

PGL & B ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson GI	8240+30.88	0.00	594.34	594.33
1A	8240+40.88	0.00	594.18	594.20
1B	8240+50.88	0.00	594.03	594.07
1C	8240+60.88	0.00	593.87	593.93
1D	8240+70.88	0.00	593.72	593.77
1E	8240+80.88	0.00	593.56	593.60
1F	8240+90.88	0.00	593.39	593.41
1G	8241+00.88	0.00	593.12	593.13
CL Brg. Pier R1	8241+10.88	0.00	592.75	592.75
2A	8241+20.88	0.00	592.27	592.29
2B	8241+30.88	0.00	591.69	591.73
2C	8241+40.88	0.00	591.01	591.07
2D	8241+50.88	0.00	590.24	590.32
2E	8241+60.88	0.00	589.47	589.54
2F	8241+70.88	0.00	588.69	588.75
2G	8241+80.88	0.00	587.91	587.95
CL Brg. N. Abut.	8241+90.88	0.00	587.14	587.14
Bk. N. Abut.	8241+94.38	0.00	586.87	586.87

GIRDER R7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL Jackson GI	8240+30.88	0.63	594.31	594.31
1A	8240+40.88	0.63	594.16	594.18
1B	8240+50.88	0.63	594.01	594.05
1C	8240+60.88	0.63	593.85	593.90
1D	8240+70.88	0.63	593.70	593.75
1E	8240+80.88	0.63	593.54	593.58
1F	8240+90.88	0.63	593.37	593.39
1G	8241+00.88	0.63	593.10	593.11
CL Brg. Pier R1	8241+10.88	0.63	592.73	592.73
2A	8241+20.88	0.63	592.26	592.27
2B	8241+30.88	0.63	591.68	591.71
2C	8241+40.88	0.63	590.99	591.05
2D	8241+50.88	0.63	590.23	590.30
2E	8241+60.88	0.63	589.45	589.52
2F	8241+70.88	0.63	588.67	588.73
2G	8241+80.88	0.63	587.90	587.93
CL Brg. N. Abut.	8241+90.88	0.63	587.12	587.12
Bk. N. Abut.	8241+94.38	0.63	586.85	586.85

2:02:14 PM 0161702-60X94-5016-TopSlab_Deck_Ramp3.dgn



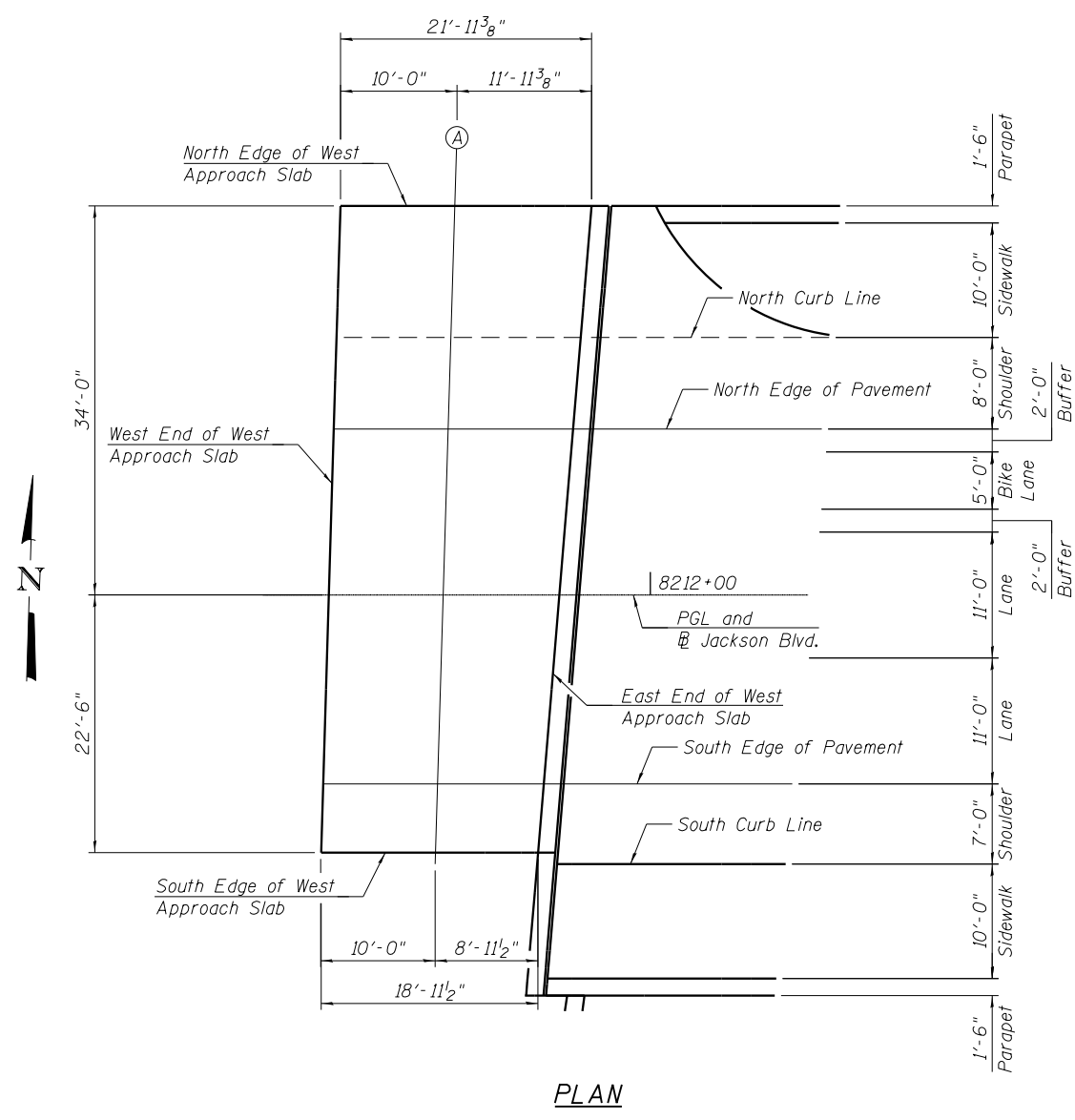
USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS 3 - RAMP
STRUCTURE NO. 016-1702**

SHEET NO. S2-16 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	401
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



PLAN

NORTH EDGE OF WEST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+72.92	-34.00	595.43
A	8211+82.92	-34.00	595.92
E. End West Appr. Slab	8211+94.86	-34.00	596.43

PGL & B ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+71.90	0.00	595.91
A	8211+81.90	0.00	596.40
E. End West Appr. Slab	8211+92.05	0.00	596.85

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+72.57	-22.50	595.59
A	8211+82.57	-22.50	596.08
E. End West Appr. Slab	8211+93.91	-22.50	596.57

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+71.41	16.50	595.63
A	8211+81.41	16.50	596.12
E. End West Appr. Slab	8211+90.68	16.50	596.53

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+72.33	-14.50	595.71
A	8211+82.33	-14.50	596.19
E. End West Appr. Slab	8211+93.25	-14.50	596.67

SOUTH EDGE OF WEST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Slab	8211+71.23	22.50	595.53
A	8211+81.23	22.50	596.02
E. End West Appr. Slab	8211+90.18	22.50	596.42

2:02:23 PM 0161702-60X94-5017-TopSlab-WestApproach.dgn



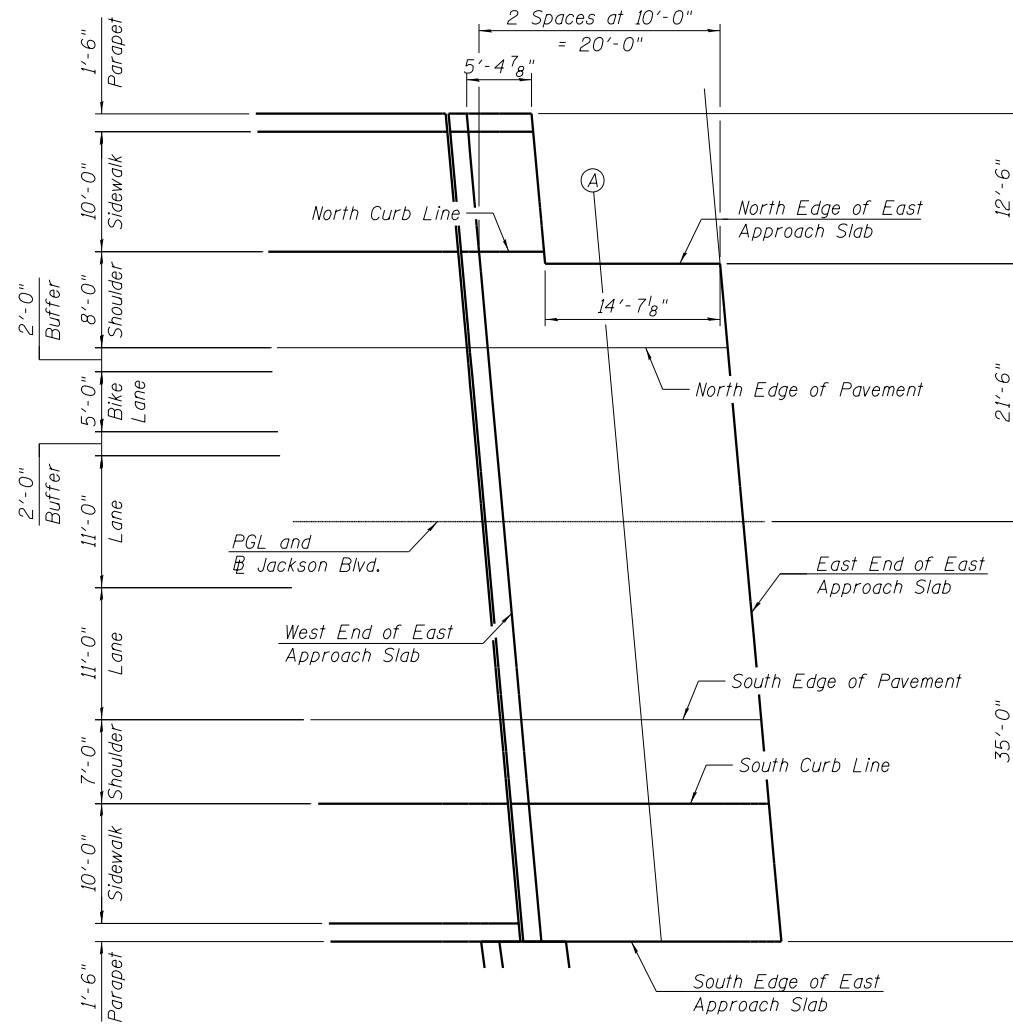
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JM	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

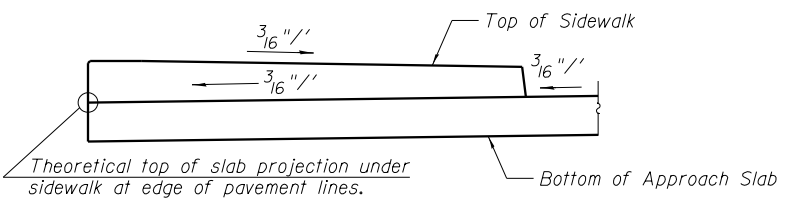
**TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1702**

SHEET NO. S2-17 OF S2-80 SHEETS

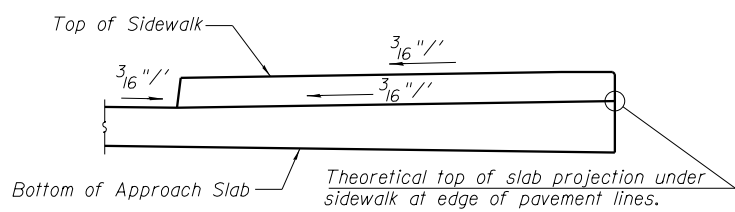
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	402
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



PLAN



LOCATION OF ELEVATION UNDER NORTH SIDEWALK



LOCATION OF ELEVATION UNDER SOUTH SIDEWALK

NORTH EDGE OF EAST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+56.38	-34.00	592.82
A	8214+67.50	-21.50	592.82
E. End East Appr. Slab	8214+77.50	-21.50	592.69

PGL & B ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+59.44	0.00	593.29
A	8214+69.44	0.00	593.13
E. End East Appr. Slab	8214+79.44	0.00	593.01

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+57.41	-22.50	592.98

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+60.93	16.50	593.01
A	8214+70.93	16.50	592.85
E. End East Appr. Slab	8214+80.93	16.50	592.70

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+58.14	-14.50	593.09
A	8214+68.14	-14.50	592.92
E. End East Appr. Slab	8214+78.14	-14.50	592.80

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+61.56	23.50	592.89
A	8214+71.56	23.50	592.73
E. End East Appr. Slab	8214+81.56	23.50	592.57

SOUTH EDGE OF EAST APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Slab	8214+62.60	35.00	593.05
A	8214+72.60	35.00	592.90
E. End East Appr. Slab	8214+82.60	35.00	592.73

2:02:34 PM 01/17/2022-60X94-5018-TopSlab-EastApproach.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1702

SHEET NO. S2-18 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	403
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

WEST EDGE OF NORTH APPROACH

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	-19.58	587.41
A	8242+03.88	-19.58	586.64
B	8242+13.88	-19.58	585.86
N. End North Appr. Slab	8242+23.88	-19.58	585.09

FRONT FACE WEST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	-18.00	587.37
A	8242+03.88	-18.00	586.60
B	8242+13.88	-18.00	585.82
N. End North Appr. Slab	8242+23.88	-18.00	585.04

EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	-16.00	587.32
A	8242+03.88	-16.00	586.54
B	8242+13.88	-16.00	585.77
N. End North Appr. Slab	8242+23.88	-16.00	584.99

PGL & B ROADWAY

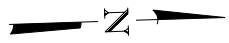
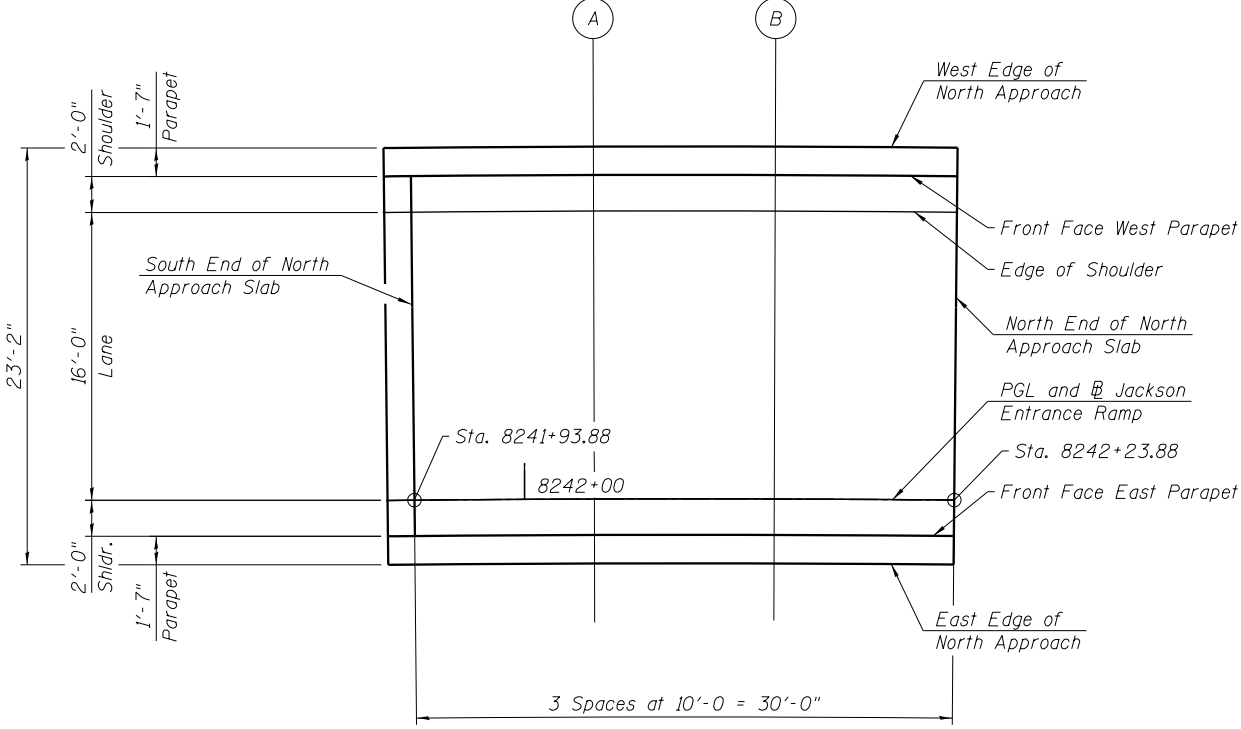
Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	0.00	586.91
A	8242+03.88	0.00	586.13
B	8242+13.88	0.00	585.35
N. End North Appr. Slab	8242+23.88	0.00	584.58

FRONT FACE EAST PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	2.00	586.85
A	8242+03.88	2.00	586.08
B	8242+13.88	2.00	585.30
N. End North Appr. Slab	8242+23.88	2.00	584.52

EAST EDGE OF NORTH APPROACH

Location	Station	Offset	Theoretical Grade Elevations
S. End North Appr. Slab	8241+93.88	3.58	586.85
A	8242+03.88	3.58	586.08
B	8242+13.88	3.58	585.30
N. End North Appr. Slab	8242+23.88	3.58	584.52



PLAN

2:02:44 PM 01/17/20-60X94-5019-TopSlab_NorthApproach.dgn



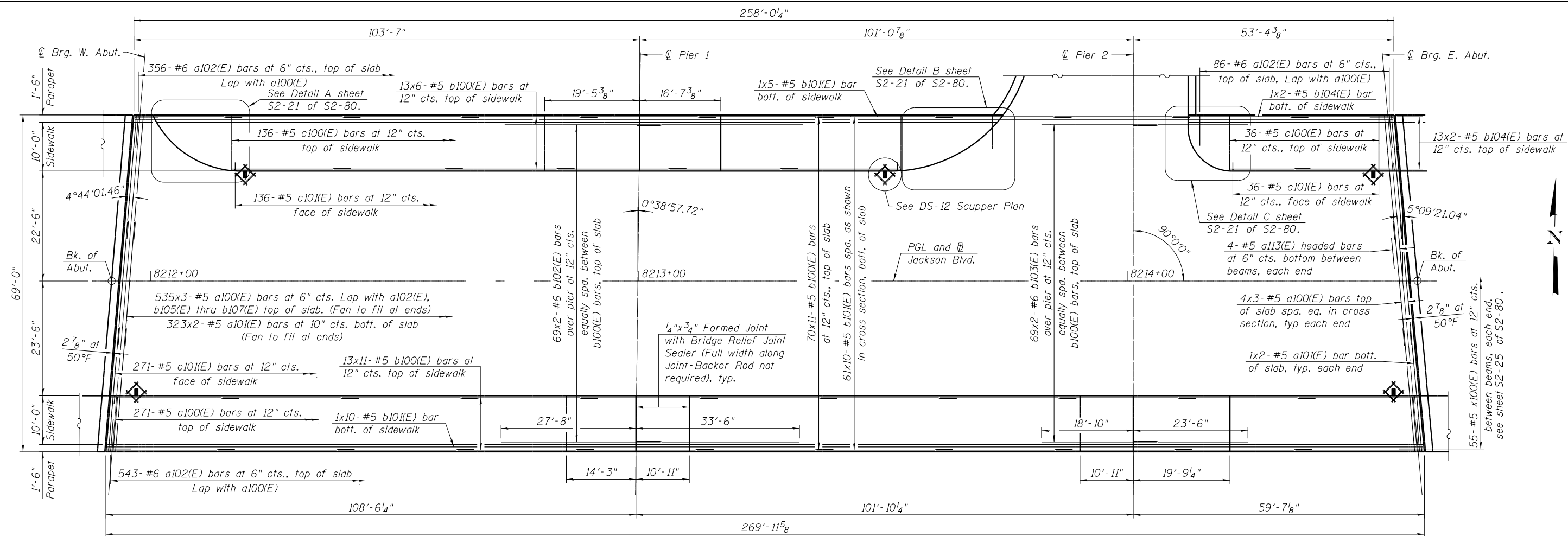
USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JM	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

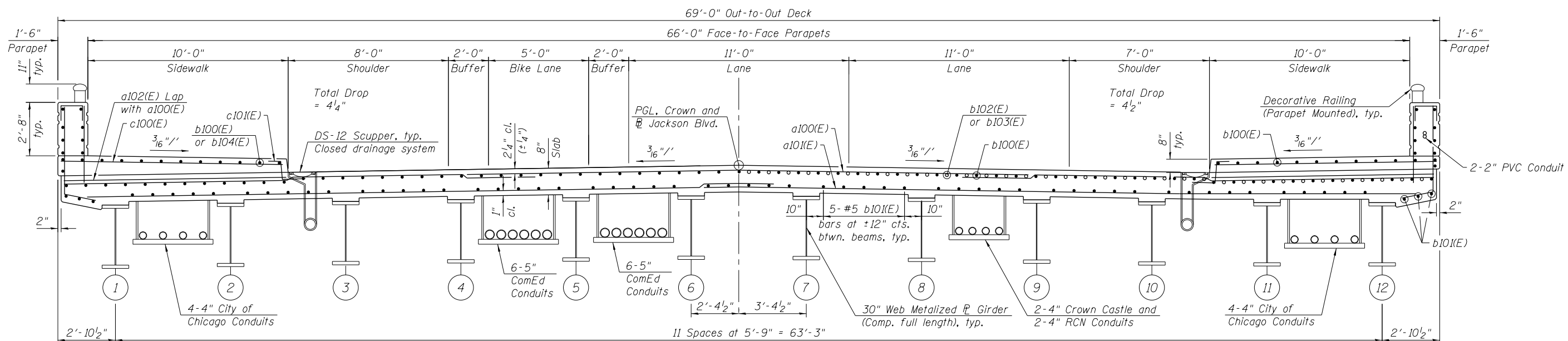
**TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1702**

SHEET NO. S2-19 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	404
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



DECK PLAN - JACKSON



CROSS SECTION - JACKSON (Looking East)

Notes:
 Bars indicated thus 13x8-#5 etc. indicates 13 lines of bars with 8 lengths per line.
 Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet S2-31 of S2-80.
 See Sheet S2-25 of S2-80 for Bill of Material.
 See Sheet S2-23 and S2-24 of S2-80 for parapet reinforcement.
 For Scupper locations see Sheet S2-04 of S2-80.
 For Scupper Plan, see Sheet S2-21 of S2-80.

Details for the proposed City of Chicago conduit support system are shown on the CDOT Lighting Plans. The concrete inserts will be provided by the contractor. The installation location of the concrete inserts will be determined in the field by the contractor. There is no separate payment for the placement of the inserts. Cost of the work involved in installing the inserts included with Concrete Superstructure.

Proposed conduit support systems for the utilities are shown for information only. The concrete inserts will be provided to the Contractor by the utility companies. The Contractor is responsible for placing inserts per layout details and direction from the utility companies. The utility companies may elect to provide support to Contractor for final insert placement in advance of pouring concrete. There is no separate payment for the placement of inserts. The work involved in placing inserts is included in the cost of Concrete Superstructure.

Minimum Bar Laps	
Bar	Lap
#5	3'-6"
#6	4'-10"

2:02:54 PM 0161702-60X94-S020-Deck-Plan-Jackson.dgn



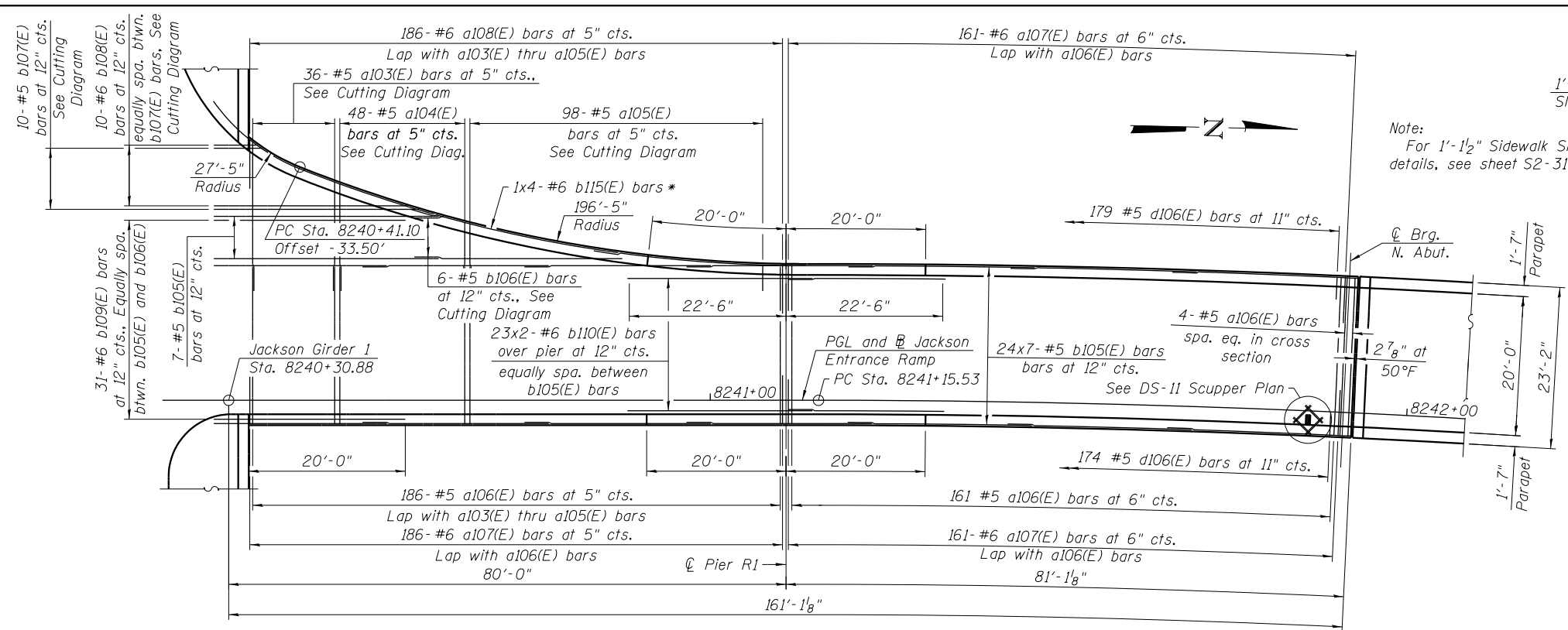
USER NAME = wjcolletti	DESIGNED JM	REVISD
PLOT SCALE = NTS	CHECKED WJC	REVISD
PLOT DATE = 3/5/2020	DRAWN JTF	REVISD
	CHECKED WJC	REVISD

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

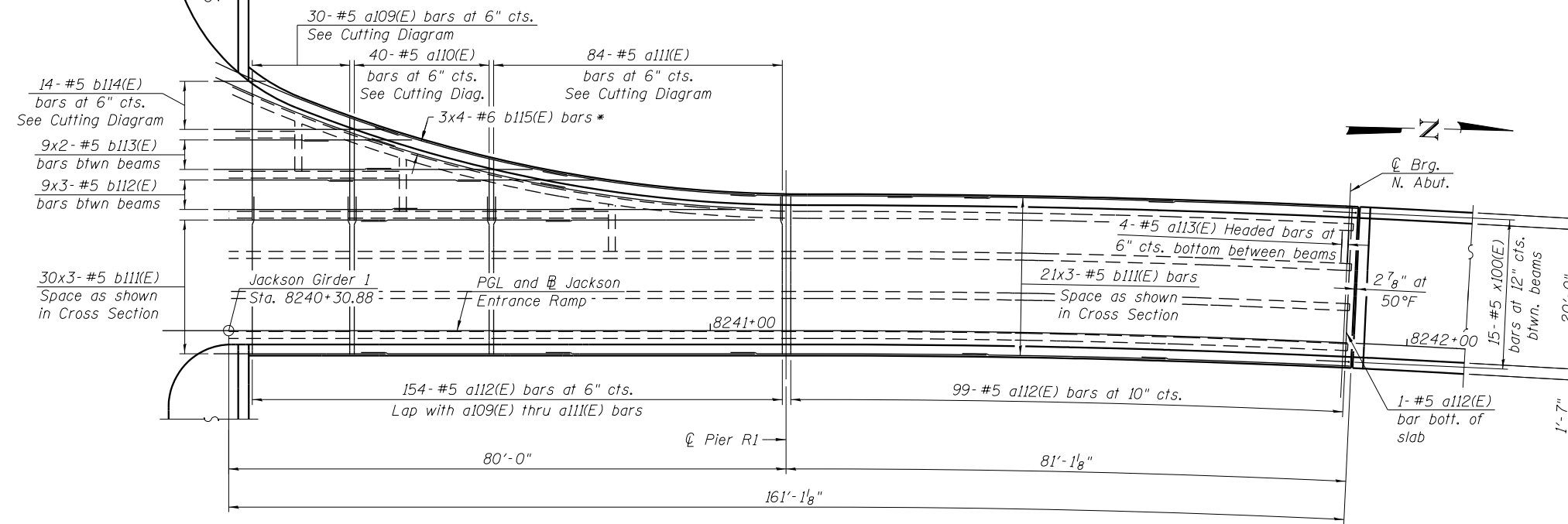
DECK PLAN AND CROSS SECTION - JACKSON
 STRUCTURE NO. 016-1702

SHEET NO. S2-20 OF S2-80 SHEETS

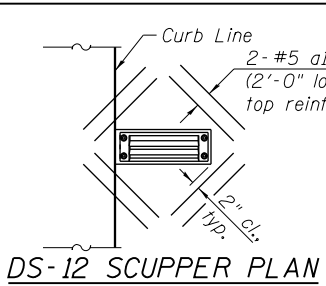
F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 405
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



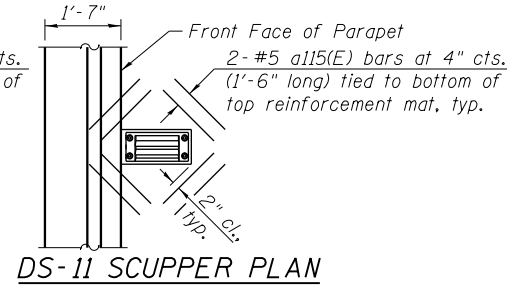
DECK PLAN - RAMP (TOP)



DECK PLAN - RAMP (BOTTOM)



DS-12 SCUPPER PLAN



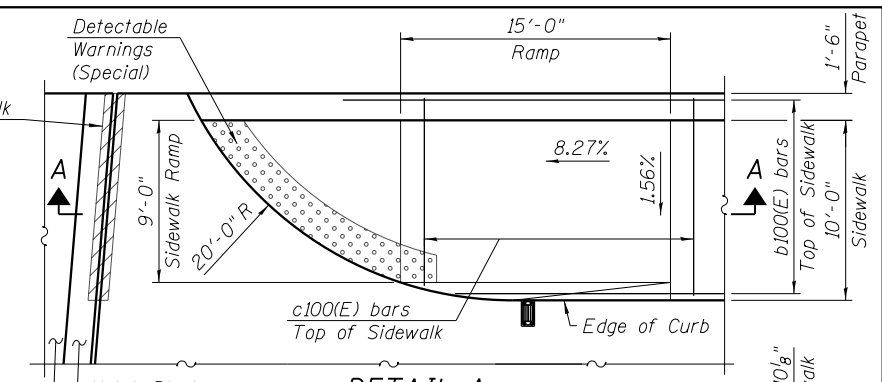
DS-11 SCUPPER PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

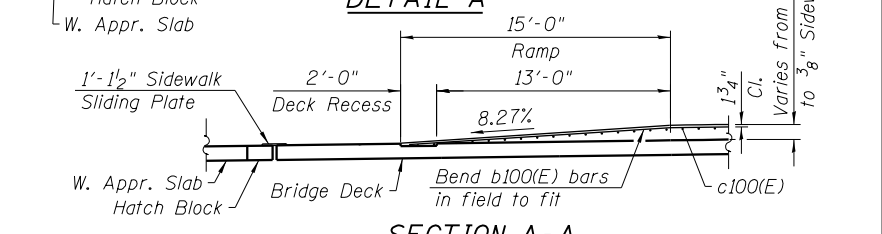
Minimum Bar Laps	
Bar	Lap
#5	3'-6"
#6	4'-10"

* Bars are to be provided straight and are to be sprung and tied at required radius in field.

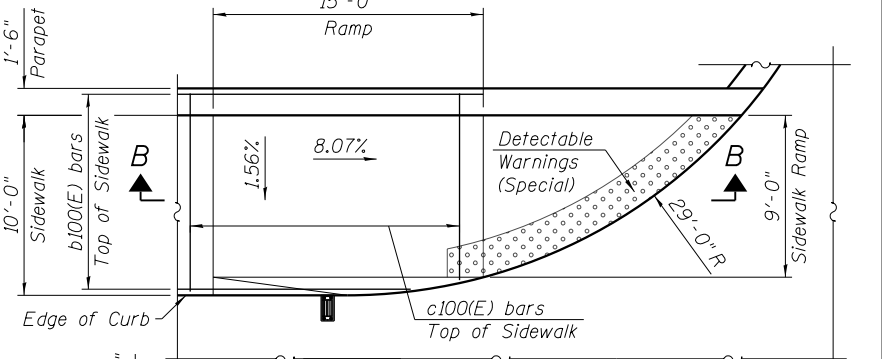
Note:
For 1'-1/2" Sidewalk Sliding Plate details, see sheet S2-31 of S2-80.



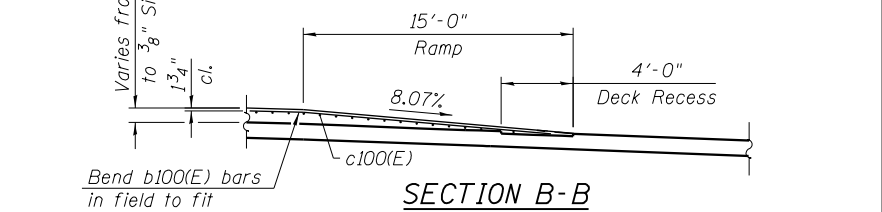
DETAIL A



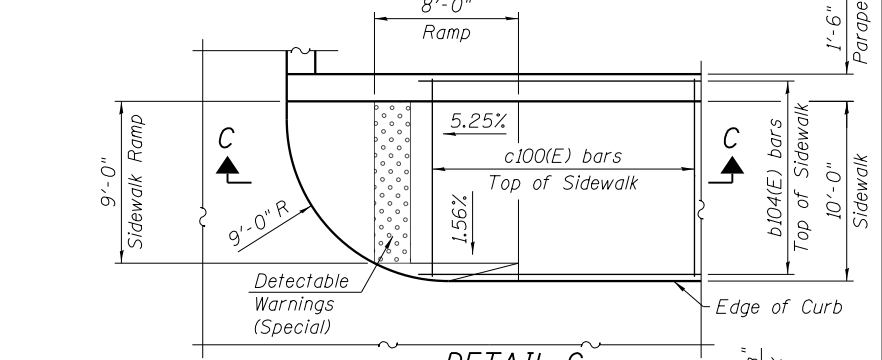
SECTION A-A



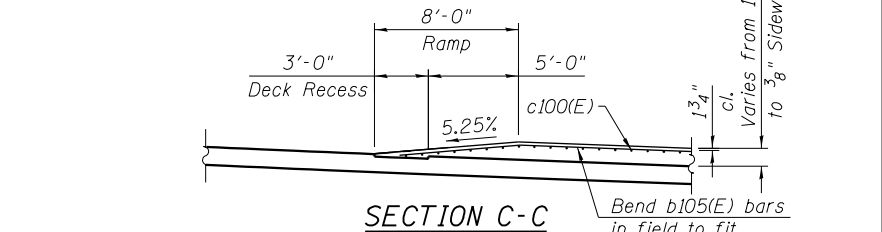
DETAIL B



SECTION B-B



DETAIL C



SECTION C-C

2:03:05 PM 0161702-60X94-S021-Deck_Plan_Ramp.dgn



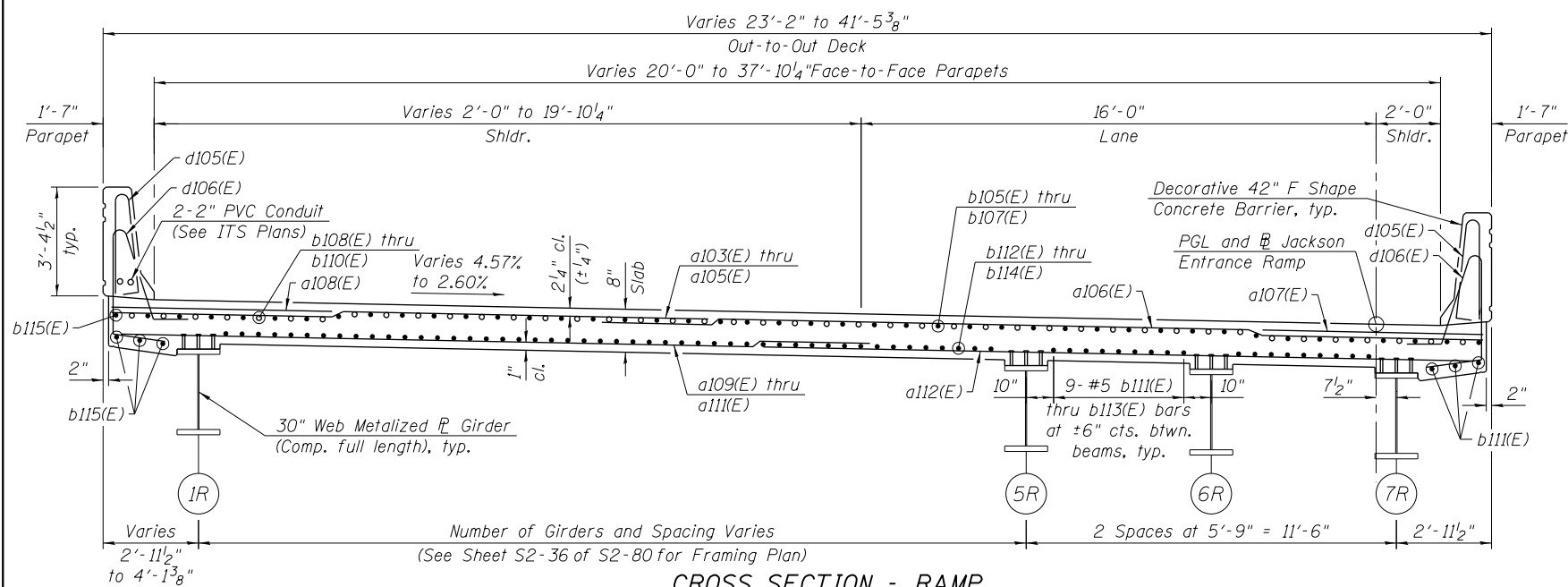
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JM	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

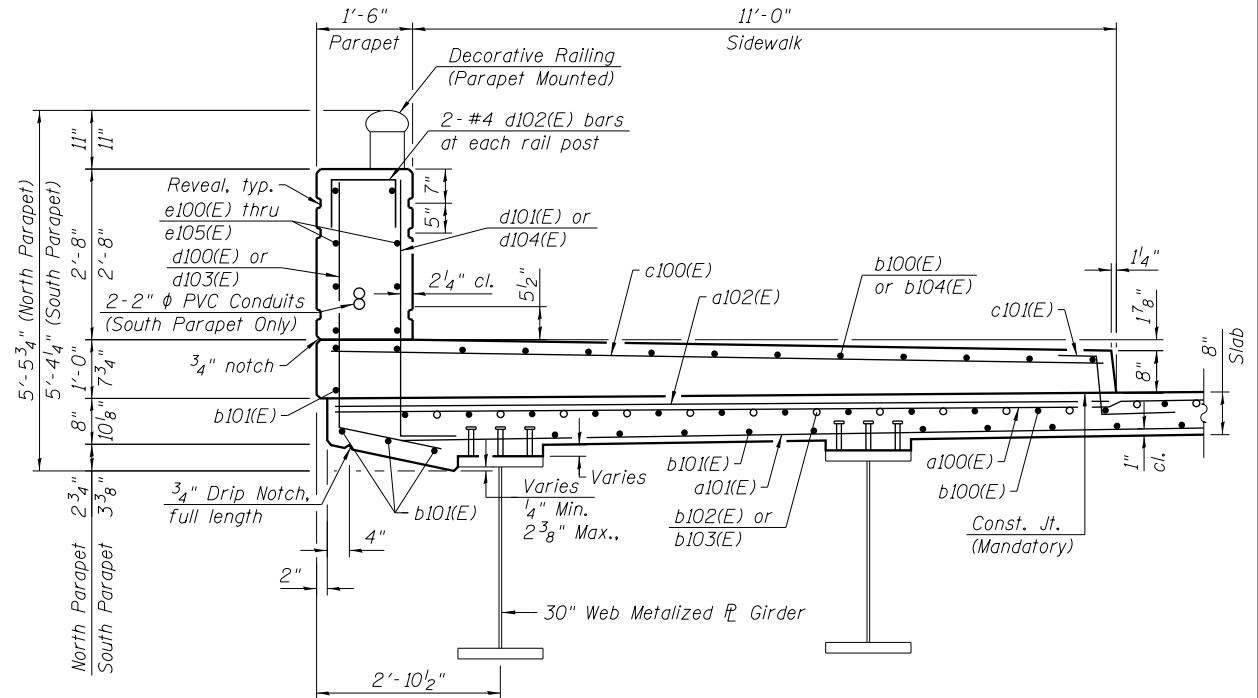
DECK PLAN - RAMP
STRUCTURE NO. 016-1702

SHEET NO. S2-21 OF S2-80 SHEETS

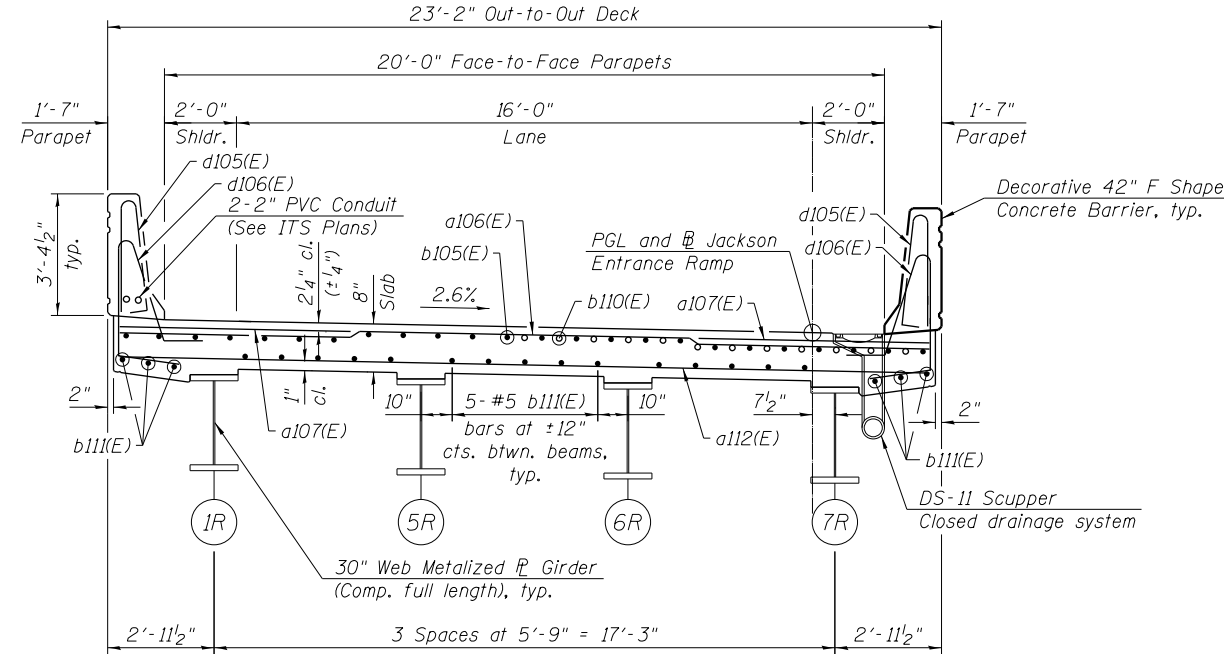
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	406
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



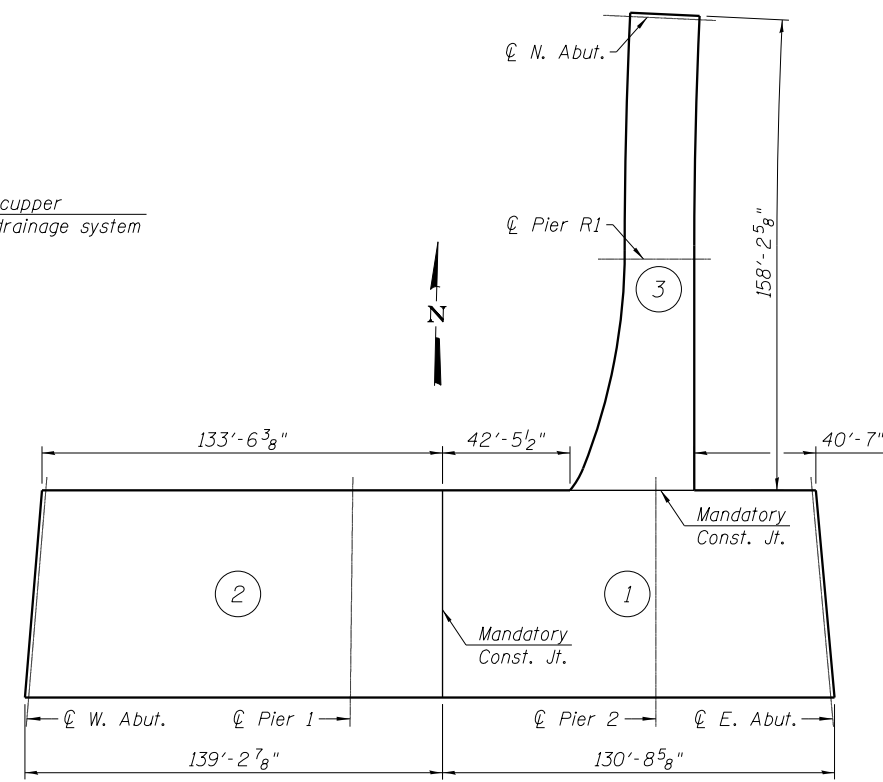
CROSS SECTION - RAMP
 (Looking North, Sta. 8240+30.88 to Sta. 8241+10.88)
 (Dimensions are measured perpendicular to Jackson Entrance Ramp)



SECTION THROUGH NORTH PARAPET AT PIER
 (Looking Up-Station at Pier, South Parapet similar, opposite hand)



CROSS SECTION - RAMP
 (Looking North, Sta. 8241+10.88 to Sta. 8241+90.88)
 (Dimensions are measured perpendicular to Jackson Entrance Ramp)



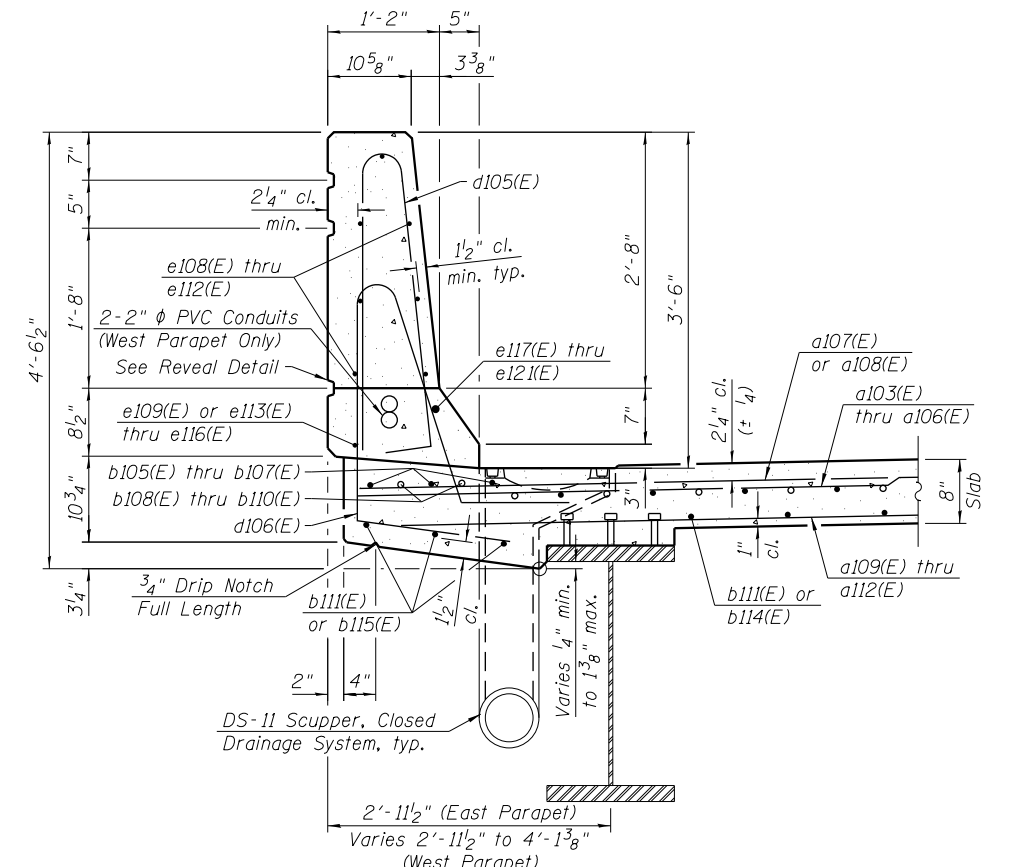
POURING SEQUENCE

DECK POURING SEQUENCE

When the deck pour is stopped for the day at one or more of the transverse Bonded Construction Joints in the Deck Pouring Sequence as shown, the next pour shall not be made until both of the following are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum flexural strength of 675 psi or a minimum compressive strength of 4000 psi.

Concrete pours shall follow the numerical order shown in the pouring sequence. Deviation from this pour sequence requires approval from the Engineer.



SECTION THRU WEST RAMP PARAPET AT PIER
 (Looking Up-Station at Pier, East Parapet similar, opposite hand)

2:03:17 PM 0161702-60X94-5022-Cross Sections-Ramp.dgn

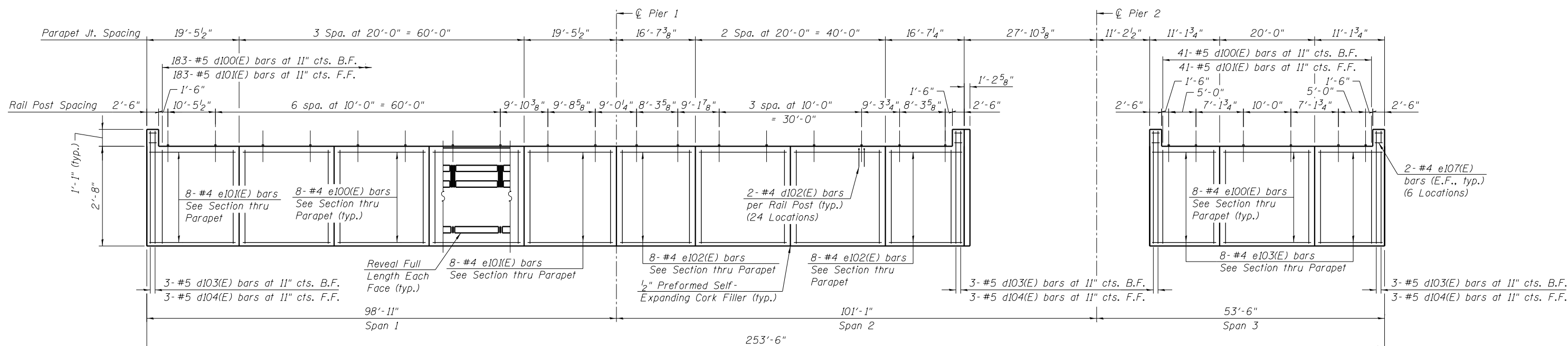


USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

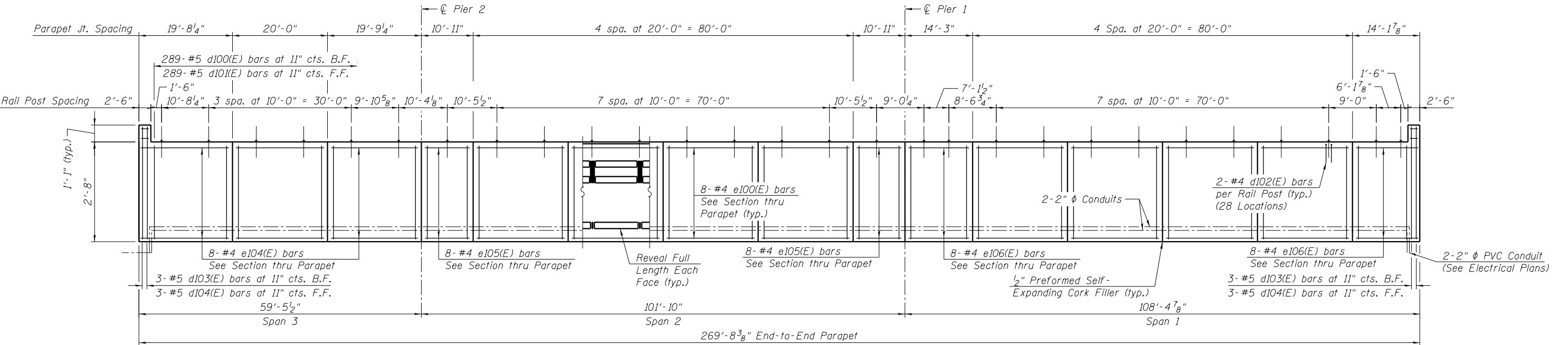
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS - RAMP
 STRUCTURE NO. 016-1702**
 SHEET NO. S2-22 OF S2-80 SHEETS

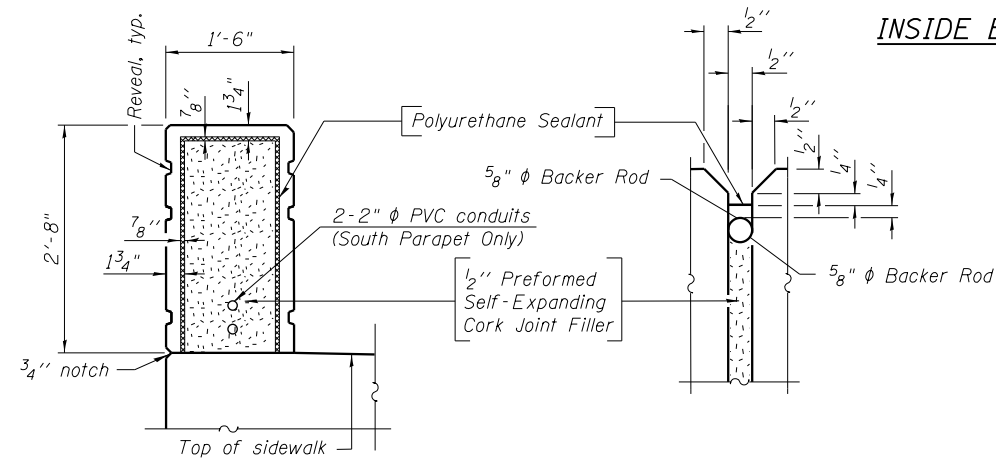
F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 407
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



INSIDE ELEVATION OF NORTH PARAPET - JACKSON
(Looking North)



INSIDE ELEVATION OF SOUTH PARAPET - JACKSON
(Looking South)



PARAPET JOINT DETAILS

Notes:
 For Section Through Parapet, see Sheet S2-22 of S2-80.
 For notes, bar diagrams, and Bill of Material, see Sheet S2-25 of S2-80.
 All edges shall be chamfered 3/4".
 For architectural details on the parapets and Decorative Railing (Parapet Mounted) details, see Sheet S2-30 of S2-80.
 The cost of reveal is included in cost of Concrete Superstructure.
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be Gray.
 1/2" P/JF Included in cost of Concrete Superstructure.

2:03:27 PM 0161702-60X94-S023-Parapet - Jackson.dgn



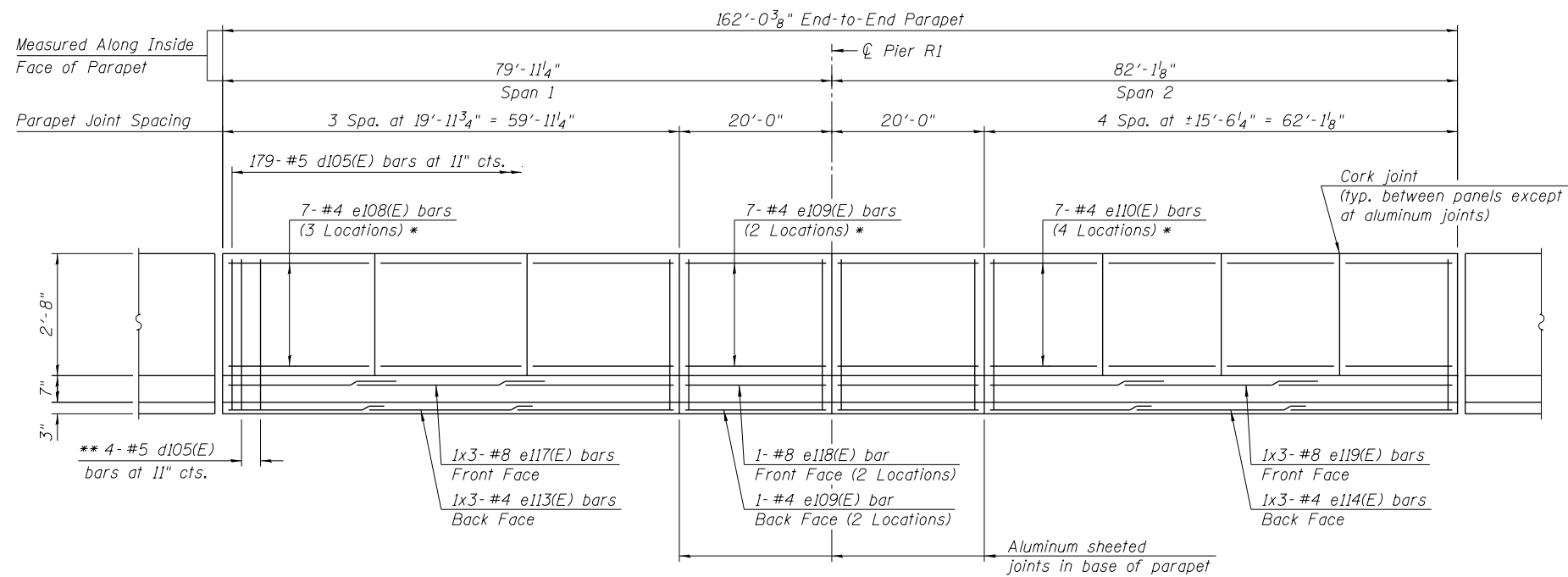
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET ELEVATIONS - JACKSON
STRUCTURE NO. 016-1702**

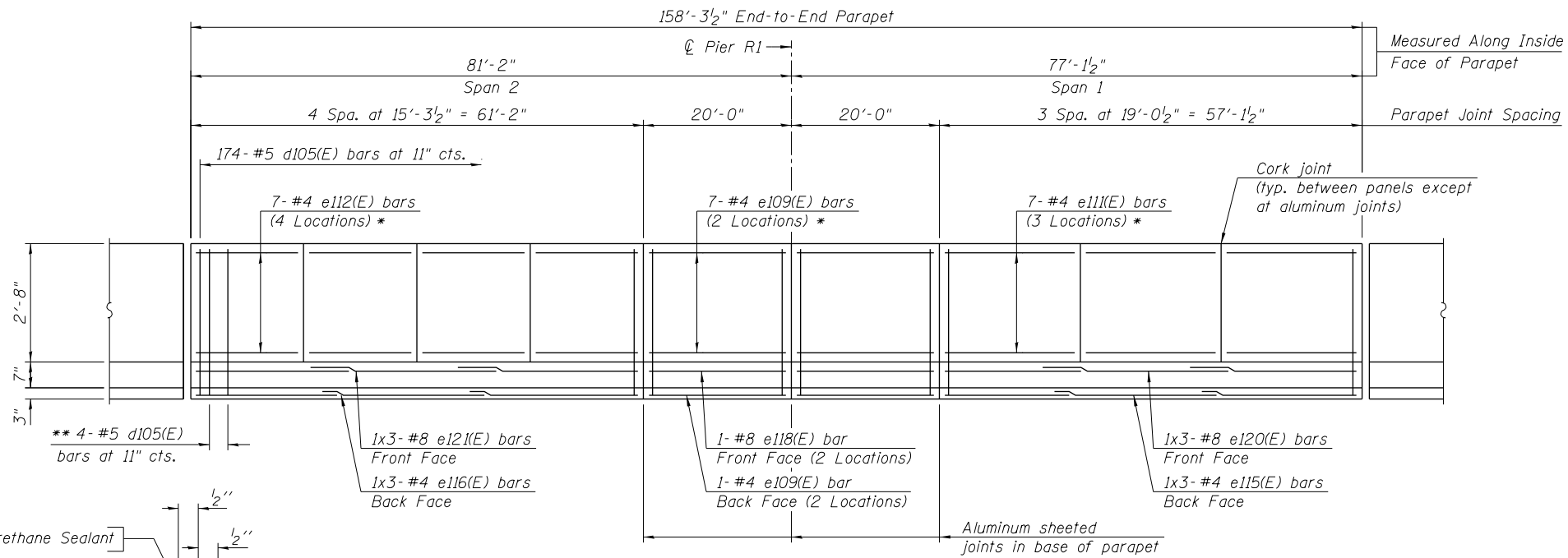
SHEET NO. S2-23 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	408
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

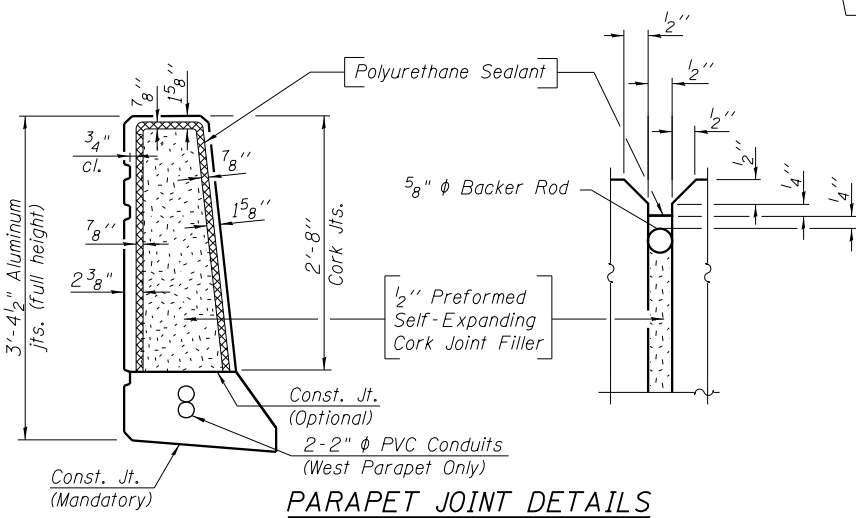


INSIDE ELEVATION OF WEST PARAPET - RAMP
(Looking West)

* See section thru parapet on Sheet S2-22 of S2-80.
 ** Space between already specified d105(E) bars. Typical at parapet ends and each side of aluminum shield joints. (8 Locations West Parapet) (8 Locations East Parapet)



INSIDE ELEVATION OF EAST PARAPET - RAMP
(Looking East)



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

Notes:
 Bars indicated Locations: 1x4-#8 etc. indicates one line of bars with 4 lengths per line.
 For section through parapet, see Sheet S2-22 of S2-80.
 The 1/8" Aluminum Sheet shall be ASTM B209 Alloy 3003-H14 and coated to minimize reaction with concrete. Cost included with Concrete Superstructure.
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

2:03:38 PM 0161702-60X94-S024-Parapet - Ramp.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

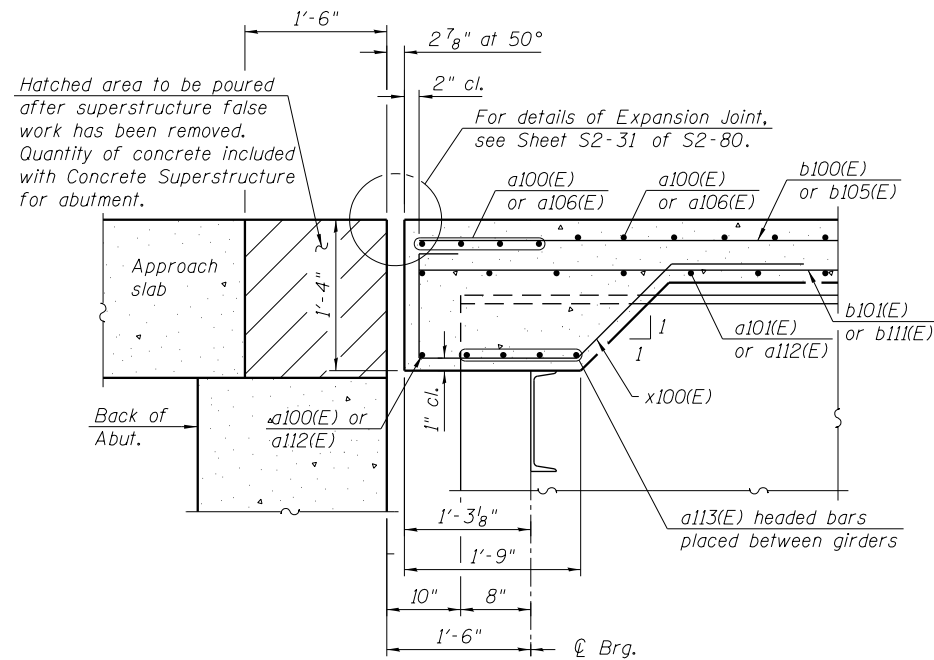
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS - RAMP
STRUCTURE NO. 016-1702

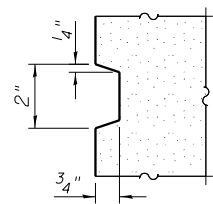
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	409
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

SHEET NO. S2-24 OF S2-80 SHEETS

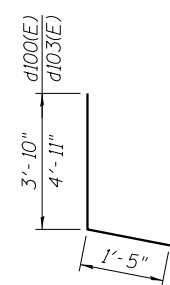
BILL OF MATERIAL



SECTION THROUGH EXPANSION JOINT AT RIGHT ANGLE
(Looking North, West joint shown, East and North joints similar)



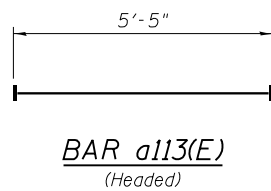
REVEAL DETAIL



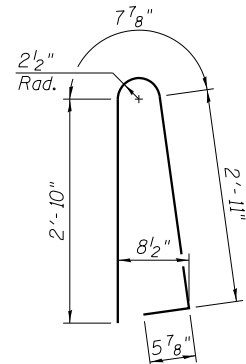
BAR d100(E) AND d103(E)

BAR d101(E) AND d104(E)

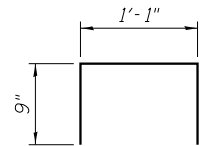
Bar	A	B
d101(E)	3'-10"	10"
d104(E)	4'-11"	10"



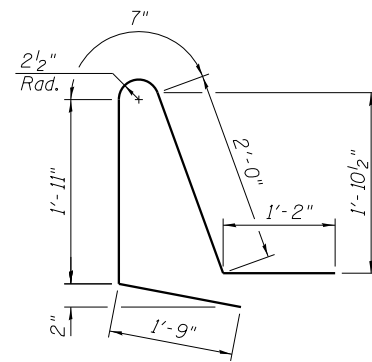
BAR a113(E)
(Headed)



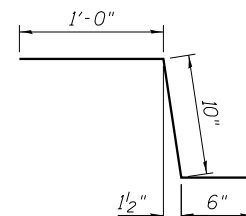
BAR d105(E)



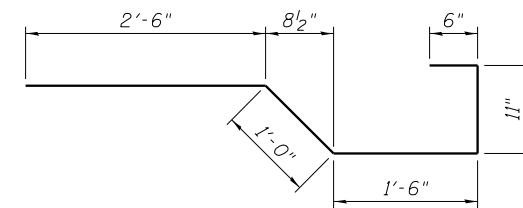
BAR d102(E)



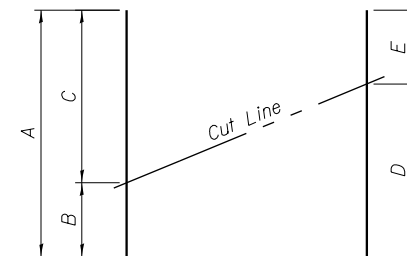
BAR d106(E)



BAR c101(E)



BAR x100(E)



BAR CUTTING DIAGRAM

Order bars full length

Bar	A	B	C	D	E
a103(E)	38'-11"	22'-11"	16'-0"	19'-7"	19'-4"
a104(E)	26'-0"	15'-10"	10'-2"	13'-0"	13'-0"
a105(E)	15'-0"	10'-1"	4'-11"	7'-6"	7'-6"
a109(E)	36'-4"	14'-9"	21'-7"	18'-1"	18'-3"
a110(E)	23'-5"	8'-10"	14'-7"	11'-8"	11'-9"
a111(E)	12'-4"	3'-7"	8'-9"	6'-2"	6'-2"
b106(E)	54'-3"	11'-4"	42'-11"	27'-8"	26'-7"
b107(E)	38'-3"	8'-3"	30'-0"	17'-10"	20'-5"
b108(E)	36'-9"	7'-7"	29'-2"	17'-0"	19'-9"
b114(E)	29'-5"	6'-2"	23'-3"	14'-1"	15'-4"

Note:

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

Bar	No.	Size	Length	Shape
a100(E)	1629	#5	25'-3"	—
a101(E)	650	#5	36'-0"	—
a102(E)	985	#6	6'-8"	—
a103(E)	18	#5	38'-11"	—
a104(E)	24	#5	26'-0"	—
a105(E)	49	#5	15'-0"	—
a106(E)	351	#5	22'-6"	—
a107(E)	508	#6	6'-6"	—
a108(E)	186	#6	7'-0"	—
a109(E)	15	#5	36'-4"	—
a110(E)	20	#5	23'-5"	—
a111(E)	42	#5	12'-4"	—
a112(E)	254	#5	22'-6"	—
a113(E)	100	#5	5'-5"	—
a114(E)	40	#5	2'-0"	—
a115(E)	8	#5	1'-6"	—

Bar	No.	Size	Length	Shape
b100(E)	991	#5	27'-9"	—
b101(E)	625	#5	30'-2"	—
b102(E)	138	#6	33'-0"	—
b103(E)	138	#6	23'-7"	—
b104(E)	28	#5	20'-0"	—
b105(E)	175	#5	26'-9"	—
b106(E)	3	#5	54'-3"	—
b107(E)	5	#5	38'-3"	—
b108(E)	5	#6	36'-9"	—
b109(E)	31	#6	29'-5"	—
b110(E)	46	#6	24'-11"	—
b111(E)	153	#5	30'-0"	—
b112(E)	27	#5	28'-0"	—
b113(E)	18	#5	24'-2"	—
b114(E)	7	#5	29'-5"	—
b115(E)	16	#6	28'-5"	—

c100(E)	443	#5	11'-2"	—
c101(E)	443	#5	2'-4"	—
d100(E)	513	#5	5'-3"	—
d101(E)	513	#5	4'-8"	—
d102(E)	104	#4	2'-7"	—
d103(E)	18	#5	6'-4"	—
d104(E)	18	#5	5'-9"	—
d105(E)	417	#5	6'-11"	—
d106(E)	353	#5	7'-5"	—

e100(E)	120	#4	19'-8"	—
e101(E)	16	#4	19'-2"	—
e102(E)	16	#4	16'-3"	—
e103(E)	16	#4	10'-11"	—
e104(E)	16	#4	19'-5"	—
e105(E)	16	#4	10'-7"	—
e106(E)	16	#4	13'-11"	—
e107(E)	24	#4	2'-2"	—
e108(E)	21	#4	19'-7"	—
e109(E)	32	#4	19'-8"	—
e110(E)	28	#4	15'-3"	—
e111(E)	21	#4	18'-9"	—
e112(E)	28	#4	15'-0"	—
e113(E)	3	#4	21'-6"	—
e114(E)	3	#4	22'-3"	—
e115(E)	3	#4	20'-7"	—
e116(E)	3	#4	21'-11"	—
e117(E)	3	#8	24'-5"	—
e118(E)	4	#8	19'-8"	—
e119(E)	3	#8	25'-2"	—
e120(E)	3	#8	23'-6"	—
e121(E)	3	#8	24'-10"	—

x100(E)	125	#5	6'-5"	—
---------	-----	----	-------	---

Reinforcement Bars, Epoxy Coated	Pound	202,690
Concrete Superstructure	Cu. Yd.	846.1
Protective Coat	Sq. Yd.	2,765
Bridge Deck Grooving	Sq. Yd.	1,422
Detectable Warnings (Special)	Sq. Ft.	92
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	402

2:03:47 PM 0161702-60X94-5025-SuperstructureDetails.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JM	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-25 OF S2-80 SHEETS

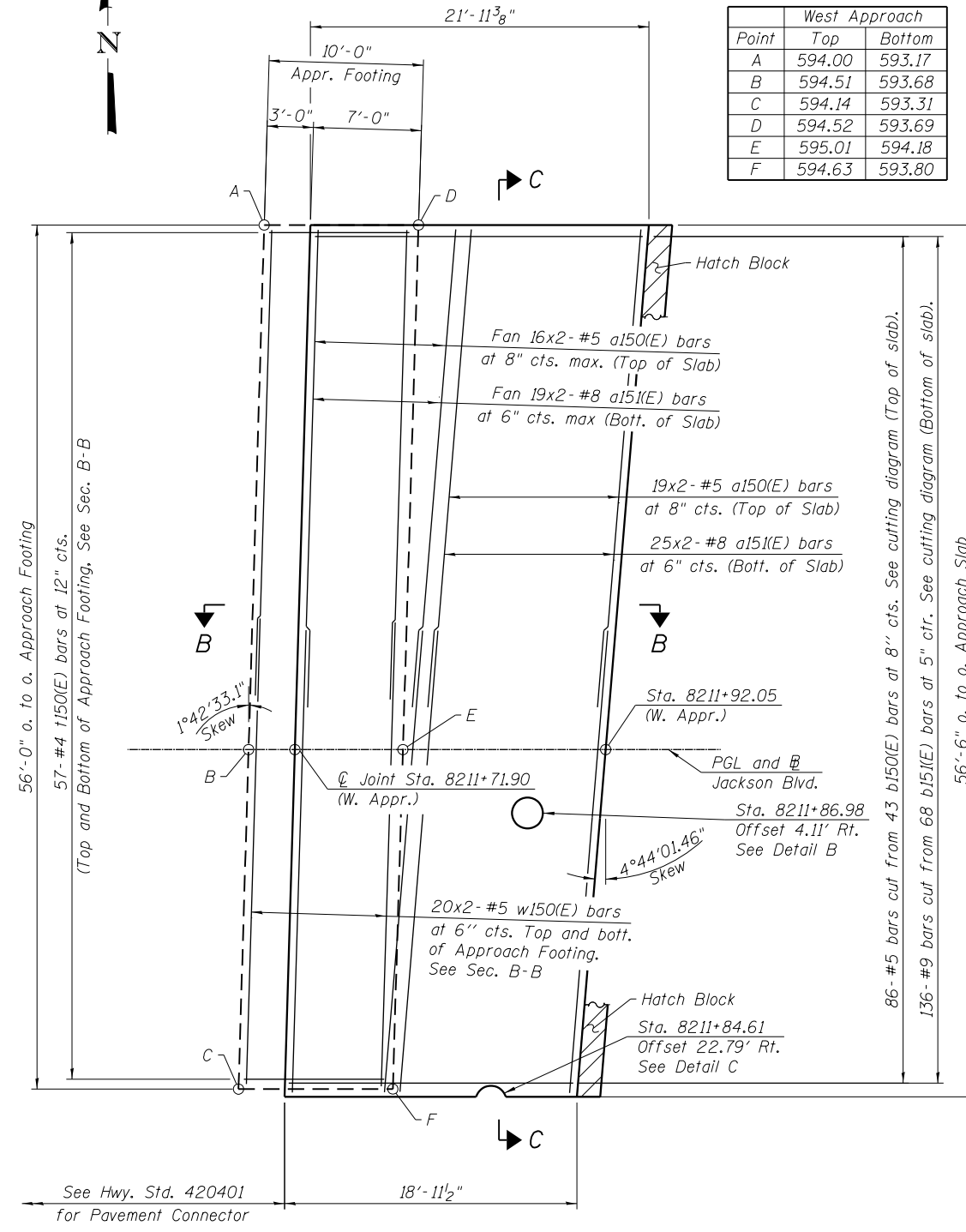
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	410
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

**TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING**

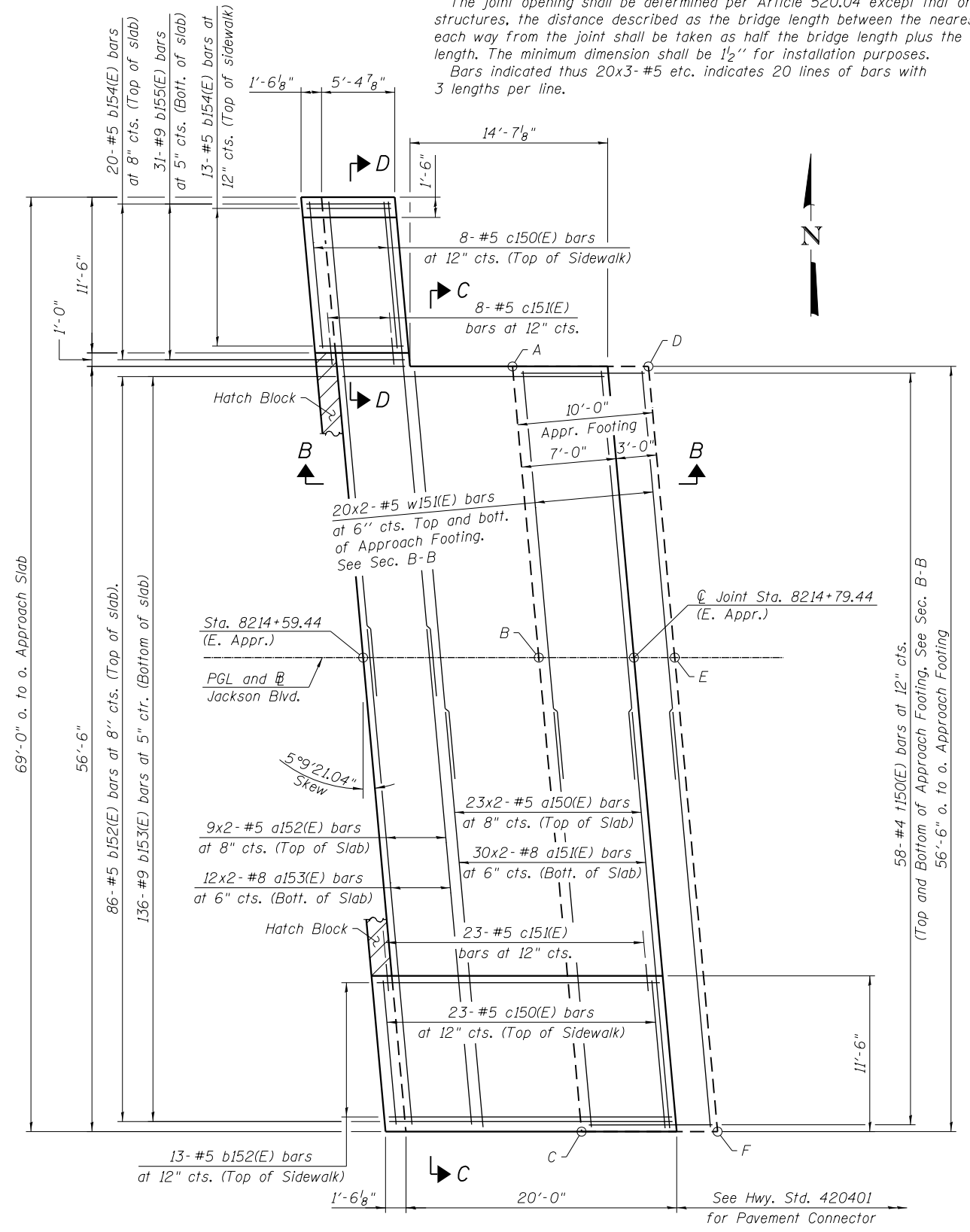
West Approach		
Point	Top	Bottom
A	594.00	593.17
B	594.51	593.68
C	594.14	593.31
D	594.52	593.69
E	595.01	594.18
F	594.63	593.80

East Approach		
Point	Top	Bottom
A	591.53	590.70
B	591.84	591.01
C	591.24	590.41
D	591.41	590.58
E	591.73	590.90
F	591.04	590.21

Notes:
See sheet S2-27 of S2-80 for Detail B, Detail C, Sections B-B, C-C, D-D, Detail B, and Detail C.
a150(E) through a153(E) and c150(E) through c153(E) bar spacings measured along \hat{C} Rdwy.
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1/2" for installation purposes.
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



WEST APPROACH - PLAN



EAST APPROACH - PLAN

2:04:13 PM 01/17/2020-60X94-5026-Appr Slab_Detail-Jackson1.dgn



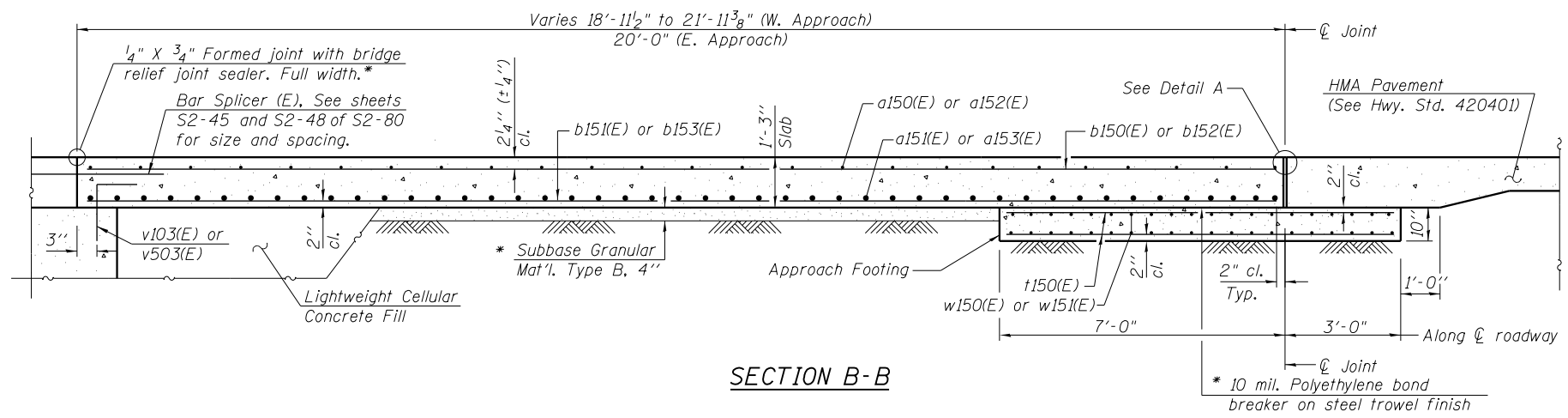
USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS 1 - JACKSON
STRUCTURE NO. 016-1702**

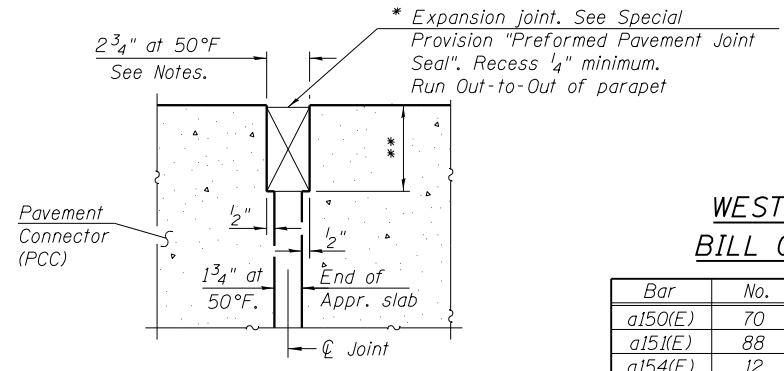
SHEET NO. S2-26 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	411
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



SECTION B-B

Notes:
 Approach slab concrete shall be paid for as Concrete Superstructure (Approach Slab).
 Sidewalk concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v103(E) or v503(E) bar details and for Lightweight Cellular Concrete Fill, see Sheets S2-45 and S2-48 of S2-80.
 The approach footing maximum applied service bearing pressure (Omax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.



DETAIL A

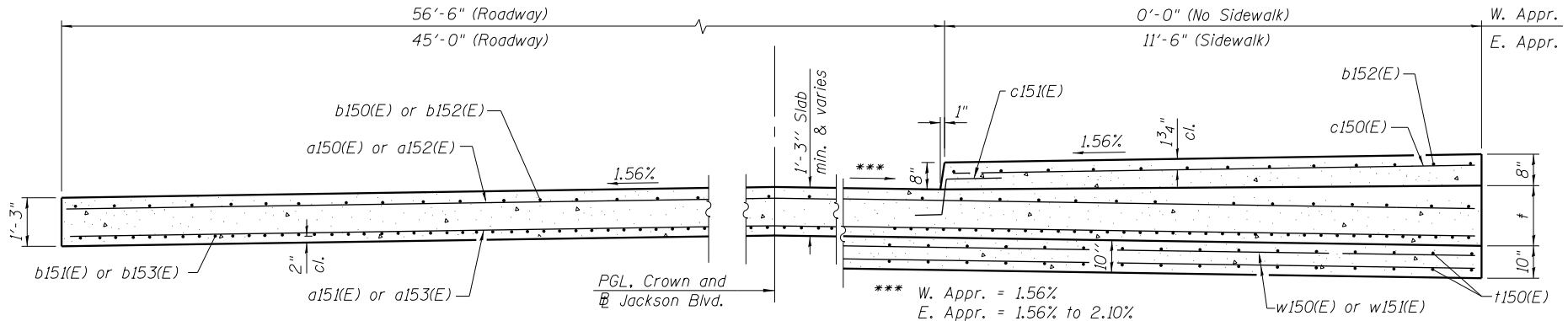
* Cost included with Concrete Superstructure (Approach Slab).
 ** Per manufacturer recommendations

**WEST APPROACH
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a150(E)	70	#5	29'-11"	—
a151(E)	88	#8	31'-7"	—
a154(E)	12	#5	3'-6"	—
b150(E)	43	#5	40'-2"	—
b151(E)	68	#9	40'-2"	—
t150(E)	114	#4	9'-8"	—
w150(E)	80	#5	29'-7"	—
Concrete Superstructure (Approach Slab)			Cu. Yd.	53.5
Concrete Structures			Cu. Yd.	17.3
Reinforcement Bars, Epoxy Coated			Pound	23,950
Bridge Deck Grooving			Sq. Yd.	138
Protective Coat			Sq. Yd.	129

MIN. BAR LAPS

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



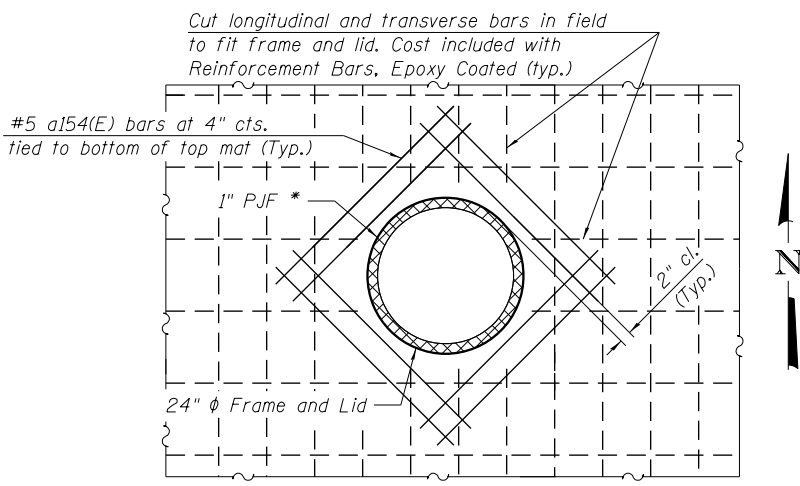
NEAR ABUTMENT

SECTION C-C

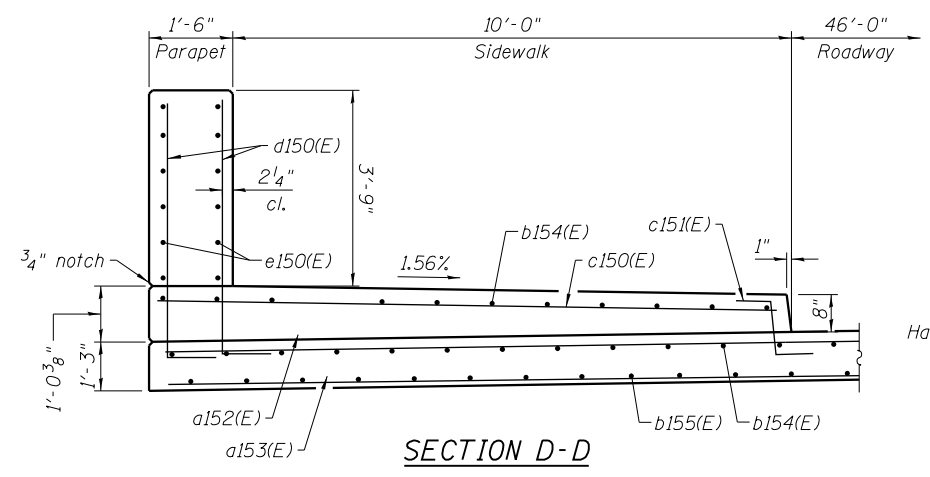
(See Plan for dimensions not shown)

AT APPROACH FOOTING

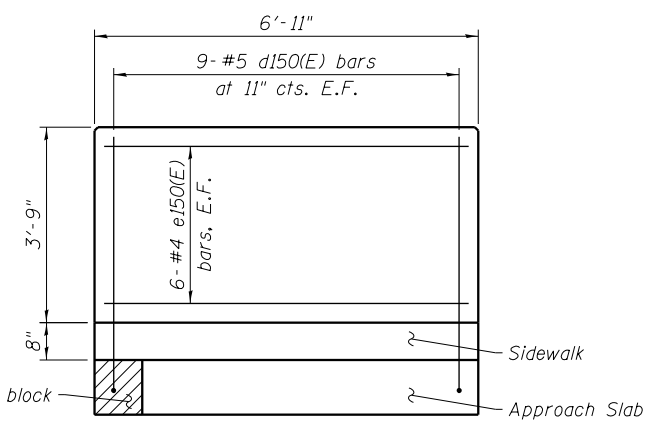
† W. Appr. = 1'-3"
 E. Appr. = Varies 1'-7 3/8" to 1'-7 5/8"



DETAIL B



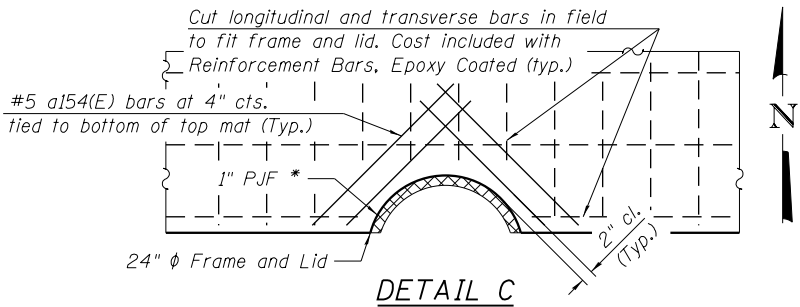
SECTION D-D



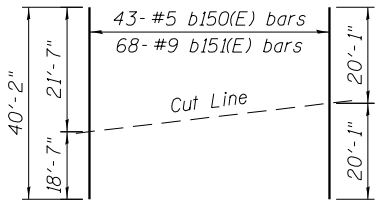
INSIDE ELEVATION OF PARAPET

**EAST APPROACH
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a150(E)	46	#5	29'-11"	—
a151(E)	60	#8	31'-7"	—
a152(E)	18	#5	36'-2"	—
a153(E)	24	#8	37'-10"	—
b152(E)	99	#5	19'-8"	—
b153(E)	136	#9	19'-8"	—
b154(E)	33	#5	5'-1"	—
b155(E)	31	#9	5'-1"	—
c150(E)	31	#5	11'-2"	—
c151(E)	31	#5	2'-4"	┘
d150(E)	9	#5	5'-7"	┘
e150(E)	12	#4	6'-7"	—
t150(E)	116	#4	9'-8"	—
w151(E)	80	#5	29'-11"	—
Concrete Superstructure			Cu. Yd.	8.7
Concrete Superstructure (Approach Slab)			Cu. Yd.	55.5
Concrete Structures			Cu. Yd.	17.5
Reinforcement Bars, Epoxy Coated			Pound	25,230
Bridge Deck Grooving			Sq. Yd.	109
Protective Coat			Sq. Yd.	139

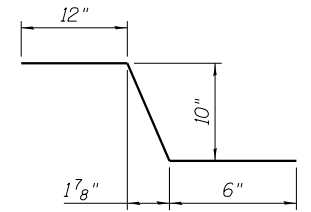


DETAIL C

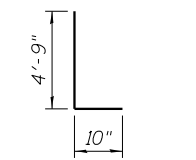


FIELD CUTTING DIAGRAM

Order bars full length.



BAR c151(E)



BAR d150(E)

2:04:24 PM 0161702-60X94-S027-Appr Slab-Details-Jackson2.dgn



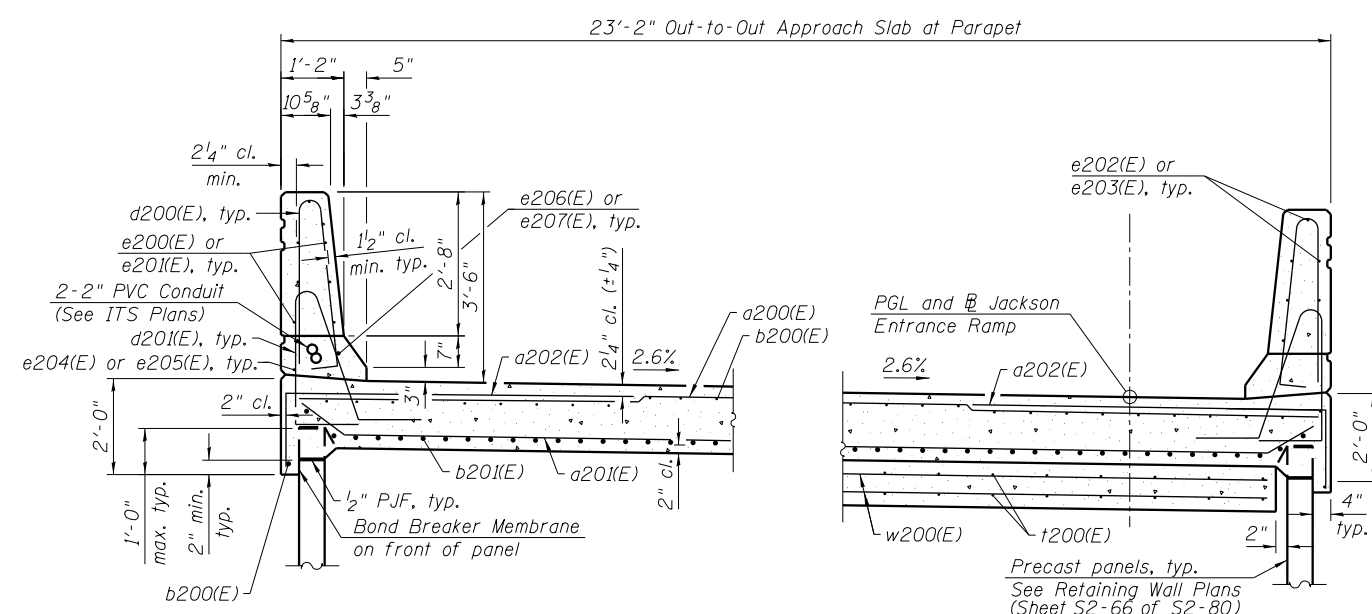
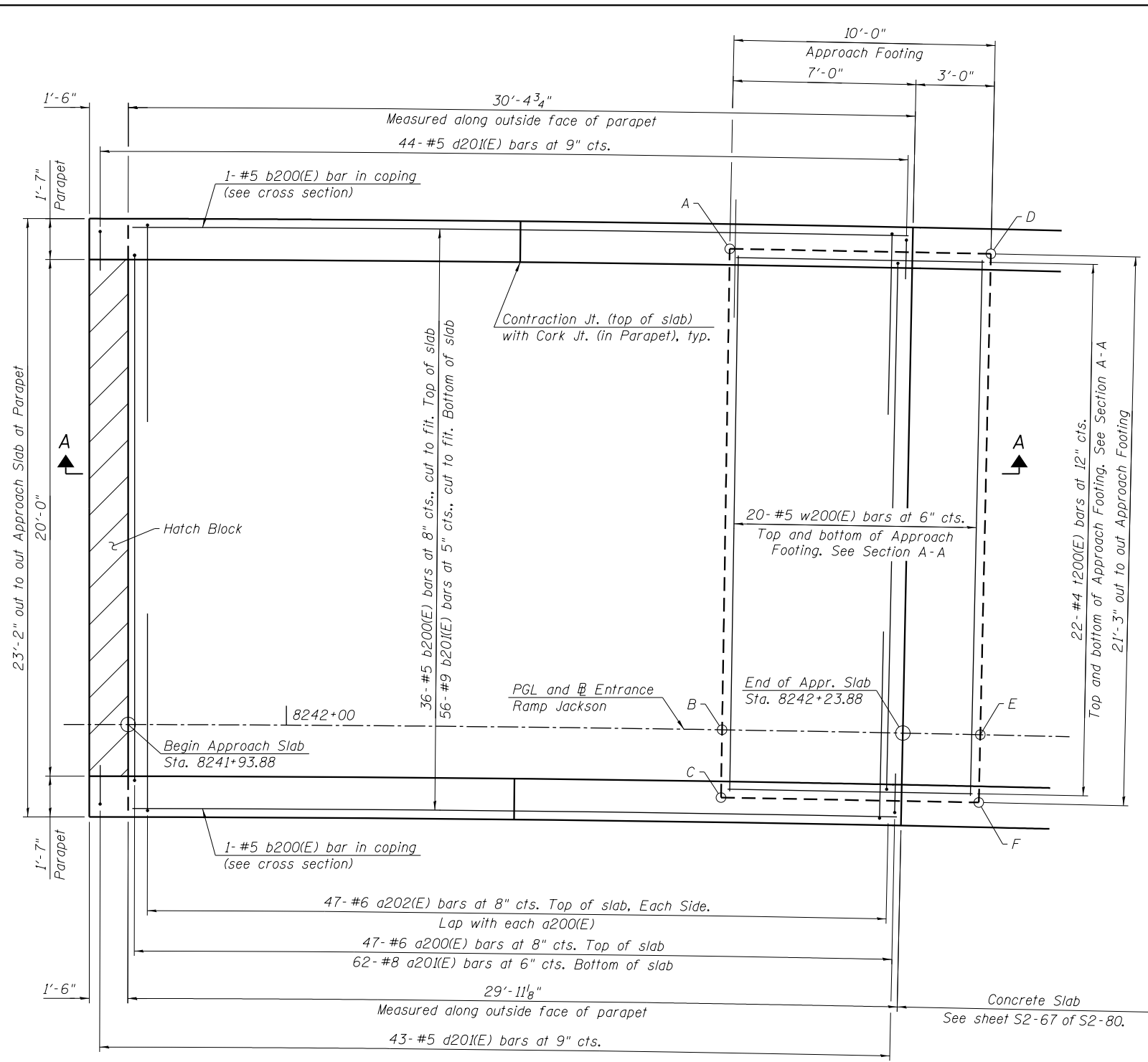
USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS 2 - JACKSON
 STRUCTURE NO. 016-1702**

SHEET NO. S2-27 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	412
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				



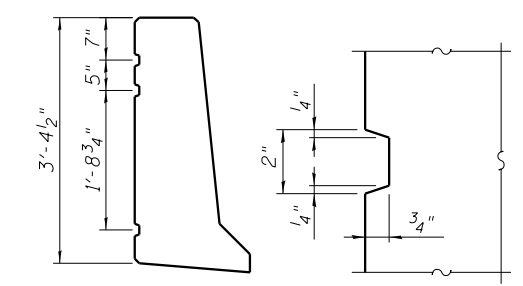
CROSS SECTION
(Looking Upstation)

NEAR ABUTMENT

AT APPROACH FOOTING

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

North Approach		
Point	Top	Bottom
A	584.35	583.52
B	583.87	583.04
C	583.80	582.97
D	583.58	582.75
E	583.09	582.26
F	583.02	582.19



Note: See Sheet S2-29 of S2-80 for Section A-A and notes.

