171292.09 ft
Station: 1218+40.95
Offset: 27.5424 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	507.7	Dense to very dense, gray SILT, trace gravel							
		--L_L(%)=NP, P_L(%)=NP-- --%Gravel=1.1-- --%Sand=7.3-- --%Silt=83.5-- --%Clay=8.2-- --A-4 (0)--	85			23	17 22 26	NP	18
		--HARD DRILLING-- --*Possible Cobbles*--							
	498.2	Hard, gray SILTY CLAY, trace gravel	90			24	50/5	NP	12
			95			25	28 50/5	5.41 B	18
	492.7	Very dense, gray SILT --MOIST--							
			100			26	18 33 42	NP	22
	487.7	Very dense, gray GRAVELLY SANDY LOAM --MOIST--	105			27	30 50/4	NP	12
		--HARD DRILLING-- --*Possible Cobbles*--							
	480.9	--DIFFICULT DRILLING-- --WEATHERED BEDROCK--	110			28	50/1	NA	
	479.4	--ROLLER BIT REFUSAL-- Boring terminated at 110.00 ft							
			115						
			120						

GENERAL NOTES

Begin Drilling: 03-17-2014 Complete Drilling: 03-18-2014
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&N Logger: F. Bozga Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud at 8 ft
Time After Drilling: 24 hours
Depth to Water: ▼ 8.00 ft

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

Notes:
Boring Log 1715-B-04 station and offset along ℄ SB Taylor St. Exit Ramp is: Sta. 6405+59.41, Offset 6.19' Lt.

3/07/32 PM
018834-60X93-S011-Boring_2.dgn

TranSystems

USER NAME = wjcollett1	DESIGNED - DJG	REVISED -	
	CHECKED - KRS	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-11 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1094
		CONTRACT NO. 60X93		
	ILLINOIS	FED. AID PROJECT		

BORING LOG 1714-B-02

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 1100-04-01

Client: **AECOM**
Project: **Circle Interchange Reconstruction**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 582.53 ft
North: 1898095.52 ft
East: 1171244.20 ft
Station: 1220+22.80
Offset: 32.5079 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
582.2	4-inch thick ASPHALT --PAVEMENT--					
581.5	8-inch thick CONCRETE --PAVEMENT--					
581.0	6-inch thick CRUSHED STONE --BASE COURSE--		1	6 5 6	3.77 B	16
	Very stiff, brown and gray SILTY CLAY LOAM, trace gravel --FILL--	5	2	3 4 5	2.62 B	20
577.0	Medium stiff to stiff, gray SILTY LOAM, trace gravel --L$_L$(%)=24, P$_L$(%)=15-- --%Gravel=14.0-- --%Sand=28.0-- --%Silt=45.7-- --%Clay=12.4--		3	2 3 4	1.64 B	18
		10	4	3 4 4	0.98 B	19
572.0	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace to some gravel		5	0 2 2	0.57 B	24
	--L$_L$(%)=33, P$_L$(%)=18-- --%Gravel=10.6-- --%Sand=13.5-- --%Silt=45.8-- --%Clay=30.1-- --A-6 (10)--	15	6	1 1 2	0.25 B	22
			7	1 1 2	< 0.25 P	23
		20	8	1 1 2	0.49 B	25
			9	0 0 1	0.33 B	25
		25	10	0 0 0	0.16 B	24
			11	0 0 2	0.08 B	28
	--L$_L$(%)=33, P$_L$(%)=17-- --%Gravel=23.0-- --%Sand=12.5-- --%Silt=38.7-- --%Clay=25.9-- --A-6 (8)--	30	12	0 1 2	0.08 B	26
		35	13	0 0 2	0.25 B	25
		40	14	2 2 3	0.33 B	36

GENERAL NOTES

Begin Drilling **10-08-2013** Complete Drilling **10-08-2013**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR [78%]**
Driller **R&R** Logger **D. Kolpacki** Checked by **C. Marin**
Drilling Method **3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ▽ **DRY**
At Completion of Drilling ▼ **mud in the borehole**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