PLAN

REVEAL DETAIL

2:04:48 PM 0161702-60X94-S028-Appr Slab-Details_Ramp1.dgn



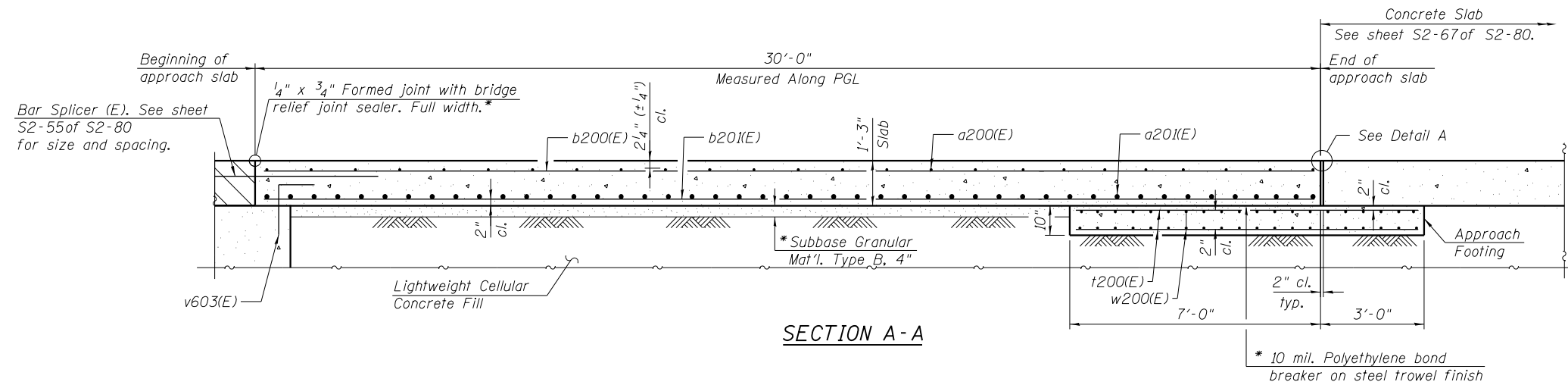
USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

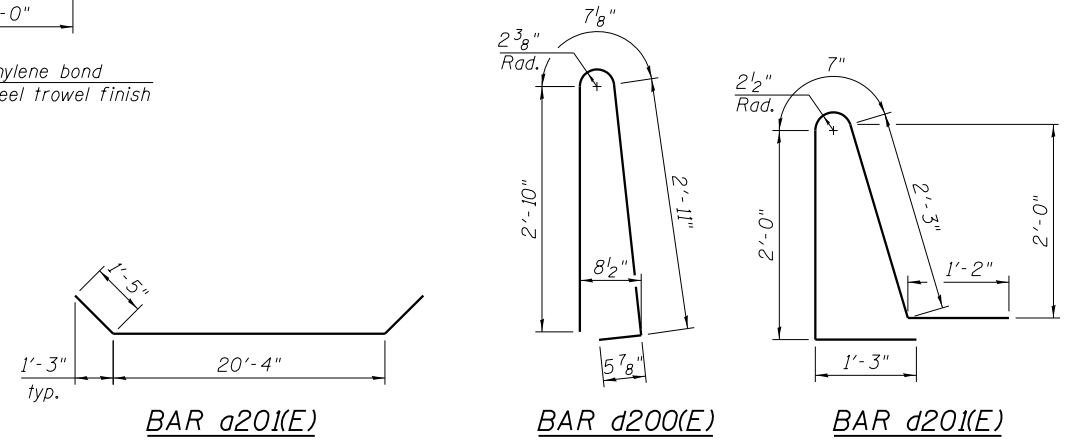
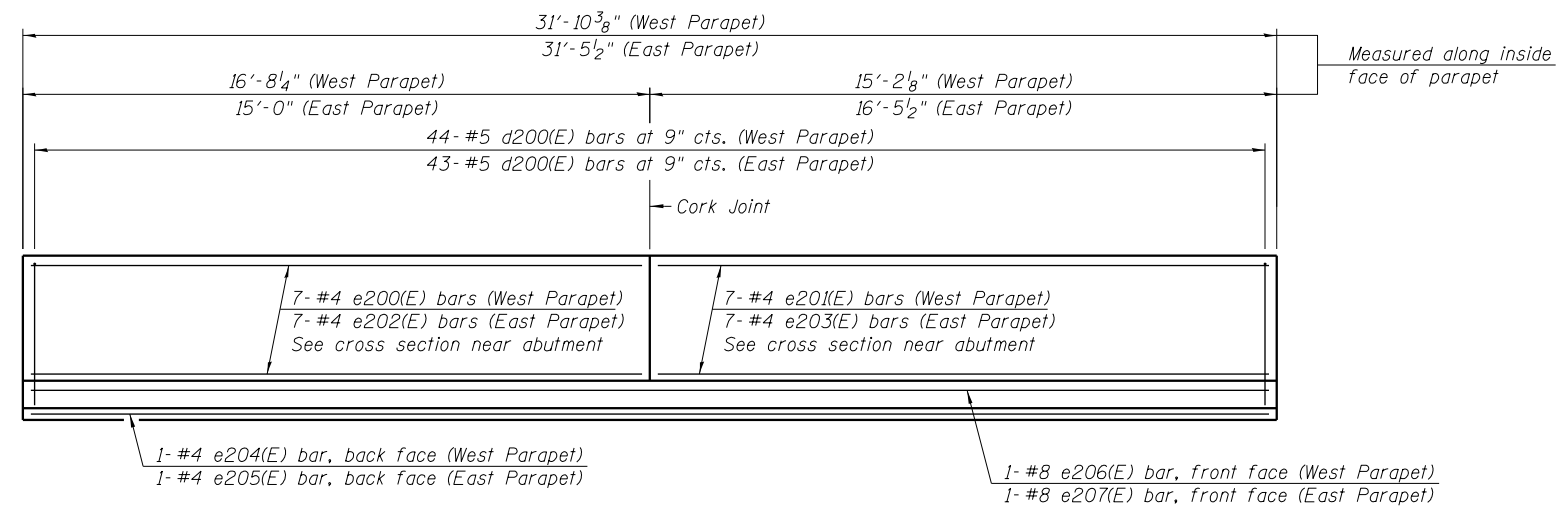
APPROACH SLAB DETAILS 1 - RAMP
STRUCTURE NO. 016-1702

SHEET NO. S2-28 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	413
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



Notes:
 Parapet concrete shall be paid for as Concrete Superstructure.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For v603(E) bar details, see Sheet S2-55 of S2-80.
 See sheet S2-66 of S2-80 for MSE retaining wall details.

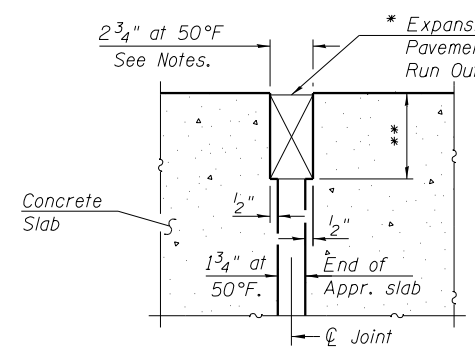


**NORTH APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a200(E)	47	#6	22'-10"	—	
a201(E)	62	#8	23'-2"	—	
a202(E)	94	#6	8'-0"	—	
b200(E)	38	#5	30'-0"	—	
b201(E)	56	#9	30'-0"	—	
d200(E)	87	#5	6'-10"	⏏	
d201(E)	87	#5	7'-3"	⏏	
e200(E)	7	#4	16'-4"	—	
e201(E)	7	#4	14'-10"	—	
e202(E)	7	#4	14'-8"	—	
e203(E)	7	#4	16'-1"	—	
e204(E)	1	#4	31'-6"	—	
e205(E)	1	#4	31'-1"	—	
e206(E)	1	#8	31'-6"	—	
e207(E)	1	#8	31'-1"	—	
t200(E)	44	#4	9'-8"	—	
w200(E)	40	#5	20'-11"	—	
Concrete Structures				Cu. Yd.	6.6
Concrete Superstructure				Cu. Yd.	9.1
Protective Coat				Sq. Yd.	103
Concrete Superstructures (Approach Slab)				Cu. Yd.	32.4
Reinforcement Bars, Epoxy Coated				Pound	16,420
Bridge Deck Grooving (Longitudinal)				Sq. Yd.	70

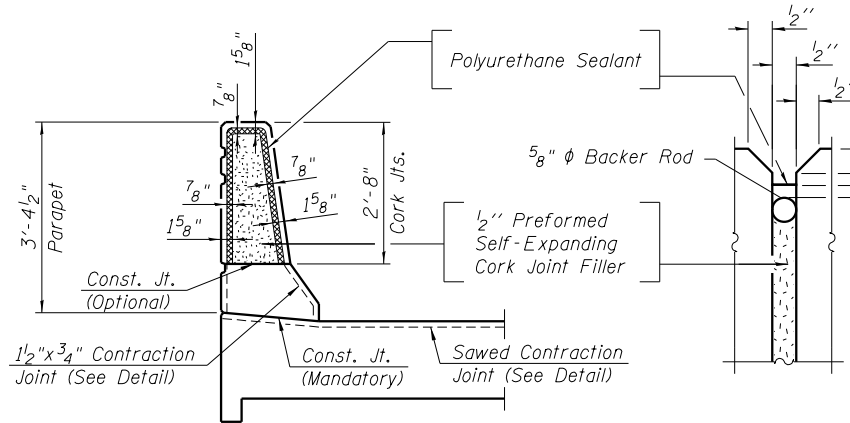
INSIDE ELEVATION OF PARAPET

(Parapet length includes the 1'-6" length above the abutment backwall)



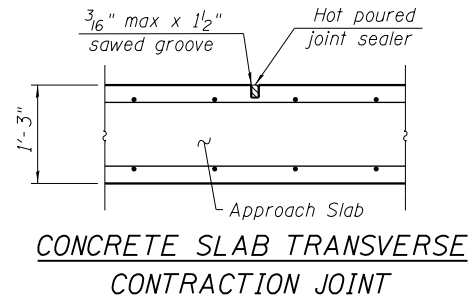
DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).
 ** Per manufacturer recommendations



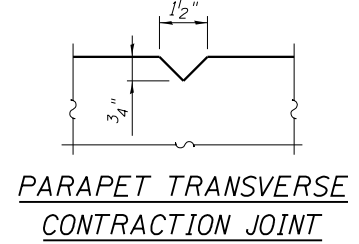
**PARTIAL HEIGHT BARRIER JOINT AND
CONTRACTION JOINT SECTION**

Notes:
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
 1/2" PJF is included in the cost of Concrete Superstructure



**CONCRETE SLAB TRANSVERSE
CONTRACTION JOINT**

See Article 420.05 & 420.12 of the Standard Specifications



**PARAPET TRANSVERSE
CONTRACTION JOINT**

2:05:03 PM 0161702-60X94-5029-Appr Slab_Details_Ramp2.dgn



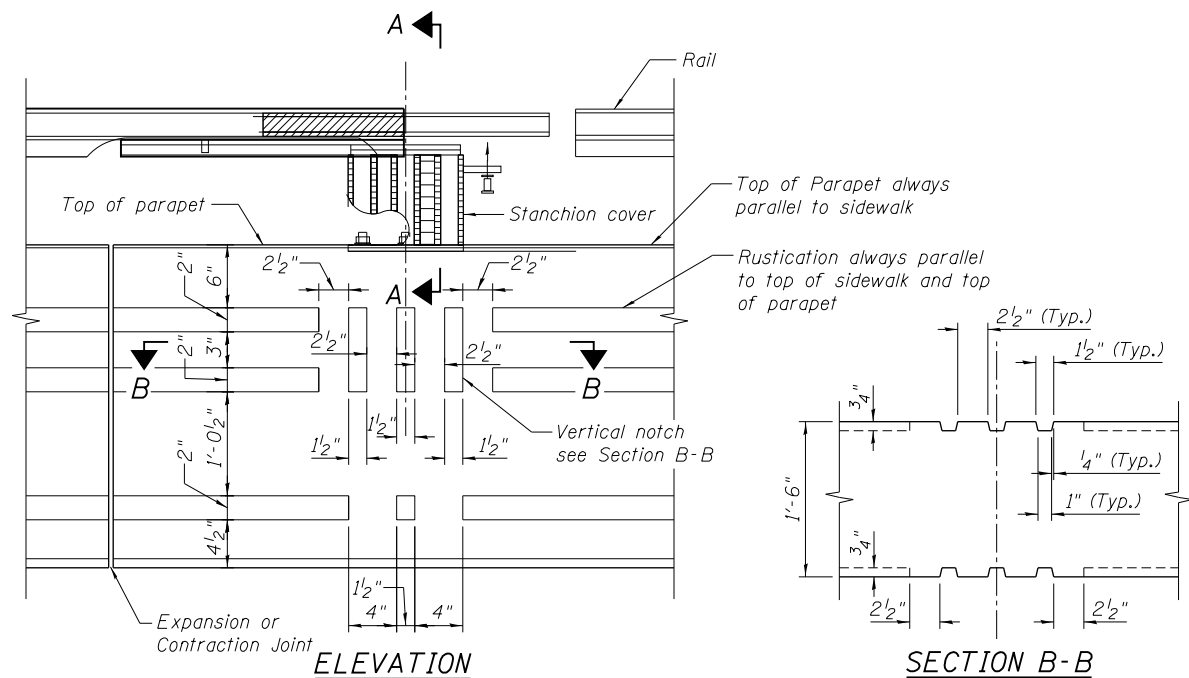
USER NAME = wjcolletti	DESIGNED TJA	REVISED
CHECKED WJC	REVIS	REVISED
PLOT SCALE = NTS	DRAWN TJA	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS 2 – RAMP
STRUCTURE NO. 016-1702**

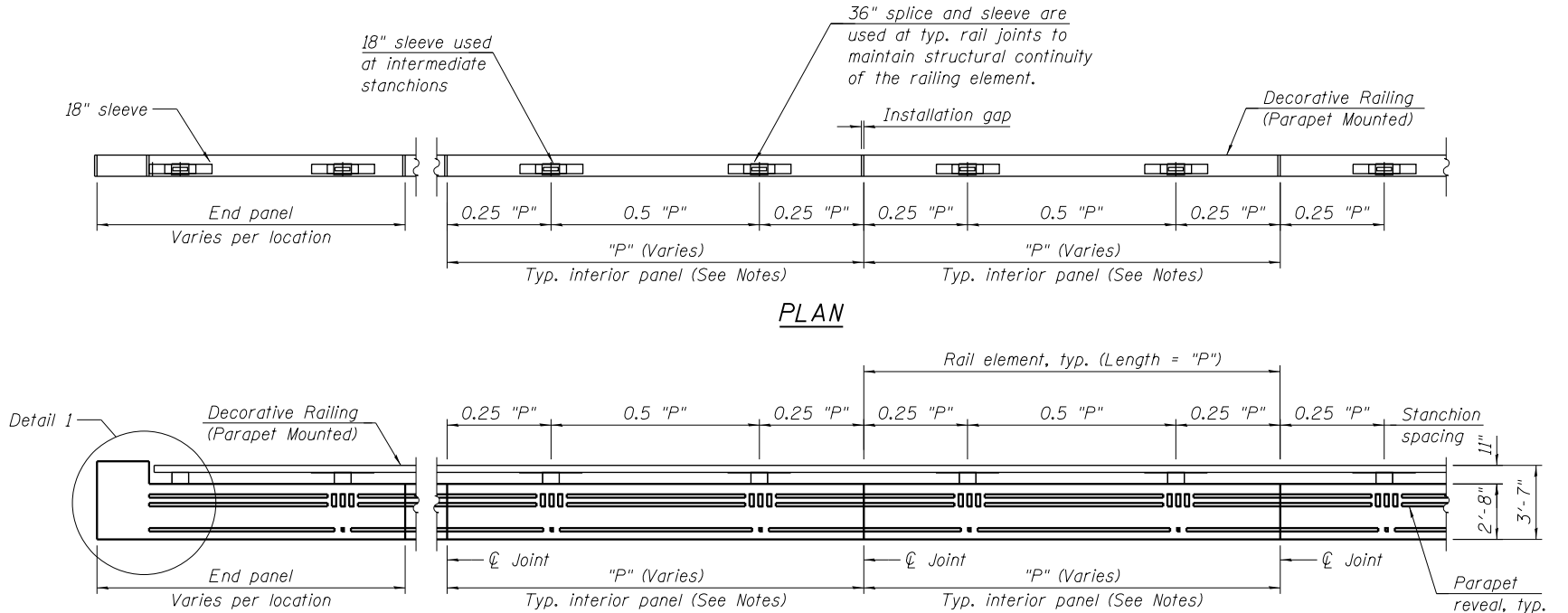
SHEET NO. S2-29 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	414
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



ELEVATION

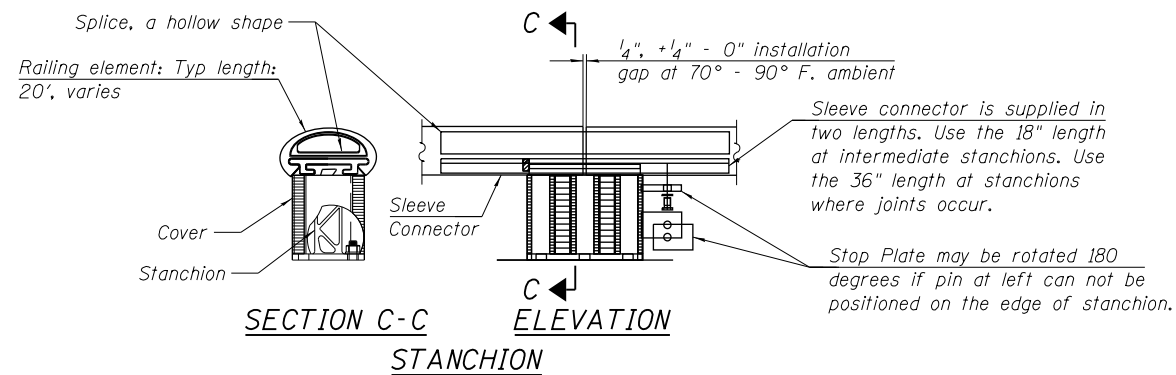
SECTION B-B



PLAN

ELEVATION

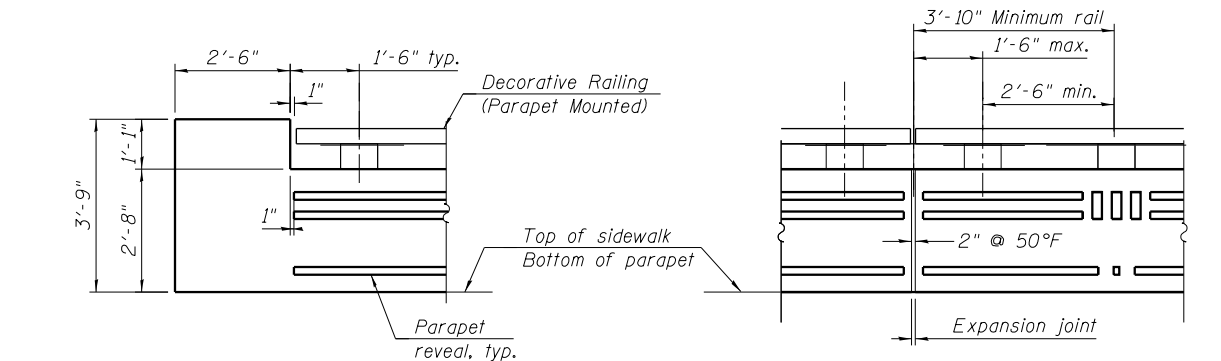
RAIL DETAIL - STANCHION LOCATION AND SPACING



SECTION C-C

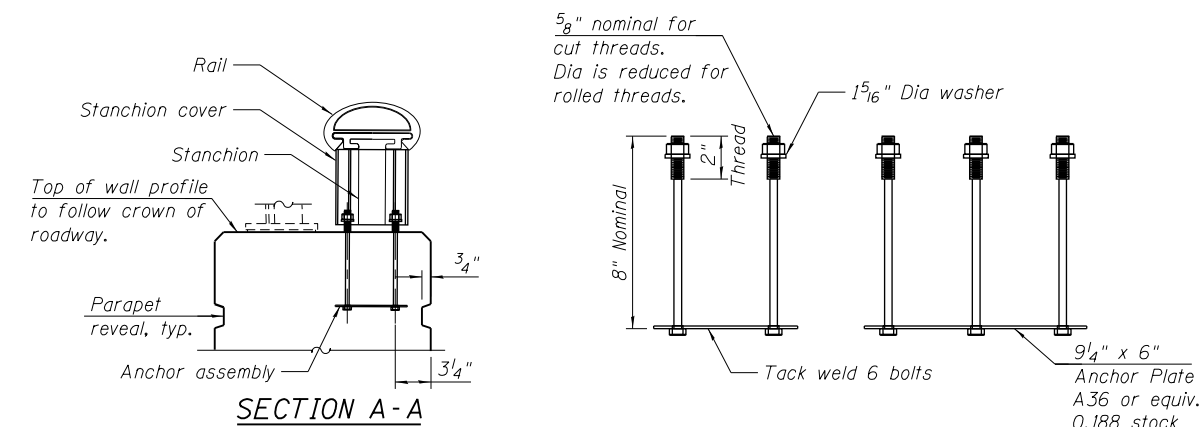
ELEVATION

TYPICAL CHICAGO PARAPET DETAIL



RAIL DETAIL 1 - AT END OF PARAPET

RAIL DETAIL 2 - AT EXPANSION JOINT



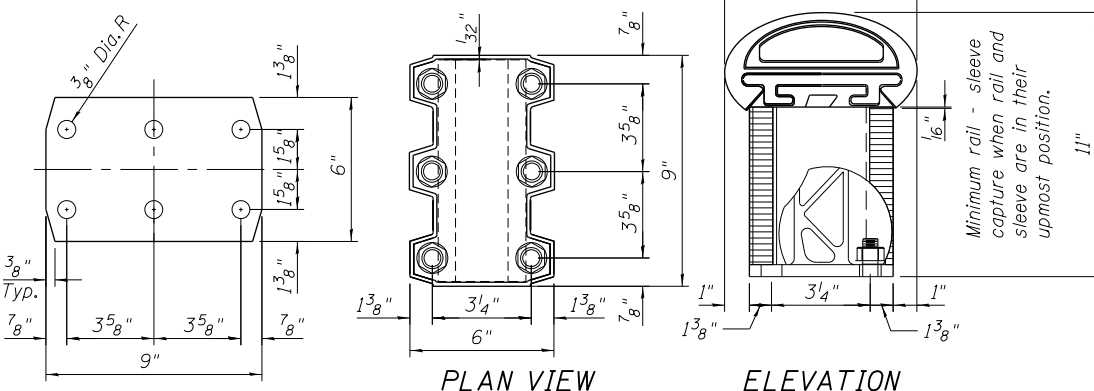
SECTION A-A

ANCHOR ASSEMBLY NOTES:

- All fasteners to meet, or exceed, ASTM A307 Grade C strength requirements.
- Galvanize per Article 509.05 of the Standard Specifications after fabrication.
- The size and position of parapet reinforcing must be consistent with capture of the anchor assembly. See Sheet S2-23 of S2-80 for rebar details.

BILL OF MATERIAL

Item	Unit	Total
Decorative Railing (Parapet Mounted)	Foot	470



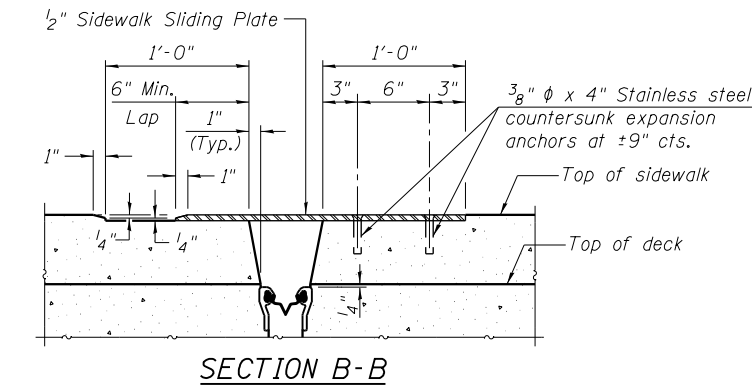
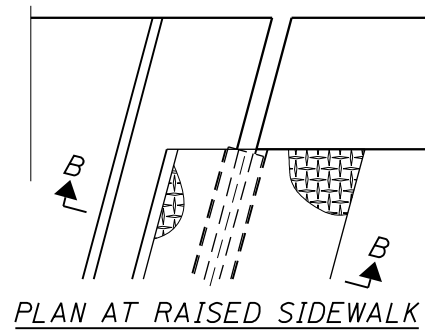
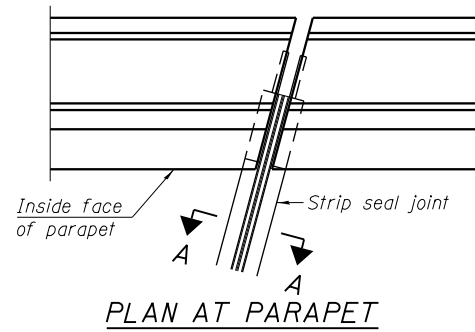
ELASTOMERIC PAD NOTES:

- Elastomeric pad for stanchion made from 1/16 inch thick stock.
- One required per stanchion.

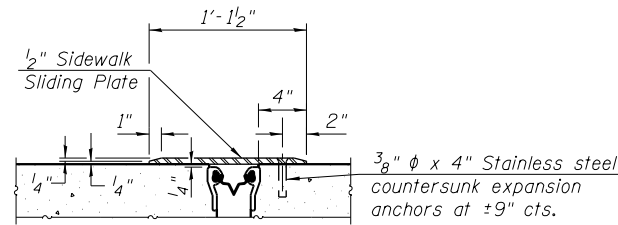
STANCHION COVER NOTES:

- Cover is shown superimposed over stanchion with anchors in place.
- The stanchion cover is a non-structural element, serving an aesthetic function. It rests on the flange of the stanchion, without fasteners and is captured in place by the rail and stanchion.

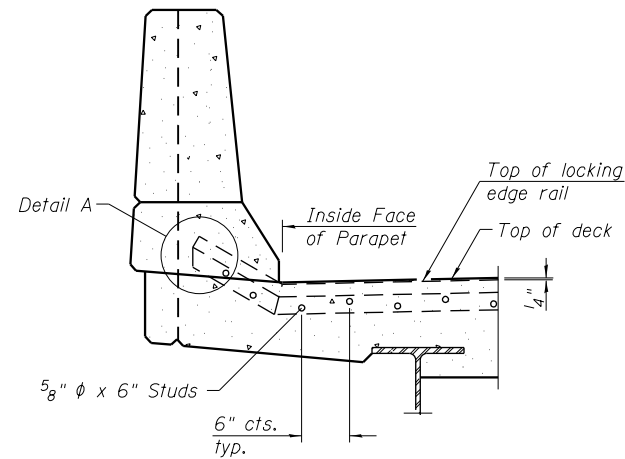
Notes:
 When walls without rail are adjacent to Chicago wall with rail, their traffic face, or the terminus of their traffic face, must be in the same plane as Chicago wall with rail.
 Rustication may vary at terminal ends and is subject to site conditions and site approval. In all other situations, the middle 2.5" x 1.5" rustication is aligned with the center of the stanchion.
 Wall details above show that portion of the wall above the gutter break, the substructure is not shown. Note that substructure(s) depth variations could significantly alter the required top of wall profile.
 Field cutting of rail elements is acceptable. The cut edge will no longer be anodized. Saw cut only, flame cut not allowed.
 End caps shall be used at all rail terminals.
 Railing system to be produced using extruded aluminum that can be clear anodized.
 Alloy selection is based upon the above color requirement and the engineering sufficiency analysis which must be supplied by the Contractor.
 Physical appearance to be equal to "Valentine Urban Systems - Chicago wall with rail".
 For panel layout, overall stanchion location, spacing and details, see Sheet S2-23 of S2-80.



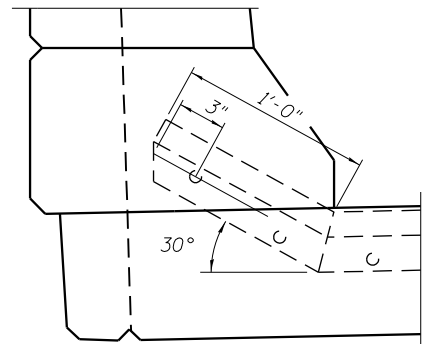
SECTION B-B
(At northeast, southeast, and southwest corner of bridge)



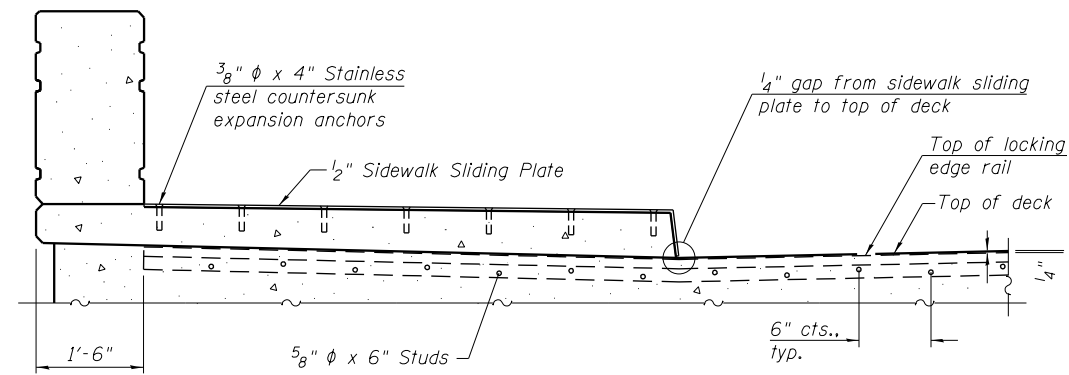
SECTION THRU SIDEWALK SLIDING PLATE
(At northwest corner of bridge)



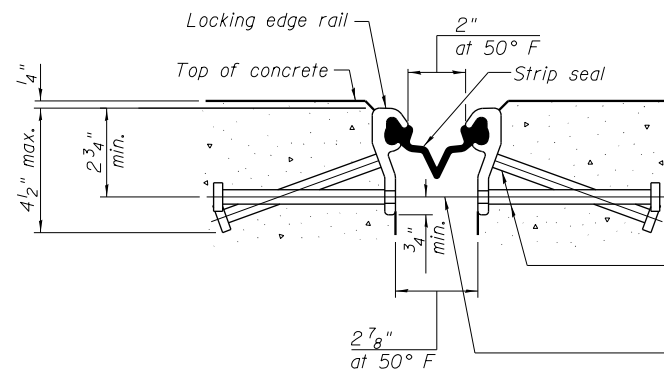
ELEVATION AT PARAPET



DETAIL A



ELEVATION AT RAISED SIDEWALK



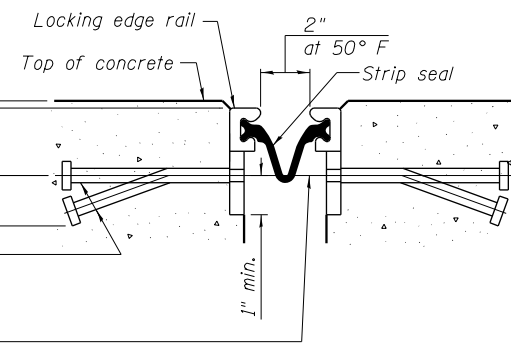
SHOWING ROLLED RAIL JOINT

*5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

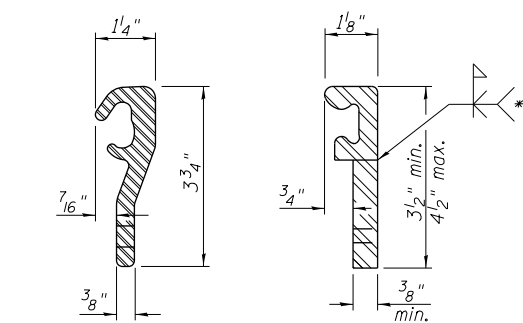
3/8" ϕ threaded rods in 7/16" ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

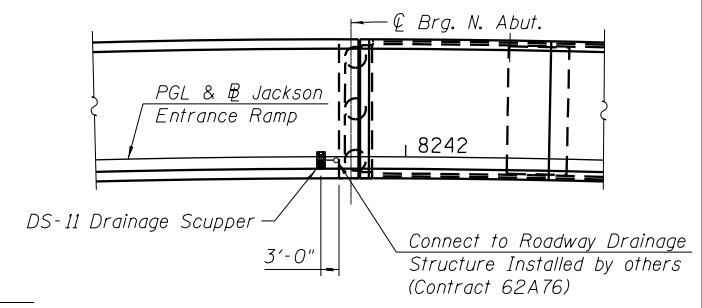
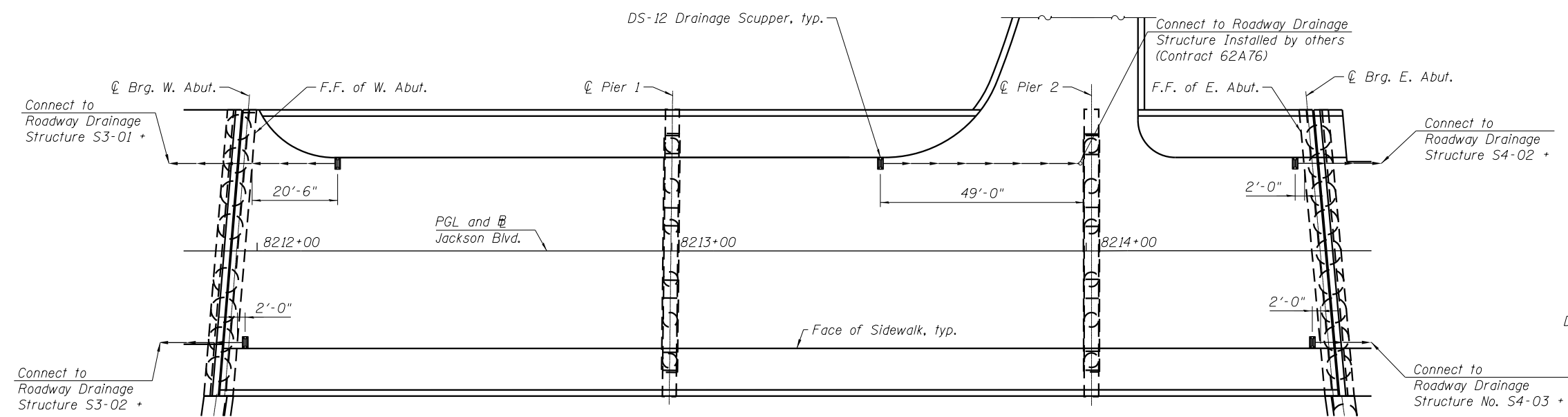
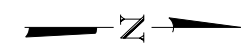
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	156

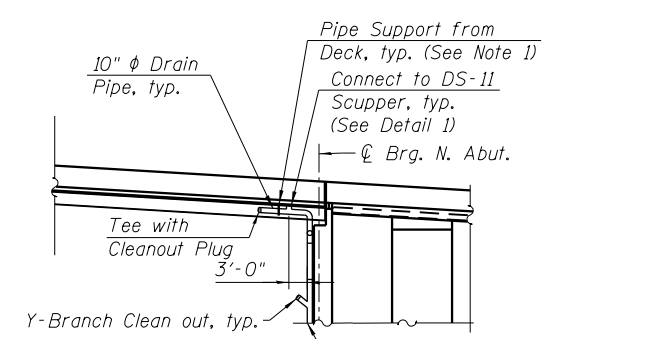
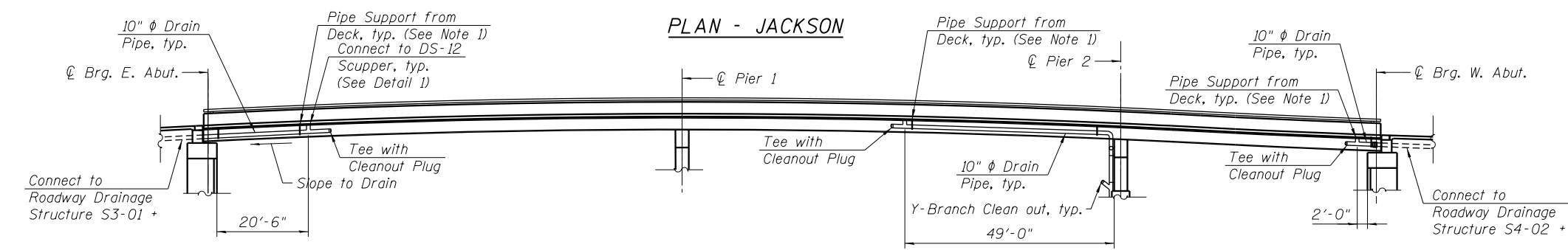
Notes:
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
The manufacturer's recommended installation methods shall be followed.
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.
Cost of sidewalk sliding plates and anchorage studs included with Preformed Joint Strip Seal.
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

USER NAME = wjcolletti	DESIGNED WJC	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED TLR	REVISED

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	416
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				

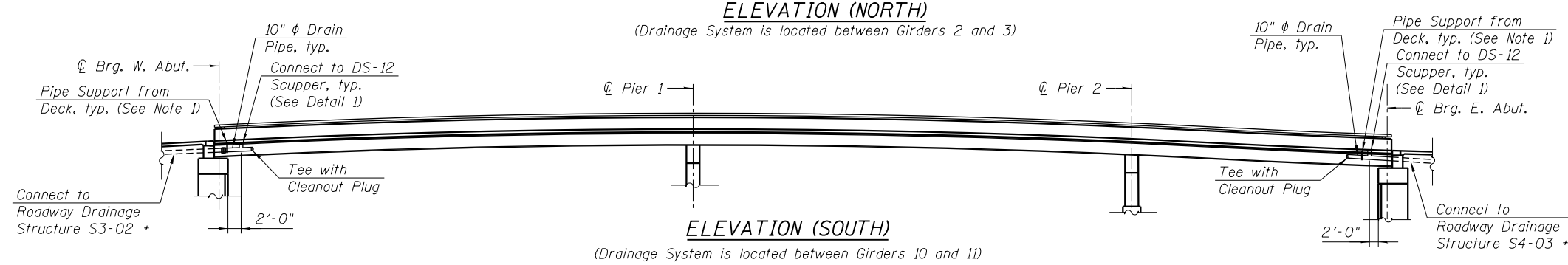


PLAN - RAMP



ELEVATION (EAST)

(Drainage System is located between Girders 6R and 7R)



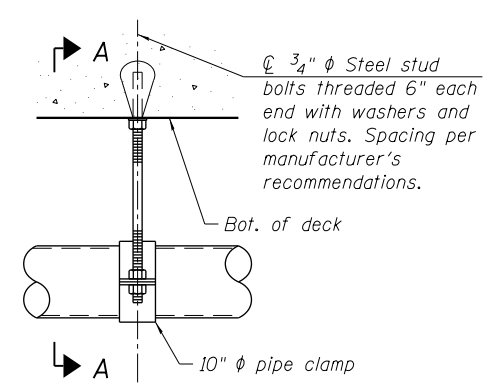
ELEVATION (SOUTH)

(Drainage System is located between Girders 10 and 11)

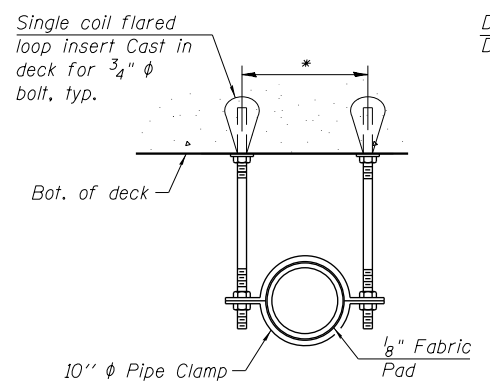
* 10" φ Ductile Iron Pipe. Cost included with Drainage System. See Drainage Plans for locations of drainage structure.

LEGEND

→ Indicates direction of flow

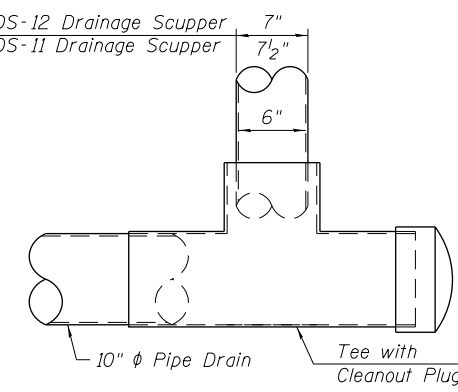


PIPE BRACKET DETAIL

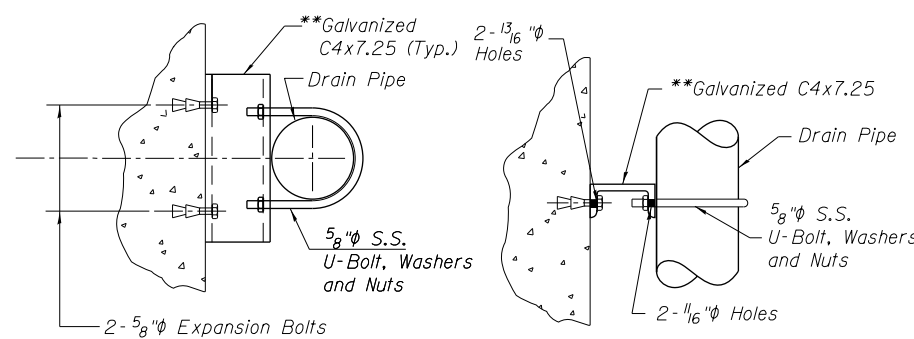


SECTION A-A

* Dimension as required by Pipe Clamp



DETAIL 1



PLAN

ELEVATION

PIPE SUPPORT DETAIL

** Provide curved C6x8.2 to fit Round Pier Columns where needed

Notes:
 Provide structural support from proposed deck slab for drain pipe per manufacturer's recommendation, not to exceed 6' cts. Cost included with Drainage System.
 All pipes, pipe fittings and brackets needed shall be included with cost of Drainage System.
 See abutment details for block outs in backwalls of west and east abutments.
 The drainage system shall be painted with a finish coat of gray, Munsell No. 5B 7/1. Cost included with Drainage System.
 All pipes shall be reinforced fiberglass, unless noted otherwise.

BILL OF MATERIAL

Item	Unit	Quantity
Drainage System	L. Sum	0.5

2:05:34 PM 0161702-60X94-S032-Drainage_System1.dgn



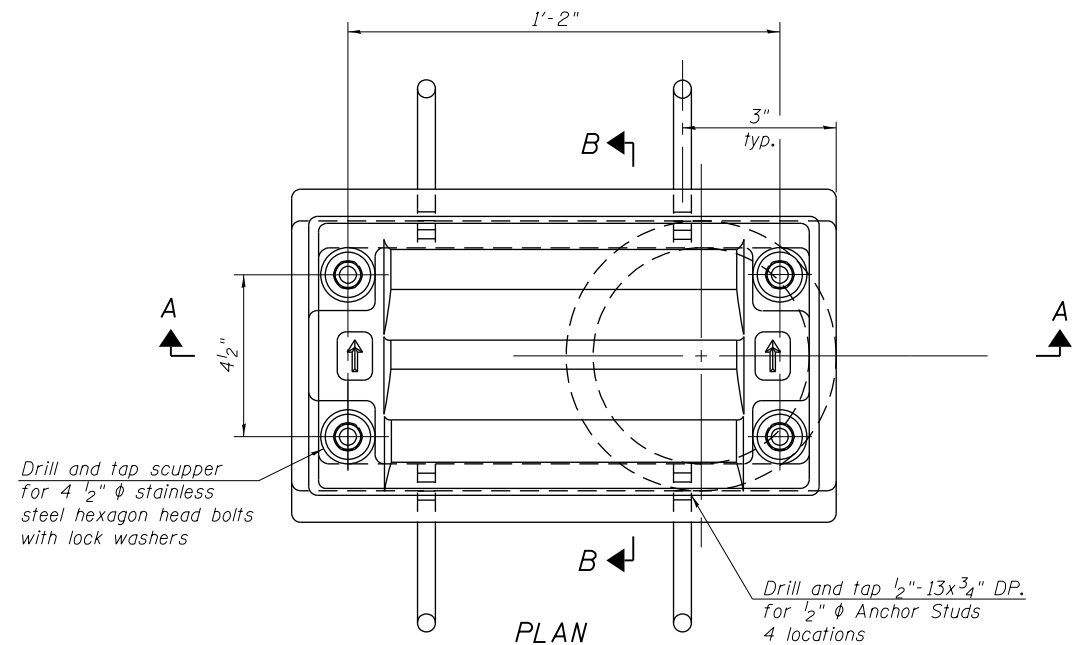
USER NAME = wjcolletti	DESIGNED WJC	REVISIONS
PLOT SCALE = NTS	CHECKED MDS	REVISIONS
PLOT DATE = 3/5/2020	DRAWN JTF	REVISIONS
	CHECKED WJC	REVISIONS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

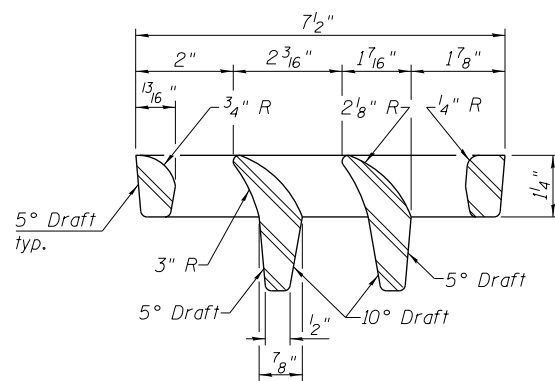
BRIDGE DRAINAGE SYSTEM
 STRUCTURE NO. 016-1702

SHEET NO. S2-32 OF S2-80 SHEETS

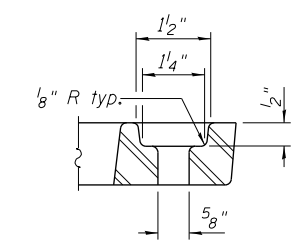
F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 417
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



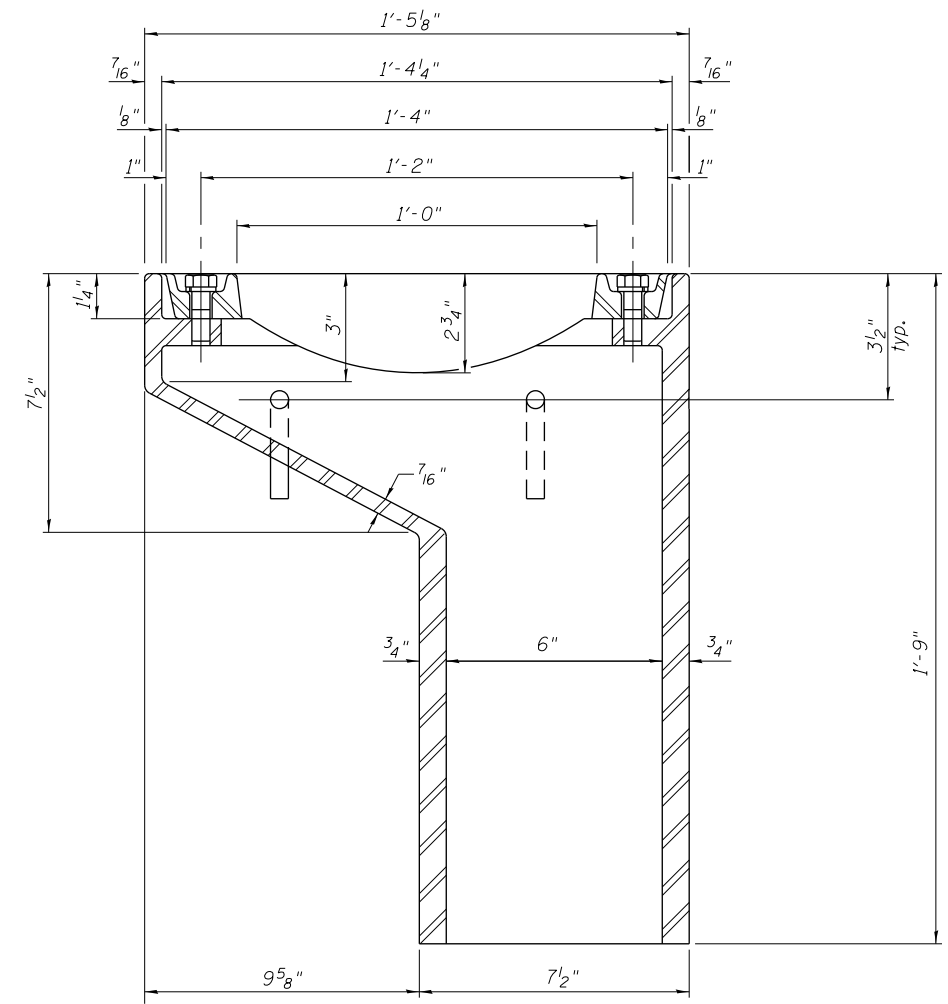
PLAN



VANE GRATE DETAIL

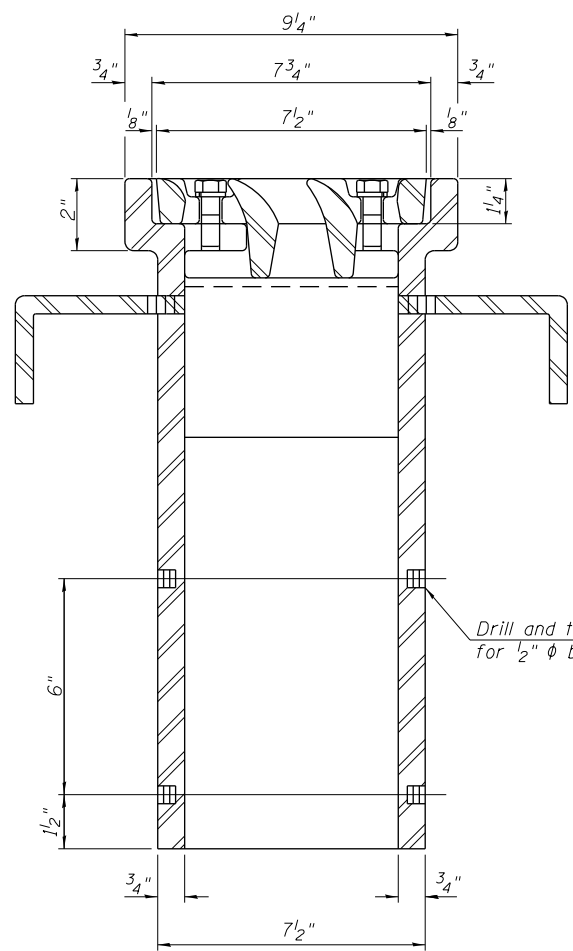


BOLT HOLE DETAIL

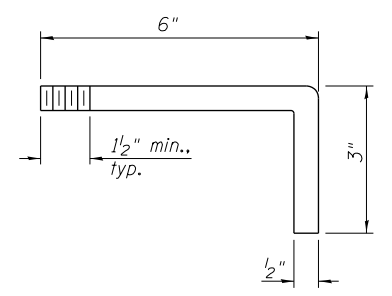


SECTION A-A

See sheet S2-32 of S2-80 for scupper location relative to sidewalk.



SECTION B-B



ANCHOR STUD DETAIL

Notes:
 All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
 Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat of gray, Munsell No. 5B 7/1. Cost included with Drainage System.
 As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
 Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
 Cost of the Grate, Frame, Downspout, Anchor Studs, Field Welding, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.
 Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scuppers, DS-11	Each	1

2:05:45 PM 0161702-60X94-S033-Drainage_Scupper-DS11.dgn



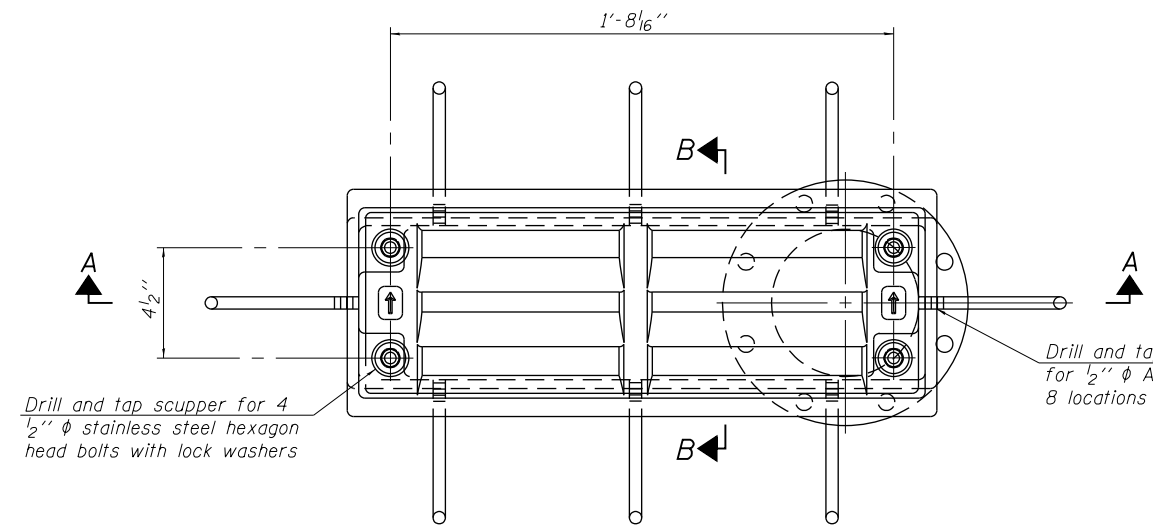
USER NAME = wjcolletti	DESIGNED WJC	REVISED
PLOT SCALE = NTS	CHECKED MDS	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

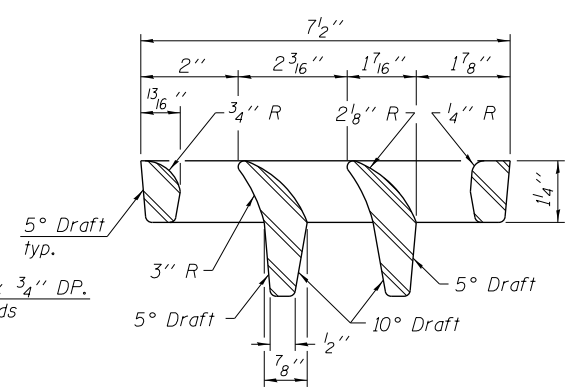
**DRAINAGE SCUPPER, DS-11
 STRUCTURE NO. 016-1702**

SHEET NO. S2-33 OF S2-80 SHEETS

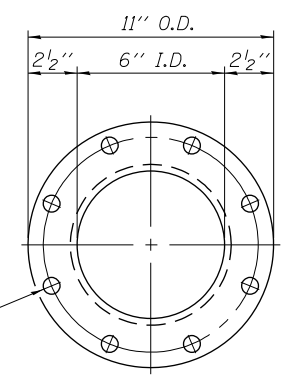
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	418
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



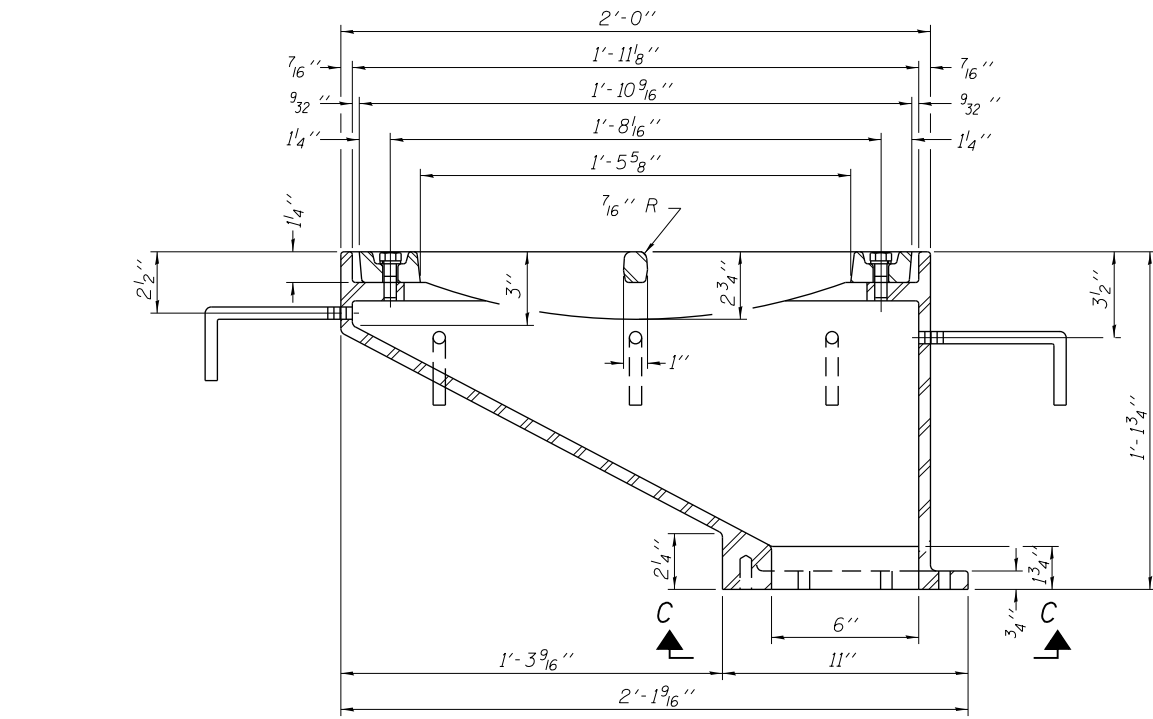
PLAN



VANE GRATE DETAIL

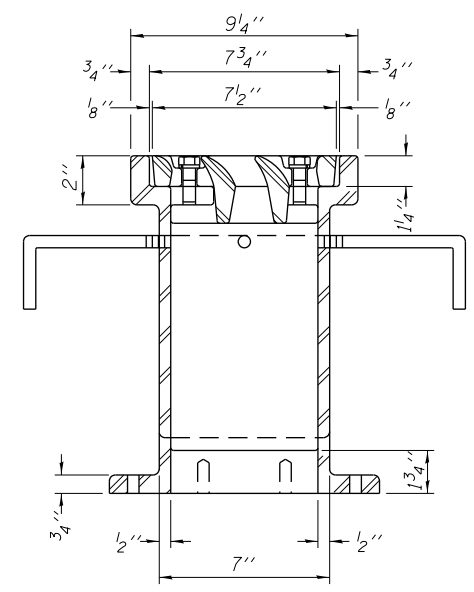


VIEW C-C

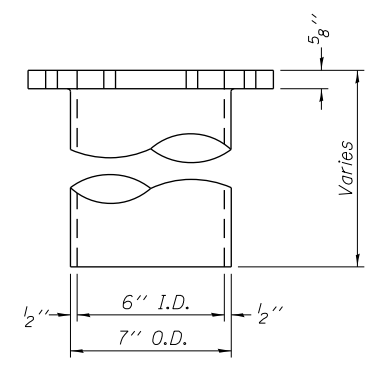


SECTION A-A

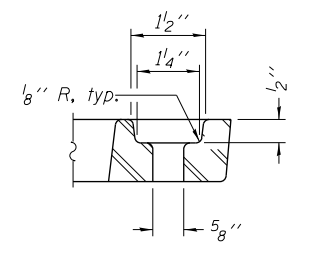
See Sheet S2-32 of S2-80 for scupper location relative to parapet.



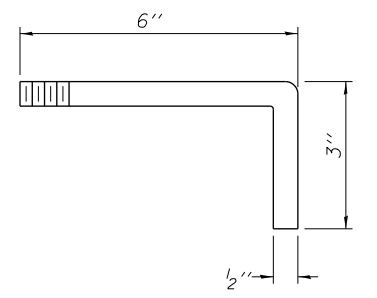
SECTION B-B



DOWNSPOUT



BOLT HOLE DETAIL



ANCHOR STUD DETAIL

Drill and tap 8 holes for 1/2"-13 bolts on a 9 1/2" φ bolt circle. (2 blind holes are 1/4" deep, 6 thru holes)

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scuppers, DS-12	Each	5

2:05:58 PM 0161702-60X94-S034-Drainage_Scupper-DS12.dgn



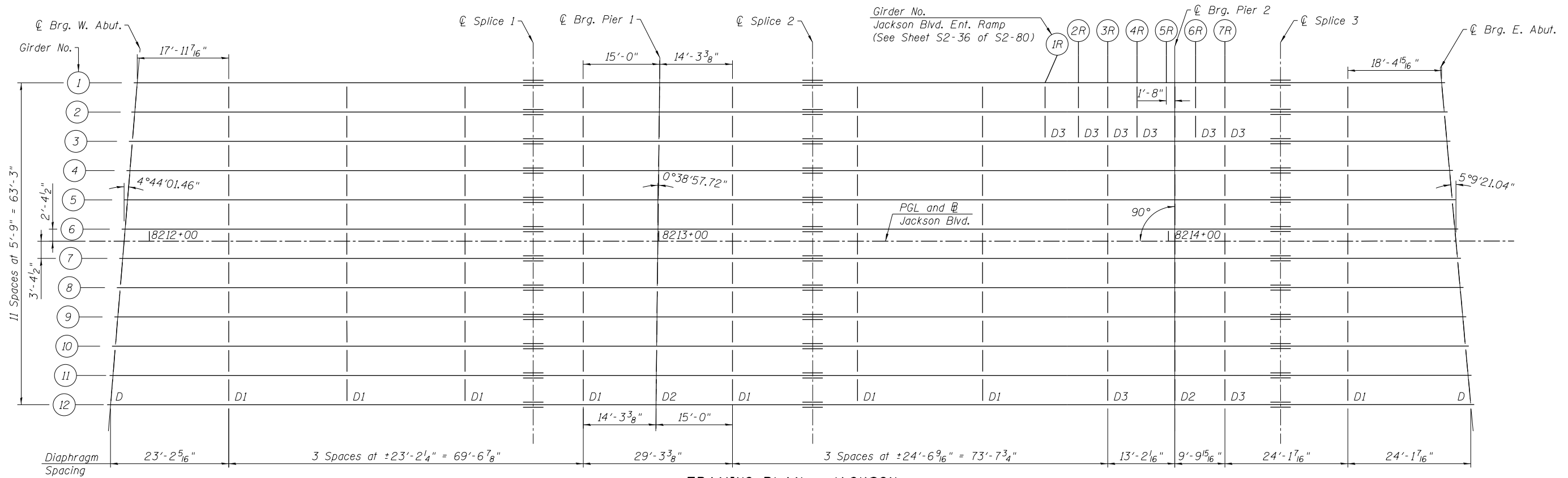
USER NAME = wjcolletti	DESIGNED WJC	REVISED
PLOT SCALE = NTS	CHECKED MDS	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

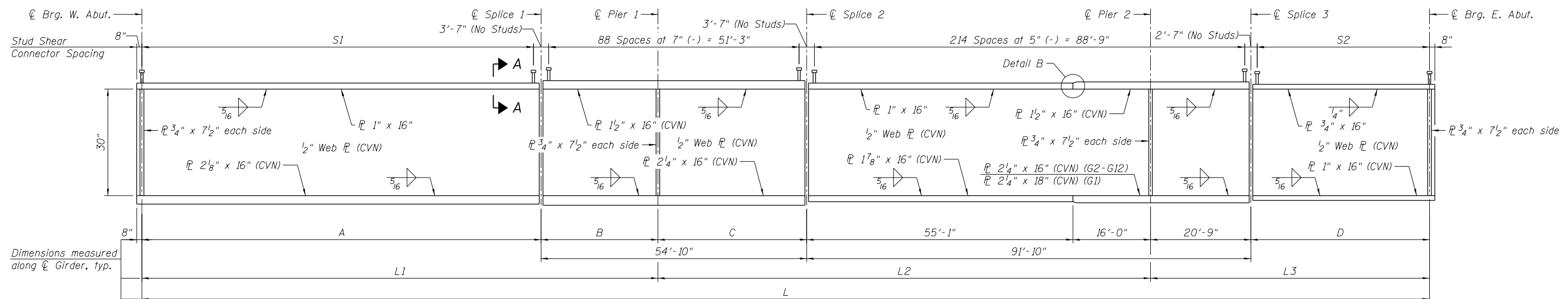
DRAINAGE SCUPPER, DS-12
STRUCTURE NO. 016-1702

SHEET NO. S2-34 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	419
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				



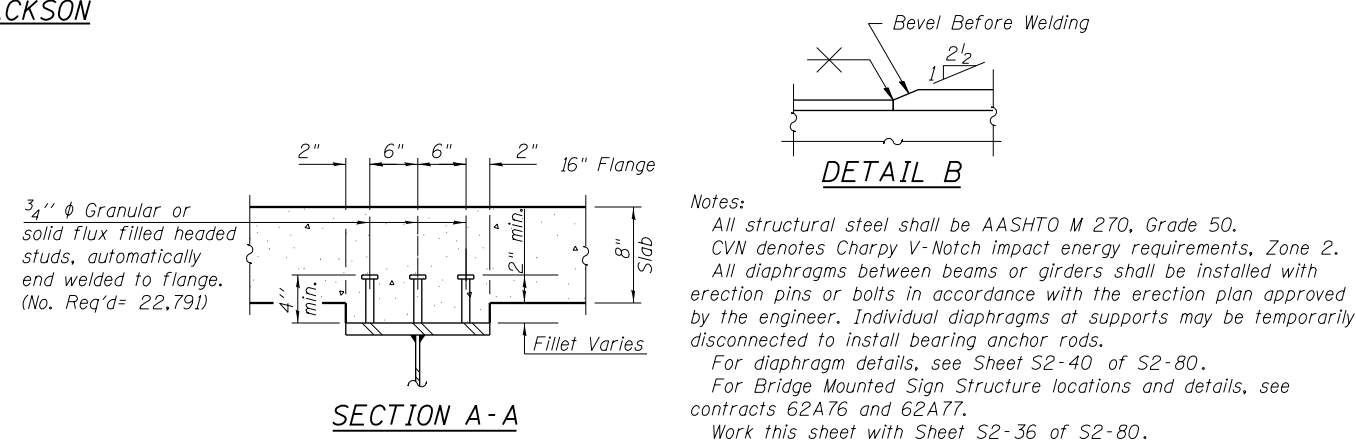
FRAMING PLAN - JACKSON



GIRDER ELEVATION - JACKSON

GIRDER DIMENSIONS - JACKSON

Girder	L	L1	L2	L3	A	B	C	D	S1	S2
1	255.9901	102.5274	101.0997	52.3630	77.7104	24.8170	30.0164	31.6130	152 Spa. at 6" (-) = 75'-11"	61 Spa. at 6" (-) = 30'-3 7/8"
2	256.9850	102.9384	101.1649	52.8818	78.1865	24.7518	30.0815	32.1318	153 Spa. at 6" (-) = 76'-4 3/4"	62 Spa. at 6" (-) = 30'-10 1/8"
3	257.9800	103.3493	101.2300	53.4006	78.6627	24.6866	30.1467	32.6506	154 Spa. at 6" (-) = 76'-10 1/2"	63 Spa. at 6" (-) = 31'-4 1/4"
4	258.9750	103.7603	101.2952	53.9195	79.1388	24.6215	30.2119	33.1695	155 Spa. at 6" (-) = 77'-4 9/16"	64 Spa. at 6" (-) = 31'-10 1/2"
5	259.9699	104.1713	101.3604	54.4383	79.6150	24.5563	30.2770	33.6883	156 Spa. at 6" (-) = 77'-9 9/8"	65 Spa. at 6" (-) = 32'-4 3/4"
6	260.9649	104.5822	101.4255	54.9571	80.0911	24.4911	30.3422	34.2071	157 Spa. at 6" (-) = 78'-3 5/8"	66 Spa. at 6" (-) = 32'-11"
7	261.9599	104.9932	101.4907	55.4759	80.5673	24.4259	30.4074	34.7259	158 Spa. at 6" (-) = 78'-9 1/4"	67 Spa. at 6" (-) = 33'-5 1/4"
8	262.9548	105.4042	101.5559	55.9948	81.0434	24.3608	30.4726	35.2448	159 Spa. at 6" (-) = 79'-3"	68 Spa. at 6" (-) = 33'-11 3/8"
9	263.9498	105.8152	101.6211	56.5136	81.5196	24.2956	30.5377	35.7636	160 Spa. at 6" (-) = 79'-8 3/4"	69 Spa. at 6" (-) = 34'-5 5/8"
10	264.9448	106.2261	101.6862	57.0324	81.9957	24.2304	30.6029	36.2824	161 Spa. at 6" (-) = 80'-2 1/2"	70 Spa. at 6" (-) = 34'-11 7/8"
11	265.9397	106.6371	101.7514	57.5512	82.4719	24.1653	30.6681	36.8012	162 Spa. at 6" (-) = 80'-8 9/16"	72 Spa. at 6" (-) = 35'-6 9/16"
12	266.9347	107.0481	101.8166	58.0700	82.9480	24.1001	30.7332	37.3200	163 Spa. at 6" (-) = 81'-1 7/8"	73 Spa. at 6" (-) = 36'-0 7/8"



2:06:09 PM 0161702-60X94-5035-FramePlan1.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN - JACKSON
STRUCTURE NO. 016-1702

SHEET NO. S2-35 OF S2-80 SHEETS

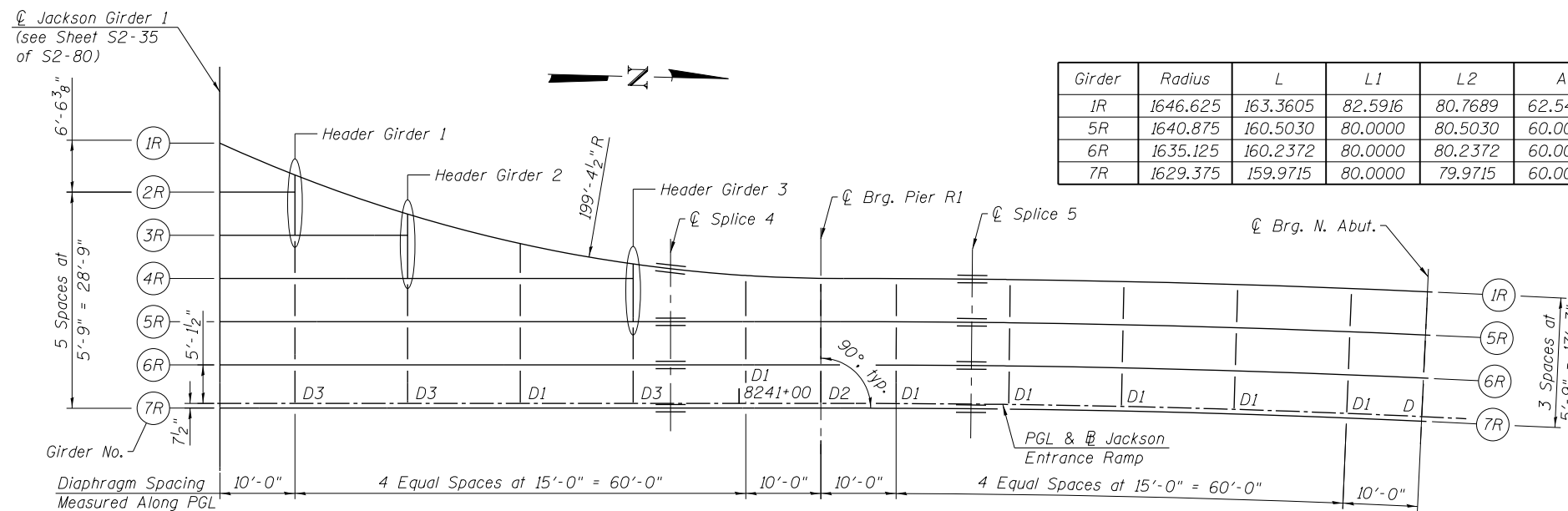
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	420
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT

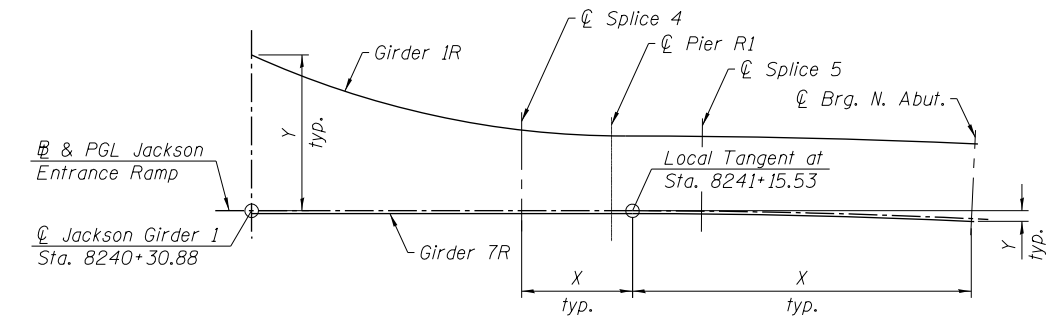
GIRDER DIMENSIONS - RAMP

(Girders 1R & 5R-7R)
(All dimensions in feet)

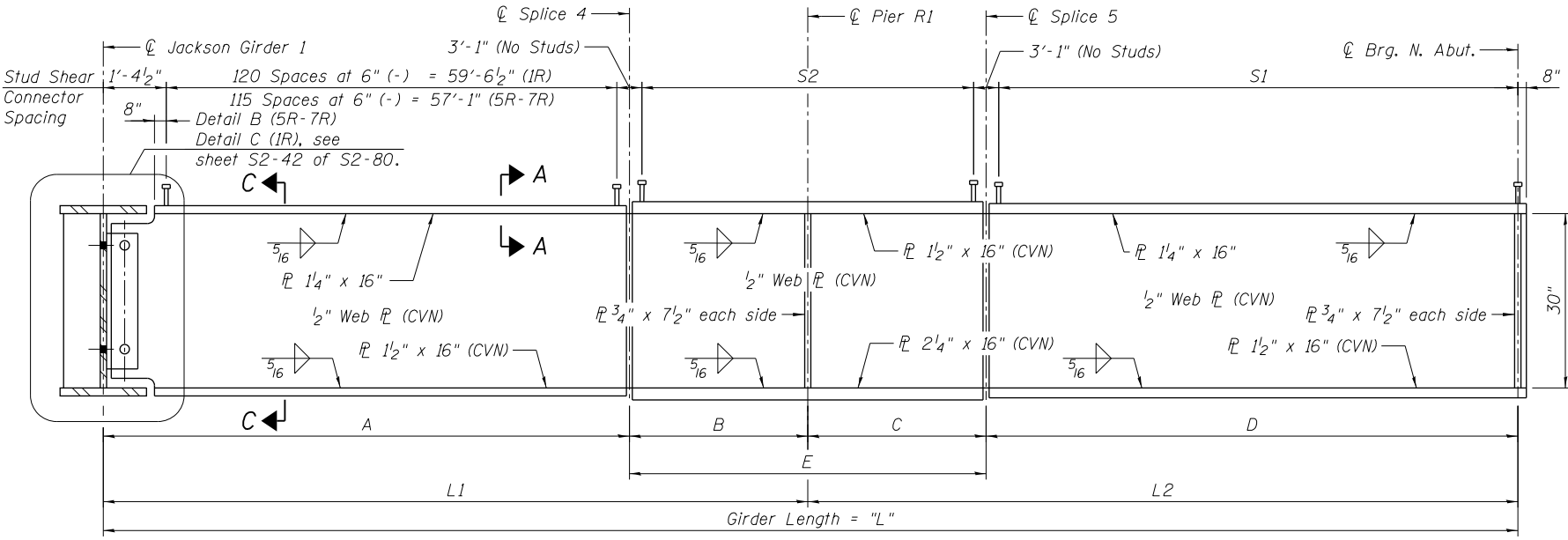
Girder	Radius	L	L1	L2	A	B	C	D	E	SI	SI
1R	1646.625	163.3605	82.5916	80.7689	62.5404	20.0512	20.1536	60.6153	40.2048	90 Spa at 5" (-) = 37'-1 1/2"	101 Spa at 5" (-) = 58'-4 7/8"
5R	1640.875	160.5030	80.0000	80.5030	60.0000	20.0000	20.0994	60.4036	40.0994	89 Spa at 5" (-) = 37'-0 1/4"	100 Spa at 5" (-) = 58'-2 3/8"
6R	1635.125	160.2372	80.0000	80.2372	60.0000	20.0000	20.0453	60.1919	40.0453	89 Spa at 5" (-) = 36'-11 1/2"	100 Spa at 5" (-) = 57'-11 3/4"
7R	1629.375	159.9715	80.0000	79.9715	60.0000	20.0000	19.9911	59.9804	39.9911	89 Spa at 5" (-) = 36'-10 7/8"	100 Spa at 5" (-) = 57'-9 1/4"



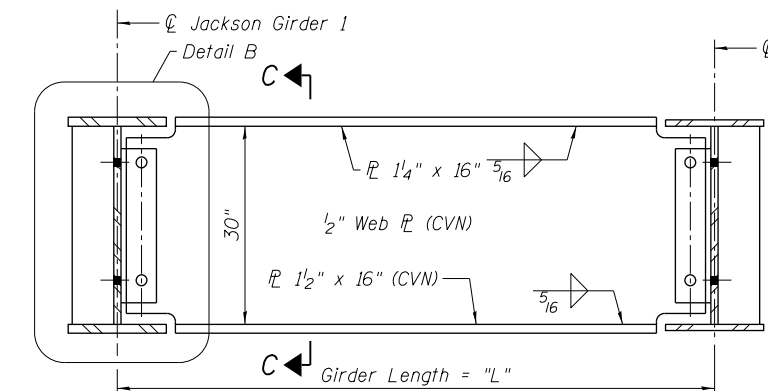
FRAMING PLAN - RAMP



CURVED GIRDER LAYOUT
(X Measured along Local Tangent)



GIRDER ELEVATION - RAMP
(Girders 1R & 5R-7R)

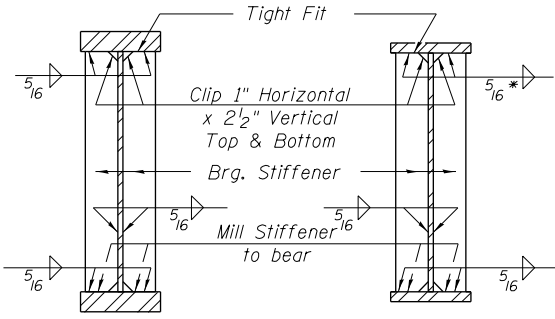


GIRDER ELEVATION - RAMP
(Girders 2R-4R)

GIRDER DIMENSIONS - RAMP

(Girders 2R-4R)
(All dimensions in feet)

Girder	L
2R	10.0000
3R	25.0000
4R	55.0000



SECTION AT PIER **SECTION AT ABUTMENT**

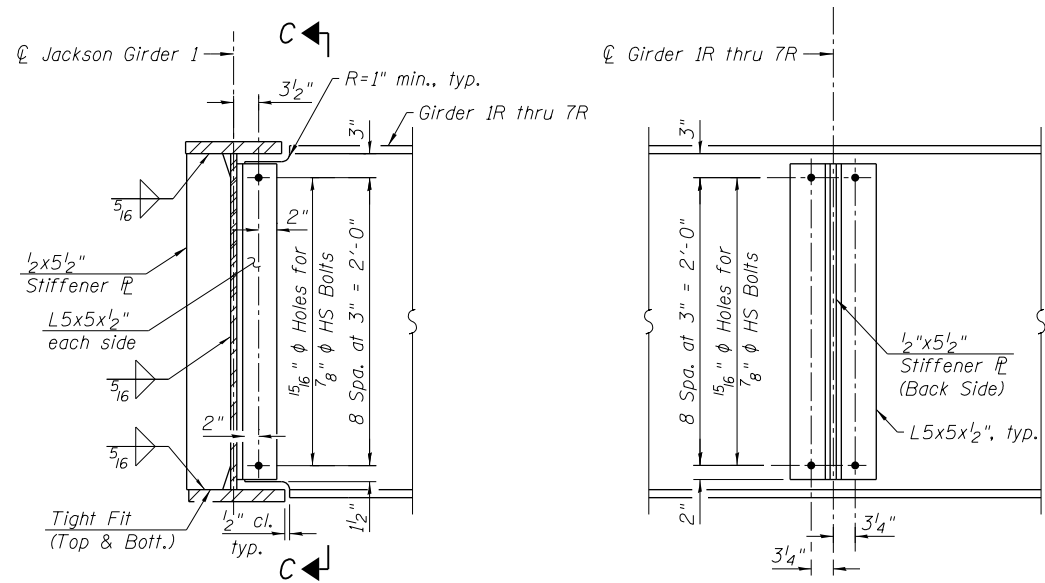
BEARING STIFFENER DETAILS

* Use 1/4" Weld for E. Abut.

GIRDER COORDINATES - RAMP

(Girders 1R & 5R-7R)
(All dimensions in feet)

Girder	Jackson GI		Splice 4		Pier R1		Splice 5		Brg. N. Abut.	
	X	Y	X	Y	X	Y	X	Y	X	Y
1R	-84.663	34.658	-24.658	17.938	-4.657	16.645	15.497	16.552	76.085	14.866
5R	-	-	-	-	-	-	15.443	10.802	75.819	9.122
6R	-	-	-	-	-	-	15.388	5.053	75.554	3.379
7R	-	-	-	-	-	-	15.334	-0.697	75.288	-2.365



DETAIL B

SECTION C-C

Notes:
Work this sheet with Sheet S2-35 of S2-80.
For diaphragm details, see Sheet S2-40 of S2-80.
For Section A-A, see Sheet S2-35 of S2-80.

2:06:18 PM 0161702-60X94-5036-FramingPlan2.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
CHECKED WJC	REVISIONS	
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN - RAMP
STRUCTURE NO. 016-1702

SHEET NO. S2-36 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 421
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

INTERIOR GIRDER 8 MOMENT TABLE - JACKSON (HL-93 LOADING)							
	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.7 Sp. 3	*	
I_s	(in ⁴)	12,388	15,912	11,731	15,912	7,714	
$I_c(n)$	(in ⁴)	35,267	-	32,471	-	21,375	
$I_c(3n)$	(in ⁴)	24,211	-	22,618	-	15,541	
$I_c(cr)$	(in ⁴)	-	19,179	-	19,179	-	
S_s	(in ³)	988	829	895	829	531	
$S_c(n)$	(in ³)	1,347	-	1,216	-	749	
$S_c(3n)$	(in ³)	1,233	-	1,115	-	686	
$S_c(cr)$	(in ³)	-	1,057	-	1,057	-	
DC1	(k/')	0.85	0.88	0.84	0.88	0.77	
M _{DC1}	('k)	697	1,094	285	517	108	
DC2**	(k/')	0.32	0.32	0.32	0.32	0.32	
M _{DC2}	('k)	267	370	112	188	49	
DW	(k/')	0.19	0.19	0.19	0.19	0.19	
M _{DW}	('k)	161	226	72	116	28	
LLDF		0.32	0.35	0.36	0.42	0.34	
M _{ℓ + IM}	('k)	746	829	620	711	368	
M _u (Strength I)	('k)	2752	3620	1689	2298	884	
φ _r M _n	('k)	5799	-	5316	-	3582	
f _s DC1	(ksi)	8.46	15.85	3.82	7.48	2.45	
f _s DC2	(ksi)	2.60	4.20	1.20	2.13	0.86	
f _s DW	(ksi)	1.57	2.57	0.77	1.31	0.49	
f _s (ℓ+IM)	(ksi)	6.65	9.42	6.12	8.07	5.90	
f _s (Service II)	(ksi)	21.27	34.85	13.75	21.42	11.48	
0.95R _n F _{yf}	(ksi)	47.50	47.50	47.50	47.50	47.50	
f _s (Total)(Strength I)	(ksi)	-	45.38	-	28.11	-	
φ _r F _n	(ksi)	-	50.00	-	50.00	-	
V _r	(k)	38.33	-	24.37	-	21.66	

INT. GIRDER 8 REACTION TABLE - JACKSON (HL-93 LOADING)				
	W. Abut.	Pier 1	Pier 2	E. Abut.
LLDF	0.43	0.48	0.55	0.46
OCF	1.02	-	-	1.02
R _{DC1}	(k)	34.7	105.5	71.2
R _{DC2}	(k)	12.1	35.9	24.8
R _{DW}	(k)	7.5	22.0	15.2
R _{ℓ + IM}	(k)	48.8	99.8	40.9
R _{Total}	(k)	103.1	263.2	201.5

EXTERIOR GIRDER 1 MOMENT TABLE - JACKSON (HL-93 LOADING)							
	0.4 Sp. 1	Pier 1	0.7 Sp. 2	Pier 2	0.7 Sp. 3	*	
I_s	(in ⁴)	12,388	15,912	11,731	16,679	7,714	
$I_c(n)$	(in ⁴)	35,267	-	32,471	-	21,375	
$I_c(3n)$	(in ⁴)	24,211	-	22,618	-	15,541	
$I_c(cr)$	(in ⁴)	-	19,179	-	20,170	-	
S_s	(in ³)	988	829	895	836	531	
$S_c(n)$	(in ³)	1,347	-	1,216	-	749	
$S_c(3n)$	(in ³)	1,233	-	1,115	-	686	
$S_c(cr)$	(in ³)	-	1,057	-	1,065	-	
S _{xc}	(in ³)	717	1175	708	1299	563	
DC1	(k/')	0.85	0.88	0.84	0.90	0.77	
M _{DC1}	('k)	630	1,114	411	965	35	
DC2**	(k/')	0.32	0.32	0.32	0.32	0.32	
M _{DC2}	('k)	254	364	122	280	38	
DW	(k/')	0.19	0.19	0.19	0.19	0.19	
M _{DW}	('k)	148	231	104	266	9	
LLDF		0.30	0.32	0.47	0.45	0.22	
M _{ℓ + IM}	('k)	685	718	549	777	195	
f _t (Strength I)	(ksi)	0.48	0.11	1.38	8.56	0.70	
M _u + 1/3 f _t S _{xc}	('k)	2534	3454	1809	3624	456	
φ _r M _n	('k)	5799	-	5316	-	3582	
f _s DC1	(ksi)	7.66	16.14	5.51	13.86	0.79	
f _s DC2	(ksi)	2.47	4.13	1.31	3.16	0.67	
f _s DW	(ksi)	1.44	2.62	1.11	3.00	0.15	
f _s (ℓ+IM)	(ksi)	6.10	8.15	5.42	8.76	3.12	
f _t (Service II)	(ksi)	0.04	0.04	0.14	3.37	0.16	
f _s + 1/2 (Service II)	(ksi)	19.51	33.50	15.05	33.09	5.75	
0.95R _n F _{yf}	(ksi)	47.50	47.50	47.50	47.50	47.50	
f _s + 1/3 (Total)(Strength I)	(ksi)	-	43.57	-	43.95	-	
φ _r F _n	(ksi)	-	50.00	-	50.00	-	
V _r	(k)	12.07	11.07	6.49	6.12	6.19	

EXT. GIRDER 1 REACTION TABLE - JACKSON (HL-93 LOADING)				
	W. Abut.	Pier 1	Pier 2	E. Abut.
LLDF	0.28	0.35	0.83	0.18
OCF	1.02	-	-	1.02
R _{DC1}	(k)	32.7	106.6	198.5
R _{DC2}	(k)	12.2	35.9	65.8
R _{DW}	(k)	7.4	22.3	70.1
R _{ℓ + IM}	(k)	30.5	72.0	149.4
R _{Total}	(k)	82.9	236.9	483.7

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

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

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

$I_c(cr), S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).

S_{xc} : Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in.³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{ℓ + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{ℓ + IM}

φ_rM_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
M_{DC2} / S_{c(3n)} or M_{DC2} / S_{c(cr)} as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
M_{DW} / S_{c(3n)} or M_{DW} / S_{c(cr)} as applicable.

f_s (ℓ+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{ℓ + IM} / S_{c(n)} or M_{DW} / S_{c(cr)} as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (ℓ + IM)

0.95R_nF_{yf}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (ℓ + IM)

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

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

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

LLDF : Live Load Distribution Factor

OCF : Obtuse Correction Factor

* Points shown indicate location of maximum moment within each beam segment

** Load allowance includes 0.025 k/' for duct banks.

*** Obtuse Correction Factor is included with Live Load Distribution Factors shown in Table

11:46:17 AM 01/17/2022 60X94-5037-Struct-SteelDet1.dgn



USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/12/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS 1
STRUCTURE NO. 016-1702

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	422
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

SHEET NO. S2-37 OF S2-80 SHEETS

EXTERIOR GIRDER 1R MOMENT TABLE - RAMP				
		0.4 Sp. 1	Pier R1	0.6 Sp. 2
I_s	(in ⁴)	11,896	15,912	11,896
$I_c(n)$	(in ⁴)	28,635	-	28,635
$I_c(3n)$	(in ⁴)	20,775	-	20,775
$I_c(cr)$	(in ⁴)	-	19,223	-
S_s	(in ³)	773	1,094	773
$S_c(n)$	(in ³)	1,026	-	1,026
$S_c(3n)$	(in ³)	940	-	940
$S_c(cr)$	(in ³)	-	1,174	-
S_{xc}	(in ³)	64	96	64
DC1	(k/')	0.83	0.89	0.83
M _{DC1}	('k)	363	863	338
DC2*	(k/')	0.24	0.29	0.29
M _{DC2}	('k)	90	295	146
DW	(k/')	0.26	0.25	0.25
M _{DW}	('k)	99	237	106
LLDF		0.39	0.62	0.47
$M_{\xi} \cdot IM$	('k)	588	1,034	827
f_t (Strength I)	(ksi)	13.95	20.77	3.12
$M_u + \frac{1}{3} f_t S_{xc}$	('k)	1768	3668	2217
$\phi_r M_n$	('k)	4739	-	4739
f_s DC1	(ksi)	5.64	9.47	5.25
f_s DC2	(ksi)	1.14	3.01	1.87
f_s DW	(ksi)	1.26	2.42	1.35
f_s ($\xi+IM$)	(ksi)	6.88	10.58	9.67
f_t (Service II)	(ksi)	4.67	7.87	0.73
$f_s + \frac{1}{2}$ (Service II)	(ksi)	19.32	32.59	21.40
0.95R _n F _{yf}	(ksi)	47.50	47.50	47.50
$f_s + \frac{1}{3}$ (Total)(Strength I)	(ksi)	-	44.67	-
$\phi_r F_n$	(ksi)	-	46.65	-
V _r	(k)	29.85	40.66	30.75

INTERIOR GIRDER 5R MOMENT TABLE - RAMP				
		0.4 Sp. 1	Pier R1	0.6 Sp. 2
I_s	(in ⁴)	11,896	15,912	11,896
$I_c(n)$	(in ⁴)	28,527	-	28,527
$I_c(3n)$	(in ⁴)	20,685	-	20,685
$I_c(cr)$	(in ⁴)	-	19,179	-
S_s	(in ³)	773	829	773
$S_c(n)$	(in ³)	1,025	-	1,025
$S_c(3n)$	(in ³)	939	-	939
$S_c(cr)$	(in ³)	-	1,103	-
S_{xc}	(in ³)	64	64	64
DC1	(k/')	0.83	0.88	0.83
M _{DC1}	('k)	398	827	344
DC2*	(k/')	0.24	0.29	0.29
M _{DC2}	('k)	71	204	120
DW	(k/')	0.27	0.25	0.25
M _{DW}	('k)	106	243	108
LLDF		0.20	0.37	0.35
$M_{\xi} \cdot IM$	('k)	324	681	564
f_t (Strength I)	(ksi)	0.61	1.10	2.43
$M_u + \frac{1}{3} f_t S_{xc}$	('k)	1313	2846	1733
$\phi_r M_n$	('k)	4724	-	4724
f_s DC1	(ksi)	6.18	11.97	5.34
f_s DC2	(ksi)	0.90	2.22	1.53
f_s DW	(ksi)	1.35	2.64	1.37
f_s ($\xi+IM$)	(ksi)	3.80	7.41	6.60
f_t (Service II)	(ksi)	0.03	0.32	0.56
$f_s + \frac{1}{2}$ (Service II)	(ksi)	13.39	26.63	17.12
0.95R _n F _{yf}	(ksi)	47.50	47.50	47.50
$f_s + \frac{1}{3}$ (Total)(Strength I)	(ksi)	-	35.04	-
$\phi_r F_n$	(ksi)	-	50.00	-
V _r	(k)	27.72	33.11	26.64

EXTERIOR GIRDER 7R MOMENT TABLE - RAMP				
		0.4 Sp. 1	Pier R1	0.6 Sp. 2
I_s	(in ⁴)	11,896	15,912	11,896
$I_c(n)$	(in ⁴)	28,635	-	28,635
$I_c(3n)$	(in ⁴)	20,775	-	20,775
$I_c(cr)$	(in ⁴)	-	19,223	-
S_s	(in ³)	773	829	773
$S_c(n)$	(in ³)	1,026	-	1,026
$S_c(3n)$	(in ³)	940	-	940
$S_c(cr)$	(in ³)	-	1,107	-
S_{xc}	(in ³)	64	64	64
DC1	(k/')	0.83	0.89	0.83
M _{DC1}	('k)	316	688	352
DC2*	(k/')	0.24	0.29	0.29
M _{DC2}	('k)	89	255	144
DW	(k/')	0.27	0.25	0.25
M _{DW}	('k)	74	182	109
LLDF		0.37	0.53	0.51
$M_{\xi} \cdot IM$	('k)	591	972	812
f_t (Strength I)	(ksi)	0.57	2.08	2.26
$M_u + \frac{1}{3} f_t S_{xc}$	('k)	1652	3156	2210
$\phi_r M_n$	('k)	4739	-	4739
f_s DC1	(ksi)	4.91	9.96	5.47
f_s DC2	(ksi)	1.13	2.76	1.84
f_s DW	(ksi)	0.94	1.97	1.40
f_s ($\xi+IM$)	(ksi)	6.91	10.54	9.50
f_t (Service II)	(ksi)	0.02	0.93	0.61
$f_s + \frac{1}{2}$ (Service II)	(ksi)	15.98	28.87	21.35
0.95R _n F _{yf}	(ksi)	47.50	47.50	47.50
$f_s + \frac{1}{3}$ (Total)(Strength I)	(ksi)	-	38.01	-
$\phi_r F_n$	(ksi)	-	50.00	-
V _r	(k)	31.78	37.32	32.19

EXTERIOR GIRDER 1R REACTION TABLE - RAMP		
	Pier R1	N. Abut
LLDF	0.70	0.61
OCF	-	1.00
R _{DC1}	(k) 103.4	24.7
R _{DC2}	(k) 44.6	12.5
R _{DW}	(k) 29.5	7.2
R ξ · IM	(k) 123.1	67.5
R _{Total}	(k) 300.7	111.8

INTERIOR GIRDER 5R REACTION TABLE - RAMP		
	Pier R1	N. Abut
LLDF	0.43	0.40
OCF	-	1.00
R _{DC1}	(k) 94.5	24.6
R _{DC2}	(k) 17.5	5.4
R _{DW}	(k) 29.6	7.7
R ξ · IM	(k) 75.1	40.5
R _{Total}	(k) 216.7	78.2

EXTERIOR GIRDER 7R REACTION TABLE - RAMP		
	Pier R1	N. Abut
LLDF	0.63	0.65
OCF	-	1.00
R _{DC1}	(k) 82.5	24.1
R _{DC2}	(k) 37.6	12.2
R _{DW}	(k) 19.7	7.1
R ξ · IM	(k) 111.0	66.3
R _{Total}	(k) 250.8	109.6

INT. GIRDER 4R MOMENT TABLE - RAMP	
	0.6 Span 1 *
I_s	(in ⁴) 11,896
S_s	(in ³) 773
DC1	(k/')
M _{DC1}	('k) 415
DC2	(k/')
M _{DC2}	('k) 73
DW	(k/')
M _{DW}	('k) 115
LLDF	0.37
$M_{\xi} \cdot IM$	('k) 434
M_u (Strength I)	('k) 1543
$\phi_r M_n$	('k) 2066
f_s DC1	(ksi) 6.45
f_s DC2	(ksi) 1.14
f_s DW	(ksi) 1.79
f_s ($\xi+IM$)	(ksi) 6.74
f_t (Service II)	(ksi) 18.13
0.95R _n F _{yf}	(ksi) 47.50
f_s (Total)(Strength I)	(ksi) -
$\phi_r F_n$	(ksi) -
V _r	(k) 22.61

* Points shown indicate location of maximum moment within each beam segment.