BORING LOG 1714-B-02

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 1100-04-01

Client: **AECOM**
Project: **Circle Interchange Reconstruction**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 582.53 ft
North: 1898095.52 ft
East: 1171244.20 ft
Station: 1220+22.80
Offset: 32.5079 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	--L$_L$(%)=33, P$_L$(%)=17-- --%Gravel=8.5-- --%Sand=12.3-- --%Silt=46.1-- --%Clay=33.1-- --A-6 (11)--	45	15	2 4 6	0.98 B	22
535.8	Very stiff, gray SILTY CLAY, trace gravel	50	16	5 8 12	3.94 B	15
530.8	Very stiff, gray CLAY	55	17	4 9 14	2.95 B	21
	--L$_L$(%)=35, P$_L$(%)=17-- --%Gravel=2.9-- --%Sand=11.2--	60	18	6 8 12	2.46 B	24
	--%Silt=47.7-- --%Clay=38.2-- --A-6 (15)--					
520.8	Medium dense, gray SILT	65	19	8 7 6	NP	22
515.8	Hard, gray SILTY CLAY LOAM, trace gravel --L$_L$(%)=31, P$_L$(%)=17-- --%Gravel=3.5-- --%Sand=14.1-- --%Silt=55.7-- --%Clay=26.7-- --A-6 (10)--	70	20	13 21 33	10.25 B	16
508.5	Very dense, gray SILT to SILTY LOAM, trace gravel	75	21	11 17 50	NP	16
		80	22	54/6	NP	9

GENERAL NOTES

Begin Drilling **10-08-2013** Complete Drilling **10-08-2013**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR [78%]**
Driller **R&R** Logger **D. Kolpacki** Checked by **C. Marin**
Drilling Method **3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ▽ **DRY**
At Completion of Drilling ▼ **mud in the borehole**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

BORING LOG 1714-B-02

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

WEI Job No.: 1100-04-01

Client: **AECOM**
Project: **Circle Interchange Reconstruction**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 582.53 ft
North: 1898095.52 ft
East: 1171244.20 ft
Station: 1220+22.80
Offset: 32.5079 LT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		85	23	69/6	NP	14
	--%Gravel=1.9-- --%Sand=6.8-- --%Silt=83.8-- --%Clay=7.4-- --A-4 (0)--	90	24	31 46 36	NP	18
		95	25	50/5	NP	14
486.5	--HARD DRILLING-- --WEATHERED BEDROCK--					
484.5	Strong, white and light gray, rock quality, horizontally bedded DOLOSTONE, beds up to 18 inch, joint spacing up to 18 inch, joints with less than 0.2 inch or no infilling, vuggy and cherty, with stylolitic surfaces. --Run 1 - RECOVERY= 93%-- --RQD= 86%--	100, 105	1	CORE		
474.5	Boring terminated at 108.00 ft	110, 115, 120				

GENERAL NOTES

Begin Drilling **10-08-2013** Complete Drilling **10-08-2013**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR [78%]**
Driller **R&R** Logger **D. Kolpacki** Checked by **C. Marin**
Drilling Method **3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ▽ **DRY**
At Completion of Drilling ▼ **mud in the borehole**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

WANGENGINC 1100401.GPJ WANGENG.GDT 8/1/17

Notes:
Boring Log 1714-B-02 station and offset along ℄ SB Taylor St. Exit Ramp is:
Sta. 6407+60.33, Offset 64.51' Lt.