11:46:25 AM
0161702-60X94-5038-Struct-SteelDet2.dgn



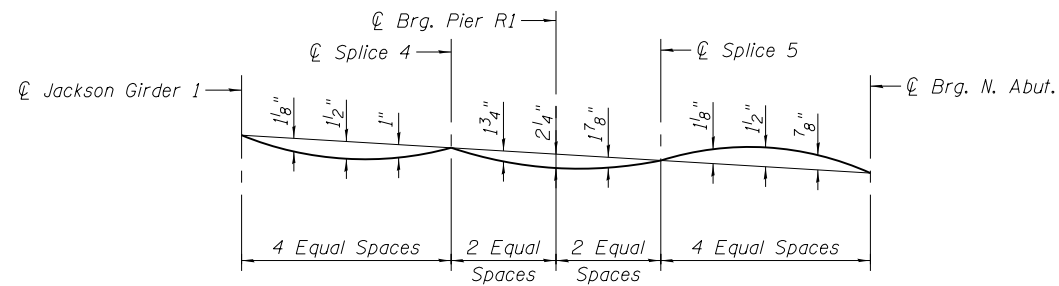
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/12/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

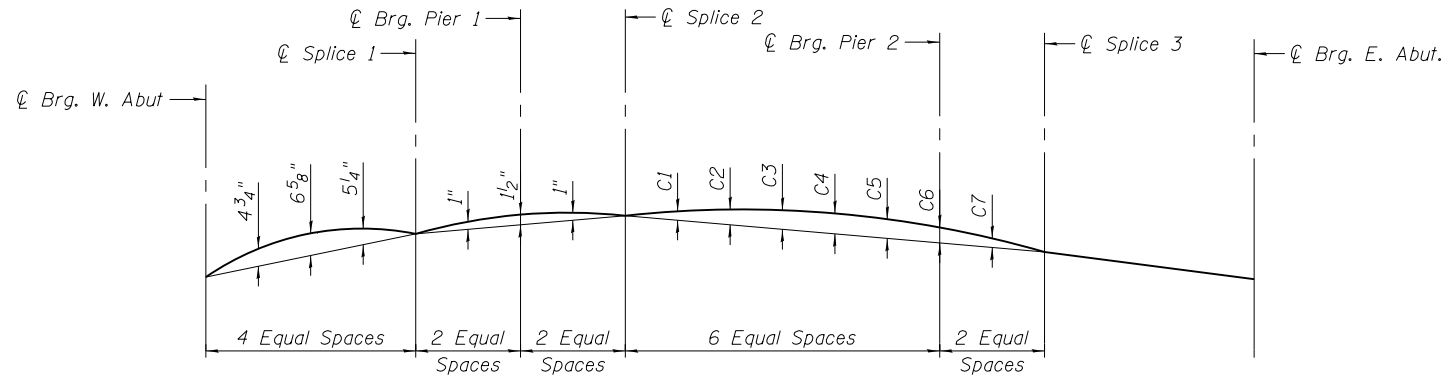
STRUCTURAL STEEL DETAILS 2
STRUCTURE NO. 016-1702

SHEET NO. S2-38 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	423
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



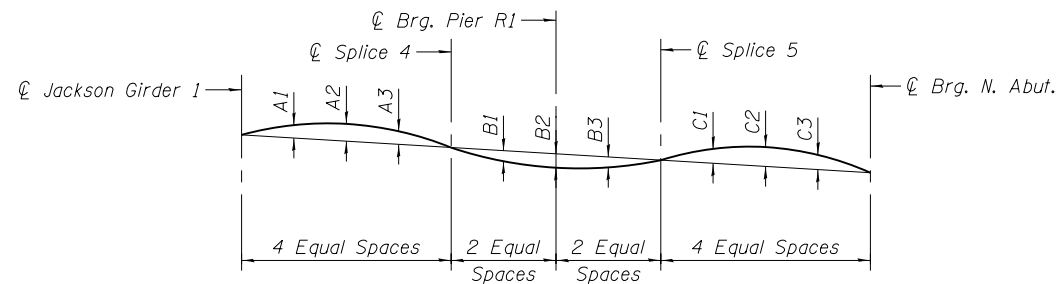
CAMBER DIAGRAM - RAMP
(Girder 1R)



CAMBER DIAGRAM - JACKSON

CAMBER TABLE - JACKSON

Girder	C1	C2	C3	C4	C5	C6	C7
1	3 ⁵ / ₈ "	4 ⁷ / ₈ "	4 ⁵ / ₈ "	2 ³ / ₄ "	1 ³ / ₄ "	1"	3 ³ / ₈ "
2	3 ¹ / ₂ "	4 ³ / ₄ "	4 ¹ / ₂ "	2 ⁵ / ₈ "	1 ³ / ₄ "	1"	3 ³ / ₈ "
3	3 ³ / ₈ "	4 ⁵ / ₈ "	4 ⁴ / ₈ "	2 ¹ / ₂ "	1 ³ / ₄ "	1"	3 ³ / ₈ "
4-12	3 ³ / ₈ "	4 ³ / ₈ "	4 ¹ / ₈ "	2 ³ / ₈ "	1 ⁵ / ₈ "	7 ⁷ / ₈ "	3 ³ / ₈ "



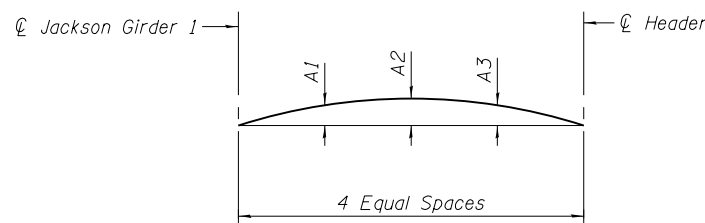
CAMBER DIAGRAM - RAMP
(Girders 5R, 6R & 7R)

CAMBER TABLE - RAMP
(Girders 5R, 6R & 7R)

Girder	A1	A2	A3	B1	B2	B3	C1	C2	C3
5R	3 ⁴ / ₈ "	1 ¹ / ₈ "	7 ⁷ / ₈ "	1 ⁷ / ₈ "	2 ¹ / ₂ "	1 ⁷ / ₈ "	1 ¹ / ₈ "	1 ¹ / ₂ "	7 ⁷ / ₈ "
6R	3 ⁴ / ₈ "	1 ¹ / ₈ "	7 ⁷ / ₈ "	1 ⁷ / ₈ "	2 ¹ / ₂ "	1 ⁷ / ₈ "	1 ¹ / ₈ "	1 ¹ / ₂ "	7 ⁷ / ₈ "
7R	3 ⁴ / ₈ "	1 ¹ / ₈ "	7 ⁷ / ₈ "	1 ⁷ / ₈ "	2 ¹ / ₂ "	1 ⁷ / ₈ "	1 ¹ / ₈ "	1 ¹ / ₂ "	7 ⁷ / ₈ "

TOP OF WEB ELEVATIONS - RAMP
(Girders 1R, 5R, 6R & 7R)

Girder	℄ Jackson G1	℄ Splice 4	℄ Pier	℄ Splice 5	℄ N. Abut.
1R	595.17	593.00	592.31	591.23	586.72
5R	593.98	592.80	592.15	591.09	586.57
6R	593.70	592.64	592.00	590.94	586.42
7R	593.44	592.49	591.85	590.80	586.27



CAMBER DIAGRAM - RAMP
(Girders 2R, 3R & 4R)

CAMBER TABLE - RAMP
(Girders 2R, 3R & 4R)

Girder	A1	A2	A3
2R	0"	0"	0"
3R	0"	0"	0"
4R	5 ⁵ / ₈ "	3 ⁴ / ₈ "	5 ⁵ / ₈ "

TOP OF WEB ELEVATIONS - RAMP
(Girders 2R, 3R & 4R)

Girder	℄ Jackson G1	℄ Header Beam
2R	594.84	594.59
3R	594.55	593.99
4R	594.26	593.09

TOP OF WEB ELEVATIONS - JACKSON
(For fabrication use only)

Girder	℄ Brg. W. Abut.	℄ Splice 1	℄ Brg. Pier 1	℄ Splice 2	℄ Brg. Pier 2	℄ Splice 3	℄ Brg. E. Abut.
1	595.77	597.37	597.20	596.72	593.89	592.95	592.13
2	595.84	597.47	597.29	596.79	593.98	593.05	592.20
3	595.91	597.56	597.38	596.87	594.07	593.14	592.28
4	595.98	597.66	597.47	596.96	594.15	593.23	592.36
5	596.05	597.75	597.56	597.04	594.24	593.33	592.44
6	596.12	597.84	597.65	597.13	594.33	593.42	592.52
7	596.09	597.83	597.64	597.12	594.31	593.40	592.49
8	595.98	597.74	597.55	597.03	594.22	593.31	592.39
9	595.87	597.65	597.46	596.93	594.14	593.22	592.29
10	595.76	597.56	597.37	596.84	594.05	593.13	592.19
11	595.69	597.52	597.33	596.80	594.00	593.09	592.14
12	595.67	597.52	597.33	596.80	594.00	593.09	592.13

2:06:43 PM 0161702-60X94-S039-Str.Uct.-SteelDet3.dgn



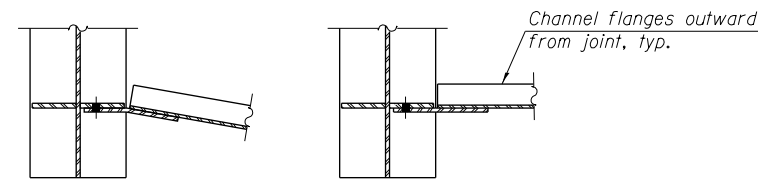
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL DETAILS 3
STRUCTURE NO. 016-1702**

SHEET NO. S2-39 OF S2-80 SHEETS

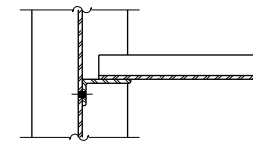
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	424
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



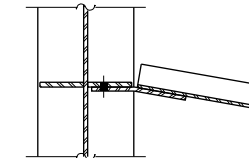
ALONG JACKSON

ALONG RAMP

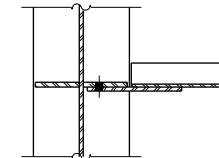
SECTION A-A



SECTION B-B

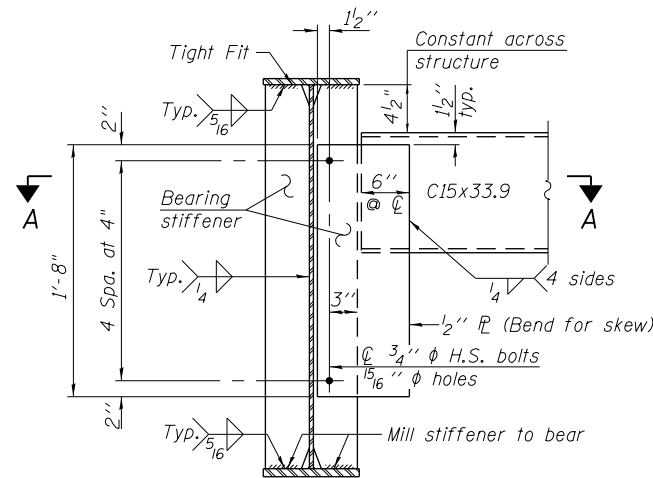


AT PIER 1



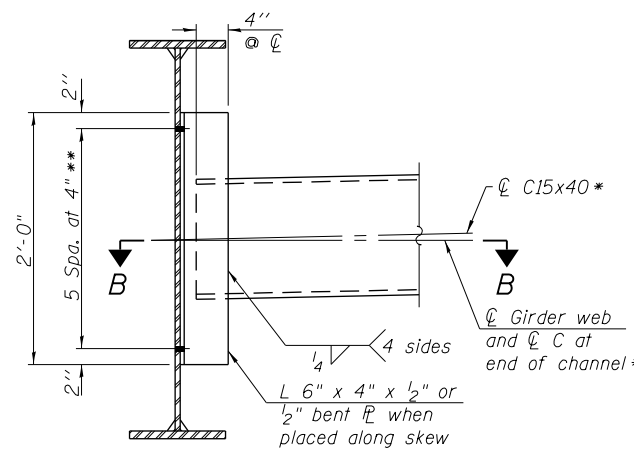
AT PIERS 2 AND R1

SECTION C-C



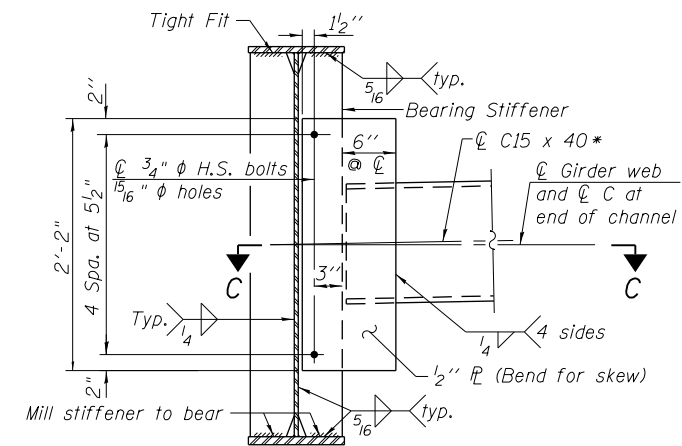
END DIAPHRAGM D

(25 Required)



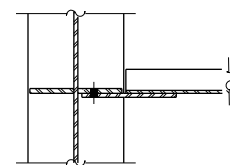
INTERIOR DIAPHRAGM D1

(110 Required)

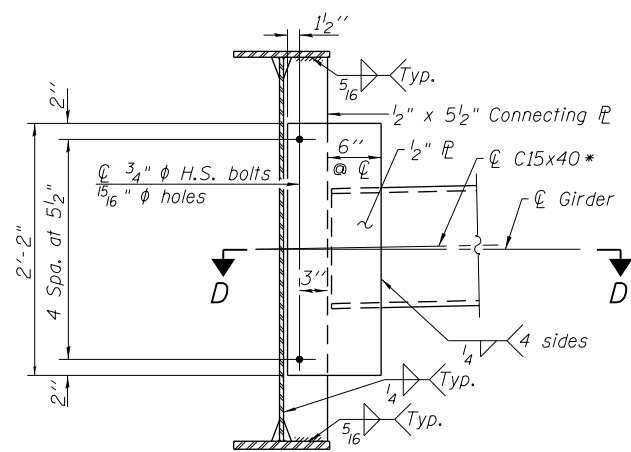


INTERIOR DIAPHRAGM D2

(25 Required)



SECTION D-D



INTERIOR DIAPHRAGM D3

(39 Required)

Note:
 All structural steel shall be AASHTO M 270, Grade 50.
 Two hardened washers required for each set of oversized holes.
 * Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
 ** 3/4" φ HS bolts, 1 5/16" φ holes

2:06:50 PM 0161702-60X94-S040-Struct-SteelDet4.dgn



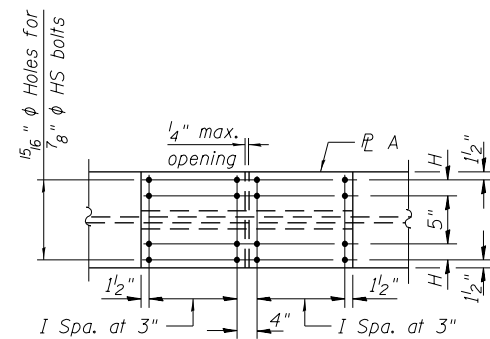
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

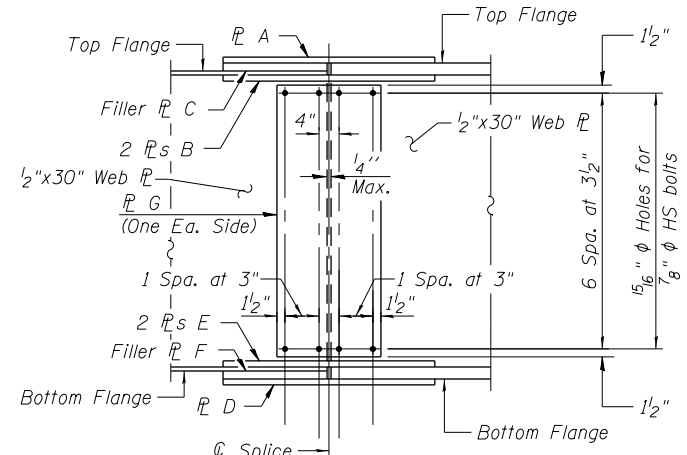
STRUCTURAL STEEL DETAILS 4
 STRUCTURE NO. 016-1702

SHEET NO. S2-40 OF S2-80 SHEETS

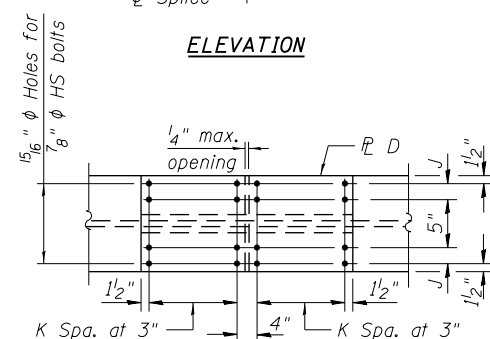
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	425
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



PLAN - TOP FLANGE



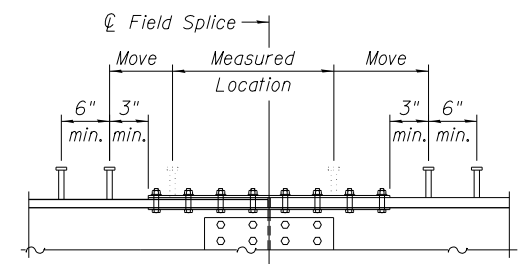
ELEVATION



PLAN - BOTTOM FLANGE

FIELD SPLICE DETAIL

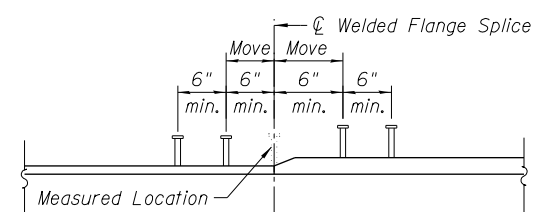
(44 Required)



SHEAR CONNECTOR DETAIL AT SPLICE AND FLANGE TRANSITIONS

DO NOT place shear connectors on splice plates.

Move row of studs to 3" beyond nearest edge of splice plate from measured location.



SHEAR CONNECTOR DETAIL AT WELDED FLANGE SPLICE TRANSITIONS

Do not place shear connectors on welded splice.

Move row of studs to 6" beyond nearest edge of flange transition from measured location.

TABLE OF FIELD SPLICE DATA

Splice	P A	P B	Filler P C	P D	P E	Filler P F	P G	H	I	J	K
1	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	1/2" x 1'-4" x 1'-6 3/8"	1 1/4" x 1'-4" x 4'-7"	1 3/8" x 7" x 4'-7"	1/8" x 1'-4" x 2'-3 3/8"	1/2" x 2'-0" x 1'-1"	4"	5	4"	8
2	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	1/2" x 1'-4" x 1'-6 3/8"	1 1/8" x 1'-4" x 4'-1"	1 1/4" x 7" x 4'-1"	3/8" x 1'-4" x 2'-0 3/8"	1/2" x 2'-0" x 1'-1"	4"	5	4"	7
3	1/2" x 1'-4" x 2'-1"	5/8" x 7" x 2'-1"	3/4" x 1'-4" x 1'-0 3/8"	5/8" x 1'-4" x 3'-1"	3/4" x 7" x 3'-1"	1 1/4" x 1'-4" x 1'-6 3/8"	1/2" x 2'-0" x 1'-1"	4"	3	4"	5
4	3/4" x 1'-4" x 2'-7"	7/8" x 7" x 2'-7"	1/4" x 1'-4" x 1'-3 3/8"	7/8" x 1'-4" x 3'-7"	1" x 7" x 3'-7"	3/4" x 1'-4" x 1'-9 3/8"	1/2" x 2'-0" x 1'-1"	4"	4	4"	6
5	3/4" x 1'-4" x 2'-7"	7/8" x 7" x 2'-7"	1/4" x 1'-4" x 1'-3 3/8"	7/8" x 1'-4" x 3'-7"	1" x 7" x 3'-7"	3/4" x 1'-4" x 1'-9 3/8"	1/2" x 2'-0" x 1'-1"	4"	4	4"	6

Notes:
 All splice plates, except filler plates, shall meet CVN.
 CVN denotes Charpy V-Notch impact energy requirements, Zone 2.
 All structural steel, except filler plates, shall be AASHTO M 270 Grade 50. Filler Plates may be AASHTO M 270 Grade 36.

2:06:58 PM 0161702-60X94-S041-Struct_SteelDet5.dgn



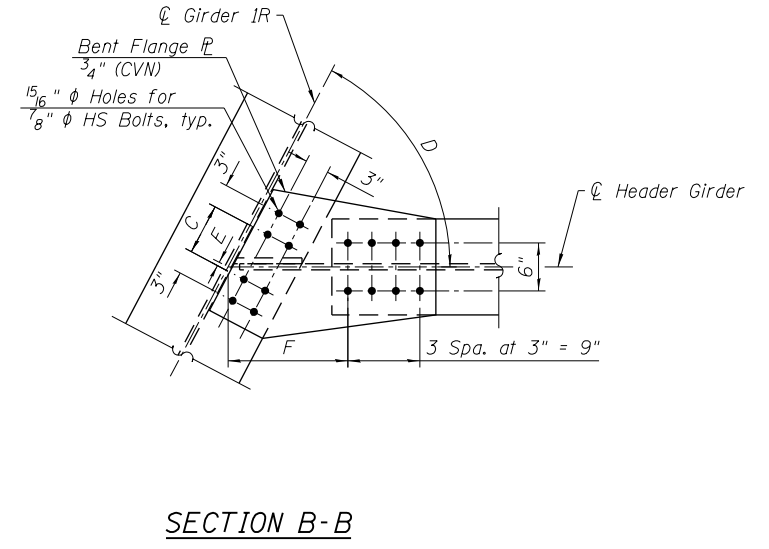
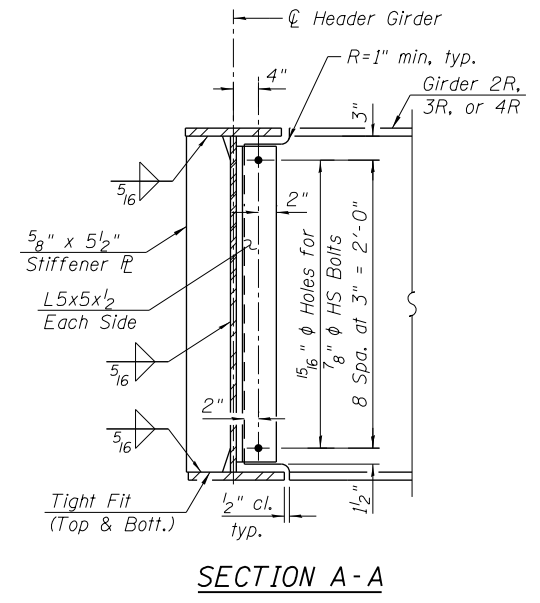
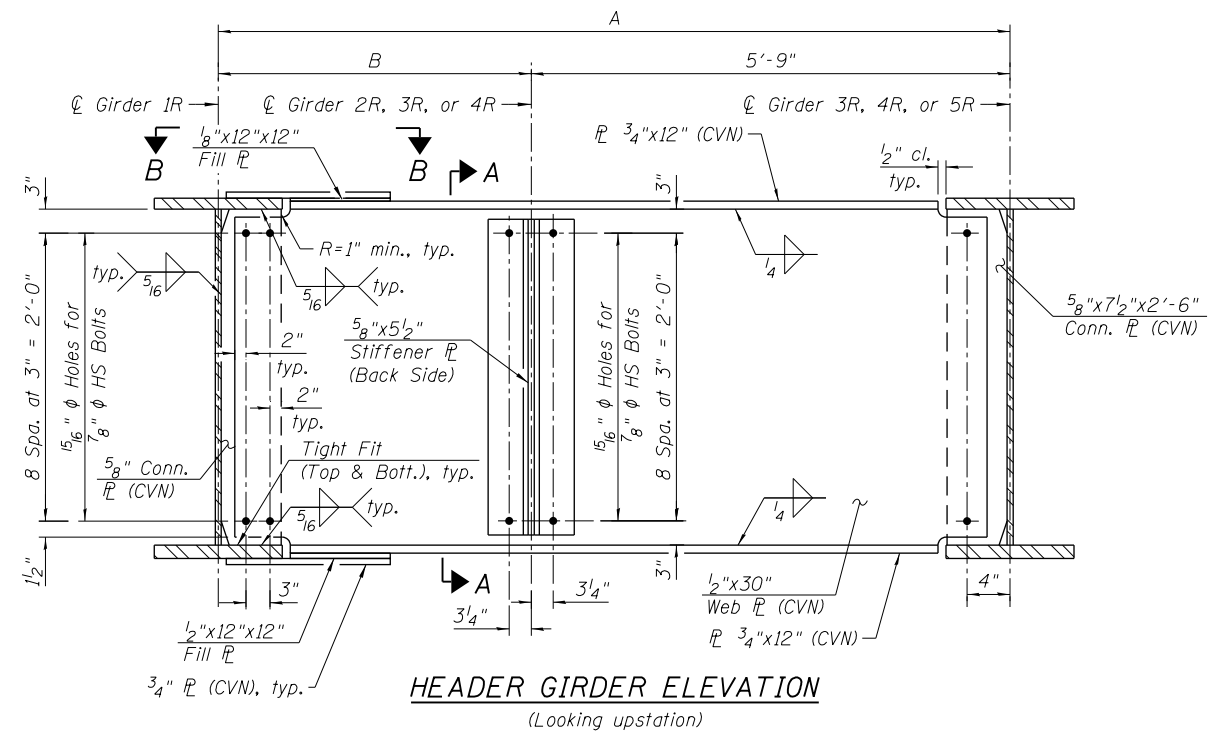
USER NAME = wjcolletti	DESIGNED JM	REVISED
	CHECKED WJC	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS 5
 STRUCTURE NO. 016-1702

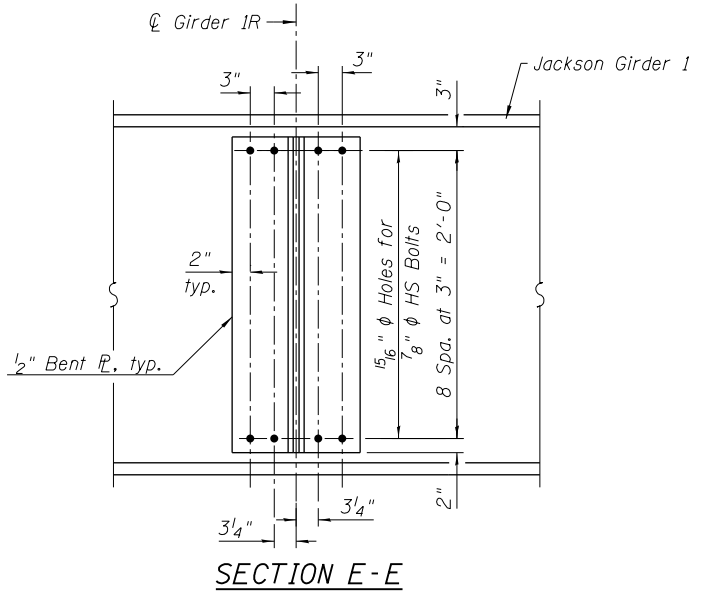
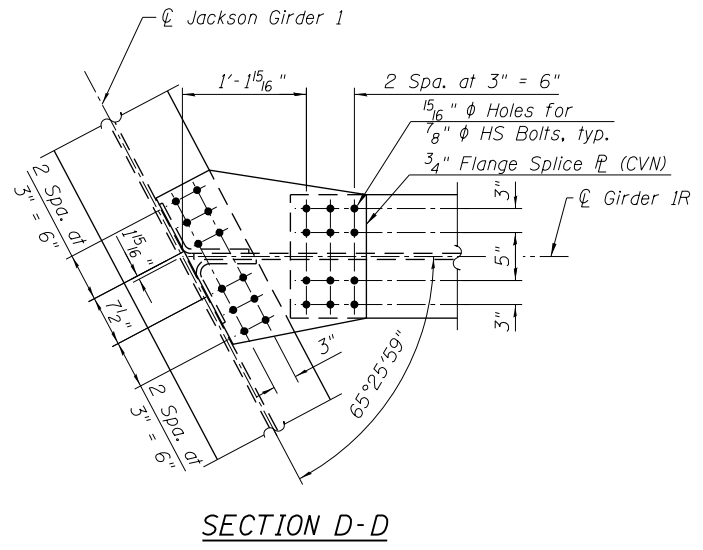
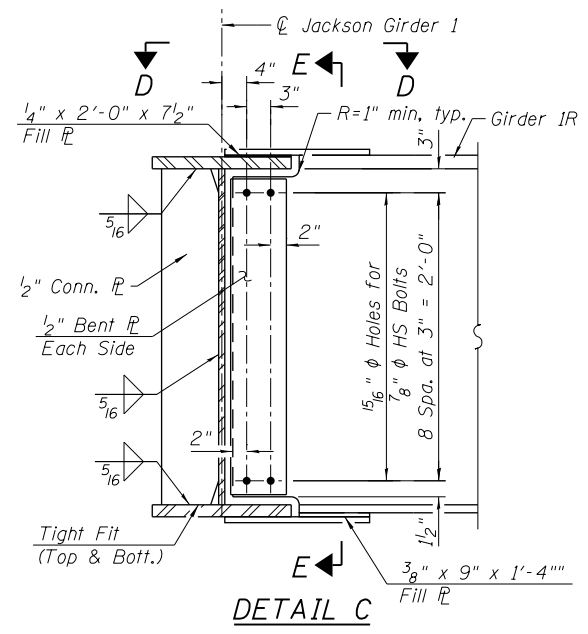
SHEET NO. S2-41 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	426
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



HEADER GIRDER TABLE

Header Girder	Longitudinal Girders			Girder Spacing		Angle, D	C	E	F	Connection Plate	Top & Bott. Flange Splice Plate
	Left	Center	Right	A	B						
1	1R	2R	3R	8'-0 1/2"	2'-3 1/2"	68°64'01"	6"	1"	1'-1"	5/8" X 8" X 2'-6"	3/4" x 1'-5" x 2'-1"
2	1R	3R	4R	8'-6 7/8"	2'-9 7/8"	73°07'53"	5 1/2"	1 5/16"	1'-0 3/8"	5/8" X 7 1/2" X 2'-6"	3/4" x 1'-4" x 2'-0"
3	1R	4R	5R	7'-8 1/2"	1'-11 1/2"	81°58'09"	5"	1 9/16"	10 5/16"	5/8" X 7 1/2" X 2'-6"	3/4" x 1'-3" x 1'-10"



Notes:
 All structural steel shall be AASHTO M 270 Grade 50.
 CVN denotes Charpy V-Notch impact energy requirements, Zone 2.

2:07:06 PM 0161702-60X94-S042-Struct_Steel0616.dgn



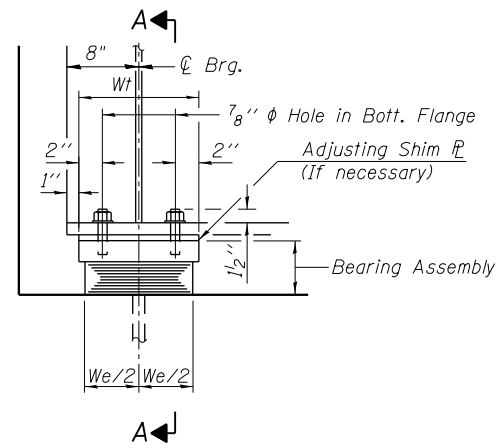
USER NAME = wjcolletti	DESIGNED JM	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

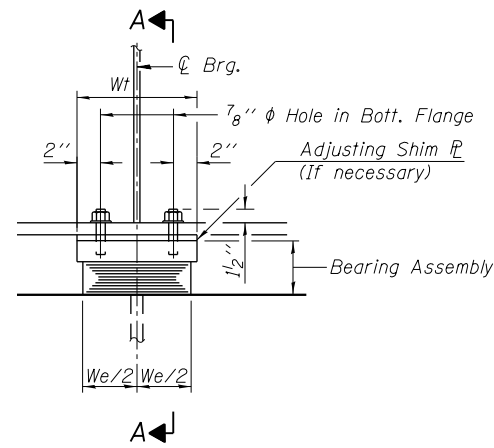
STRUCTURAL STEEL DETAILS 6
 STRUCTURE NO. 016-1702

SHEET NO. S2-42 OF S2-80 SHEETS

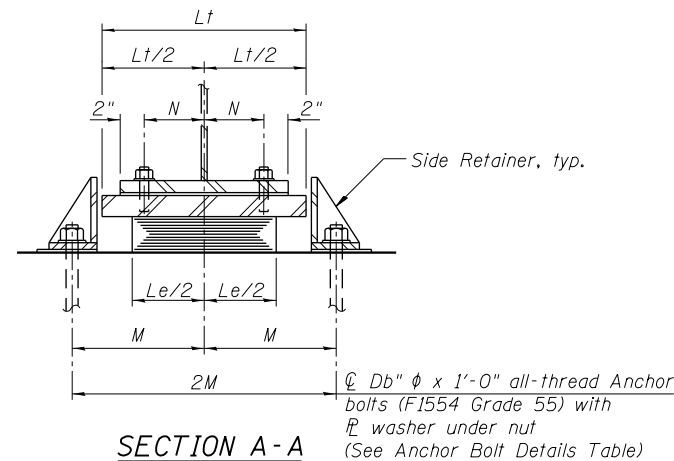
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	427
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



ELEVATION AT ABUT.

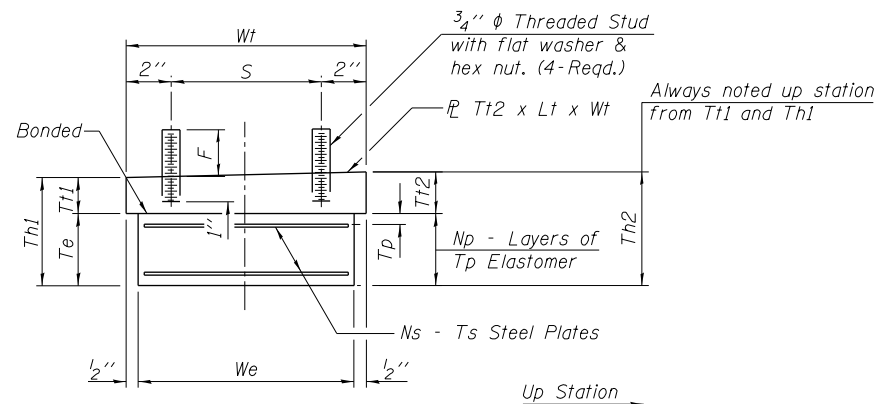


ELEVATION AT PIER



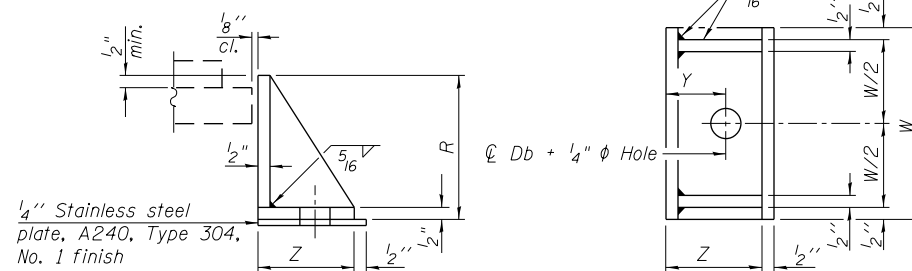
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



SIDE RETAINER

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

ANCHOR BOLT DETAILS

Bolt Dia. x Length**	Plate Washer
5/8" x 12"	1 3/4" x 1 3/4" x 5/16"
1" x 12"	2 1/4" x 2 1/4" x 5/16"

**Length shown is minimum required embedment length.

FILL PLATE THICKNESS TABLE

Location	G1R	G5R	G6R	G7R	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
W. Abut	-	-	-	-	-	-	-	-	-	-	3/8"	-	-	-	1/4"	-
Pier 1	-	-	-	-	-	-	-	-	-	1/8"	-	-	-	3/8"	-	-
E. Abut	-	-	-	-	-	-	-	-	-	-	1/2"	1/8"	-	-	1/4"	1/8"
N. Abut	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXPANSION BEARING DIMENSIONS TABLE

Brg. Location	Elastomer							Top Bearing Plate							Anchor Bolt Dia. Db (in)	Side Retainer					
	We (in)	Le (in)	Te (in)	Np	Tp (in)	Ns	Ts (in)	Tt1 (in)	Tt2 (in)	Wt (in)	Lt (in)	N (in)	S (in)	F (in)		Th1 (in)	Th2 (in)	M (in)	R (in)	Y (in)	W (in)
W. Abut	12"	18"	5 1/16"	7	9 1/16"	6	3 1/16"	1 1/2"	2 1/16"	13"	20"	6"	9"	3 3/4"	6 9/16"	7 1/8"	11 7/8"	7 1/2"	1 3/4"	10"	7 1/4"
Pier 1	18"	24"	3 9/16"	4	3 1/4"	3	3 1/16"	2 1/2"	2 1/4"	19"	26"	6"	15"	3 7/8"	6 1/16"	5 13/16"	15 1/4"	6 1/2"	2 1/8"	19"	10 3/8"
E. Abut	7"	12"	1 5/16"	3	3 3/8"	2	3 3/32"	1 1/16"	1 1/2"	8"	16"	6"	4"	2 5/8"	3"	2 13/16"	9 7/8"	3 1/4"	1 3/4"	8"	4 1/4"
N. Abut	10"	14"	2 11/16"	5	7 1/16"	4	1 1/8"	2 3/8"	1 1/2"	11"	16"	6"	7"	3 1/8"	5 1/16"	4 3/16"	9 7/8"	5 1/2"	1 3/4"	8"	5 1/2"

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	40
Anchor Bolts, 5/8"	Each	56
Anchor Bolts, 1"	Each	24

2:07:14 PM 0161702-60X94-S043-Bearing_Details.dgn



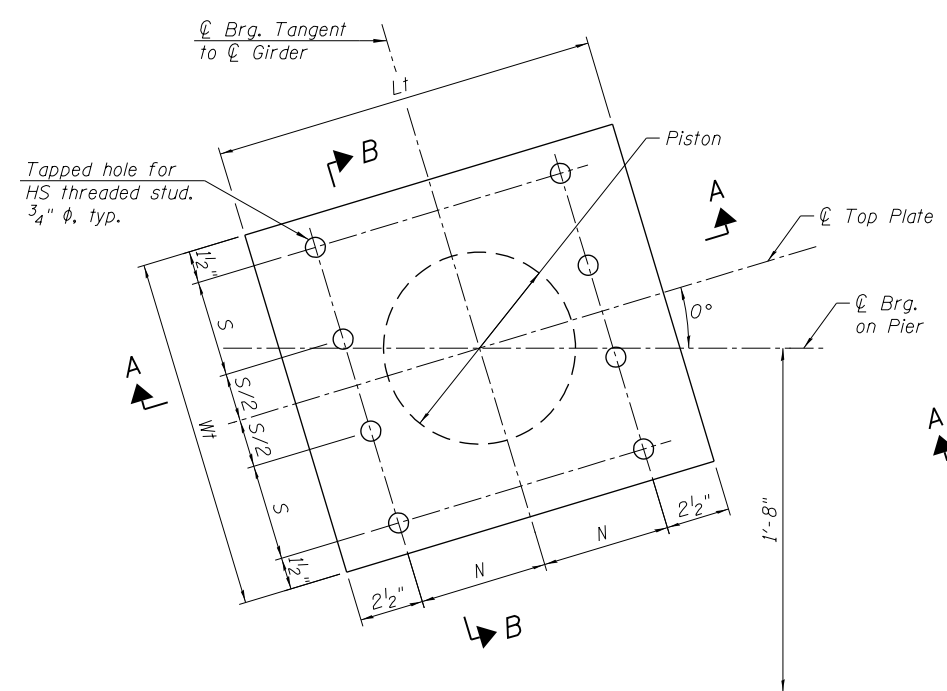
USER NAME = wjcolletti	DESIGNED CG	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN TLR	REVISED
	CHECKED CG	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

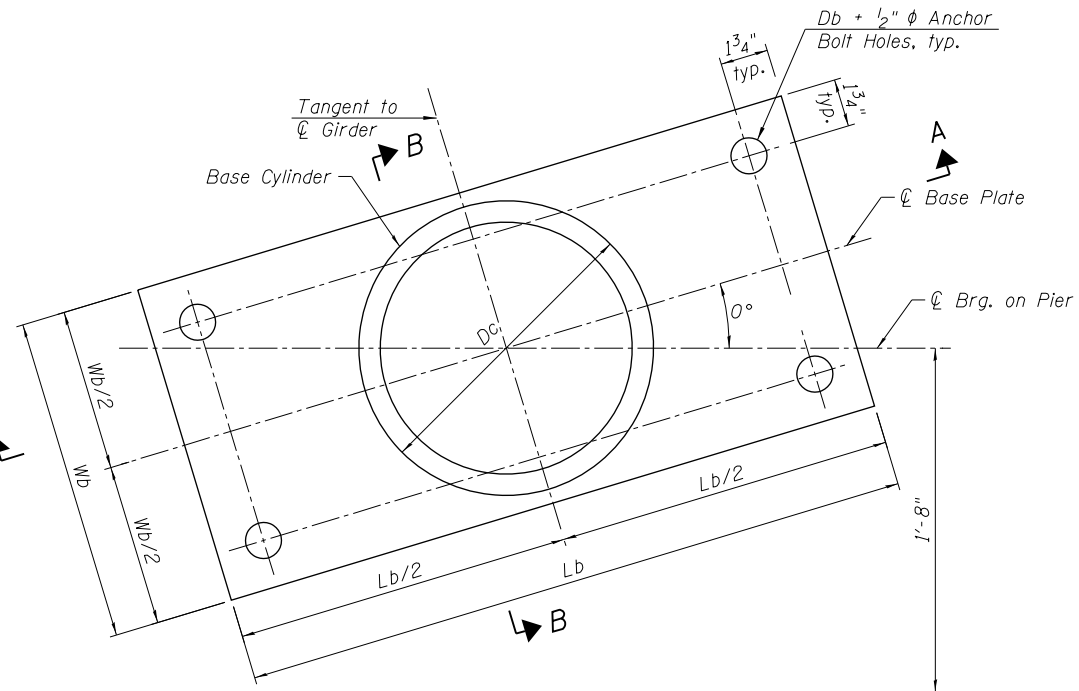
EXPANSION BEARING DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-43 OF S2-80 SHEETS

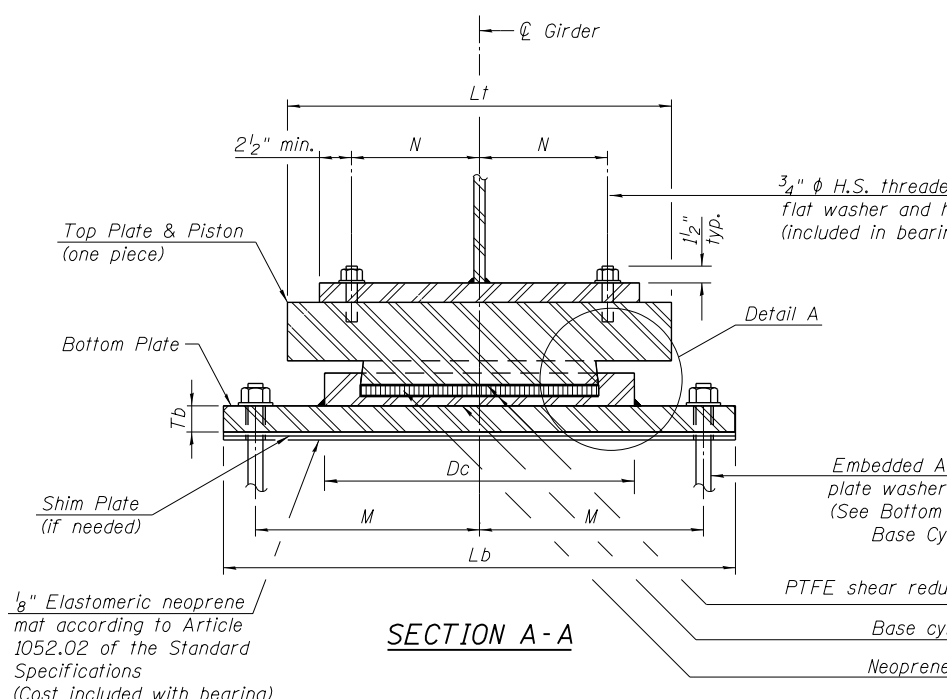
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	428
CONTRACT NO. 60X94				ILLINOIS FED. AID PROJECT



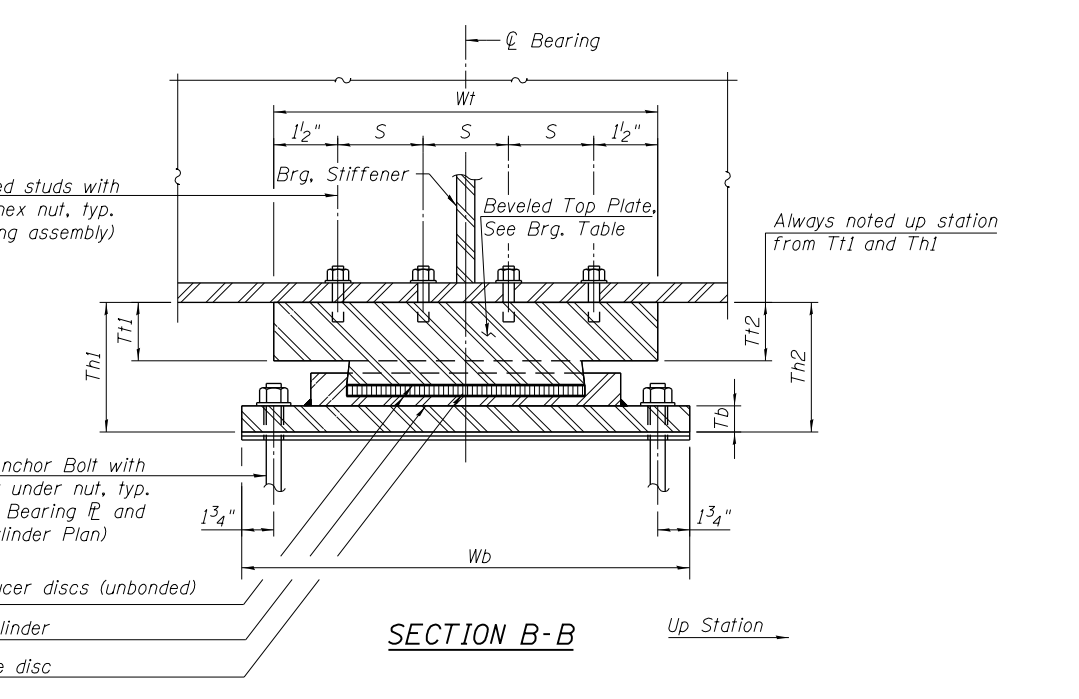
TOP BEARING PL AND PISTON PLAN



BOTTOM BEARING PL AND BASE CYLINDER PLAN



SECTION A-A



SECTION B-B

FIXED BEARING DIMENSIONS TABLE

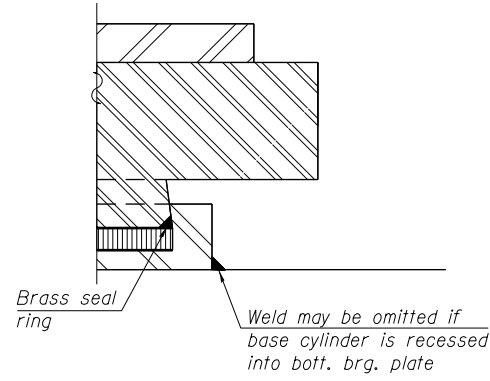
Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	HLMR Size (kips)	Dc (in)	Bottom Bearing Plate				Top Bearing Plate				Th1 (in)	Th2 (in)	Anchor Bolt Dia. Db (in)	M (in)	
					Tb (in)	Lb (in)	Wb (in)	Tt1 (in)	Tt2 (in)	Lt (in)	Wt (in)	N (in)					S (in)
Pier 2-Girders 2-12	187.0	89.0	200	11 1/4"	1 1/8"	20 3/4"	11 1/4"	2 1/16"	1 1/2"	11 1/4"	11 1/4"	3 1/8"	2 3/4"	6 5/16"	6 3/8"	5/8"	8 5/8"
Pier 2-Girder 1	458.0	264.0	500	17 1/2"	1"	24 1/4"	17 1/2"	3 1/16"	2 1/4"	17 1/2"	17 1/2"	6 1/4"	4 13/16"	9 7/16"	8 5/8"	1"	10 3/8"
Pier R1	280.0	104.0	300	13 1/2"	1"	21 1/4"	13 1/2"	2 3/8"	1 3/4"	13 1/2"	13 1/2"	4 1/4"	3 1/2"	7 7/8"	7 1/4"	3/4"	8 7/8"

Notes:
 The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.
 Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.
 Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 All (embedded and separate) bearing plates, anchor bolts, nuts, washers, pintles, and threaded studs shall be galvanized according to AASHTO M111 or M232 as applicable.
 If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be Tb plus the depth of the recess.
 All HLMR bearings shall be designed to carry minimum Factored Ultimate (Strength) Design Rotation of 0.02 radians. See Special Provision.
 Anchor bolts shall be ASTM F1554, Grade 55 all-thread (or an Engineer-approved alternate material) of the diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

ANCHOR BOLT DETAILS

Bolt Dia. x Length**	Plate Washer
5/8" x 12"	1 3/4" x 1 3/4" x 5/16"
3/4" x 12"	2" x 2" x 5/16"
1" x 12"	2 1/4" x 2 1/4" x 5/16"

**Length shown is minimum required embedment length.



DETAIL A

FILL PLATE THICKNESS TABLE

Location	G1R	G5R	G6R	G7R	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	G12
Pier 2	-	-	-	-	-	-	-	-	-	1/8"	-	-	-	1/2"	-	-
Pier R1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Fixed - 200K	Each	11
High Load Multi-Rotational Bearings, Fixed - 300K	Each	4
High Load Multi-Rotational Bearings, Fixed - 500K	Each	1
Anchor Bolts, 5/8"	Each	44
Anchor Bolts, 3/4"	Each	16
Anchor Bolts, 1"	Each	4

2:07:22 PM 0161702-60X94-S044-Bearing_Details.dgn



USER NAME = wjcolletti	DESIGNED CG	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN TLR	REVISED
	CHECKED CG	REVISED

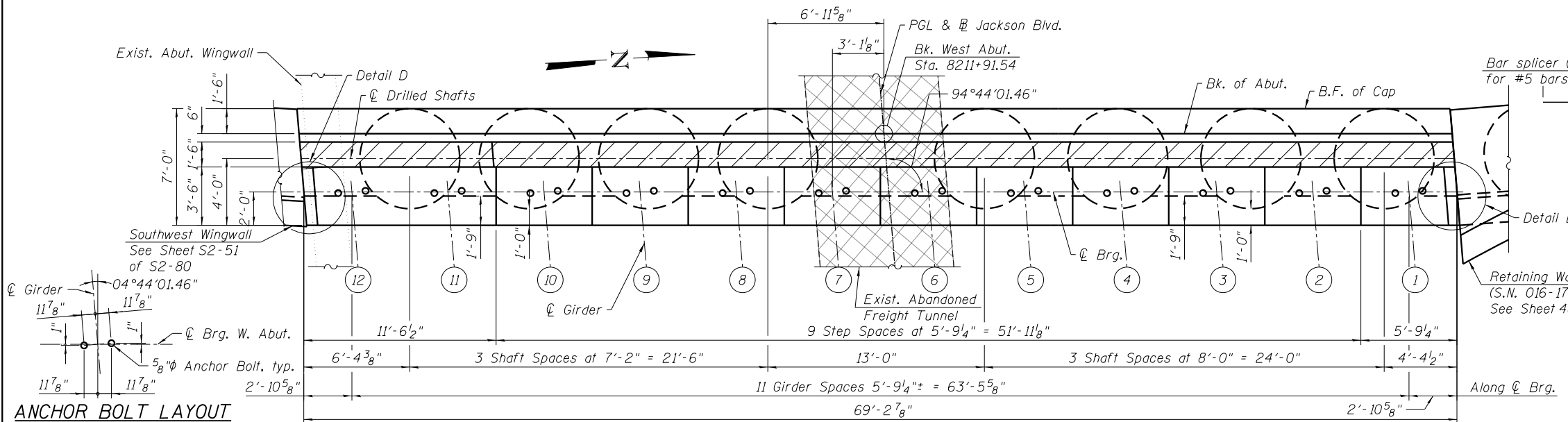
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FIXED BEARING DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-44 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	429

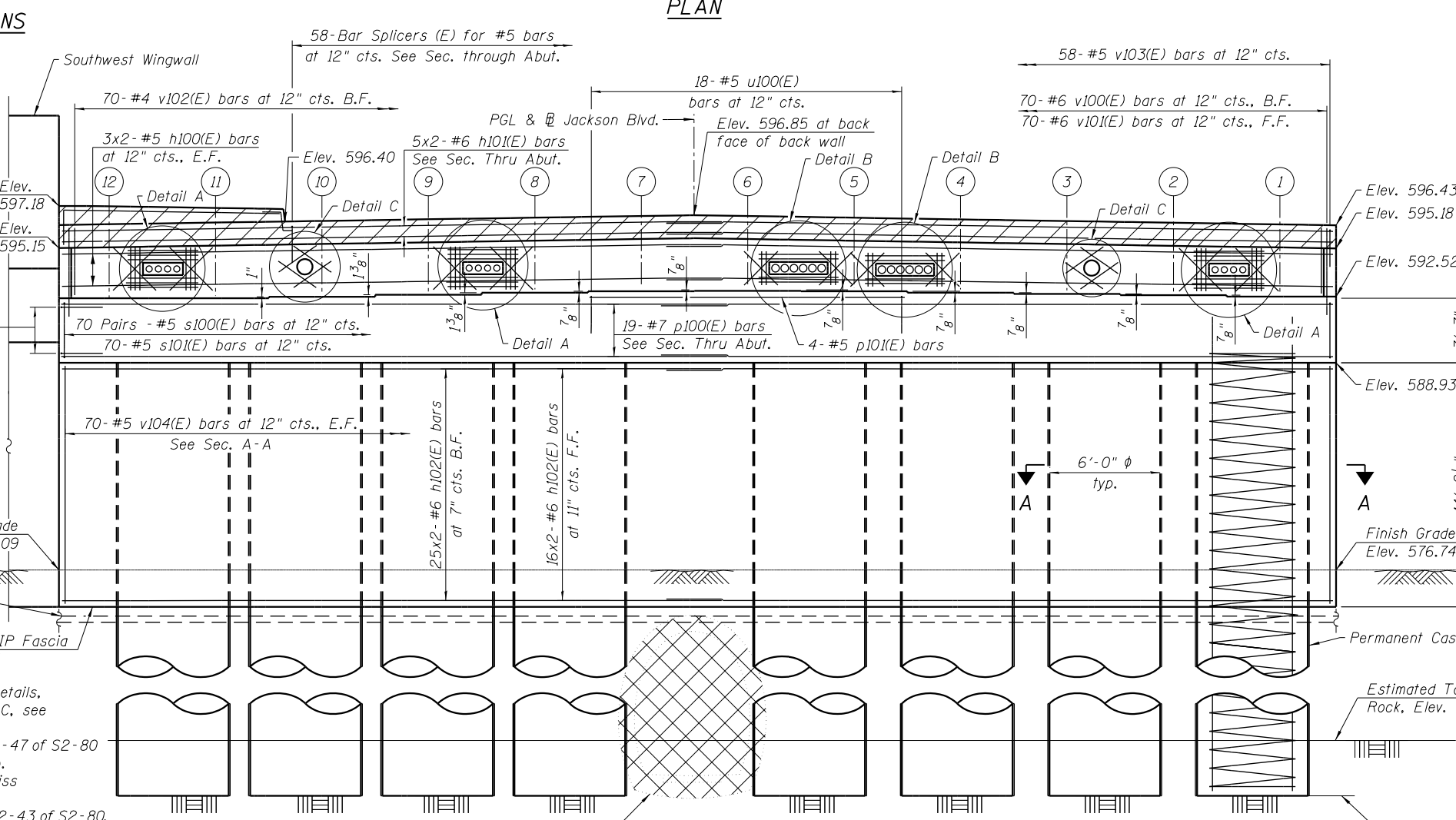
CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT



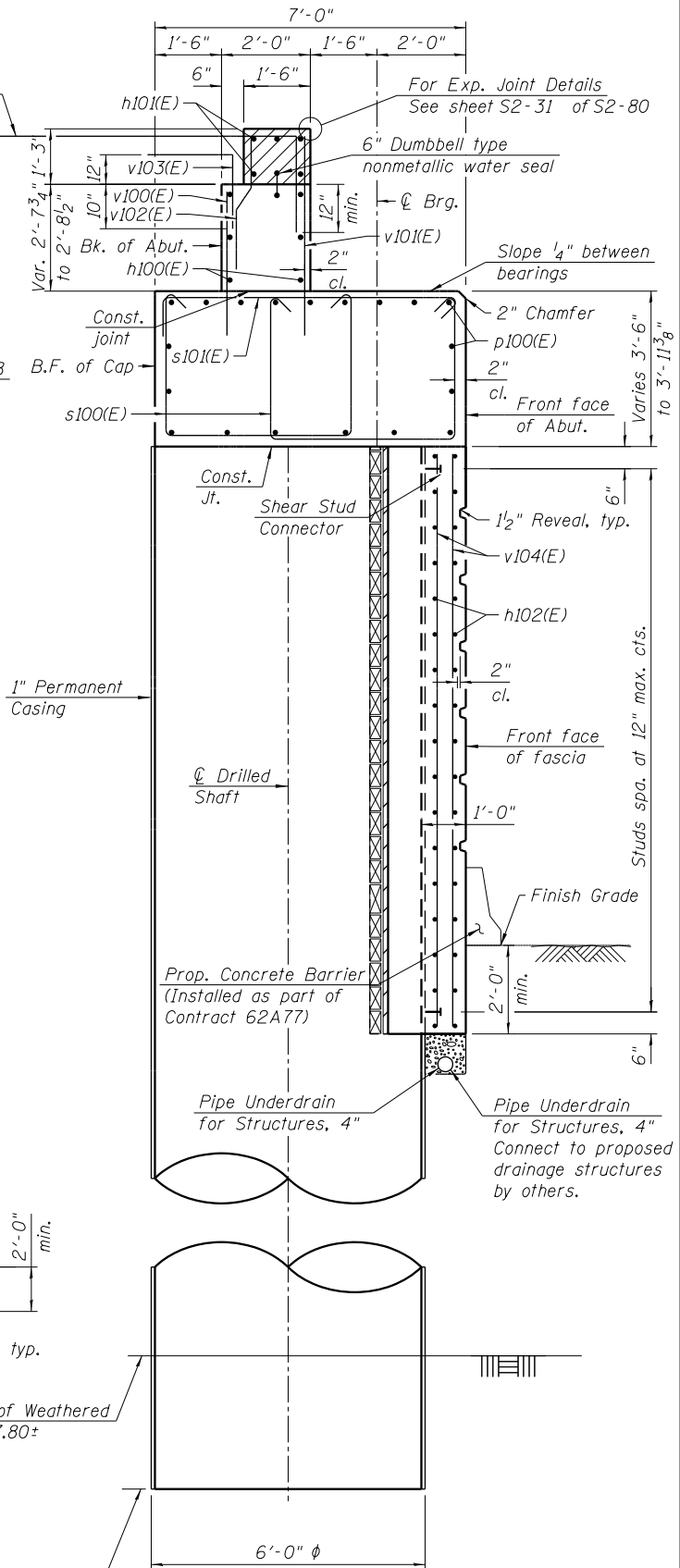
ANCHOR BOLT LAYOUT

TOP OF SEAT ELEVATIONS

Girder No.	Seat Elevation
1	592.52
2	592.59
3	592.66
4	592.73
5	592.80
6	592.87
7	592.80
8	592.73
9	592.62
10	592.51
11	592.43
12	592.43



ELEVATION
(Looking West)



SECTION THROUGH ABUTMENT

Note: Conduit provided by others. Contractor to coordinate with utility owner for location and size of utility blockouts. Cost of utility blockouts included in Concrete Structures. See Utility Plans.

Notes:
 For Section A-A, Drilled Shaft Details, Bill of Materials, Details A, B, and C, see Sheet S2-46 of S2-80.
 For Details D & E, see Sheet S2-47 of S2-80
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.
 For Bearing Details, See Sheet S2-43 of S2-80.
 Permanent casing shall be installed by twisting and/or pushing the casing in conjunction with drilled excavation inside of the permanent casing. The bottom of the permanent casing shall maintain minimum 2 ft. embedment into underlying soil below the bottom of shaft excavation elevation. Neither the Wet Method of construction nor the use of Temporary Casing will be permitted. See Special Provisions for Foundation Drilling Procedures.

Notes cont.:
 Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included in Concrete Superstructure.
 Concrete sealer shall be applied to all exposed faces of the abutment cap, backwall and fascia.

2:07:41 PM 0161702-60X94-5045-Abutment1.WestP&E.dgn



USER NAME = wjcolletti	DESIGNED JRM	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED TLR	REVISED

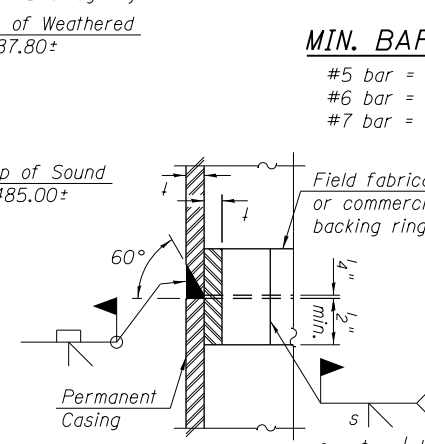
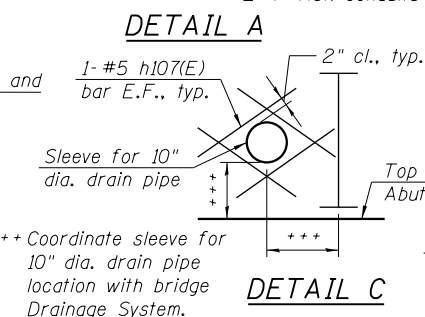
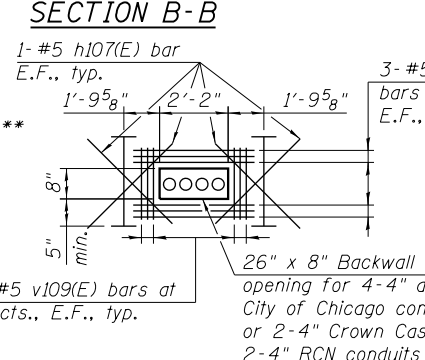
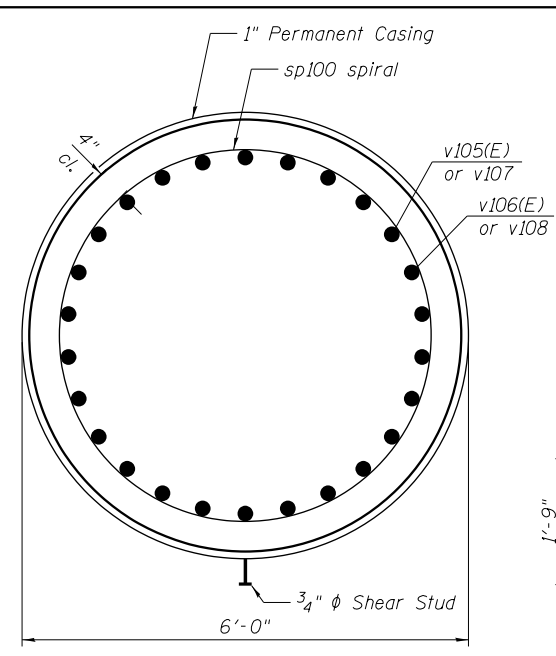
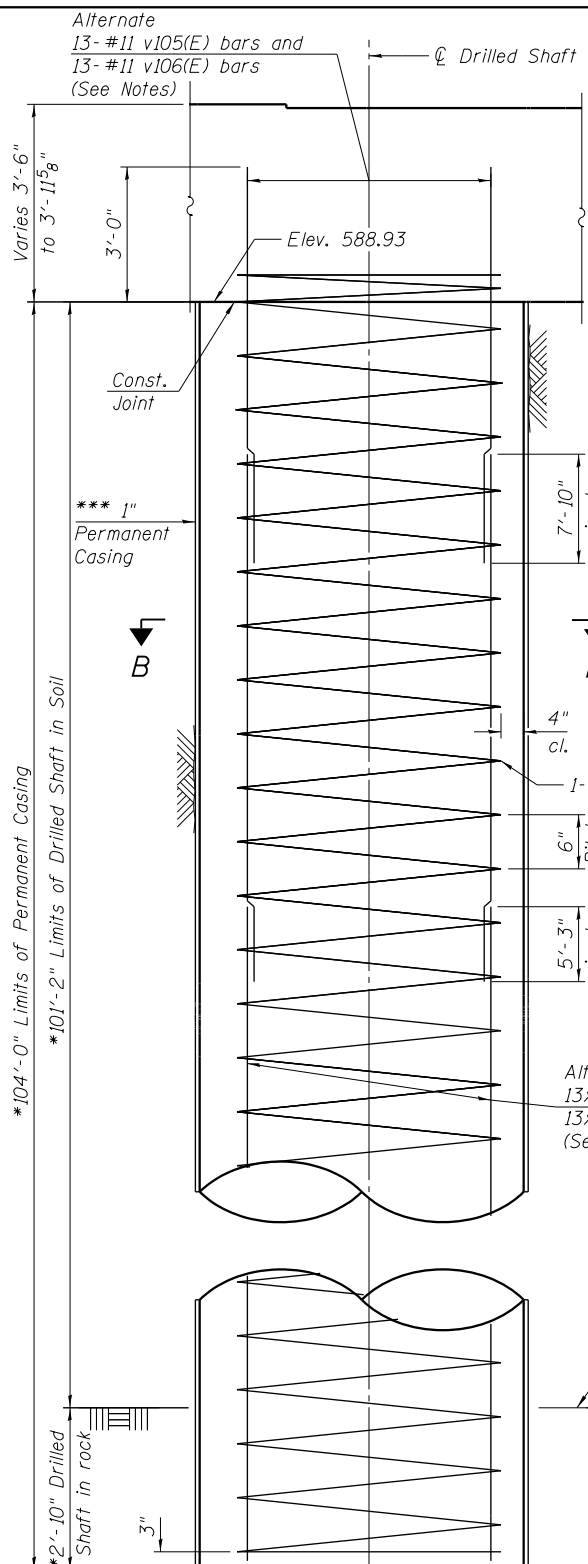
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1702

SHEET NO. S2-45 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	430
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT

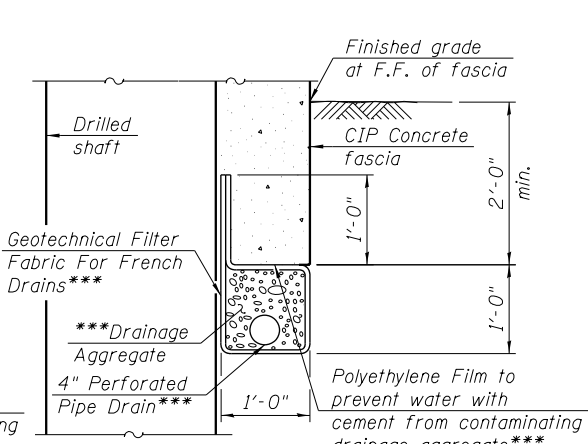
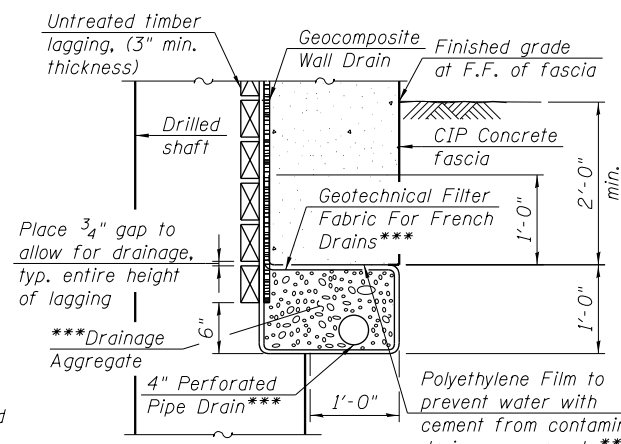
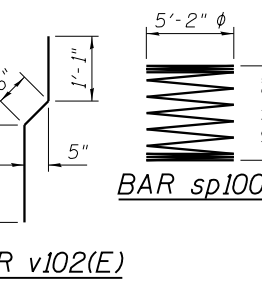
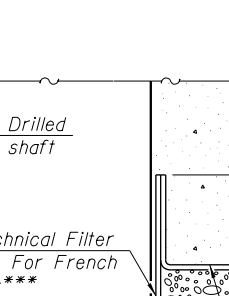
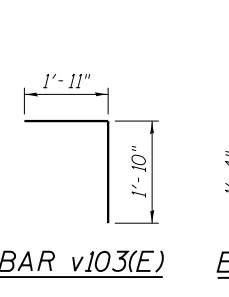
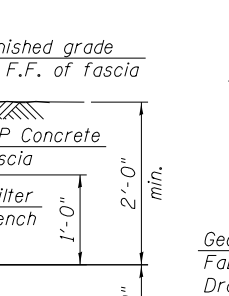
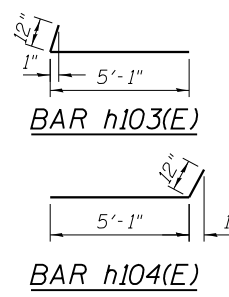
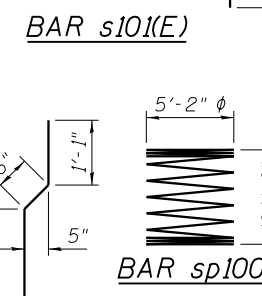
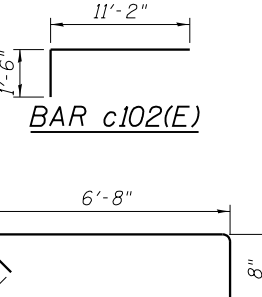
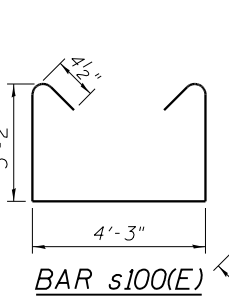
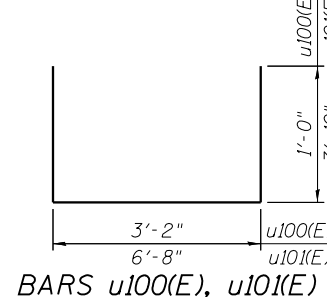
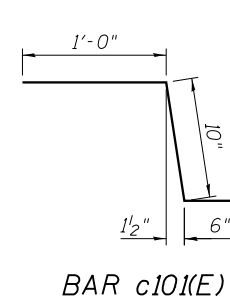
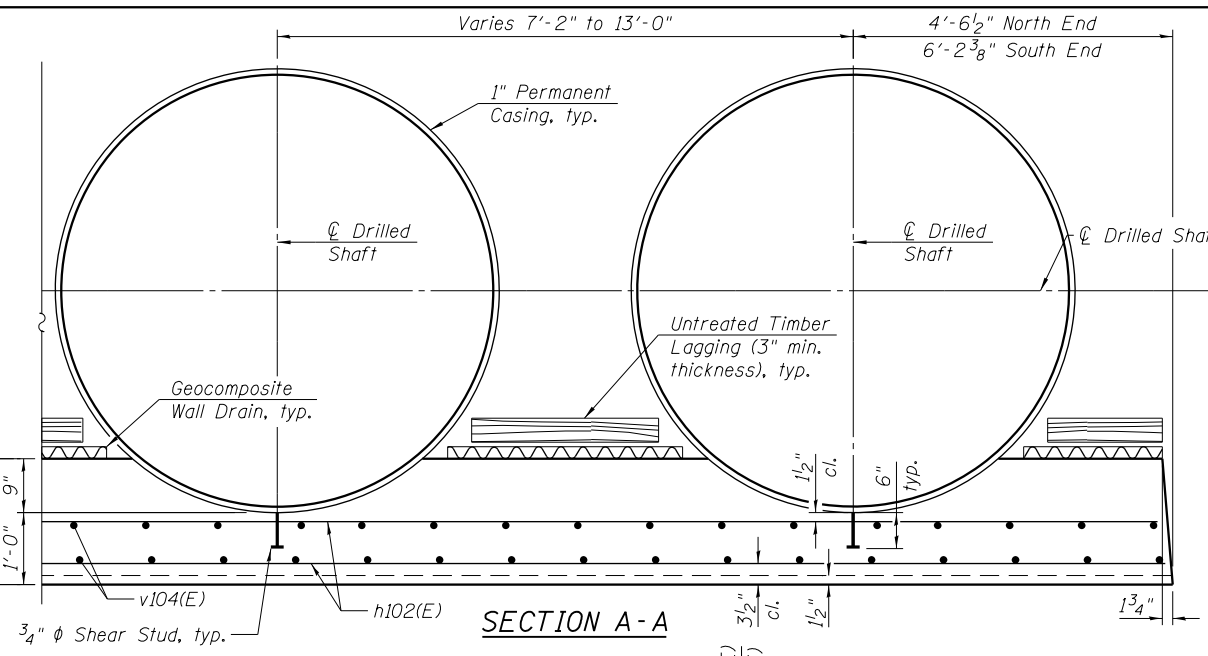
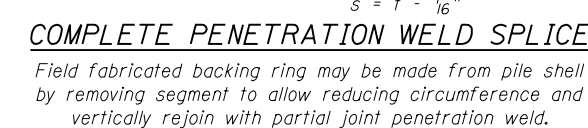


MIN. BAR LAP

#5 bar = 3'-7"

#6 bar = 4'-4"

#7 bar = 5'-0"



PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS

Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

PIPE UNDERDRAIN DETAIL THRU DRILLED SHAFT

Notes:

3/4"x6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.

Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.

When splicing of spiral reinforcement is necessary, the spirals shall be provided with 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 in 135° standard hook.

Lap v105(E) bars with v107 bars or v106(E) bars with v108 bars.

The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi. See Sheet S2-49 of S2-80 for additional information.

Cost of P/J and drain pipe sleeve included in Concrete Structures.

Concrete fascia panels shall be paid as Class S1 Concrete (Miscellaneous).

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b116(E)	13	#5	1'-3"	
c101(E)	3	#5	2'-4"	
c102(E)	3	#5	12'-8"	
h100(E)	12	#5	36'-3"	
h101(E)	10	#6	36'-11"	
h102(E)	82	#6	36'-8"	
h103(E)	4	#5	6'-1"	
h104(E)	4	#5	6'-1"	
h105(E)	36	#5	3'-10"	
h106(E)	24	#5	4'-9"	
h107(E)	56	#5	3'-2"	
p100(E)	19	#7	37'-0"	
p101(E)	4	#5	17'-0"	
s100(E)	140	#5	11'-4"	
s101(E)	70	#5	7'-9"	
sp100	8	#6	104'-0"	WWW
u100(E)	18	#5	5'-2"	
u101(E)	8	#6	14'-4"	
v100(E)	70	#6	3'-7"	
v101(E)	70	#6	4'-10"	
v102(E)	70	#4	2'-11"	
v103(E)	58	#5	3'-9"	
v104(E)	140	#5	13'-10"	
v105(E)	104	#11	25'-0"	
v106(E)	104	#11	28'-0"	
v107	208	#11	47'-6"	
v108	208	#11	46'-0"	
v109(E)	60	#5	2'-8"	
v110(E)	10	#5	4'-0"	
Structure Excavation		Cu. Yd.	2,092	
Concrete Structures		Cu. Yd.	80.4	
Concrete Superstructure		Cu. Yd.	5.3	
Reinforcement Bars		Pound	144,500	
Reinforcement Bars, Epoxy Coated		Pound	36,310	
Permanent Casing		Foot	832	
Drilled Shaft in Soil		Cu. Yd.	847.3	
Drilled Shaft in Rock		Cu. Yd.	23.5	
Concrete Sealer		Sq. Ft.	1,567	
Class S1 Concrete (Miscellaneous)		Cu. Yd.	55.2	
Lightweight Cellular Concrete Fill		Cu. Yd.	137	
Pipe Underdrains for Structures, 4"		Foot	70	

+ Length is height of spiral.

++ Shown for information only. Cost included with Class S1 Concrete (Miscellaneous).

2:07:50 PM 0161702-60X94-S046-Abutment-WestDetails.dgn

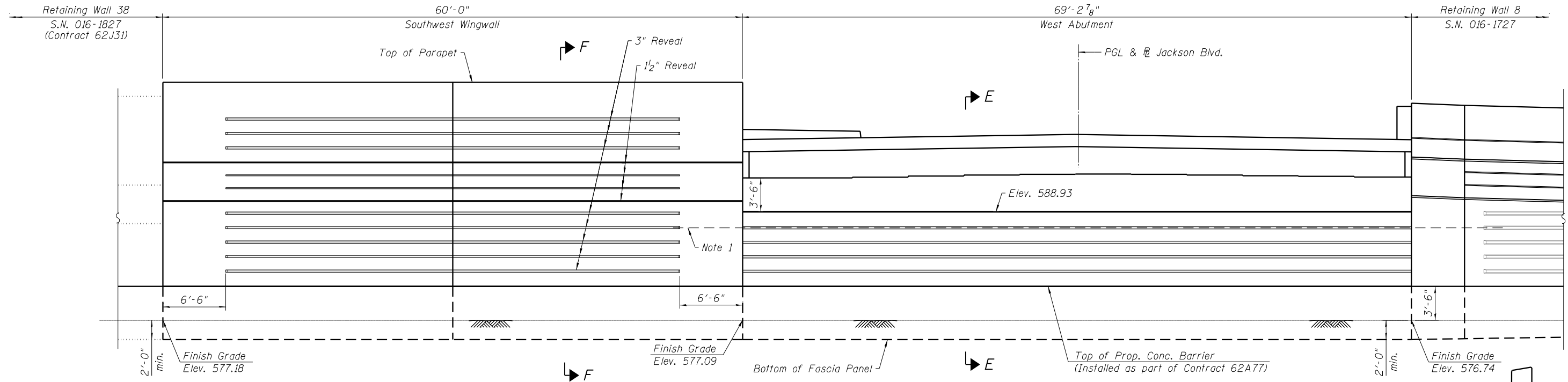


USER NAME = wjcolletti	DESIGNED JRM	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED TLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

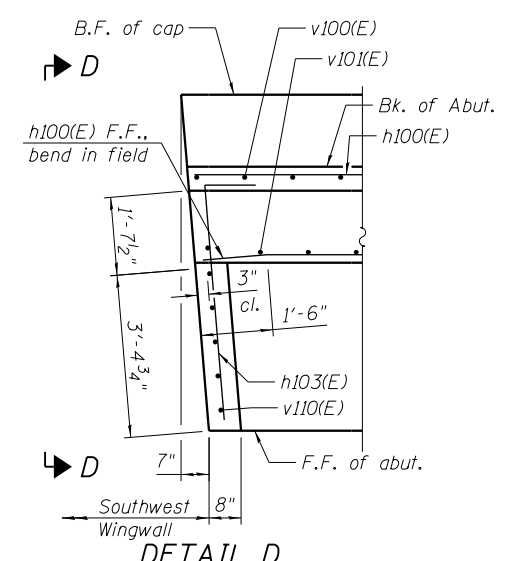
WEST ABUTMENT DETAILS
STRUCTURE NO. 016-1702
SHEET NO. S2-46 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	431
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				



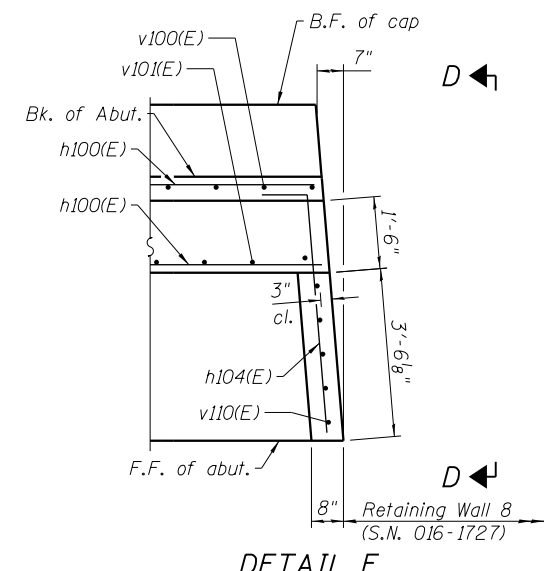
ELEVATION - ARCHITECTURAL DETAILS
(Looking West)

Note 1: Align reveals across the Abutment wall, SW Wingwall and Retaining Wall 8 with max ±1" tolerance



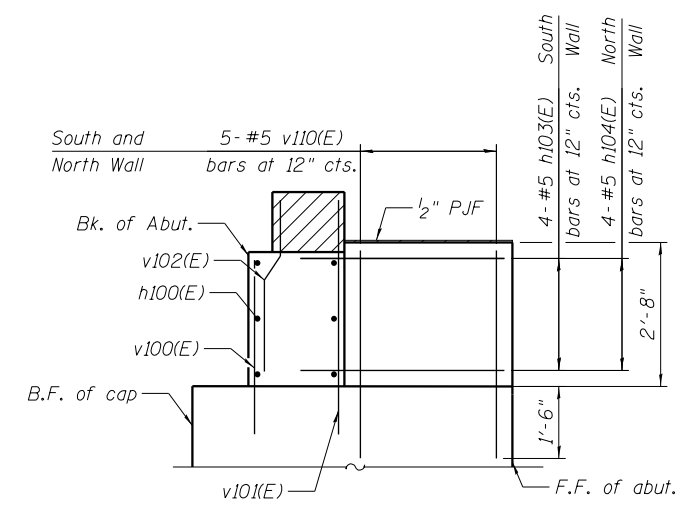
DETAIL D

(Cap reinforcement not shown for clarity)



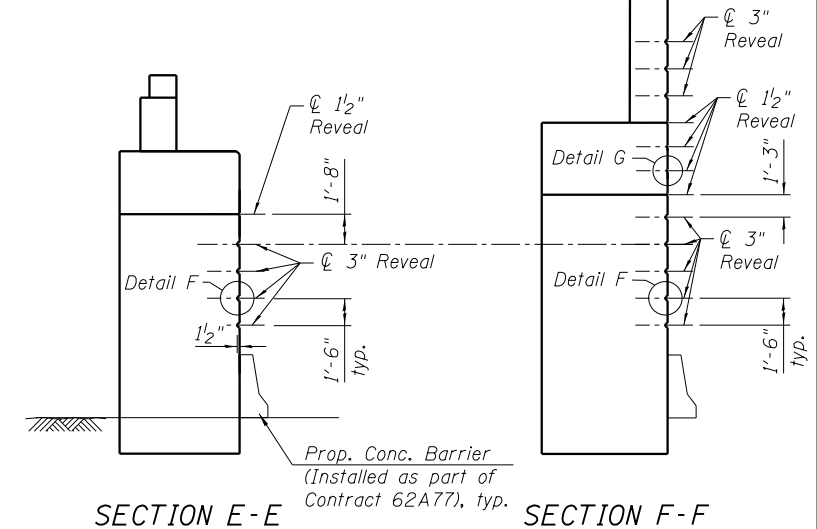
DETAIL E

(Cap reinforcement not shown for clarity)



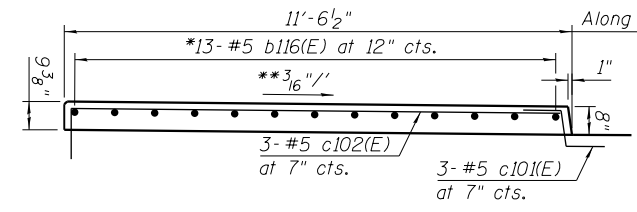
SECTION D-D

(South Wall Shown, North Wall similar, opposite hand)
(Cap reinforcement not shown for clarity)



SECTION E-E

SECTION F-F

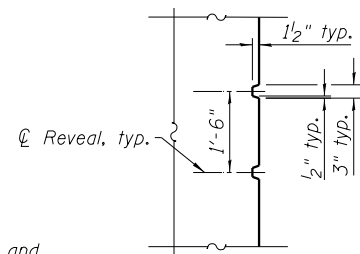


SIDEWALK DETAIL

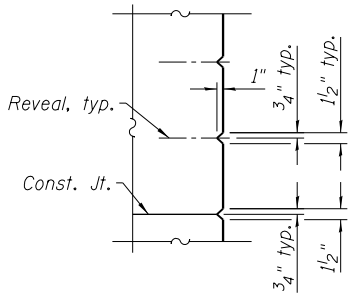
*Place parallel to PGL & Jackson Blvd

**Perpendicular to PGL & Jackson Blvd

Notes:
The 3" x 1/2" reveal will not be paid separately and shall be included in the cost of Class SI Concrete (Miscellaneous) for the West Abutment.
The 1/2" x 1/2" reveal will not be paid separately and shall be included in the cost of Class SI Concrete (Miscellaneous) for the Southwest Wingwall.



DETAIL F
3" Reveal Detail



DETAIL G
1 1/2" Reveal Detail

2:07:58 PM 0161702-60X94-S047-Abutment-WestDetails2.dgn



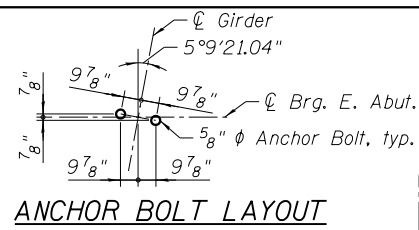
USER NAME = wjcolletti	DESIGNED JRM	REVISED
PLOT SCALE = NTS	CHECKED TLR	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED TLR	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

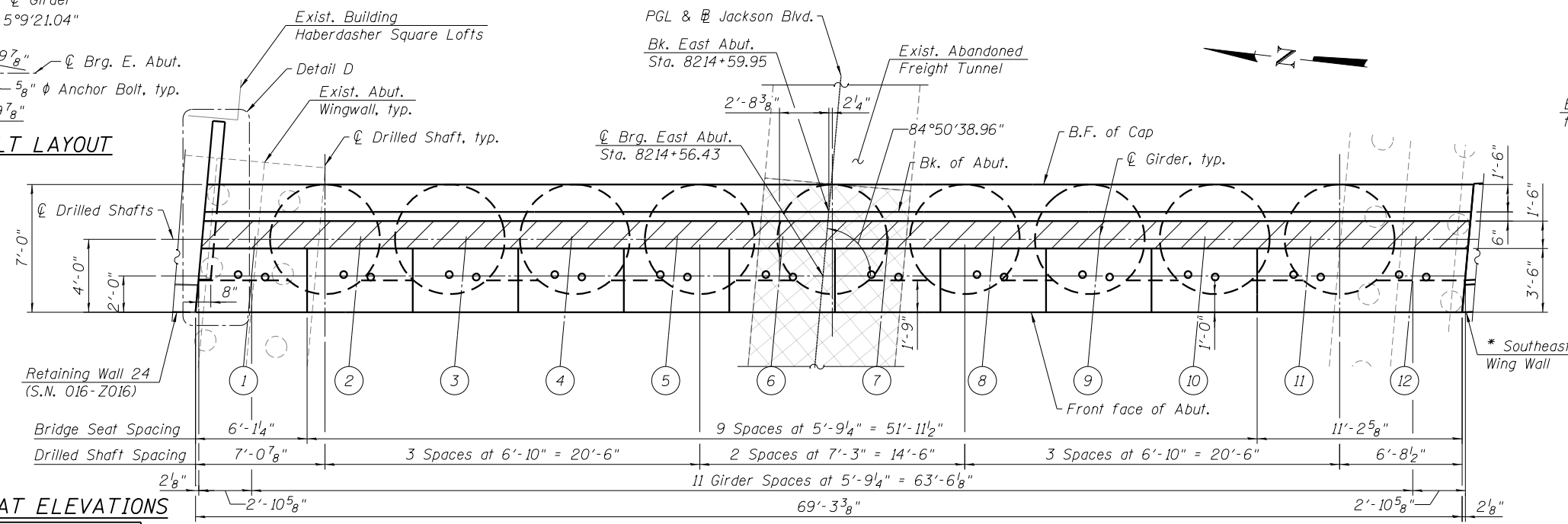
**WEST ABUTMENT ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-47 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 432
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

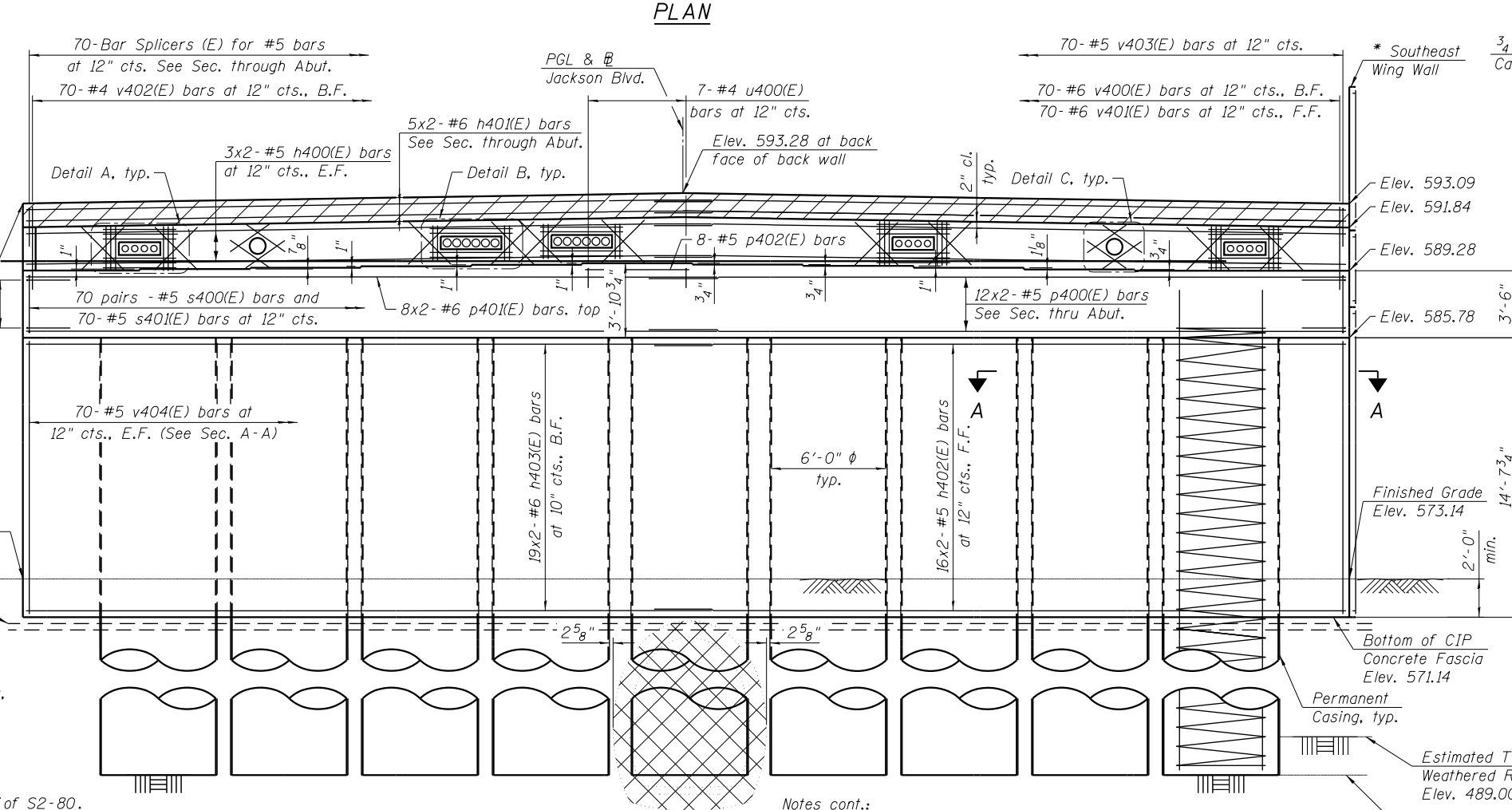


ANCHOR BOLT LAYOUT

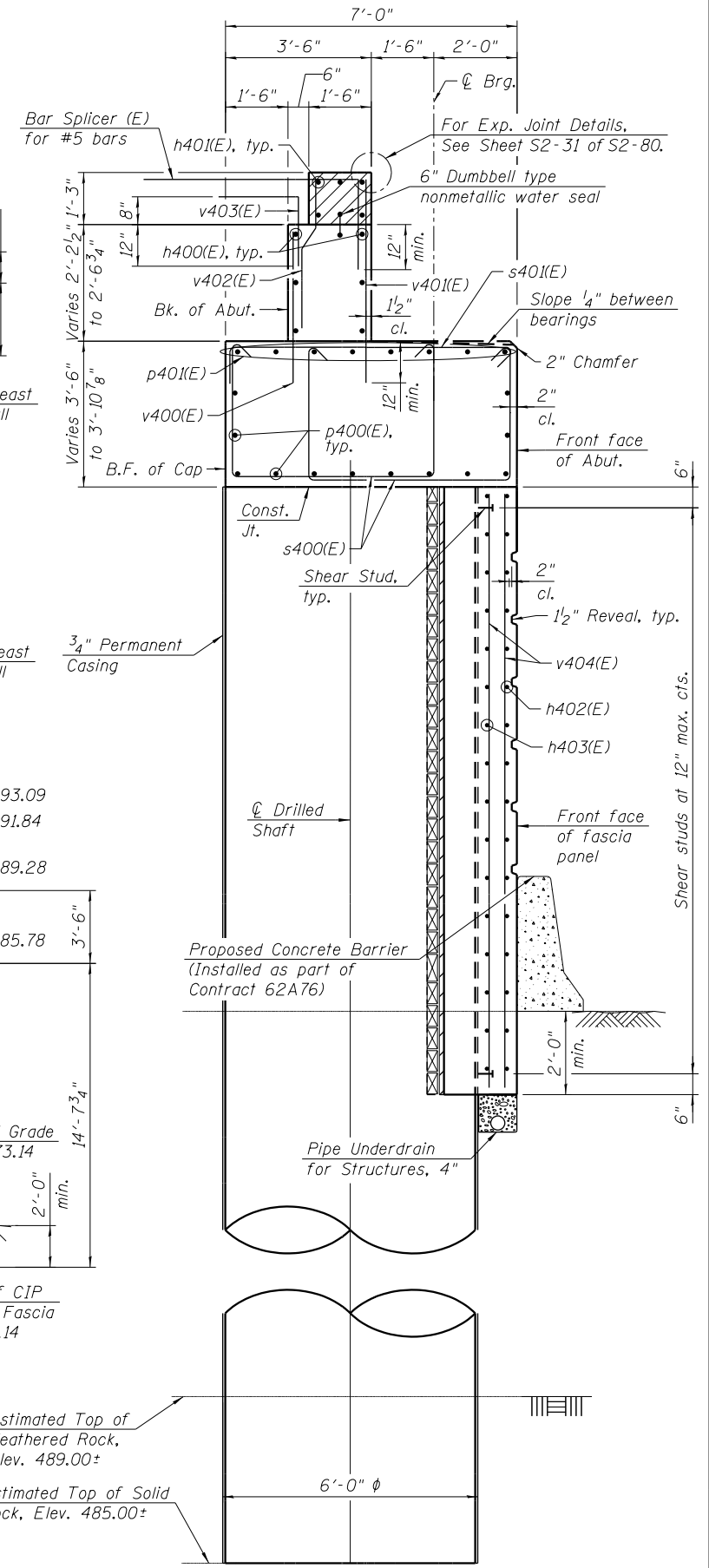


TOP OF SEAT ELEVATIONS

Girder No.	Seat Elevation
1	589.29
2	589.37
3	589.44
4	589.52
5	589.60
6	589.68
7	589.61
8	589.54
9	589.45
10	589.35
11	589.28
12	589.28



ELEVATION
(Looking East)



SECTION THROUGH ABUTMENT

* For wingwall Details see Sheets S2-51 thru S2-54 of S2-80.

MIN. BAR LAP

#5 bar = 3'-7"
#6 bar = 4'-4"

Notes:

For Section A-A, Drilled Shaft Details, Bill of Materials, Details A thru E, see Sheet S2-49 of S2-80.
Pour steps monolithically with cap. Space reinforcement in cap to miss anchor bolts.
For Bearing Details, See Sheet S2-43 of S2-80.
Hatched area to be poured after superstructure falsework has been removed. Quantity of concrete included in Concrete Superstructure.
Permanent casing shall be installed by twisting and/or pushing the casing in conjunction with drilled excavation inside of the permanent casing. The bottom of the permanent casing shall maintain minimum 2 ft. embedment into underlying soil below the bottom of shaft excavation elevation. Neither the Wet Method of construction nor the use of Temporary Casing will be permitted. See Special Provisions for Foundation Drilling Procedures.

Notes cont.:

Concrete sealer shall be applied to all exposed faces of the abutment cap and fascia.
Concrete fascia panels shall be paid as Class SI Concrete (Miscellaneous).
Conduit provided by others. Contractor to coordinate with utility owner for location and size of utility blockouts. Cost of utility blockouts included in Concrete Structures. See Utility Plans.

2:08:17 PM 0161702-60X94-S048-Abutment-East-F&E.dgn



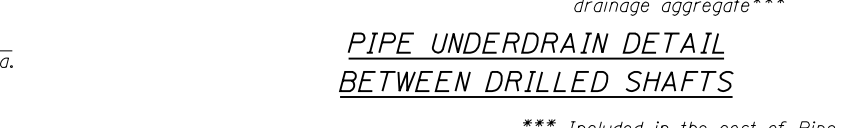
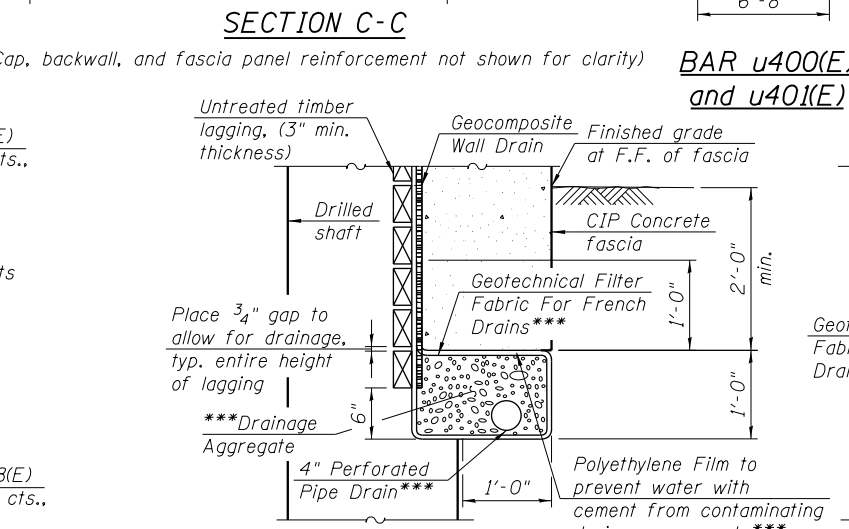
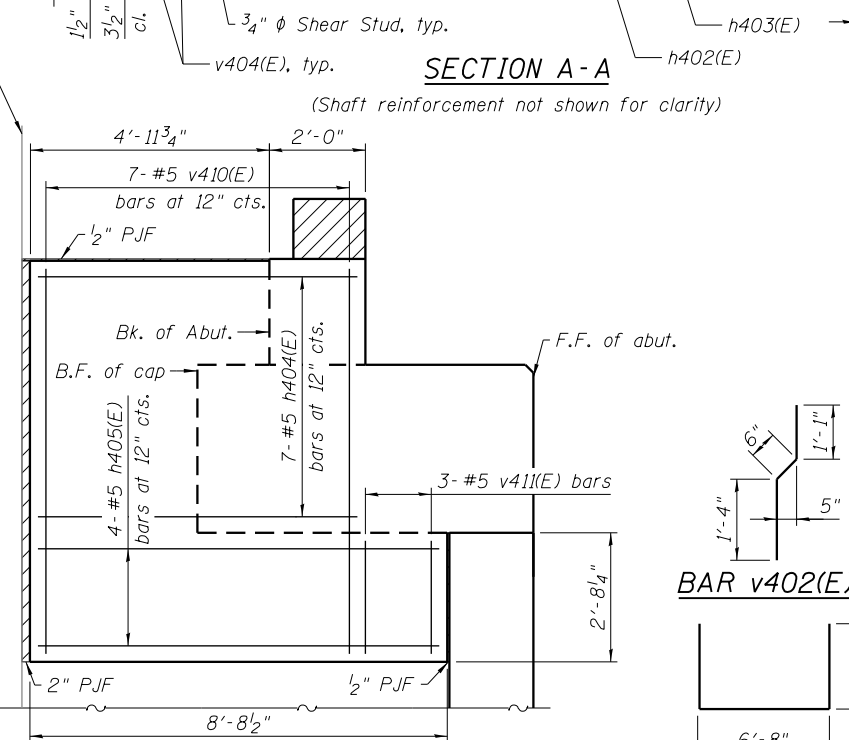
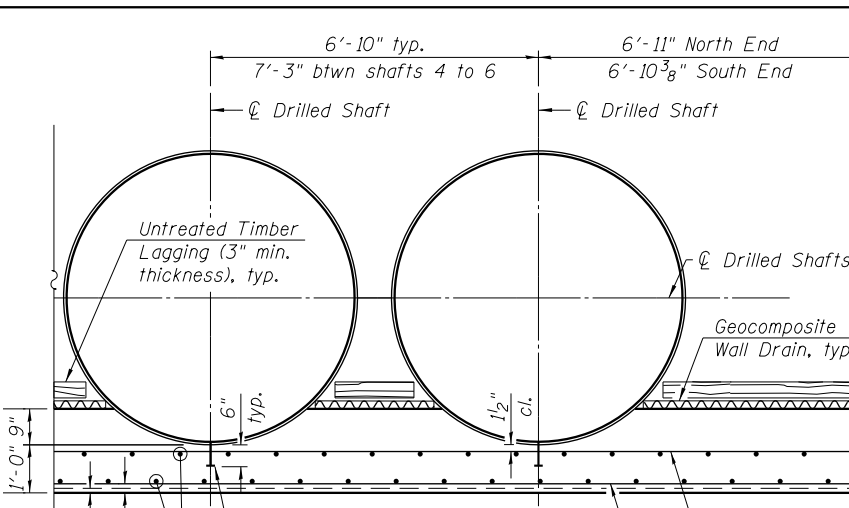
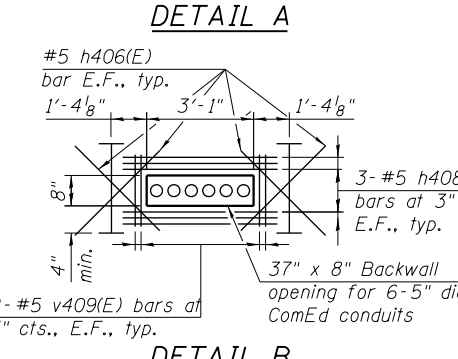
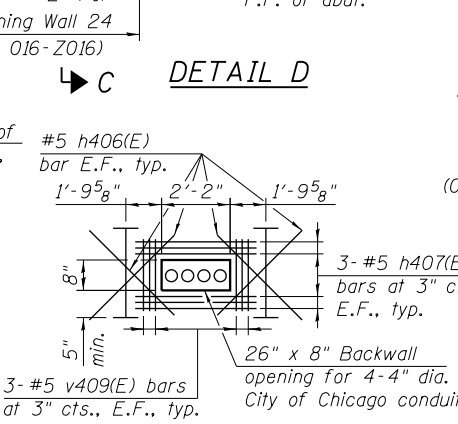
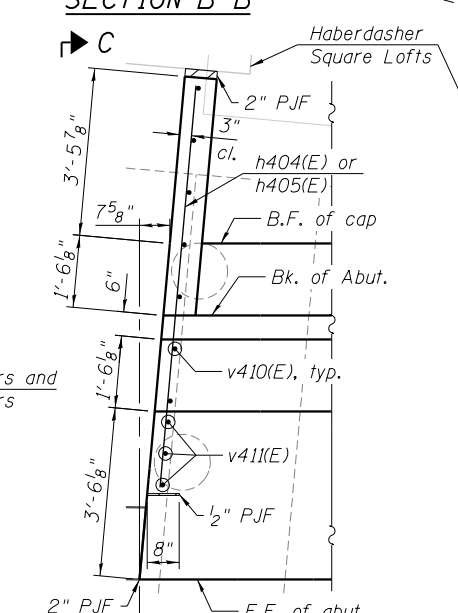
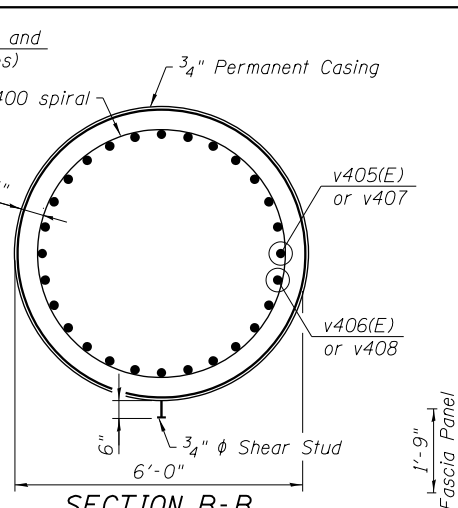
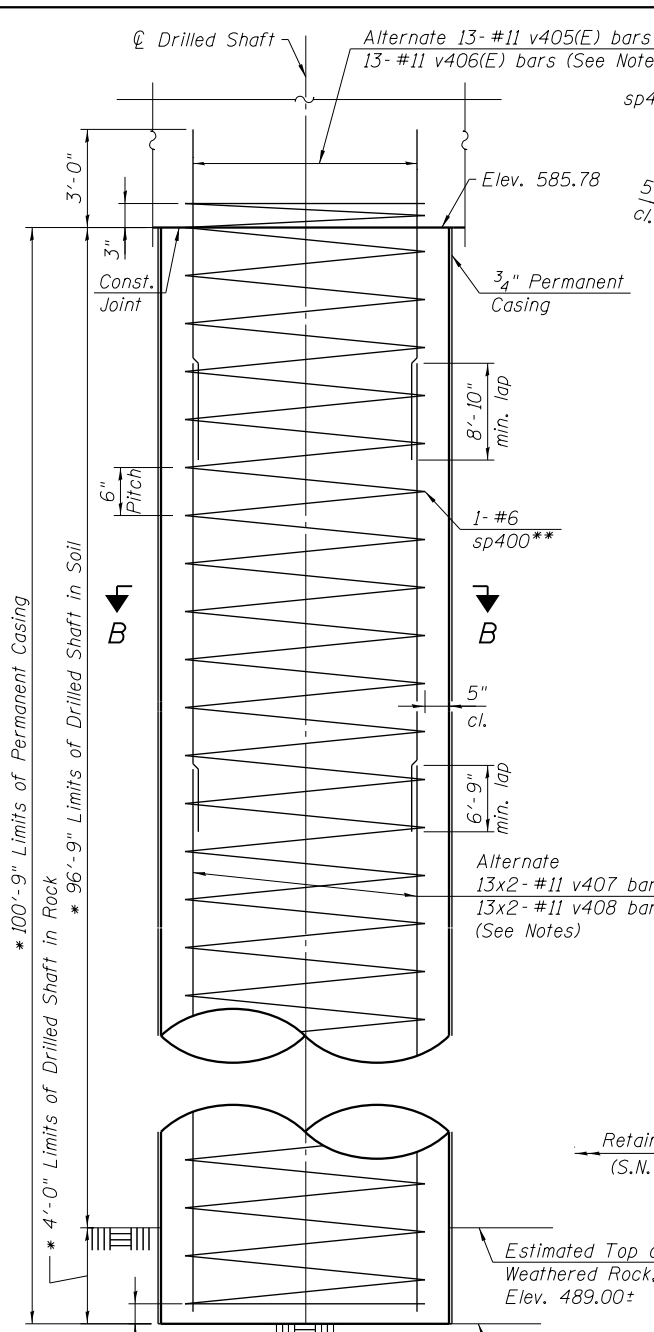
USER NAME = wjcolletti	DESIGNED TLR	REVISIONS
PLOT SCALE = NTS	CHECKED MDS	REVISIONS
PLOT DATE = 3/5/2020	DRAWN JTF	REVISIONS
	CHECKED MDS	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

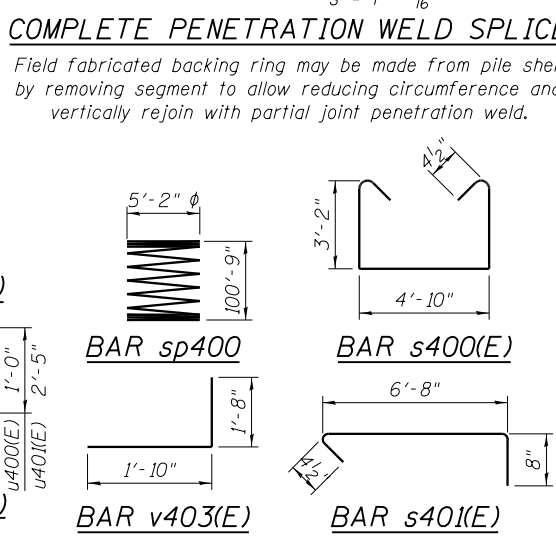
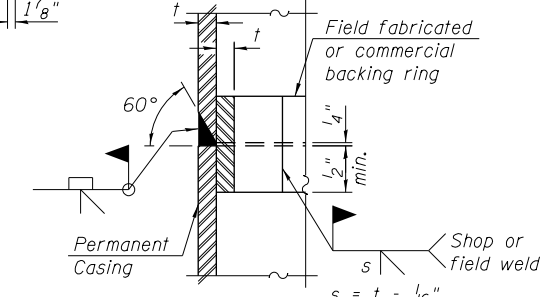
EAST ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1702

SHEET NO. S2-48 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 433
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



Notes:
 3/4" x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.
 Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.
 When splicing of spiral reinforcement is necessary, the spirals shall be provided with 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 in 135° standard hook.
 Drilled Shaft quantity from top of existing ground elevation to bottom of abutment cap elevation shall be included with Drilled Shaft in Soil.
 Lap v405(E) bars with v407 bars or v406(E) bars with v408 bars.
 Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over excavation and backfill voids with dry loose sand. Cost included with Class SI Concrete (Miscellaneous).
 The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum 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. Cost included with Class SI Concrete (Miscellaneous).
 Cost of PJF and drain pipe sleeve included in Concrete Structures.



EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	12	#5	36'-3"	—
h401(E)	10	#6	36'-7"	—
h402(E)	32	#5	36'-3"	—
h403(E)	38	#6	36'-8"	—
h404(E)	7	#5	6'-7"	—
h405(E)	4	#5	8'-4"	—
h406(E)	40	#5	3'-2"	—
h407(E)	36	#5	3'-10"	—
h408(E)	24	#5	4'-4"	—
h409(E)	16	#5	2'-6"	—
p400(E)	24	#5	36'-3"	—
p401(E)	16	#6	36'-8"	—
p402(E)	8	#5	5'-5"	—
s400(E)	140	#5	11'-11"	┌
s401(E)	70	#5	7'-9"	└
sp400	9	#6	100'-9"	WWW
u400(E)	7	#4	8'-8"	┌
u401(E)	8	#5	11'-6"	└
v400(E)	70	#6	3'-4"	—
v401(E)	70	#6	4'-7"	—
v402(E)	70	#4	2'-11"	┌
v403(E)	70	#5	3'-6"	└
v404(E)	140	#5	14'-3"	—
v405(E)	117	#11	23'-5"	—
v406(E)	117	#11	26'-5"	—
v407	234	#11	48'-0"	—
v408	234	#11	46'-6"	—
v409(E)	52	#5	2'-4"	—
v410(E)	7	#5	8'-0"	—
v411(E)	3	#5	2'-4"	—
Structure Excavation		Cu. Yd.	1,988	
Concrete Structures		Cu. Yd.	80.7	
Concrete Superstructure		Cu. Yd.	4.9	
Stud Shear Connectors		Each	135	
Reinforcement Bars		Pound	162,380	
Reinforcement Bars, Epoxy Coated		Pound	38,180	
Permanent Casing		Foot	908	
Drilled Shaft in Soil		Cu. Yd.	912.2	
Drilled Shaft in Rock		Cu. Yd.	37.7	
Concrete Sealer		Sq. Ft.	1,645	
Class SI Concrete (Miscellaneous)		Cu. Yd.	55.8	
Lightweight Cellular Concrete Fill		Cu. Yd.	133	
Slope Inclinometer		Each	1	
Pipe Underdrains for Structures, 4"		Foot	70	

+ Shown for information only. Cost included with Class SI Concrete (Miscellaneous)
 ++ Length is height of spiral.

2:08:30 PM 0161702-60X94-S049-Abutment1-EastDetail.dgn



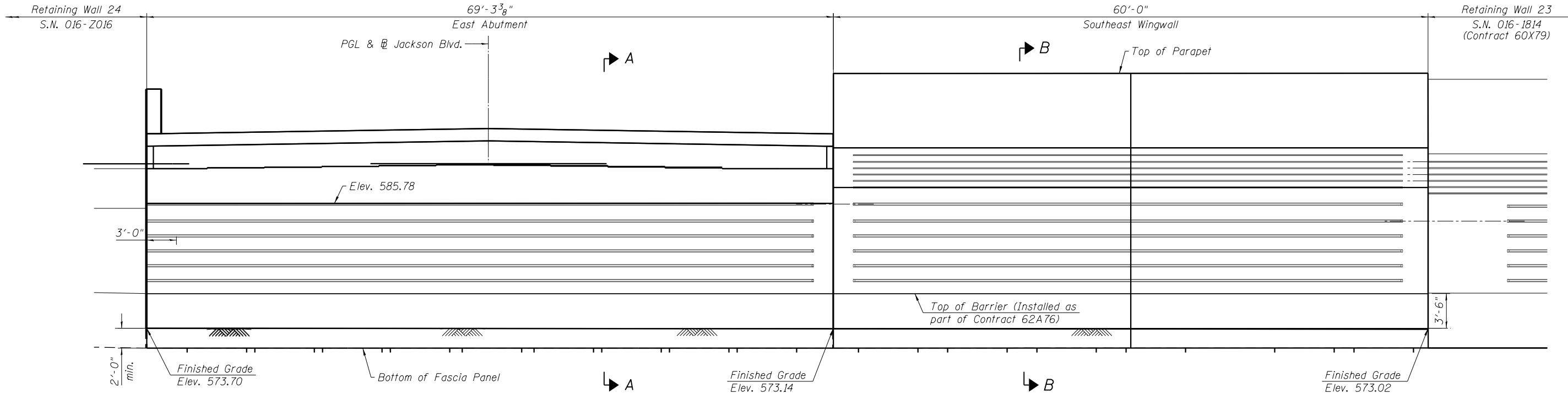
USER NAME = wjcolletti	DESIGNED TLR	REVISOR
PLOT SCALE = NTS	CHECKED WJC	REVISOR
PLOT DATE = 3/5/2020	DRAWN JTF	REVISOR
	CHECKED WJC	REVISOR

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

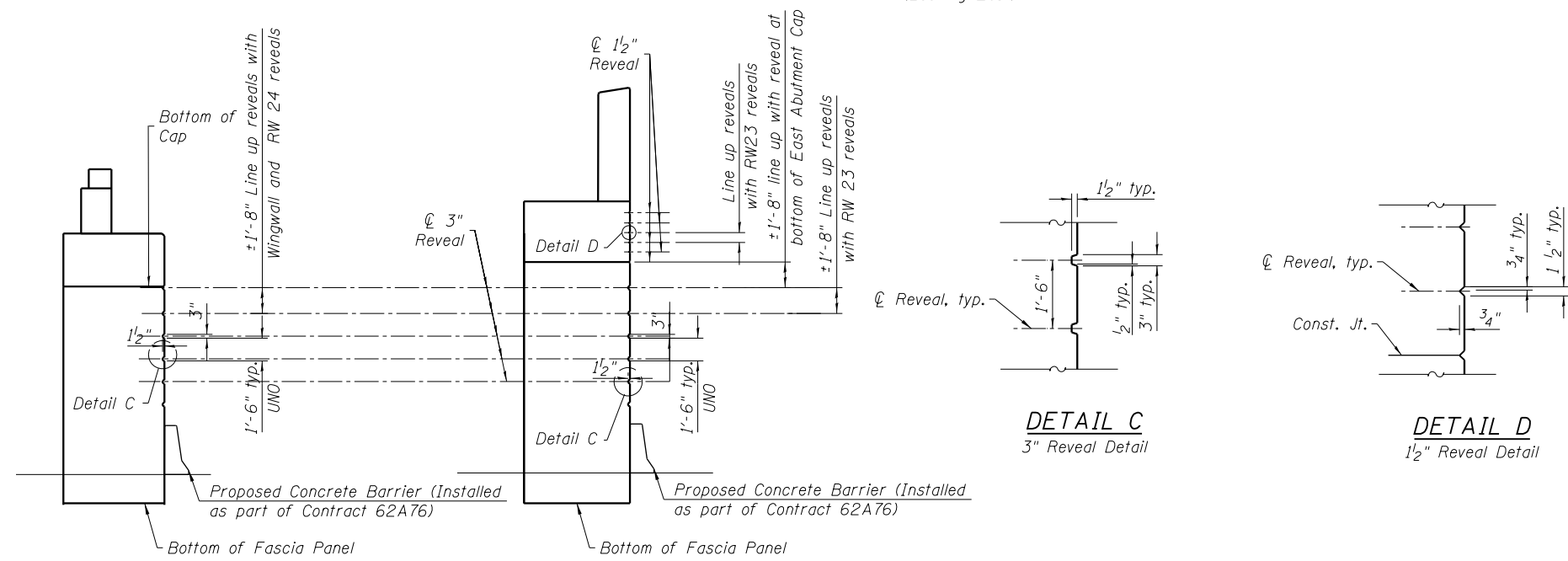
EAST ABUTMENT DETAILS STRUCTURE NO. 016-1702

SHEET NO. S2-49 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	434
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



ELEVATION
(Looking East)



SECTION A-A

SECTION B-B

DETAIL C
3" Reveal Detail

DETAIL D
1 1/2" Reveal Detail

Notes:
The 3" x 1 1/2" reveal will not be paid separately and shall be included in the cost of the Class SI Concrete (Miscellaneous) for the East Abutment.
The 1" x 1/2" reveal will not be paid separately and shall be included in the cost of the Class SI Concrete (Miscellaneous) for the Southeast Wingwall.

2:08:42 PM 0161702-60X94-S050-Abutment-EastDetails2.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
	CHECKED MDS	REVISED
PLOT SCALE = NTS	DRAWN TLR	REVISED
PLOT DATE = 3/5/2020	CHECKED MDS	REVISED

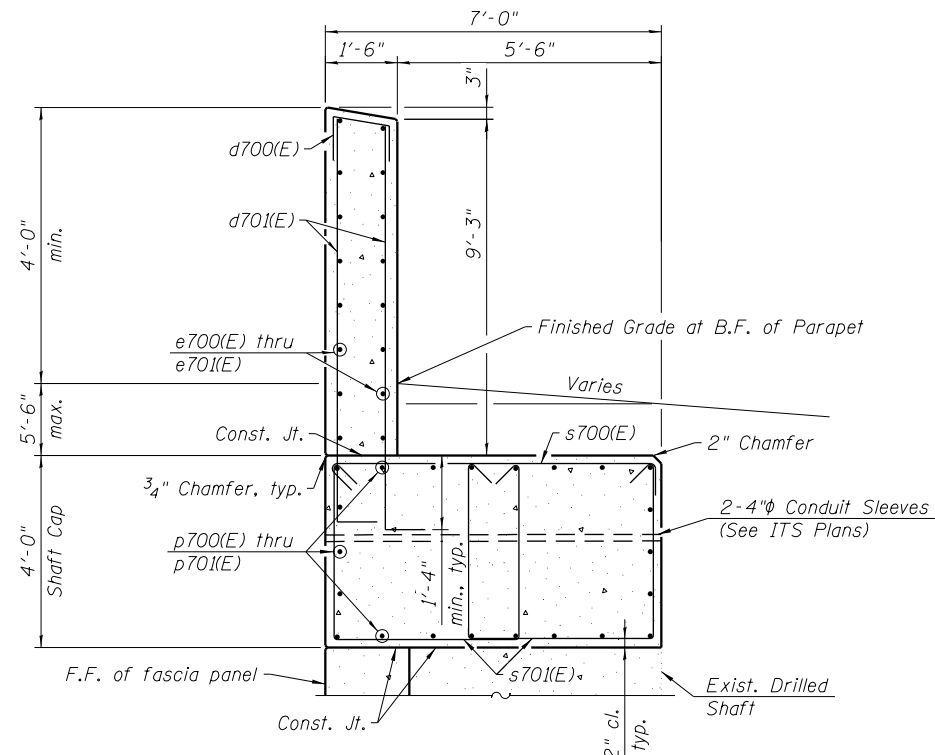
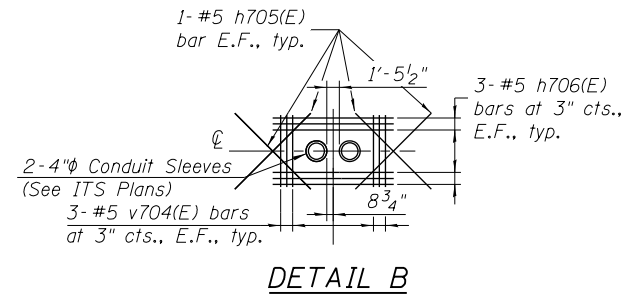
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-50 OF S2-80 SHEETS

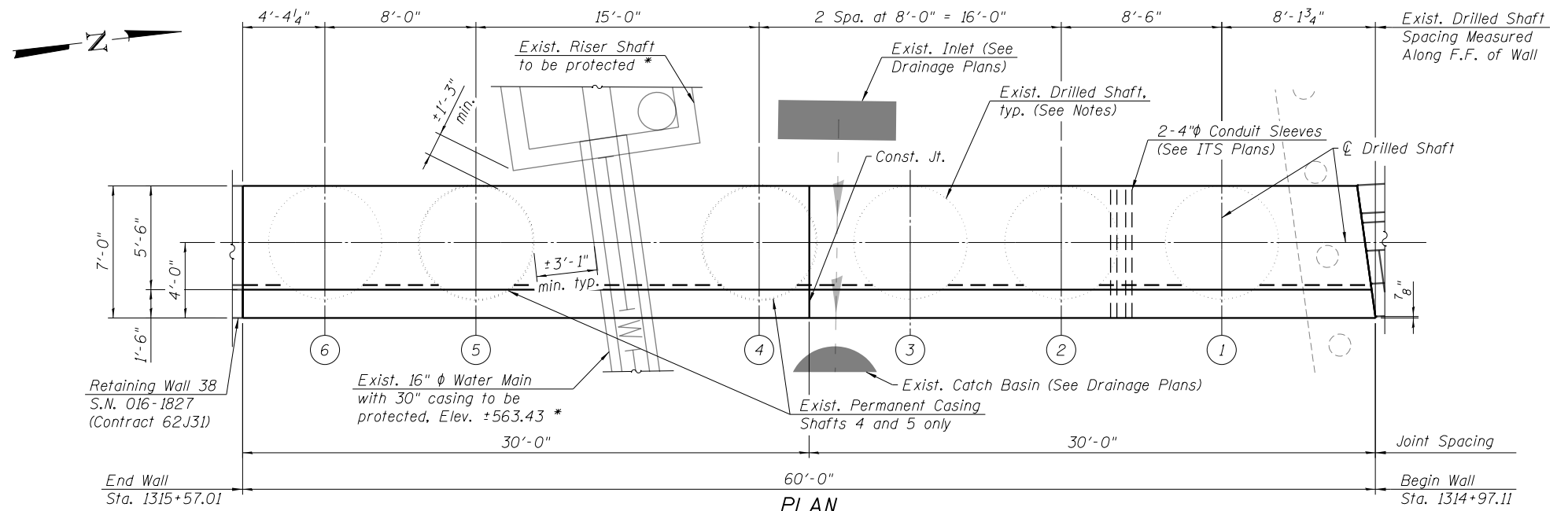
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	435
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT

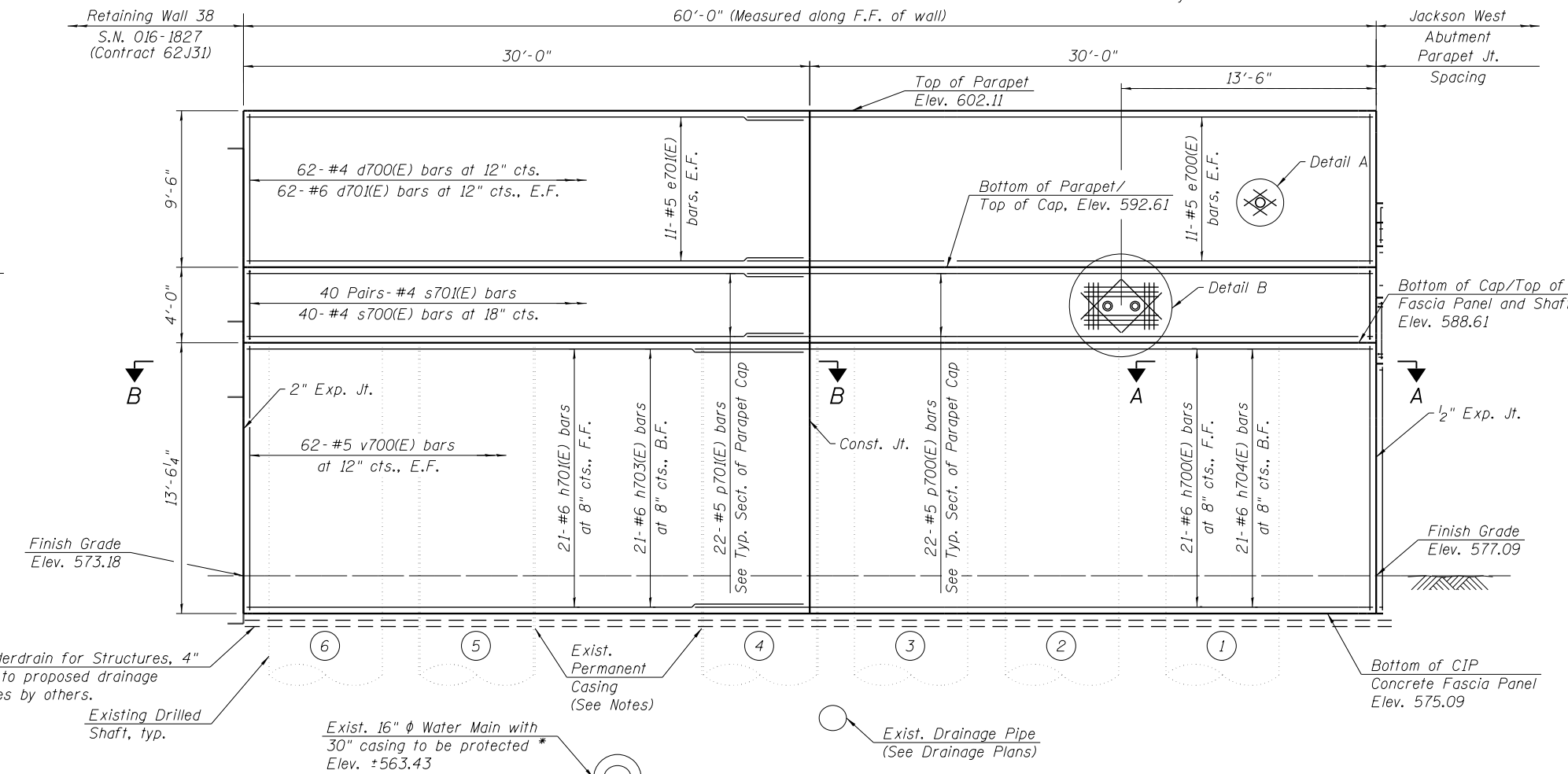


TYPICAL SECTION OF PARAPET AND CAP
(Shaft and fascia panel reinforcement not shown for clarity)

Notes:
 F.F. = Front Face.
 B.F. = Back Face.
 E.F. = Each Face.
 For Sections A-A and B-B, Detail A, Joint Details, Drilled Shaft Layout Table, and Bill of Materials see Sheets S2-53 to S2-54 of S2-80.
 For abutment details see Sheets S2-48 thru S2-49 of S2-80.
 Drilled shafts, permanent casing, and portions of the lagging system were previously installed in Contract 62J31.
 Parapet concrete shall be paid for as Concrete Superstructure.
 Shaft Cap shall be paid for as Concrete Structure.
 Concrete fascia panels shall be paid for as Class SI Concrete (Miscellaneous).



PLAN
(Reinforcement not shown for clarity)



ELEVATION
(Unfolded View, Looking West)

2:08:58 PM 0161702-60X94-S051-SW_MingwallP&L.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISION
PLOT SCALE = NTS	CHECKED MDS	REVISION
PLOT DATE = 3/5/2020	DRAWN TLR	REVISION
	CHECKED MDS	REVISION

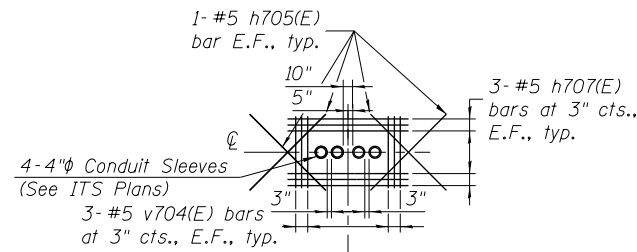
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTHWEST WINGWALL PLAN AND ELEVATION
STRUCTURE NO. 016-1702**

SHEET NO. S2-51 OF S2-80 SHEETS

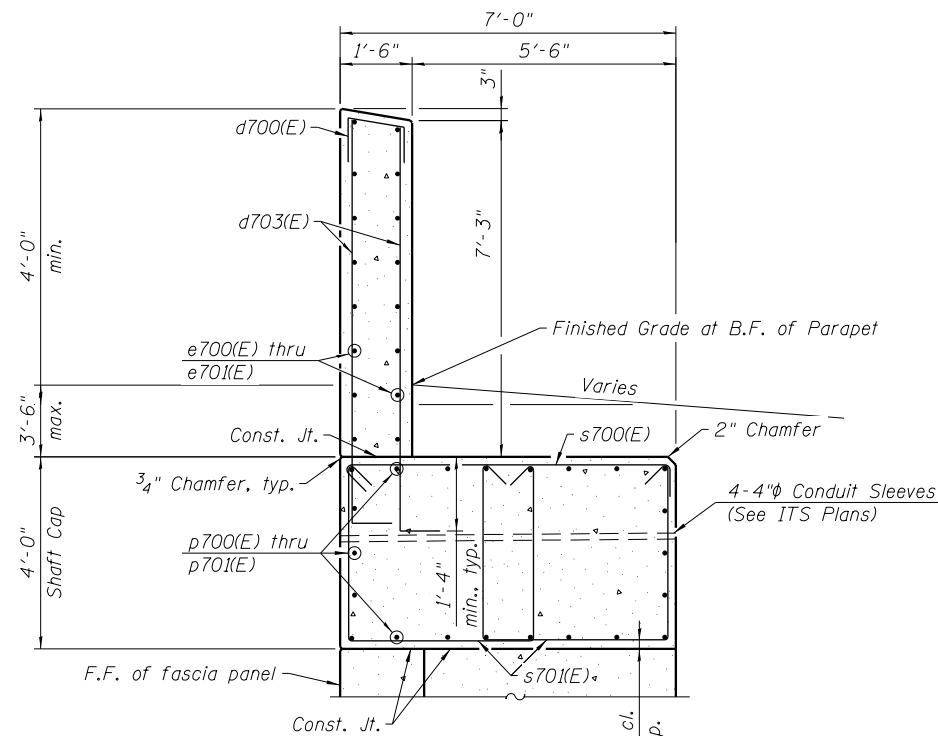
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	436
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT



DETAIL C

* Previously installed in Contract 62A75
 ** Contractor must verify location of the Water Main prior to the drilling of the shafts and adjust the locations of the permanent casings if necessary.



TYPICAL SECTION OF PARAPET AND CAP

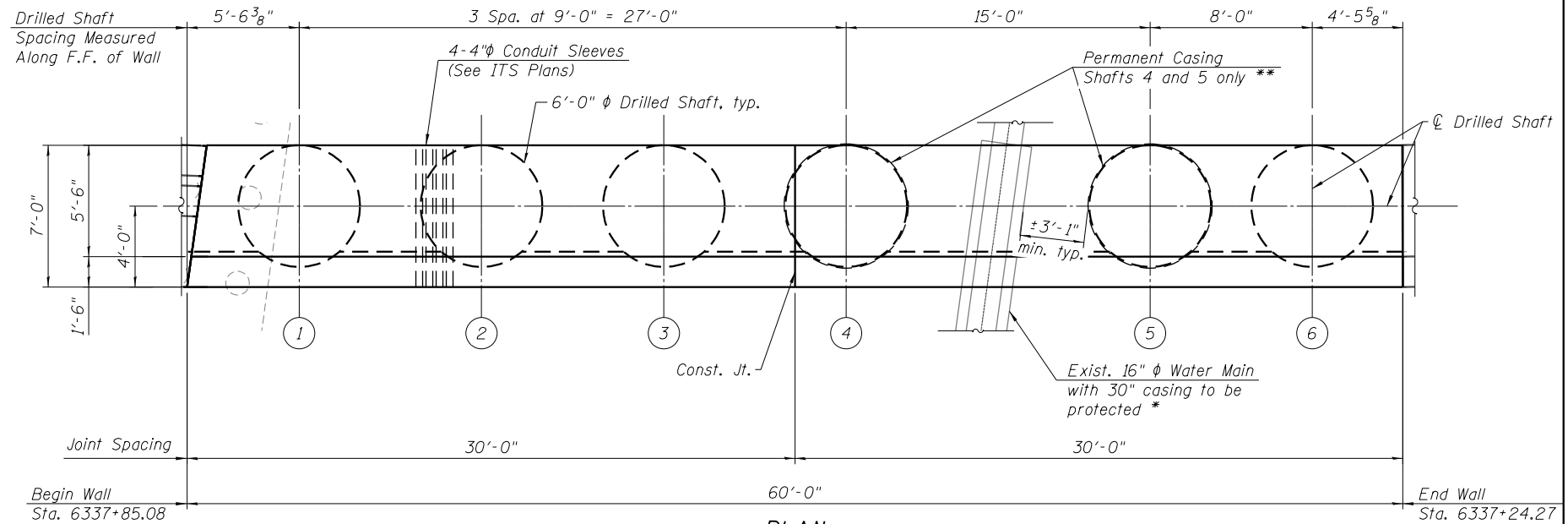
(Shaft and fascia panel reinforcement not shown for clarity)

Notes:

- F.F. = Front Face.
- B.F. = Back Face.
- E.F. = Each Face.
- For Sections A-A and B-B, Detail A, Joint Details, and Bill of Materials see Sheets S2-53 to S2-54 of S2-80.
- For abutment details see Sheets S2-48 thru S2-50 of S2-80.
- Permanent casing shall be installed by twisting and/or pushing the casing in conjunction with drilled excavation inside of the permanent casing. The bottom of the permanent casing shall maintain minimum 2 ft. embedment into underlying soil below the bottom of shaft excavation elevation. Neither the Wet Method of construction nor the use of Temporary Casing will be permitted. See Special Provisions for Foundation Drilling Procedures.
- Parapet concrete shall be paid for as Concrete Superstructure.
- Shaft Cap shall be paid for as Concrete Structure.
- Concrete fascia panels shall be paid for as Class SI Concrete (Miscellaneous).

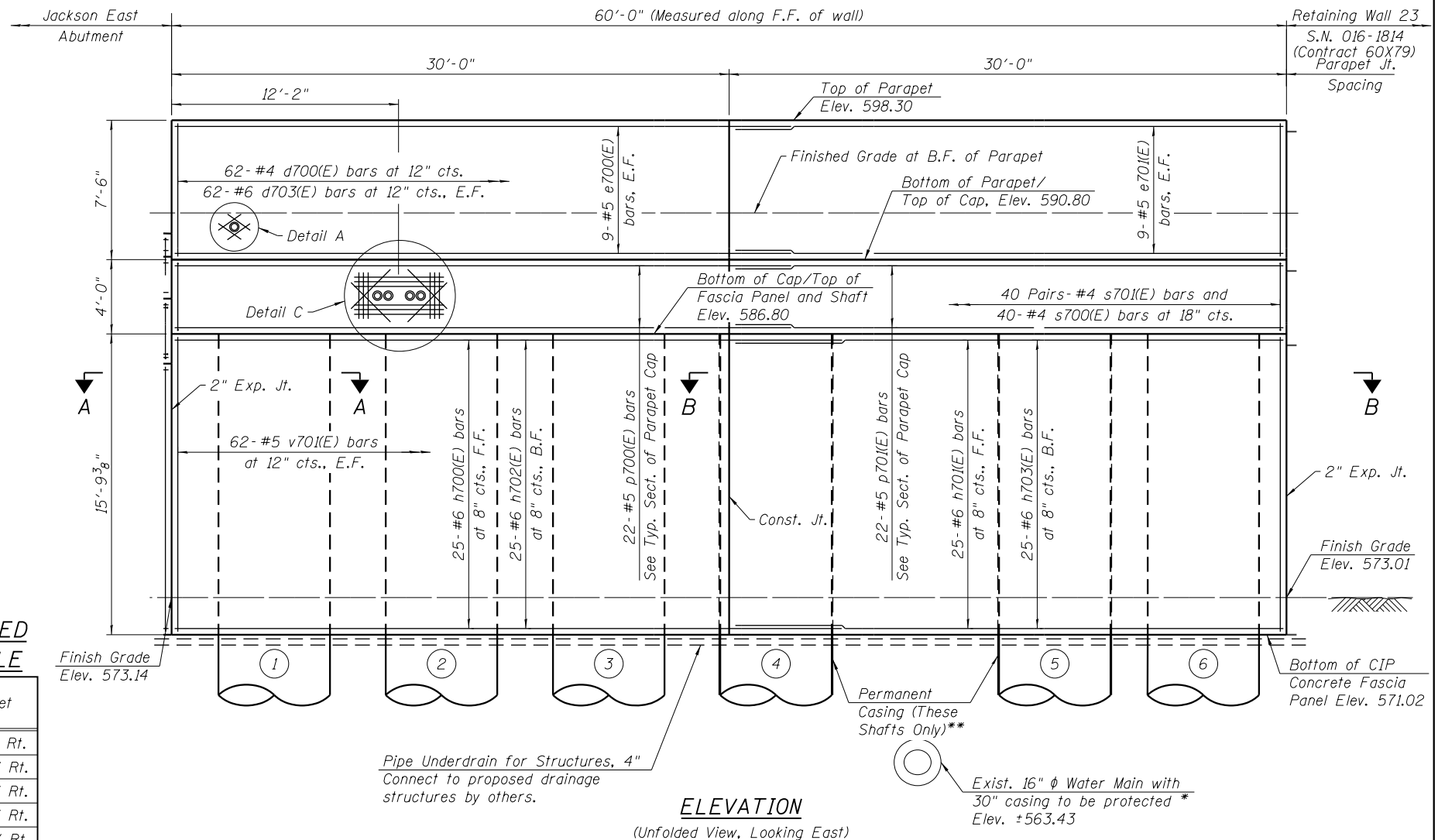
SE WINGWALL DRILLED SHAFT LAYOUT TABLE

Shaft No.	Station	Offset
1	6337+79.55	22.18' Rt.
2	6337+70.40	22.30' Rt.
3	6337+61.25	22.37' Rt.
4	6337+52.10	22.37' Rt.
5	6337+36.85	22.24' Rt.
6	6337+28.72	22.10' Rt.



PLAN

(Reinforcement not shown for clarity)



ELEVATION

(Unfolded View, Looking East)

2:09:13 PM 0161702-60X94-S052-SE_MingwaiP&E.dgn



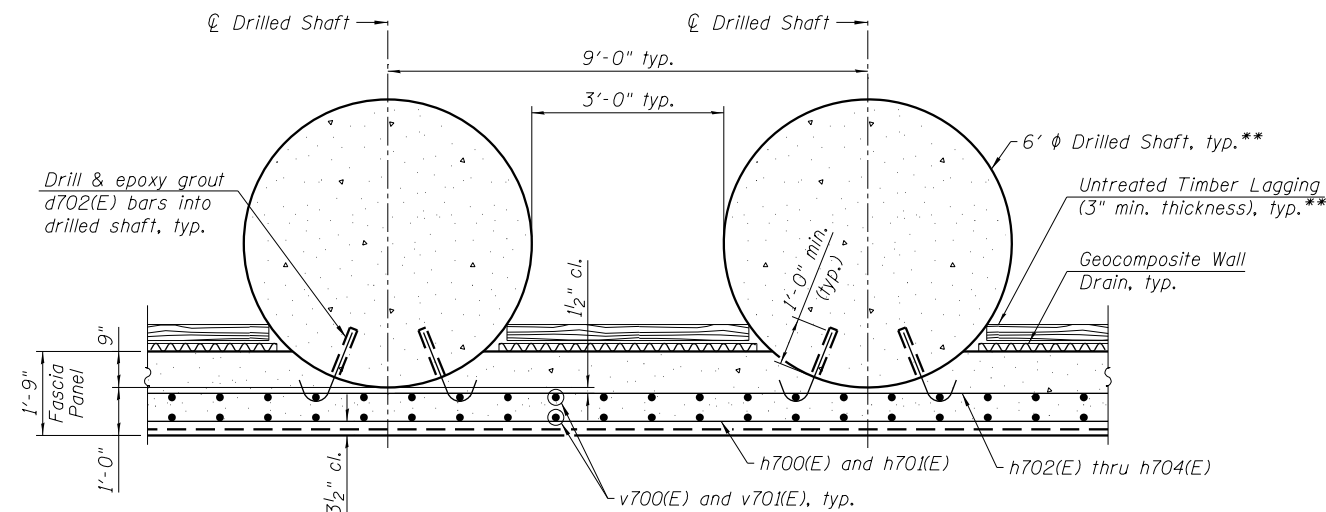
USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED MDS	REVISED
PLOT DATE = 3/5/2020	DRAWN TLR	REVISED
	CHECKED MDS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTHEAST WINGWALL PLAN AND ELEVATION
STRUCTURE NO. 016-1702**

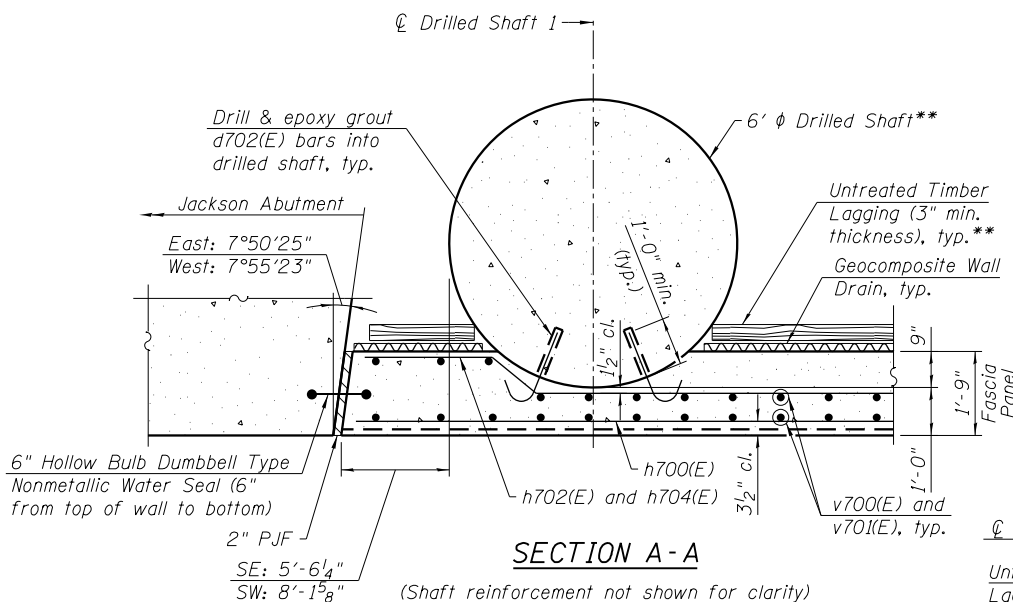
SHEET NO. S2-52 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 437
CONTRACT NO. 60X94				ILLINOIS FED. AID PROJECT



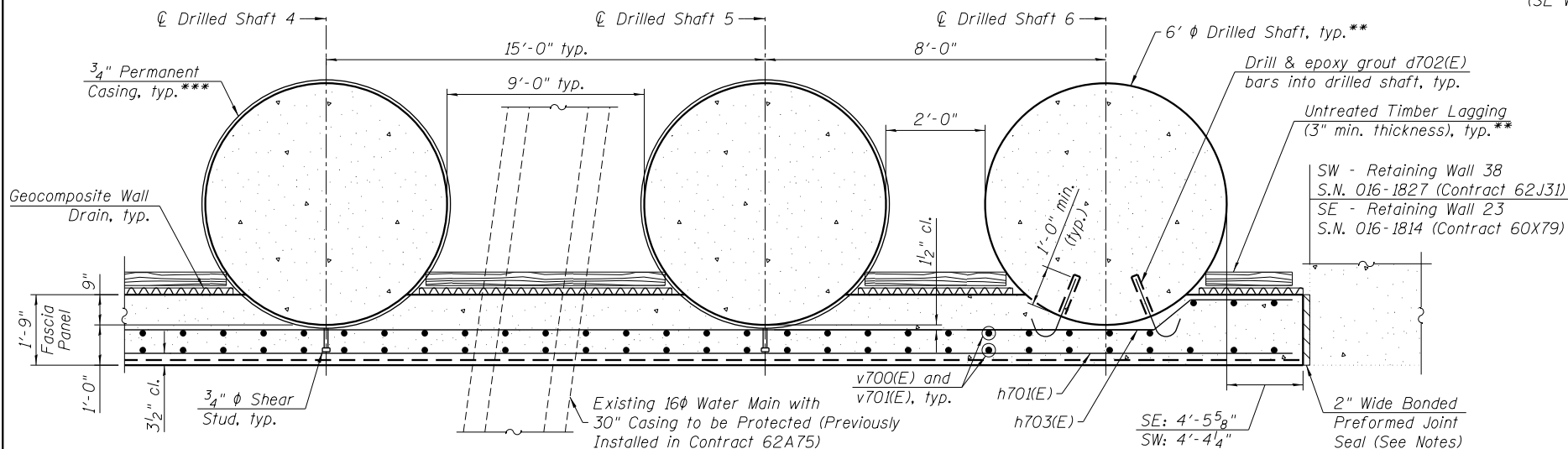
TYPICAL WALL SECTION

(Shaft reinforcement not shown for clarity)



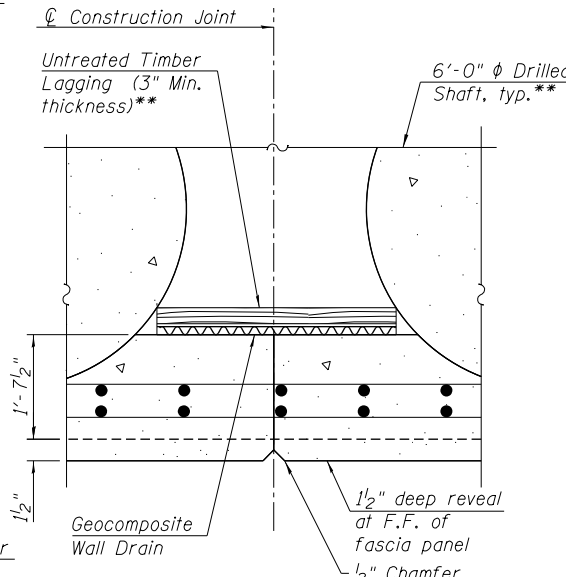
SECTION A-A

(Shaft reinforcement not shown for clarity)
(SE Wingwall shown, SW Wingwall opposite hand)

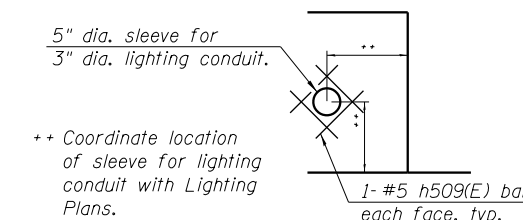


SECTION B-B

(Shaft reinforcement not shown for clarity)
(SE Wingwall shown, SW Wingwall opposite hand)



CONSTRUCTION JOINT DETAILS

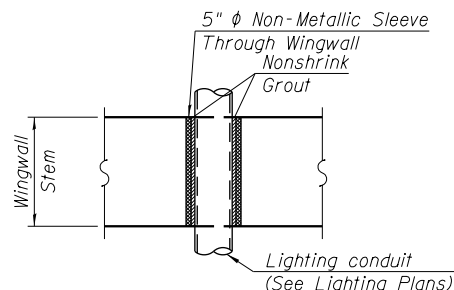


DETAIL A

* Contractor must verify location of the Water Main prior to the drilling of the shafts and adjust the locations of the permanent casings if necessary.
** SW Wingwall drilled shafts, permanent casing, and portions of the lagging system were previously installed in Contract 62J31.

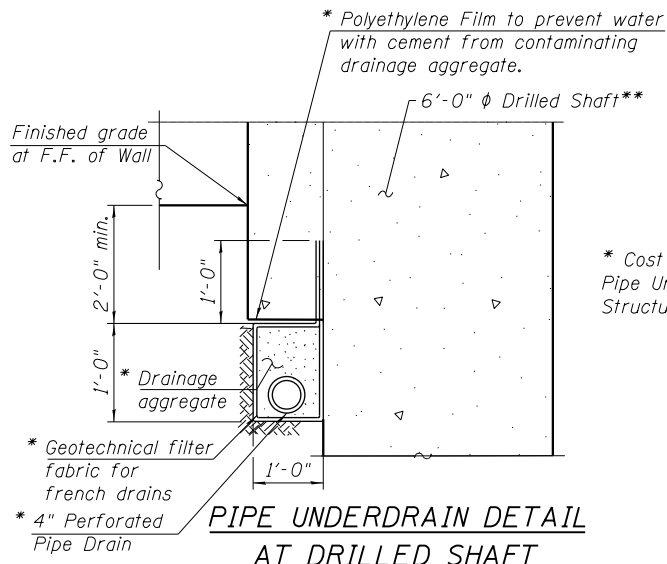
Notes:

- F.F. = Front Face.
- B.F. = Back Face.
- E.F. = Each Face.
- Work this sheet with Sheets S2-51, S2-52, and S2-54 of S2-80.
- 3/4"x6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.
- The 2 inch gap between the new and existing structure (Shown in Section B-B) is a nominal dimension and shall be field verified prior to ordering the bonded preformed joint seal. See Special Provision for Bonded Preformed Joint Seal for additional placement requirements.
- Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Class SI Concrete (Miscellaneous).
- The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum 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. Cost included with Class SI Concrete (Miscellaneous).
- Cost of shear studs and hollow bulb dumbbell included with Class SI Concrete (Miscellaneous).
- Contractor to coordinate with utility owner for location and size of the conduit sleeves. See Lighting Plans.

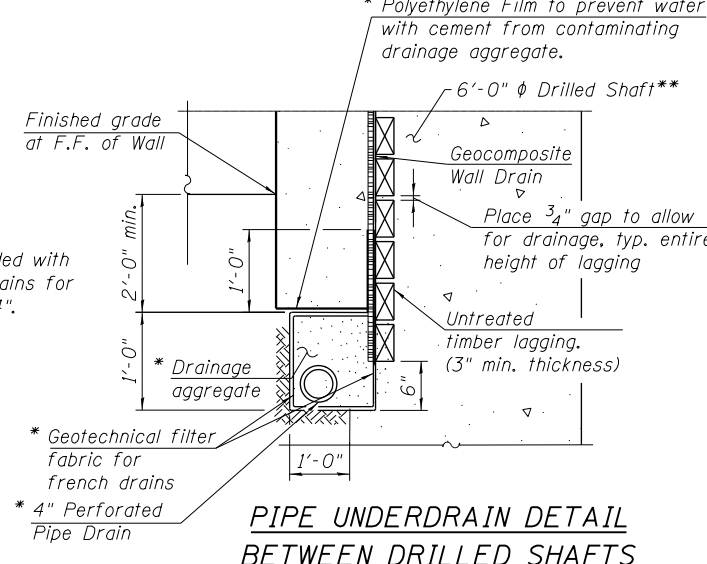


CONDUIT SLEEVE THRU WINGWALL

Furnishing and installing Non-Metallic Sleeve and Grout is included in the cost of Concrete Structures.



PIPE UNDERDRAIN DETAIL AT DRILLED SHAFT



PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS

7:44:21 AM 0161702-60X94-5053-WingwallDetails.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED MDS	REVISED
PLOT DATE = 3/6/2020	DRAWN JTF	REVISED
	CHECKED MDS	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WINGWALL DETAILS 1
STRUCTURE NO. 016-1702**

SHEET NO. S2-53 OF S2-80 SHEETS

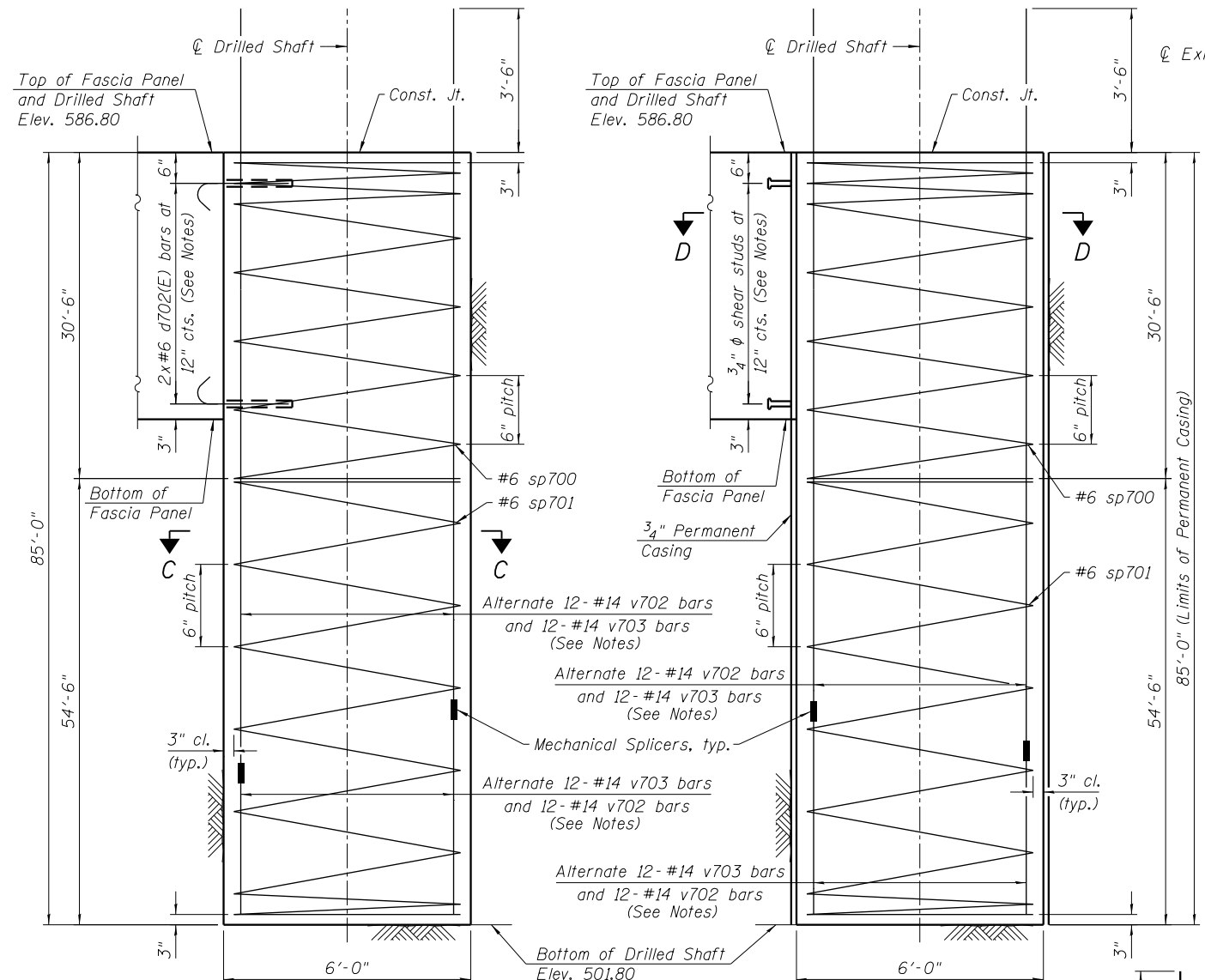
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	438
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

WINGWALLS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d700(E)	124	#4	3'-0"	
d701(E)	124	#6	11'-10"	
d702(E)	120	#6	2'-3"	
d703(E)	124	#6	9'-10"	
e700(E)	20	#5	33'-2"	
e701(E)	20	#5	29'-8"	
h700(E)	46	#6	33'-10"	
h701(E)	46	#6	29'-8"	
h702(E)	25	#6	35'-9"	
h703(E)	46	#6	30'-1"	
h704(E)	21	#6	35'-6"	
h705(E)	16	#5	3'-0"	
h706(E)	12	#5	4'-10"	
h707(E)	12	#5	4'-0"	
h708(E)	16	#5	2'-6"	
p700(E)	44	#5	33'-2"	
p701(E)	44	#5	29'-8"	
s700(E)	80	#5	7'-8.5"	
s701(E)	160	#5	12'-0"	
sp700	6	#6	30'-3"	
sp701	6	#6	54'-3"	
v700(E)	124	#5	13'-2"	
v701(E)	124	#5	15'-5"	
v702	144	#14	42'-2"	
v703	144	#14	46'-1"	
v704(E)	24	#5	2'-6"	
Structure Excavation		Cu. Yd.	130	
Concrete Structures		Cu. Yd.	124.5	
Concrete Superstructures		Cu. Yd.	55.9	
Stud Shear Connectors		Each	60	
Reinforcement Bars		Pound	124,480	
Reinforcement Bars, Epoxy Coated		Pound	11,740	
Permanent Casing		Foot	170	
Drilled Shaft in Soil		Cu. Yd.	534.1	
Concrete Sealer		Sq. Ft.	3,918	
Class SI Concrete (Miscellaneous)		Cu. Yd.	100.7	
Crosshole Sonic Logging Access Ducts		Foot	340	
Crosshole Sonic Logging Testing		Each	1	
Lightweight Cellular Concrete Fill		Cu. Yd.	431	
Bonded Preformed Joint Sealer, 2 Inch		Foot	55	
Pipe Underdrains for Structures 4"		Foot	120	

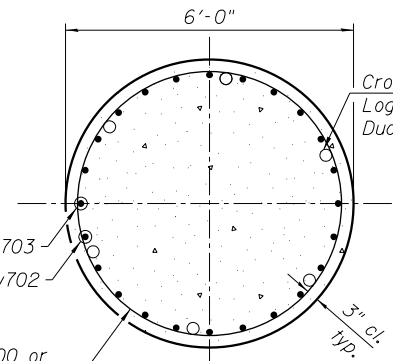
** Length is height of spiral
*** Shown for information only. Cost included with Class SI Concrete (Miscellaneous).

Minimum Bar Laps	
Bar	Lap
#5	3'-2"
#6	3'-10"

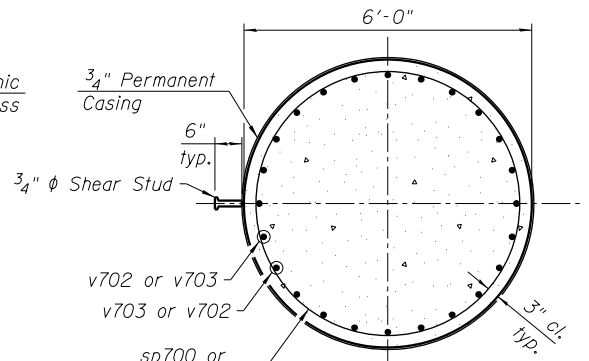


TYPICAL SHAFT ELEVATION
SE Wingwall

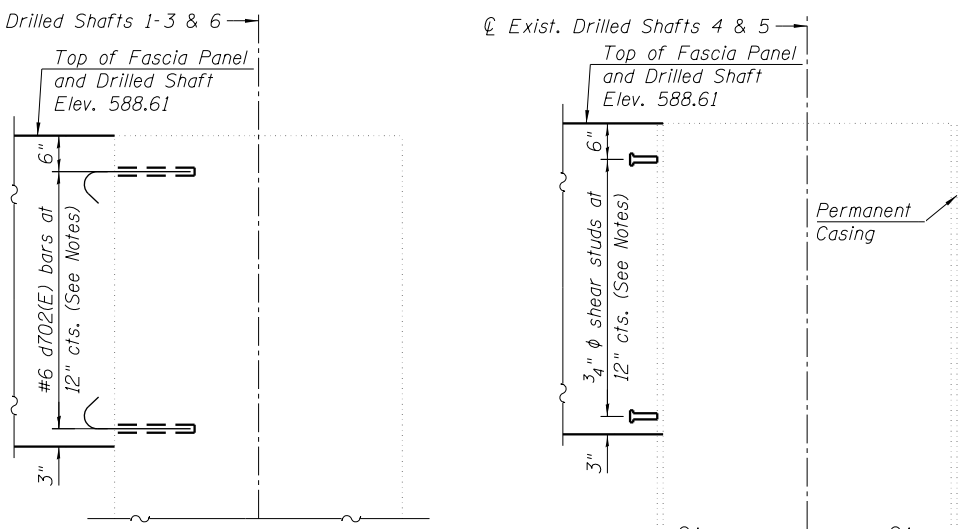
TYPICAL SHAFT ELEVATION
PERMANENTLY CASED
Shafts 4 and 5 only
SE Wingwall



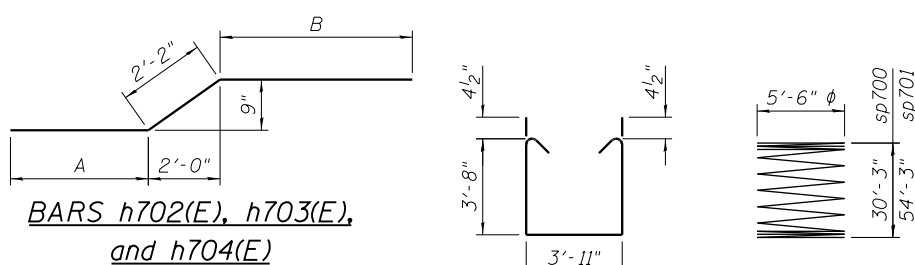
SECTION C-C



SECTION D-D



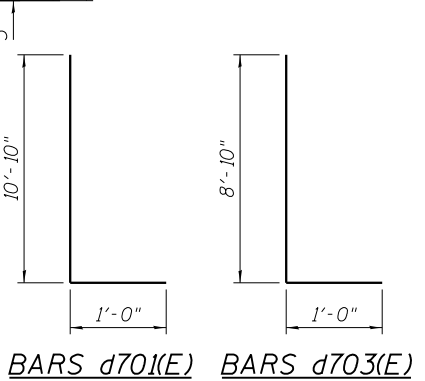
SW WINGWALL PANEL DETAILS



BAR	A	B
h702(E)	2'-6"	31'-1"
h703(E)	1'-10"	26'-1"
h704(E)	5'-1"	28'-3"

BAR s701(E)

BARS sp700 and sp701



BARS d701(E) BARS d703(E)

BAR s700(E)

BAR d700(E)

BAR d702(E)

Notes:
Work this sheet with Sheets S2-51 thru S2-53 of S2-80.
Splice v702 bars with v703 bars or v703 bars with v702 bars.
Splice sp700 and sp701 bars where they meet.
When splicing of spiral reinforcement is necessary, the spiral shall be provided with 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.
Drilling and grouting of d702(E) bars shall be as per Section 584 of the Standard Specifications. Depth of embedment = 12". Contractor shall position d702(E) bars to miss shaft rebar. Cost included in Class SI Concrete (Miscellaneous).
3/4" x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.

2:09:36 PM 0161702-60X94-5054-WingwallDetails2.dgn



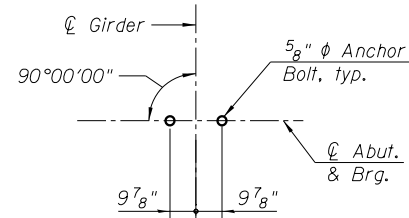
USER NAME = wjcolletti	DESIGNED TLR	REVISED
CHECKED MDS	REVISIONS	
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE 3/5/2020	CHECKED MDS	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WINGWALL DETAILS 2
STRUCTURE NO. 016-1702

SHEET NO. S2-54 OF S2-80 SHEETS

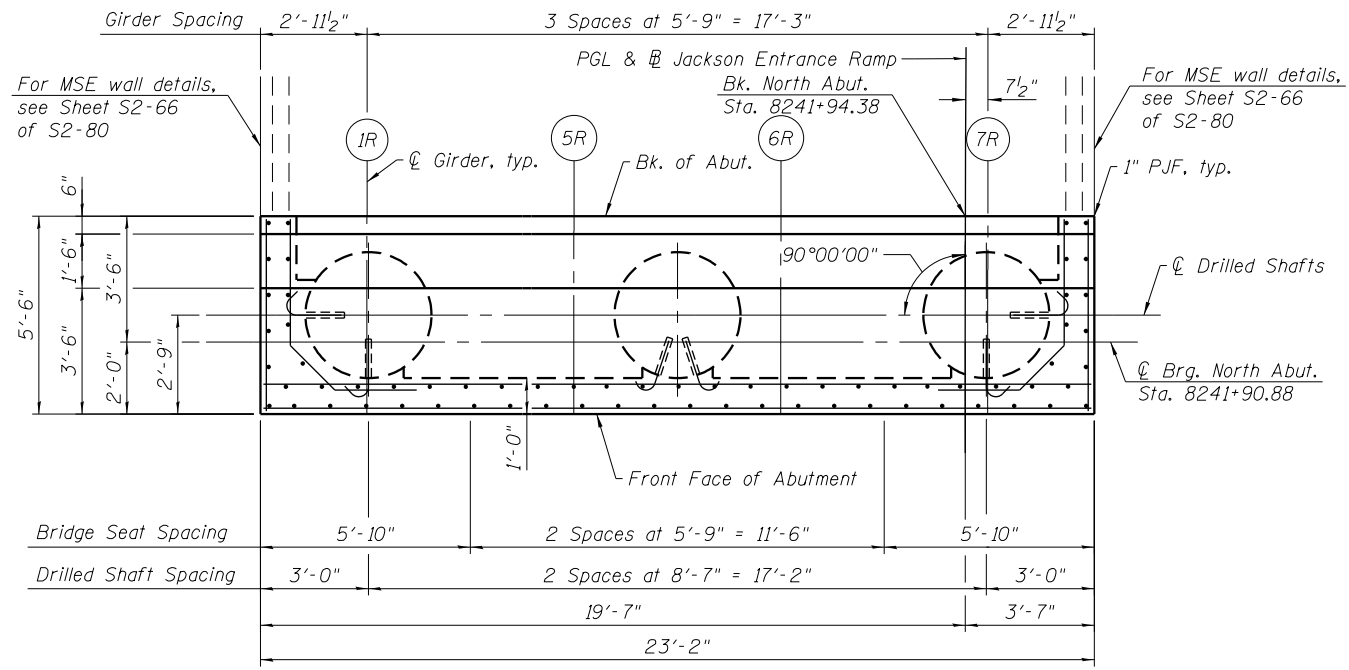
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	439
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



ANCHOR BOLT LAYOUT

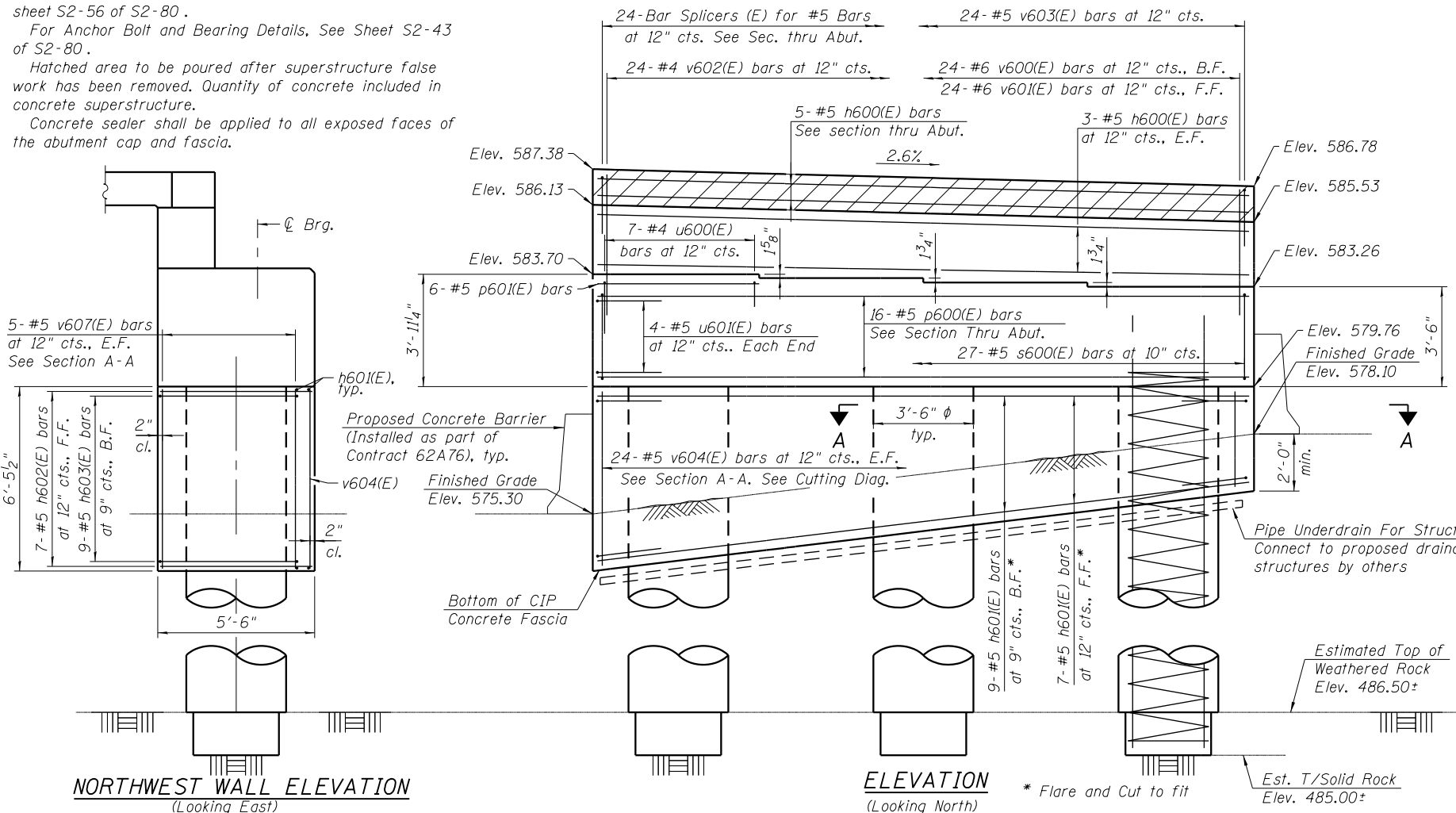
TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1R	583.70
5R	583.56
6R	583.41
7R	583.26



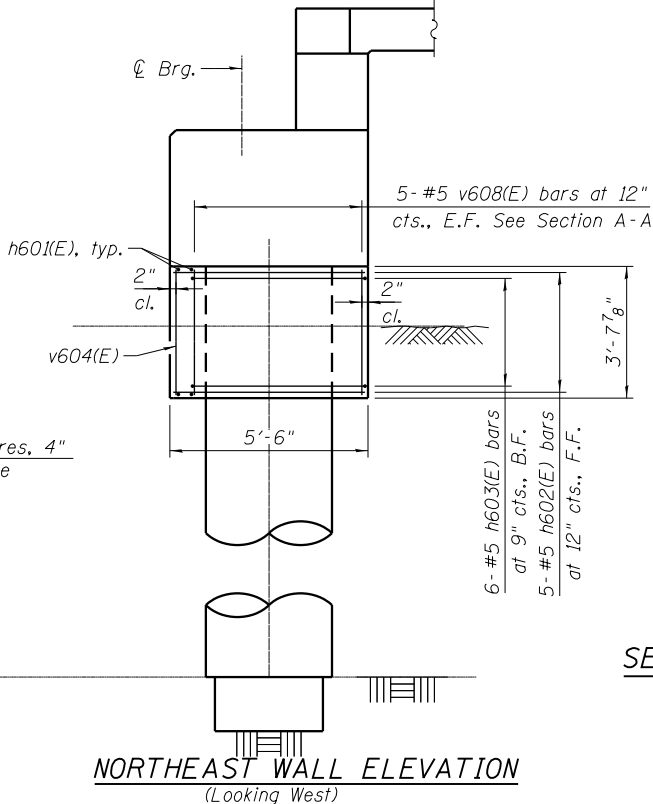
PLAN

Notes:
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.
 For Section A-A and Bill of Materials, see sheet S2-56 of S2-80.
 For Anchor Bolt and Bearing Details, See Sheet S2-43 of S2-80.
 Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included in concrete superstructure.
 Concrete sealer shall be applied to all exposed faces of the abutment cap and fascia.

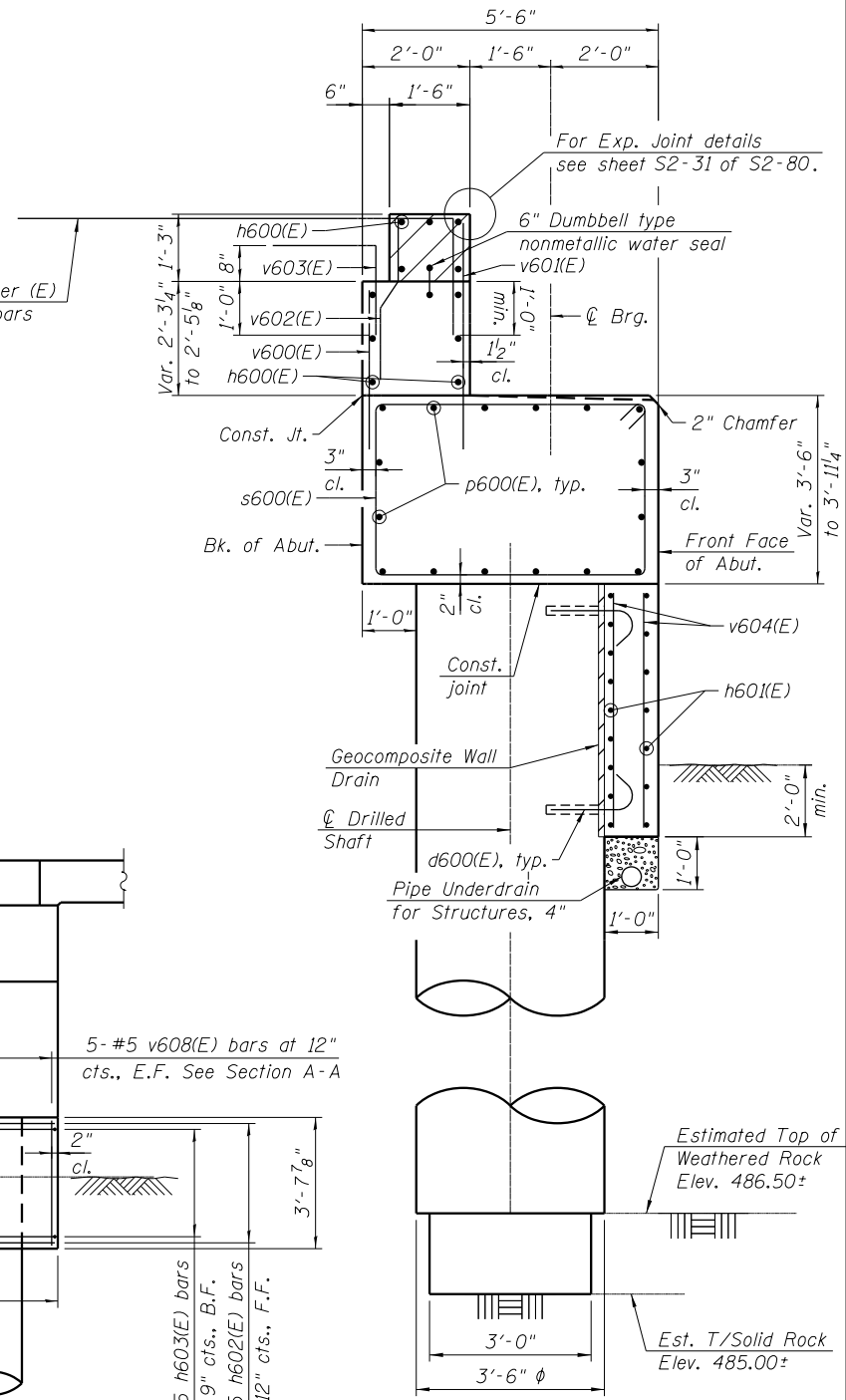


ELEVATION
(Looking North)

NORTHWEST WALL ELEVATION
(Looking East)



NORTHEAST WALL ELEVATION
(Looking West)



SECTION THROUGH ABUTMENT

2:09:44 PM 0161702-60X94-5065-Abutment_NorthP&E.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISIONS
PLOT SCALE = NTS	CHECKED WJC	REVISIONS
PLOT DATE = 3/5/2020	DRAWN JTF	REVISIONS
	CHECKED WJC	REVISIONS

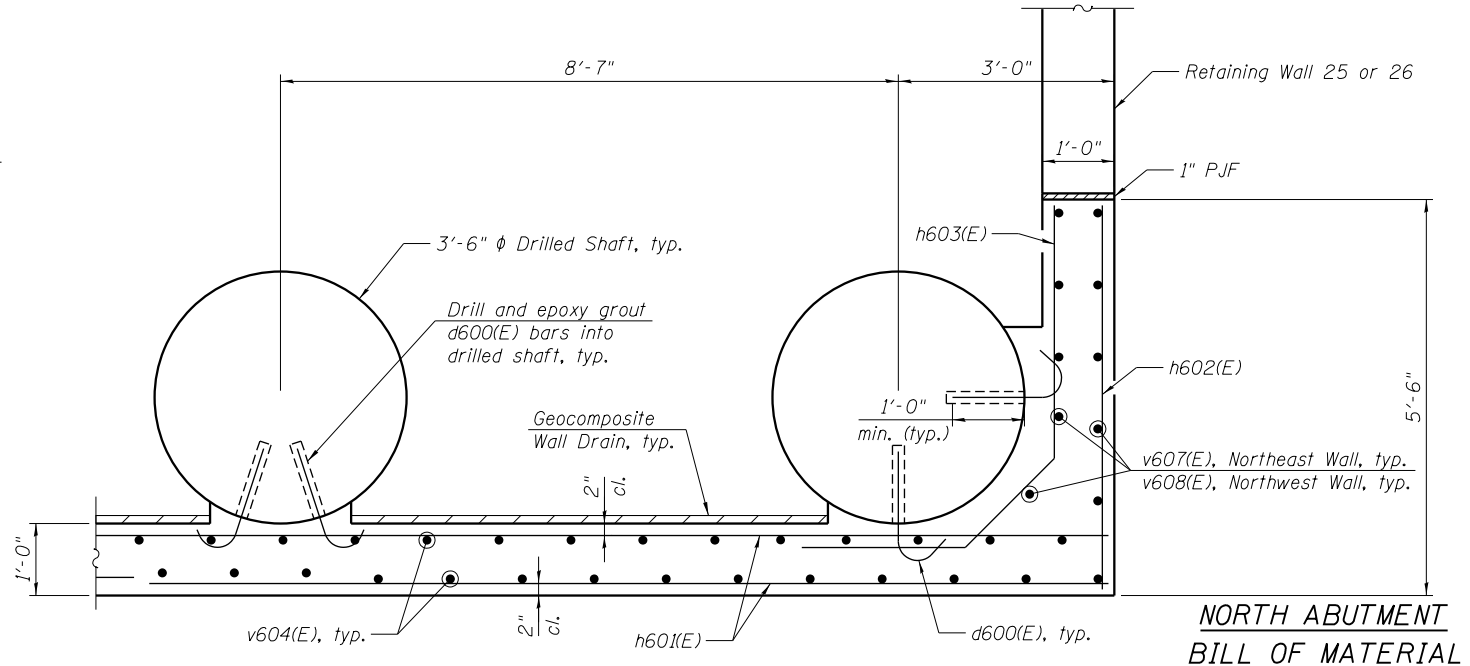
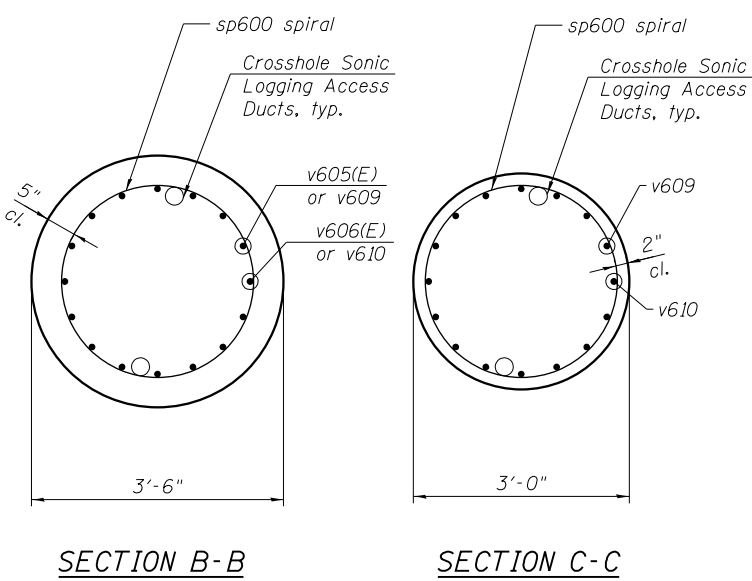
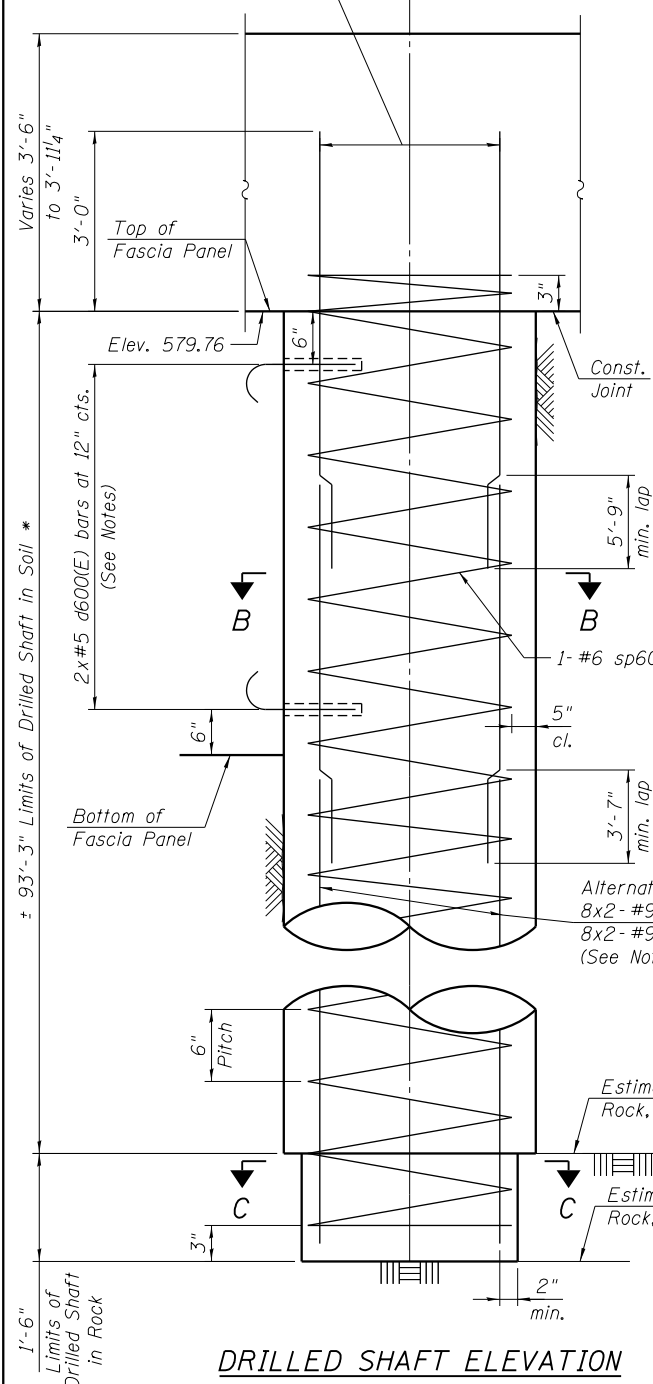
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 016-1702

SHEET NO. S2-55 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 440
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

Alternate
8- #9 v605(E) bars and
8- #9 v606(E) bars
(See Notes)



**NORTH ABUTMENT
BILL OF MATERIAL**

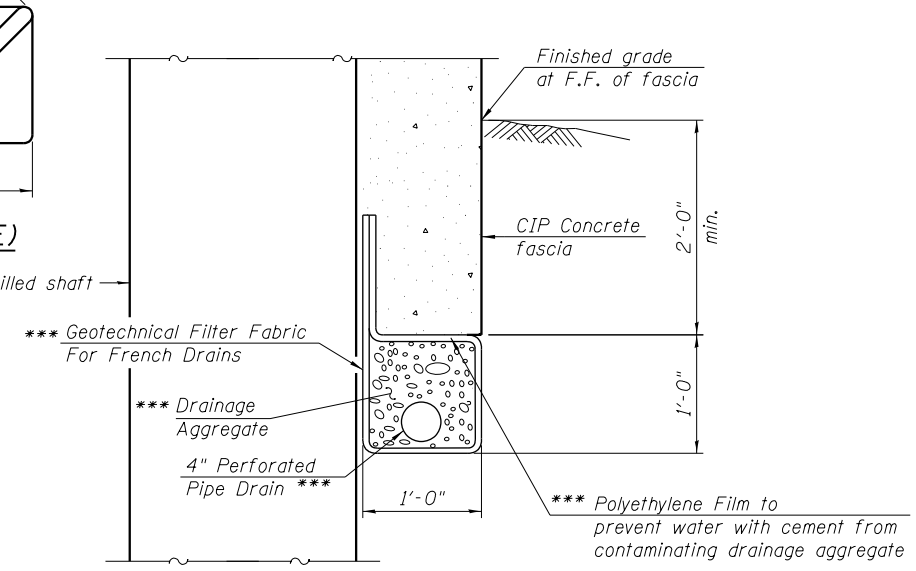
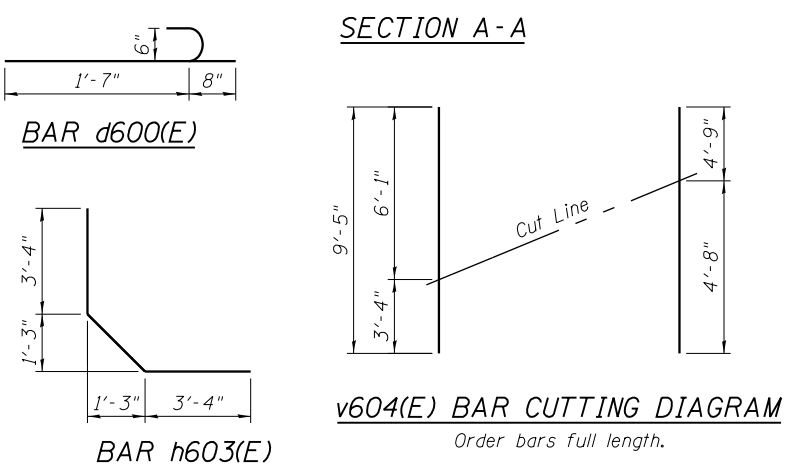
Bar	No.	Size	Length	Shape
d600(E)	30	#5	2'-3"	U
h600(E)	11	#5	22'-10"	—
h601(E)	16	#5	23'-0"	—
h602(E)	12	#5	5'-2"	—
h603(E)	15	#5	8'-5"	L
p600(E)	16	#5	22'-10"	—
p601(E)	6	#5	5'-6"	—
s600(E)	27	#5	17'-5"	□
sp600	3	#6	94'-9"	MMW
u600(E)	7	#4	7'-2"	—
u601(E)	8	#5	10'-0"	—
v600(E)	24	#6	3'-7"	—
v601(E)	24	#6	4'-10"	—
v602(E)	24	#4	2'-11"	L
v603(E)	24	#5	3'-9"	L
v604(E)	24	#5	9'-5"	—
v605(E)	24	#9	11'-0"	—
v606(E)	24	#9	15'-0"	—
v607(E)	10	#5	6'-1"	—
v608(E)	10	#5	3'-4"	—
v609	48	#9	47'-10"	—
v610	48	#9	45'-10"	—
Structure Excavation		Cu. Yd.	1	
Concrete Structures		Cu. Yd.	28.2	
Concrete Superstructure		Cu. Yd.	1.7	
Reinforcement Bars		Pound	22,570	
Reinforcement Bars, Epoxy Coated		Pound	4,840	
Drilled Shaft in Soil		Cu. Yd.	99.7	
Drilled Shaft in Rock		Cu. Yd.	1.2	
Concrete Sealer		Sq. Ft.	439	
Geocomposite Wall Drain		Sq. Yd.	10	
Crosshole Sonic Logging Access Ducts		Foot	285	
Crosshole Sonic Logging Testing		Each	1	
Pipe Underdrains for Structures, 4"		Foot	24	

+ Length is height of spiral.

* The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.

** Provide 1/2 extra turns top and bottom of each drilled shaft. Extend spiral 2" into the abutment cap. Provide 4-#4 spacers or equivalent.

Notes:
Drilling and grouting of d600(E) bars shall be as per Section 584 of the Standard Specifications. Depth of embedment = 12". Cost included in Concrete Structures.
Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bar per line.
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 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 in 135° standard hook.
Drilled Shaft quantity from top of existing ground elevation to bottom of abutment cap elevation shall be included with Drilled Shaft in Soil.
Lap v605(E) bars with v609 bars or v606(E) bars with v610 bars.



PIPE UNDERDRAIN DETAIL THRU ABUTMENT

*** Included in the cost of Pipe Underdrains for Structures, 4"

2:09:52 PM 0161702-60X94-5056-Abutment_NorthDetails.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

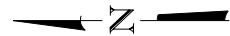
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT DETAILS
STRUCTURE NO. 016-1702**

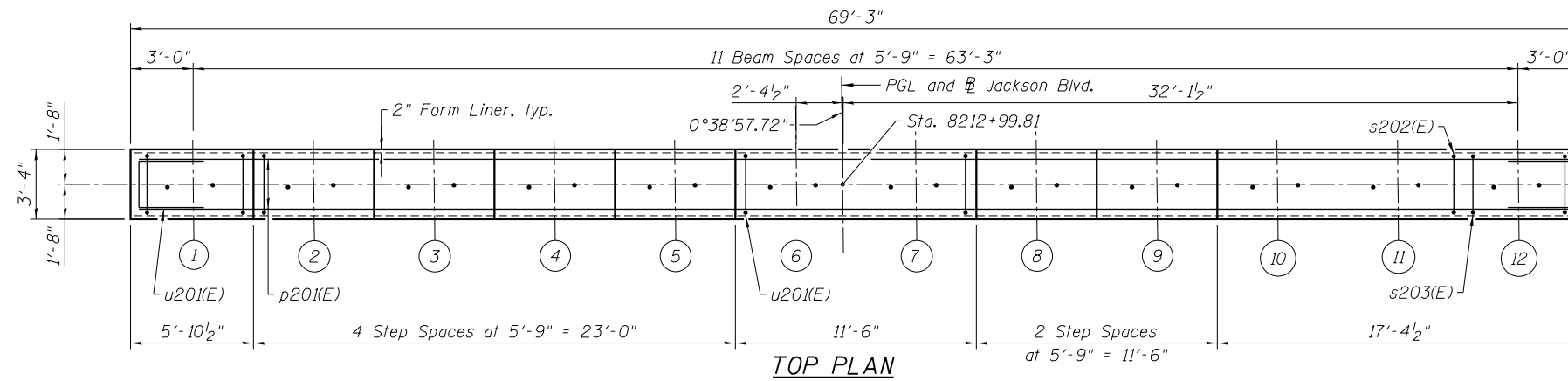
SHEET NO. S2-56 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	441
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT

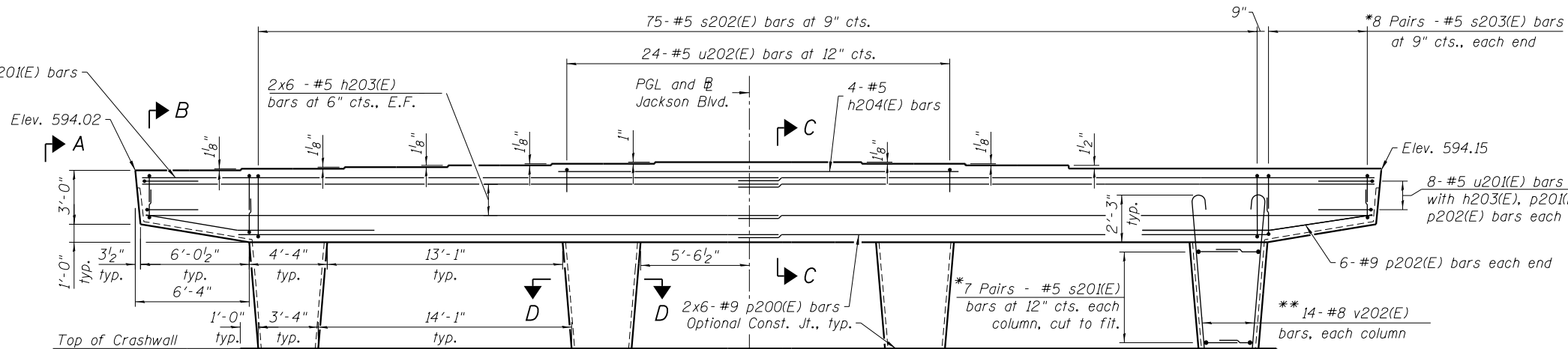
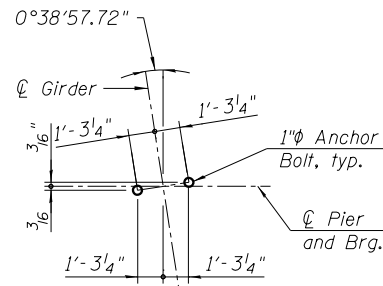


*Cut legs of bars to fit.
Min. lap is 3'-2".
**Rotate bars to maintain minimum clearance.



TOP PLAN

ANCHOR BOLT LAYOUT



ELEVATION

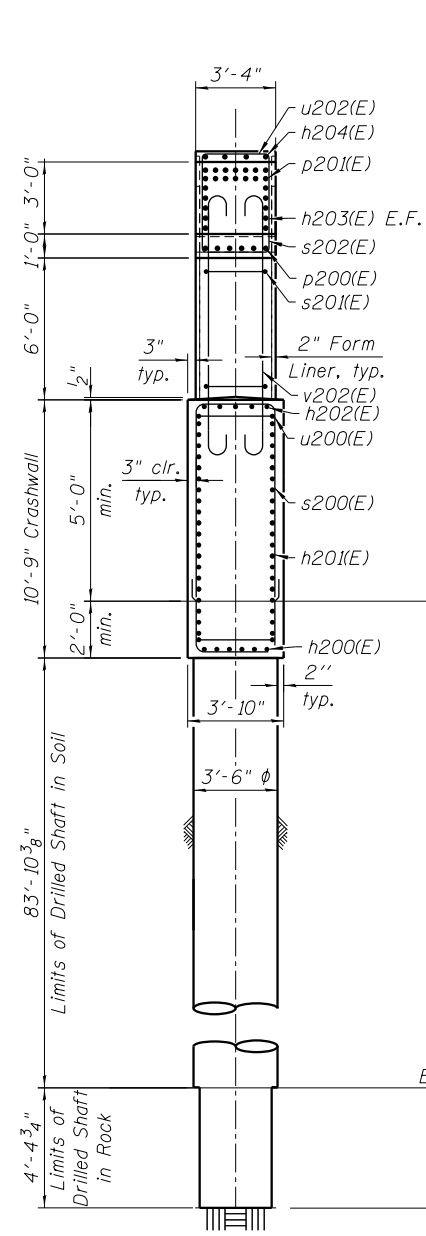
FINISHED GRADE ELEV. AT FACE OF CRASHWALL

Corner	Finished Elevation
Northwest	575.35
Southwest	575.63
Northeast	578.32
Southeast	578.93

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	594.02
2	594.10
3	594.19
4	594.28
5	594.37
6	594.45
7	594.45
8	594.36
9	594.27
10	594.15
11	594.15
12	594.15

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S2-58 of S2-80.



VIEW A-A

End Drilled shaft reinforcement not shown for clarity

Exist. Abandoned Freight Tunnel, Bottom of Tunnel Elev. 546.68 (Previously filled by others).

ELEVATION
Looking East

See Drilled Shaft Elevation on sheet S2-58 of S2-80.

2:10:00 PM 0161702-60X94-S057-Pier1_P&E.dgn



USER NAME = wjcolletti	DESIGNED ZPM	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/5/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 PLAN AND ELEVATION
STRUCTURE NO. 016-1702

SHEET NO. S2-57 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	442
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				

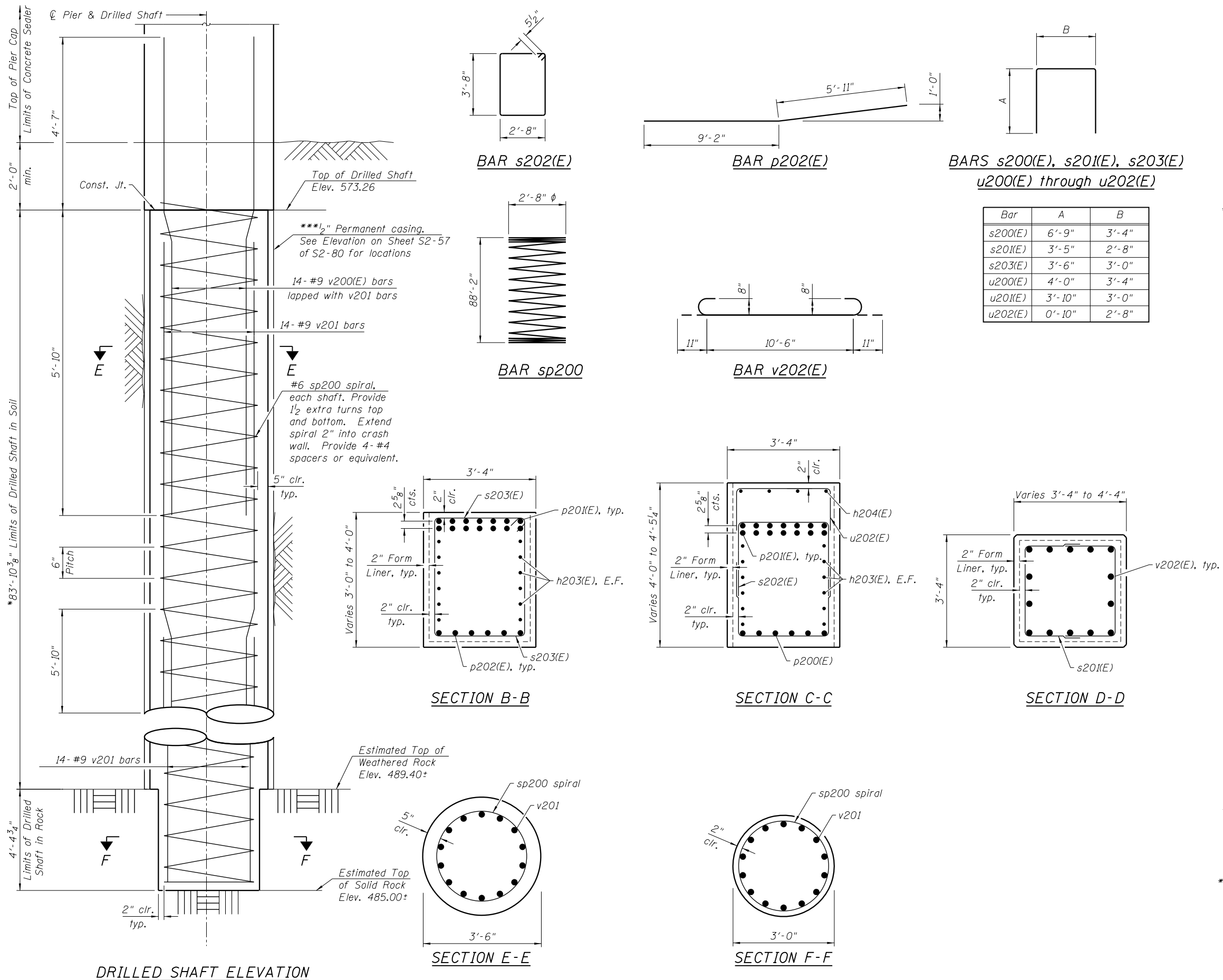
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200(E)	6	#8	57'-1"	—
h201(E)	40	#8	57'-1"	—
h202(E)	5	#8	57'-1"	—
h203(E)	24	#5	35'-11"	—
h204(E)	4	#5	22'-8"	—
p200(E)	12	#9	32'-6"	—
p201(E)	28	#9	39'-8"	—
p202(E)	12	#9	15'-1"	—
** sp200	6	#6	88'-2"	—
s200(E)	230	#5	16'-9"	□
s201(E)	56	#5	9'-6"	□
s202(E)	75	#5	13'-7"	□
s203(E)	32	#5	10'-0"	□
u200(E)	44	#5	11'-4"	□
u201(E)	16	#5	10'-8"	□
u202(E)	24	#5	4'-4"	□
v200(E)	84	#9	10'-5"	—
v201	168	#9	46'-11"	—
v202(E)	56	#8	12'-4"	—
Structure Excavation		Cu. Yd.	95	
Concrete Structures		Cu. Yd.	133.8	
Reinforcement Bars		Pound	40,370	
Reinforcement Bars, Epoxy Coated		Pound	29,270	
Permanent Casing		Foot	168	
Drilled Shaft in Soil		Cu. Yd.	179.3	
Drilled Shaft in Rock		Cu. Yd.	7.0	
Concrete Sealer		Sq. Ft.	2654	
Crosshole Sonic Logging Access Ducts		Foot	530	
Crosshole Sonic Logging Testing		Each	1	

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:

- Apply concrete sealer to all exposed concrete surfaces of the pier.
- * 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 encountered at each shaft and the final top of shaft elevation.
- ** Length is height of spiral.
- When splicing spiral reinforcement is necessary, the spirals shall be provided with 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 in 135° standard hook.
- *** Contractor may need to increase the casing thickness to withstand the installation process. The Estimated Top of Rock/Bottom of Permanent Casing Elevation is shown. The limits of casing shall be adjusted as necessary, and as approved, such that the actual installed casing length extends to the as-encountered to if rock at each shaft. See Article 516.06(d) of the Standard Specifications.



Bar	A	B
s200(E)	6'-9"	3'-4"
s201(E)	3'-5"	2'-8"
s203(E)	3'-6"	3'-0"
u200(E)	4'-0"	3'-4"
u201(E)	3'-10"	3'-0"
u202(E)	0'-10"	2'-8"

2:10:08 PM 0161702-60X94-5068-Pier1_Details.dgn



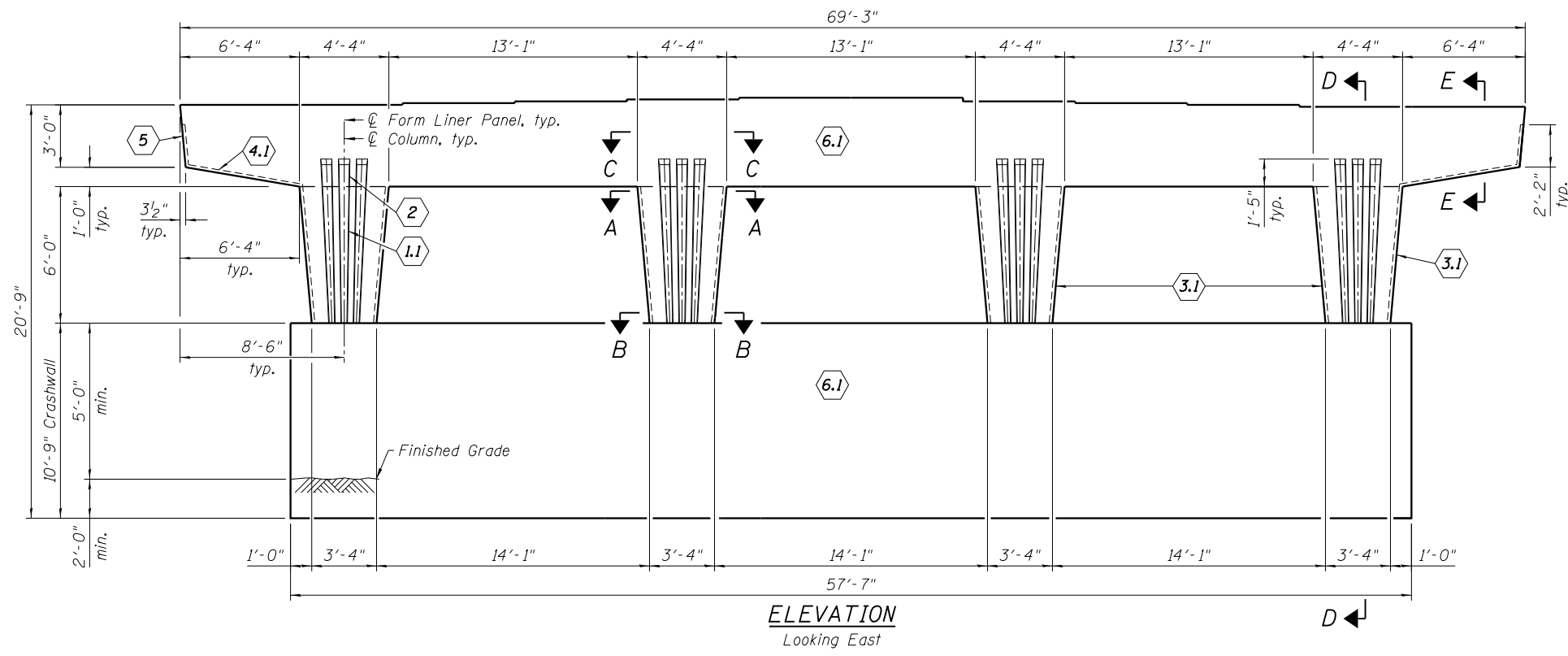
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE 3/5/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

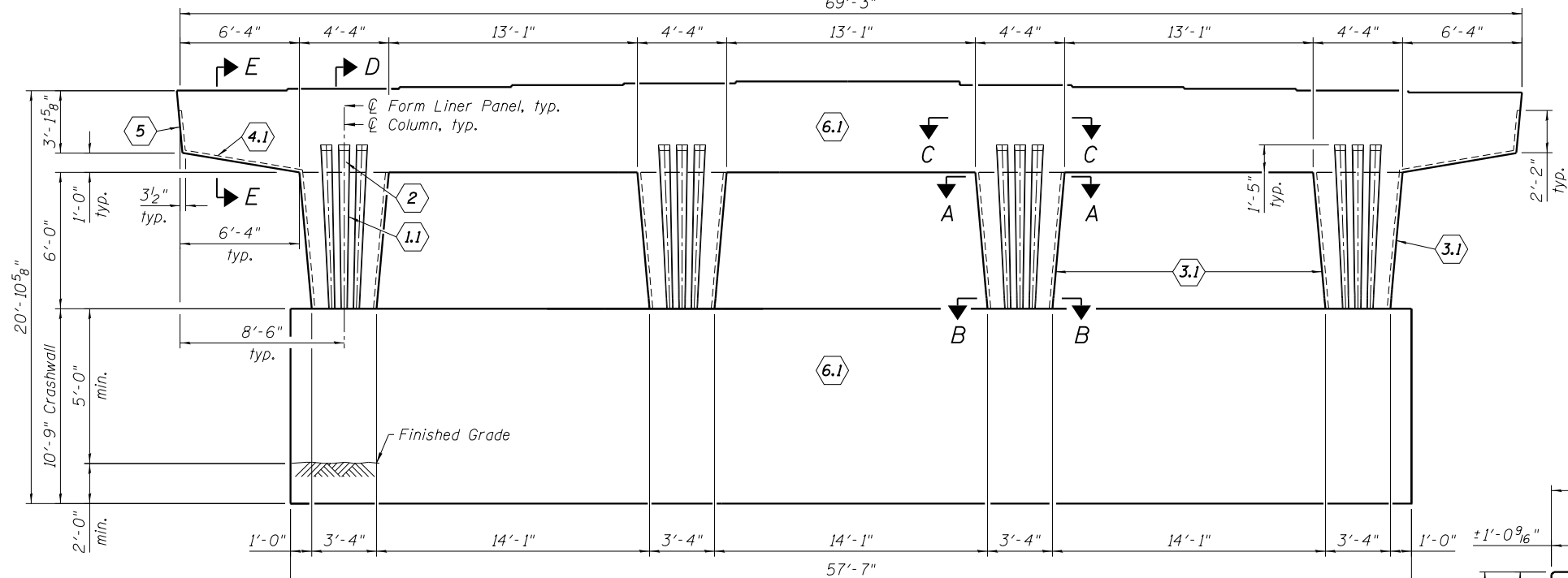
**PIER 1 DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-58 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	443
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				

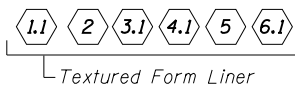


ELEVATION
Looking East



ELEVATION
Looking West

LEGEND



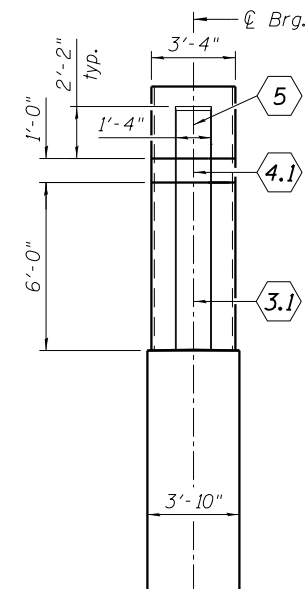
BILL OF MATERIAL

Item	Unit	Total
Rubbed Finish	Sq. Ft.	1,882
Form Liner Textured Surface	Sq. Ft.	452

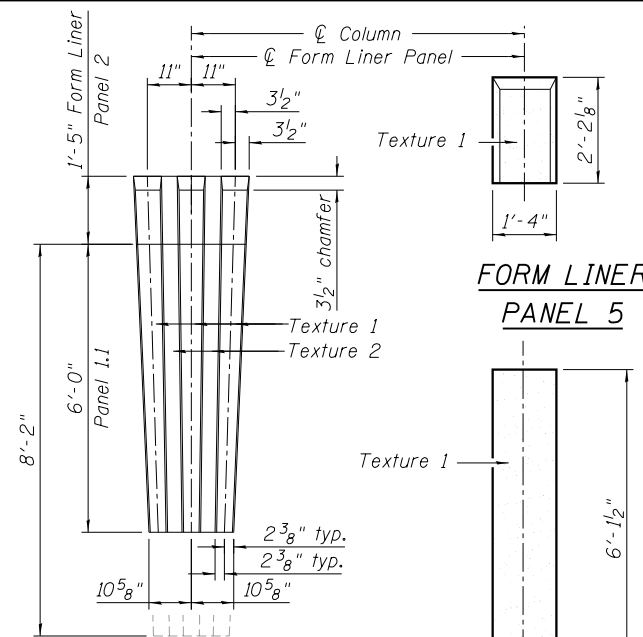
Notes:

- Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
- Tapered fluting - dimensions vary, see elevation profile.
- Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
- Hand clean and smooth the surface of the construction joint between the pier and cap.
-

Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
Texture 2: Smooth

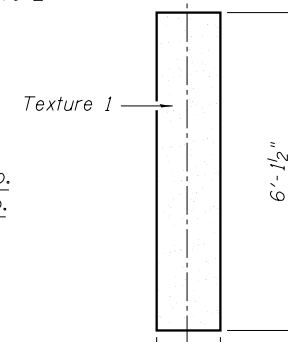


PIER END VIEW
(Looking North)
(Looking South - Sim.)