3:07:35 PM
0161834-60X93-S012-Boring_3.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -	
	CHECKED - KRS	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-12 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1095
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1714-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.22 ft
North: 1898191.77 ft
East: 1171304.89 ft
Station: 1218+92.09
Offset: 41.4568 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	593.0	3-inch thick, brown LOAM --TOPSOIL--							
		Hard, brown CLAY LOAM, trace gravel and brick fragments --FILL--				1	6 10 9	4.50 P	13
			5			2	7 7 7	4.25 B	20
	587.7	Very stiff to hard, brown and gray SILTY CLAY, trace gravel --FILL--				3	3 3 4	3.25 B	16
			10			4	6 8 8	6.56 B	20
	582.7	Medium stiff to stiff, gray SILTY CLAY, trace gravel				5	2 3 3	1.15 B	19
			15			6	2 2 3	0.98 B	17
						7	2 2 4	1.00 N/6	24
			20			8	2 4 4	1.48 B	18
	572.7	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				9	2 3 3	0.74 B	24
			25			10	2 3 2	0.74 B	25
						11	2 2 2	0.66 B	25
			30			12	2 2 2	0.49 B	24
						13	1 2 2	0.25 B	26
			35			14	1 1 2	0.33 B	26
			40						

GENERAL NOTES

Begin Drilling: 10-16-2013 Complete Drilling: 10-16-2013
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100004N1.GPJ WANGENG.GDT 8/1/17

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1714-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.22 ft
North: 1898191.77 ft
East: 1171304.89 ft
Station: 1218+92.09
Offset: 41.4568 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			45			15	2 2 2	0.25 B	25
			50			16	2 2 2	0.33 B	27
	541.5	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel				17	7 7 12	2.95 B	20
			60			18	16 15 16	5.17 B	12
			65			19		18 20 23	7.17 N/6
			70			20		10 13 19	2.54 S	11
			75			21		12 17 23	6.67 N/6
	516.5	Gray SANDY LOAM --Wet--							
	514.3	Hard, gray SILTY CLAY LOAM, trace gravel	80			22		33 41 40	6.69 S	11

GENERAL NOTES

Begin Drilling: 10-16-2013 Complete Drilling: 10-16-2013
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100004N1.GPJ WANGENG.GDT 8/1/17

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1714-B-01

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 593.22 ft
North: 1898191.77 ft
East: 1171304.89 ft
Station: 1218+92.09
Offset: 41.4568 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		--HARD DRILLING-- --Possible Cobbles--	85			23	16 21 25	7.30 S	13
	506.2	Very dense, gray SILTY LOAM, trace gravel and cobbles				24	50/1	NP	12
		--HARD DRILLING-- --Possible Cobbles--	90						
			95			26	50/5	NP	11
		--HARD DRILLING-- --Possible Cobbles--							
	486.2	Very dense, gray SILT --Saturated--	100			27	50/4	NP	18
	486.5	Very dense, gray GRAVELLY LOAM, trace pyrite and dolostone fragments	105			28	30 45 50/3	NP	24
	484.5	--WEATHERED BEDROCK-- --ROLLER BIT REFUSAL--				29	50/2	NP	12
	482.2	Boring terminated at 111.00 ft	110						
			115						
			120						

GENERAL NOTES

Begin Drilling: 10-16-2013 Complete Drilling: 10-16-2013
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR [85%]
Driller: R&J Logger: A. Tomaras Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100004N1.GPJ WANGENG.GDT 8/1/17

Notes:
Boring Log 1714-B-01 station and offset along ℄ SB Taylor St. Exit Ramp is: Sta. 6406+15.49, Offset 73.46' Lt.

3:07:38 PM
016834 60X93-S013-Boring_4.dgn

TranSystems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -	
	CHECKED - KRS	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-13 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1096
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1705-B-11

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 580.50 ft
North: 1898132.10 ft
East: 1171174.95 ft
Station: 1834+90.93
Offset: 2.3250 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	579.8	8-inch thick CRUSHED STONE							
		Medium dense, brown SILTY LOAM, trace gravel and pieces of cinders --FILL--				1	4 5 6	NP	14
	577.5	Medium stiff to very stiff, brown SILTY CLAY LOAM, trace gravel, pockets of fine sand	5			2	2 1 1	2.50 P	14
						3	2 3 3	1.07 B	18
			10			4	2 1 3	0.74 B	17
						5	0 2 3	1.15 B	18
	567.5	Very soft to medium stiff, gray and brown CLAY to SILTY CLAY, trace gravel	15			6	0 0 0	0.74 B	25
						7	0 0 1	0.74 B	25
			20			8	0 0 2	0.74 B	22
			25			9	0 0 0	0.49 B	26
						10	0 0 0	0.33 B	28
						11	0 0 2	0.16 B	24
			30			12	0 0 1	0.33 B	26
			35			13	0 2 3	0.82 B	27
			40			14	2 2 3	0.66 B	23