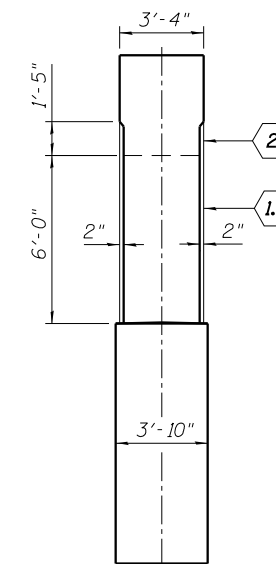


FORM LINER PANEL 1.1 & 2

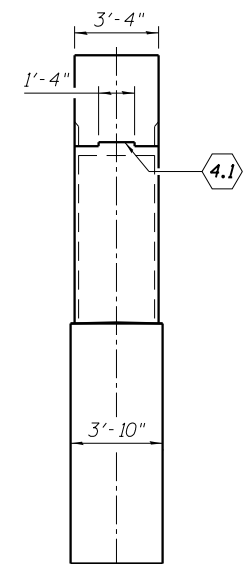
FORM LINER PANEL 5



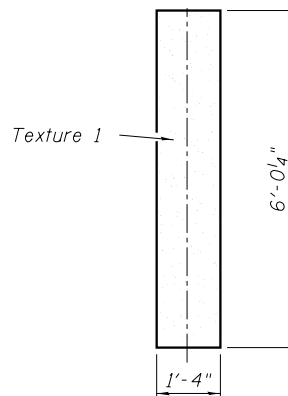
FORM LINER PANEL 4.1



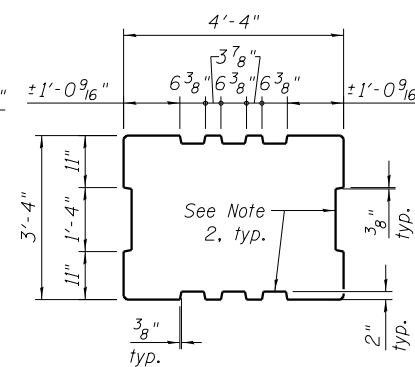
SECTION D-D



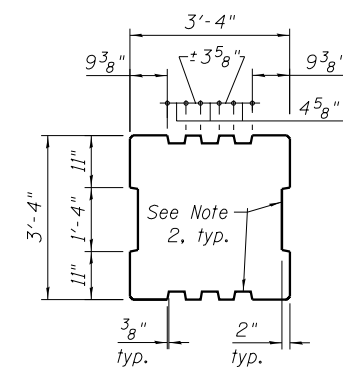
SECTION E-E



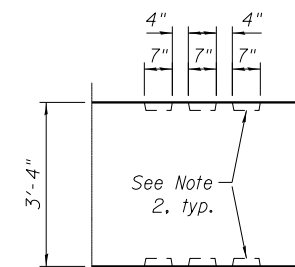
FORM LINER PANEL 3.1



SECTION A-A
At Top of Column



SECTION B-B
At Bottom of Column



SECTION C-C
In Cap

7:44:29 AM 0161702-60X94-5069-Pier1_Arch.dgn



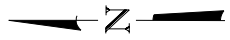
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/6/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

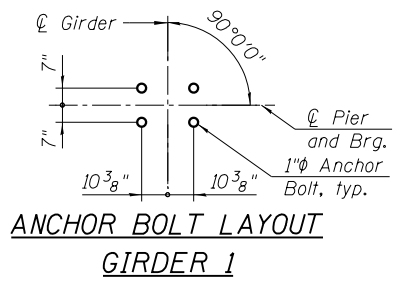
PIER 1 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-59 OF S2-80 SHEETS

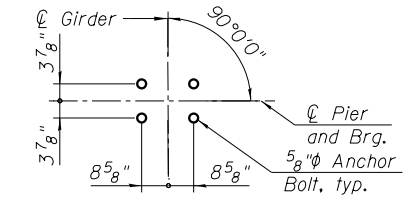
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	444
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



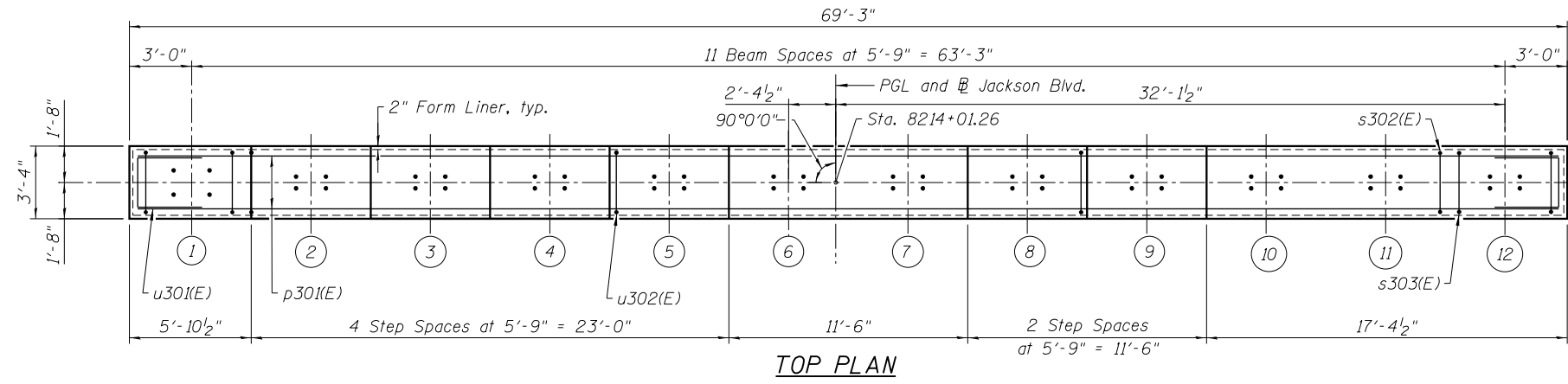
*Cut legs of bars to fit.
Min. lap is 3'-4".
**Rotate bars to maintain minimum clearance.



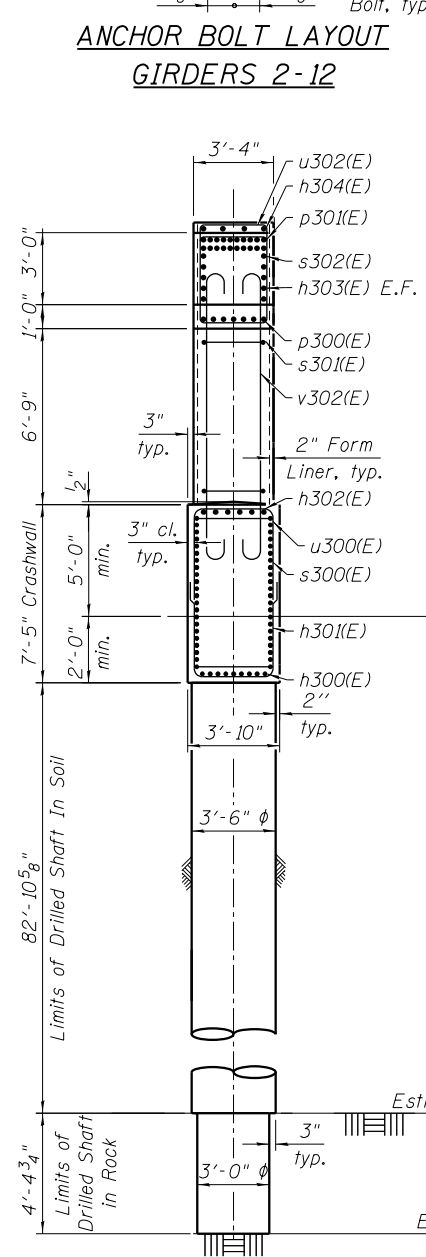
**ANCHOR BOLT LAYOUT
GIRDER 1**



**ANCHOR BOLT LAYOUT
GIRDERS 2-12**

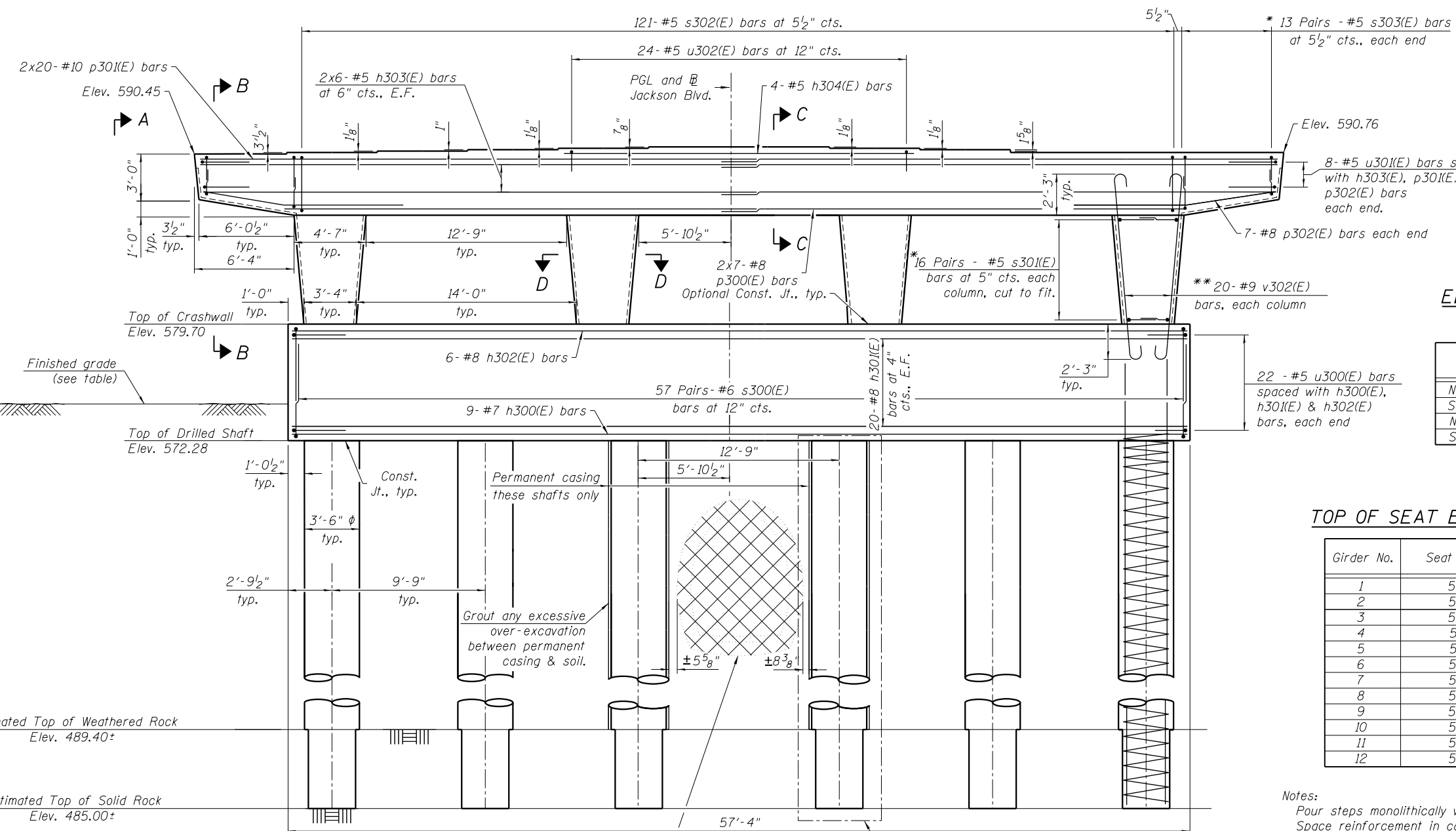


TOP PLAN



VIEW A-A

End drilled shaft reinforcement not shown for clarity



**ELEVATION
Looking East**

**FINISHED GRADE
ELEV. AT FACE OF
CRASHWALL**

Corner	Finished Elevation
Northwest	574.39
Southwest	574.36
Northeast	574.83
Southeast	574.45

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	590.45
2	590.74
3	590.83
4	590.91
5	591.00
6	591.07
7	591.07
8	590.99
9	590.90
10	590.76
11	590.76
12	590.76

Notes:
Pour steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.
For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S2-61 of S2-80.
For roadway barrier details on either side of the crashwall, see Contract 62A76.

2:10:24 PM 0161702-60X94-S060-Pier2-P&E.dgn



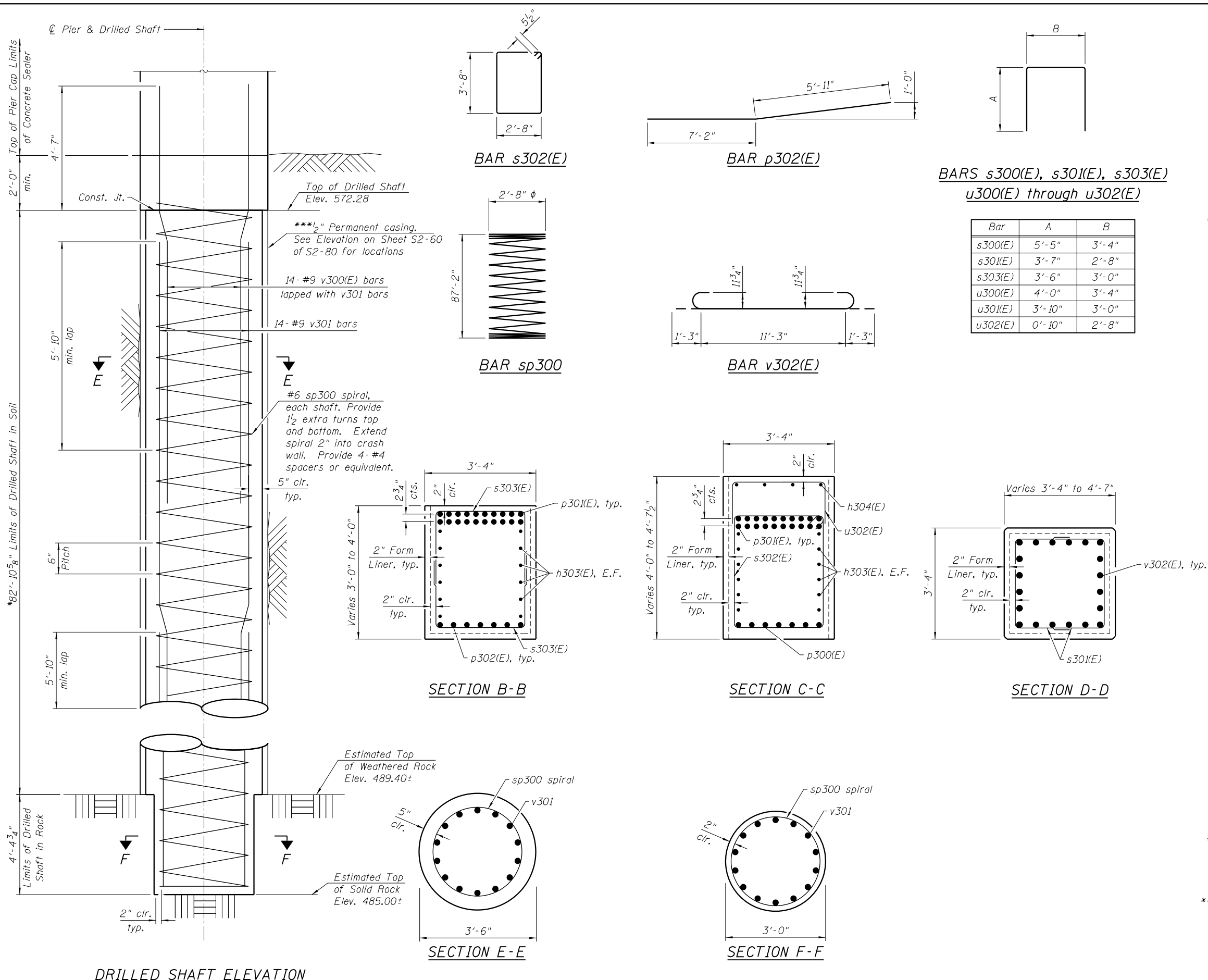
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/5/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 2 PLAN AND ELEVATION
STRUCTURE NO. 016-1702**

SHEET NO. S2-60 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	445
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



BAR s302(E)

BAR p302(E)

BARS s300(E), s301(E), s303(E)
u300(E) through u302(E)

BAR sp300

BAR v302(E)

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

DRILLED SHAFT ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	9	#7	56'-10"	—
h301(E)	40	#8	56'-10"	—
h302(E)	6	#8	56'-10"	—
h303(E)	24	#5	35'-11"	—
h304(E)	4	#5	22'-8"	—
p300(E)	14	#8	31'-6"	—
p301(E)	40	#10	40'-3"	—
p302(E)	14	#8	13'-1"	—
** sp300	6	#6	87'-2"	⊘
s300(E)	114	#6	14'-1"	□
s301(E)	128	#5	9'-11"	□
s302(E)	121	#5	13'-7"	□
s303(E)	52	#5	10'-0"	□
u300(E)	44	#5	11'-4"	□
u301(E)	16	#5	10'-8"	□
u302(E)	24	#5	4'-4"	□
v300(E)	84	#9	10'-5"	—
v301	168	#9	46'-5"	—
v302(E)	80	#9	13'-9"	⌋
Structure Excavation		Cu. Yd.	39	
Concrete Structures		Cu. Yd.	108.7	
Reinforcement Bars		Pound	39,930	
Reinforcement Bars, Epoxy Coated		Pound	32,930	
Permanent Casing		Foot	166	
Drilled Shaft in Soil		Cu. Yd.	177.2	
Drilled Shaft in Rock		Cu. Yd.	7.0	
Concrete Sealer		Sq. Ft.	2,299	
Crosshole Sonic Logging Access Ducts		Foot	524	
Crosshole Sonic Logging Testing		Each	1	

Bar	A	B
s300(E)	5'-5"	3'-4"
s301(E)	3'-7"	2'-8"
s303(E)	3'-6"	3'-0"
u300(E)	4'-0"	3'-4"
u301(E)	3'-10"	3'-0"
u302(E)	0'-10"	2'-8"

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:
 Apply concrete sealer to all exposed concrete surfaces of the pier.
 * 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 encountered at each shaft and the final top of shaft elevation.
 Length is height of spiral.
 ** When splicing spiral reinforcement is necessary, the spirals shall be provided with 11#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 in 130° standard hook.
 *** Contractor may need to increase the casing thickness to withstand the installation process. The Estimated Top of Rock/Bottom of Permanent Casing Elevation is shown. The limits of casing shall be adjusted as necessary, and as approved, such that the actual installed casing length extends to the as-encountered to if rock at each shaft. See Article 516.06(d) of the Standard Specifications.

2:10:31 PM 0161702-60X94-S061-Pier2_Details.dgn



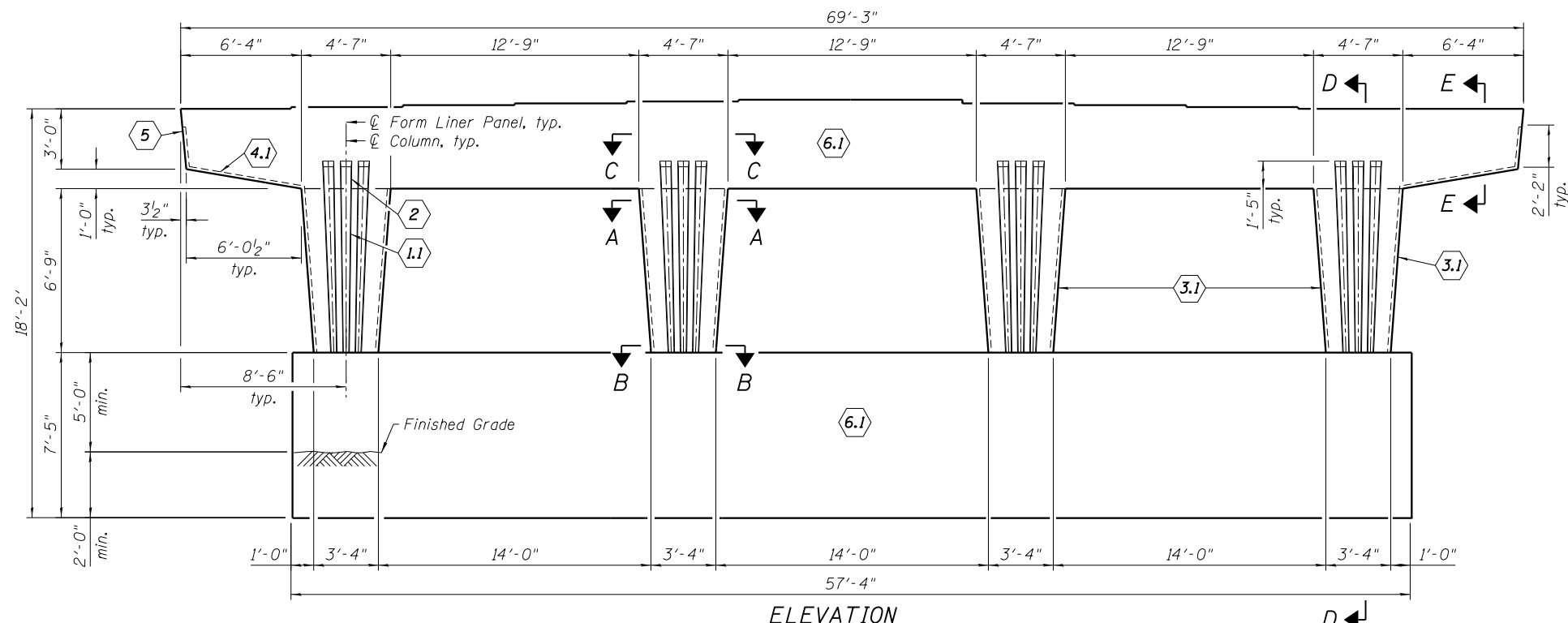
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
CHECKED NLR	REVISIONS	
PLOT SCALE = NTS	DRAWN ZPM	REVISED
PLOT DATE 3/5/2020	CHECKED NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

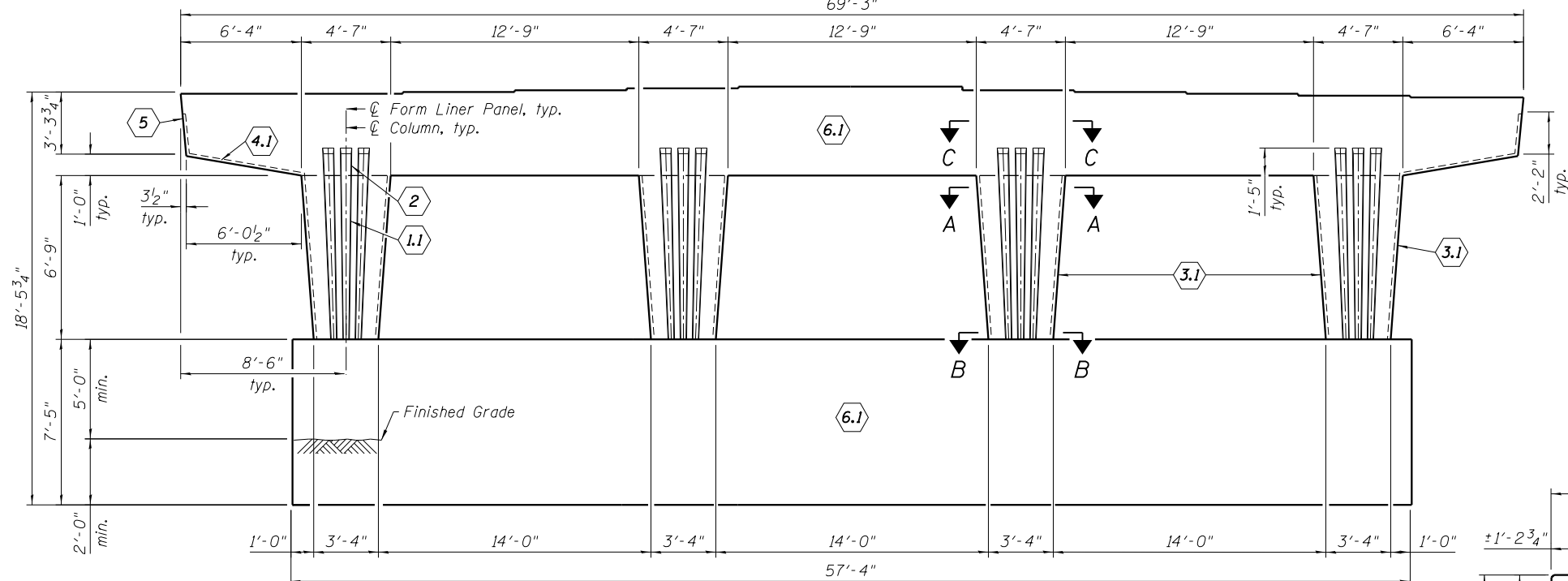
PIER 2 DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-61 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	446
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				

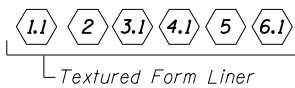


ELEVATION
Looking East
69'-3"



ELEVATION
Looking West
69'-3"

LEGEND



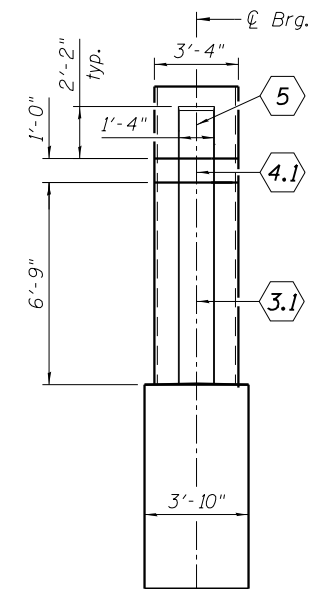
BILL OF MATERIAL

Item	Unit	Total
Rubbed Finish	Sq. Ft.	1,478
Form Liner Textured Surface	Sq. Ft.	504

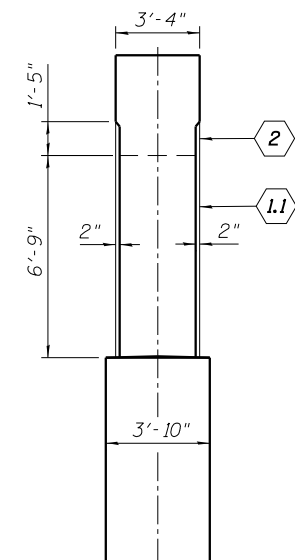
Notes:

- Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
- Tapered fluting - dimensions vary, see elevation profile.
- Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
- Hand clean and smooth the surface of the construction joint between the pier and cap.
-

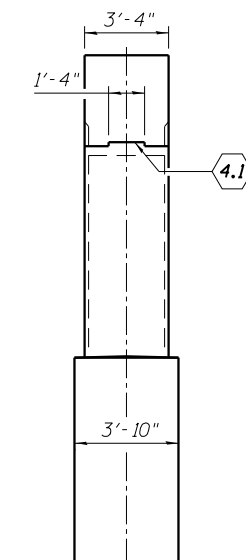
Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
Texture 2: Smooth



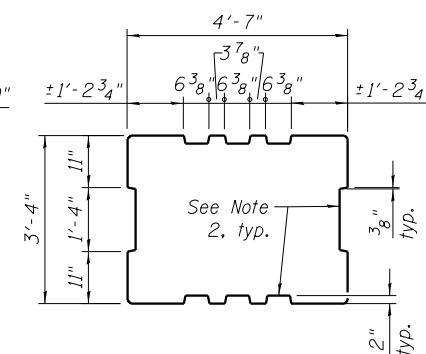
PIER END VIEW
(Looking North)
(Looking South - Sim.)



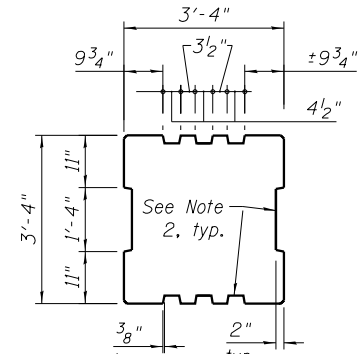
SECTION D-D



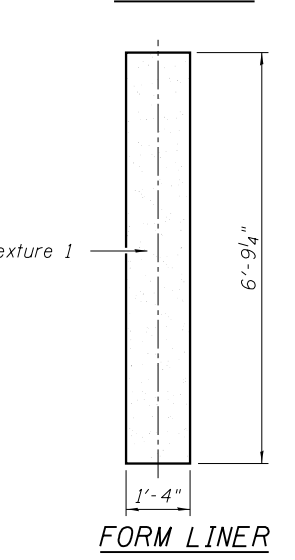
SECTION E-E



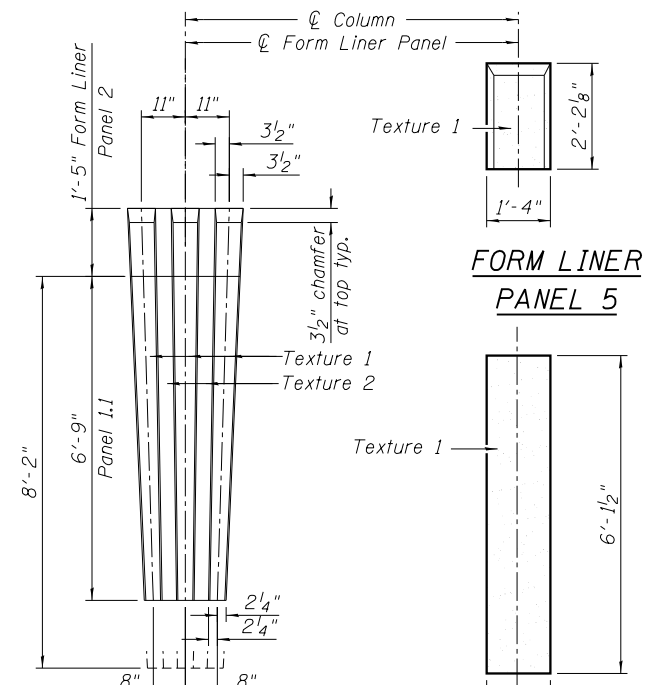
SECTION A-A
At Top of Column



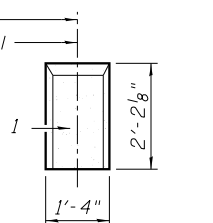
SECTION B-B
At Bottom of Column



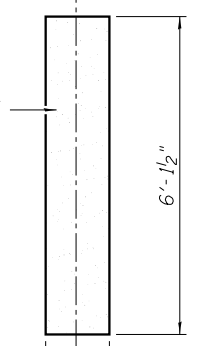
SECTION C-C
In Cap



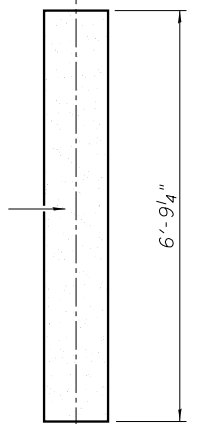
FORM LINER PANEL 1.1 & 2



FORM LINER PANEL 5



FORM LINER PANEL 4.1



FORM LINER PANEL 3.1

7:44:36 AM 0161702-60X94-S062-Pier2_Arch.dgn



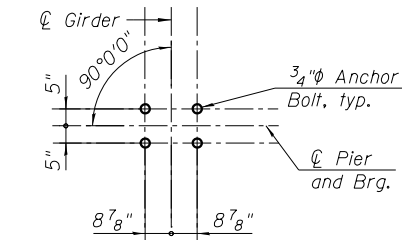
USER NAME = wjcolletti	DESIGNED ZPM	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/6/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

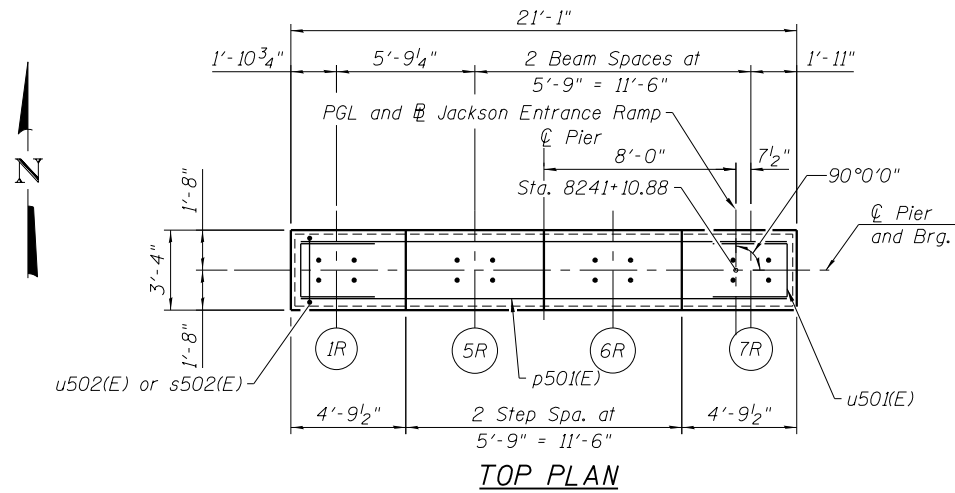
PIER 2 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-62 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	447
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



ANCHOR BOLT LAYOUT

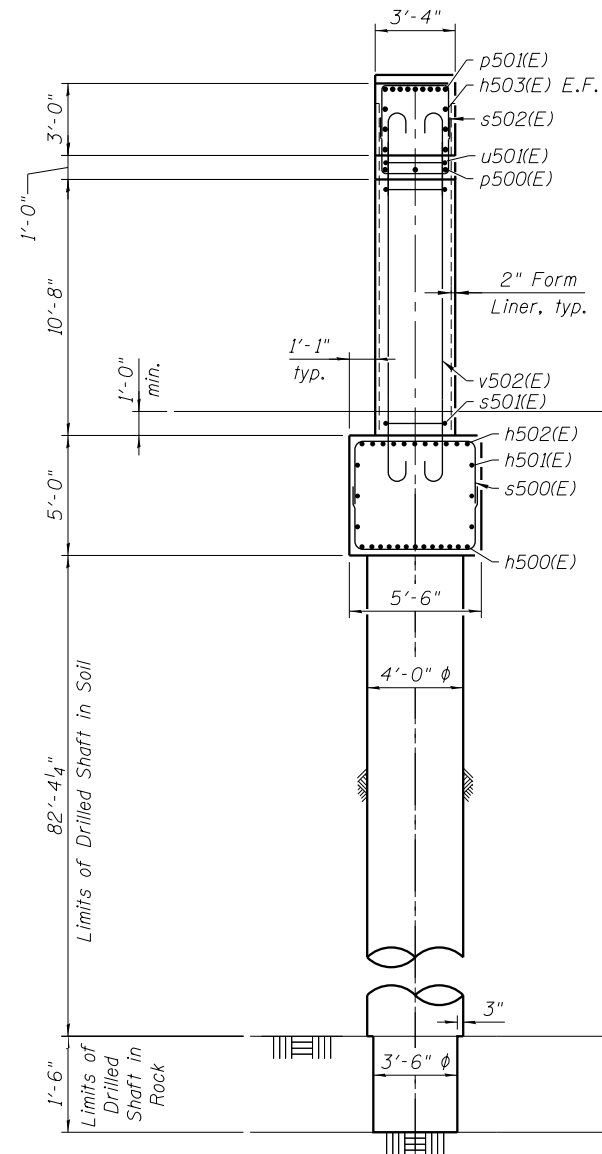


TOP PLAN

* Cut legs of bars to fit. Min. lap is 3'-2".

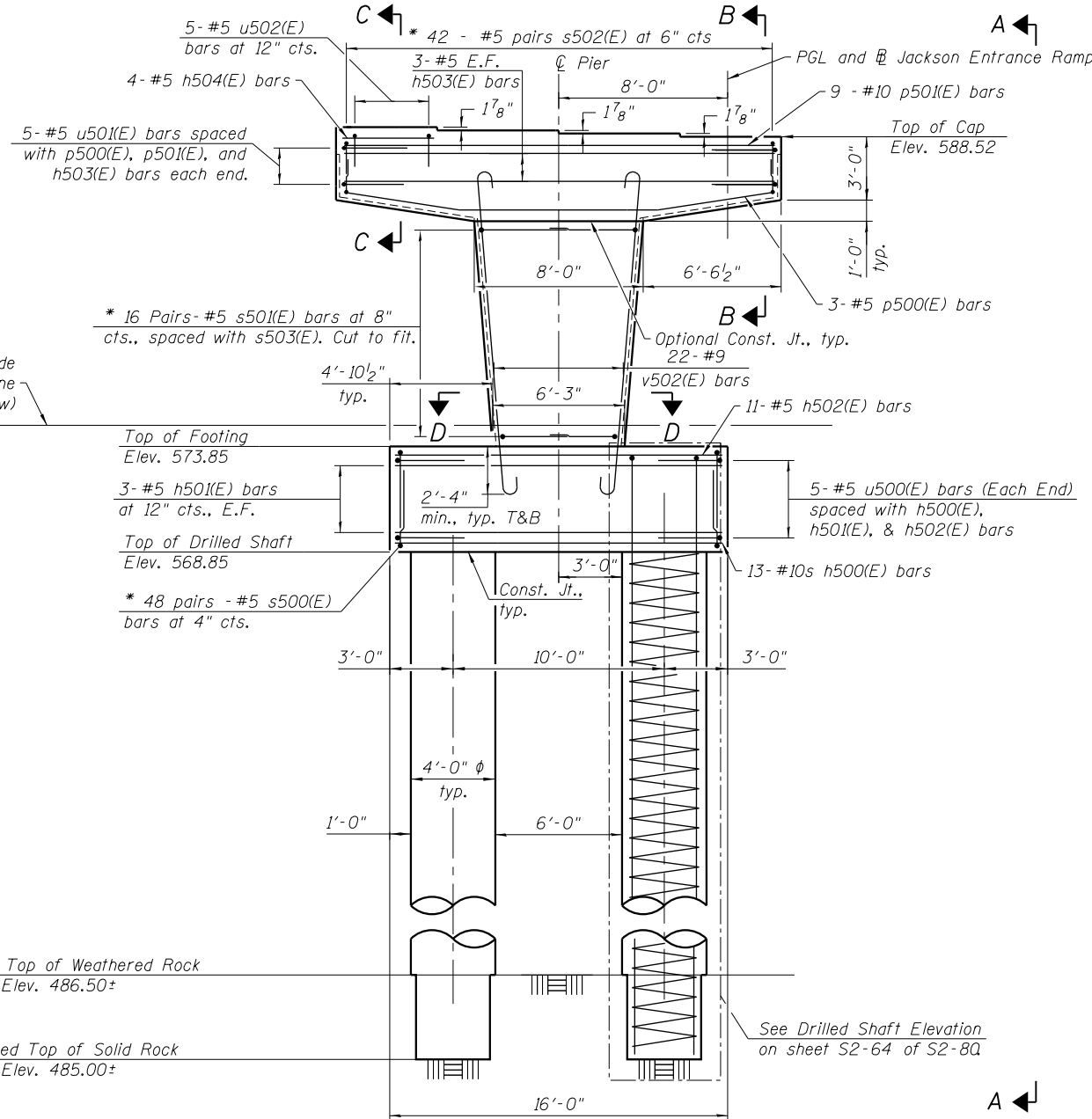
TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1R	588.98
5R	588.83
6R	588.67
7R	588.52



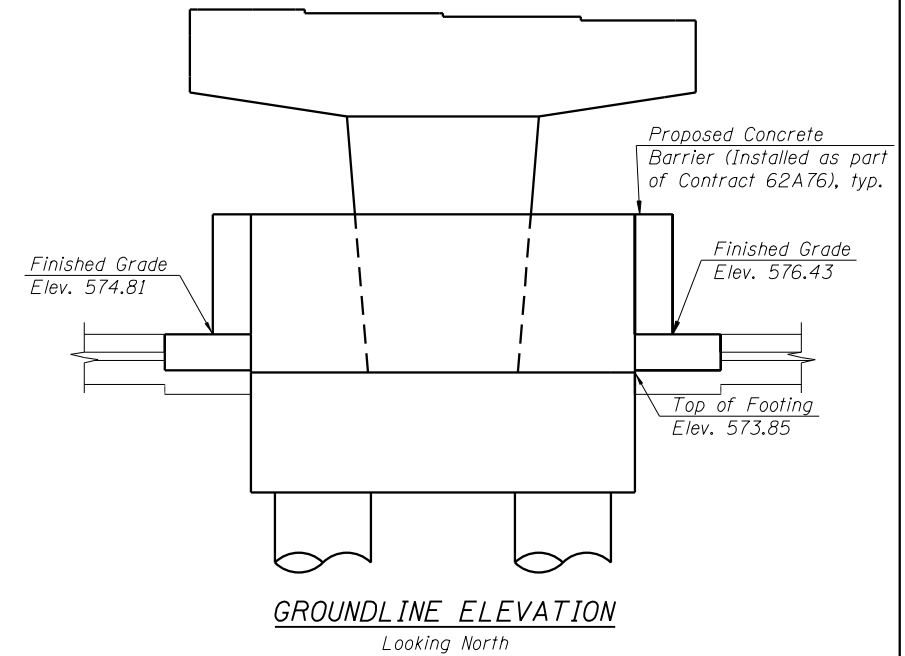
VIEW A-A

Drilled shaft reinforcement not shown for clarity



ELEVATION

Looking North



GROUNDLINE ELEVATION

Looking North

Notes:
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.
 For Sections B-B, C-C, D-D, and Bill of Materials, see sheet S2-64 of S2-80.

2:10:49 PM 0161702-60X94-S063-PierR1_P&E.dgn



USER NAME = wjcolletti	DESIGNED MSK	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/5/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

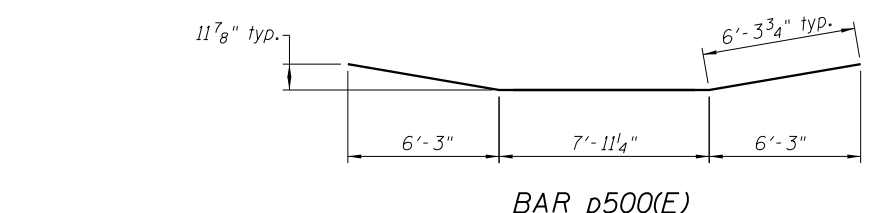
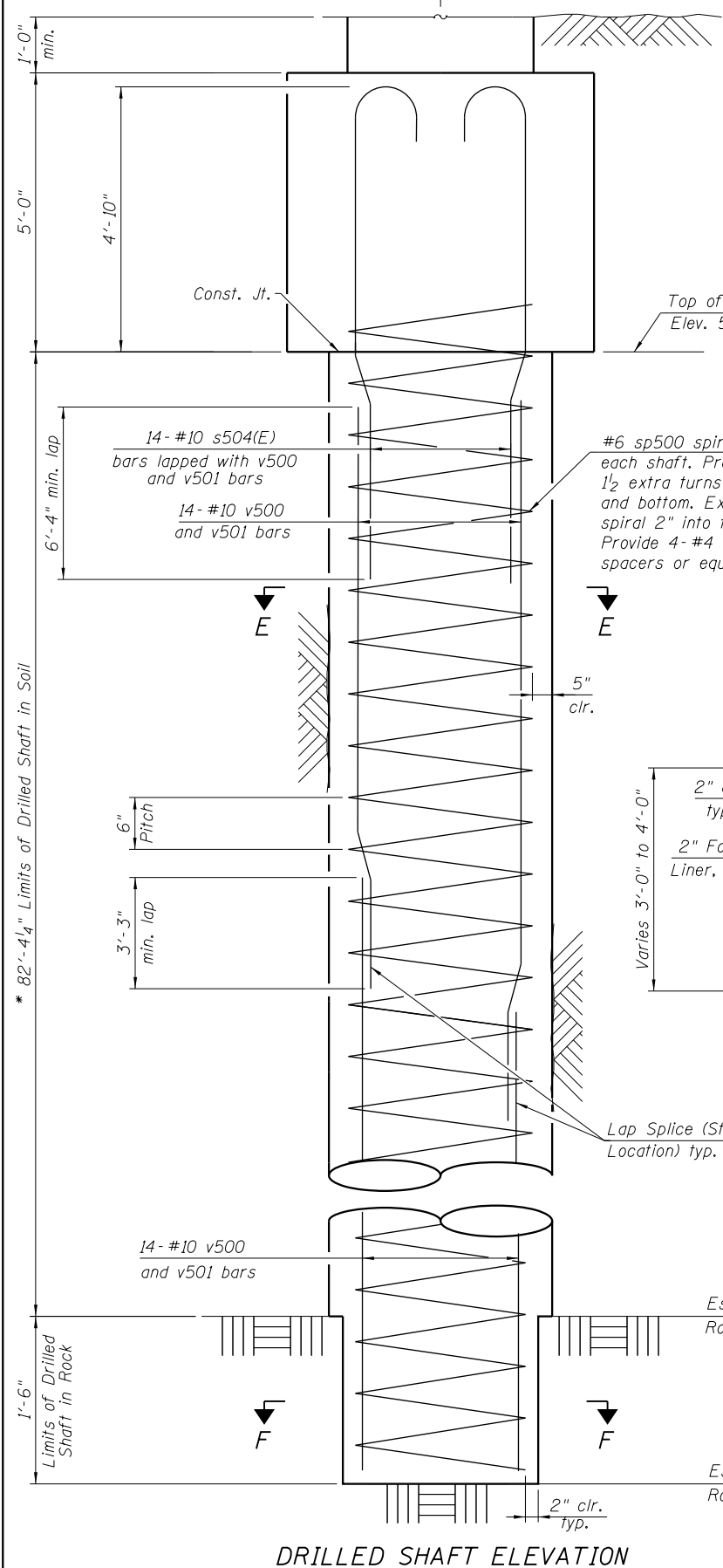
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER R1 PLAN AND ELEVATION
 STRUCTURE NO. 016-1702**

SHEET NO. S2-63 OF S2-80 SHEETS

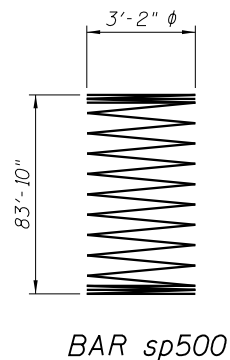
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	448
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				

☉ Pier & Drilled Shaft

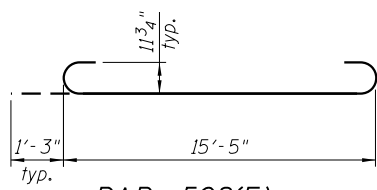


BAR p500(E)
BARS s500(E), s501(E), s502(E), u500(E) through u502(E)

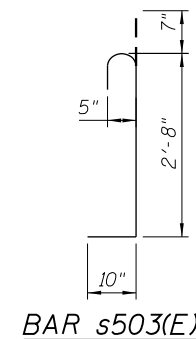
Bar	A	B
s500(E)	3'-11 1/2"	5'-2"
s501(E)	5'-3"	2'-8"
s502(E)	3'-5"	2'-8"
u500(E)	3'-3"	5'-1"
u501(E)	3'-3"	2'-8"
u502(E)	1'-6"	2'-8"



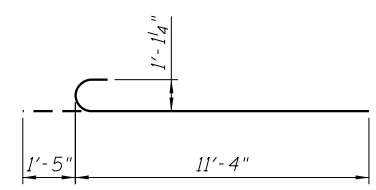
BAR sp500



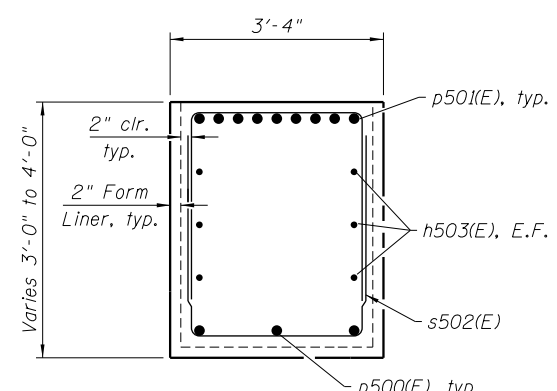
BAR v502(E)



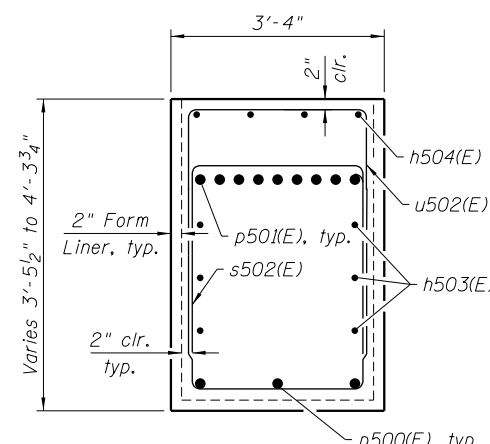
BAR s503(E)



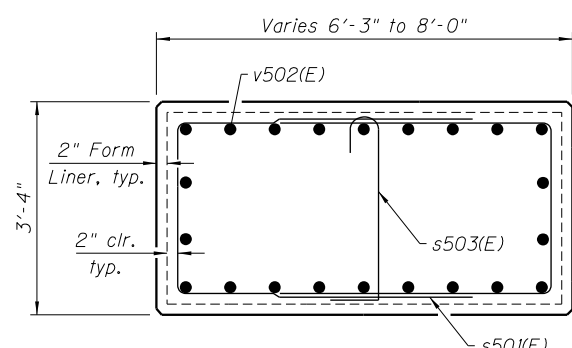
BAR s504(E)



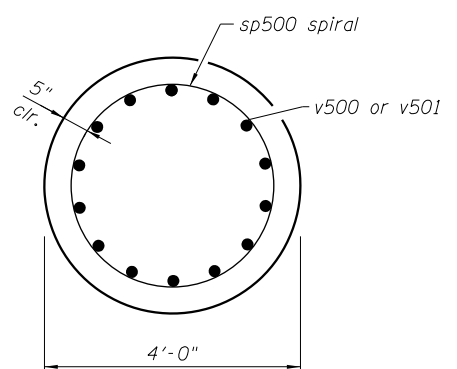
SECTION B-B



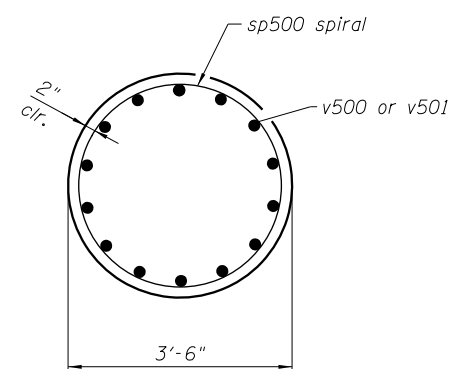
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	13	#10	15'-8"	—
h501(E)	6	#5	15'-8"	—
h502(E)	11	#5	15'-8"	—
h503(E)	6	#5	20'-5"	—
h504(E)	4	#5	4'-3"	—
p500(E)	3	#5	20'-6.75"	—
p501(E)	9	#10	20'-5"	—
sp500	2	#6	83'-10"	—
s500(E)	96	#5	13'-1"	□
s501(E)	32	#5	13'-2"	□
s502(E)	84	#5	9'-6"	□
s503(E)	16	#5	4'-1"	└┘
s504(E)	28	#10	12'-9"	└┘
u500(E)	10	#5	11'-7"	□
u501(E)	10	#5	9'-2"	□
u502(E)	5	#5	5'-8"	□
v500	28	#10	46'-0"	—
v501	28	#10	40'-10"	—
v502(E)	22	#9	17'-11"	└┘
Structure Excavation		Cu. Yd.	42	
Concrete Structures		Cu. Yd.	35.9	
Reinforcement Bars		Pound	15,570	
Reinforcement Bars, Epoxy Coated		Pound	7,930	
Drilled Shaft in Soil		Cu. Yd.	76.7	
Drilled Shaft in Rock		Cu. Yd.	1.1	
Concrete Sealer		Sq. Ft.	822	
Crosshole Sonic Logging Access Ducts		Foot	168	
Crosshole Sonic Logging Testing		Each	1	

Bars indicated thus 1x15 etc., indicates 1 line of bars with 15 lengths per line.

Notes:
 Apply concrete sealer to all exposed concrete surfaces of the pier.
 * 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 encountered at each shaft and the final top of shaft elevation.
 ** Length is height of spiral.
 When splicing spiral reinforcement is necessary, the spirals 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 in 135° standard hook.

2:10:57 PM 0161702-60X94-5064-PierR1_Details.dgn



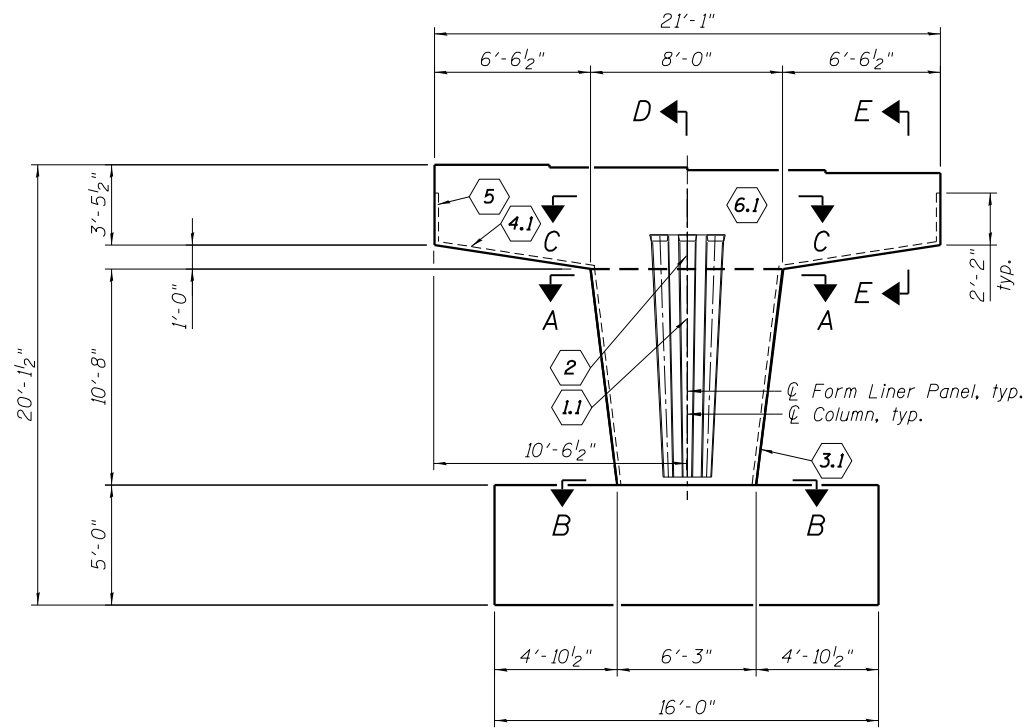
USER NAME = wjcolletti	DESIGNED MSK	REVISED
PLOT SCALE = NTS	CHECKED NLR	REVISED
PLOT DATE = 3/5/2020	DRAWN ZPM	REVISED
	CHECKED NLR	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

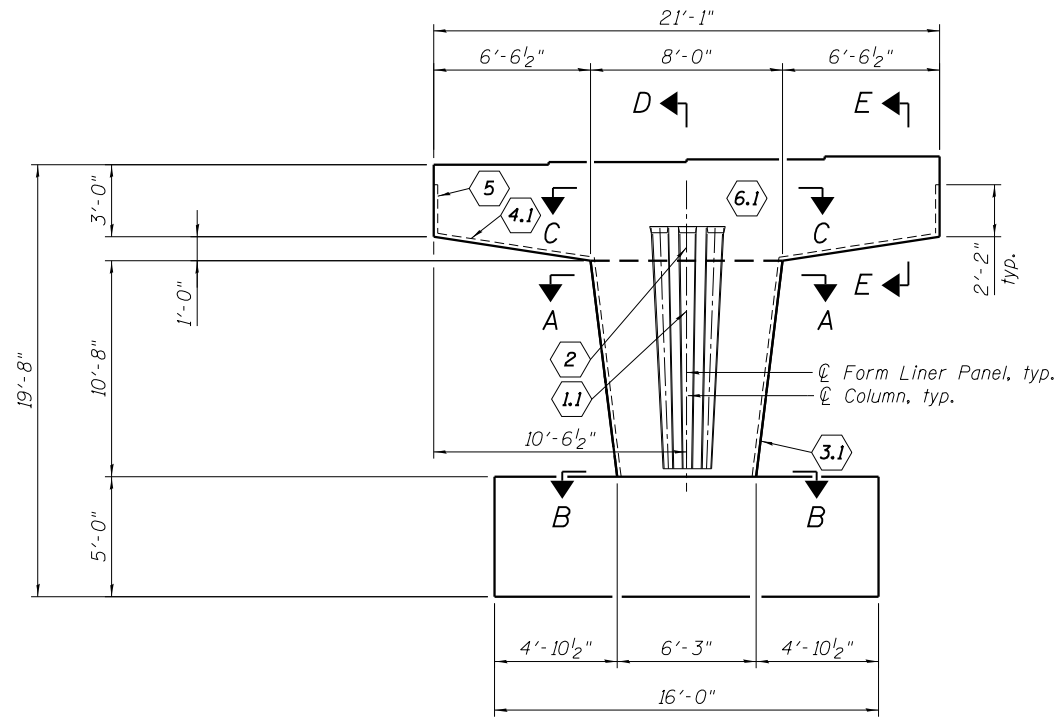
**PIER R1 DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-64 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	449
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				



ELEVATION
Looking North



ELEVATION
Looking South

LEGEND

1.1	2	3.1	4.1	5	6.1
-----	---	-----	-----	---	-----

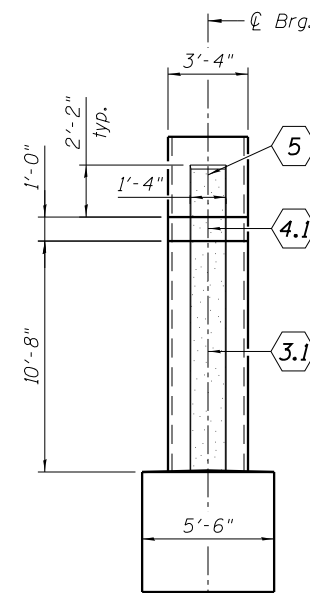
Textured Form Liner

BILL OF MATERIAL

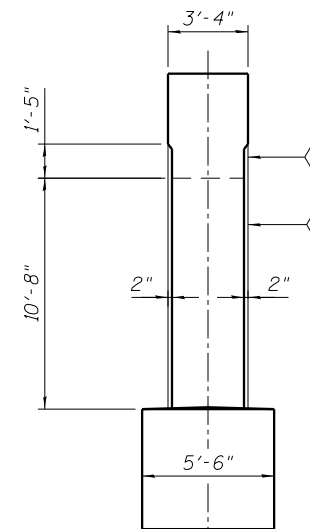
Item	Unit	Total
Rubbed Finish	Sq. Ft.	166
Form Liner Textured Surface	Sq. Ft.	307

Notes:

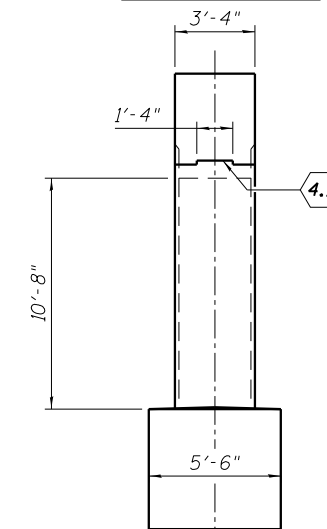
- Form liner panel (6.1) shall have a smooth finish. Cost included with Rubbed Finish.
- Tapered fluting - dimensions vary, see elevation profile.
- Form liner panel (2) is continuation of panel (1.1). Keep adjacent form liners aligned.
- Hand clean and smooth the surface of the construction joint between the pier and cap.
- Texture 1: Light Sandblast as selected from manufacturer's standard pattern selection.
- Texture 2: Smooth



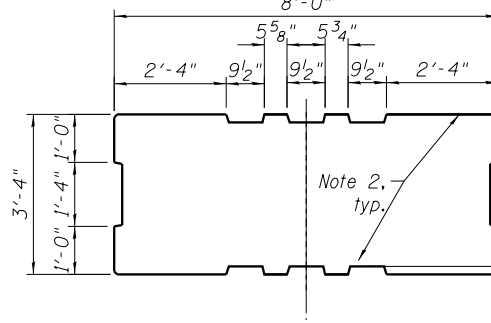
PIER END VIEW
(Looking West)
(Looking East - Sim.)



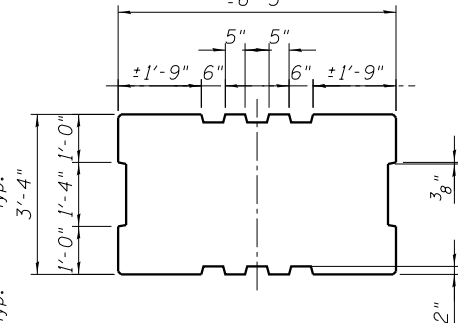
SECTION D-D



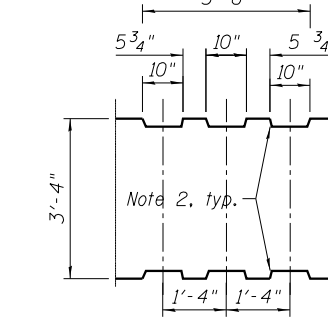
SECTION E-E



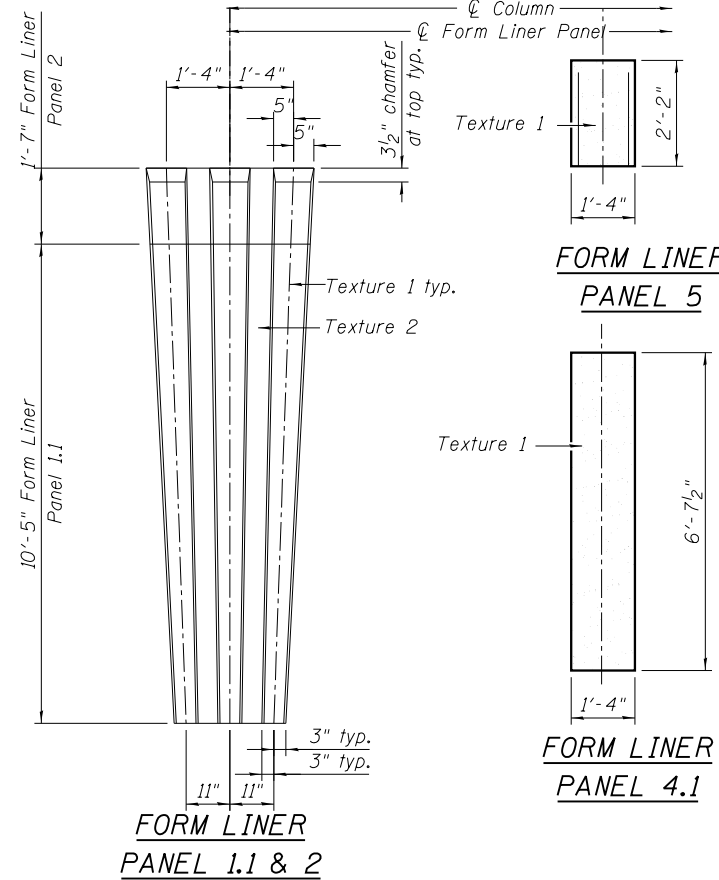
SECTION A-A
At Top of Column



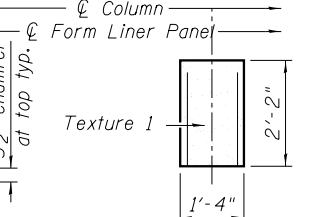
SECTION B-B
At Bottom of Column



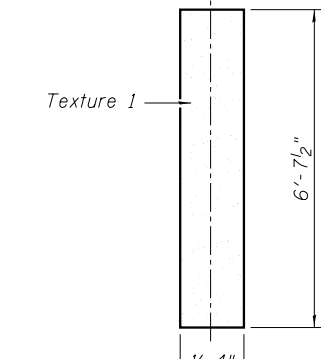
SECTION C-C
In Cap



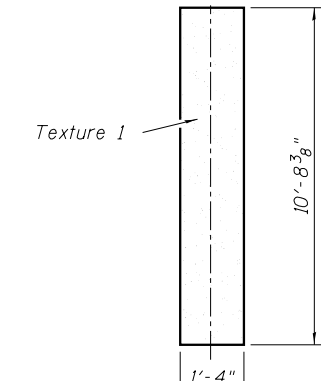
FORM LINER PANEL 1.1 & 2



FORM LINER PANEL 5



FORM LINER PANEL 4.1



FORM LINER PANEL 3.1

7:44:45 AM 0161702-60X94-5065-PierR1_Arch.dgn



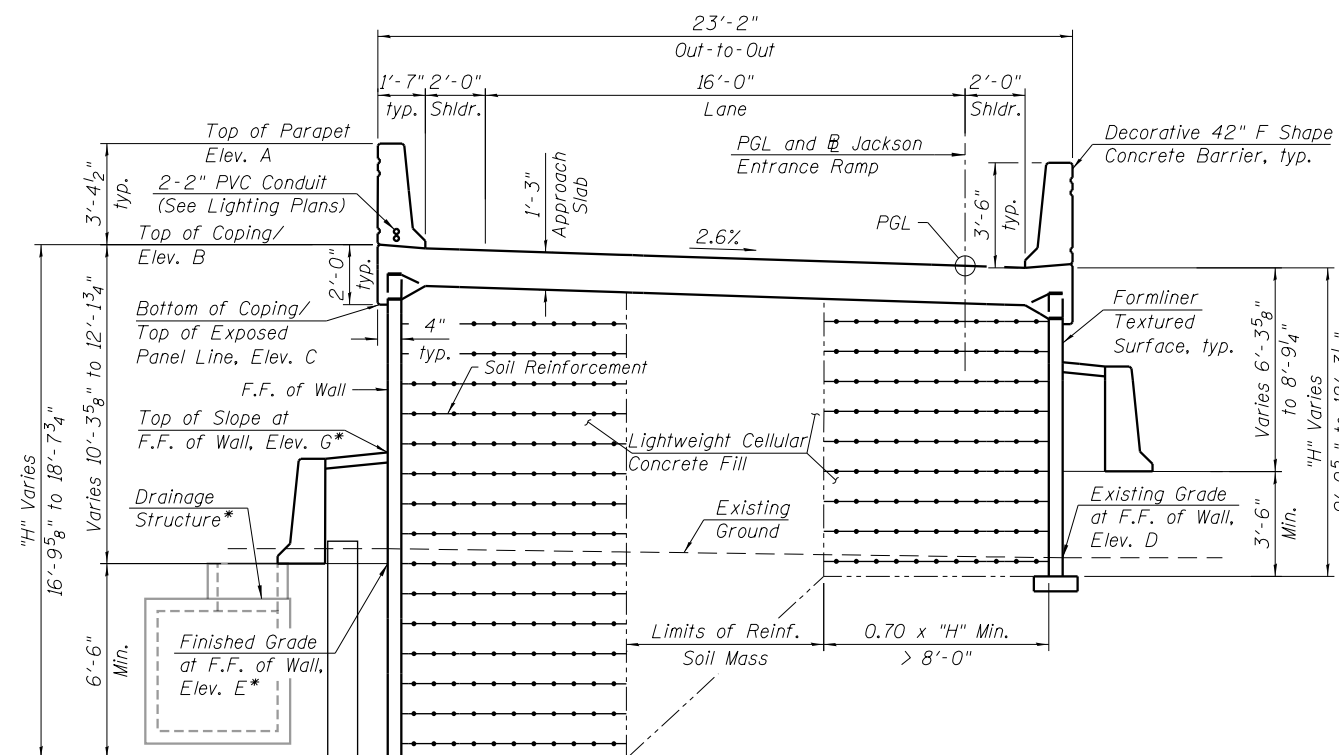
USER NAME = wjcolletti	DESIGNED MSK	REVISD
PLOT SCALE = NTS	CHECKED NLR	REVISD
PLOT DATE = 3/6/2020	DRAWN ZPM	REVISD
	CHECKED NLR	REVISD

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER R1 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702

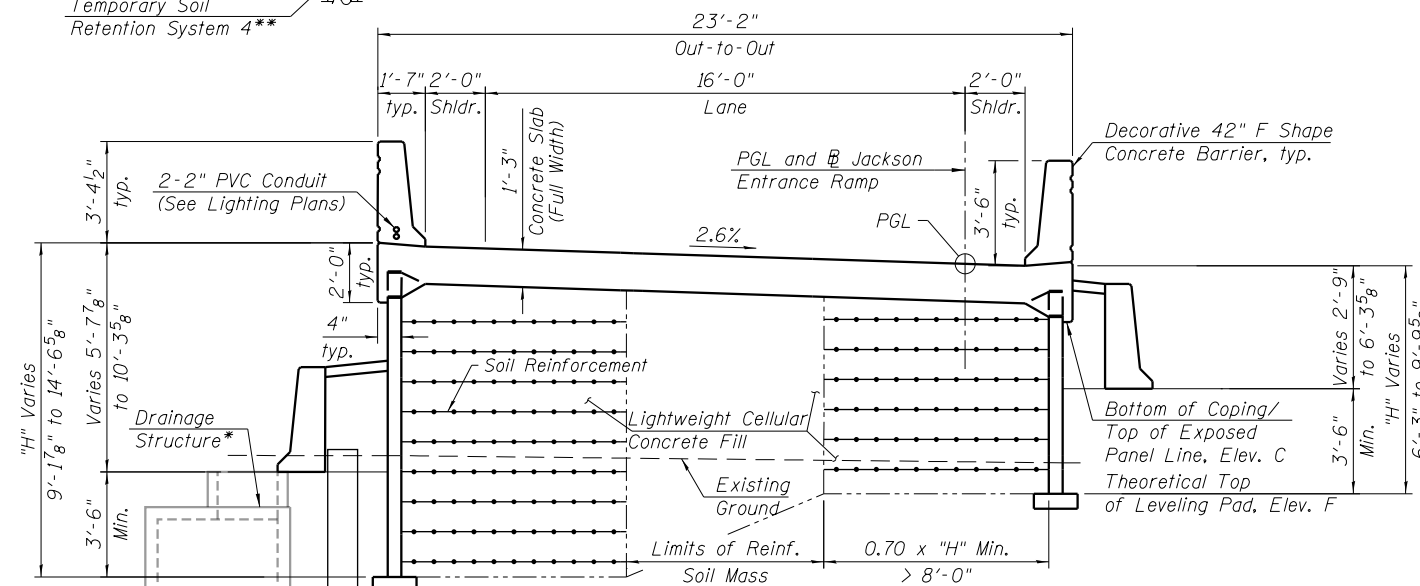
SHEET NO. S2-65 OF S2-80 SHEETS

F.A.U. RTE. 1422	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 450
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



CROSS SECTION

(Looking Upstation, Sta. 8241+94.38 to 8242+17.09)

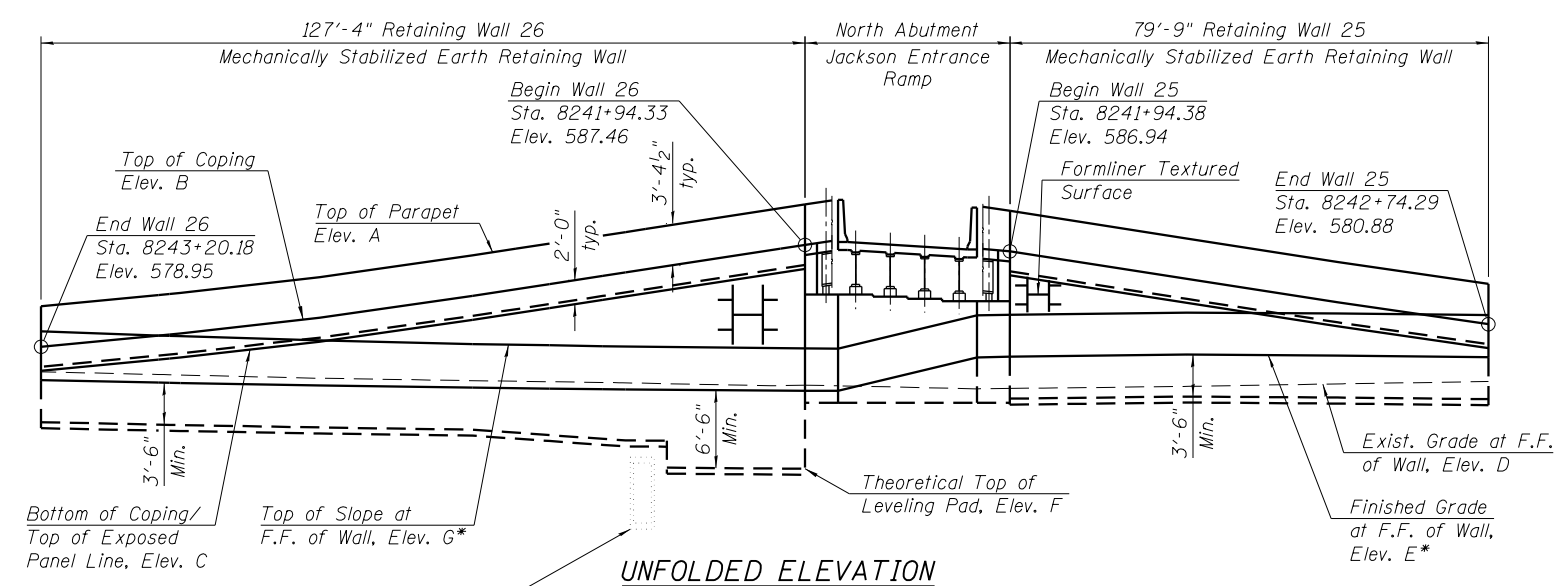


CROSS SECTION

(Looking Upstation, Sta. 8242+17.09 to 8242+74.29)

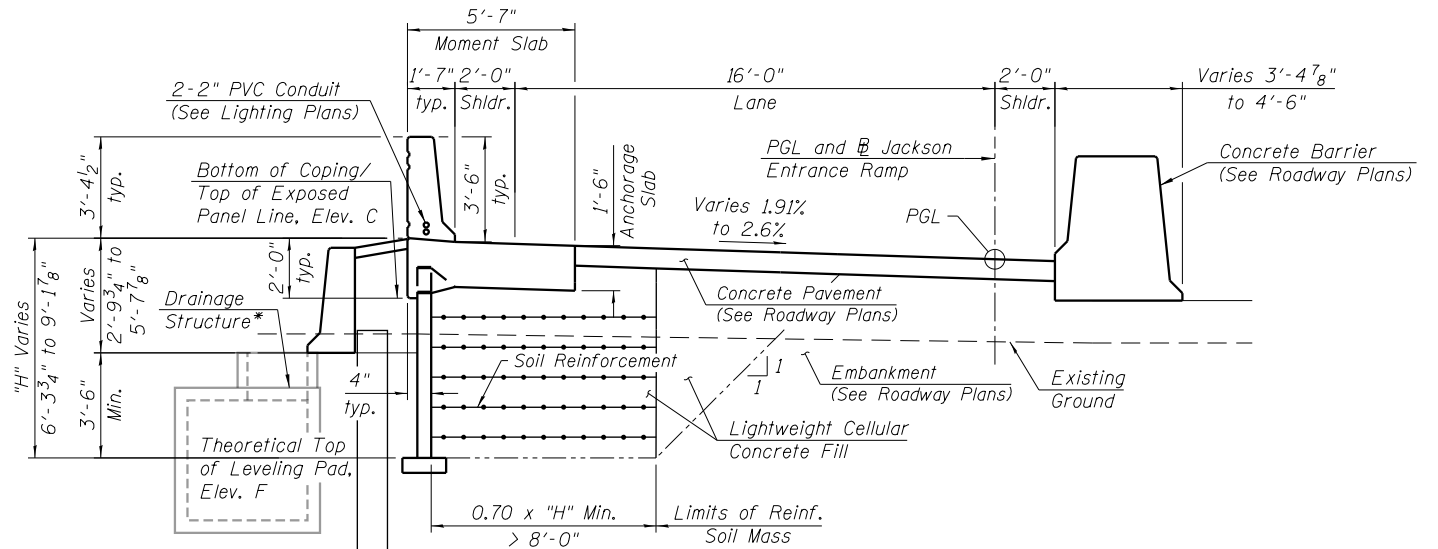
RETAINING WALL 25 ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
8241+94.38	3.25' Rt.	590.31	586.94	584.94	575.51	578.16	574.66	581.66
8242+23.88	3.25' Rt.	588.02	584.65	582.65	575.69	578.34	574.84	581.84
8242+49.08	3.25' Rt.	586.07	582.69	580.69	575.91	578.26	574.76	581.76
8242+74.29	3.25' Rt.	584.25	580.88	578.88	576.10	578.13	574.63	581.63



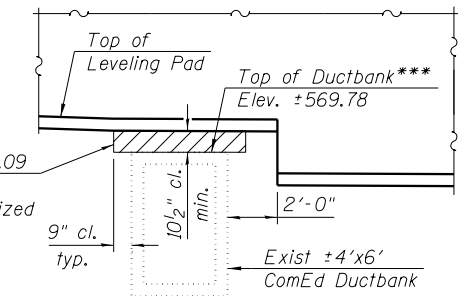
UNFOLDED ELEVATION

(Looking at F.F. of Wall)



CROSS SECTION

(Looking Upstation, Sta. 8242+74.29 to 8243+20.18)



DETAIL A

***Refer to Note 16 on Sheet S2-03 of S2-80.

* Installed as part of Contract 62A76.
** See sheet S2-06 of S2-80 for details.

Foam Filler according to Article 1051.09 of the Standard Specifications.
Cost included with Mechanically Stabilized Earth Retaining Wall, Special.

RETAINING WALL 26 ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G
8241+94.33	19.25' Lt.	590.84	587.46	585.46	575.78	575.31	568.81	578.84
8242+17.09	19.25' Lt.	589.07	585.70	583.70	575.93	575.39	568.89	578.95
8242+17.09	19.25' Lt.	589.07	585.70	583.70	575.93	575.39	571.14	578.95
8242+23.88	19.25' Lt.	588.54	585.17	583.17	575.97	575.42	571.17	578.99
8242+49.08	19.25' Lt.	586.59	583.21	581.21	576.15	575.56	572.06	579.20
8242+74.29	19.25' Lt.	584.77	581.40	579.40	576.35	575.74	572.24	579.50
8242+97.24	19.25' Lt.	583.45	580.08	578.08	576.64	575.94	572.44	579.84
8243+20.18	19.25' Lt.	582.33	578.95	576.95	576.87	576.17	572.67	580.24

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
Elevation G - Top of Slope at F.F. of Wall *
Elevations just to the right of joint
Elevations just to the left of joint

2/11/14 PM 0161702-60X94-S066-MSE.Elev&Xsections.dgn



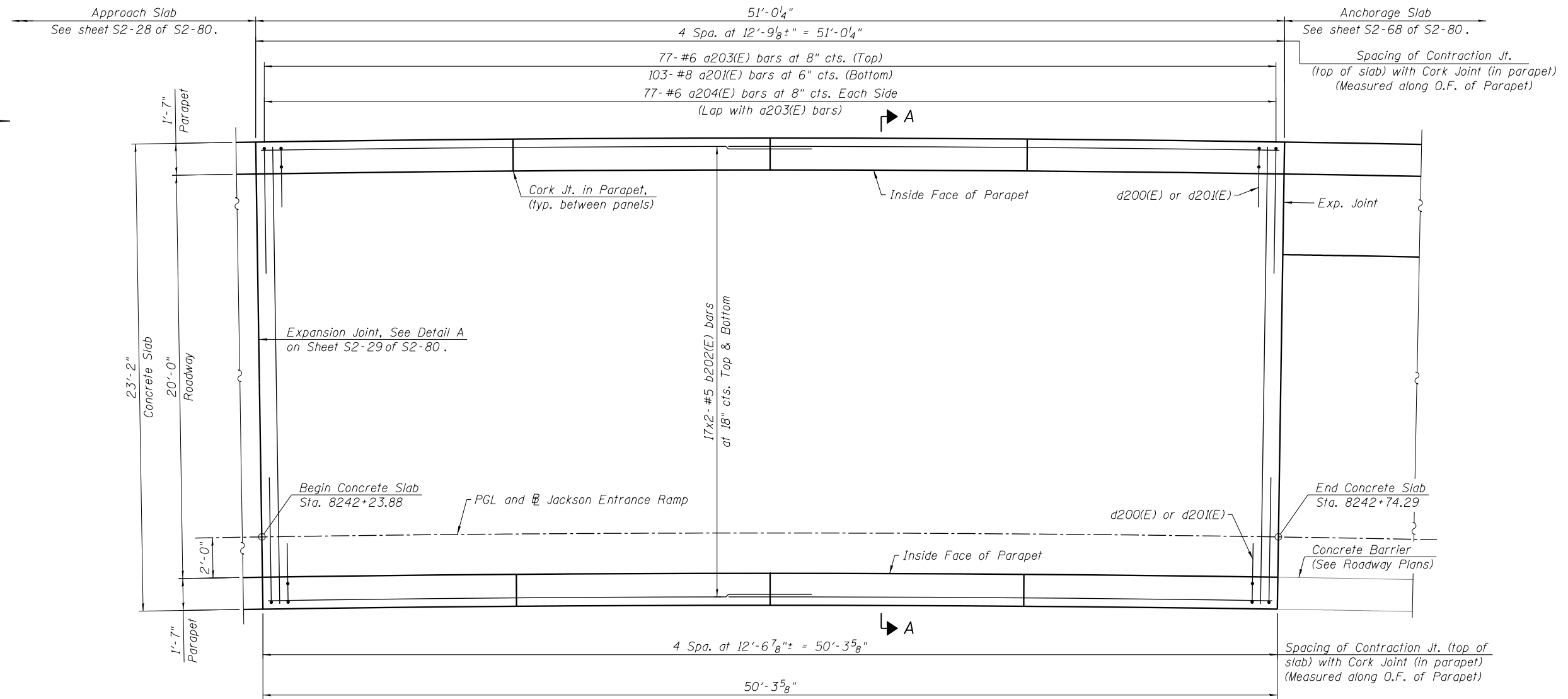
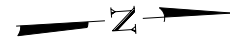
USER NAME = wjcolletti	DESIGNED TJA	REVISED
CHECKED WJC	REVISOR	REVISOR
PLOT SCALE = NTS	DRAWN TJA	REVISOR
PLOT DATE 3/5/2020	CHECKED WJC	REVISOR

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

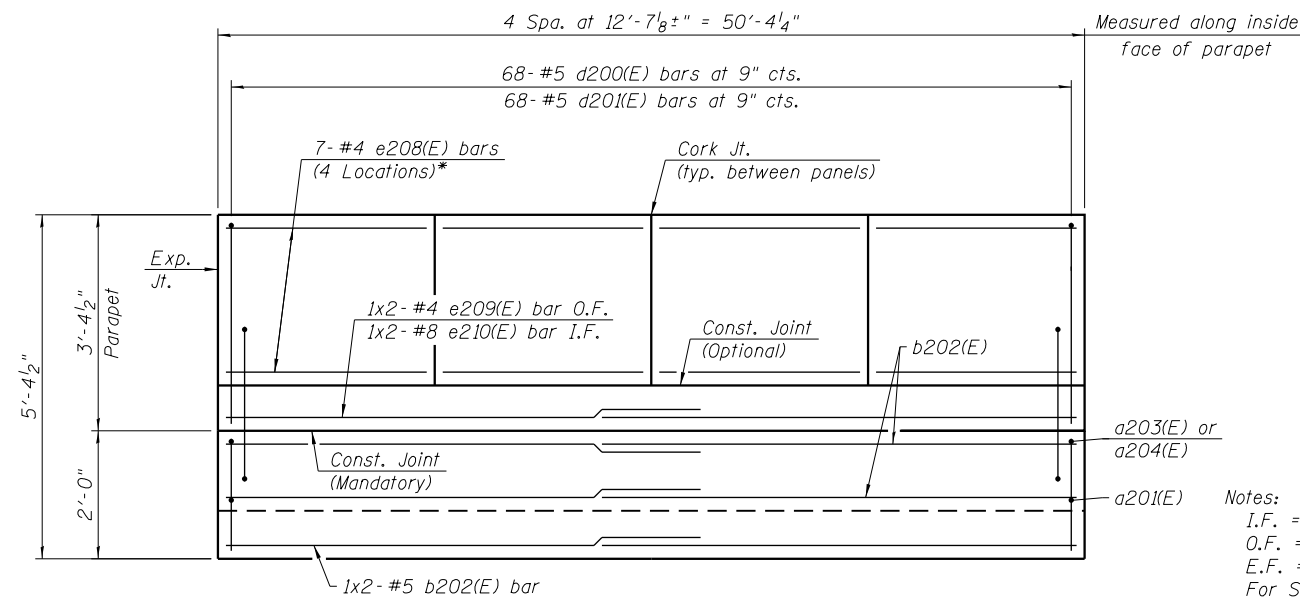
**MSE WALL ELEVATION AND CROSS SECTIONS
STRUCTURE NO. 016-1702**

SHEET NO. S2-66 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	451
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



PLAN



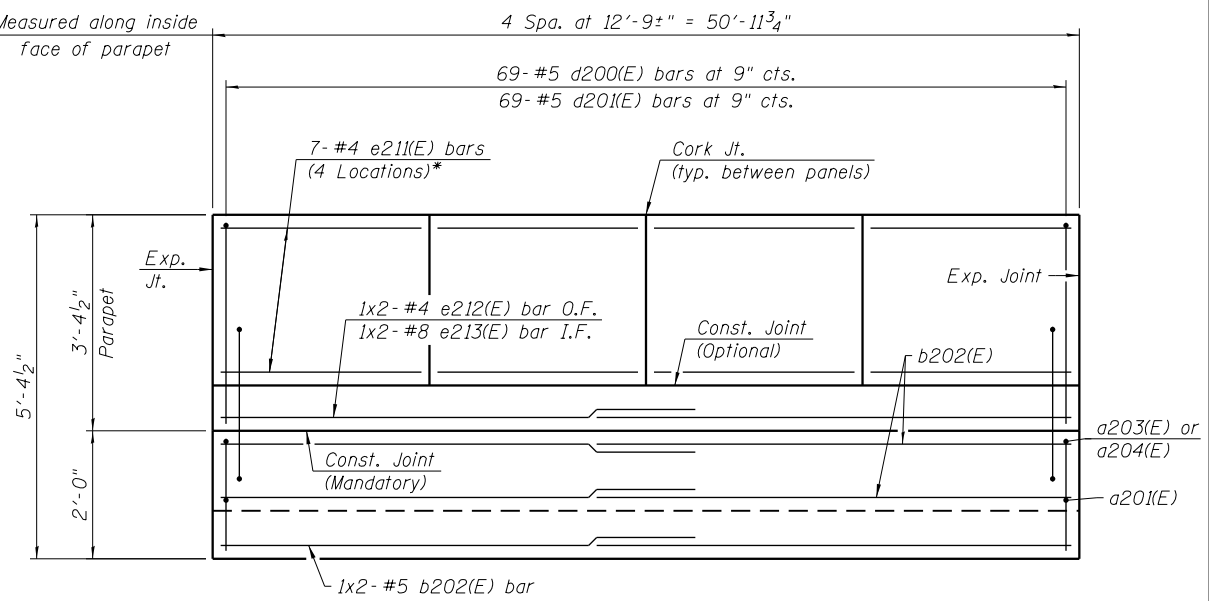
OUTSIDE ELEVATION OF EAST PARAPET
(Looking West)

MIN. BAR LAPS

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

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 S2-69 of S2-80.

* For details, see sheet S2-69 of S2-80.



OUTSIDE ELEVATION OF WEST PARAPET
(Looking East)

2:11:30 PM 0161702-60X94-S0617-SubPlan_Elev1.dgn



USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

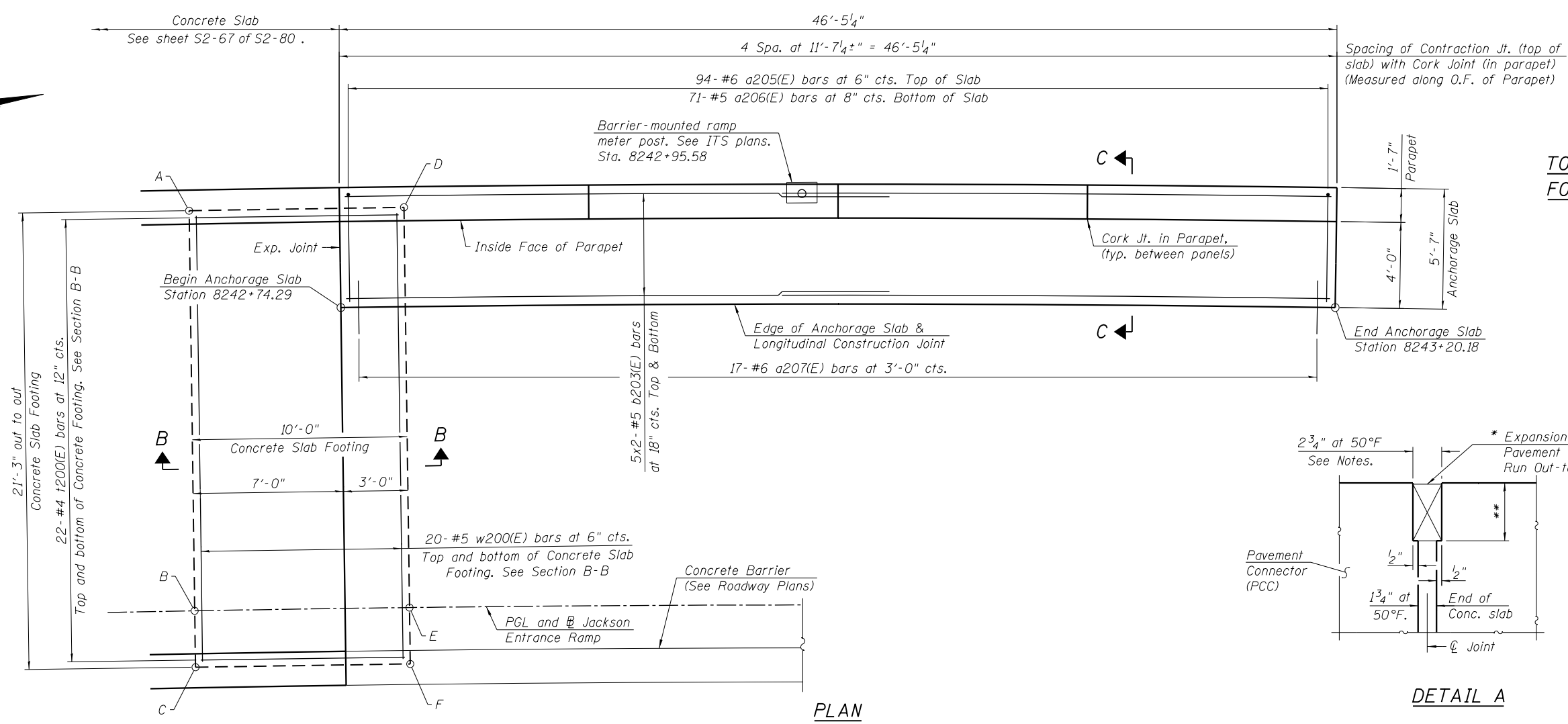
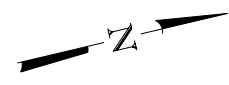
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET AND CONCRETE SLAB PLAN AND ELEVATION
STRUCTURE NO. 016-1702**

SHEET NO. S2-67 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	452
CONTRACT NO. 60X94				

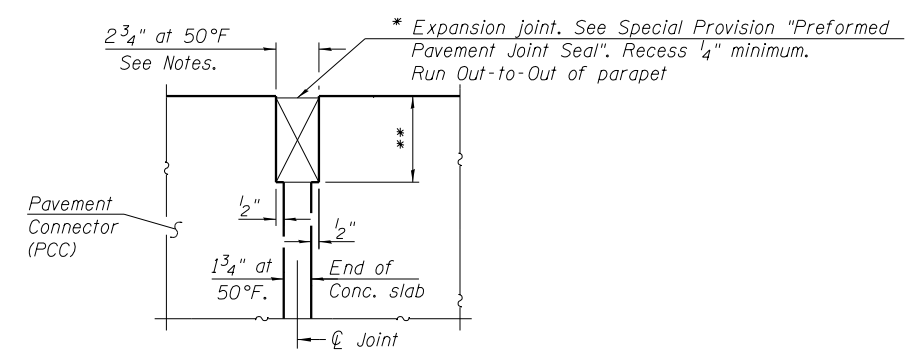
ILLINOIS FED. AID PROJECT



PLAN

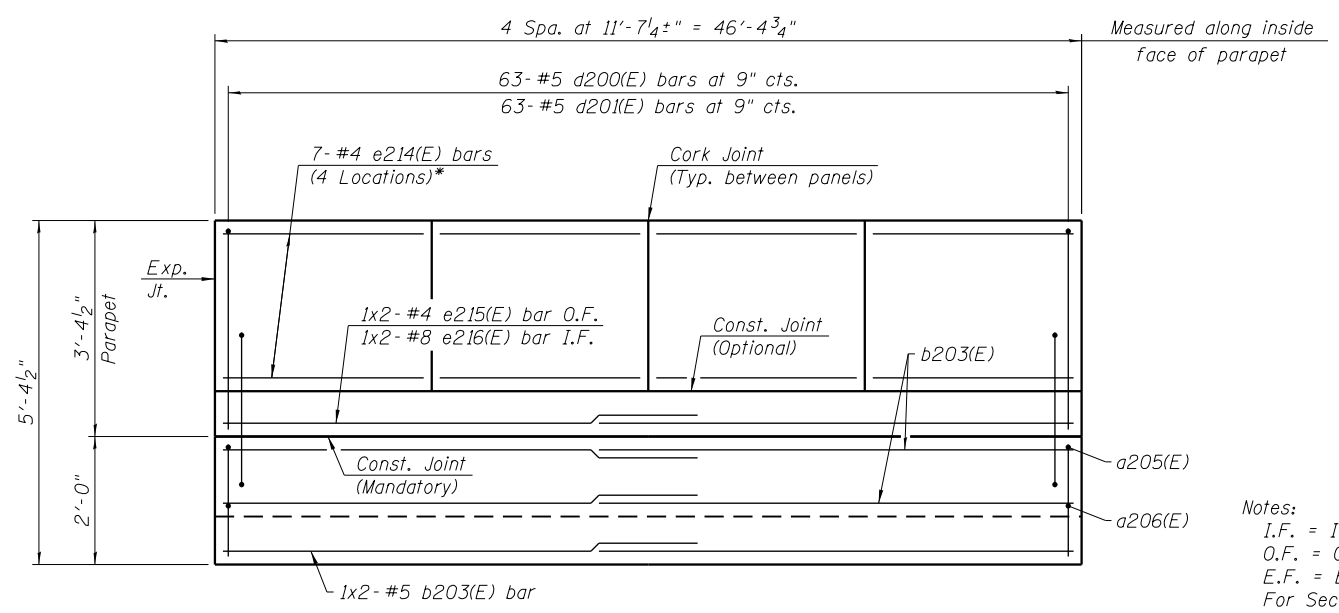
TOP AND BOTTOM ELEVATIONS FOR CONCRETE SLAB FOOTING

Point	Concrete Slab	
	Top	Bottom
A	580.26	579.43
B	579.77	578.94
C	579.70	578.87
D	579.60	578.77
E	579.12	578.29
F	579.05	578.22



DETAIL A

* Cost included with Concrete Superstructure.
 ** Per manufacturer recommendations



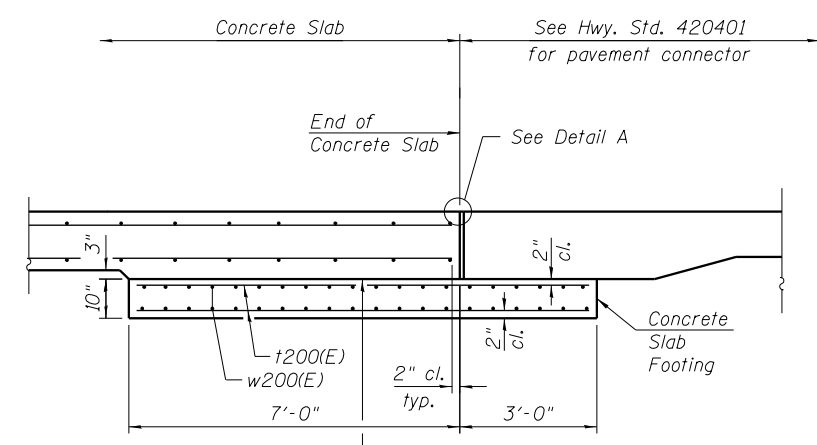
OUTSIDE ELEVATION OF WEST PARAPET
(Looking East)

MIN. BAR LAPS

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

Notes:
 I.F. = Inside Face
 O.F. = Outside Face
 E.F. = Each Face
 For Section C-C, Bar Diagram, Expansion and Contraction Joint Details and Bill of Material, see sheet S2-69 of S2-80.

* For details, see sheet S2-69 of S2-80.



SECTION B-B

2/11/2020 4:55 PM 0161702-60X94-5068-SlabPlan_Elev2.dgn



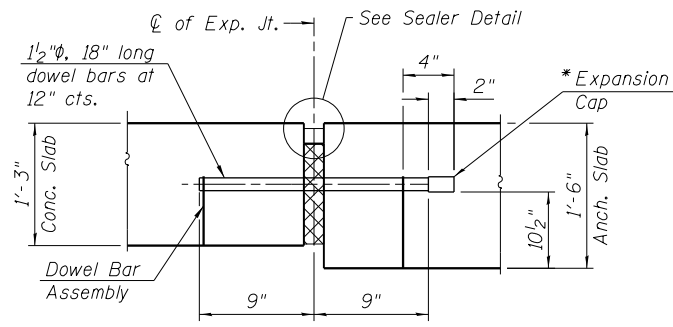
USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION
 STRUCTURE NO. 016-1702

SHEET NO. S2-68 OF S2-80 SHEETS

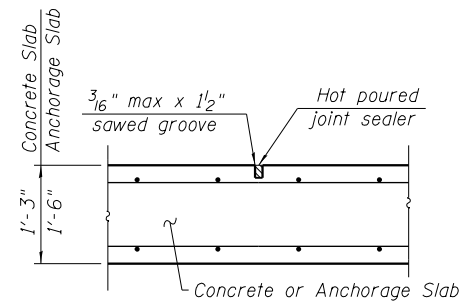
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	453
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



**CONCRETE SLAB TO ANCHORAGE SLAB
 TRANSVERSE EXPANSION JOINT**

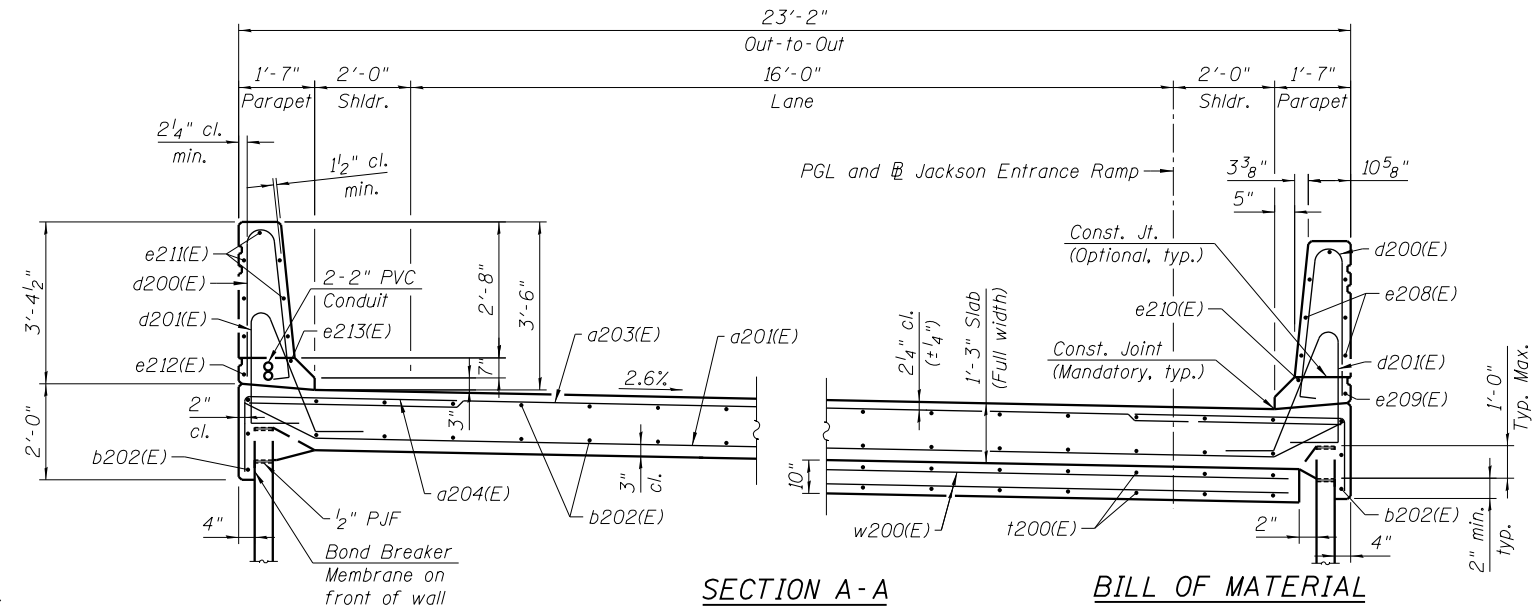
Expansion Joint Filler, Sealer and Dowel Bars included in cost of Concrete Superstructure.