GENERAL NOTES

Begin Drilling: 07-28-2013 Complete Drilling: 07-29-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

Wang Engineering
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1145 N Main Street
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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1705-B-11

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 580.50 ft
North: 1898132.10 ft
East: 1171174.95 ft
Station: 1834+90.93
Offset: 2.3250 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	538.8	Very stiff to hard, gray CLAY to SILTY CLAY , trace gravel							
			45			15	5 9 13	4.92 B	16
		--L_L(%)=37, P_I(%)=17-- --%Gravel=1.9-- --%Sand=11.6-- --%Silt=47.1-- --%Clay=39.5-- --A-6 (17)--	50			16	7 10 15	4.20 B	16
			55			17	6 12 18	3.77 B	14
	523.8	Medium dense, gray SILT --Moist--	60			18	8 11 16	NP	22
	518.8	Dense to very dense, gray SILTY LOAM, trace gravel	65			19	20 27 42	NP	13
			70			20	14 20 29	NP	15
		--HARD DRILLING-- --Possible Cobbles--	75			21	29 45 50/4	NP	10
	503.8	Hard, gray SILTY CLAY LOAM, trace gravel	80			22	12 25 36	6.97 B	11

GENERAL NOTES

Begin Drilling: 07-28-2013 Complete Drilling: 07-29-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

Wang Engineering
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1145 N Main Street
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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG 1705-B-11

WEI Job No.: 1100-04-01

Client: AECOM
Project: Circle Interchange Reconstruction
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88
Elevation: 580.50 ft
North: 1898132.10 ft
East: 1171174.95 ft
Station: 1834+90.93
Offset: 2.3250 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	498.8	Very dense, gray SILT, trace gravel							
		--%Gravel=1.0-- --%Sand=1.5-- --%Silt=92.3-- --%Clay=5.2-- --A-4 (0)--	85			23	26 46 50/5	NP	24
	492.5	Very dense, GRAVEL, trace cobbles	90			24	50/4	NA	
		--HARD DRILLING to 94'-- --Possible Cobbles--							
	486.5	Strong, fair rock quality, light gray, fresh, vertical and horizontal joints, joint breaks with little to no infill, horizontal stylolites, slightly vuggy DOLOSTONE	95		CORE	25	50/4	NP	15
		--Run 1 - RECOVERY=100%-- --RQD (top 5ft)=70%-- --RQD (10ft)=82%--	100					NP	
	476.5	Boring terminated at 104.00 ft	105						
			110						
			115						
			120						

GENERAL NOTES

Begin Drilling: 07-28-2013 Complete Drilling: 07-29-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR [78%]
Driller: R&N Logger: A. Happel Checked by: C. Marin
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion

WATER LEVEL DATA

While Drilling: ▽ Rotary wash
At Completion of Drilling: ▼ mud in the borehole
Time After Drilling: NA
Depth to Water: ▽ NA

The stratification lines represent the approximate boundary between soil types: the actual transition may be gradual.

Notes:
Boring Log 1705-B-11 station and offset along @ SB Taylor St. Exit Ramp is: Sta. 6407+43.78, Offset 12.34' Rt.

TranSystems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -	
	CHECKED - KRS	REVISED -	
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -	
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 5
RETAINING WALL 47 (STRUCTURE NO. 016-1834)
SHEET NO. S9-14 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1097
		CONTRACT NO. 60X93		
	ILLINOIS FED. AID PROJECT			

Page 1 of 1

BORING LOG 1705-B-11A

WEI Job No.: 1100-04-01

Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9938

Client: **AECOM**
Project: **Circle Interchange Reconstruction**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 586.03 ft
North: 1898136.23 ft
East: 1171162.02 ft
Station: 1835+03.58
Offset: 2.6066 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	--Drilled without sampling--					
		5				
		10				
573.0	Hard, gray SILTY CLAY, trace gravel		1	PUSH	> 4.50 P	
		15				
569.5	Soft to stiff, gray CLAY to SILTY CLAY, trace gravel					
	--L_L(%)=34, P_L(%)=17-- --%Gravel=2.6-- --%Sand=14.5-- --%Silt=48.2--	20	2	PUSH	0.88 B	23
	--%Clay=34.8-- --A-6 (13)--					
	--L_L(%)=33, P_L(%)=17-- --%Gravel=2.7-- --%Sand=14.4-- --%Silt=48.7-- --%Clay=34.3-- --A-6 (12)--	25	3	PUSH	0.62 B	24
	--L_L(%)=34, P_L(%)=17-- --%Gravel=4.6-- --%Sand=13.0-- --%Silt=48.4-- --%Clay=34.0-- --A-6 (13)--	30	4	PUSH	0.52 D	23
	--L_L(%)=37, P_L(%)=17-- --%Gravel=2.6-- --%Sand=10.1-- --%Silt=48.2-- --%Clay=39.1-- --A-6 (17)--	35	5	PUSH	1.12 B	24
546.0	--L_L(%)=33, P_L(%)=16-- --%Gravel=4.2-- --%Sand=11.8-- --%Silt=49.7-- --%Clay=34.4-- --A-6 (13)--	40	6	PUSH	1.38 B	21

Boring terminated at 40.00 ft

GENERAL NOTES

Begin Drilling **08-04-2013** Complete Drilling **08-05-2013**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR [78%]**
Driller **R&K** Logger **A. Tomaras** Checked by **C. Marin**
Drilling Method **3.25" HSA, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ▽ **Rotary wash**
At Completion of Drilling ▼ **mud in the borehole**
Time After Drilling **NA**
Depth to Water ▼ **NA**

The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 1100040I.GPJ WANGENG.GDT 8/1/17

Notes:
Boring Log 1705-B-11A station and offset along ℄ SB Taylor St. Exit Ramp is:
Sta. 6407+43.86, Offset 25.91' Rt.

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TranSystems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 0.1667 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 6
RETAINING WALL 47 (STRUCTURE NO. 016–1834)

SHEET NO. S9-15 OF S9-15 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1098

CONTRACT NO. 60X93

ILLINOIS FED. AID PROJECT

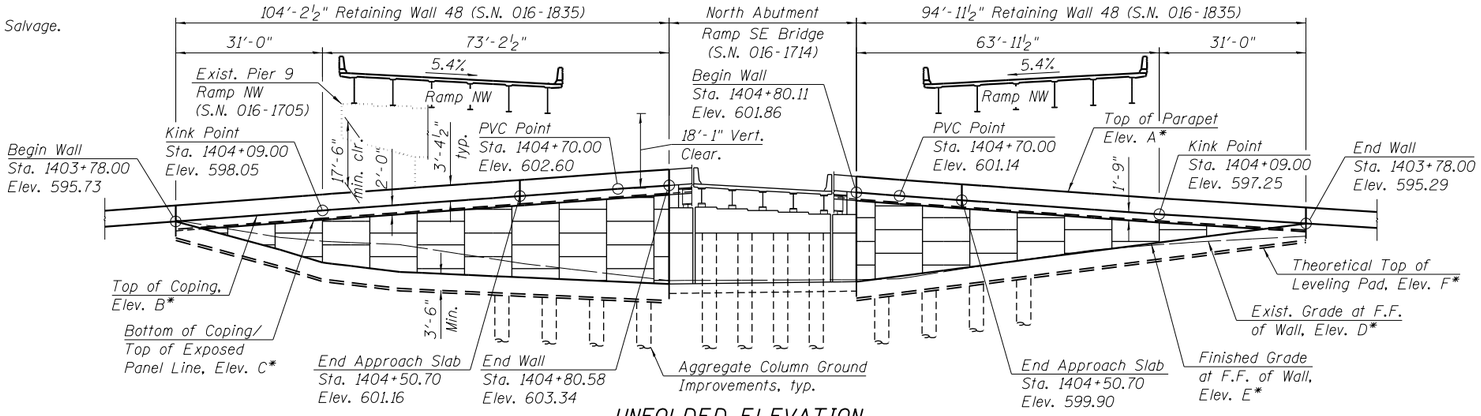
Bench Mark: Chisel "X" on chain bolt of fire hydrant in front of 555 W. Harrison St. Elev. 594.46.