*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

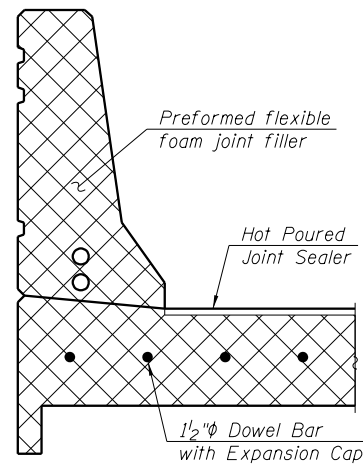


SECTION A-A

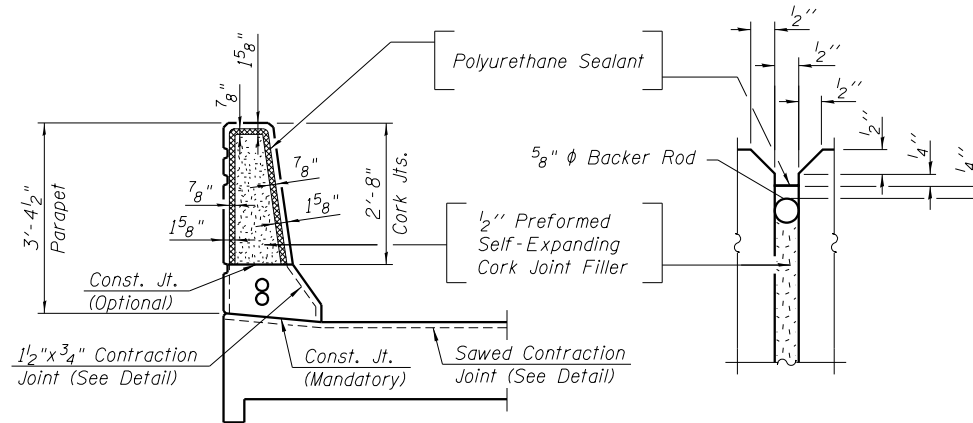
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a201(E)	103	#8	23'-2"	—
a203(E)	77	#6	22'-10"	—
a204(E)	154	#6	8'-0"	┌
a205(E)	94	#6	6'-9"	┌
a206(E)	71	#5	5'-5"	—
a207(E)	17	#6	2'-6"	—
b202(E)	72	#5	27'-0"	—
b203(E)	22	#5	24'-9"	—
d200(E)	200	#5	6'-10"	└
d201(E)	200	#5	7'-3"	└
e208(E)	28	#4	12'-3"	—
e209(E)	2	#4	26'-4"	—
e210(E)	2	#8	28'-4"	—
e211(E)	28	#4	12'-4"	—
e212(E)	2	#4	26'-8"	—
e213(E)	2	#8	28'-8"	—
e214(E)	28	#4	11'-3"	—
e215(E)	2	#4	24'-5"	—
e216(E)	2	#8	26'-5"	—
t200(E)	44	#4	9'-8"	—
w200(E)	40	#5	20'-11"	—
Structure Excavation		Cu. Yd.	333	
Concrete Structures		Cu. Yd.	6.6	
Concrete Superstructure		Cu. Yd.	90.6	
Protective Coat		Sq. Yd.	210	
Reinforcement Bars, Epoxy Coated		Pound	20,190	
Concrete Sealer		Sq. Ft.	1,311	
Lightweight Concrete Cellular Fill		Cu. Yd.	746	
Bridge Deck Grooving (Longitudinal)		Sq. Yd.	133	
Mechanically Stabilized Earth Retaining Wall, Special		Sq. Ft.	1,755	

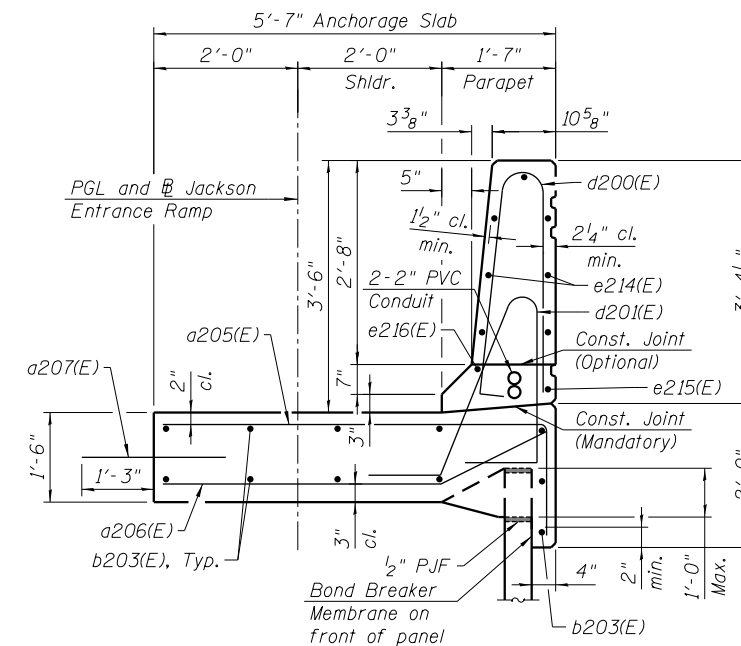
Notes:
 All edges shall be chamfered 3/4 inches.
 Protective coat shall be applied to the parapet top and interior vertical surface above ground line and top face of concrete and anchorage slab.
 Bars indicated thus 3x4-#5 etc. indicates 3 lines of bars with 4 lengths per line.
 See Sheet S2-03 of S2-80 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.
 1/2" PJF is included in the cost of Concrete Superstructure



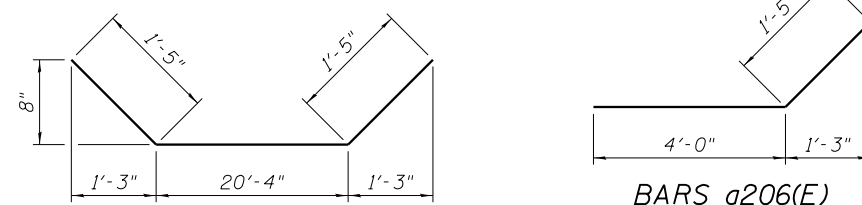
TRANSVERSE EXPANSION JOINT SECTION



PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION

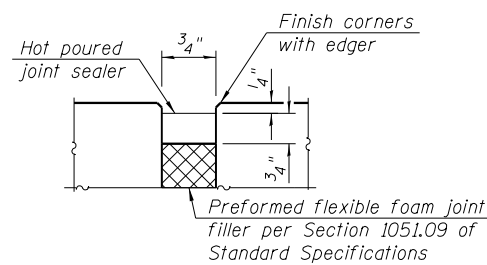


SECTION C-C

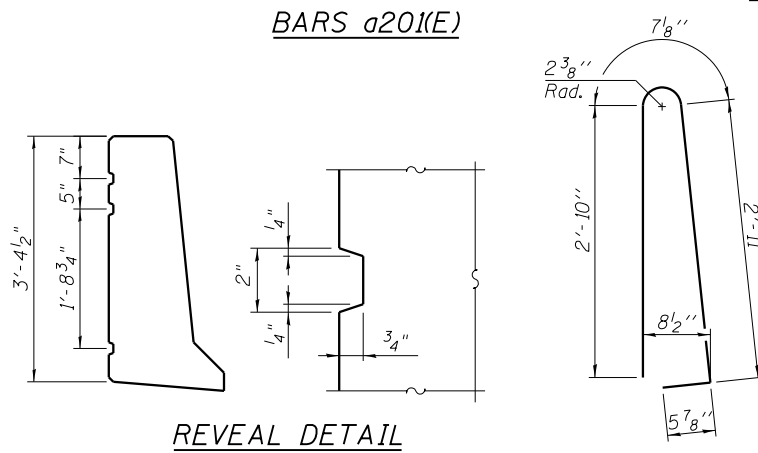


BARS a201(E)

BARS a206(E)

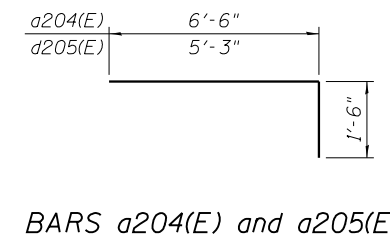


SEALER DETAIL

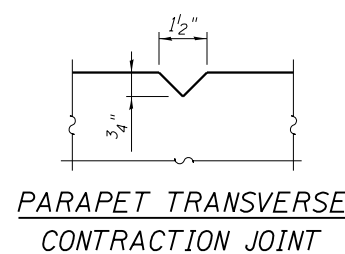


BAR d200(E)

BAR d201(E)



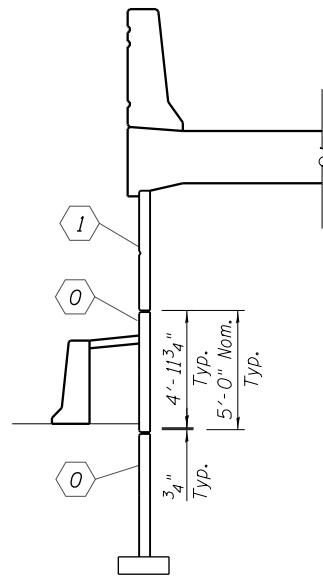
BARS a204(E) and a205(E)



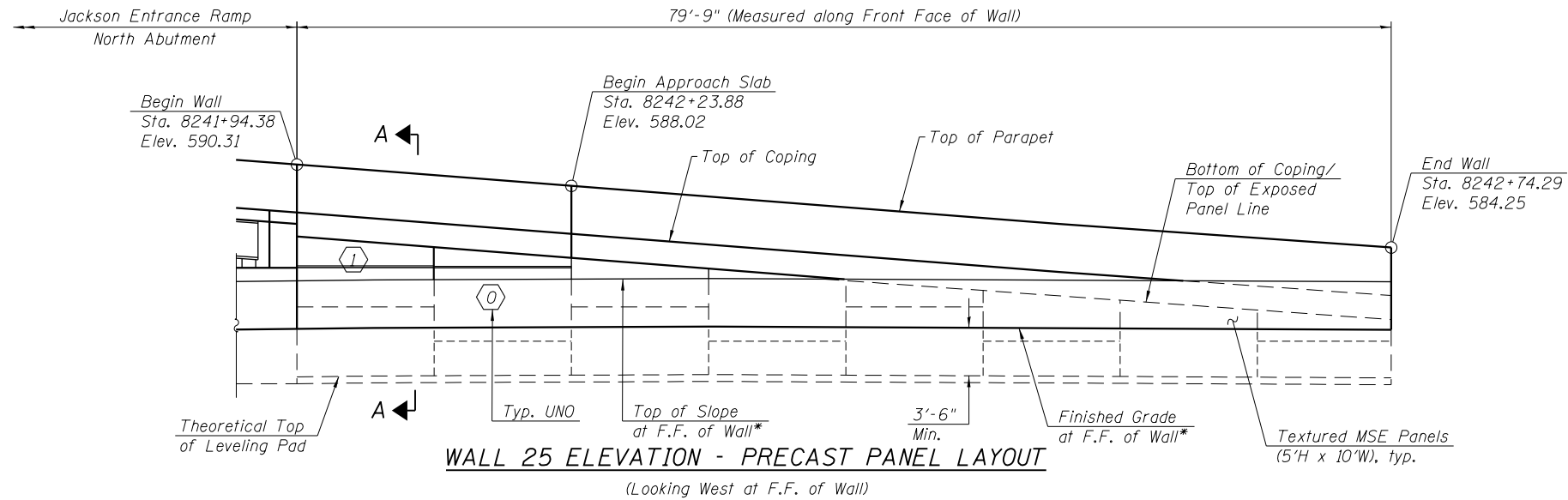
PARAPET TRANSVERSE CONTRACTION JOINT

USER NAME = wjcolletti	DESIGNED TJA	REVISED
CHECKED WJC	REVISED	
PLOT SCALE = NTS	DRAWN TJA	REVISED
PLOT DATE 3/5/2020	CHECKED WJC	REVISED

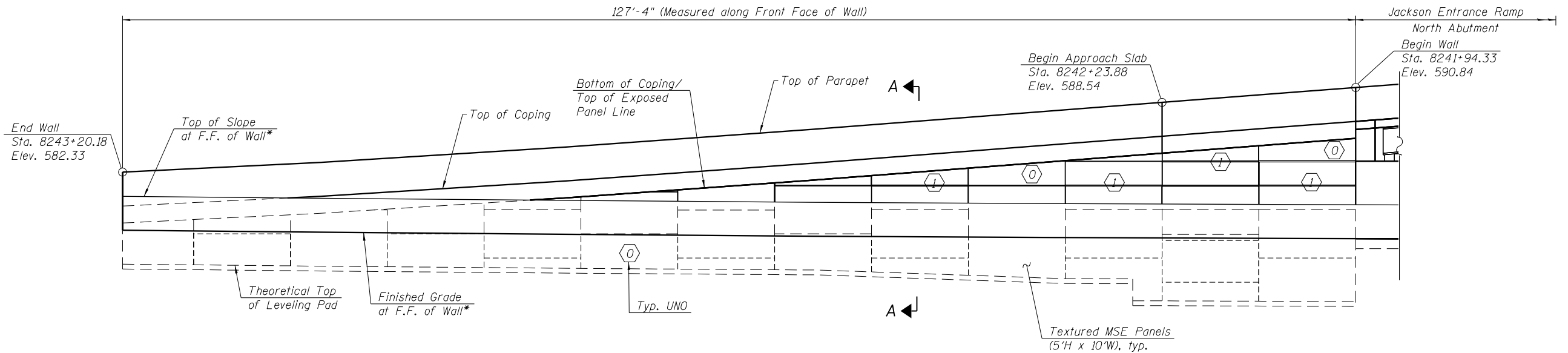
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	454
				CONTRACT NO. 60X94
ILLINOIS FED. AID PROJECT				



SECTION A-A

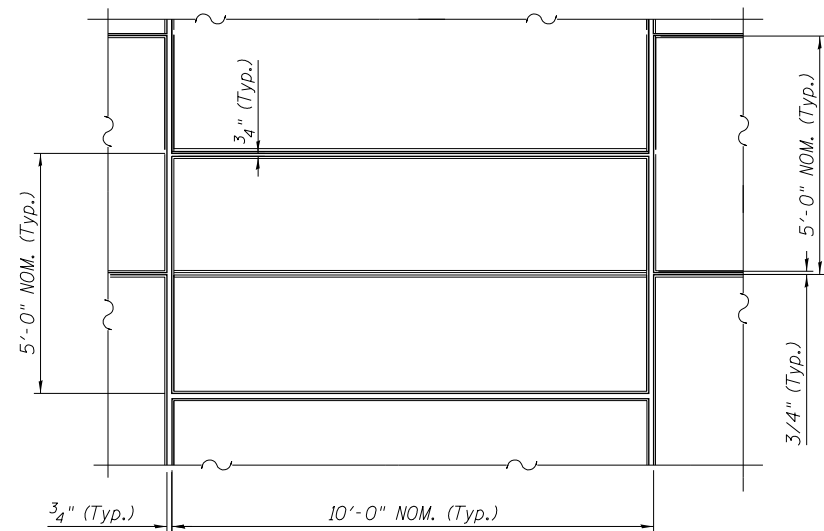


WALL 25 ELEVATION - PRECAST PANEL LAYOUT
(Looking West at F.F. of Wall)

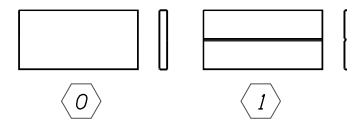


WALL 26 ELEVATION - PRECAST PANEL LAYOUT
(Looking East at F.F. of Wall)

* Installed as part of Contract 62A76



DETAIL



PRECAST PANEL TYPES

Notes:
 For Precast Panel and Formliner pattern details, see Adams Street Bridge (S.N. 016-1701) Plans.
 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. 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.

7:44:53 AM 0161702-60X94-SOTO-WallArchitectural.dgn



USER NAME = wjcolletti	DESIGNED TJA	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/6/2020	DRAWN TJA	REVISED
	CHECKED WJC	REVISED

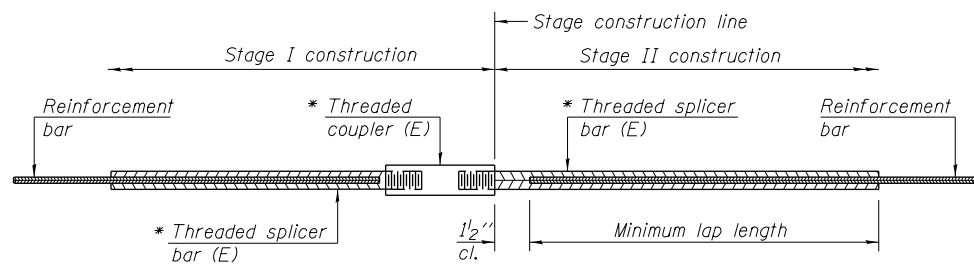
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1702

SHEET NO. S2-70 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	455
CONTRACT NO. 60X94				

ILLINOIS FED. AID PROJECT

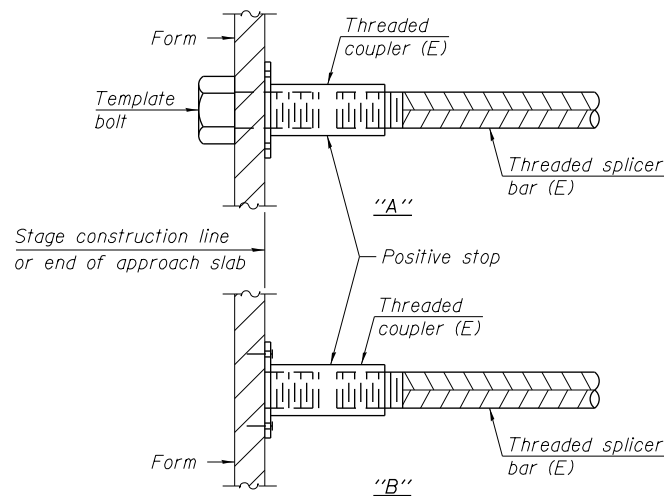


STANDARD BAR SPLICER ASSEMBLY

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

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

Location	Bar size	No. assemblies required	Minimum lap length

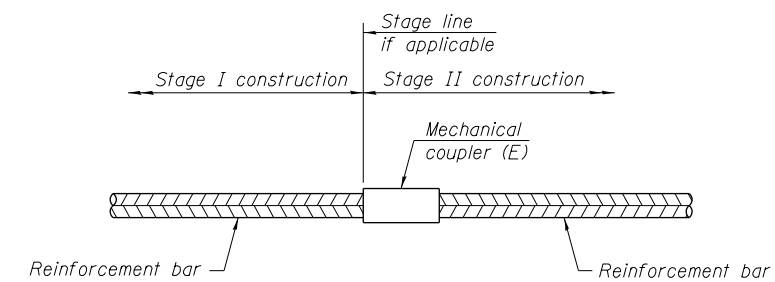


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

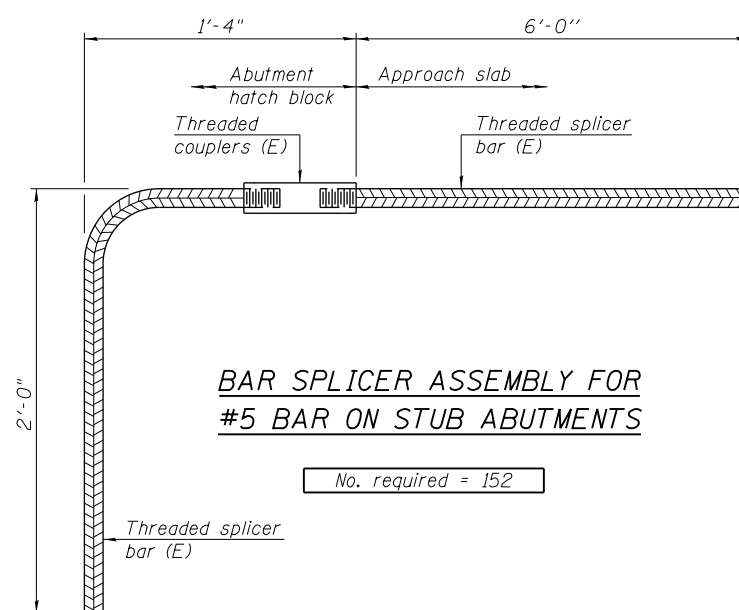
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
SE Wingwall Drilled Shaft 1	14	24
SE Wingwall Drilled Shaft 2	14	24
SE Wingwall Drilled Shaft 3	14	24
SE Wingwall Drilled Shaft 4	14	24
SE Wingwall Drilled Shaft 5	14	24
SE Wingwall Drilled Shaft 6	14	24



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 152

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

2:12:10 PM 0161702-60X94-S071-Bar Splice.dgn



USER NAME = wjcolletti	DESIGNED WJC	REVISED
	CHECKED MDS	REVISED
PLOT SCALE = NTS	DRAWN JTF	REVISED
PLOT DATE = 3/5/2020	CHECKED WJC	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

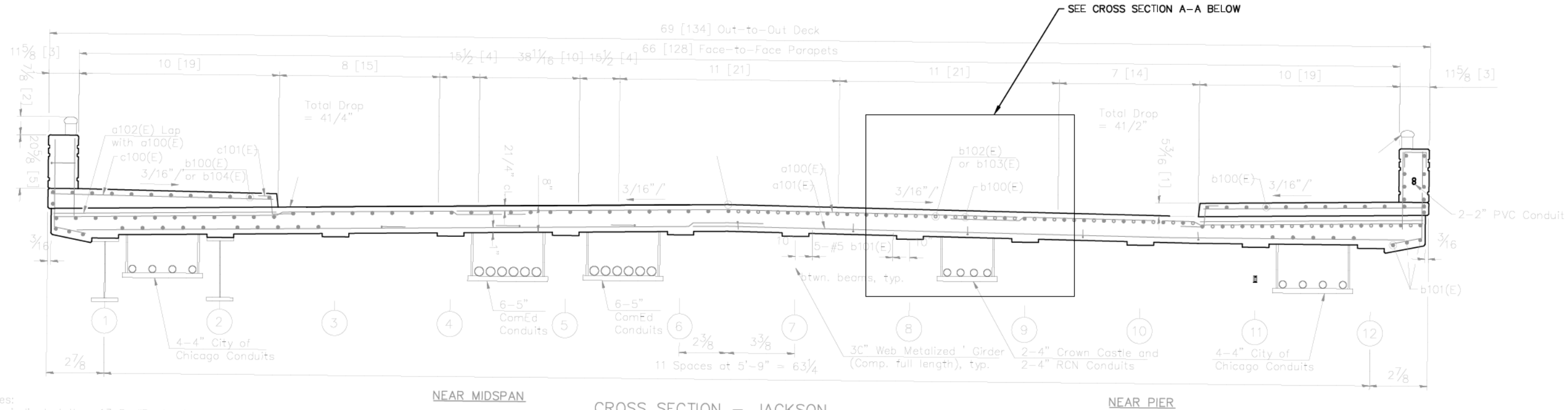
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-1702**

SHEET NO. S2-71 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	456
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

CROSS SECTIONS

PROJECT MANAGER: STEFAN SALZANO, P.E.



NEAR MIDSPAN

CROSS SECTION - JACKSON

(Looking East)

NEAR PIER

Notes:
 Bars indicated thus 13x8-#5 etc. indicates 13 lines of bars with 8 lengths per line.
 Dimensions are based on a Rolled Rail Strip Seal Joint.
 If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet JAC-JNS-JAC-TOT.

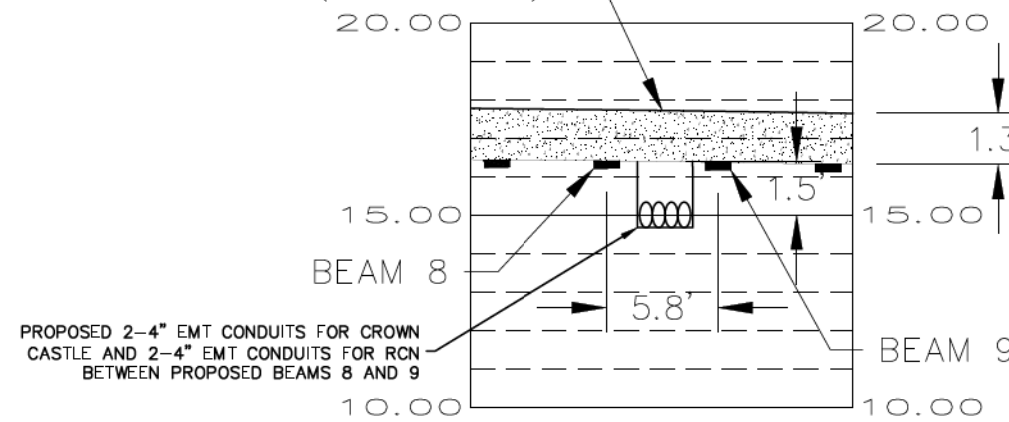
See Sheet JAC-SUS-JAC-TOT for Bill of Material.
 See Sheet JAC-PAR-JAC-TOT for parapet reinforcement.
 For Scupper locations see Sheet JAC-GB-JAC-TOT.

Minimum Bar Laps	
Bar	Lap
#5	3'-6"
#6	4'-10"

PROPOSED CROSS SECTION (BY OTHERS)

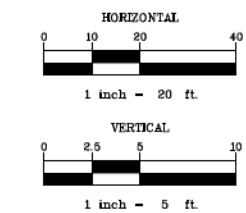
NOT TO SCALE

PROPOSED DECK (BY OTHERS)



CROSS SECTION A-A

SCALE: 1" = 5' HORIZONTAL
 1" = 5' VERTICAL



SEGMENT: **CRC-BA-3**

NOTES:

ENGINEER:
hbk
 ENGINEERING
 921 WEST VAN BUREN STREET, SUITE 100
 CHICAGO, ILLINOIS 60607
 STATE OF ILLINOIS DEPARTMENT
 OF PROFESSIONAL REGULATION
 LICENSE NO. 184-002308

OWNER/DEVELOPER:

CONTRACTOR:

TITLE:
**PROPOSED FIBER OPTIC
 BRIDGE ATTACHMENT
 W. JACKSON BLVD. BRIDGE
 CHICAGO, ILLINOIS**

REVISIONS			
REV	DATE	DESCRIPTION	BY
01	3-4-20	FOR IDOT REVIEW	KLN
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			

DRAWN BY:	CHECKED BY:	APPROVED BY:
KLN	EEM	SS

PROJECT NUMBER:	200141
FILE NAME:	20-0141
QC NUMBER:	N/A
DATE DRAWN:	03-04-2020
SCALE:	AS SHOWN

SHEET: S2-72 OF S2-80
 (457 OF 825)



SEGMENT:
CRC-BA-3

NOTES:

ENGINEER:
hbk
ENGINEERING
921 WEST VAN BUREN STREET, SUITE 100
CHICAGO, ILLINOIS 60607
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION
LICENSE NO. 184-002308

OWNER/DEVELOPER:
CROWN
CASTLE
RCN

CONTRACTOR:

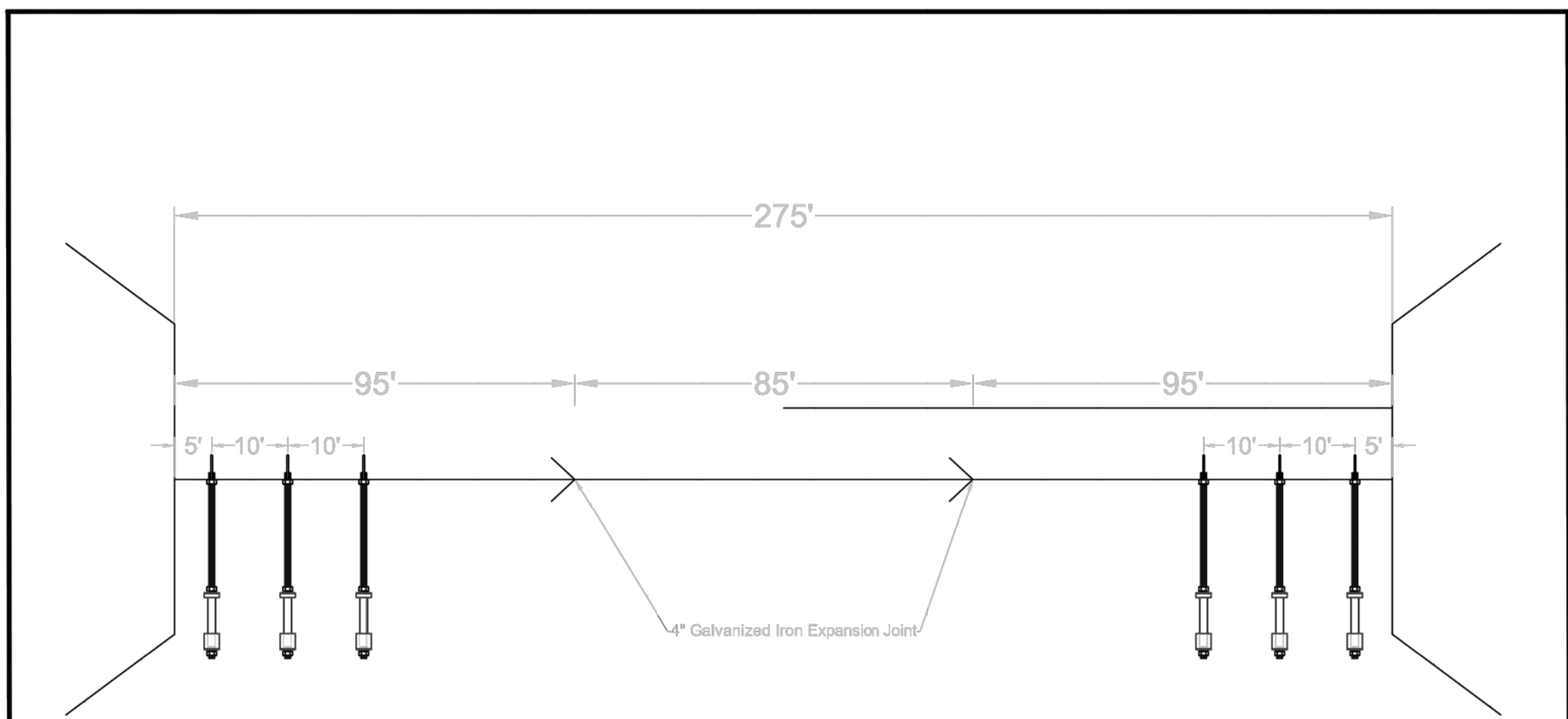
TITLE:
**PROPOSED FIBER OPTIC
BRIDGE ATTACHMENT
W. JACKSON BLVD. BRIDGE
CHICAGO, ILLINOIS**

REVISIONS			
REV	DATE	DESCRIPTION	BY
01	3-4-20	FOR IDOT REVIEW	KLN
02			
03			
04			
05			
06			
07			
08			
09			
10			
11			
12			

DRAWN BY:	CHECKED BY:	APPROVED BY:
KLN	EEM	SS

PROJECT NUMBER:	200141
FILE NAME:	20-0141
OCC NUMBER:	N/A
DATE DRAWN:	03-04-2020
SCALE:	N.T.S.

SHEET: S2-74 OF S2-80
(459 OF 825)

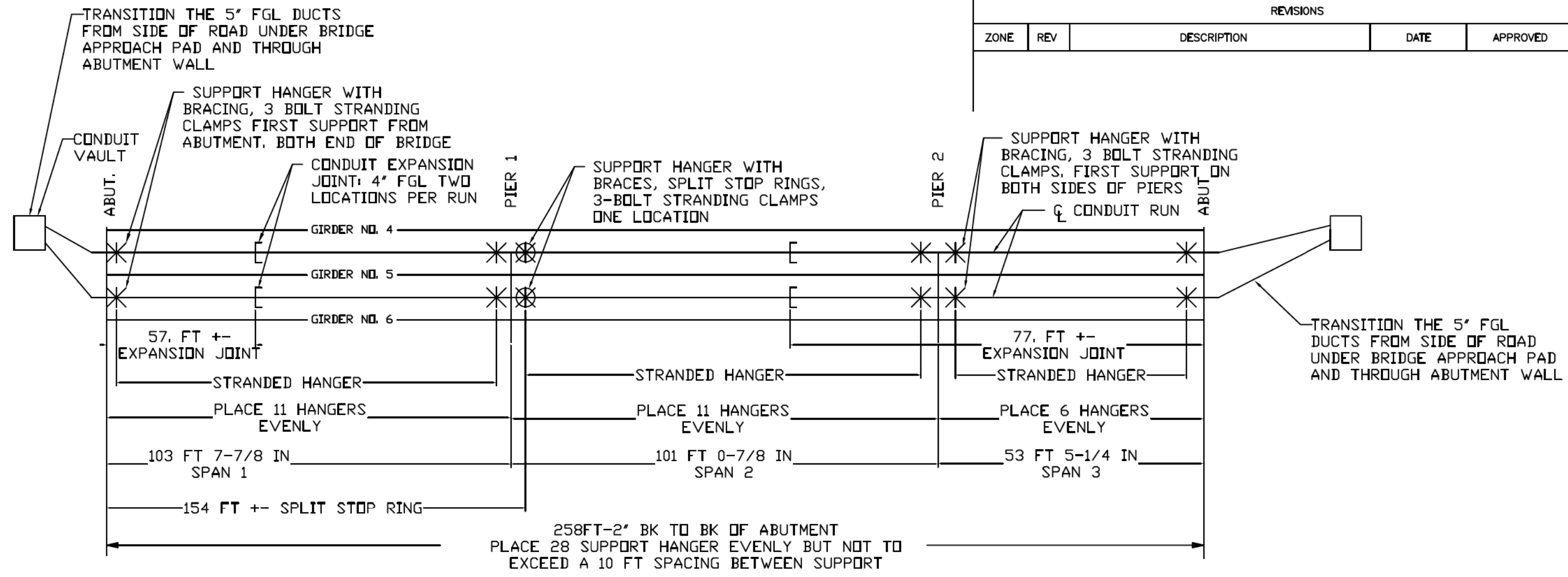


Osburn Associates, Inc. is a conduit hanger manufacturer with over 30 years experience. We are supplying these drawings for expansion joint layouts. If these need to be stamped by an engineer, we are unable to provide that service.

TOLERANCES (EXCEPT AS NOTED) DECIMAL ± FRACTIONAL ± 1/16" ANGULAR ±	REVISIONS			HBK Engineering, LLC.		
	NO.	DATE	BY	OSBURN ASSOCIATES INC.		
	1			P.O. Box 912 Logan, Ohio 43138		
	2			DRAWN BY	SCALE	MATERIAL
	3			M Grove		
4			CHK'D	DATE	DRAWING NO.	
5				2/20/20		
			TRACED	APP'D		



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



NOTE
 PLACE COM ED CONDUIT RUN BETWEEN BRIDGE GIRDERS 4 AND 5 AND 5 AND 6. RUN CONDUITS THROUGH BRIDGE ABUTMENT BACK WALLS IN A 1 HIGH X 6 WIDE CONFIGURATION. RUN GUY STRANDING FROM FIRST SUPPORT HANGER TO LAST HANGER IN EACH SPAN OF THE BRIDGE DECK. DO NOT CROSSING ANY BRIDGE DECK EXPANSION JOINTS. THE FIRST SUPPORT HANGER ON EAST SIDE OF PIER # 1 WILL HAVE BRACING AND FGL SPLIT STOP RINGS TO PREVENT CONDUIT FROM MOVING (SLIDING) THROUGH THAT SUPPORT. EXPANSION JOINTS ARE REQUIRED IN TWO LOCATIONS ACROSS THE BRIDGE.

- NOTES:**
1. ALL MATERIALS REQUIRED FOR THE PLACEMENT OF THIS UNDER BRIDGE CONDUIT SYSTEM WILL BE PROVIDED BY COM ED.
 2. FIBERGLASS CONDUIT 5" IPS (5.57 O.D. X .096 WALL) MEETING NEMA TC-14A.
 3. ALL FIBERGLASS CONDUIT JOINTS ARE TO BE EPOXIED.
 4. SPLIT STOP RINGS ARE TO BE EPOXIED TO EACH DUCT AT SPECIFIED SUPPORT HANGER LOCATIONS.
 5. CONDUIT EXPANSION JOINTS ARE PLACED BETWEEN TWO SPECIFIED INTERMEDIATE HANGERS.
 6. SUPPORT HANGERS AND INSERTS MANUFACTURED FROM CONDUX INTERNATIONAL, INC. OF MANKATO MN, PHONE: 1-800-533-2077 QUOTE NO. 3995256468
 7. CONDUIT SUPPORT HANGER WEIGHT: 36.0 LBS EA
 FGL CONDUIT AND FITTINGS WEIGHT: 1.22 LBS PER FT
 CABLE 650 CU EXFSJ COMED ESP 5.38.2 WEIGHT: 8.4 LBS PER FT.
 TOTAL WEIGHT 34339.0 LBS

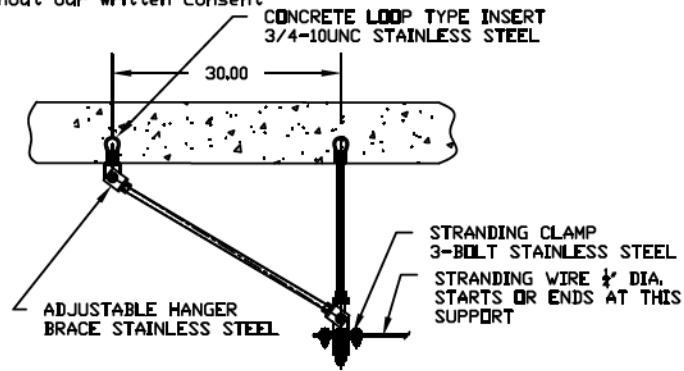
Note:
 ALL MEASUREMENTS ARE IN INCHES UNLESS NOTED OTHERWISE

DRAWING APPROVAL
 I APPROVE THIS DRAWING FOR MANUFACTURING
 DATE: _____

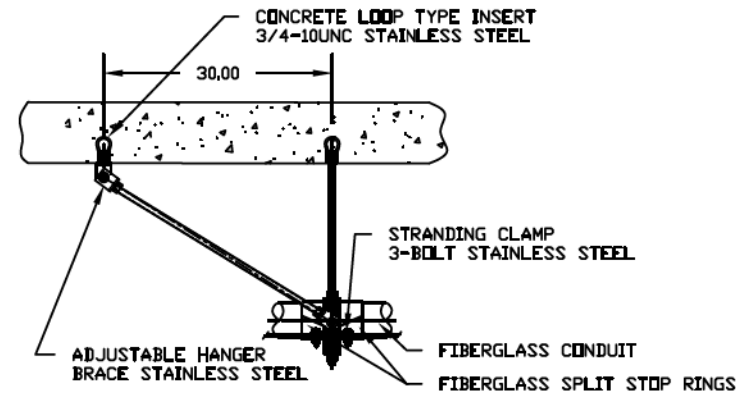
Layout of support hangers and conduit and fittings	CONDUX INTERNATIONAL, INC. MANKATO MN PH. 800-533-2077			
	Project: COM ED JACKSON BLVD BRIDGE I-90/94			
WEIGHT: 0.0 LBS EA	SIZE	FSCM NO.	DWG NO. TBA	REV 2.0
QUOTE NO. 3995256468	SCALE NONE	DATE: 03-09-2020	SHEET	S2-74A OF S2-80 (459A OF 825)



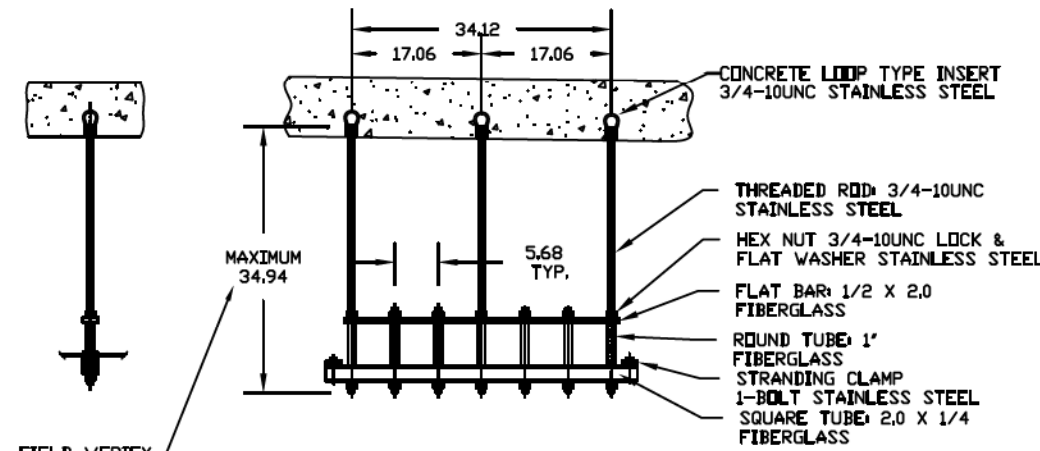
This drawing is the property of Condux International, Inc. and the information thereon is to be treated as confidential. It is not to be used, copied or disclosed to outside parties without our written consent.



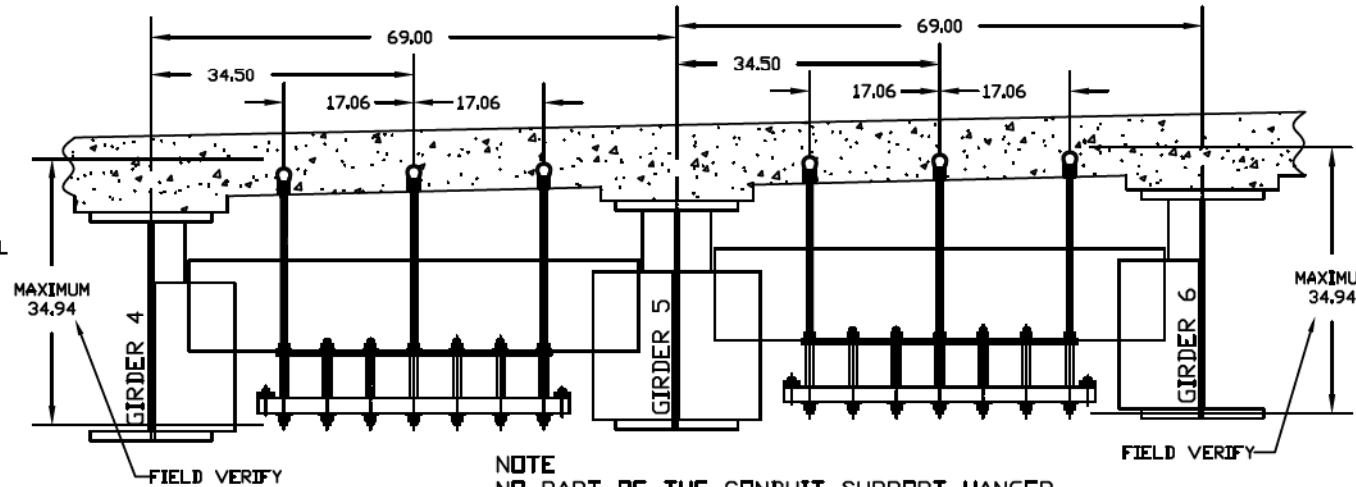
STANDARD SUPPORT HANGER WITH BRACING, 3-BOLT STRANDING CLAMPS, LOCATIONS FIRST HANGER INSIDE EACH ABUTMENT AND FIRST HANGER ON BOTH SIDE OF PIERS



STANDARD SUPPORT HANGER WITH BRACING, FGL SPLIT STOP RINGS AND 3-BOLT CLAMPS 1 LOCATION



STANDARD SUPPORT HANGER WITH 1-BOLT STRANDING CLAMPS



NOTE
NO PART OF THE CONDUIT SUPPORT HANGER CAN EXTEND BELOW THE BRIDGE GIRDER
EXTENDED RODS MAY NEED TO BE ALTERED

Condux International, Inc. Support hanger meet the following specifications
Fiberglass Items
Flat Bar: 1/2 x 2.0
Round Tube: 1.0" O.D., .105 wall
Square Tube: 2 x 2 x 1/4
Fiberglass reinforced with polyester resin with surface veil for better weathering, resin shall contain u.v. inhibitor. Fiberglass is made with continuous strand mat and uni-directional roving, gray in color
Tensile Strength (ASTM D 638) 30,000 PSI
Tensile Modules (ASTM D 638) 2.3E6 PSI
Flexural Strength (ASTM D 790) 30,000 PSI
Flexural Modules (ASTM D 790) 2.3E6 PSI
Compressive Strength (ASTM D 695) 20,000 PSI
Compressive Modules 1.4E6 PSI
Yield shear strength 2000 PSI
Barcol hardness 50
Dielectric strength (ASTM D 149) 200 VPM Min.

Stainless steel Hardware Items
Threaded Rod
Threaded rod meets (ASTM/ASME B1.1) (ASTM A307 Grade A) (Tensile Strength 60,000 PSI)
Hexnut
Hexnut meets (ANSI/ASME B18.2.2) Material: 316 Stainless steel (ASTM F594)
Flatwasher
Flatwasher meets (ANSI/ASME B18.22.1) Material: 316 stainless steel (ASTM F436)
Lockwasher
Lockwasher meets (ANSI/ASME B18.21.1) Material: 316 Stainless steel (ASTM F436)
Stranding Items
Stranding Clamps (1-Bolt & 3-Bolt)
Material: 1/4 x 1.5 (316 Stainless Steel)
Stranding Wire
Cable: 1/4" Dia (7 X 19 Steel Aircraft)
304 Stainless Steel
Bracing
Adjustable hanger attachment brackets
Material: angle 2.5 x 2.5 x .25 (316 Stainless steel)

DRAWING APPROVAL
I _____
APPROVE THIS DRAWING FOR MANUFACTURING
DATE: _____
Note:
ALL MEASUREMENTS ARE IN INCHES UNLESS NOTED OTHERWISE

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

BILL OF MATERIAL

ITEM NO.	PART NO.	DESCRIPTION	QTY	UNIT
1	TBA	STANDARD CONDUIT SUPPORT HANGER 1 HIGH X 6 WIDE FIBERGLASS AND STAINLESS STEEL, OPENING FOR TWELVE 5" FGL DUCTS THREADED RODS THREE @ 3/4-10UNC X 36.00 LONG	56	EA.
2	08610242	HANGER BRACE ADJUSTABLE 42 INCH STAINLESS STEEL	24	EA.
3	08409990	CONCRETE INSERT 3/4-10 LOOP TYPE, STAINLESS STEEL	192	EA.
4	08558300	CONCRETE INSERT SETTING PLUG 3/4-10	192	EA.
5				
6	08408902	STRANDING WIRE 1/4 X 350 FT., STAINLESS STEEL	4	EA.
7	08409404	GUY STRAND CLAMP 3-BOLT, STAINLESS STEEL	24	EA.
8	08409504	GUY STRAND CLAMP 1-BOLT, STAINLESS STEEL	88	EA.
9	08460053	CONDUIT FIBERGLASS 5" IPS, MW (.57 O.D. X .096 WALL) MEETING NEMA TC-14A	3360	FT.
10	08460153	CONDUIT STOP COUPLING 5" IPS MW	24	EA.
11	08460453	CONDUIT EXPANSION JOINT O-RING TYPE 5" IPS MW	24	EA.
12	08460953	CONDUIT SPLIT STOP RING 5" IPS MW	24	EA.
13	08461553	CONDUIT ADAPTER 5" IPS MW TO 5" GRC	24	EA.
14	08463402	CONDUIT EPOXY ADHESIVE CARTRIDGE	35	EA.
15	02288990	CONDUIT EPOXY ADHESIVE GUN	1	EA.

General Construction, Hanger and Conduit Notes

- 1.0 Recommended spacing between Support is 10 foot.
- 2.0 Support Hanger Material shall be manufactured using 316 stainless steel and fiberglass components.
- 3.0 Conduit is 5 inch Fiberglass with minimum wall thickness of .096 inch meeting NEMA TC-14A Specs.
- 4.0 Conduit joints shall be positive locking adhesive bonded bell and spigot.
- 5.0 Conduit expansion joints shall be sliding sleeve with provision for 8 inch of travel.
- 6.0 Bridge abutments must have a block out or be sleeved to allow the fiberglass conduit to pass through. After conduit is placed through abutment seal up opening with state approved sealant.

CONDUIT SUPPORT HANGER DETAIL AND BILL OF MATERIALS

CONDEX INTERNATIONAL, INC.
MANKATO MN
PH. 800-533-2077

Project: Com Ed
JACKSON BLVD BRIDGE
I-90/94

WEIGHT: 0.0 LBS EA

SIZE FSCM NO.

DWG NO. TBA

REV 0

QUOTE NO. 3995256468

SCALE 1/2

DATE: 03-09-2020

SHEET S2-74B OF S2-80 (459B OF 825)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
578.3	4-inch thick ASPHALT --PAVEMENT-- 16-inch thick CONCRETE --PAVEMENT-- Dense, white and gray CRUSHED STONE --BASE COURSE--	1	16 21 24			NP	578.3		9	0 0 0	0.41 B	28	
574.2	Very stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	5	3 5 5		2.79 S	14	574.2	Stiff, gray SILTY CLAY LOAM, trace gravel	25	10	0 0 1	0.41 B	24
572.4	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel	3	2 1 2 3		0.41 B	23	572.4	Soft to medium stiff, gray CLAY to SILTY CLAY LOAM, trace gravel	30	11 12	2 3 3 0 0 2	1.56 B 0.66 B	25 25
		4	1 1 1 2		0.41 B	24			35	13	0 1 3	0.41 B	18
		5	1 2 3		0.25 P	24			40	14	5 5 5	2.38 B	22
		6	0 1 2		0.66 B	23							
		7	0 0 0		0.16 B	27							
		8	0 0 0		0.33 B	26							

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	A&K	Logger	A. Happel
Checked by	C. Marin	Time After Drilling	24 hours
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring	Depth to Water	77.00 ft
backfilled upon completion		The stratification lines represent the approximate boundary between soil types. The actual transition may be gradual.	

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
513.4	Loose, brown SANDY GRAVEL	65	19	4 4 5		NP	513.4		65	19	4 4 5		NP
511.2	Dense, gray SILTY LOAM, trace gravel						511.2						
506.2	Dense, gray SANDY LOAM, little gravel						506.2						
501.2	Brown and gray, SANDY GRAVEL						501.2						
498.9	Dense, gray SILTY LOAM, trace gravel						498.9						
489.4	Strong, light gray, excellent rock mass quality, bedded fresh DOLOSTONE, 1 to 3 feet beds, 1.4 feet joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity						489.4						
488.4	DIFFICULT DRILLING at 88.5 ft-- WEATHERED BEDROCK--						488.4						
483.9	Strong, light gray, excellent rock mass quality, bedded fresh DOLOSTONE, 1 to 3 feet beds, 1.4 feet joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity						483.9						
479.9	Boring terminated at 104.00 ft						479.9						

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	A&K	Logger	A. Happel
Checked by	C. Marin	Time After Drilling	24 hours
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring	Depth to Water	77.00 ft
backfilled upon completion		The stratification lines represent the approximate boundary between soil types. The actual transition may be gradual.	

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
498.2	Brown and gray, medium and coarse SAND, little gravel						498.2						
493.9	Dense, gray SILTY LOAM, trace gravel						493.9						
489.4	Strong, light gray, excellent rock mass quality, bedded fresh DOLOSTONE, 1 to 3 feet beds, 1.4 feet joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity						489.4						
488.4	DIFFICULT DRILLING at 88.5 ft-- WEATHERED BEDROCK--						488.4						
483.9	Strong, light gray, excellent rock mass quality, bedded fresh DOLOSTONE, 1 to 3 feet beds, 1.4 feet joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity						483.9						
479.9	Boring terminated at 104.00 ft						479.9						

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	A&K	Logger	A. Happel
Checked by	C. Marin	Time After Drilling	24 hours
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring	Depth to Water	77.00 ft
backfilled upon completion		The stratification lines represent the approximate boundary between soil types. The actual transition may be gradual.	

Notes:
 Boring Log 0589-B-02 station and offset along
 @ Jackson Blvd. is: Sta. 8313+34.94, Offset 61.17' Rt.

2/12/2015 4:59 PM 0161702-60X94-5075-Boring-1.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 1
 STRUCTURE NO. 016-1702**

SHEET NO. S2-75 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	460
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
593.3	6-inch thick, ASPHALT --PAVEMENT--						593.3	Soft, gray CLAY LOAM, trace gravel					
592.3	12-inch thick, CONCRETE --PAVEMENT--						592.3	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel					
590.8	Loose, brown and gray, fine and medium SAND, trace gravel --FILL--	1	3	3	NP	12							
	Stiff to very stiff, brown and gray SILTY CLAY LOAM, trace gravel and sand layers --FILL--	2	3	3	2.50	17							
		3	2	1	1.25	20							
		4	2	2	2.05	23							
583.3	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	5	3	2	0.75	27							
		6	0	0	0.41	26							
		7	0	2	0.33	24							
		8	0	0	0.41	20							

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-17-2014	Complete Drilling	06-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	N&K	Logger	A. Happel
Checked by	C. Marin	Depth to Water	NA
Drilling Method	3.25"HSA to 10', mud rotary thereafter, boring backfilled upon completion	While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	
592.1	Stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	15	3	4	1.39	17	527.1	Medium stiff to very stiff, gray CLAY, trace gravel	19	5	7	0.75	22	
		16	2	4	1.39	16			20	5	7	2.21	24	
		17	4	6	0.49	21			21	3	4	0.82	30	
		18	5	9	1.00	22			22	10	7	NP	22	
542.1	Soft to stiff, gray SILTY CLAY, trace gravel	45	15	4	1.39	17	517.1	Medium dense to very dense, gray, fine SAND and SILT laminations	75	21	3	4	0.82	30
		50	16	2	4	1.39			80	22	7	NP	22	
		55	17	4	0.49	21								
		60	18	5	9	1.00								

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-17-2014	Complete Drilling	06-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	N&K	Logger	A. Happel
Checked by	C. Marin	Depth to Water	NA
Drilling Method	3.25"HSA to 10', mud rotary thereafter, boring backfilled upon completion	While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
502.1	Dense to very dense, gray SILTY LOAM --Moist--	23	23	50	NP	24	487.8	--AUGER REFUSAL-- Boring terminated at 106.00 ft	105	27	32	NP	24
		24	20	21	NP	20			110				
		25	22	23	NP	23			115				
		26	18	27	NP	19			120				

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-17-2014	Complete Drilling	06-17-2014
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR
Driller	N&K	Logger	A. Happel
Checked by	C. Marin	Depth to Water	NA
Drilling Method	3.25"HSA to 10', mud rotary thereafter, boring backfilled upon completion	While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Notes:
 Boring Log 1702-B-01 station and offset are measured along Jackson Blvd.

2:13:07 PM 0161702-60X94-5076-Boring_2.dgn

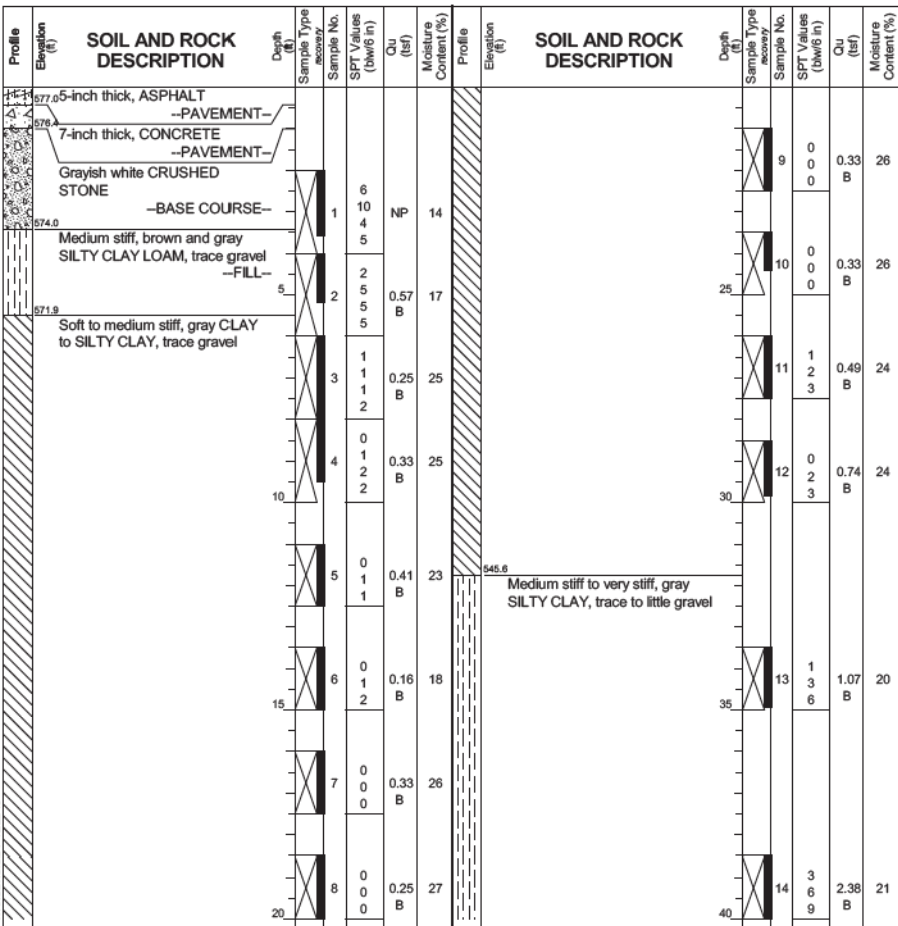


USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

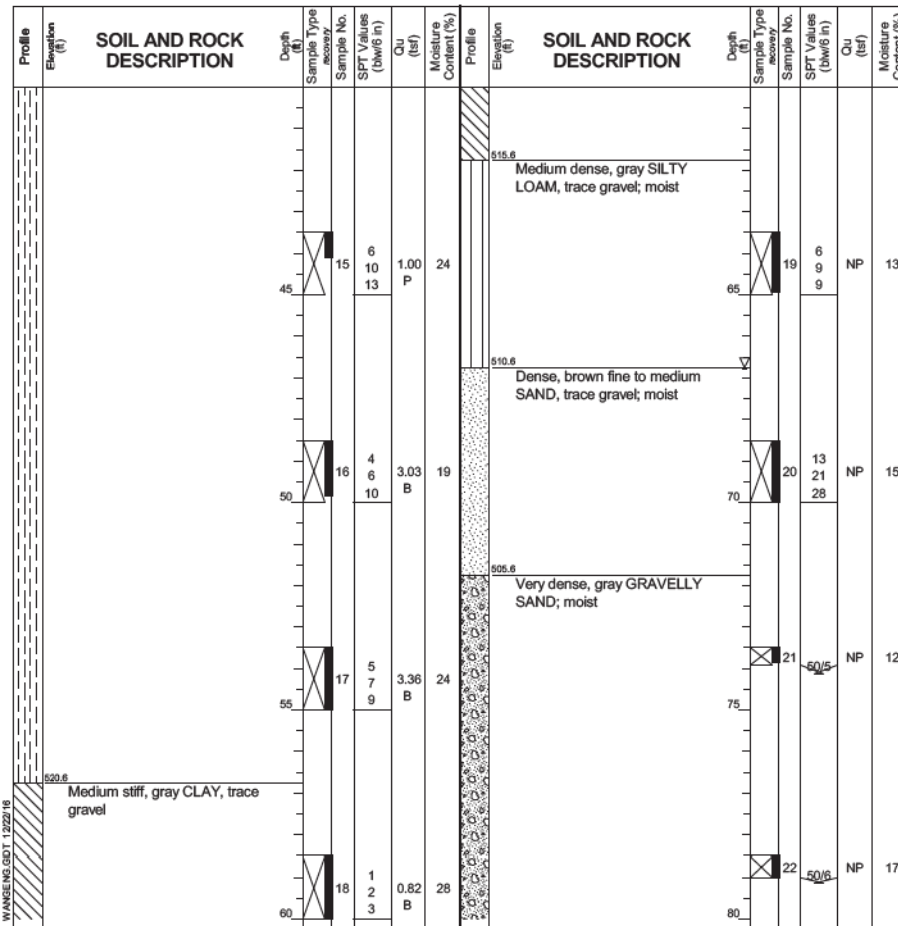
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
STRUCTURE NO. 016-1702
 SHEET NO. S2-76 OF S2-80 SHEETS

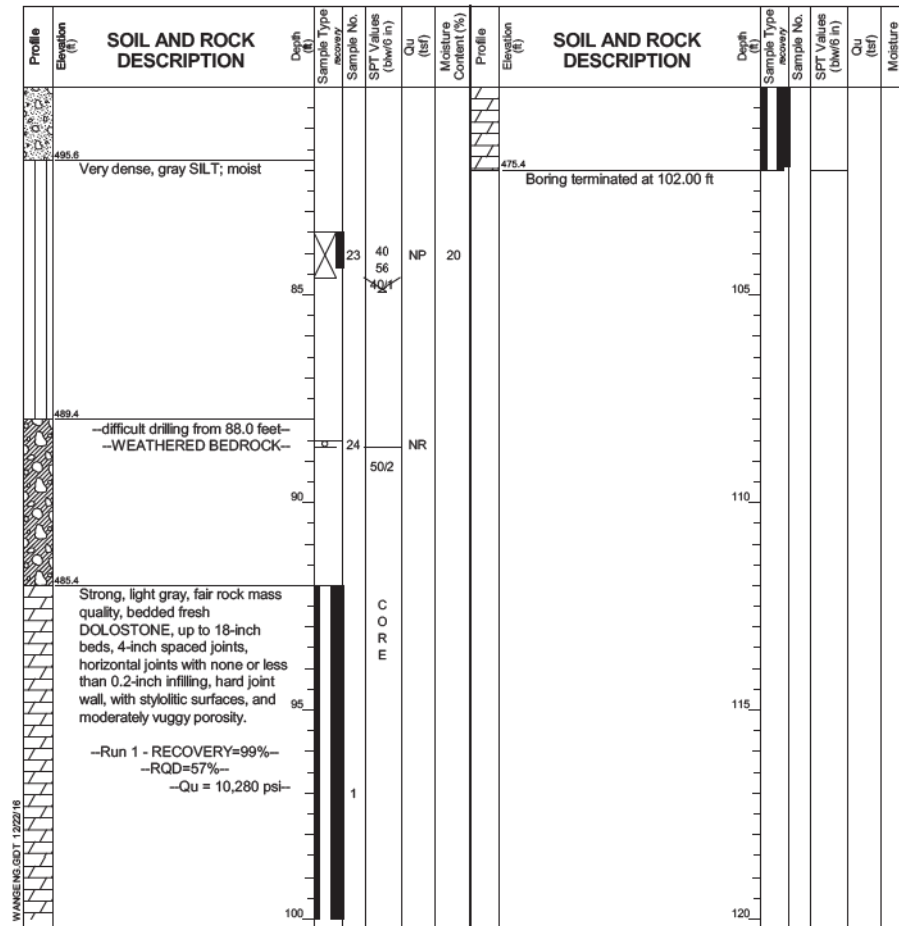
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	461
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-23-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Depth to Water	NA
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-23-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Depth to Water	NA
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-13-2014	Complete Drilling	07-23-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Depth to Water	NA
Drilling Method: 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

Notes:
 Boring Log 1702-B-02 station and offset along Jackson Blvd. is: Sta. 8213+42.72, Offset 63.99' Rt.

2:13:15 PM 0161702-60X94-5077-Bor-Log_3.dgn

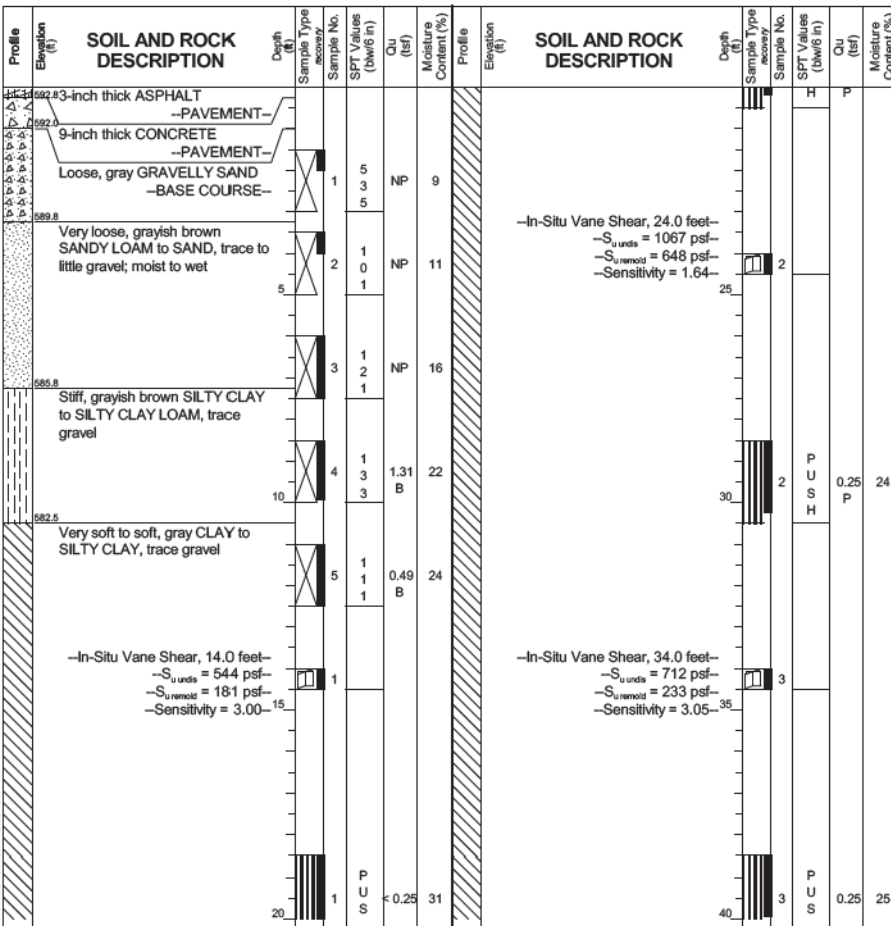


USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

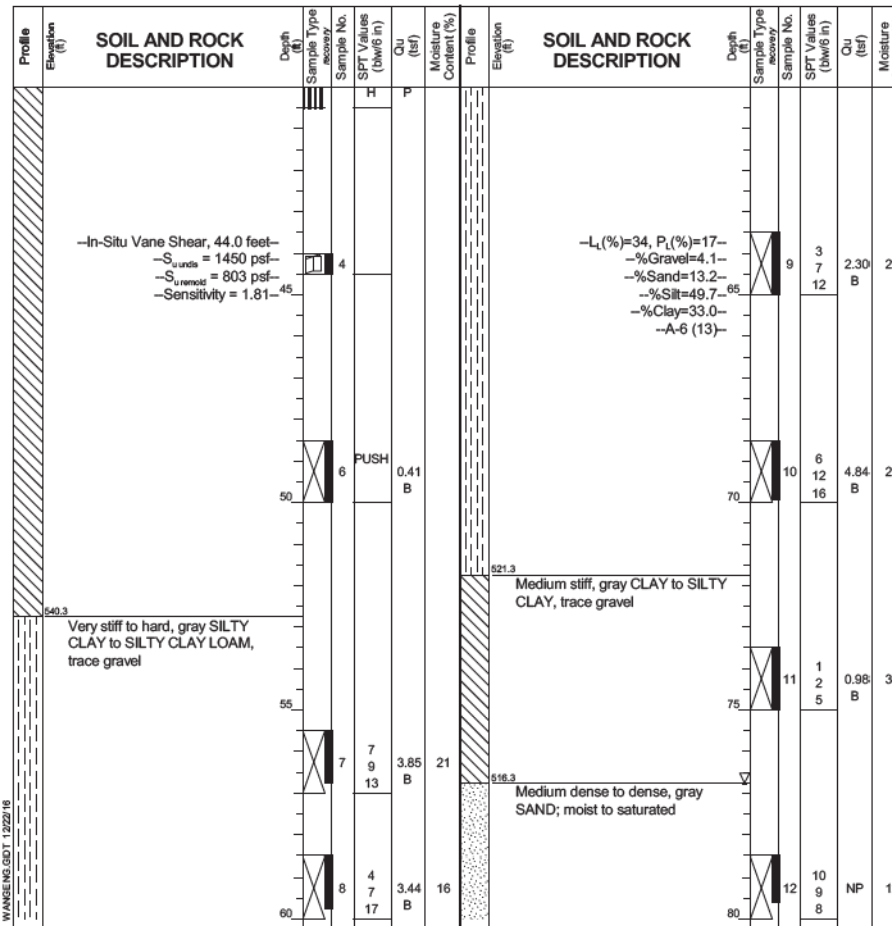
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
STRUCTURE NO. 016-1702
 SHEET NO. S2-77 OF S2-80 SHEETS

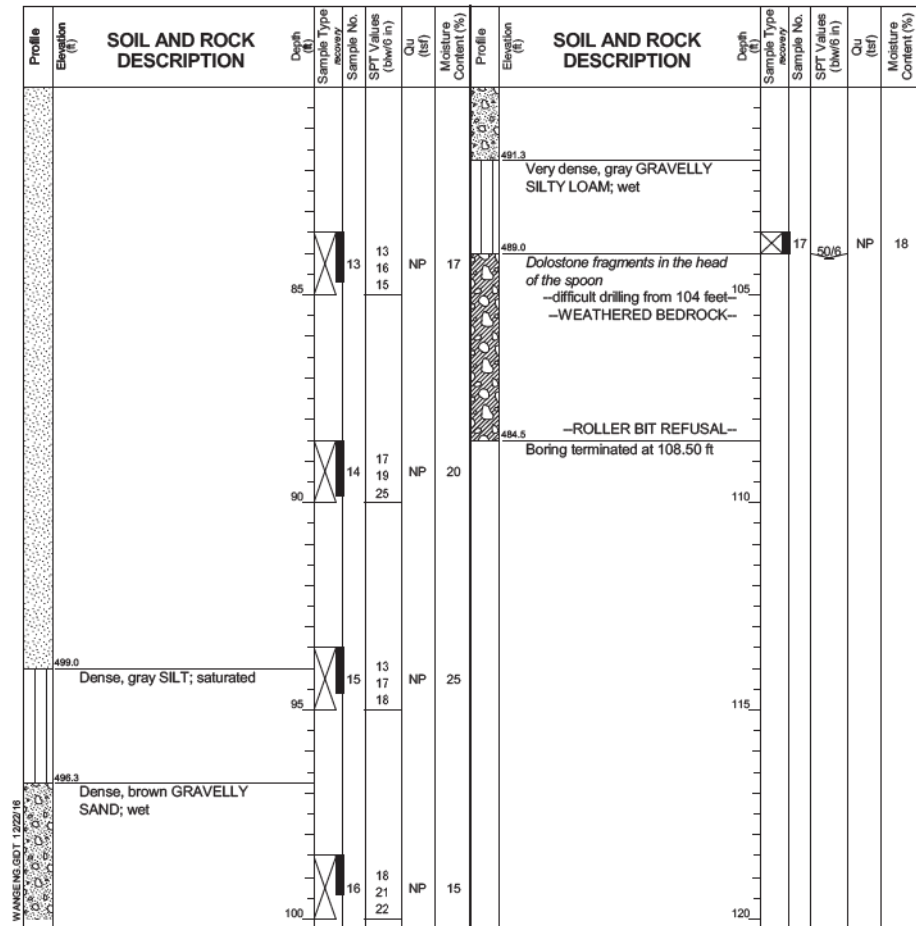
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	462
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-26-2014	Complete Drilling	06-26-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion		While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-26-2014	Complete Drilling	06-26-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion		While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	06-26-2014	Complete Drilling	06-26-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring
backfilled upon completion		While Drilling	76.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Notes:
 Boring Log 1702-B-03 station and offset are measured along Jackson Blvd.

2/13/24 PM 01:17:02-60X94-5078-Boring-4.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
STRUCTURE NO. 016-1702
 SHEET NO. S2-78 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	463
CONTRACT NO. 60X94				
ILLINOIS FED. AID PROJECT				

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
575.5	5-inch thick, ASPHALT --PAVEMENT--														
574.6	10-inch thick, CONCRETE --PAVEMENT--														
572.7	Medium dense, gray CRUSHED STONE --BASE COURSE--	1	6	8	6	NP	6								
570.5	Medium stiff, gray SILTY CLAY LOAM, trace gravel --FILL--	2	1	2	2	0.57 B	18								
	Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	3	0	1	2	0.57 B	23								
		4	0	2	2	0.57 B	24								
		5	0	2	2	0.74 B	24								
		6	0	2	1	0.49 B	24								
		7	0	2	2	0.49 B	24								
		8	0	2	2	0.25 B	25								
		9	0	0	1	0.25 B	25								
		10	0	1	2	0.25 B	25								
		11	0	2	2	0.49 B	25								
		12	0	2	2	0.57 B	25								
		13	0	1	1	0.41 B	19								
		14	8	10	23	4.76 B	16								
539.2	Very stiff to hard, gray SILTY CLAY LOAM, trace gravel														

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-09-2014	Complete Drilling	07-09-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Depth to Water	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	
backfilled upon completion		While Drilling	61.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
514.2	Dense, brown fine SAND														
		15	4	7	10	3.12 B	15								
		16	5	9	14	3.83 N/6	24								
		17	3	4	5	1.50 N/6	19								
		18	8	11	12	1.72 B	19								
		19	14	21	23	NP	26								
		20	13	18	28	NP	19								
		21	33	38	29/4	NP	9								
		22	50/4			NP	16								
		23	33	43	24/0	NP	17								
		24				NR									
		25													
		26													
		27													
		28													
		29													
		30													
		31													
		32													
		33													
		34													
		35													
		36													
		37													
		38													
		39													
		40													
		41													
		42													
		43													
		44													
		45													
		46													
		47													
		48													
		49													
		50													
		51													
		52													
		53													
		54													
		55													
		56													
		57													
		58													
		59													
		60													
		61													
		62													
		63													
		64													
		65													
		66													
		67													
		68													
		69													
		70													
		71													
		72													
		73													
		74													
		75													
		76													
		77													
		78													
		79													
		80													
		81													
		82													
		83													
		84													
		85													
		86													
		87													
		88													
		89													
		90													
		91													
		92													
		93													
		94													
		95													
		96													
		97													
		98													
		99													
		100													

GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-09-2014	Complete Drilling	07-09-2014
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 TMR
Driller	R&J	Logger	S. Woods
Checked by	C. Marin	Depth to Water	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring	The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	
backfilled upon completion		While Drilling	61.75 ft
		At Completion of Drilling	Rotary wash
		Time After Drilling	NA
		Depth to Water	NA

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
------------------------	---------------------------	------------	-------------	------------	-----------------------	----------	----------------------	------------------------	---------------------------	------------	-------------	------------	-----------------------	----------	----------------------

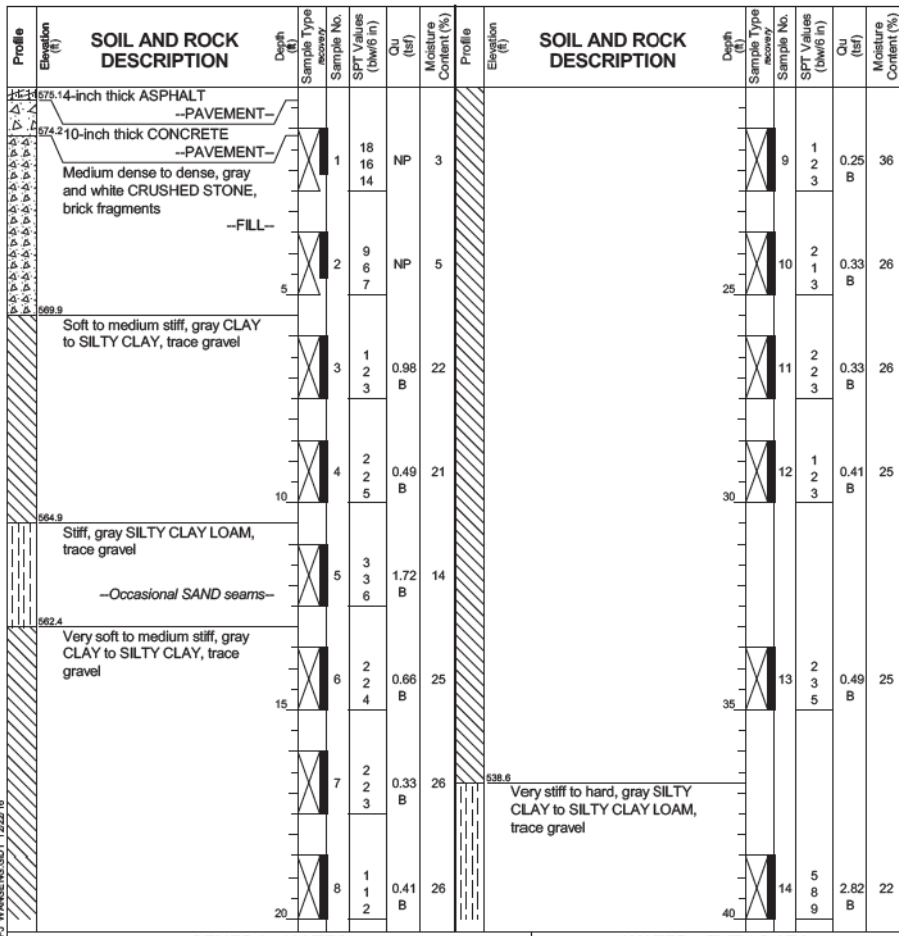
Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9928

BORING LOG 26-RWB-01
WEI Job No.: 1100-04-01

Datum: NAVD 88
Elevation: 575.37 ft
North: 1899073.58 ft
East: 1171541.57 ft
Station: 6147+73.48
Offset: 28.20527 RT

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

Page 1 of 2



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-31-2014	Complete Drilling	07-31-2014
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55
Driller	R&J	Logger	A. Happel
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion	While Drilling	59.50 ft
		At Completion of Drilling	16 ft Rotary wash Mud
		Checked	GLM (-Sta, Offset)
		Depth to Water	NA

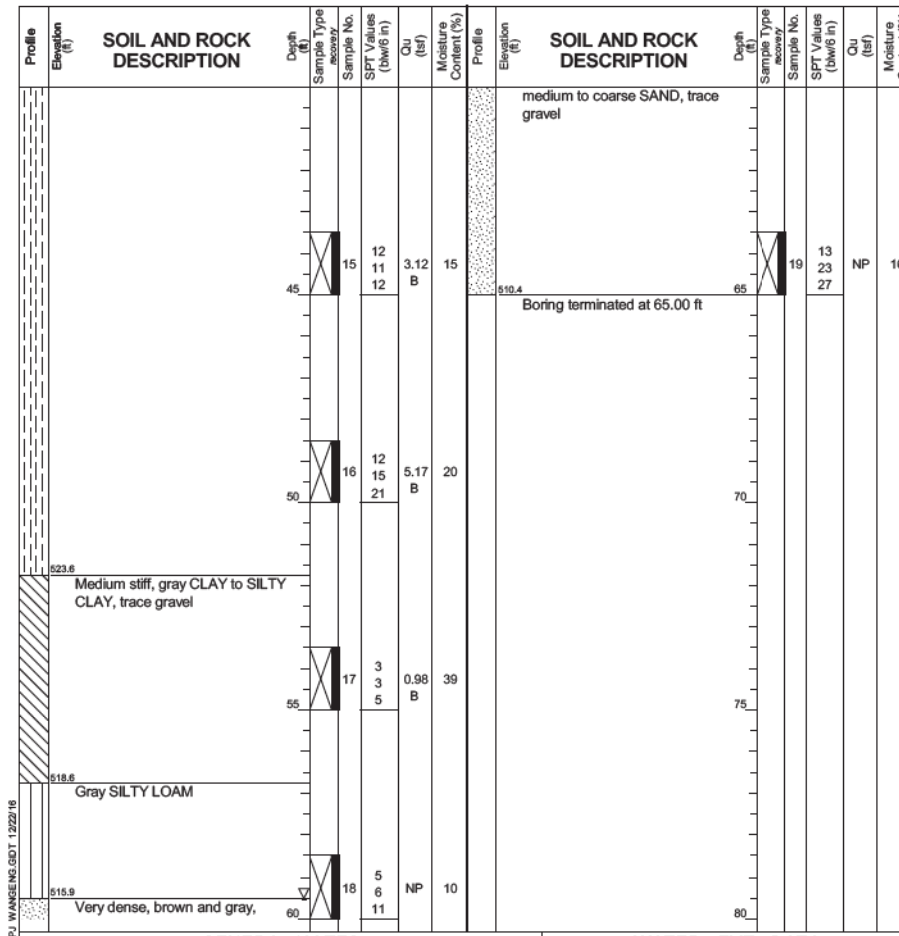
Wang Engineering
wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax: 630 953-9928

BORING LOG 26-RWB-01
WEI Job No.: 1100-04-01

Datum: NAVD 88
Elevation: 575.37 ft
North: 1899073.58 ft
East: 1171541.57 ft
Station: 6147+73.48
Offset: 28.20527 RT

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

Page 2 of 2



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	07-31-2014	Complete Drilling	07-31-2014
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55
Driller	R&J	Logger	A. Happel
Drilling Method	2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion	While Drilling	59.50 ft
		At Completion of Drilling	16 ft Rotary wash Mud
		Checked	GLM (-Sta, Offset)
		Depth to Water	NA

Notes:
Boring Log 26-RWB-01 station and offset along Jackson Entrance Ramp is: Sta. 8241+97.24, Offset 39.44' Lt.

2:13:41 PM 0161702-60X94-5080-BorIng_6.dgn



USER NAME = wjcolletti	DESIGNED TLR	REVISED
PLOT SCALE = NTS	CHECKED WJC	REVISED
PLOT DATE = 3/5/2020	DRAWN JTF	REVISED
	CHECKED WJC	REVISED

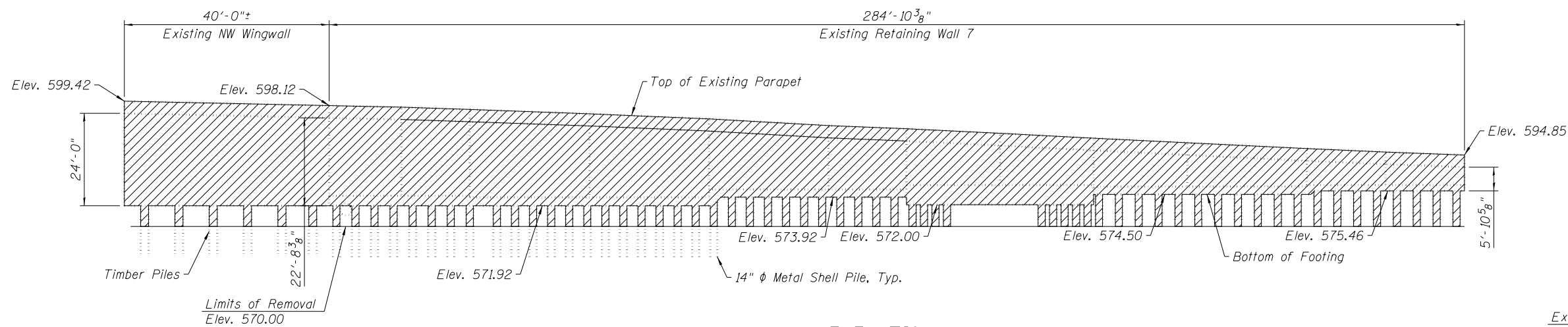
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 6
STRUCTURE NO. 016-1702**

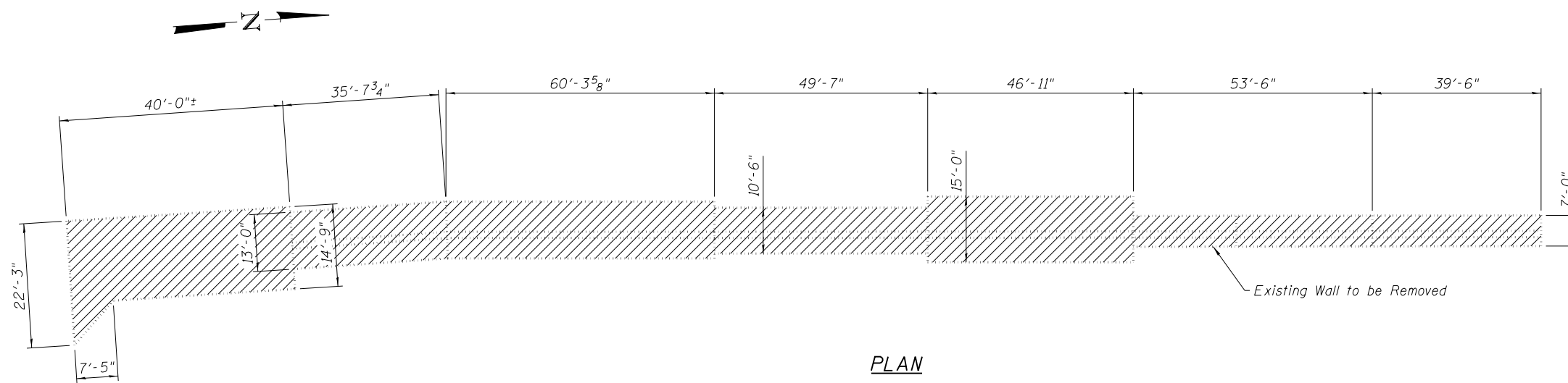
SHEET NO. S2-80 OF S2-80 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1422	2014-015R&B-R	COOK	825	465
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

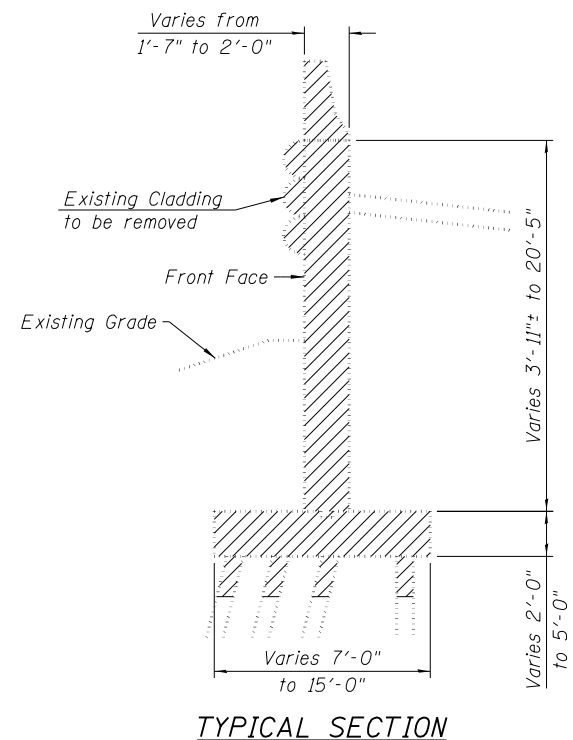
I:\250139_P\PIPW\AECOM\NA-AWS1\AECOM\LOCAL\AECOM\LOCAL\AECOM\DOCUMENTS\01\AMERICAS\TRANSPORTATION\60269938_CIRCLE\PHASE_11\000_CAD\008_STRUCTURAL_STRUCTURE_016-1727\SHEETS\016-1727-60X94-5003-REMOVAL.DGN



ELEVATION
(Looking West)



PLAN



TYPICAL SECTION

LEGEND:

Limits of Removal of Existing Structures No. 2

Notes:
Dimensions taken along Front Face of Wall.
Piles to be removed to elevation shown in the Elevation View to allow for construction of proposed pavement and drainage for Contract 62A77.

BILL OF MATERIAL

Item	Unit	Total
Removal of Existing Structures No. 2	Each	1



USER NAME = wjcollett	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - LFP	REVISED -
PLOT DATE = 3/5/2020	CHECKED - DJG	REVISED -

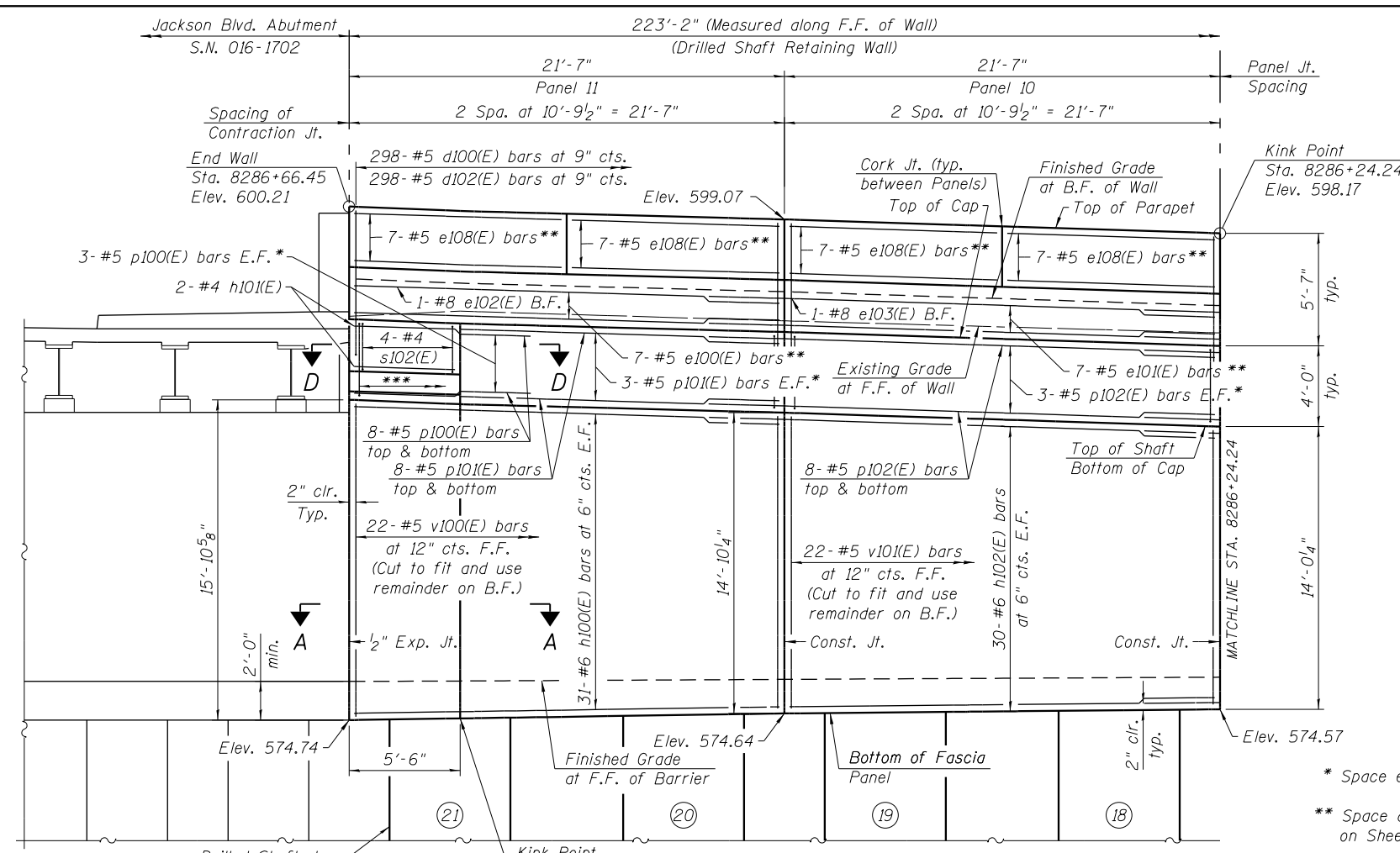
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING WALL 7 REMOVAL
RETAINING WALL 8 (STRUCTURE NO. 016-1727)**

SHEET NO. S3-03 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	468
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

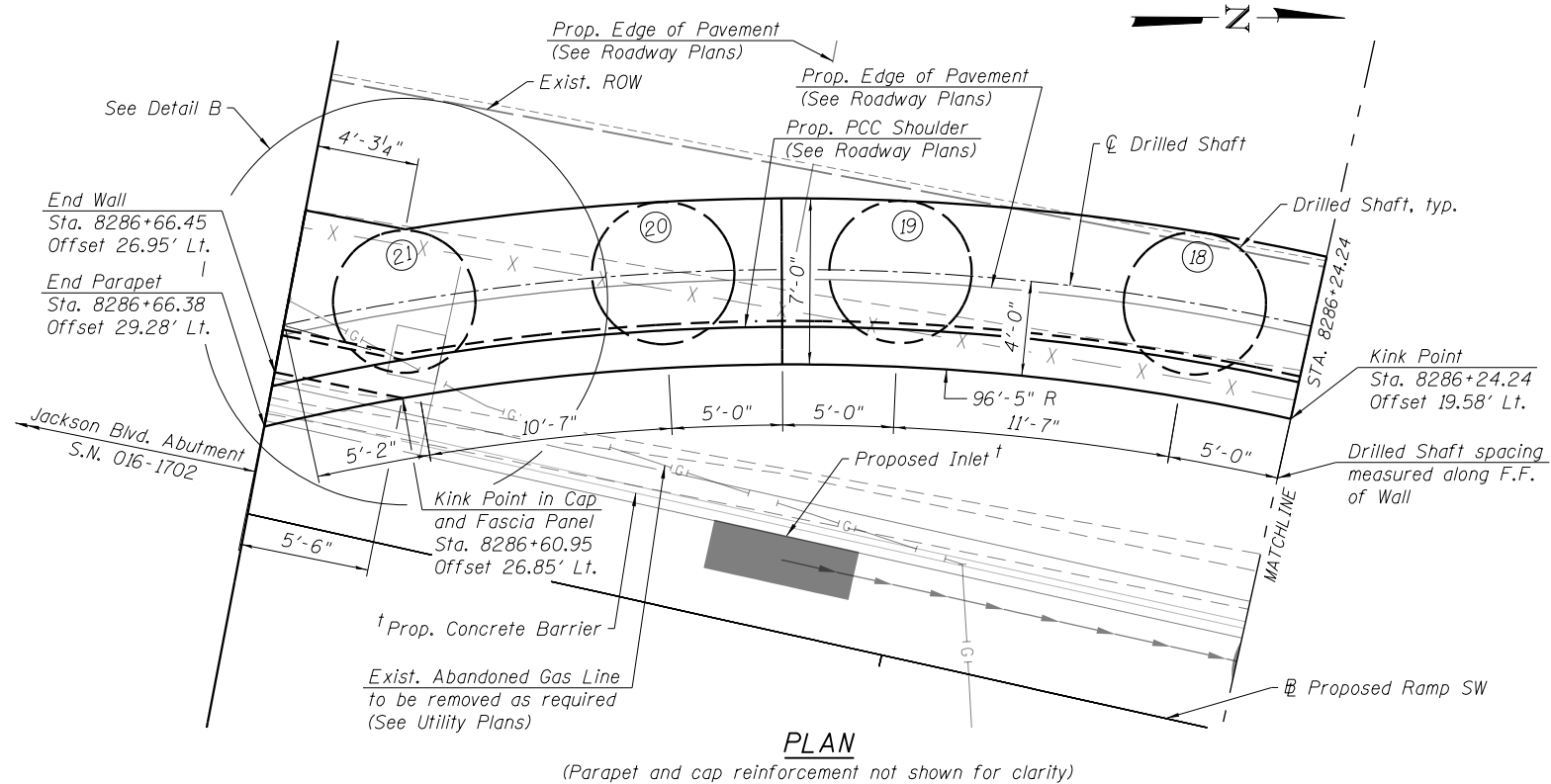
I:\2020\PROJECTS\11\11000\CAD\008_STRUCTURE\STRUCTURE_016-1727\SHEETS\016-1727-60X94-5004-ELEVDETAILS_1.DGN



WALL ELEVATION
(Looking West)

Drilled shaft & corbel reinforcement not shown for clarity

- * Space evenly between shown bars.
- ** Space as shown in cross section on Sheet S3-09 of S3-21.
- *** 152 Pairs of #4 s101(E) and 152-#4 s100(E) bars at 18".
- † Installed as part of Contract 62A77.



PLAN

(Parapet and cap reinforcement not shown for clarity)

- Notes:
- F.F. = Front Face
 - B.F. = Back Face
 - E.F. = Each Face
 - Parapet concrete shall be paid for as Concrete Superstructure.
 - Shaft Cap shall be paid for as Concrete Structures.
 - Concrete fascia panels shall be paid as Class SI Concrete (Miscellaneous).
 - Drilled Shafts shall be tested in accordance with Special Provision for Crosshole Sonic Logging Testing of Drilled Shafts.
 - See Drilled Shaft Layout Table on Sheet S3-10 of S3-21.
 - See Sheet S3-13 of S3-21 for details on architectural reveals and joint between cap and fascia panels.
 - For Section A-A, See Sheet S3-08 of S3-21.
 - For Section D-D and Detail B, See Sheet S3-09 of S3-21.

Minimum Bar Laps	
Bar	Lap
#5	3'-2"
#6	3'-10"
#8	6'-8"



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

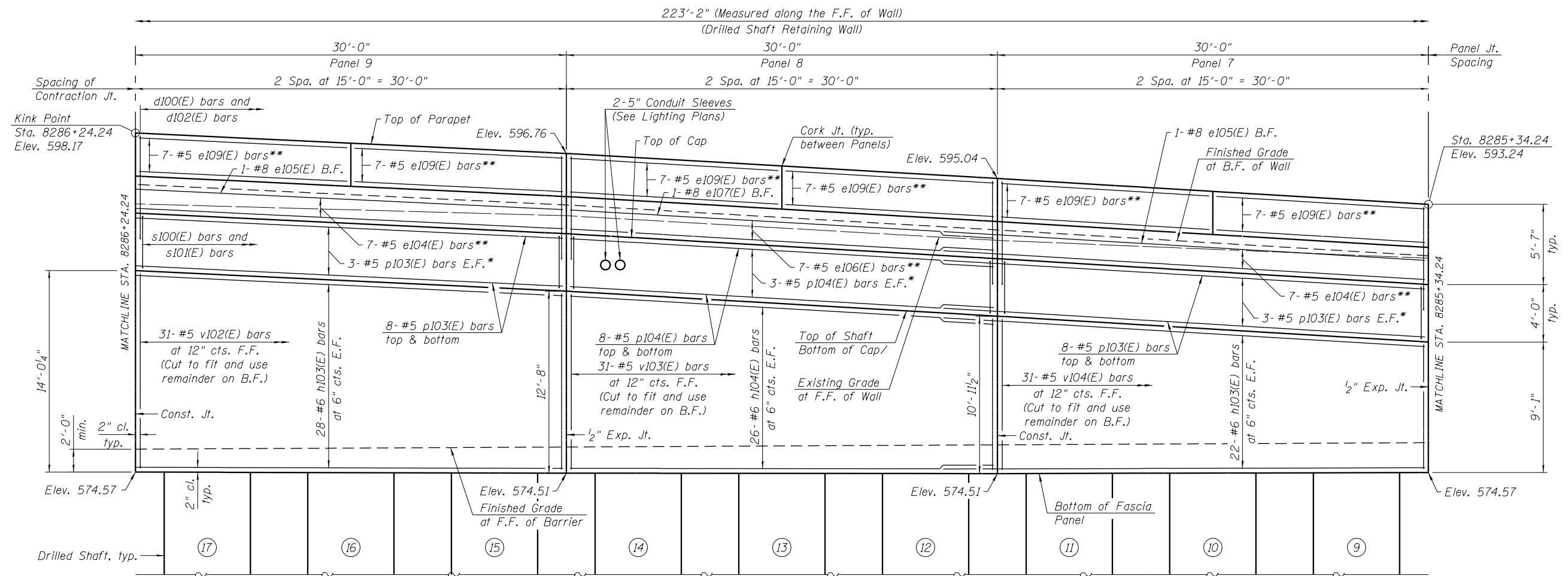
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 1
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-04 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	469
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

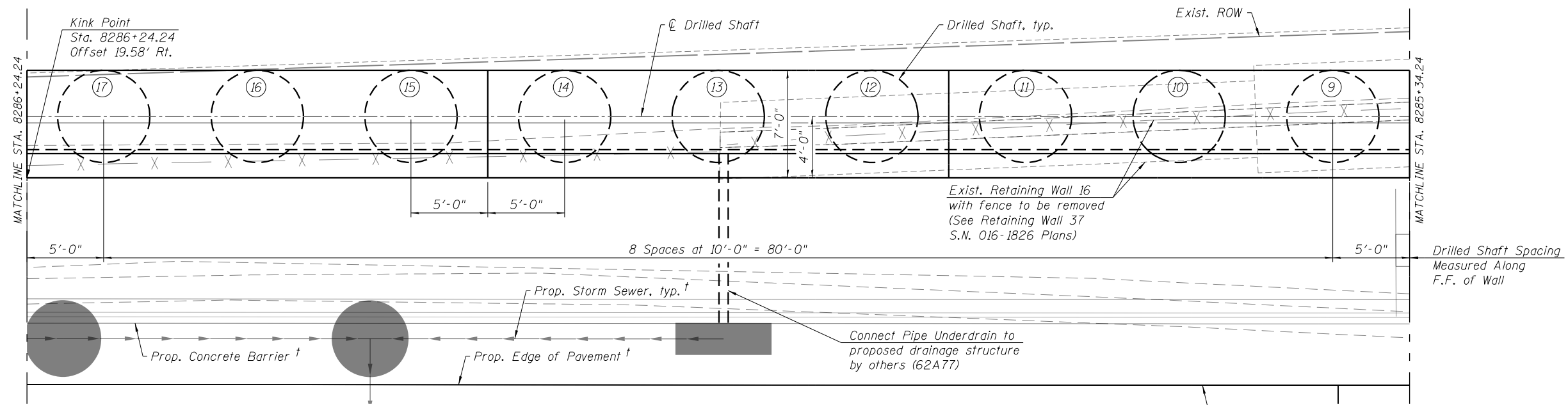
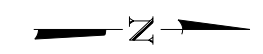
7:49:31 AM P:\AECOM\NA\AWS1\AECOM\NA\LOCAL\AECOM\DS02\NA\DOCUMENTS\01\61727\SHEETS\0161727-60X94-5005-ELEVDETAILS.2.DGN



WALL ELEVATION

(Looking West)
Drilled shaft reinforcement not shown for clarity

- * Space evenly between shown bars.
- ** Space as shown in cross section on Sheet S3-09 of S3-21.
- † Installed as part of Contract 62A77.



PLAN

(Parapet and cap reinforcement not shown for clarity)

Notes:
See additional notes on Sheet S3-04 of S3-21.
Furnishing and installing conduit sleeve is included in cost of Concrete Structures.
Coordinate location of sleeve for lighting conduit with Lighting Plans.