Existing Structure: SN 016-2452. Constructed in 1960 under F.A.I. Route 1, Section 2424.28-B. Fourteen span bridge that measures 787'-4" from back of north abutment to centerline of east pier. Out-to-out width of 29'-0". The spans are supported by 36" wide flange beams, concrete T-beams and a reinforced concrete slab. Substructure is reinforced concrete closed abutment, multi-column and solid wall piers founded on bell caissons. The existing bridge is to be removed and replaced.

The existing bridge will be closed and traffic will be detoured during construction. Traffic on I-290 and I-90/94 will be maintained with stage construction.

No Salvage.

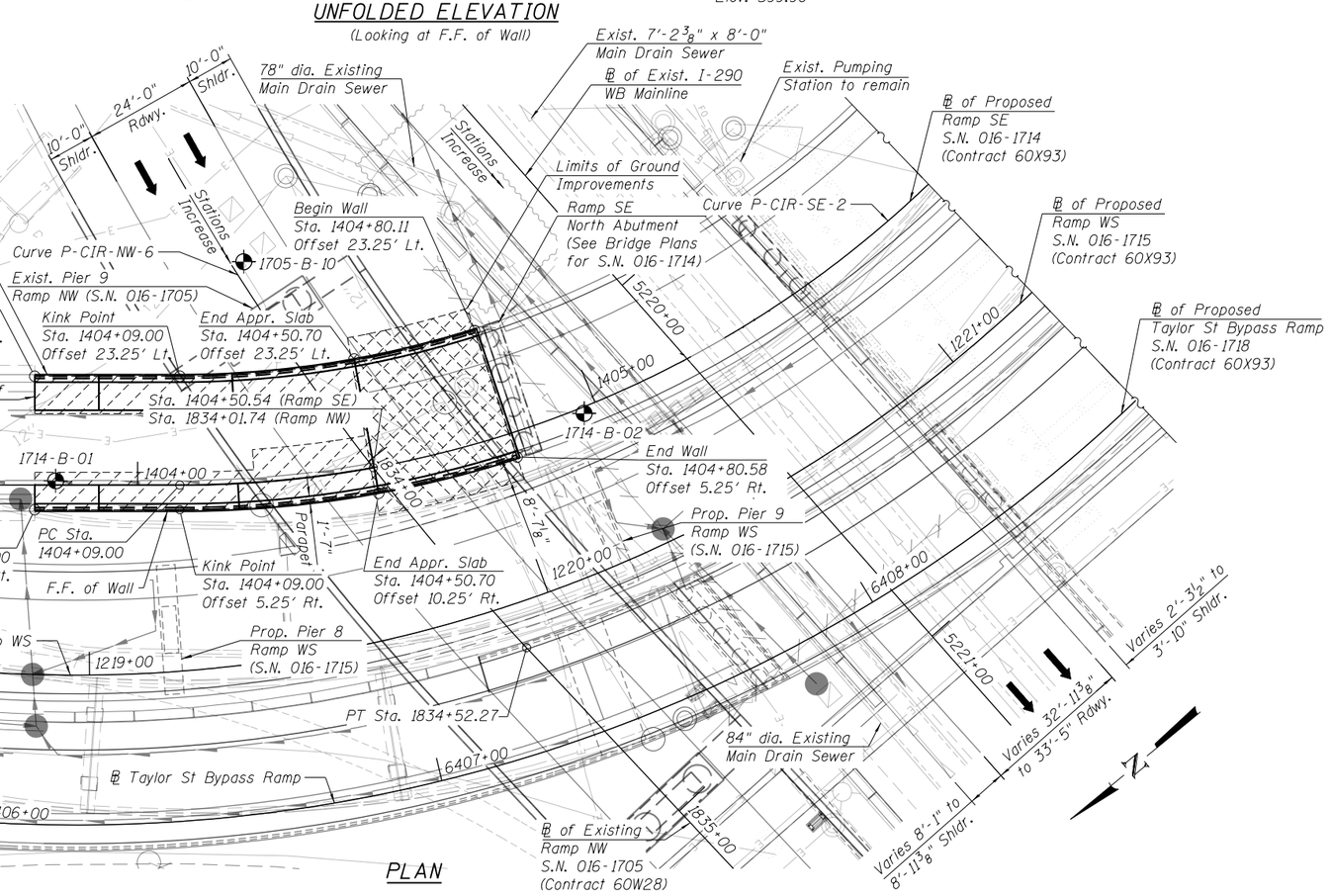
Notes:
Wall offsets are measured from the ℄ of Ramp SE to the front face of precast panels.
F.F. denotes Front Face.
B.F. denotes Back Face.
Aggregate columns must be spaced to avoid interference with existing utilities to remain, proposed utilities to be installed, and proposed substructure foundations.