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/6/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

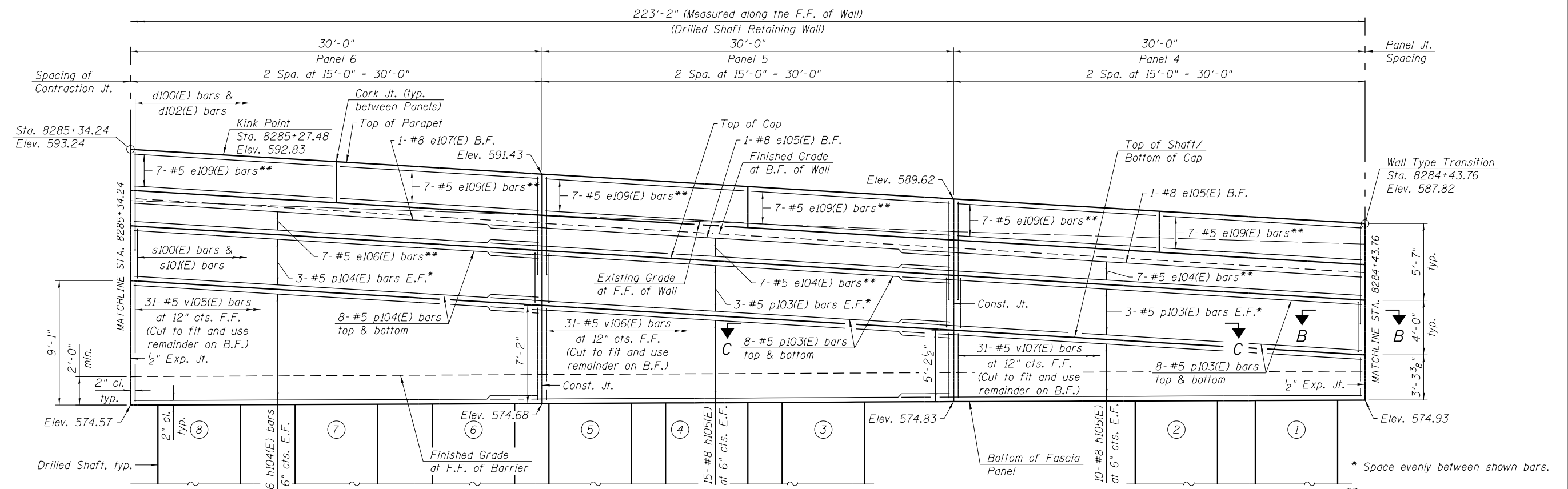
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION 2
RETAINING WALL 8 (STRUCTURE NO. 016-1727)**

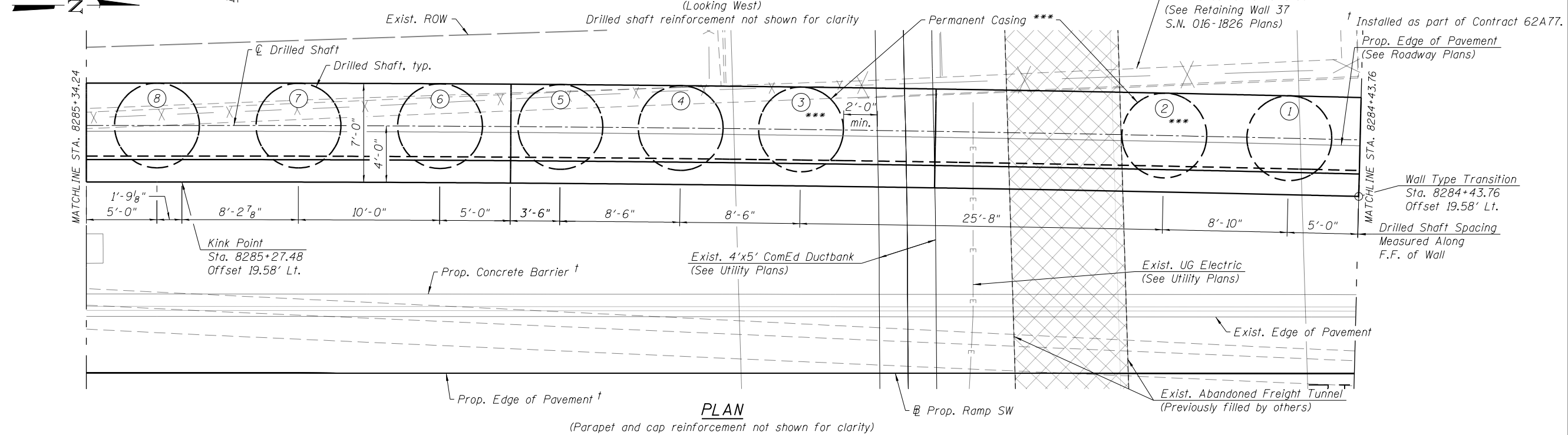
SHEET NO. S3-05 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	470
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

I:\10-05 PM PW\AECOM\NA-AWS\1-AECOM\NA-LOCAL\AECOM\DS02-NA\DOCUMENTS\01-AMERICAS\TRANSPORTATION\60269938-CIRCLE\PHASE_11\000-CAD\008-STRUCTURAL\STRUCTURE_016-1727\SHEETS\0161727-60X94-5006-ELEVDETAILS_3.DGN



WALL ELEVATION
(Looking West)



PLAN
(Parapet and cap reinforcement not shown for clarity)

Notes:
See additional notes on Sheet S3-04 of S3-21.
For Sections B-B and C-C, see sheet S3-08 of S3-21.

*** Drilled Shafts with 1/2" Permanent casing required. Contractor must verify location of the Abandoned Tunnel and ComEd prior to drilling of the shafts and adjust the locations of the permanent casing as necessary subject to approval of the Engineer.



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - LFP	REVISED -
PLOT DATE = 3/5/2020	CHECKED - DJG	REVISED -

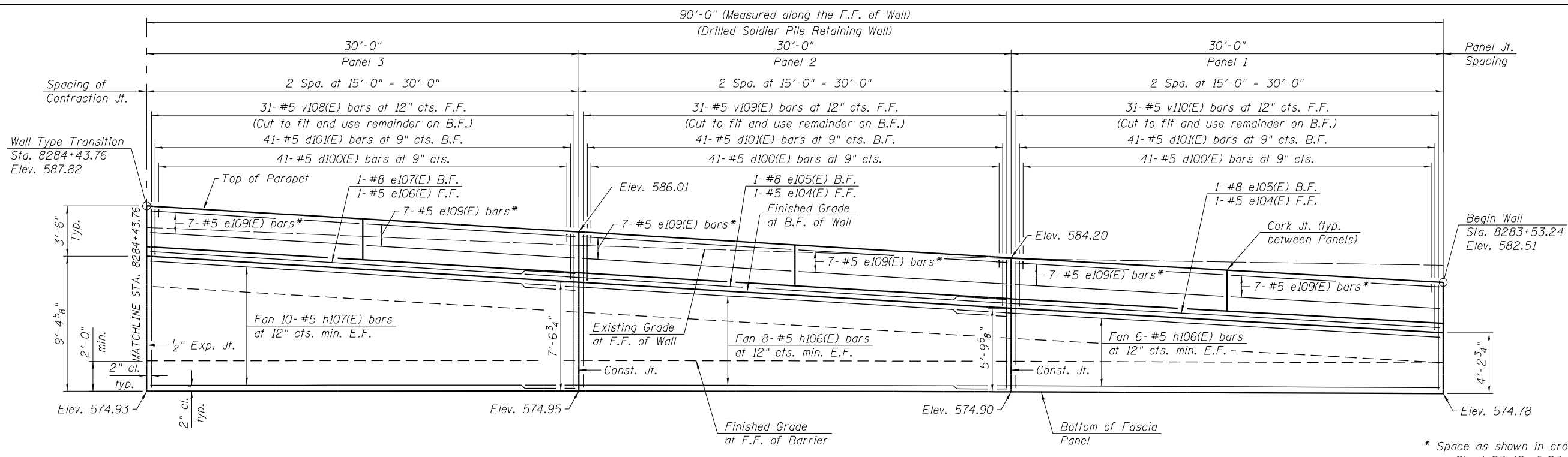
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 3
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-06 OF S3-21 SHEETS

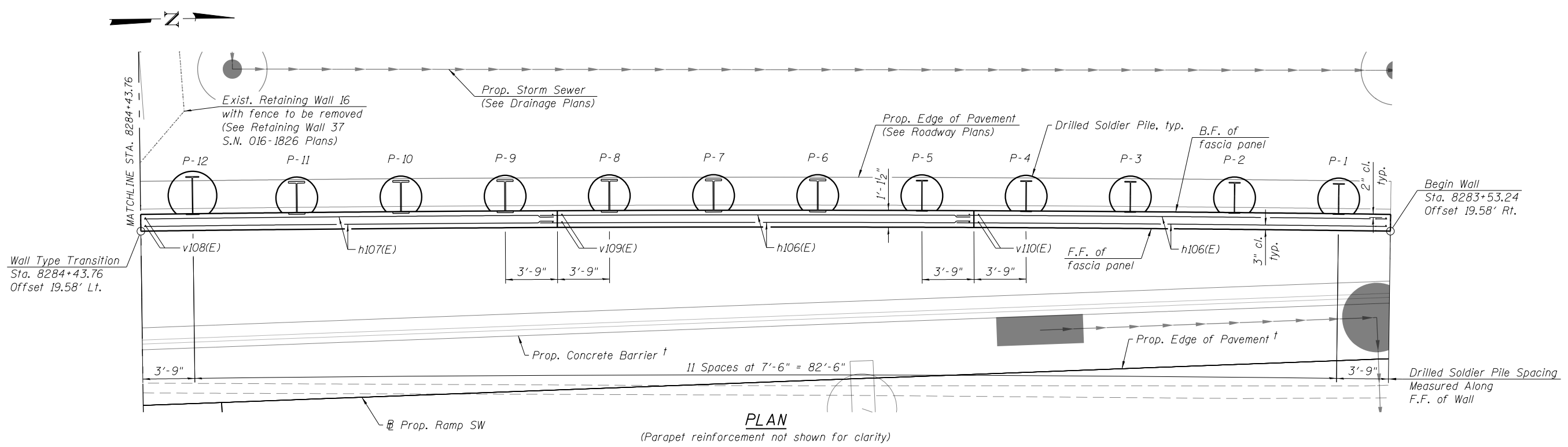
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	471
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

12.51.54.PWP\AECOM\NA-AWS1-AECOM\LOCAL-AECOM\DS02-NA\DOCUMENTS\01-AMERICAS\TRANSPORTATION\60269938-CIRCLE\PHASE_11\000-CAD\008-STRUCTURAL\STRUCTURE_016-1727-SHEETS\0161727-60X94-5007-ELEVDETAILS_4.DGN



WALL ELEVATION
(Looking West)

* Space as shown in cross section on Sheet S3-12 of S3-21.
† Installed as part of Contract 62A77.



PLAN
(Parapet reinforcement not shown for clarity)

Notes:
 F.F. = Front Face.
 B.F. = Back Face.
 E.F. = Each Face.
 For soldier pile wall cross sections and details, see Sheet S3-11 of S3-21.
 For soldier pile layout, sections and details and Bill of Material, see Sheet S3-12 of S3-21.
 Concrete fascia panels shall be paid as Concrete Structures (Retaining Wall).



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - LFP	REVISED -
PLOT DATE = 3/5/2020	CHECKED - DJG	REVISED -

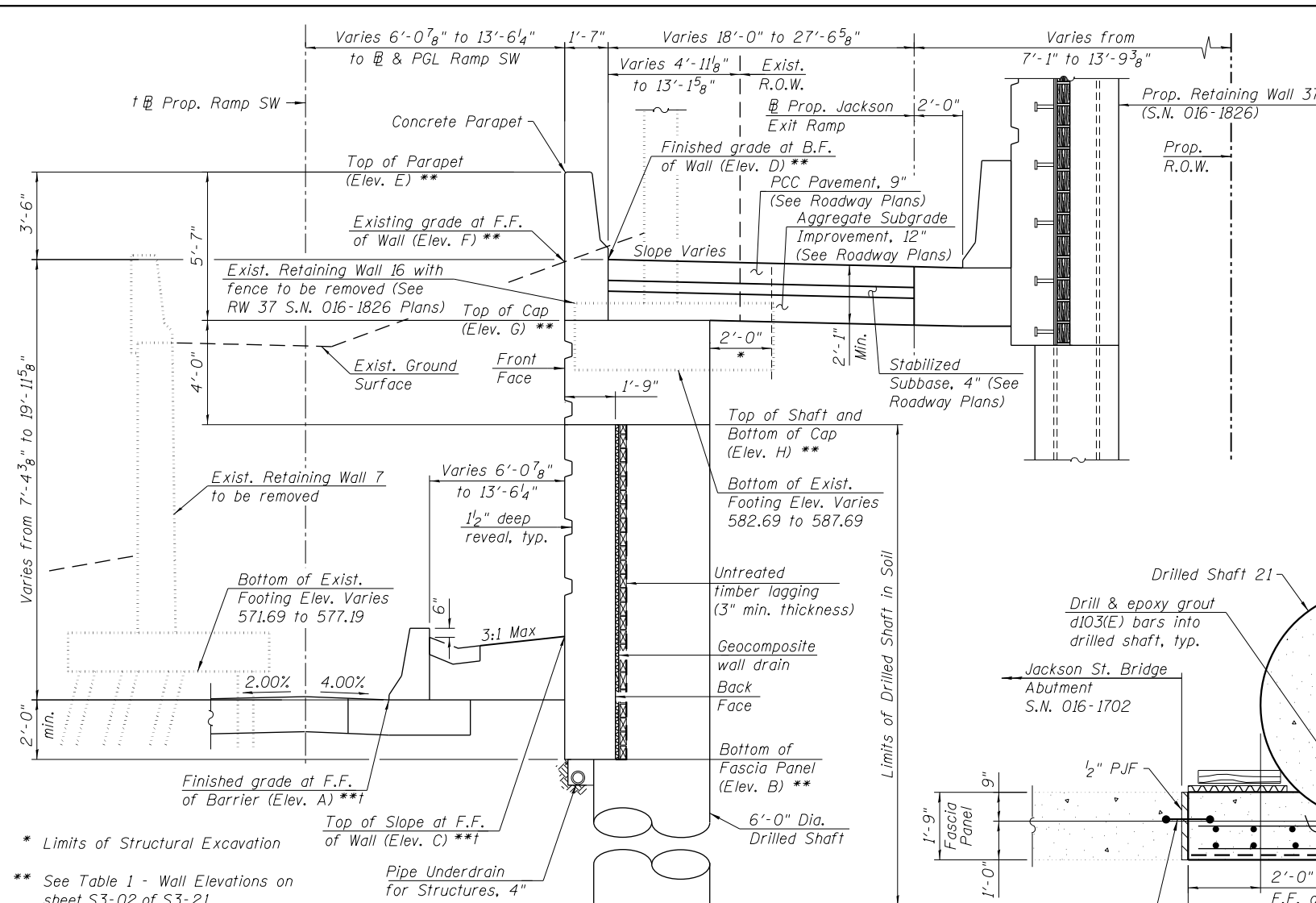
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 4
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-07 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	472
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

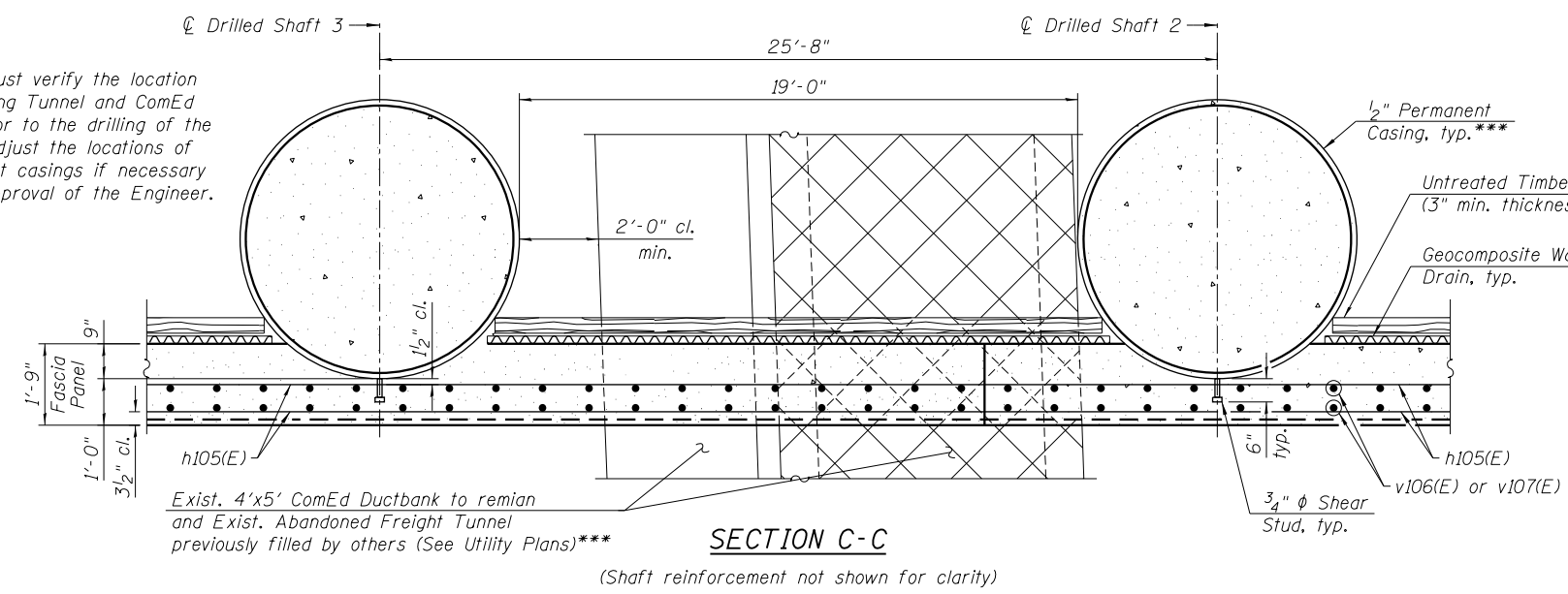
12-52-04 PWPW \AECOM-NA-AWS1 \AECOM\NE \LOCAL \AECOM\DS02 \NA\DOCUMENTS\01 AMERICAS\TRANSPORTATION\60269938 CIRCLE\PHASE_11\000_CAD\008_STRUCTURE\STRUCTURE_016-1727\SHEETS\0161727-60X94-5008-WALDETAILS_1.DGN



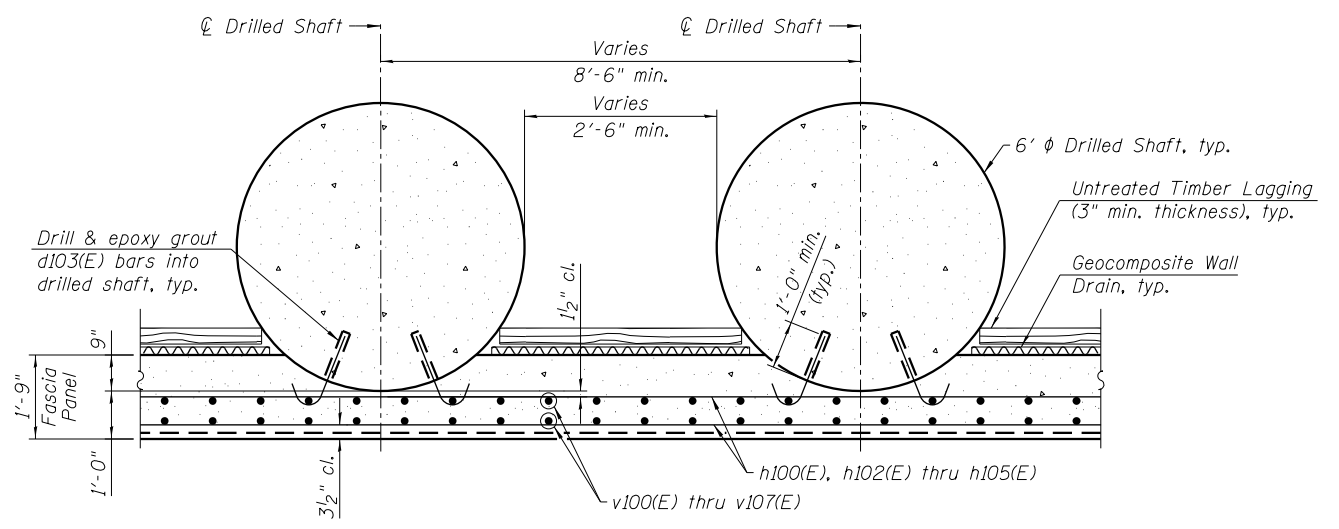
TYPICAL CROSS SECTION - DRILLED SHAFT WALL
(Looking Upstation)
(Sta. 8284+43.76 to Sta. 8286+66.45)

* Limits of Structural Excavation
** See Table 1 - Wall Elevations on sheet S3-02 of S3-21.
† Installed as part of Contract 62A77.

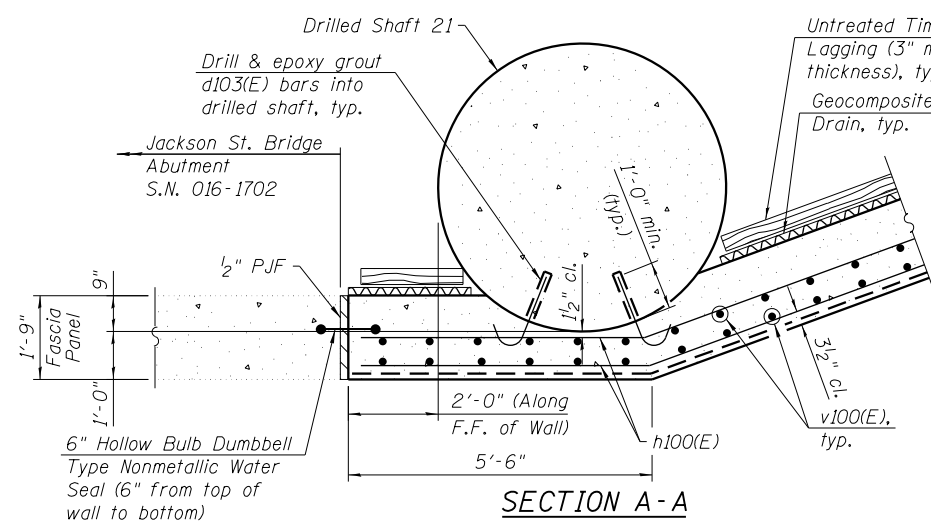
*** Contractor must verify the location of the Existing Tunnel and ComEd Ductbank prior to the drilling of the shafts and adjust the locations of the permanent casings if necessary subject to approval of the Engineer.



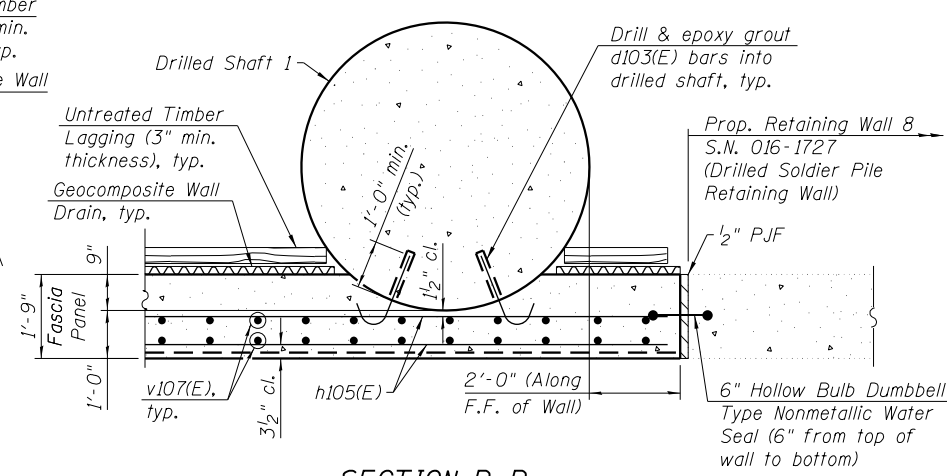
SECTION C-C
(Shaft reinforcement not shown for clarity)



TYPICAL WALL SECTION - PANELS 4-11
(Shaft reinforcement not shown for clarity)



SECTION A-A
(Shaft reinforcement not shown for clarity)



SECTION B-B
(Shaft reinforcement not shown for clarity)

Notes:
F.F. = Front Face.
B.F. = Back Face.
E.F. = Each Face.
Work this sheet with Sheets S3-04 thru S3-06 of S3-21.
Hollow bulb dumbbell included in cost of Class SI Concrete (Miscellaneous).
Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Class SI Concrete (Miscellaneous).
The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum 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. Cost included with Class SI Concrete (Miscellaneous).



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

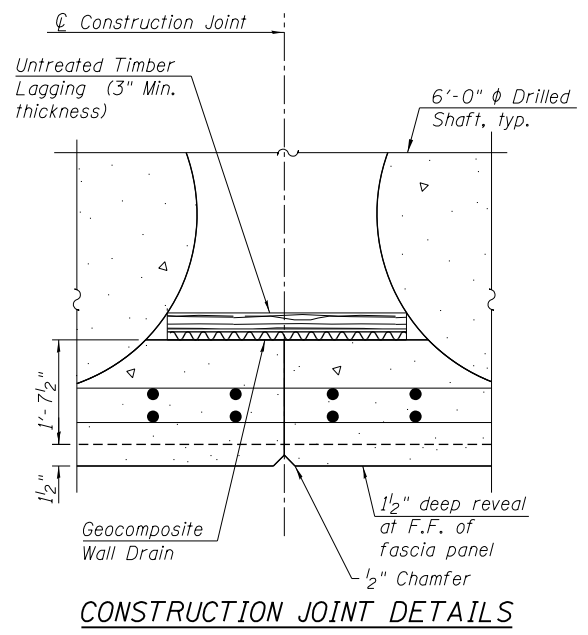
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFT WALL SECTIONS AND DETAILS 1
RETAINING WALL 8 (STRUCTURE NO. 016-1727)**

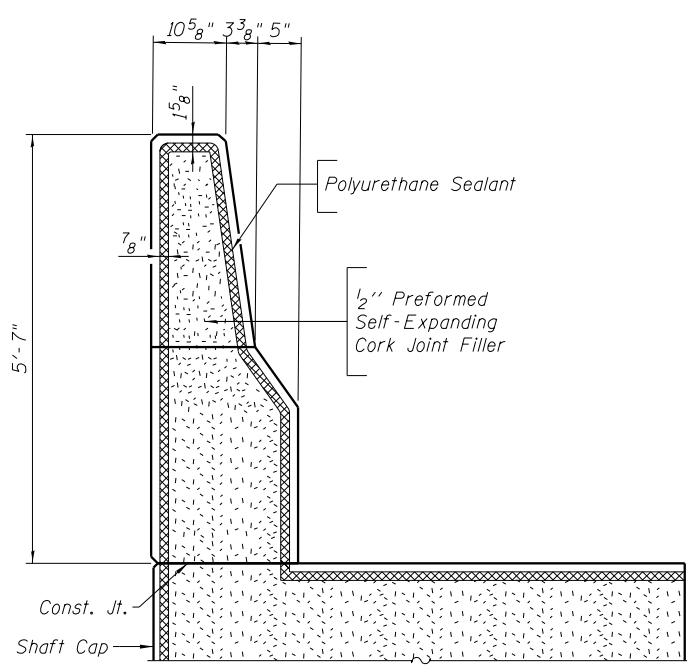
SHEET NO. S3-08 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	473
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

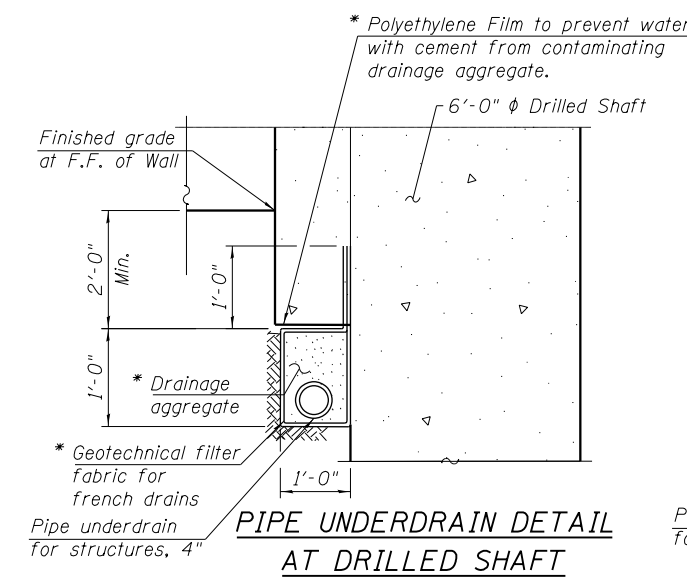
12:52:12 P:\PW\AECOM\NA-AWS1-AECOM\LOCAL-AECOM\DS02-NA\DOCUMENTS\01-AMERICAS\TRANSPORTATION\60269938_CIRCLE\PHASE_11\000_CAD\008_STRUCTURE_016-1727\SHEETS\0161727-60X94-5009-WALLDETAILS.2.DGN



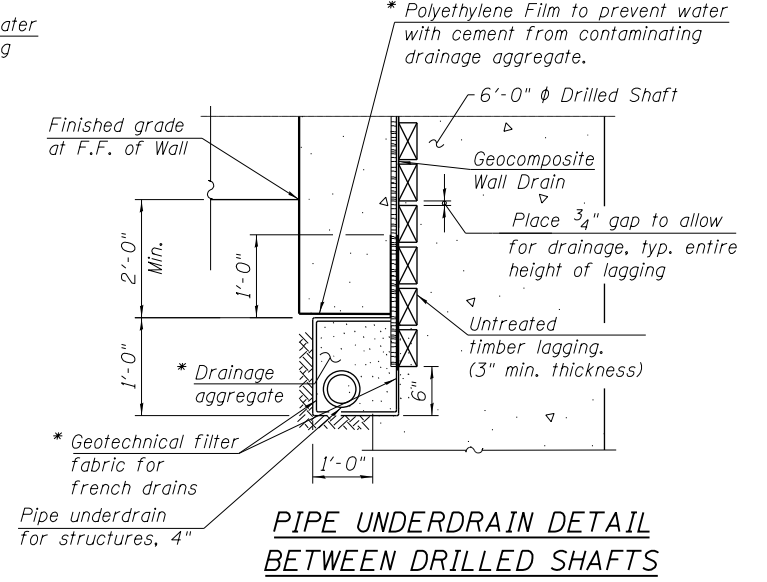
CONSTRUCTION JOINT DETAILS



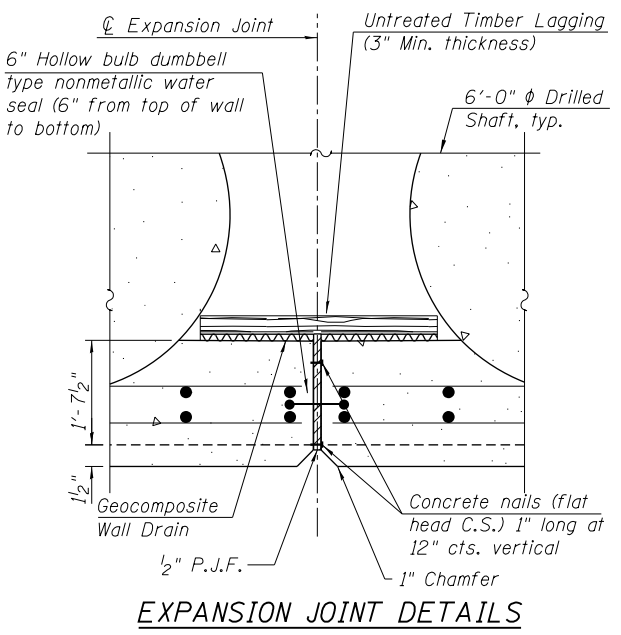
TRANSVERSE EXPANSION JOINT SECTION



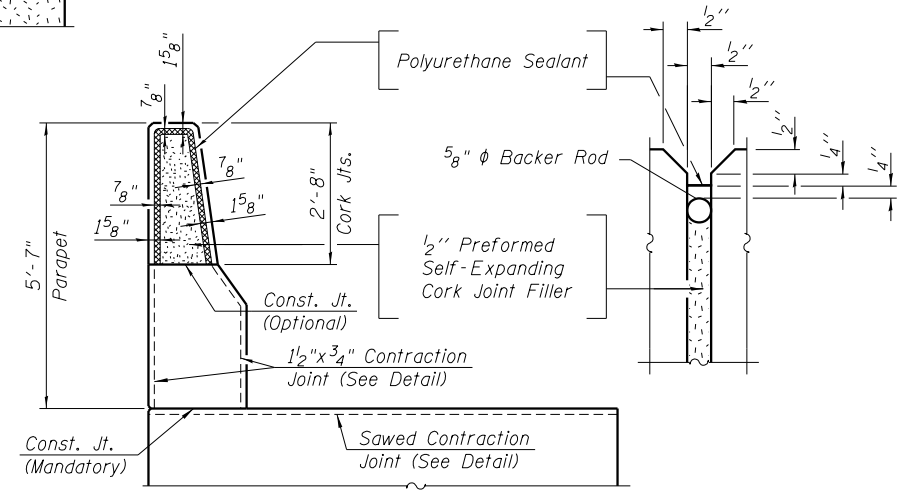
PIPE UNDERDRAIN DETAIL AT DRILLED SHAFT



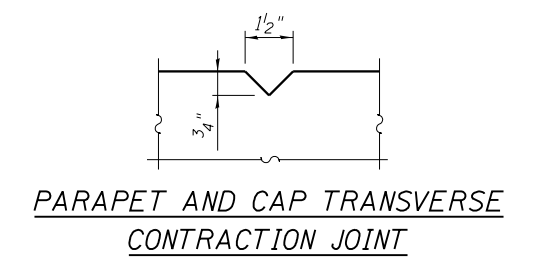
PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS



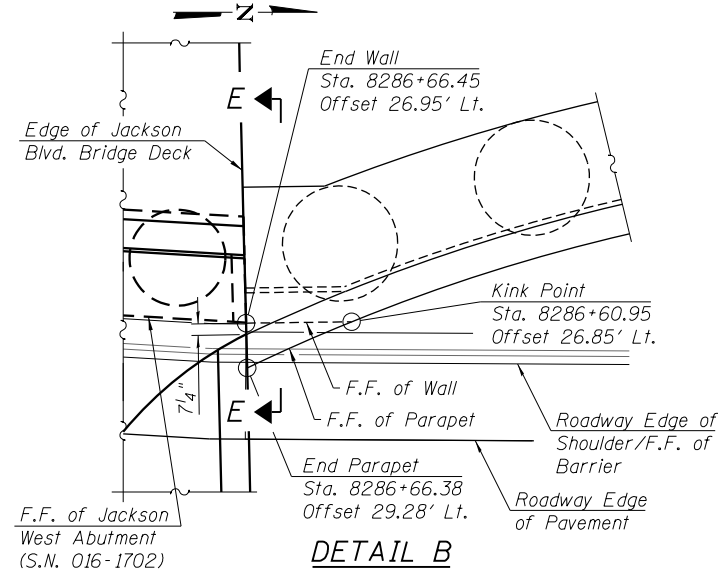
EXPANSION JOINT DETAILS



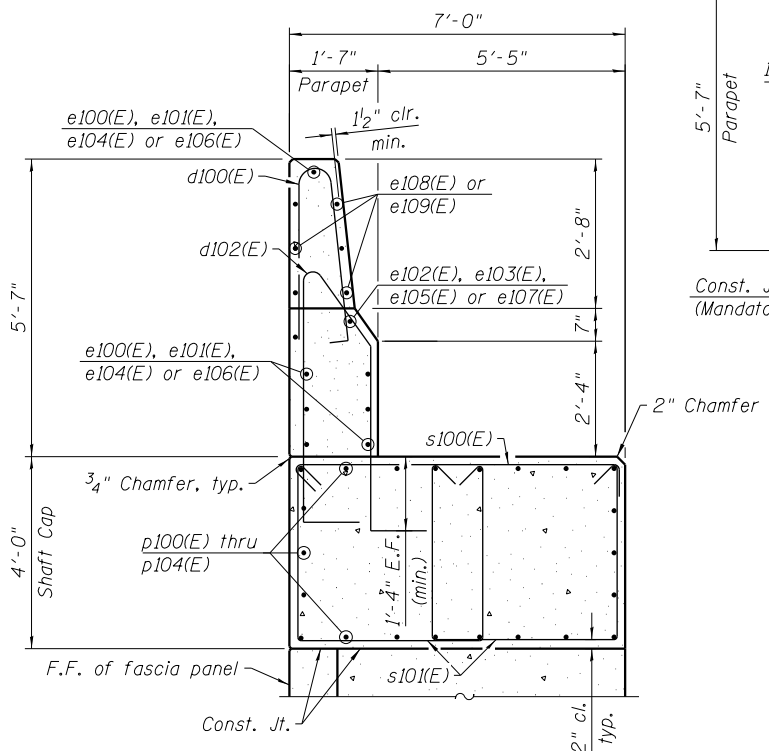
PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION



PARAPET AND CAP TRANSVERSE CONTRACTION JOINT

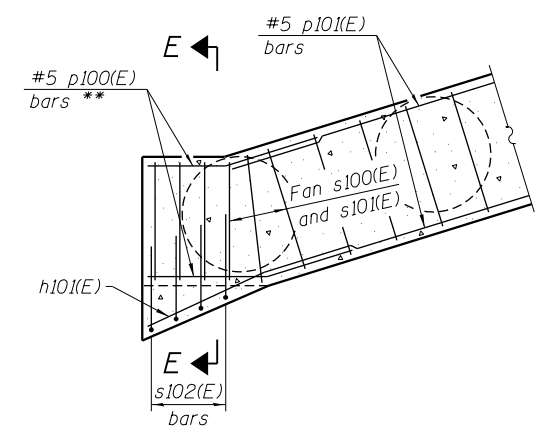


DETAIL B



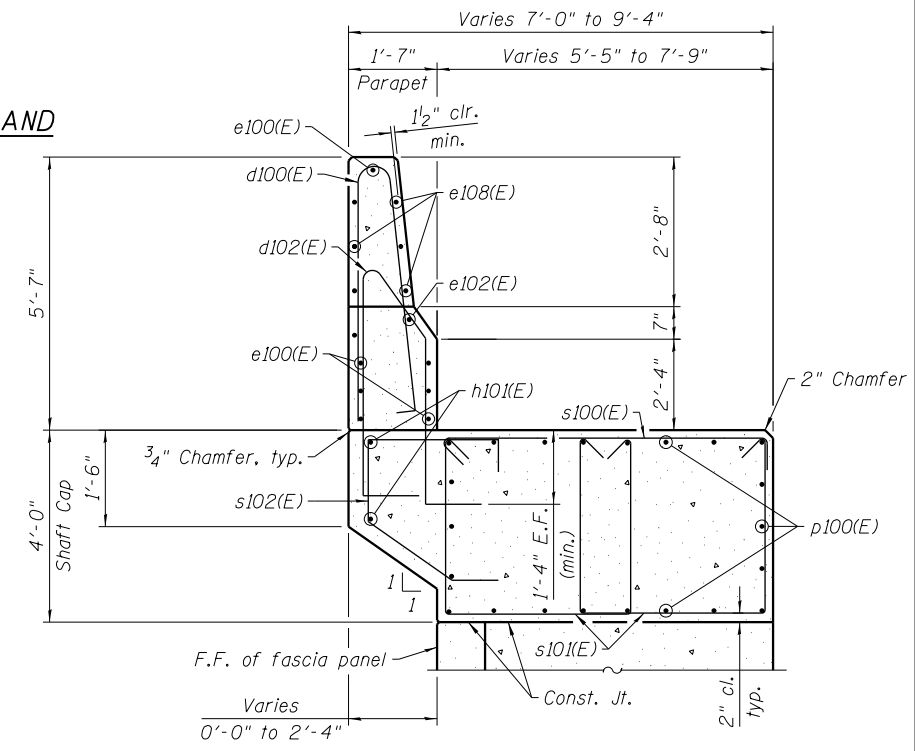
TYPICAL SECTION OF PARAPET AND CAP
(Shaft and fascia panel reinforcement not shown for clarity)

Notes:
 F.F. = Front Face.
 B.F. = Back Face.
 E.F. = Each Face.
 Work this sheet with Sheets S3-04 thru S3-06 of S3-21.
 The Polyurethane Sealant shall be according to Article 1050.04 of Std. Spec.
 and the color shall be gray.
 1/2" PJF included in cost of Concrete Superstructure.



SECTION D-D

** Cut bars as required to fit.



SECTION E-E



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

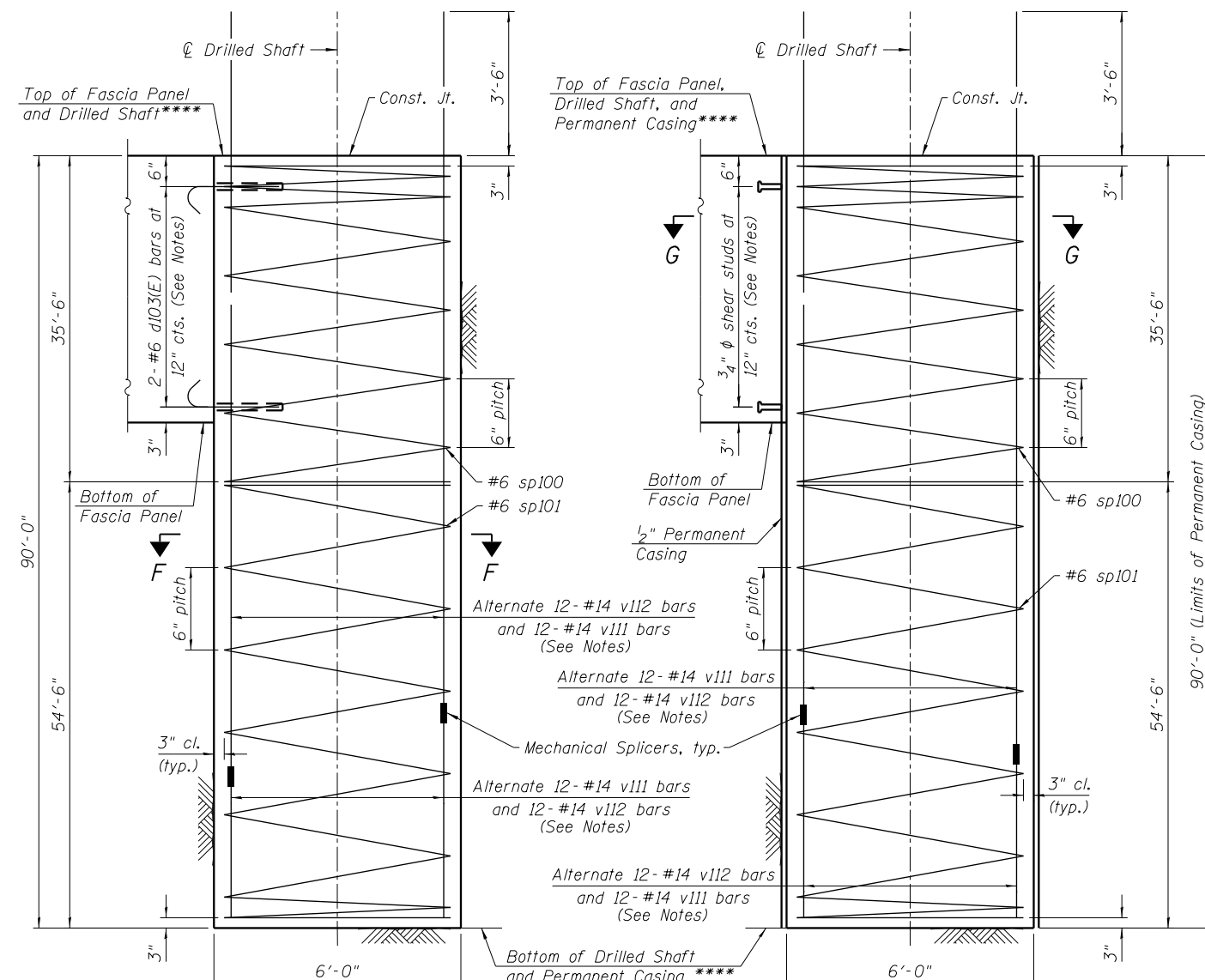
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRILLED SHAFT WALL SECTIONS AND DETAILS 2
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-09 OF S3-21 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 474
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

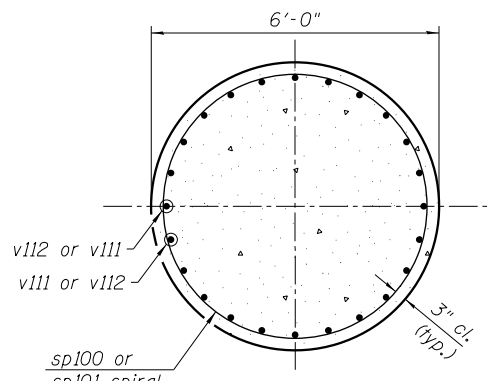
12:52:21 - P:\PW\AECOM\NA-AWS1\AECOM\NA-DOCUMENTS\01-AMERICAS\TRANSPORTATION\0269938_CIRCLE\PHASE_11\000_CAD\008_STRUCTURAL\STRUCTURE_016-1727\SHEETS\0161727-60X94-SOI-0-WALDETAILS_3.DGN



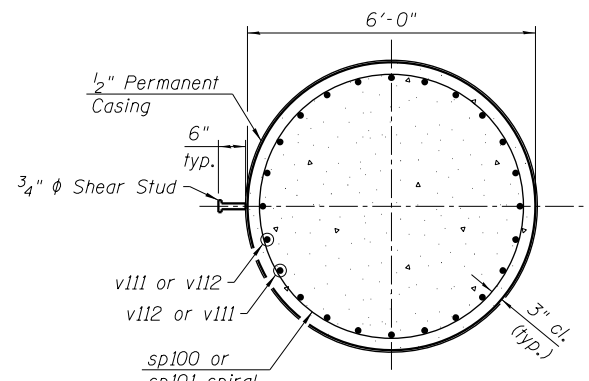
TYPICAL SHAFT ELEVATION

****See Drilled Shaft Layout Table

TYPICAL SHAFT ELEVATION PERMANENTLY CASED



SECTION F-F



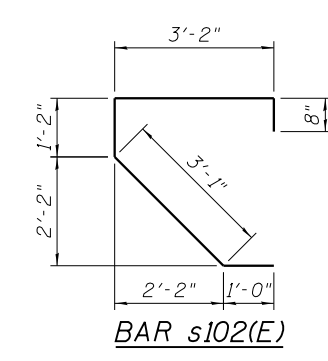
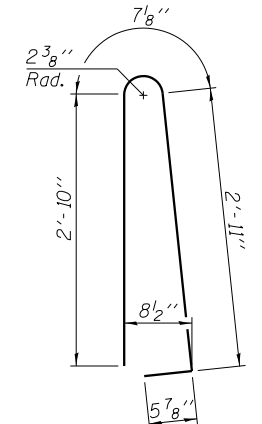
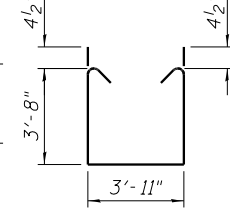
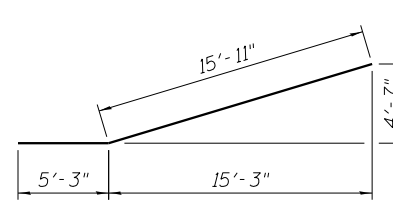
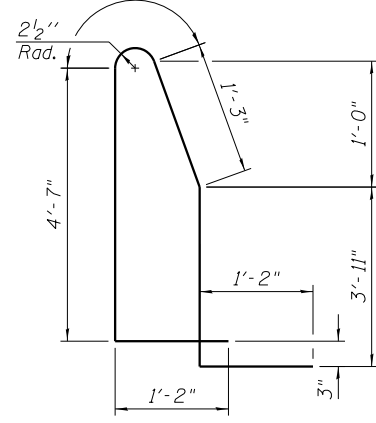
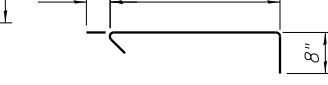
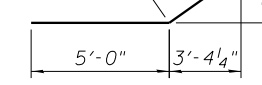
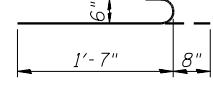
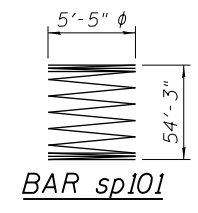
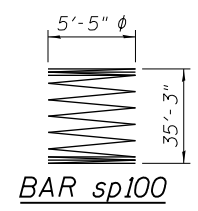
SECTION G-G

Notes:
 Splice v112 bars with v111 bars or v111 bars with v112 bars.
 Splice sp100 and sp101 bars where they meet.
 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.
 Drilling and grouting of d103(E) bars shall be as per Section 584 of the Standard Specifications. Depth of embedment = 12". Cost included in Class SI Concrete (Miscellaneous).
 Cost of shear studs included in Class SI Concrete (Miscellaneous).
 3/4"X6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded to casing.

DRILLED SHAFT LAYOUT TABLE

Shaft No.	Station	Offset	Top of Shaft Elevation	Bottom of Shaft Elevation
1	8284+48.79	15.58' Lt.	578.84	488.84
2	8284+57.67	15.58' Lt.	579.07	489.07
3	8284+83.49	15.58' Lt.	580.61	490.61
4	8284+92.04	15.58' Lt.	581.13	491.13
5	8285+00.59	15.58' Lt.	581.64	491.64
6	8285+09.14	15.58' Lt.	582.15	492.15
7	8285+19.20	15.58' Lt.	582.75	492.75
8	8285+29.24	15.58' Lt.	583.35	493.35
9	8285+39.24	15.58' Lt.	583.95	493.95
10	8285+49.24	15.58' Lt.	584.55	494.55
11	8285+59.24	15.58' Lt.	585.15	495.15
12	8285+69.24	15.58' Lt.	585.74	495.74
13	8285+79.24	15.58' Lt.	586.31	496.31
14	8285+89.24	15.58' Lt.	586.88	496.88
15	8285+99.24	15.58' Lt.	587.41	497.41
16	8286+09.24	15.58' Lt.	587.88	497.88
17	8286+19.24	15.58' Lt.	588.35	498.35
18	8286+29.24	15.71' Lt.	588.80	498.80
19	8286+41.63	17.10' Lt.	589.32	499.32
20	8286+51.38	19.32' Lt.	589.79	499.79
21	8286+61.77	22.86' Lt.	590.35	500.35

* Permanent Casing



Minimum Bar Laps	
Bar	Lap
#5	3'-2"
#6	3'-10"
#8	6'-8"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d100(E)	298	#5	6'-10"	[hook]
d102(E)	298	#5	12'-8"	[hook]
d103(E)	436	#6	2'-3"	[hook]
e100(E)	7	#5	21'-3"	[bar]
e101(E)	7	#5	24'-9"	[bar]
e102(E)	1	#8	21'-3"	[bar]
e103(E)	1	#8	28'-3"	[bar]
e104(E)	28	#5	33'-2"	[bar]
e105(E)	4	#8	36'-8"	[bar]
e106(E)	14	#5	29'-8"	[bar]
e107(E)	2	#8	29'-8"	[bar]
e108(E)	28	#5	10'-5"	[bar]
e109(E)	84	#5	14'-8"	[bar]
h100(E)	62	#6	21'-2"	[bar]
h101(E)	2	#4	8'-8"	[bar]
h102(E)	60	#6	25'-5"	[bar]
h103(E)	100	#6	33'-10"	[bar]
h104(E)	88	#6	29'-8"	[bar]
h105(E)	50	#8	36'-8"	[bar]
p100(E)	22	#5	8'-6"	[bar]
p101(E)	22	#5	15'-10"	[bar]
p102(E)	22	#5	24'-9"	[bar]
p103(E)	88	#5	33'-2"	[bar]
p104(E)	44	#5	29'-8"	[bar]
s100(E)	152	#4	7'-8"	[hook]
s101(E)	304	#4	12'-0"	[hook]
s102(E)	4	#4	9'-1"	[hook]
sp100	21	#6	35'-3"	[spiral]
sp101	21	#6	54'-3"	[spiral]
v100(E)	22	#5	30'-2"	[bar]
v101(E)	22	#5	28'-3"	[bar]
v102(E)	31	#5	26'-0"	[bar]
v103(E)	31	#5	23'-0"	[bar]
v104(E)	31	#5	19'-5"	[bar]
v105(E)	31	#5	15'-7"	[bar]
v106(E)	31	#5	11'-8"	[bar]
v107(E)	31	#5	7'-10"	[bar]
v111	504	#14	54'-3"	[bar]
v112	504	#14	39'-0"	[bar]
Structure Excavation		Cu. Yd.	838	
Concrete Structures		Cu. Yd.	231.5	
Concrete Superstructure		Cu. Yd.	59.4	
Shear Stud Connectors		Each	11	
Reinforcement Bars		Pound	459,810	
Reinforcement Bars, Epoxy Coated		Pound	18,840	
Permanent Casing		Foot	180	
Drilled Shaft In Soil		Cu. Yd.	1,979.3	
Concrete Sealer		Sq. Ft.	4,172	
Class SI Concrete (Miscellaneous)		Cu. Yd.	128.6	
Crosshole Sonic Lagging		Foot	1,890	
Access Ducts				
Crosshole Sonic Lagging Testing		Each	5	
Pipe Underdrain for Structures 4"		Foot	224	

** Length is height of spiral.
 *** Shown for information only. Cost included with Class SI Concrete (Miscellaneous).



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

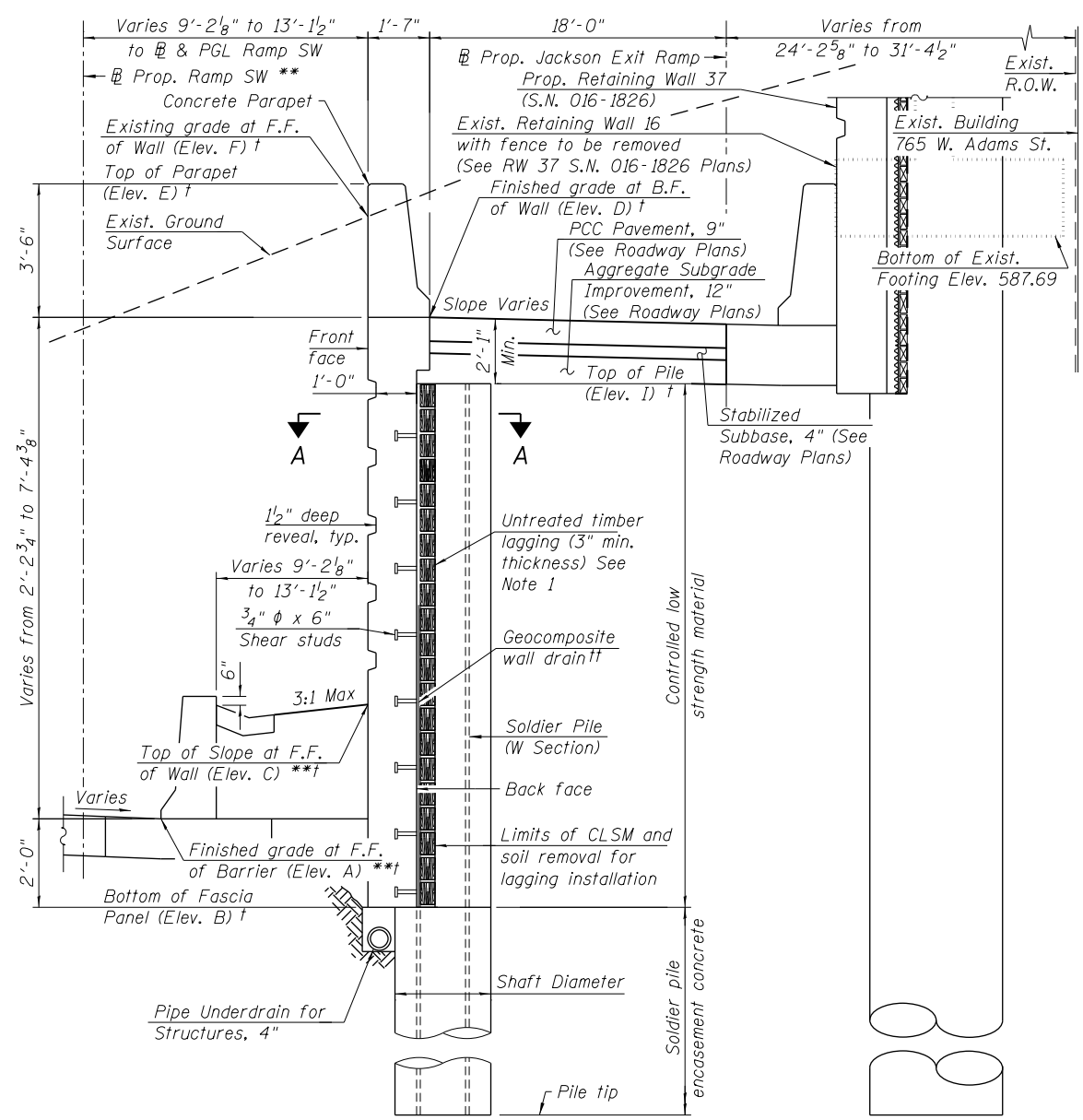
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DRILLED SHAFT WALL SECTIONS AND DETAILS 3
 RETAINING WALL 8 (STRUCTURE NO. 016-1727)

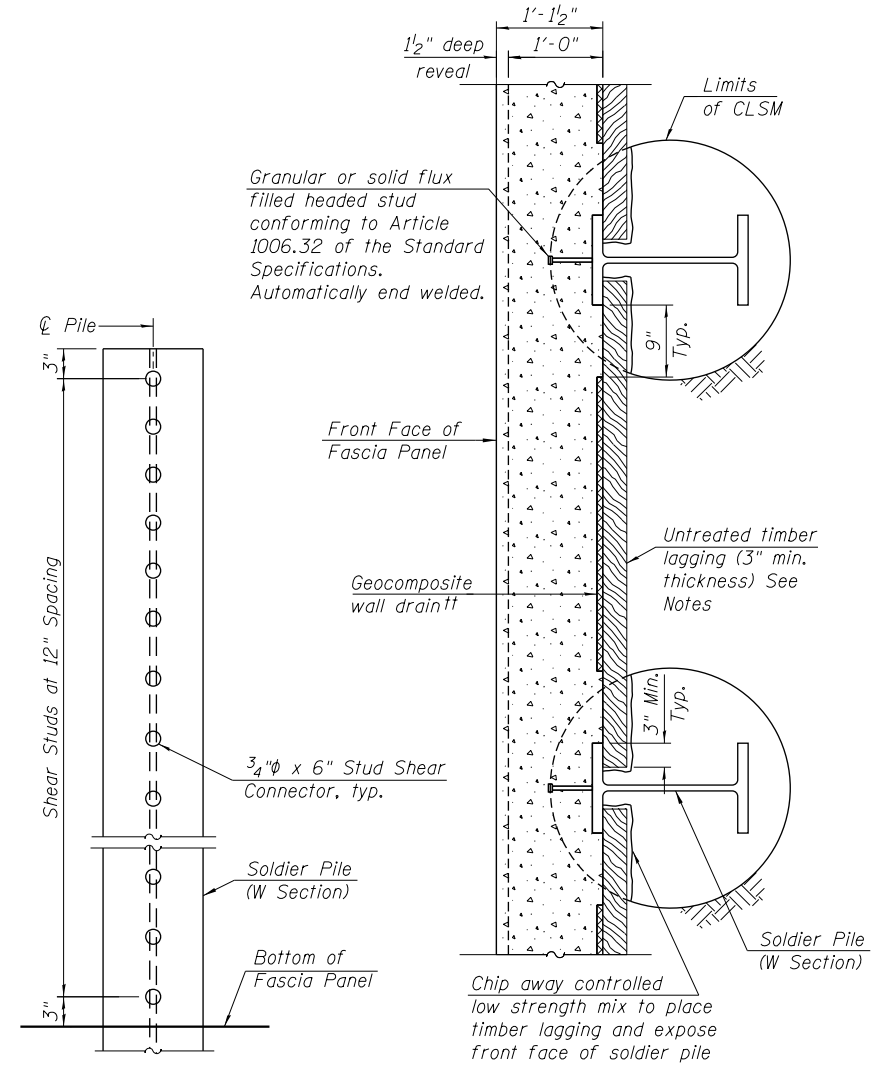
SHEET NO. S3-10 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	475
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

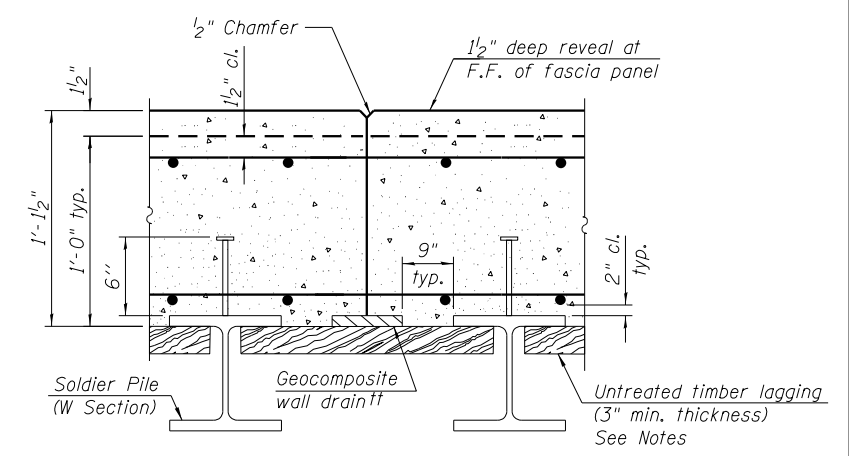
12:52:29 P:\PW\AECOM\NA-AWS1\AECOM\NA-LOCAL\AECOM\DS02\NA\DOCUMENTS\01\AMERICAS\TRANSPORTATION\60269938_CIRCLE\PHASE_11\000_CAD\008_STRUCTURAL_STRUCTURE_016-1727\SHEETS\0161727-60X94-S011-SOLDIERPILE-DETAILS_1.DGN



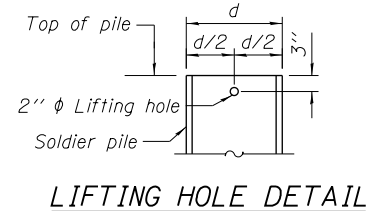
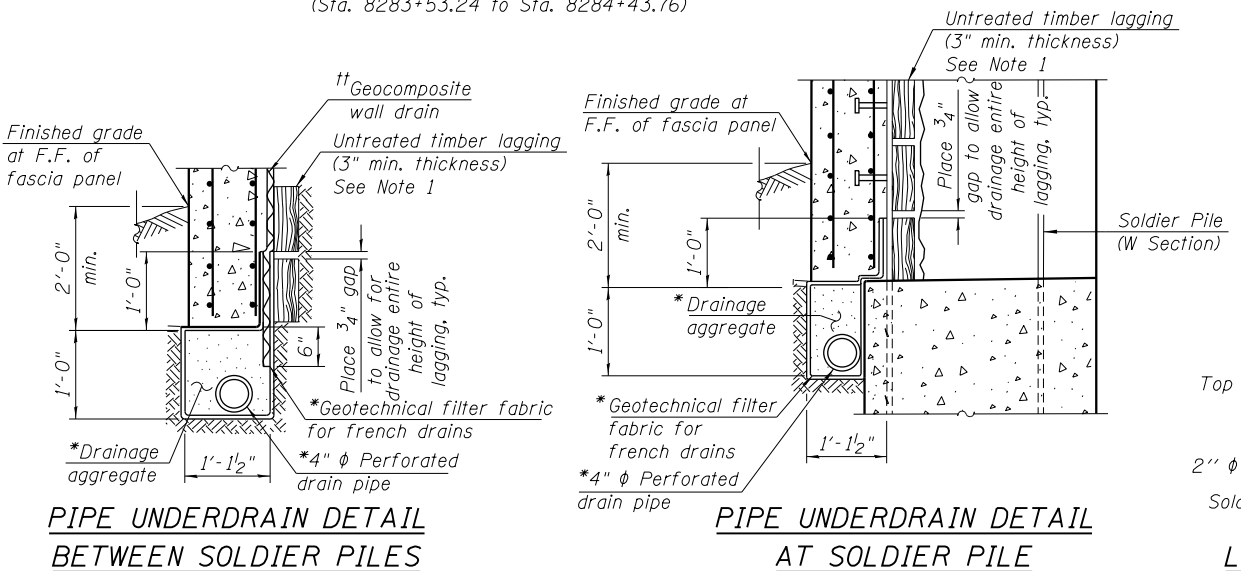
TYPICAL CROSS SECTION - SOLDIER PILE WALL
 (Looking upstation)
 (Sta. 8283+53.24 to Sta. 8284+43.76)



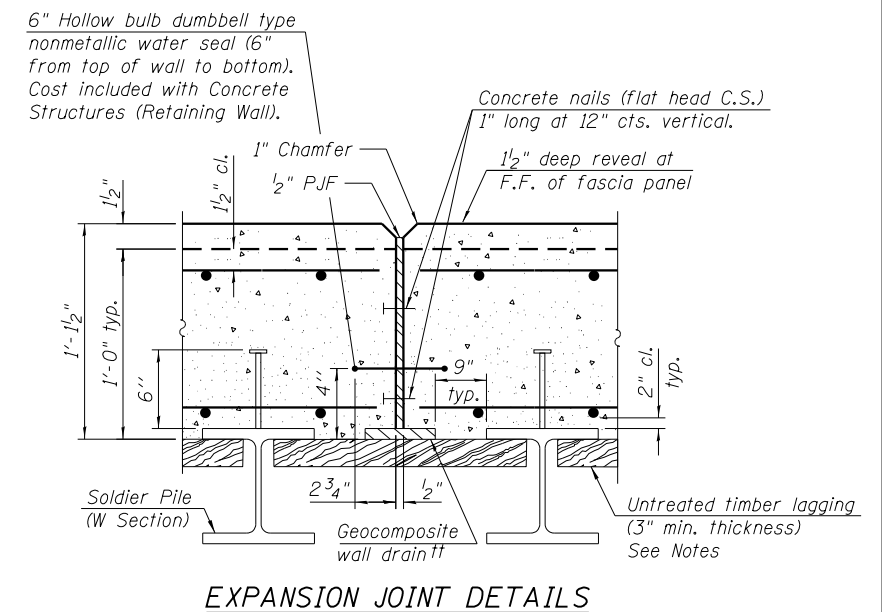
*** Cost included with Pipe Underdrains for Structures 4.**
† See Table 1 - Wall Elevations on Sheet S3-02 of S3-21.
**** Installed as part of Contract 62A77.**
†† Geocomposite wall drain thickness shall not exceed 1 5/16".



CONSTRUCTION JOINT DETAILS



LIFTING HOLE DETAIL



EXPANSION JOINT DETAILS

Notes:
 The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum 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.
 Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand.



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRILLED SOLDIER PILE WALL SECTIONS AND DETAILS 1
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-11 OF S3-21 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 476
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

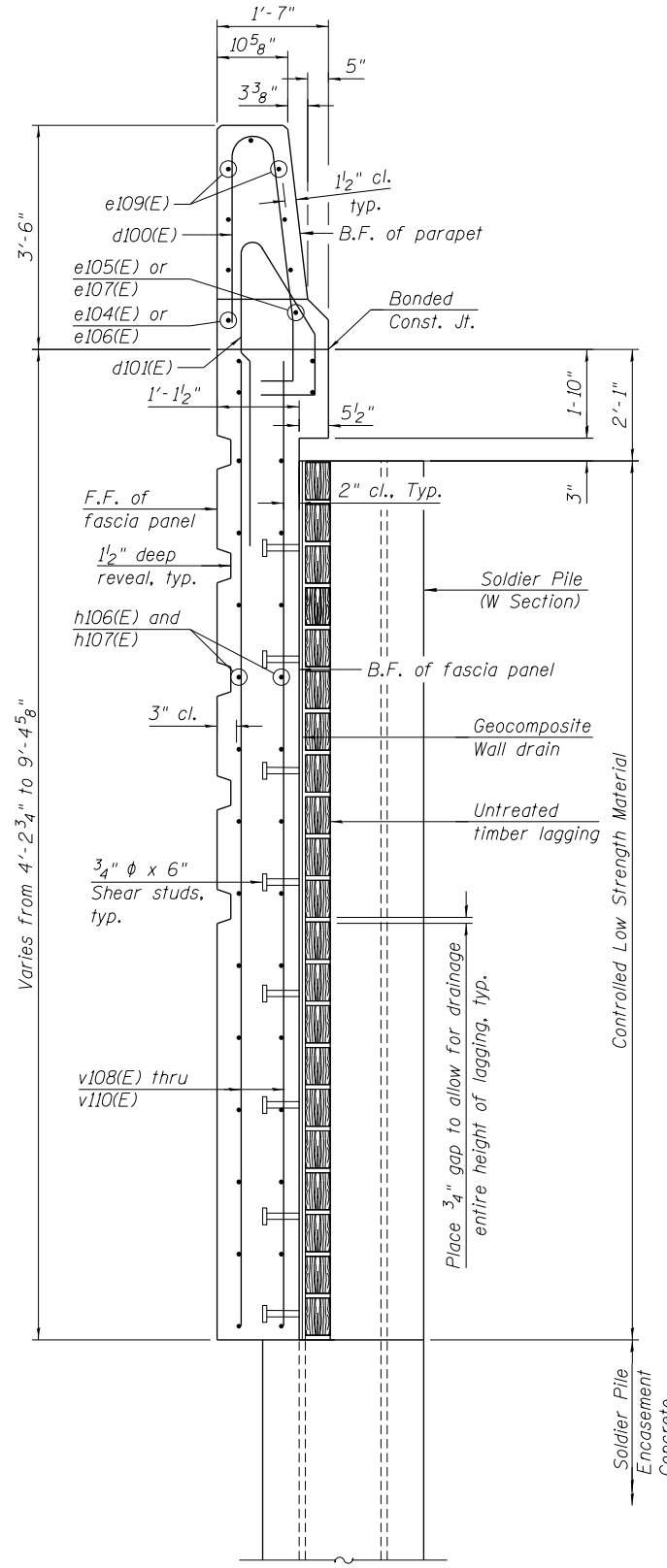
12:52:38 P:\P\W\AECOM\NA-AWS\1-AECOM\LOCAL\AECOM\DS02\NA\DOCUMENTS\01-AMERICAS\TRANSPORTATION\60269938-CIRCLE\PHASE_11\000_CAD\008_STRUCTURE\STRUCTURE_016-1727\SHEETS\0161727-60X94-S012-SOLDIERPILE-DETAILS-2.DGN

PILE LAYOUT

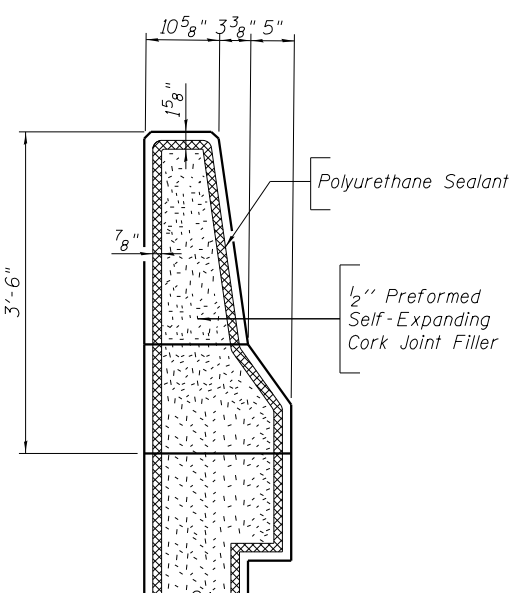
Pile	Station at Working Point	Offset	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Auger ϕ	Pile Tip El.	Pile Length
P-1	8283+57.01	17.32' Lt.	582.72	577.13	574.80	W27X84	3'-0"	532.13	45'-0"
P-2	8283+64.55	17.32' Lt.	583.14	577.56	574.83	W27X84	3'-0"	532.55	45'-0"
P-3	8283+72.10	17.32' Lt.	583.57	577.98	574.86	W27X84	3'-0"	532.98	45'-0"
P-4	8283+79.64	17.32' Lt.	583.99	578.41	574.89	W27X84	3'-0"	533.40	45'-0"
P-5	8283+87.18	17.32' Lt.	584.43	578.84	574.91	W27X84	3'-0"	533.84	45'-0"
P-6	8283+94.73	17.32' Lt.	584.88	579.30	574.92	W27X217	3'-0"	532.29	47'-0"
P-7	8284+02.27	17.32' Lt.	585.33	579.75	574.93	W27X217	3'-0"	532.74	47'-0"
P-8	8284+09.81	17.32' Lt.	585.78	580.20	574.95	W27X217	3'-0"	533.20	47'-0"
P-9	8284+17.36	17.32' Lt.	586.23	580.65	574.95	W27X217	3'-0"	533.65	47'-0"
P-10	8284+24.90	17.32' Lt.	586.69	581.10	574.94	W27X217	3'-0"	534.10	47'-0"
P-11	8284+32.45	17.32' Lt.	587.14	581.56	574.94	W27X217	3'-0"	534.55	47'-0"
P-12	8284+39.99	17.07' Lt.	587.59	582.01	574.93	W30X148	3'-6"	526.01	56'-0"

BILL OF MATERIAL

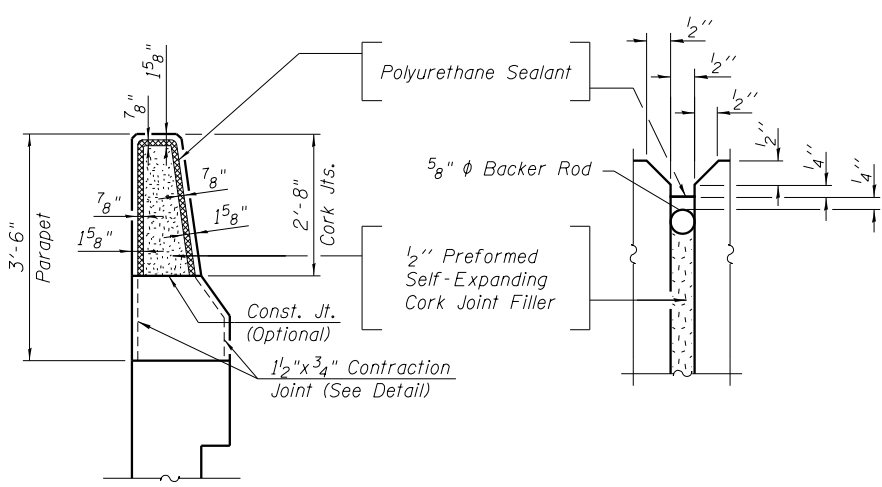
Bar	No.	Size	Length	Shape
d100(E)	123	#5	6'-10"	U
d101(E)	123	#5	10'-0"	P
e104(E)	2	#5	33'-2"	—
e105(E)	2	#8	36'-8"	—
e106(E)	1	#5	29'-8"	—
e107(E)	1	#8	29'-8"	—
e109(E)	42	#5	14'-8"	—
h106(E)	20	#5	29'-8"	—
h107(E)	28	#5	33'-2"	—
v108(E)	31	#5	16'-3"	—
v109(E)	31	#5	12'-9"	—
v110(E)	31	#5	9'-4"	—
Structure Excavation			Cu. Yd.	84
Concrete Superstructure			Cu. Yd.	13.0
Stud Shear Connectors			Each	170
Reinforcement Bars, Epoxy Coated			Pound	6,010
Furnishing Soldier Piles (W Section)			Foot	563
Drilling and Setting Soldier Piles (In Soil)			Cu. Ft.	4,564
Untreated Timber Lagging			Sq. Ft.	390
Concrete Structures (Retaining Wall)			Cu. Yd.	28.6
Concrete Sealer			Sq. Ft.	859
Geocomposite Wall Drain			Sq. Yd.	32
Pipe Underdrain for Structures 4"			Foot	90



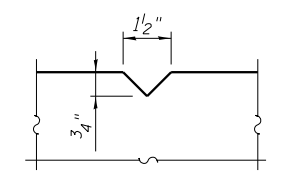
TYPICAL SOLDIER PILE WALL CROSS SECTION



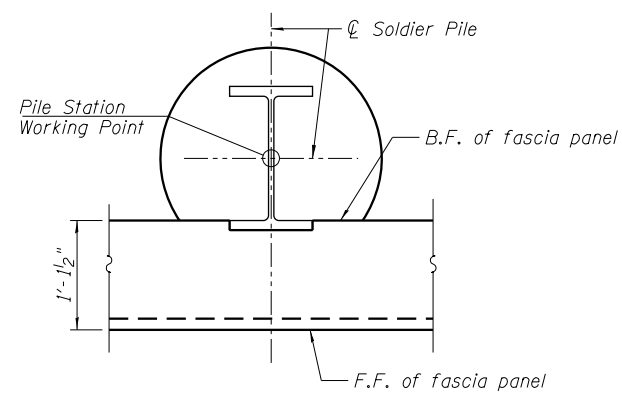
TRANSVERSE EXPANSION JOINT SECTION



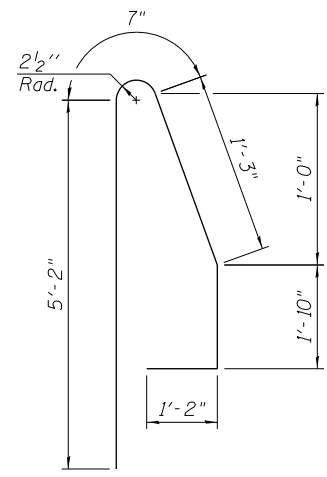
PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION



PARAPET TRANSVERSE CONTRACTION JOINT



SOLDIER PILE WORKING POINT



BAR d101(E)

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

Note: 1/2" PJF included in cost of Concrete Superstructure.



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRILLED SOLDIER PILE WALL SECTIONS AND DETAILS 2
RETAINING WALL 8 (STRUCTURE NO. 016-1727)**

SHEET NO. S3-12 OF S3-21 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 477
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

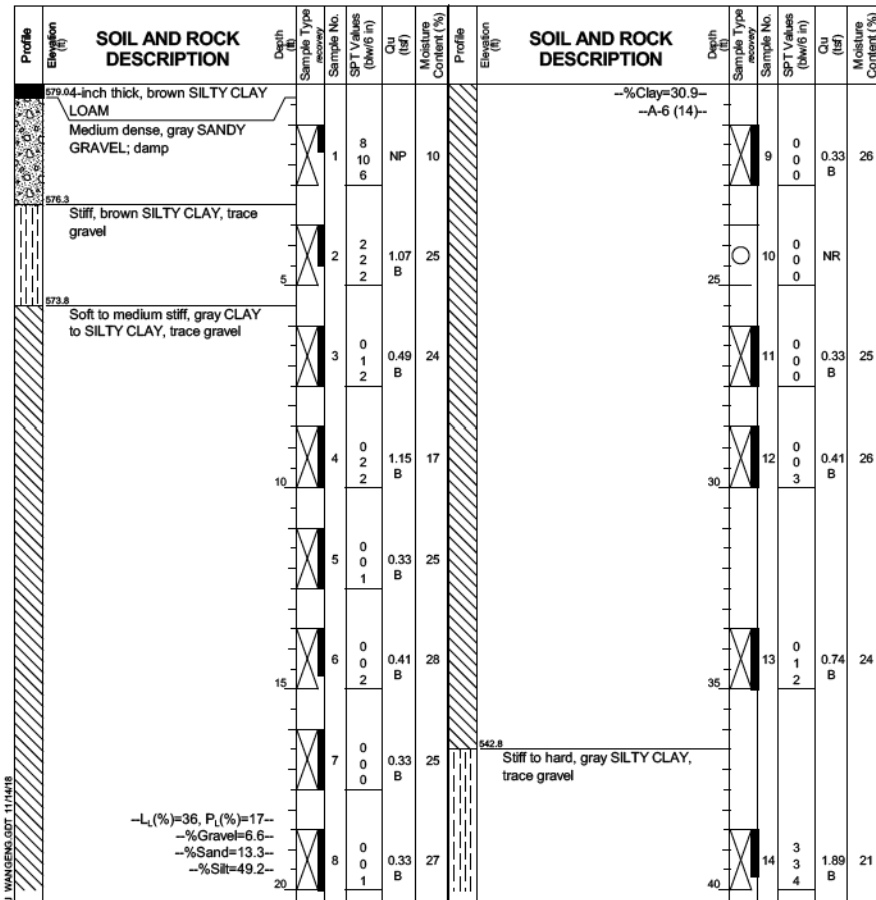
12:53:12 P:\PW\AECOM\NA-AWS\1-AECOM\IL\LOCAL\AECOM\DS02_NA\DOCUMENTS\01-AMERICAS\TRANSPORTATION\60269938-CIRCLE\PHASE_11\000_CAD\008_STRUCTURE\STRUCTURE_016-1727-SHEETS\016-1727-BORING-2-DGN

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

BORING LOG 08-RWB-01
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 579.35 ft
North: 1899261.44 ft
East: 1171382.28 ft
Station: 1310+67.92
Offset: 1.7942 LT

Page 1 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR [85%]
Driller A&K Logger A. Mohammed Checked by C. Marin
Drilling Method 3.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

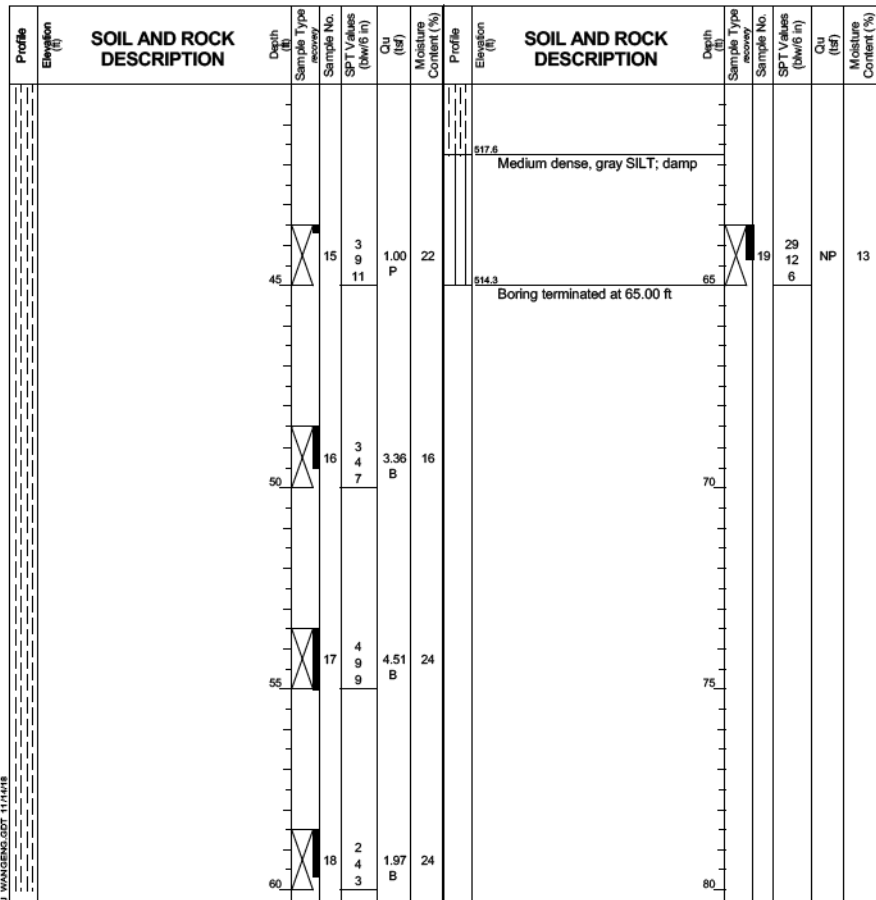
WATER LEVEL DATA
While Drilling Rotary wash
At Completion of Drilling mud in the borehole
Time After Drilling NA
Depth to Water NA

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

BORING LOG 08-RWB-01
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 579.35 ft
North: 1899261.44 ft
East: 1171382.28 ft
Station: 1310+67.92
Offset: 1.7942 LT

Page 2 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR [85%]
Driller A&K Logger A. Mohammed Checked by C. Marin
Drilling Method 3.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

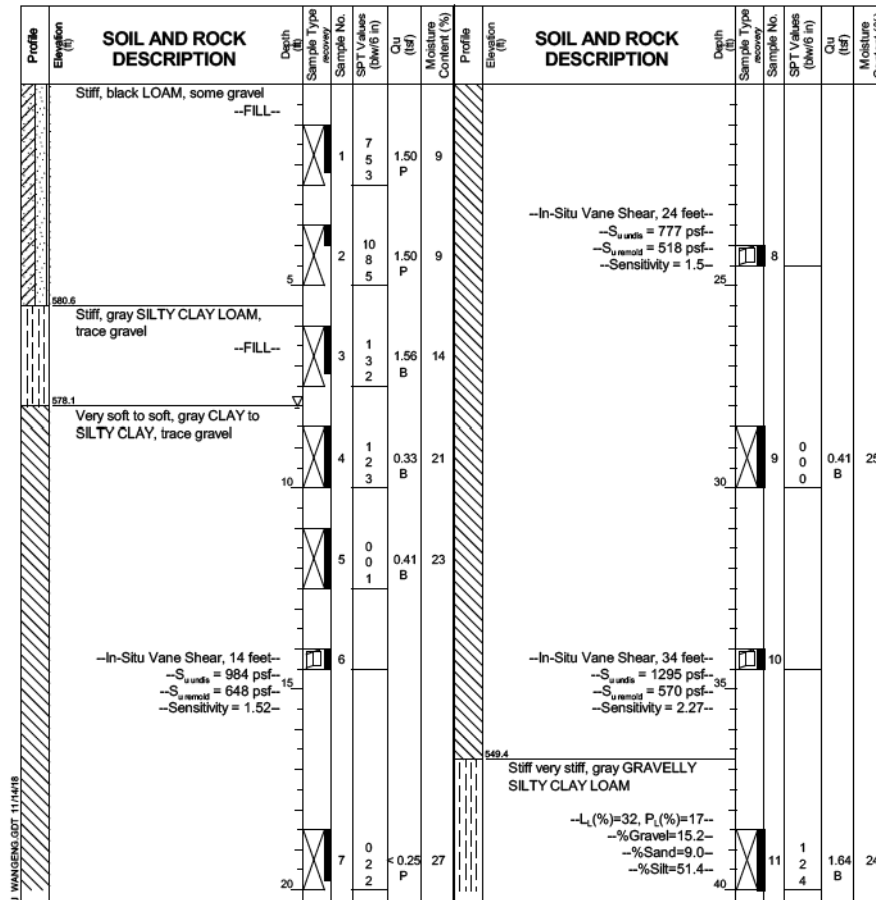
WATER LEVEL DATA
While Drilling Rotary wash
At Completion of Drilling mud in the borehole
Time After Drilling NA
Depth to Water NA

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

BORING LOG 08-RWB-02
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 586.14 ft
North: 1899115.44 ft
East: 1171371.20 ft
Station: 1312+13.98
Offset: 8.4733 RT

Page 1 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
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 8.00 ft
At Completion of Drilling mud in the borehole
Time After Drilling NA
Depth to Water NA

Notes:
Boring Log 08-RWB-01 Station and Offset along Jackson Exit Ramp are: Sta. 8283+04.84, Offset 27.79' Lt.
Boring Log 08-RWB-02 Station and Offset along Jackson Exit Ramp are: Sta. 8284+52.34, Offset 23.85' Lt.



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	481
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

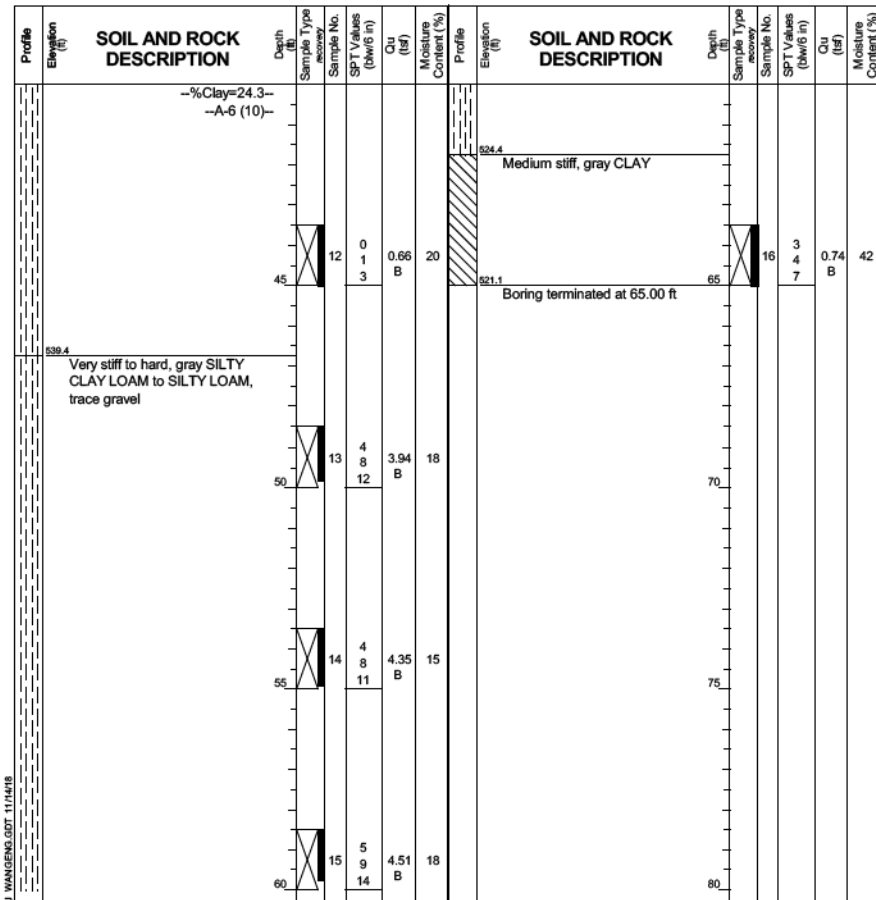
SHEET NO. S3-16 OF S3-21 SHEETS

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

BORING LOG 08-RWB-02
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 586.14 ft
North: 1899115.44 ft
East: 1171371.20 ft
Station: 1312+13.98
Offset: 8.4733 RT

Page 2 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
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

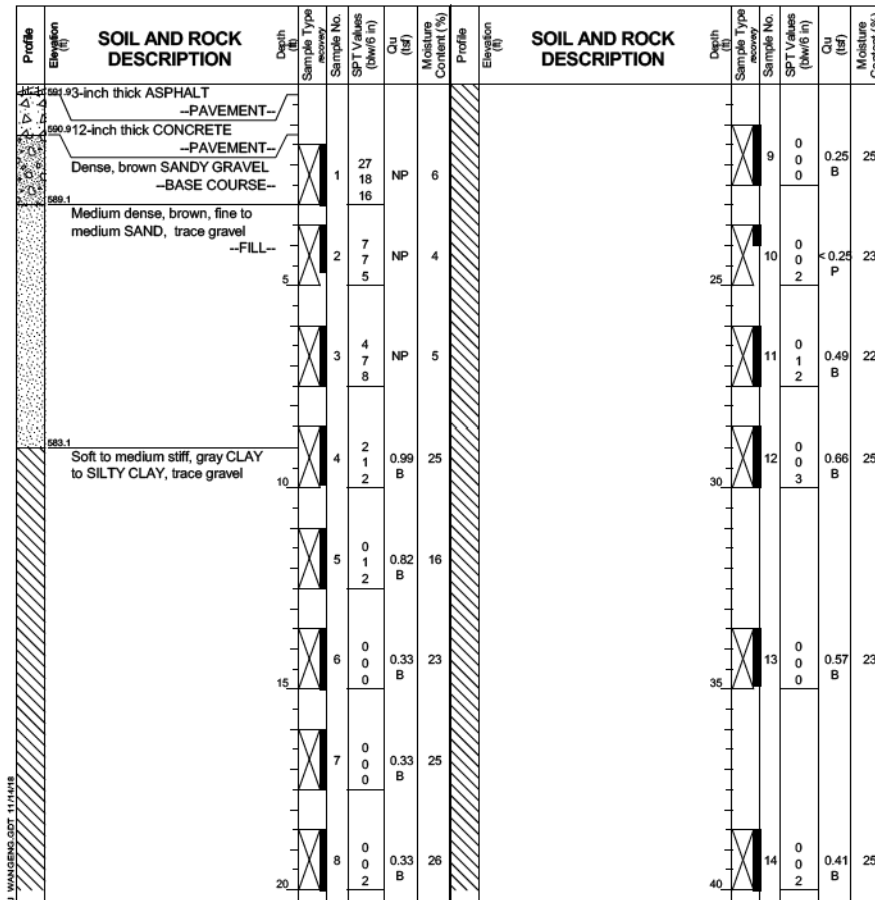
WATER LEVEL DATA
While Drilling 8.00 ft
At Completion of Drilling mud in the borehole
Time After Drilling NA
Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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

BORING LOG 08-RWB-03
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 592.12 ft
North: 1898962.89 ft
East: 1171377.44 ft
Station: 1313+66.49
Offset: 1.3750 RT

Page 1 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
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

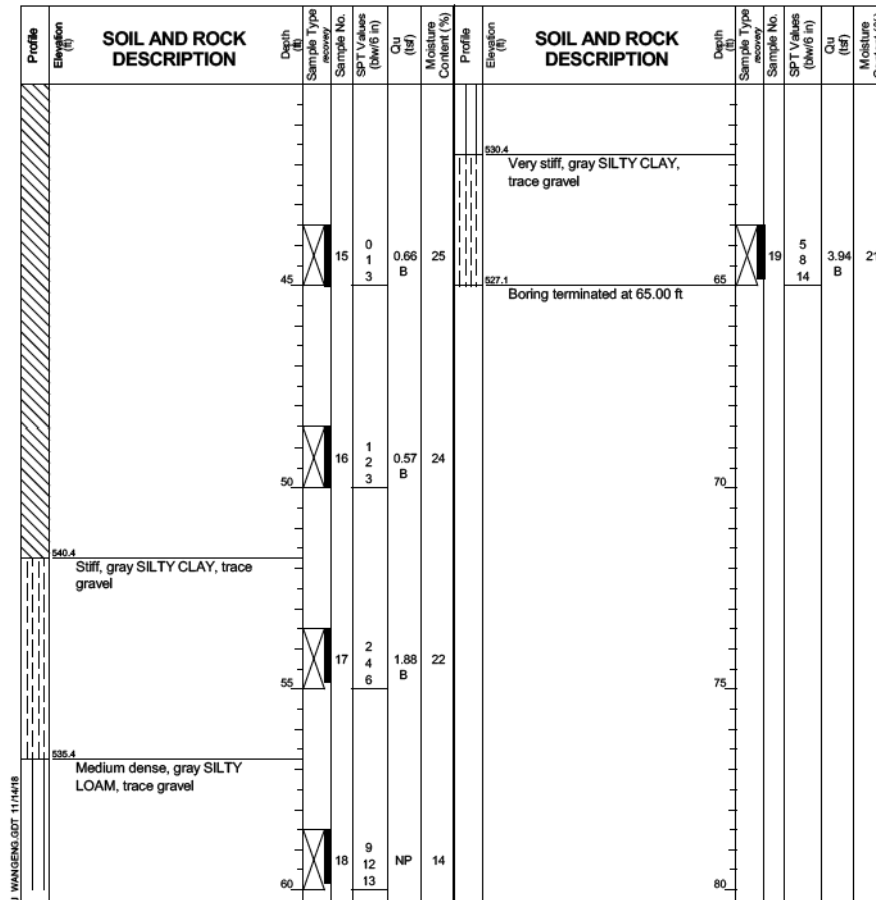
WATER LEVEL DATA
While Drilling Rotary wash
At Completion of Drilling mud in the borehole
Time After Drilling NA
Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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

BORING LOG 08-RWB-03
WEI Job No.: 1100-04-01
Client: **AECOM**
Project: **Jane Byrne Interchange**
Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88
Elevation: 592.12 ft
North: 1898962.89 ft
East: 1171377.44 ft
Station: 1313+66.49
Offset: 1.3750 RT

Page 2 of 2



GENERAL NOTES
Begin Drilling 07-10-2014 Complete Drilling 07-10-2014
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 08-RWB-02 Station and Offset along Jackson Exit Ramp are: Sta. 8284+52.34, Offset 23.85' Lt.
Boring Log 08-RWB-03 Station and Offset along Jackson Exit Ramp are: Sta. 8286+05.39, Offset 31.68' Lt.



USER NAME = wjcollett	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - LFP	REVISED -
	CHECKED - DJG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
RETAINING WALL 8 (STRUCTURE NO. 016-1727)

SHEET NO. S3-17 OF S3-21 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	482
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

Bench Mark: Set "X" on east barrier wall of I-90 at \mathcal{C} of Adams Street. Elev. 581.17.

Existing Structure: Existing Retaining Wall 17 (S.N. 016-W808). Constructed in 2010 under F.A.I. 90/94 Section 0202.6-2P. Cast-in-place concrete retaining wall on concrete filled metal shell piles and spread footing that measures 267'-4 $\frac{3}{4}$ " from Adams Street NW Wingwall north to Monroe Street. Maximum height from top of wall to bottom of footing measures 18'-3 $\frac{1}{8}$ ". The top part of the south portion of the existing retaining wall and railing is to be removed and replaced with a concrete parapet and anchorage slab. The north 75'-6 $\frac{1}{2}$ " portion is to be partially removed and buried below proposed grade and buried.

Traffic on Adams Exit Ramp will be detoured during construction.

No Salvage.

Notes:
Wall offsets are measured from the \mathcal{C} of Adams Exit Ramp to the front face of the existing wall.
F.F. denotes Front Face.
B.F. denotes Back Face.



Matthew D. Santeford
MATTHEW D. SANTEFORD, P.E., S.E.
NO. 081-007244
EXP. DATE 11/30/2020

CURVE DATA

(Adams Exit Ramp)
Prop. Curve P-ADM-SX-1
P.I. Sta. = 8386+35.08
 Δ = 6° 41' 46" (LT)
D = 1° 49' 39"
R = 3,135.00'
T = 183.40'
L = 366.39'
e = 5.36'
T.R. = 49'
S.E. Run = 97'
P.C. Sta. = 8384+51.68
P.T. Sta. = 8388+18.07

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition (Portion of Existing Wall to Remain)

2017 AASHTO LRFD Bridge Design Specifications 8th Edition

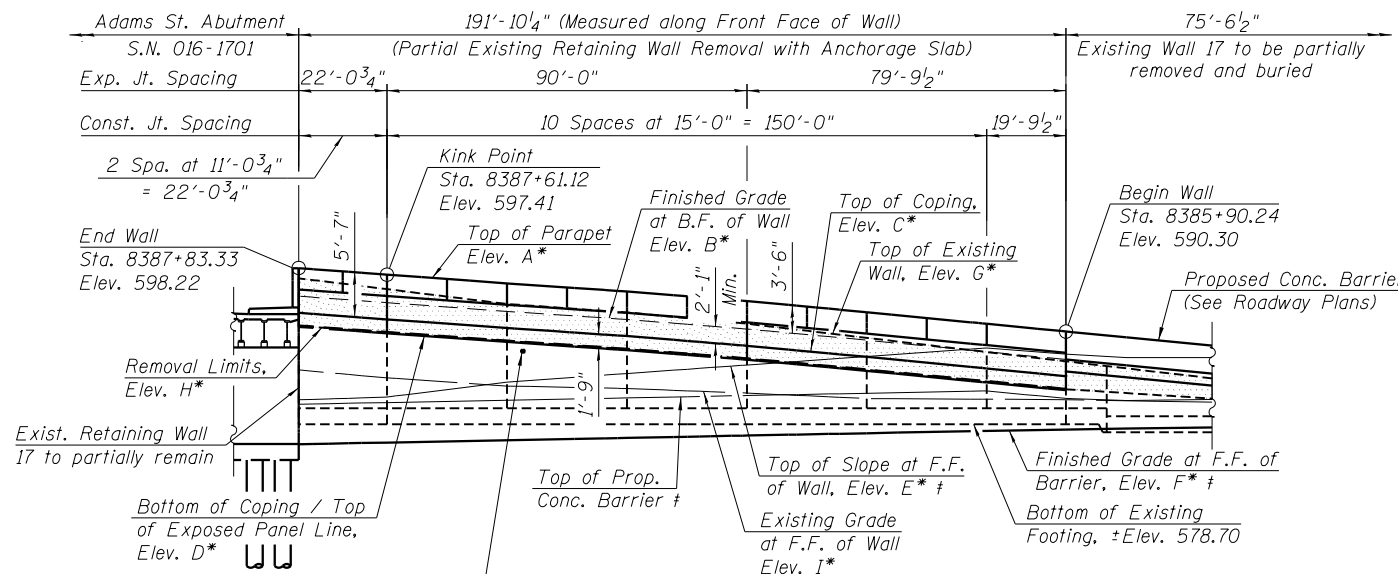
DESIGN STRESSES

FIELD UNITS

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

EXISTING UNITS

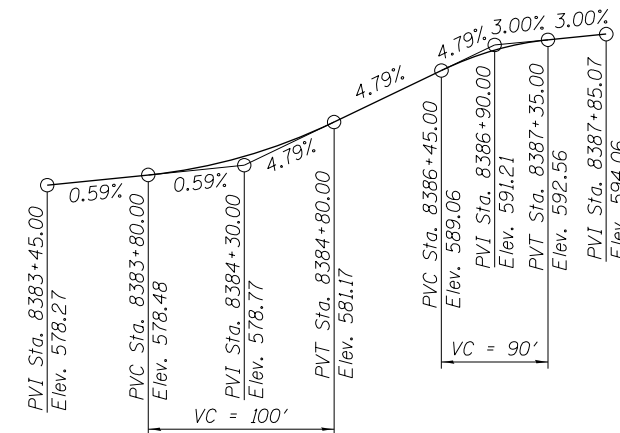
f'c = 1,200 psi
fy = 20,000 psi (Reinforcement)



ELEVATION

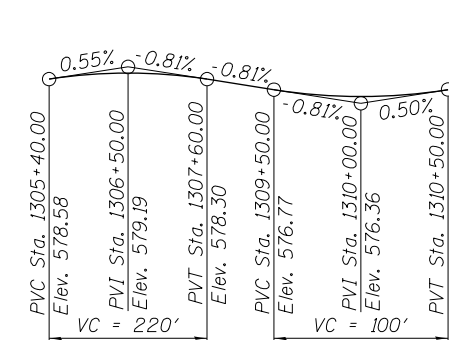
(Looking West at F.F. of Wall)

* For elevations, see Table 1 on Sheet S4-02 of S4-05.
† Proposed concrete barrier to be installed as part of Contract 62A77



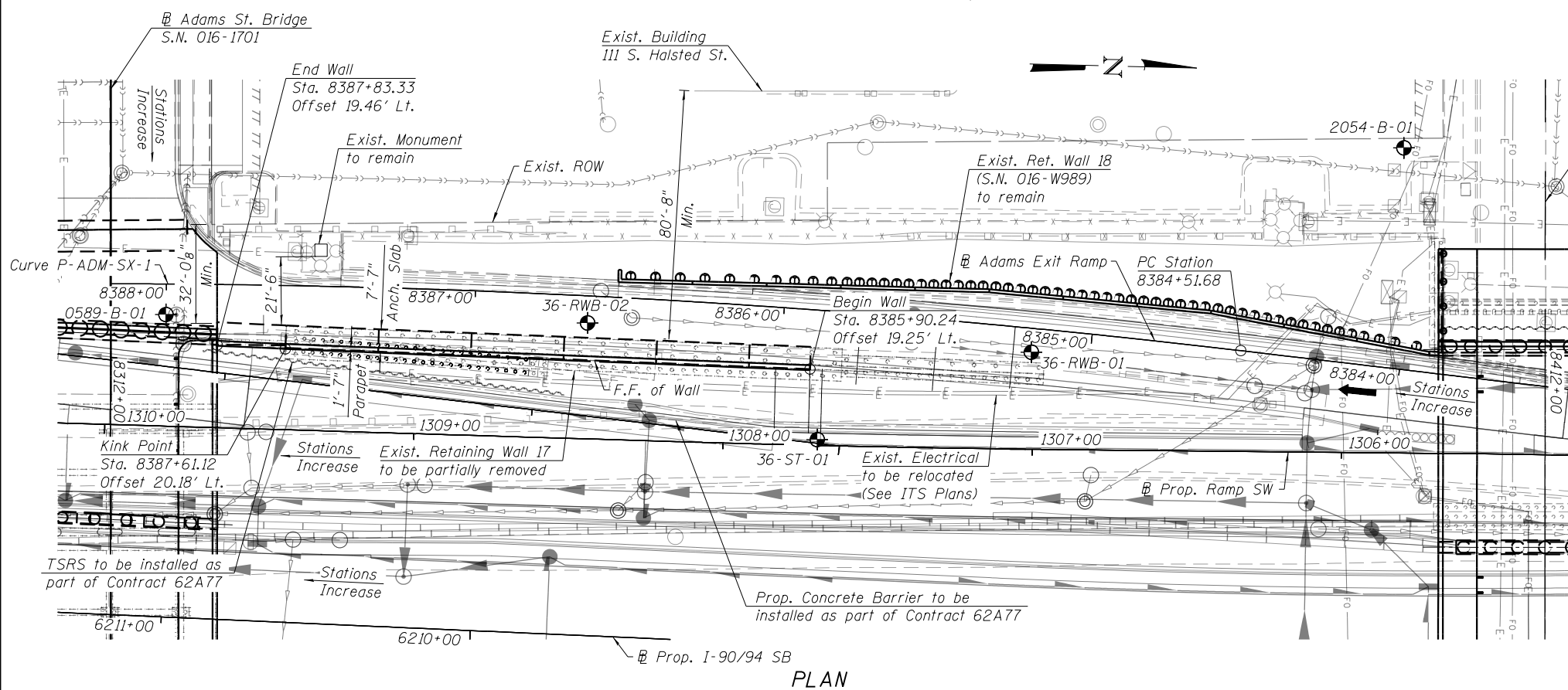
PROFILE GRADE

(@ Adams Exit Ramp)

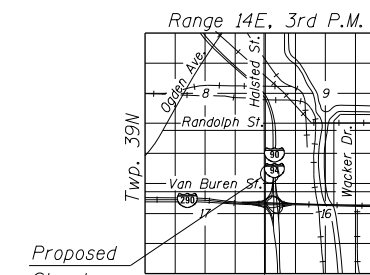


PROFILE GRADE

(@ Ramp SW)



PLAN



LOCATION SKETCH

LEGEND:

Ex. Chain Link Fence	— x — x —	Soil Boring	\odot
Combined Sewer	$\rightarrow\rightarrow\rightarrow\rightarrow$	Existing Catch Basin	\circ
Electric	— E —	Proposed Catch Basin	\bullet
Ex. Storm Sewer	\rightarrow	Existing Manhole	\circ
Prop. Storm Sewer	\rightarrow	Proposed Manhole	\bullet
Ex. Fiber Optic	— FO —	Proposed Inlet	\square
Ex. ITS Cable	—	Concrete Removal	\square

GENERAL PLAN AND ELEVATION
RETAINING WALL 36 ALONG ADAMS EXIT RAMP
F.A.I. RTE. 90/94 (KENNEDY EXPRESSWAY)
SECTION 2014-015R&B-R
COOK COUNTY
STATION 8385+90.24 TO STATION 8387+83.33
STRUCTURE NO. 016-1825

12:47:37 PM
0161825-60X94-S001-GPE



USER NAME = wjcolletti	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - WJC	REVISED -
PLOT DATE = 3/5/2020	DRAWN - ZJW	REVISED -
	CHECKED - WJC	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S4-01 OF S4-05 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 487
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject 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 anchorage slab, parapet, and existing front face of retaining wall. Protective Coat shall be applied to the top and interior face of parapet above groundline.
4. Slipforming of parapets is not allowed.
5. 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.
6. 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 monument and building foundations. 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.
7. 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.
8. Wall repair locations are approximate and were determined from field inspection performed at the time of plan preparation. The necessary adjustments based on current field conditions will be made at time of construction. Such variations shall not be cause for additional compensation for a change in the scope of work. However, the Contractor will be paid for the actual quantity furnished at the unit price bid for the work.
9. The Contractor shall take precautions not to damage existing retaining wall during the construction. Any damage to the existing retaining wall shall be repaired by the Contractor at no additional cost.