* For elevations, see Table 1 on Sheet S10-03 of S10-11.

UNFOLDED ELEVATION

(Looking at F.F. of Wall)



PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications 7th Edition with 2015 and 2016 Interim Specifications

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 4,500 psi

CURVE DATA

(Ramp SE)

P-CIR-SE-2
P.I. Sta. = 1415+83.08
Δ = 157°44'18" (LT)
D = 24°48'12"
R = 231.00'
T = 1174.08'
L = 635.96'
E = 965.59'
e = 5.6%
T.R. = NA
S.E. Run = 128'
P.C. Sta. = 1404+09.00
P.T. Sta. = 1410+44.95

CURVE DATA

(Ramp NW)

P-CIR-NW-6
P.I. Sta. = 1831+44.22
Δ = 88°30'25" (LT)
D = 10°36'37"
R = 540.00'
T = 526.11'
L = 834.16'
E = 213.92'
e = 5.4%
T.R. = NA
S.E. Run = 66'
P.C. Sta. = 1826+18.11
P.T. Sta. = 1834+52.27

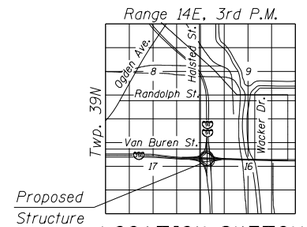
LEGEND

Electric —E—
Exist. Storm Sewer
Light Pole
Soil Boring
Limits of Soil Reinforcement
Limits of Soil Reinforcement With Ground Improvements

MATTHEW D. SANTEFORD 081-007244 LICENSED STRUCTURAL ENGINEER OF STATE OF ILLINOIS

07/30/2018

MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2018



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL 48 ALONG RAMP SE
F.A.I. 94 (I-90/94 SB TO I-290 EB)
SECTION 2014-013 R&B-R
COOK COUNTY
STATION 1403+78.00 TO STATION 1404+80.58
STRUCTURE NO. 016-1835

TranSystems

USER NAME = wjcolletti	DESIGNED - DJG	REVISED -
	CHECKED - KRS	REVISED -
PLOT SCALE = 32.00 ' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 7/26/2018	CHECKED - KRS/WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S10-01 OF S10-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013 R&B-R	COOK	1972	1099
		CONTRACT NO. 60X93		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subjected to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Concrete Sealer shall be applied to exposed front face surfaces of the precast concrete panels, anchorage slab and parapet. Protective Coat shall be applied to the top and interior face of parapet above groundline and top of exposed anchorage slab.
4. The Contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge and other loads applied to the structures will not have detrimental effects on the adjacent building foundations and the existing main drain. Any damage during construction shall be repaired by the Contractor at his expense and no charge to the department. Driving piles and temporary sheet piling is not allowed.
5. The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring and Monitoring Adjacent Structures, to ensure that removal/construction activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal/ construction activities to satisfy these requirements. See Contract Special Provisions for details.
6. Slipforming of parapets is not allowed.
7. The Contractor shall field verify locations of existing underground utilities. The Contractor shall take all precautions to protect existing utilities during construction of the wall. Any damage to the existing utilities shall be responsibility of the Contractor.
8. MSE Wall supplier shall design the MSE Wall using granular reinforced mass with minimum effective internal friction angle of 34 degrees and unit weight of 120 lbs./cu. ft. For embankment behind granular reinforced mass, an embankment unit weight of 120 lbs./cu. ft and an effective friction angle of 30 degrees shall be used in the wall system design.
9. The Contractor shall coordinate the construction of the proposed structure with the construction of the proposed Ramp SE Bridge and the proposed Ramp WS Bridge. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
10. All Lightweight Cellular Concrete Fill shall be Class III. See Special Provisions.

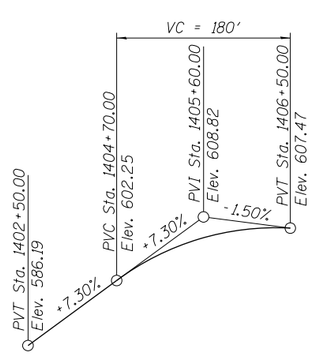
INDEX OF SHEETS

STATION 1403+78.00 TO 1404+80.58
BUILT 20-- BY
STATE OF ILLINOIS
F.A.I. RT. 90/94/290 SEC. 2014-013 R&B-R
LOADING HL-93
STRUCTURE NO. 016-1835

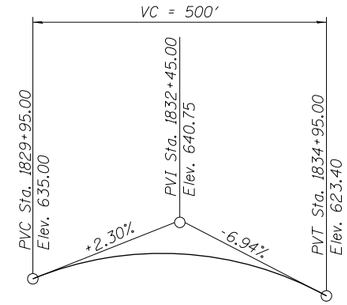
NAME PLATE
See Std. 515001

SUGGESTED SEQUENCE OF CONSTRUCTION

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner(s). See Utility Location Plans and ITS Plans.
2. Excavate for Retaining Wall 48.
3. Install drilled shafts for SN 016-1714 North Abutment and form CIP fascia.
4. Install Aggregate Column Ground Improvement for Retaining Wall 48.
5. Construct Retaining Wall 48.
6. Begin placing lightweight cellular concrete fill.
7. Complete North Abutment of SN 016-1714.
8. Install Roadway pavement (See Roadway Plans).
9. No portions of the wall shall be compromised by excavation for other elements of work, including the North abutment of structure 016-1714, under the contract, and adjacent structures. If the sequencing of work requires that the wall construction is staged, the stage line shall be located at a panel edge with any exposed lightweight fill protected from damage.



PROFILE GRADE
(Along ℄ Ramp SE)



PROFILE GRADE
(Along ℄ Ramp NW)

TOTAL BILL OF MATERIAL

Item	Unit	Total Quantity
Structure Excavation	Cu. Yd.	538
Concrete Superstructure	Cu. Yd.	69.9
Protective Coat	Sq. Yd.	150
Reinforcement Bars, Epoxy Coated	Pound	12,140
Name Plates	Each	1
Concrete Sealer	Sq. Ft.	3,788
Lightweight Cellular Concrete Fill	Cu. Yd.	1,442
Aggregate Column Ground Improvement	L. Sum	0.2
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	79
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.	3,041