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. Remove railing, cladding, and portions of Existing Wall 17.
3. Repair cracks on the front face of existing wall to remain.
4. Construct Anchorage Slab and Parapet.
5. Install Roadway pavement (See Roadway Plans).
6. No portions of the wall shall be compromised by excavation for other elements of work, including the West abutment of structure 016-1701, under the contract, and adjacent structures.

TABLE 1 - WALL ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F	Elevation G	Elevation H	Elevation I
8385+90.24	19.25' Lt.	590.30	586.80	584.72	582.97	587.48	578.04	586.58	583.09	581.79
8386+10.14	19.84' Lt.	591.26	587.76	585.68	583.93	588.24	577.88	587.74	584.06	581.84
8386+40.33	20.48' Lt.	592.72	589.22	587.14	585.39	587.18	577.59	589.51	585.51	581.92
8386+70.53	20.84' Lt.	594.11	590.61	588.53	586.78	586.12	577.30	591.28	586.90	582.61
8387+00.73	20.91' Lt.	595.31	591.81	589.73	587.98	585.05	577.01	592.69	588.10	583.18
8387+30.93	20.69' Lt.	596.33	592.83	590.74	588.99	583.99	576.71	593.75	589.12	583.49
* 8387+61.12	20.18' Lt.	597.41	593.91	591.83	590.08	582.11	576.42	595.60	590.20	584.51
** 8387+61.12	19.35' Lt.	597.41	593.91	591.83	590.08	582.11	576.42	595.60	590.20	584.51
8387+83.33	19.46' Lt.	598.22	594.72	592.64	590.89	581.76	576.22	596.96	591.01	585.50

Elevation A - Top of Parapet
 Elevation B - Finished Grade at B.F. of Wall
 Elevation C - Top of Coping
 Elevation D - Bottom of Coping / Top of Exposed Wall Line
 Elevation E - Top of Slope at F.F. of Wall ***
 Elevation F - Finished Grade at F.F. of Barrier ***
 Elevation G - Top of Existing Wall
 Elevation H - Removal Limits
 Elevation I - Existing Grade at F.F. of Wall
 * Elevations just to the right of joint
 ** Elevations just to the left of joint

STATION 8385+90.24 TO 8387+83.33
 BUILT 20__ BY
 STATE OF ILLINOIS
 F.A.I. RTE. 90/94 SEC. 2014-015R&B-R
 LOADING HL-93
 STR. NO. 016-1825

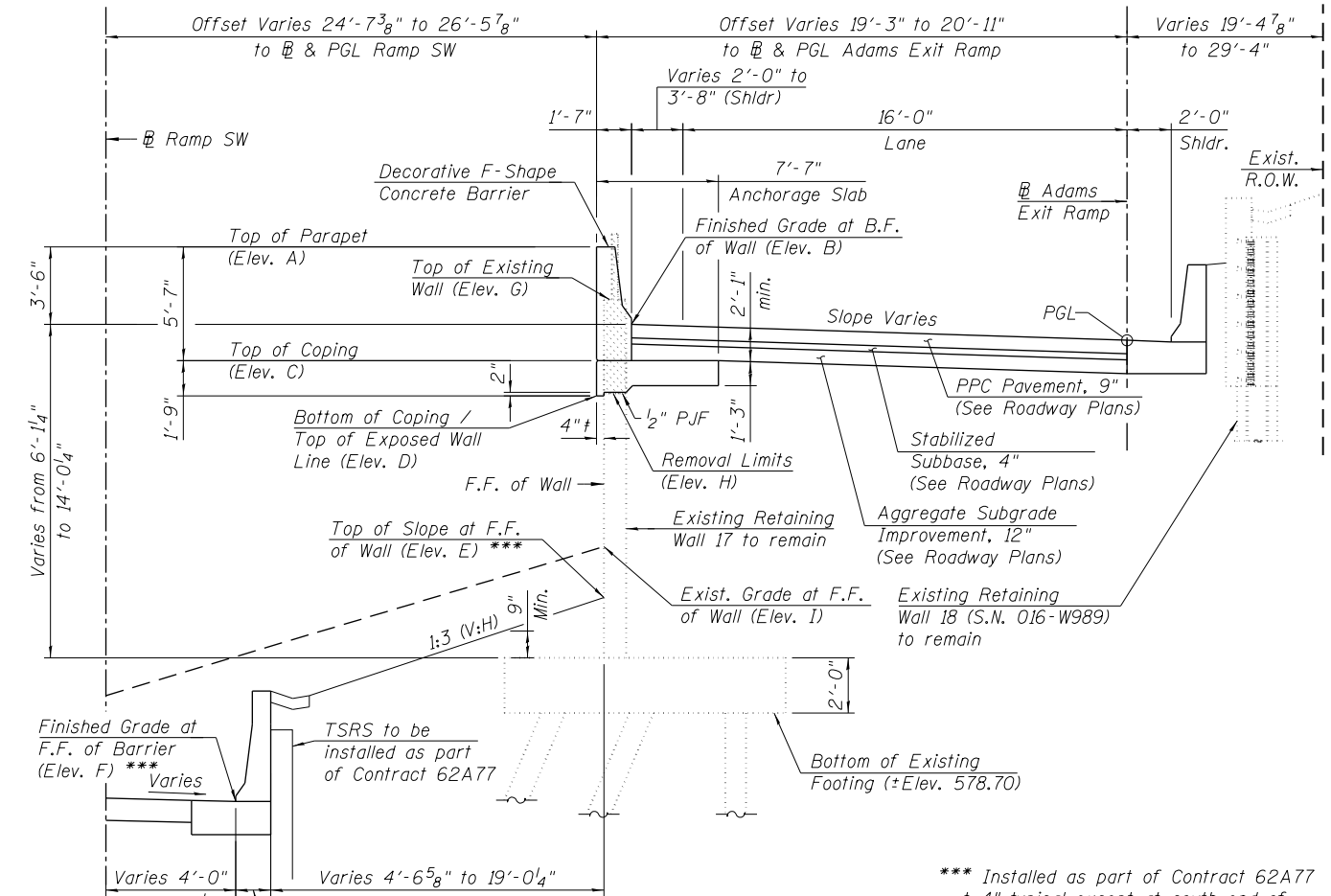
NAME PLATE
 See Std. 515001

TOTAL BILL OF MATERIAL

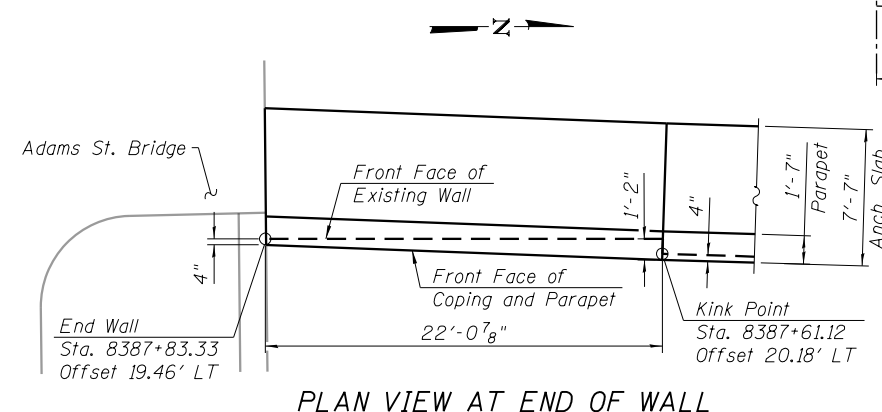
Item	Unit	Total Quantity
Concrete Removal	Cu. Yd.	59
Structure Excavation	Cu. Yd.	393
Concrete Superstructure	Cu. Yd.	122.7
Protective Coat	Sq. Yd.	97
Reinforcement Bars, Epoxy Coated	Pound	15,100
Name Plates	Each	1
Concrete Sealer	Sq. Ft.	2,665
Epoxy Crack Injection	Foot	78
Steel Railing Removal	Foot	268
Removal Of Ornamental Cladding	Foot	238

INDEX OF SHEETS

- S4-01 General Plan and Elevation
- S4-02 General Data
- S4-03 Repair and Removal Plans
- S4-04 Parapet and Anchorage Slab Plan and Elevation
- S4-05 Parapet and Anchorage Slab Details
- S4-06 Architectural Details



*** Installed as part of Contract 62A77
 † 4" typical except at south end of wall. See Plan View at End of Wall on this sheet.



LEGEND:
 B.F. - denotes Back Face.
 F.F. - denotes Front Face.
 - Concrete Removal

12:47:53 PM 0161825-60X94-5002-GenData.dgn

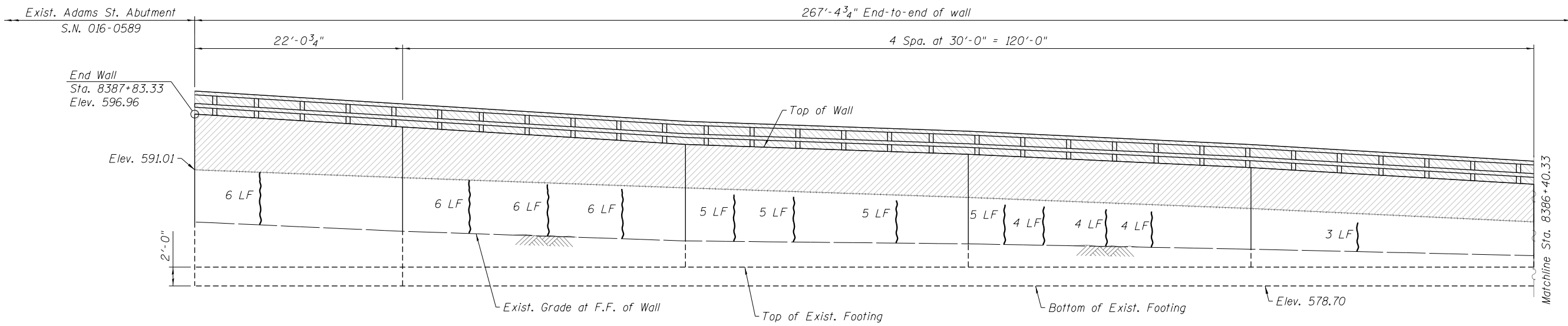


USER NAME = wjcollett	DESIGNED - TJA	REVISED -
	CHECKED - WJC	REVISED -
PLOT SCALE = NTS	DRAWN - ZJW	REVISED -
PLOT DATE = 3/5/2020	CHECKED - WJC	REVISED -

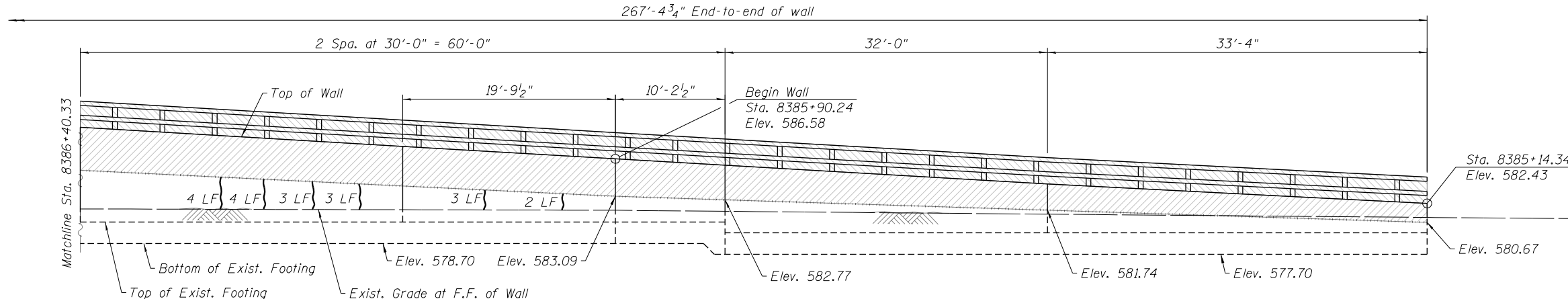
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

GENERAL DATA
RETAINING WALL 36 (STRUCTURE NO. 016-1825)
 SHEET NO. S4-02 OF S4-05 SHEETS

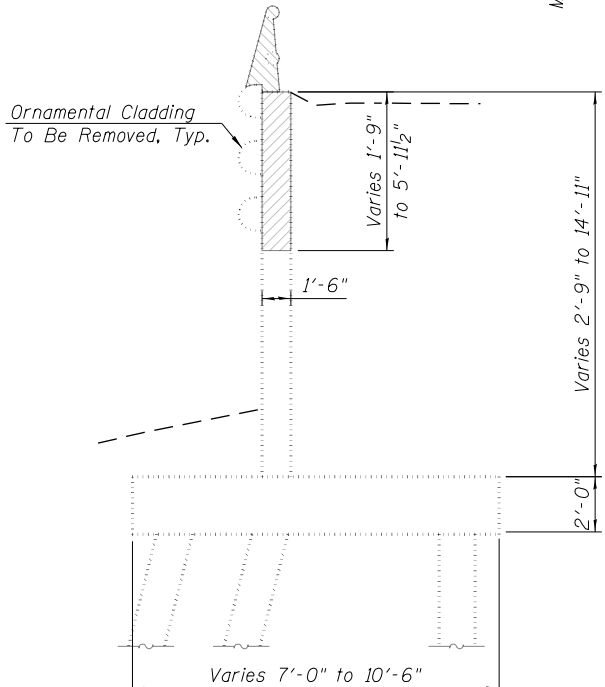
F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 488
CONTRACT NO. 016-1825			60X94	
ILLINOIS FED. AID PROJECT				



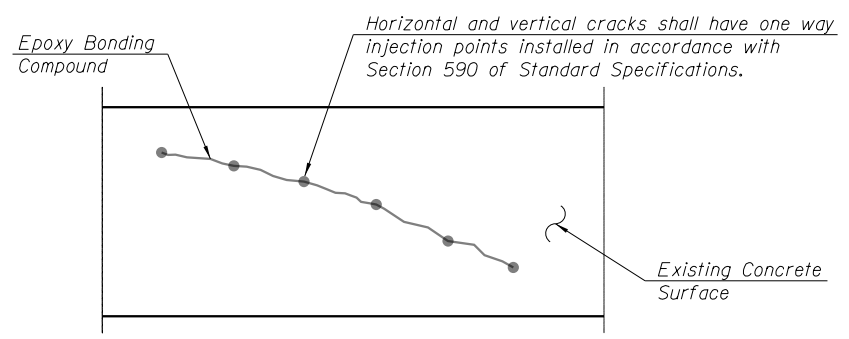
ELEVATION (STATION 8386+40.33 TO 8387+83.33)
(Looking West)



ELEVATION (STATION 8385+14.34 TO 8386+40.33)
(Looking West)



**EXISTING RETAINING WALL
TYPICAL CROSS SECTION**



EPOXY CRACK INJECTION

LEGEND

- Limits of Steel Railing Removal
- Limits of Concrete Removal
- Epoxy Crack Injection
- LF - Linear Foot

Notes:
For removal elevations, see sheet S4-02 of S4-05.
Dimensions are measured along front face of wall.
Cladding not shown in elevations view for clarity.

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	59
Concrete Sealer	Sq. Ft.	1,258
Epoxy Crack Injection	Foot	78
Steel Railing Removal	Foot	268
Removal of Ornamental Cladding	Foot	238

12:48:02 PM 0161825-60X94-S003-Repair-Plan.dgn



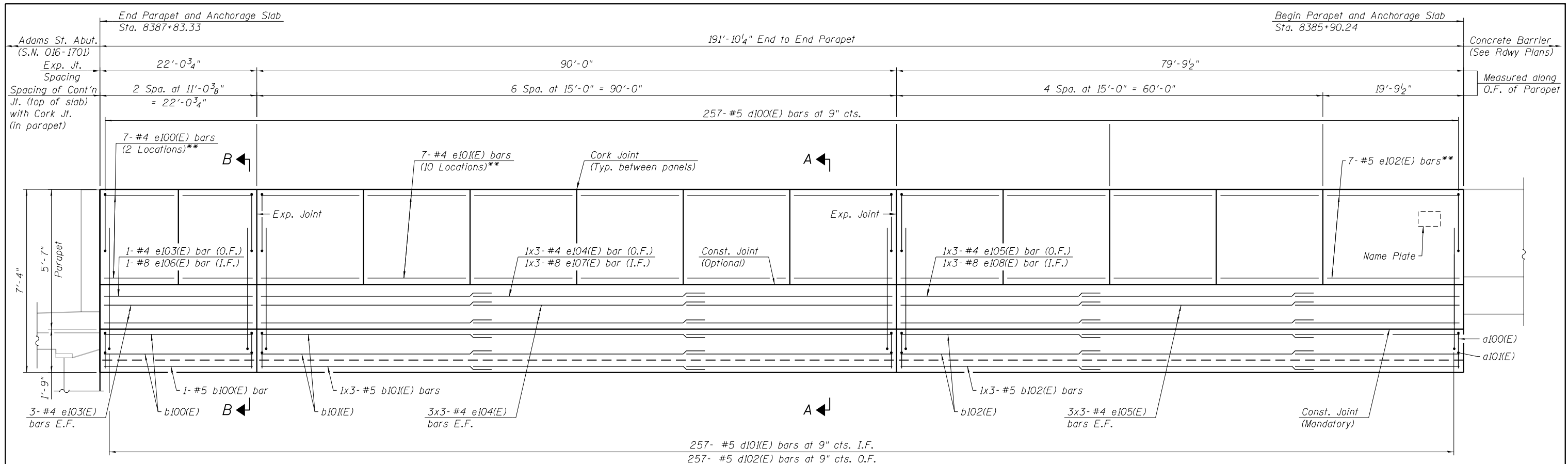
USER NAME = wjcolletti	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - WJC	REVISED -
PLOT DATE = 3/5/2020	DRAWN - ZJW	REVISED -
	CHECKED - WJC	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

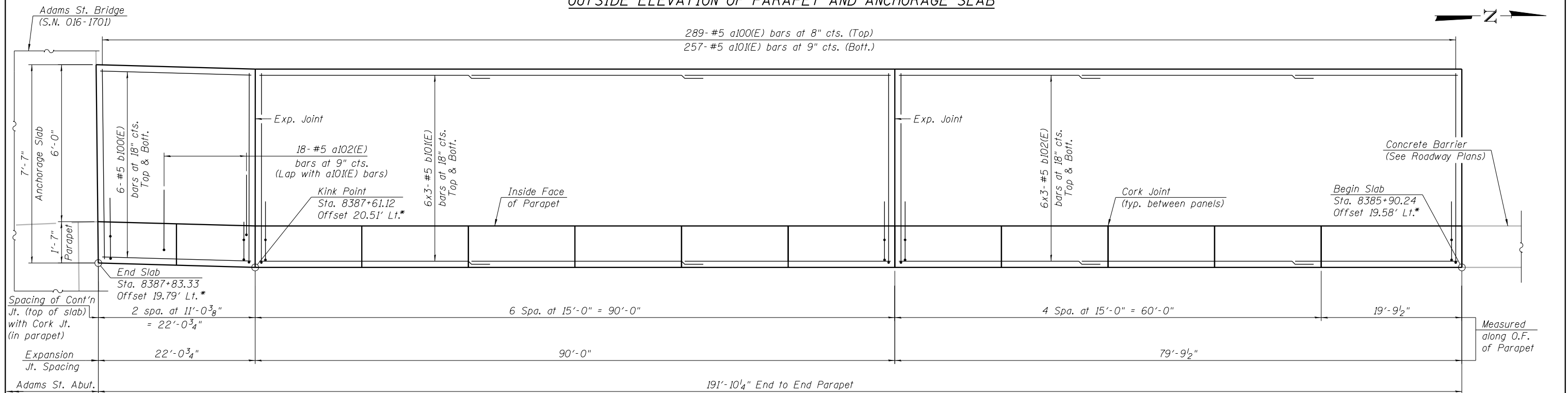
**REPAIR AND REMOVAL PLANS
RETAINING WALL 36 (STRUCTURE NO. 016-1825)**

SHEET NO. S4-03 OF S4-05 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 489
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



OUTSIDE ELEVATION OF PARAPET AND ANCHORAGE SLAB



PARAPET AND ANCHORAGE SLAB PLAN

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 S4-05 of S4-05.
 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.

MIN. BAR LAPS

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

*Offsets measured to front face of anchorage slabs.
 **For details, see sheet S4-05 of S4-05.

12/18/16 PM 0161825-60X94-S004-StabPlan_Elev.dgn



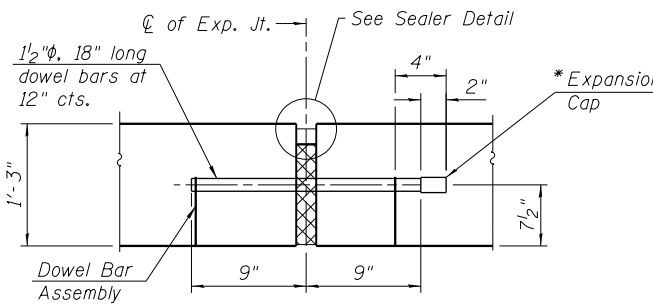
USER NAME = wjcolletti	DESIGNED - TJA	REVISED -
	CHECKED - WJC	REVISED -
PLOT SCALE = NTS	DRAWN - ZJW	REVISED -
PLOT DATE = 3/5/2020	CHECKED - WJC	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PARAPET AND ANCHORAGE SLAB PLAN AND ELEVATION
 RETAINING WALL 36 (STRUCTURE NO. 016-1825)

SHEET NO. S4-04 OF S4-05 SHEETS

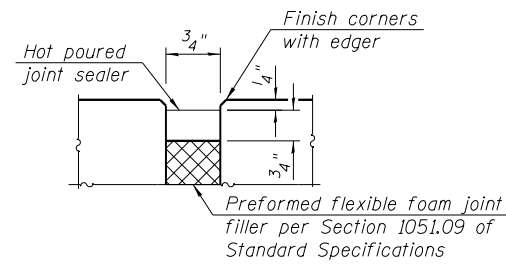
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	490
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				



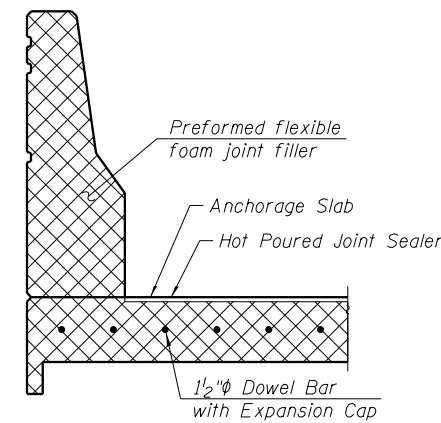
**ANCHORAGE SLAB TO ANCHORAGE SLAB
TRANSVERSE EXPANSION JOINT**

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

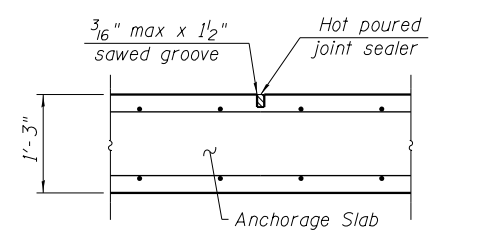
* Expansion caps shall be installed on the exposed end of each dowel bar once header has been removed and the joint filler material has been installed.



SEALER DETAIL

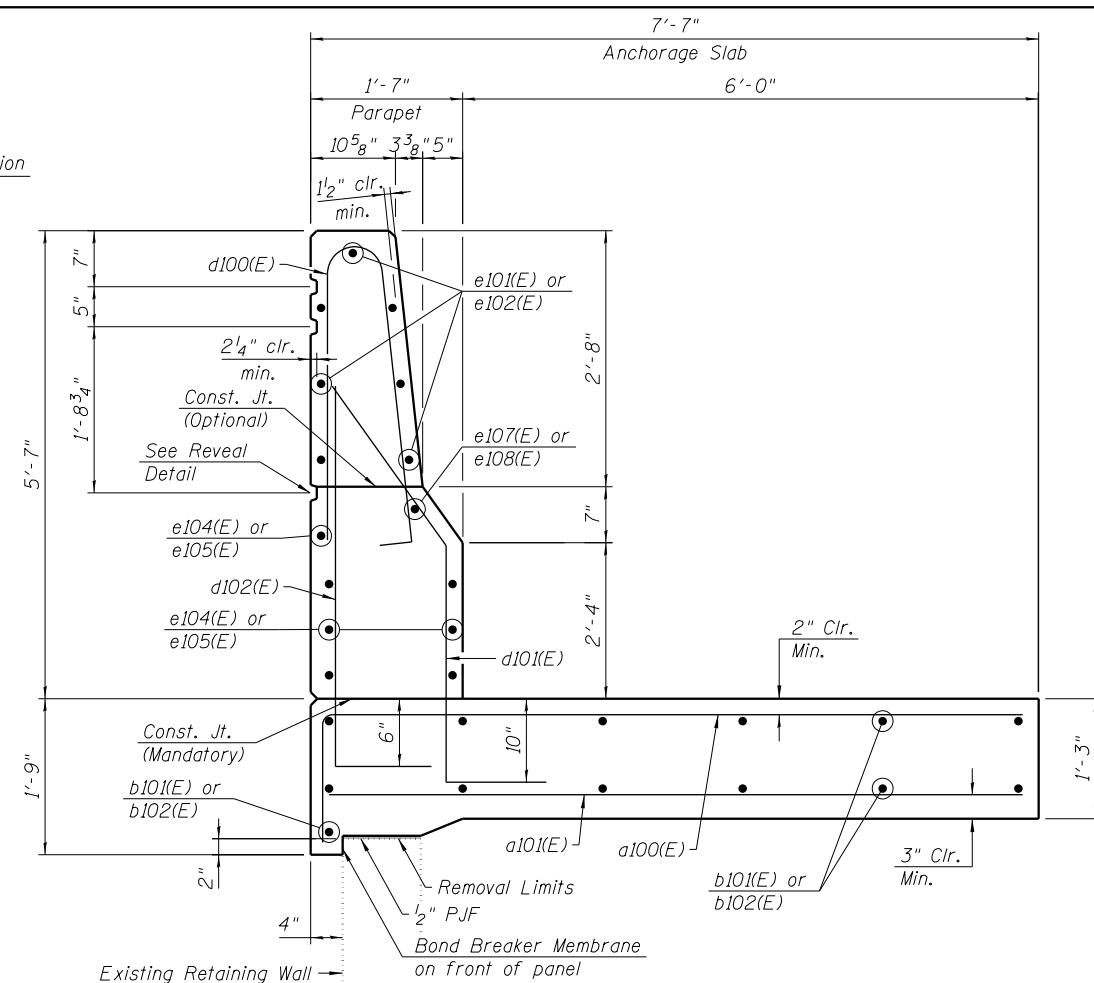


TRANSVERSE EXPANSION JOINT SECTION

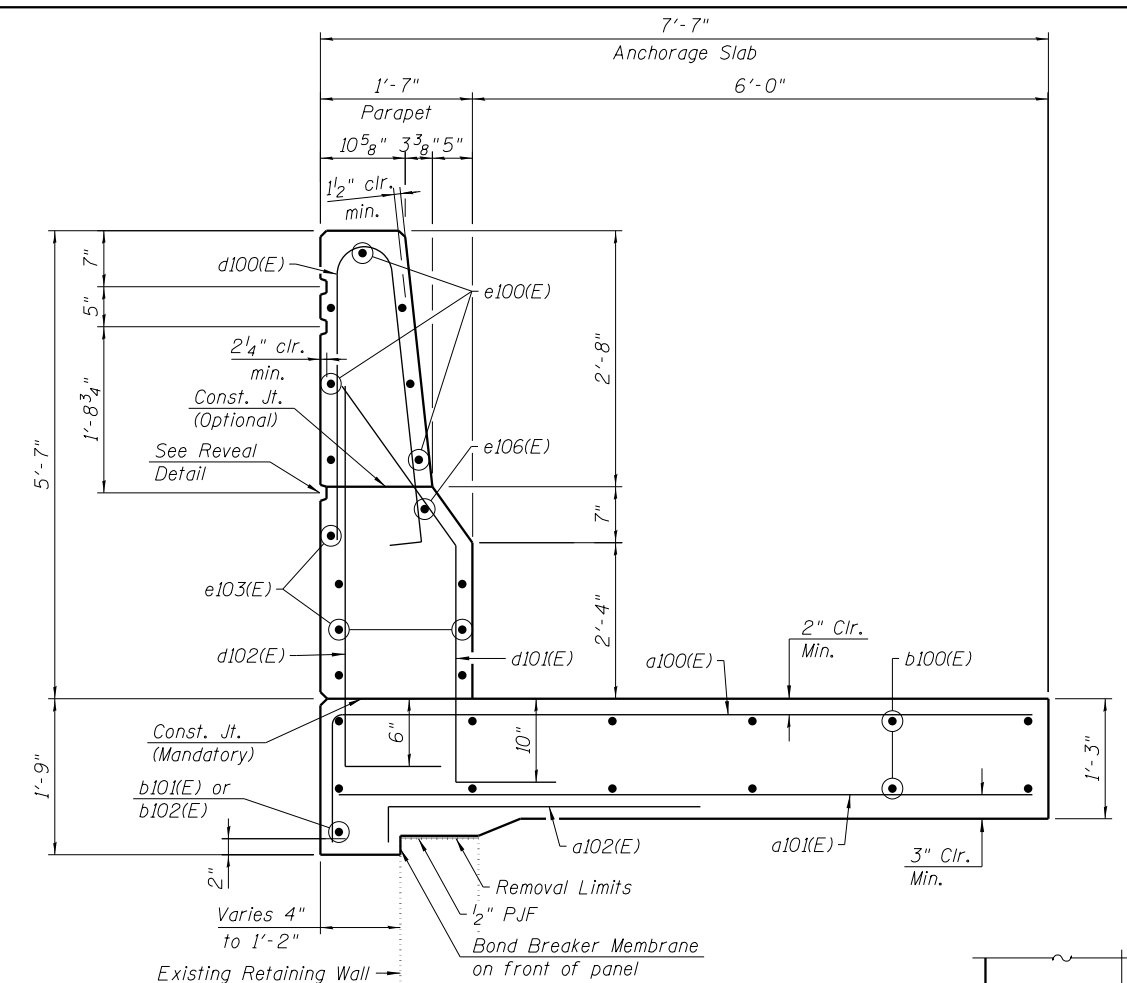


ANCHORAGE SLAB TRANSVERSE CONTRACTION JOINT

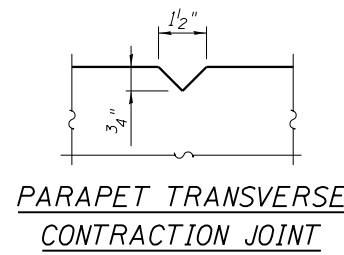
See Article 420.05 & 420.12 of the Standard Specifications



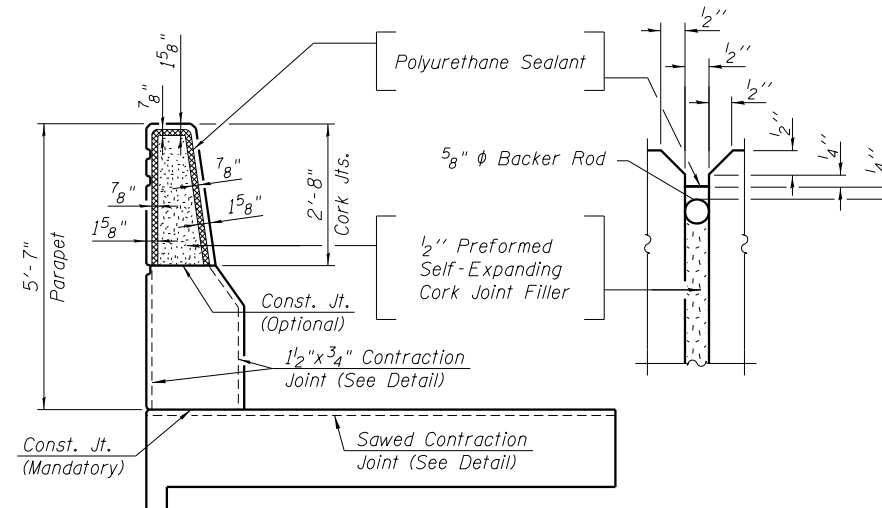
SECTION A-A



SECTION B-B



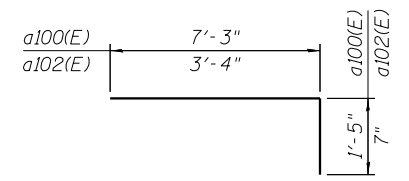
PARAPET TRANSVERSE CONTRACTION JOINT



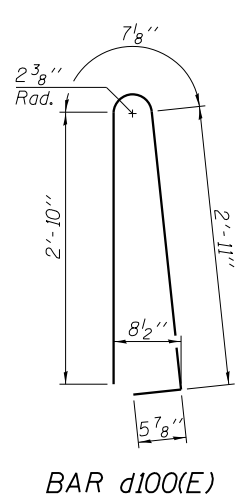
PARTIAL HEIGHT BARRIER JOINT AND CONTRACTION JOINT SECTION

BILL OF MATERIAL

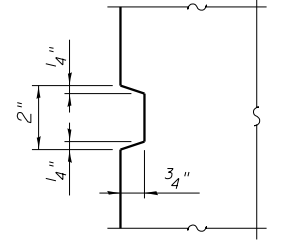
Bar	No.	Size	Length	Shape
a100(E)	289	#5	8'-8"	┌
a101(E)	257	#5	7'-3"	┌
a102(E)	18	#5	3'-11"	┌
b100(E)	13	#5	21'-9"	┌
b101(E)	39	#5	32'-2"	┌
b102(E)	39	#5	28'-9"	┌
d100(E)	257	#5	6'-10"	┌
d101(E)	257	#5	6'-1"	┌
d102(E)	257	#5	6'-10"	┌
e100(E)	14	#4	10'-8"	┌
e101(E)	70	#4	14'-8"	┌
e102(E)	7	#4	19'-5"	┌
e103(E)	7	#4	21'-9"	┌
e104(E)	21	#4	31'-8"	┌
e105(E)	21	#4	28'-4"	┌
e106(E)	1	#8	21'-9"	┌
e107(E)	3	#8	34'-4"	┌
e108(E)	3	#8	31'-0"	┌
Concrete Superstructure			Cu. Yd.	122.7
Protective Coat			Sq. Yd.	97
Reinforcement Bars, Epoxy Coated			Pound	15,100
Concrete Sealer			Sq. Ft.	1,407



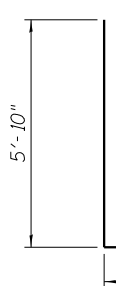
BARS a100(E) AND a102(E)



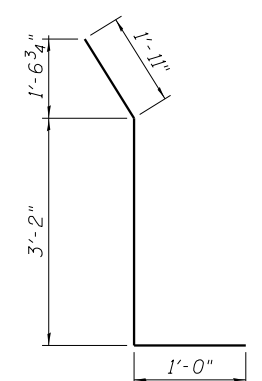
BAR d100(E)



REVEAL DETAIL



BAR d102(E)



BAR d101(E)

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.
 Bars indicated thus 3x4-#5 etc. indicates 3 lines of bars with 4 lengths per line.
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
 1/2" PJF included in cost of Concrete Superstructure.

12/18/24 PM 0161825-60X94-S005-xsection_Details.dgn



USER NAME = wjcolletti	DESIGNED - TJA	REVISED -
PLOT SCALE = NTS	CHECKED - WJC	REVISED -
PLOT DATE = 3/5/2020	DRAWN - ZJW	REVISED -
	CHECKED - WJC	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET AND ANCHORAGE SLAB DETAILS
RETAINING WALL 36 (STRUCTURE NO. 016-1825)**

SHEET NO. S4-05 OF S4-05 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 491
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

Bench Mark: Set "X" on east barrier wall of I-90 at \square of Adams Street. Elev. 581.17.

Existing Structure: Existing Retaining Wall 16. Constructed in 1957 under F.A.I. Route 2, Section 0101.6-2P. Cast-in-place concrete retaining wall on spread footing that measures 330'-0" from Adams Street south to Jackson Boulevard. Maximum height from top of wall to bottom of footing measures 13'-3". The existing retaining wall is to be removed and replaced.

Traffic on Jackson Exit Ramp will be detoured during construction.

No Salvage.

Notes:

Wall offsets are measured from the \square of Jackson Exit Ramp to the front face of cast-in-place fascia panels.
 C denotes Construction Joint.
 E denotes Expansion Joint.
 F.F. denotes Front Face.
 B.F. denotes Back Face.

CURVE DATA

(Jackson Exit Ramp)
 Prop. Curve P-JAC-SX-1
 P.I. Sta. = 8283+78.27
 $\Delta = 5^\circ 01' 56''$ (Lt.)
 $D = 1^\circ 41' 07''$
 $R = 3,400.00'$
 $T = 149.40'$
 $L = 298.61'$
 $E = 3.28'$
 $e = 2.00\%$
 T.R. = NA
 S.E. Run = NA
 P.C. Sta. = 8282+28.87
 P.T. Sta. = 8285+27.48

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications 8th Edition

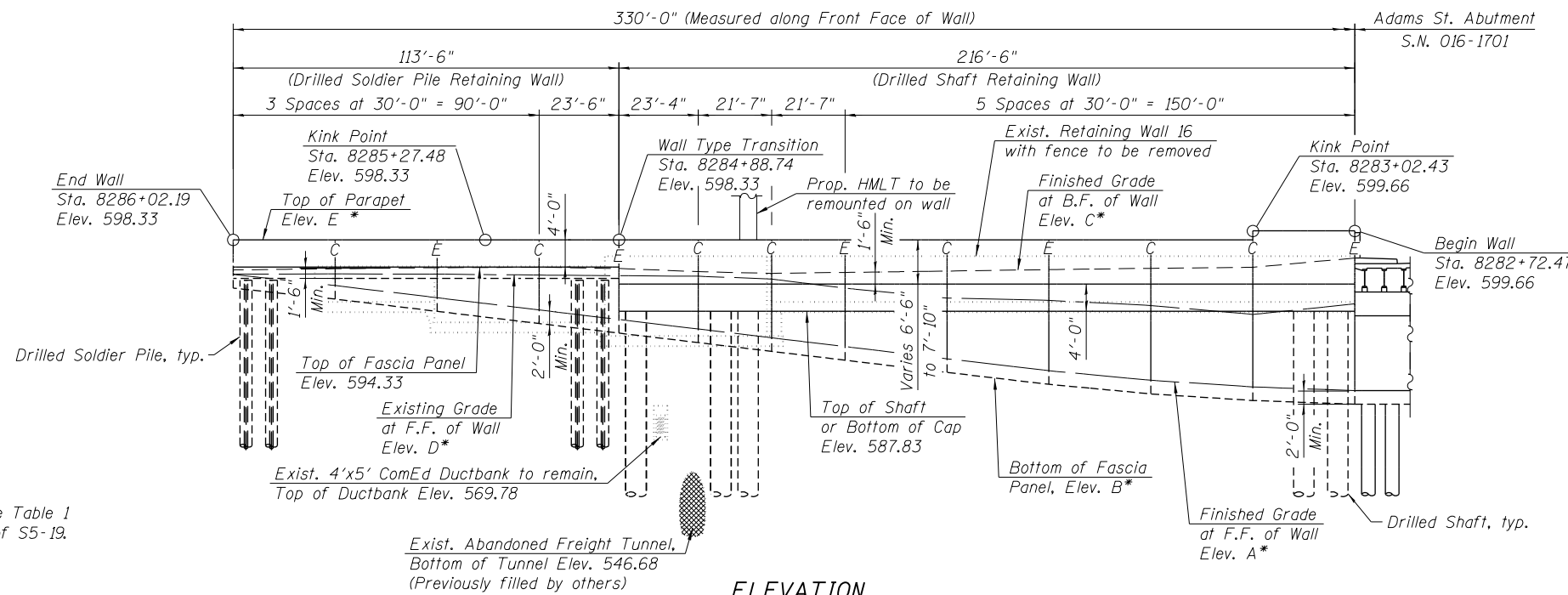
DESIGN STRESSES

FIELD UNITS

$f'_c = 7,000$ psi (Drilled Shafts)
 $f'_c = 3,500$ psi (All other concrete)
 $f_y = 60,000$ psi (Reinforcement)

SOLDIER PILES

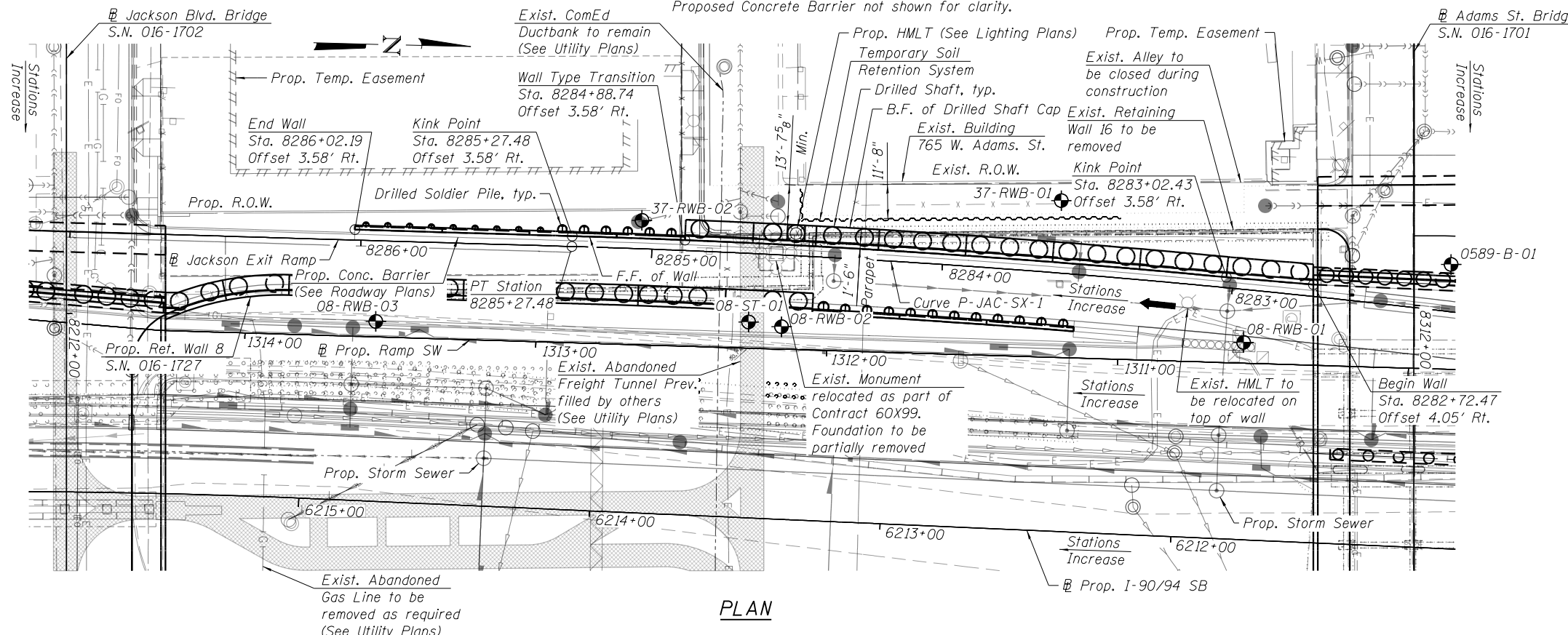
$f_y = 50,000$ psi (AASHTO M270 Gr. 50)



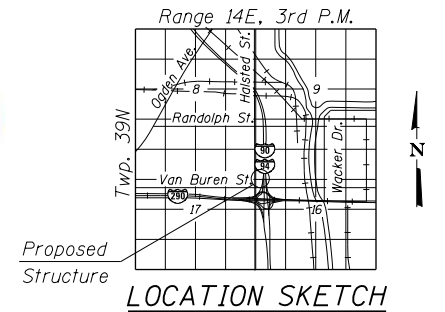
ELEVATION

(Looking West at F.F. of Wall)

Proposed Concrete Barrier not shown for clarity.



PLAN



LEGEND:

Ex. Chain Link Fence	— x — x —	Soil Boring	\oplus
Combined Sewer	→ → → → →	Existing Catch Basin	○
Electric	— E —	Proposed Catch Basin	●
Ex. Storm Sewer	→ → → → →	Existing Manhole	○
Prop. Storm Sewer	→ → → → →	Proposed Manhole	●
Ex. ITS Cable	— I —	Proposed Inlet	⊙
Ex. Gas Line	— G —		
Ex. Fiber Optic	— FO —		

GENERAL PLAN AND ELEVATION
RETAINING WALL 37 ALONG JACKSON EXIT RAMP
F.A.I. RTE. 90/94 (KENNEDY EXPRESSWAY)
SECTION 2014-015R&B-R
COOK COUNTY
STATION 8282+72.47 TO STATION 8286+02.19
STRUCTURE NO. 016-1826

12:57:02 PM 0161826-60X94-5001-GPE.dgn



USER NAME = wjcolletts	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S5-01 OF S5-19 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 492
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	

GENERAL NOTES:

- Reinforcement bars designated (E) shall be epoxy coated.
- 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. 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.
- The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provisions 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.
- Drilled shaft construction above existing grade shall not be paid separately but shall be included with Drilled Shaft in Soil.
- Slipforming of parapets is not allowed.
- The Contractor shall field verify locations of existing underground utilities. The Contractor shall take precautions to protect existing utilities during construction of the wall. Any damage to the existing utilities shall be the responsibility of the Contractor.
- Concrete for the Drilled Shafts shall be in accordance with Section 516 of Standard Specifications and shall have the minimum compressive strength of 7,000 psi prior to excavation in front of shafts and installation of lagging system.
- For drilled shaft locations where permanent casing is required as shown on the plans, the casing will be paid for under Permanent Casing. If Contractor elects to use permanent casing for ease of construction in locations where it is not required on the plans, the casing will not be paid for separately and is included in Drilled Shaft in Soil.
- Wall to be built along straight chords between construction and expansion joints.
- Concrete Sealer shall be applied to the exposed top, front, and back faces of the parapet, and to the exposed front faces of cap and fascia panels.
- 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.
- 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 and spoils resulting from the Contractor's means and methods. No additional cost will be paid for this effort.
- Due to the squeeze potential of the clay soils, the use of temporary casing will be required to properly construct the shafts. Casing may be pulled or remain in place, as determined by the Contractor at no cost to the Department.
- 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.
- The contractor shall coordinate the construction of the proposed structure with the construction of the Proposed Adams Street Bridge and Proposed Retaining Wall 8. See MOT plan sheets and special provisions, including the Available Work Areas and Sequencing Requirements special provision, for additional construction and coordination requirements.
- 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).
- Soldier piles shall be cleaned and given one shop coat of Inorganic Zinc Rich Primer. Cost included with Furnishing Soldier Piles (W Section).
- Plan dimensions and details relative to existing plans are subject 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 of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

SUGGESTED CONSTRUCTION SEQUENCE

- Install temporary soil retention system along alley.
- Remove portion of Existing Retaining Wall 16 that is in conflict with the proposed drilled shafts.
- Drill shafts and install soldier piles.
- Remove portion of Existing Retaining Wall 16 in front of the proposed wall and excavate to install timber lagging.
- Install drainage structures along Jackson Exit Ramp. (See Drainage Plans)
- Construct concrete fascia panels, cap, and parapet.

TOTAL BILL OF MATERIAL

Item	Unit	Total Quantity
Removal of Existing Structures No. 3	Each	1
Structure Excavation	Cu. Yd.	578
Concrete Structures	Cu. Yd.	224.6
Concrete Superstructure	Cu. Yd.	107.3
Stud Shear Connectors	Each	81
Reinforcement Bars	Pound	438,910
Reinforcement Bars, Epoxy Coated	Pound	25,330
Mechanical Splicers	Each	480
Name Plates	Each	1
Permanent Casing	Foot	180
Drilled Shaft in Soil	Cu. Yd.	1,885.0
Temporary Soil Retention System	Sq. Ft.	573
Furnishing Soldier Piles (W Section)	Foot	765
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	3,731
Untreated Timber Lagging	Sq. Ft.	484
Concrete Structures (Retaining Wall)	Cu. Yd.	32.7
Concrete Sealer	Sq. Ft.	6,756
Geocomposite Wall Drain	Sq. Yd.	42
Crosshole Sonic Logging Access Ducts	Foot	1,800
Crosshole Sonic Logging Testing	Each	4
Class SI Concrete (Miscellaneous)	Cu. Yd.	123.9
Slope Inclinator	Each	1
Pipe Underdrain for Structures 4"	Foot	330

INDEX OF SHEETS

- S5-01 General Plan and Elevation
- S5-02 General Data
- S5-03 Existing Wall 16 Removal
- S5-04 Plan and Elevation 1
- S5-05 Plan and Elevation 2
- S5-06 Plan and Elevation 3
- S5-07 Plan and Elevation 4
- S5-08 Drilled Shaft Wall Sections and Details 1
- S5-09 Drilled Shaft Wall Sections and Details 2
- S5-10 Drilled Shaft Wall Sections and Details 3
- S5-11 Drilled Soldier Pile Wall Sections and Details 1
- S5-12 Drilled Soldier Pile Wall Sections and Details 2
- S5-13 Architectural Details
- S5-14 Bar Splicer Assembly and Mechanical Splicer Details
- S5-15 Boring Logs 1
- S5-16 Boring Logs 2
- S5-17 Boring Logs 3
- S5-18 Boring Logs 4
- S5-19 Boring Logs 5

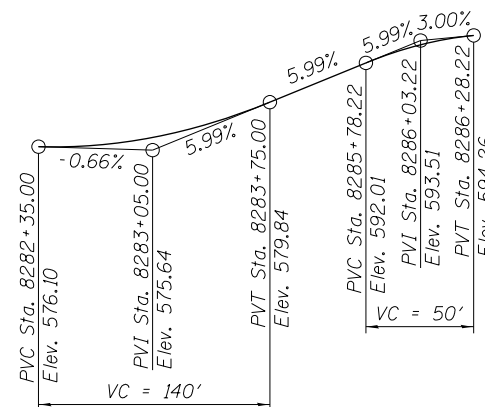
TABLE 1 - WALL ELEVATIONS

Station	Offset	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Wall Type
8282+72.47	4.05' Rt.	576.15	574.15	595.66	588.91	599.66	Drilled Shafts Wall
8283+02.43	3.58' Rt.	576.70	574.70	594.29	587.36	599.66	
8283+02.43	3.58' Rt.	576.70	574.70	594.29	587.36	598.33	
8283+32.40	3.58' Rt.	577.68	575.68	594.14	588.67	598.33	
8283+62.37	3.58' Rt.	579.08	577.08	593.95	589.43	598.33	
8283+92.34	3.58' Rt.	580.84	578.84	593.74	589.76	598.33	
8284+22.31	3.58' Rt.	582.63	580.63	593.54	591.23	598.33	
8284+43.87	3.58' Rt.	583.92	581.92	593.40	592.56	598.33	
8284+65.43	3.58' Rt.	585.21	583.21	593.66	592.99	598.33	
8284+88.74	3.58' Rt.	586.61	584.61	594.11	593.06	598.33	
8284+88.74	3.58' Rt.	586.61	584.61	594.11	593.06	598.33	Drilled Soldier Pile Wall
8285+12.21	3.58' Rt.	588.02	586.02	594.30	593.15	598.33	
8285+27.48	3.58' Rt.	588.93	586.93	594.27	593.22	598.33	
8285+42.19	3.58' Rt.	589.81	587.81	594.24	593.29	598.33	
8285+72.19	3.58' Rt.	591.61	589.61	594.09	593.31	598.33	
8286+02.19	3.58' Rt.	593.24	591.24	593.91	593.29	598.33	

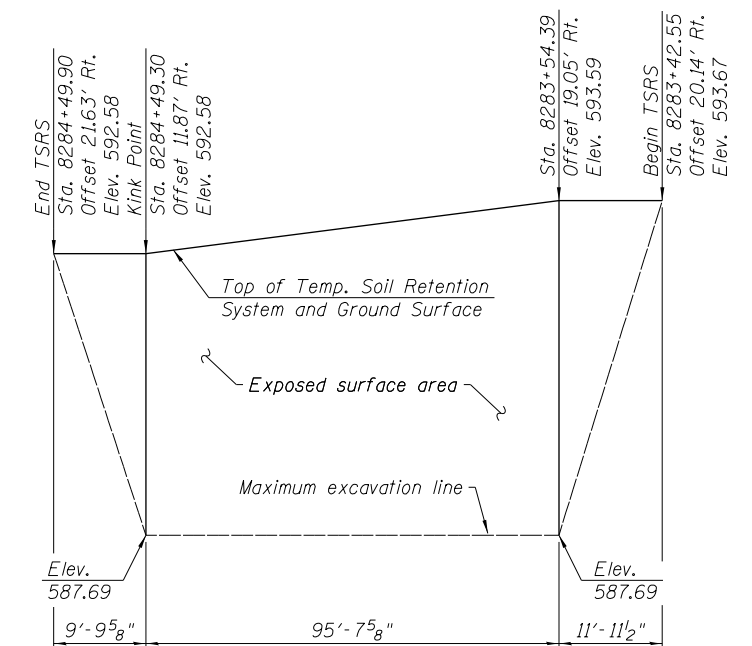
Elevation A- Finished Grade at Front Face of Wall
 Elevation B- Bottom of Fascia Panel
 Elevation C- Finished Grade at Back Face of Wall
 Elevation D- Existing Grade at Front Face of Wall
 Elevation E- Top of Parapet
 † Elevations just to the right of joint
 †† Elevations just to the left of joint

STATION 8282+72.47 TO 8286+02.19
 BUILT 20__ BY
 STATE OF ILLINOIS
 F.A.I. RTE. 90/94 SEC. 2014-015R&B-R
 LOADING HL-93
 STR. NO. 016-1826

NAME PLATE
 See Std. 515001



PROFILE GRADE
 @ Jackson Exit Ramp



TEMPORARY SOIL RETENTION SYSTEM - ELEVATION
 (Unfolded View, Measured along F.F. of TSRS)
 For Section through TSRS, See Sheet S5-08 of S5-19

12:57:33 PM 0161826-60x94-5002-GenNote.dgn



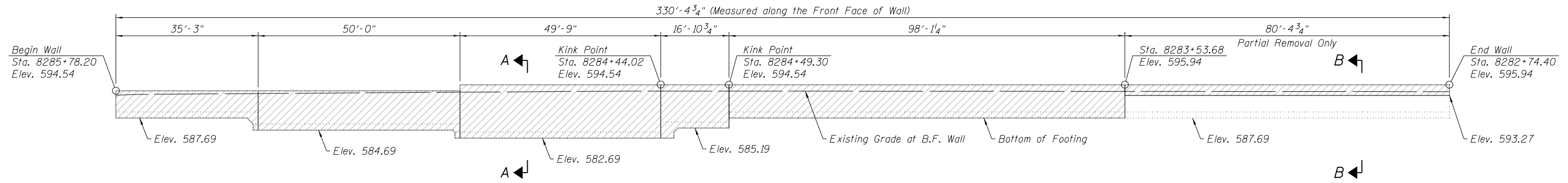
USER NAME = wjcollett	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

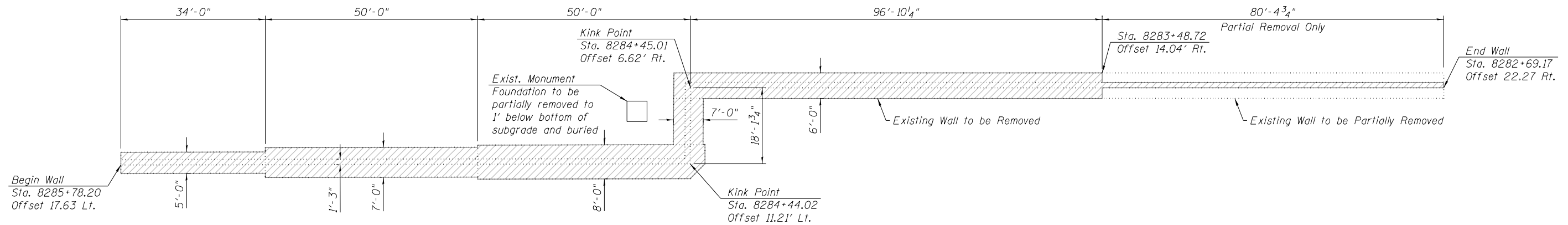
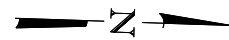
GENERAL DATA
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-02 OF S5-19 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 493
CONTRACT NO. ILLINOIS FED. AID PROJECT			60X94	

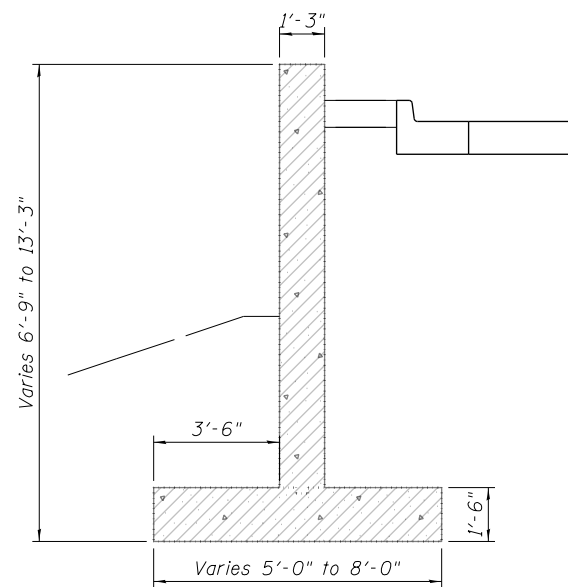


ELEVATION
(Looking West)

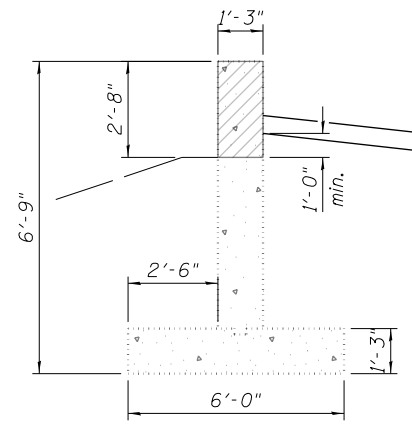


PLAN

Notes:
Fence not shown for clarity.
Dimensions taken along front face of wall.
Removal of existing monument to 1' below finished grade shall be paid for in the contract lump sum pay item "Removal of Existing Structures No. 3."



SECTION A-A



SECTION B-B

LEGEND:

Limits of Removal of Existing Structures No. 3

BILL OF MATERIAL

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

12:57:50 PM 0161826-60X94-5003-Removal.dgn



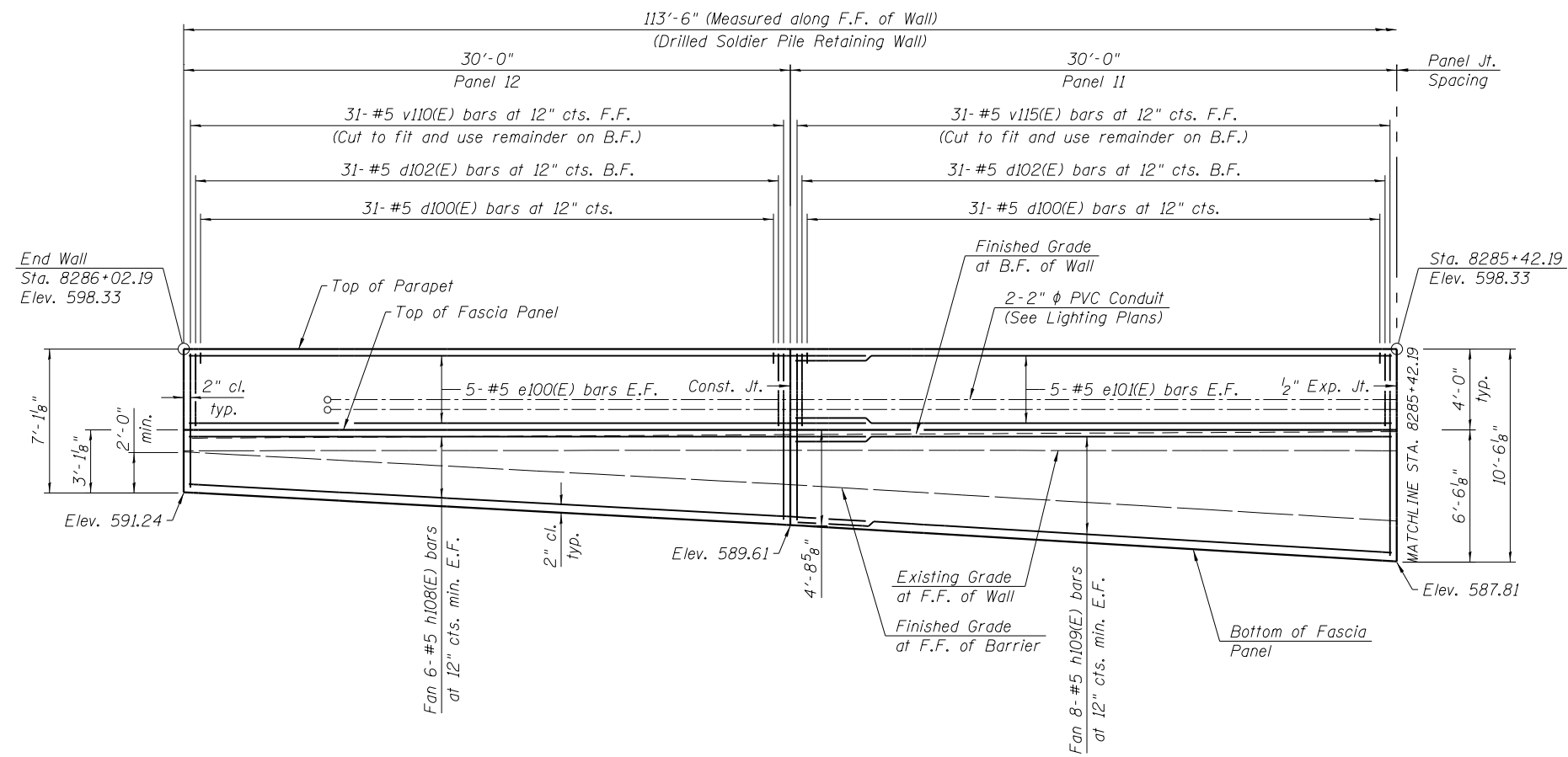
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

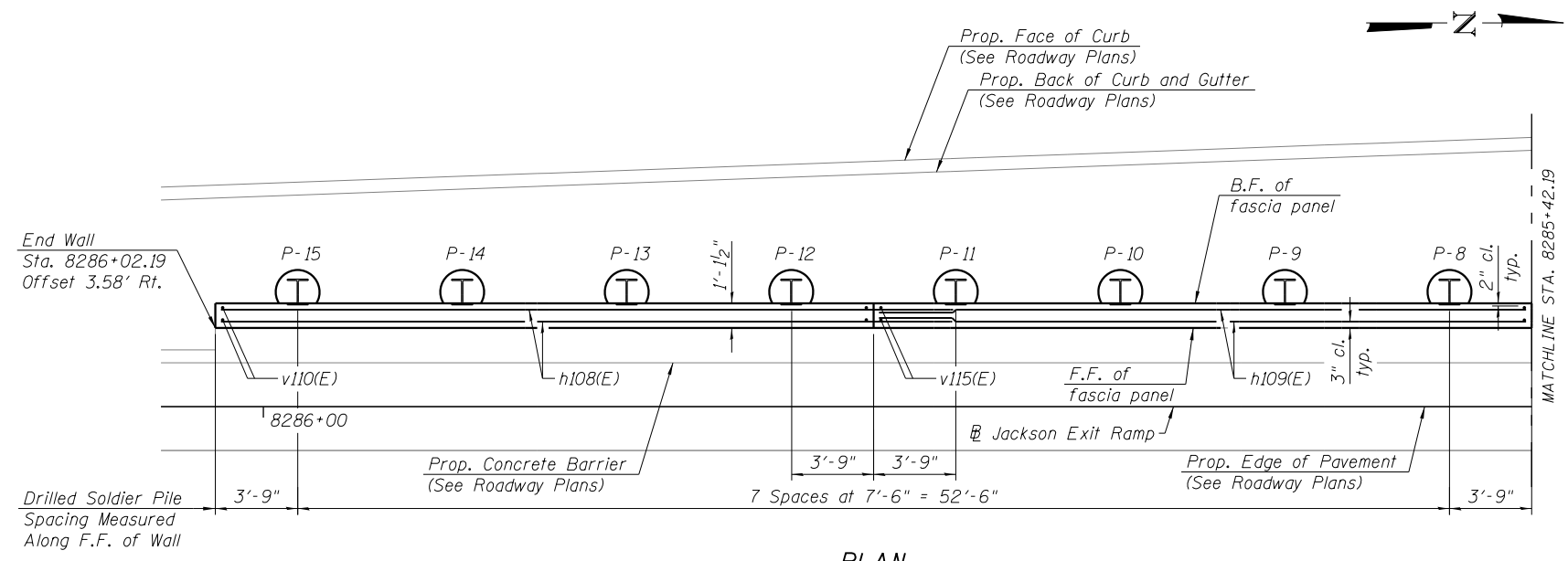
**EXISTING WALL 16 REMOVAL
RETAINING WALL 37 (STRUCTURE NO. 016-1826)**

SHEET NO. S5-03 OF S5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	494
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				



WALL ELEVATION
(Looking West)



PLAN
(Parapet reinforcement not shown for clarity)

Notes:
 F.F. = Front Face.
 B.F. = Back Face.
 E.F. = Each Face.
 For soldier pile wall cross sections and details, see Sheet S5-11 of S5-19.
 For soldier pile layout, sections and details and Bill of Material, see Sheet S5-12 of S5-19.
 Concrete fascia panels shall be paid as Concrete Structures (Retaining Wall).
 See Sheet S5-13 of S5-19 for details of architectural reveals.

12:58:15 PM 0161826-60X94-5004-ElevDetails-1.dgn



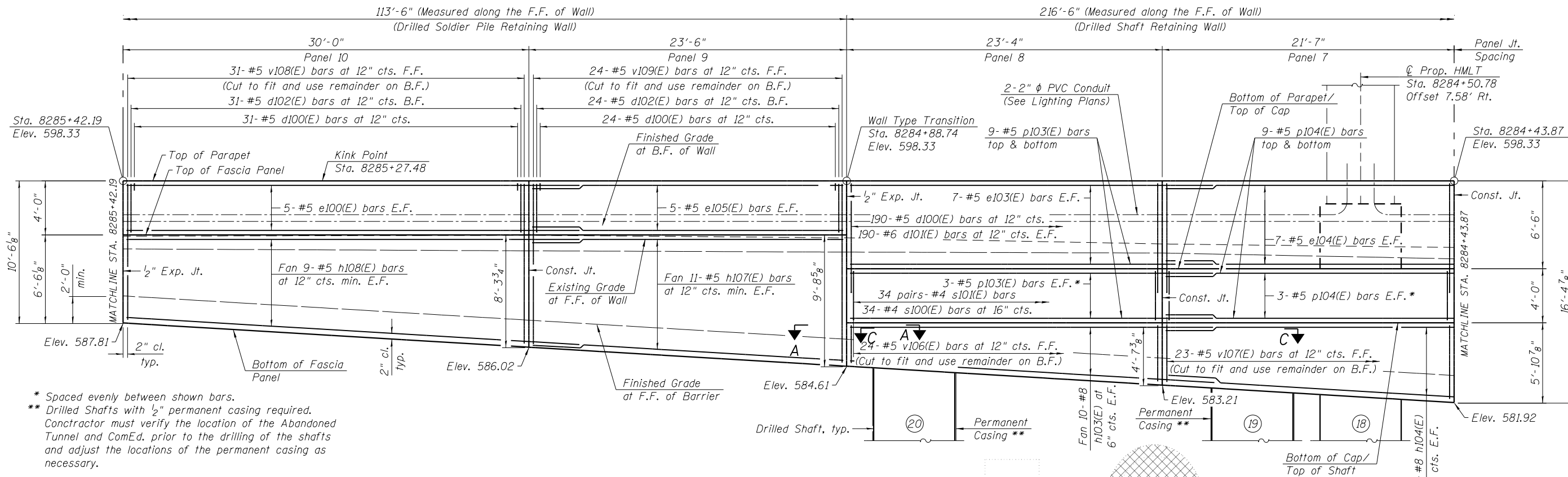
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 1
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-04 OF S5-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	495
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				

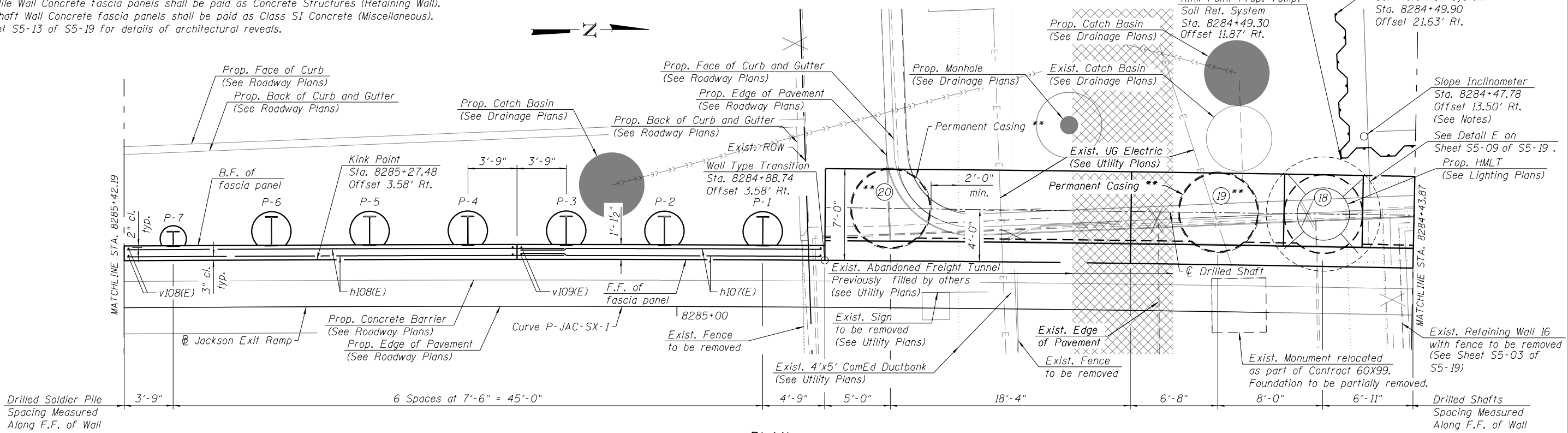


- * Spaced evenly between shown bars.
- ** Drilled Shafts with 1/2" permanent casing required. Contractor must verify the location of the Abandoned Tunnel and ComEd, prior to the drilling of the shafts and adjust the locations of the permanent casing as necessary.

Notes:
 See additional notes on Sheets S5-04 and S5-06 of S5-19.
 For Section A-A and Section C-C, see Sheet S5-08 of S5-19.
 In addition to vibration and displacement monitoring, the Contractor shall monitor movements with Slope Inclinerometers. All inclinometers shall be installed prior to drilling. See special provisions for Slope Inclinerometers.
 Soldier Pile Wall Concrete fascia panels shall be paid as Concrete Structures (Retaining Wall).
 Drilled Shaft Wall Concrete fascia panels shall be paid as Class SI Concrete (Miscellaneous).
 See Sheet S5-13 of S5-19 for details of architectural reveals.

WALL ELEVATION
 (Looking West)

Drilled shaft reinforcement not shown for clarity



PLAN

(Parapet, panel and cap reinforcement not shown for clarity)

12:58:40 PM 0161826-60X94-S005-ElevDetails.2.dgn



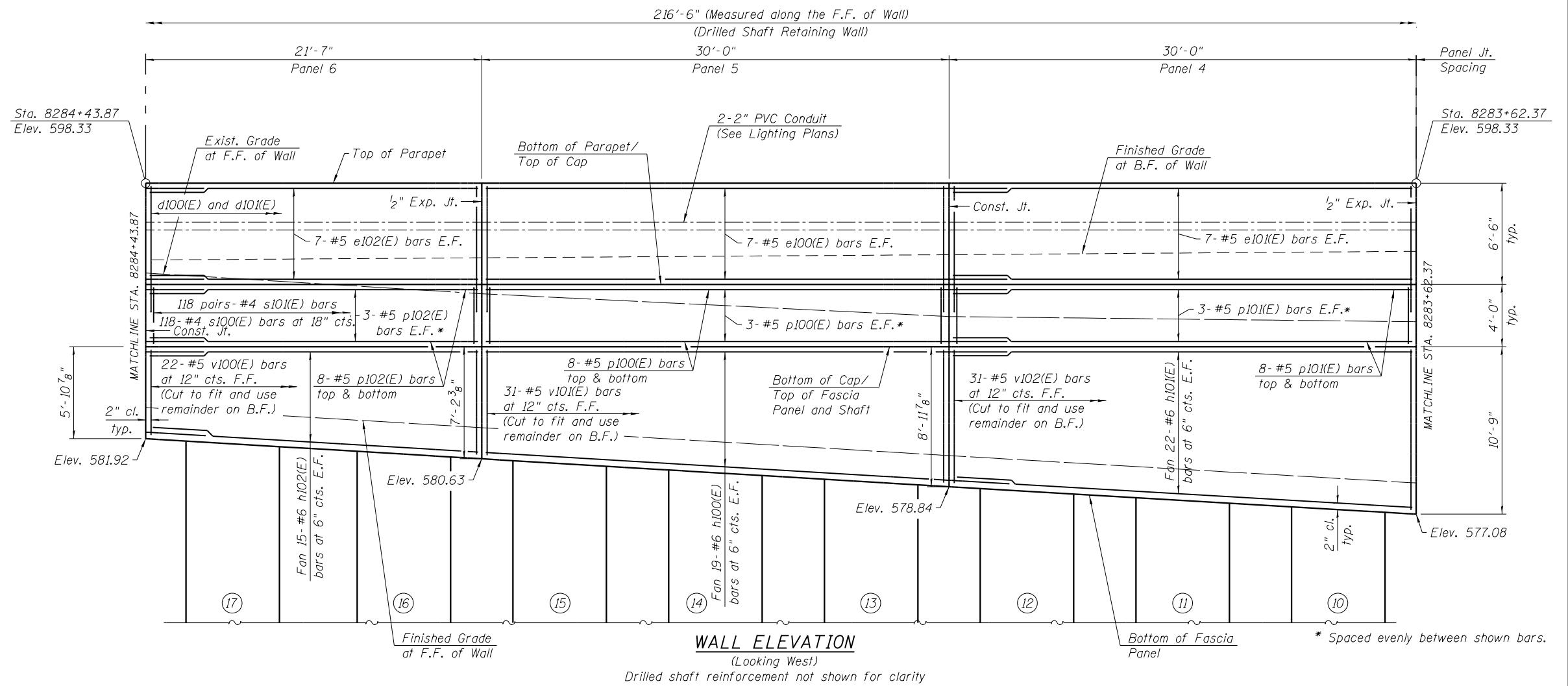
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - AJD	REVISED -
	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION 2
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-05 OF S5-19 SHEETS

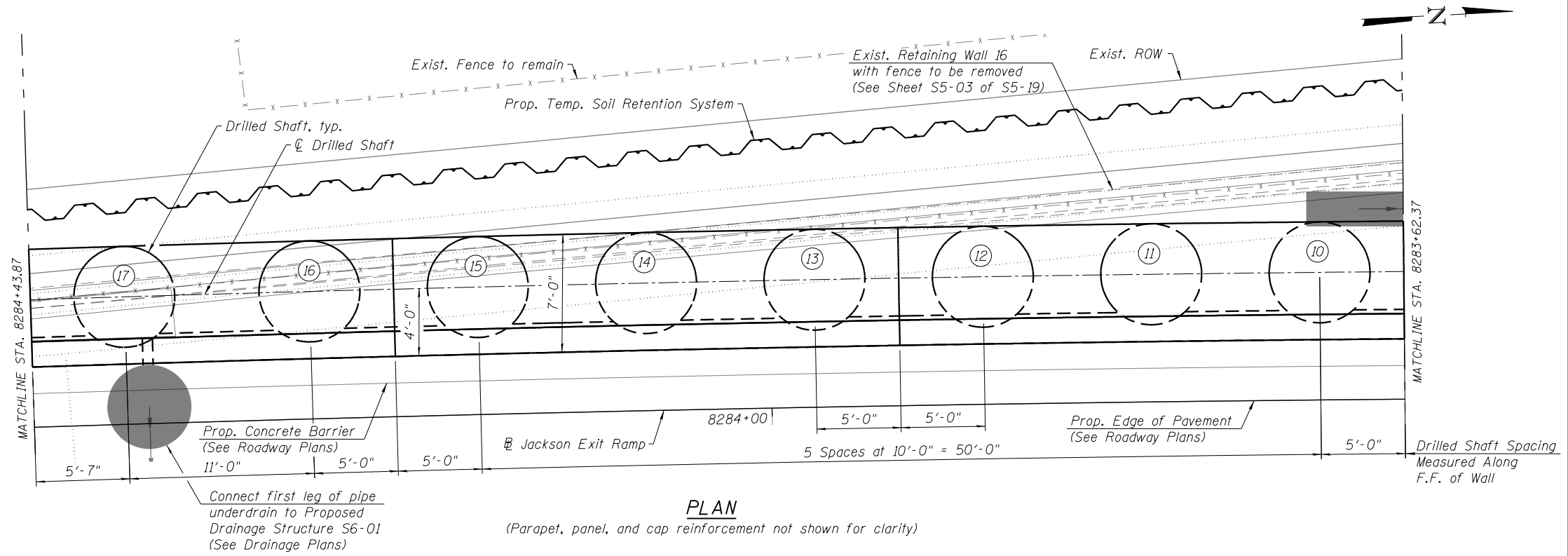
F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 496
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



WALL ELEVATION

(Looking West)
Drilled shaft reinforcement not shown for clarity

* Spaced evenly between shown bars.



PLAN

(Parapet, panel, and cap reinforcement not shown for clarity)

Notes:
 F.F. = Front Face
 B.F. = Back Face
 E.F. = Each Face
 Parapet concrete shall be paid for as Concrete Superstructure.
 Shaft Cap shall be paid for as Concrete Structures.
 Concrete fascia panels shall be paid as Class SI Concrete (Miscellaneous).
 Drilled Shafts shall be tested in accordance with Special Provision for Crosshole Sonic Logging Testing of Drilled Shafts.
 See Drilled Shaft Layout Table on Sheet S5-10 of S5-19.
 See Sheet S5-13 of S5-19 for details on architectural reveals and joint between cap and fascia panels.

12:59:03 PM 0161826-60X94-5006-ElevDetails_3.dgn



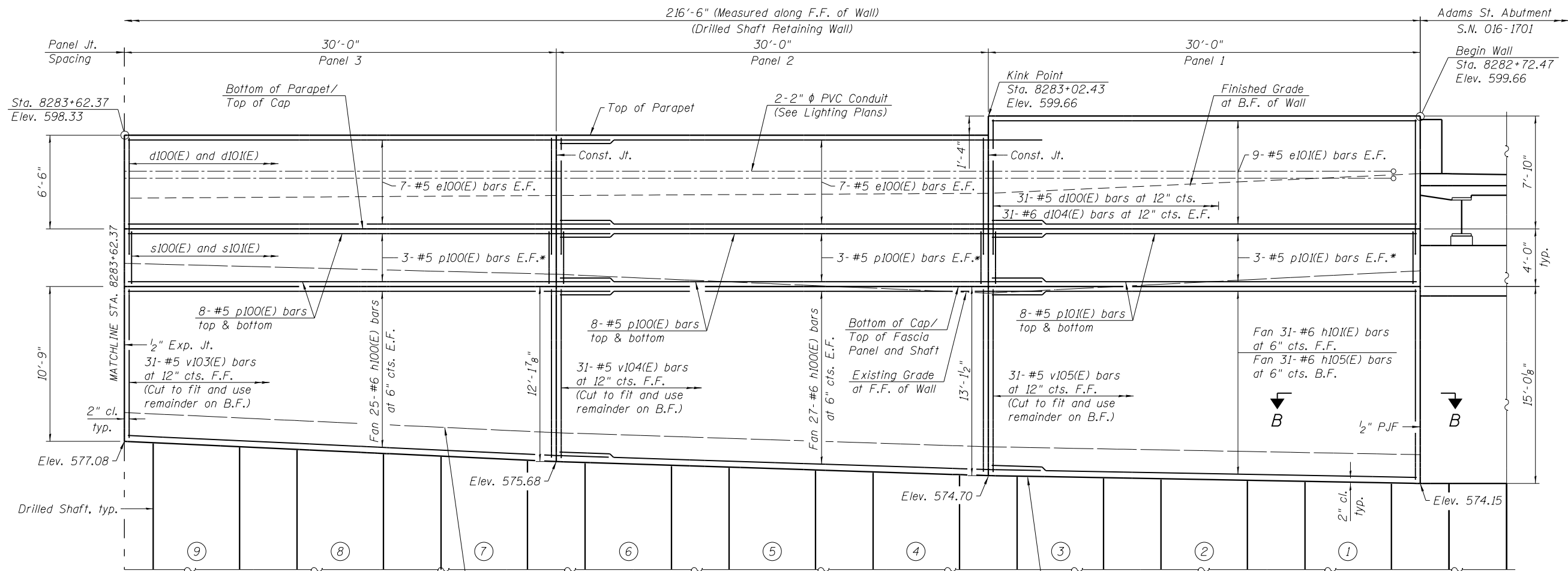
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

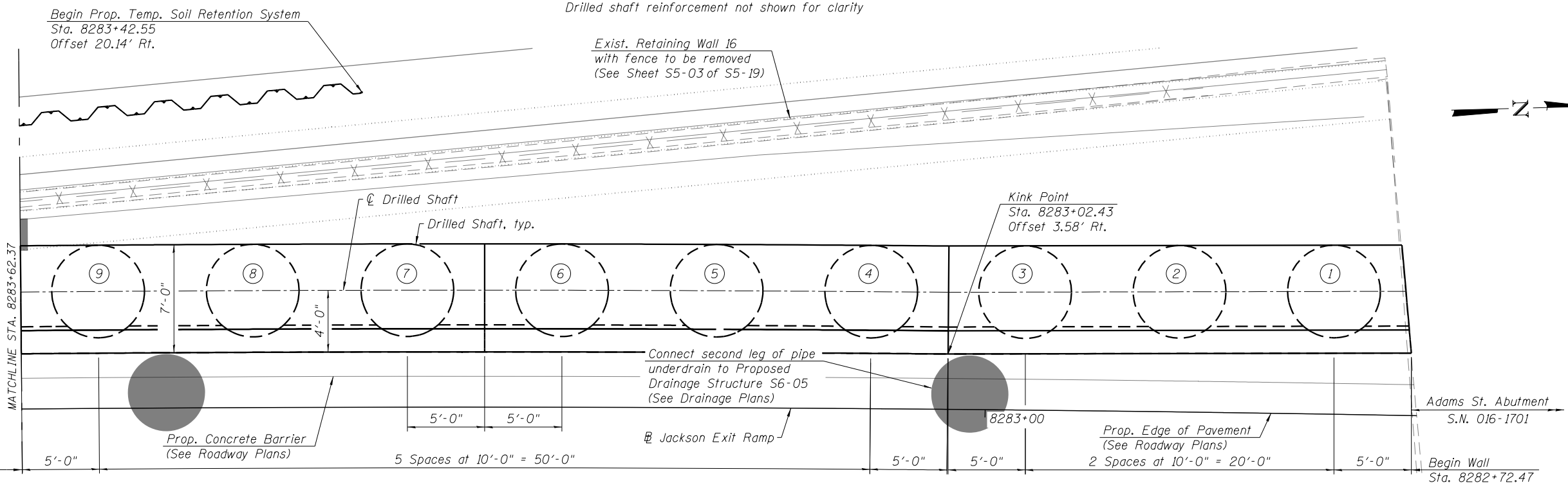
PLAN AND ELEVATION 3
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-06 OF S5-19 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 497
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



WALL ELEVATION
(Looking West)
Drilled shaft reinforcement not shown for clarity



PLAN
(Parapet, panel, and cap reinforcement not shown for clarity)

Notes:
See additional notes on Sheets S5-06 of S5-19.
For Section B-B, see Sheet S5-08 of S5-19.

12:59:23 PM 0161826-60X94-S007-ElevDetails_4.dgn



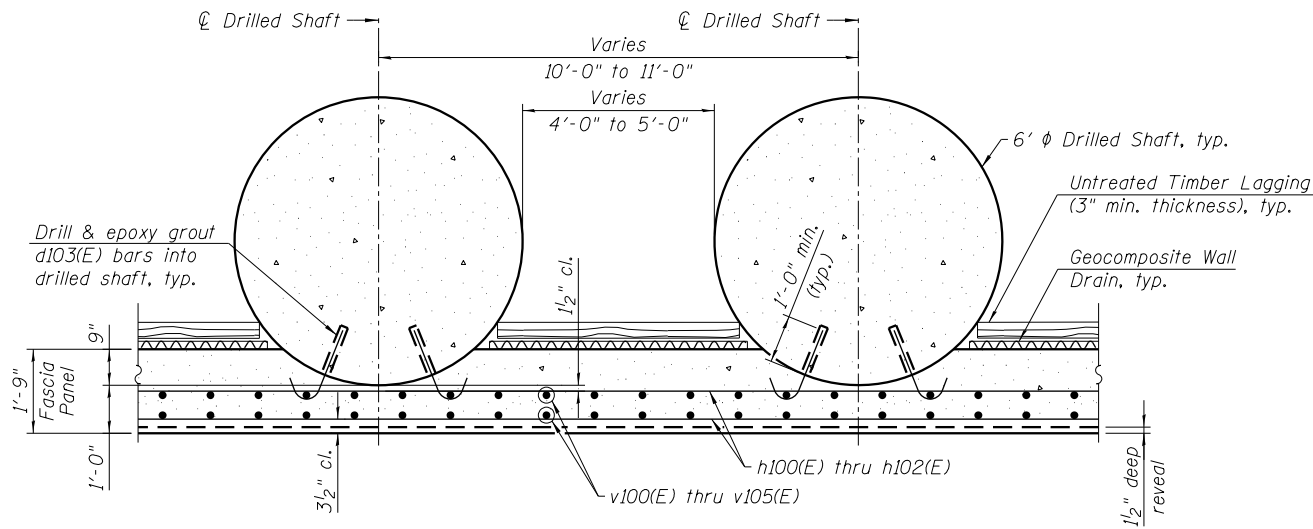
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
	CHECKED - DJG	REVISED -
PLOT SCALE = NTS	DRAWN - AJD	REVISED -
PLOT DATE = 3/5/2020	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

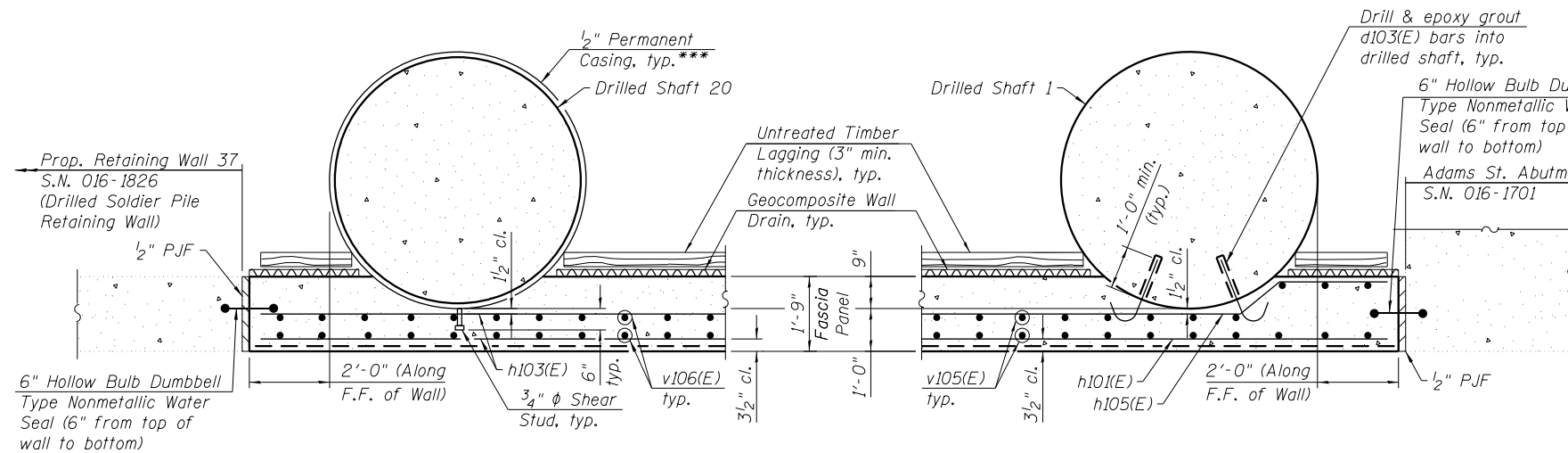
PLAN AND ELEVATION 4
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-07 OF S5-19 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 498
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	



TYPICAL WALL SECTION - PANELS 1-6
(Shaft reinforcement not shown for clarity)

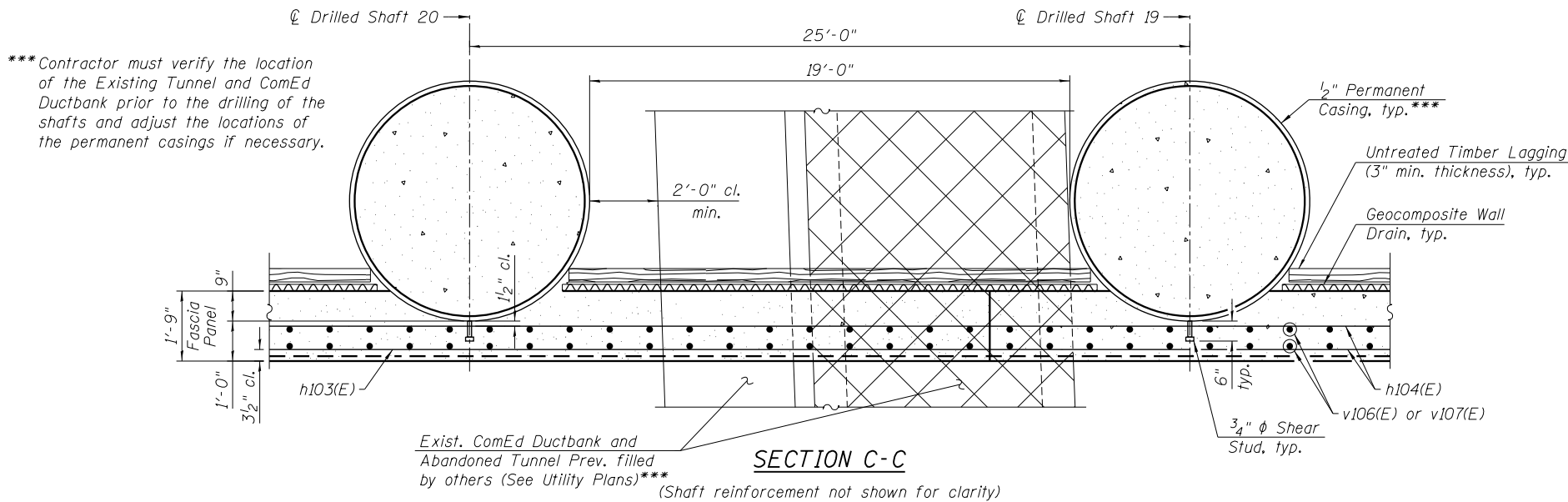


SECTION A-A

(Shaft reinforcement not shown for clarity)

SECTION B-B

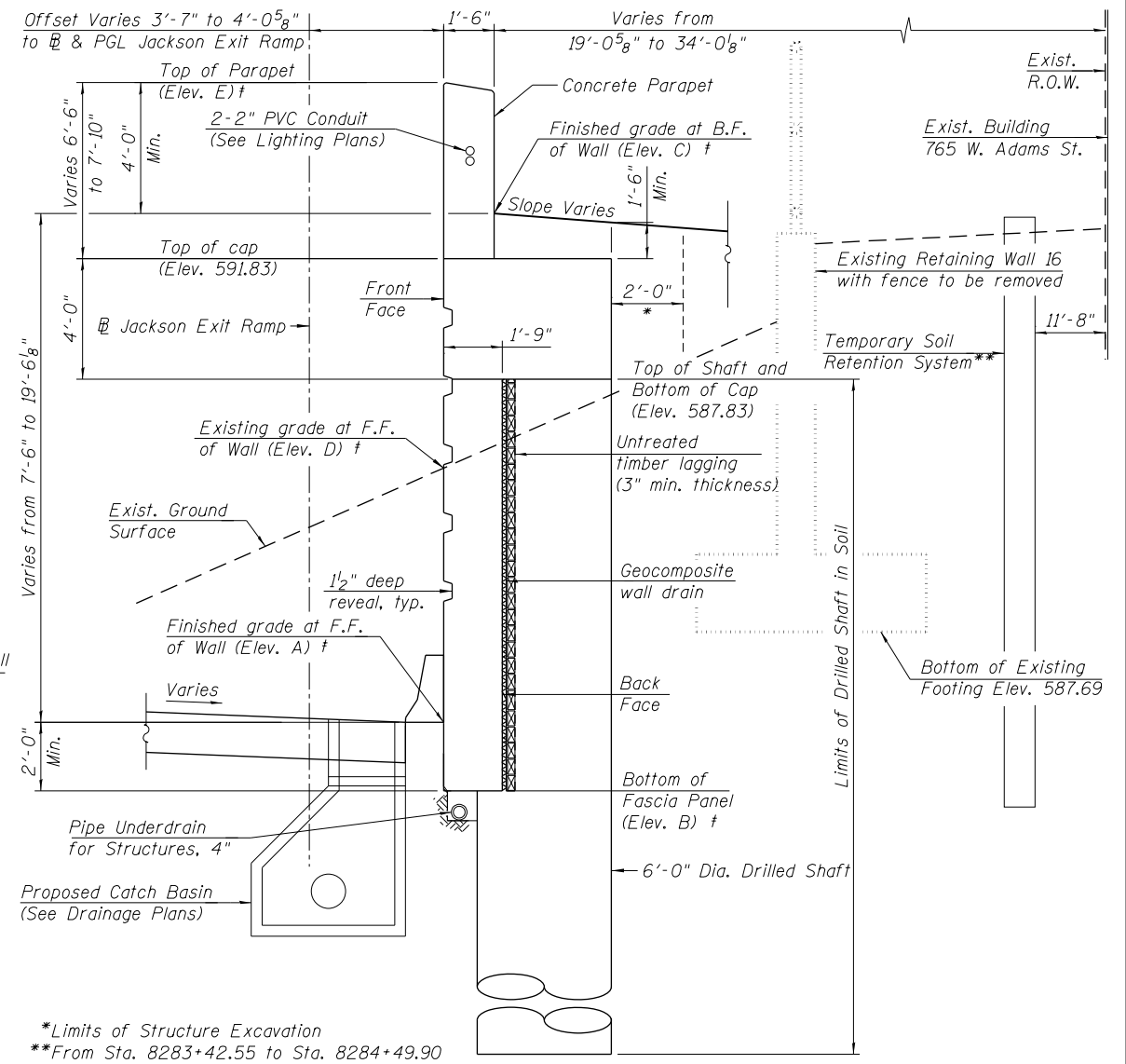
(Shaft reinforcement not shown for clarity)



SECTION C-C

(Shaft reinforcement not shown for clarity)

*** Contractor must verify the location of the Existing Tunnel and ComEd Ductbank prior to the drilling of the shafts and adjust the locations of the permanent casings if necessary.



TYPICAL CROSS SECTION - DRILLED SHAFT WALL

(Looking Upstation)

(Sta. 8282+72.47 to Sta. 8284+88.74)

*Limits of Structure Excavation

**From Sta. 8283+42.55 to Sta. 8284+49.90

† See Table 1 - Wall Elevations on sheet S5-02 of S5-19.

Notes:

F.F. = Front Face.

B.F. = Back Face.

E.F. = Each Face.

Work this sheet with Sheets S5-05 thru S5-07 of S5-19.

Hollow bulb dumbbell included in cost of Class SI Concrete (Miscellaneous). Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Class SI Concrete (Miscellaneous).

The Contractor is responsible for the design and performance of the lagging system, the deflection of the lagging shall be limited to 1" maximum 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. Cost included with Class SI Concrete (Miscellaneous).

12:59:31 PM
0161826-60X94-5008-WallDetails.1.dgn



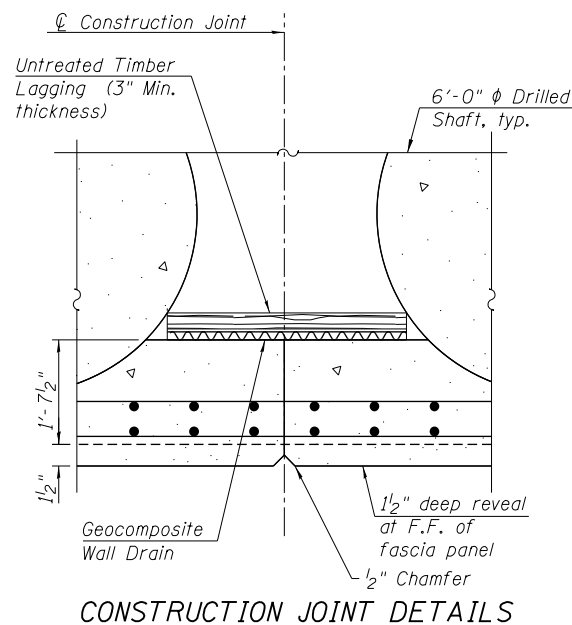
USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - AJD	REVISED -
	CHECKED - KRS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

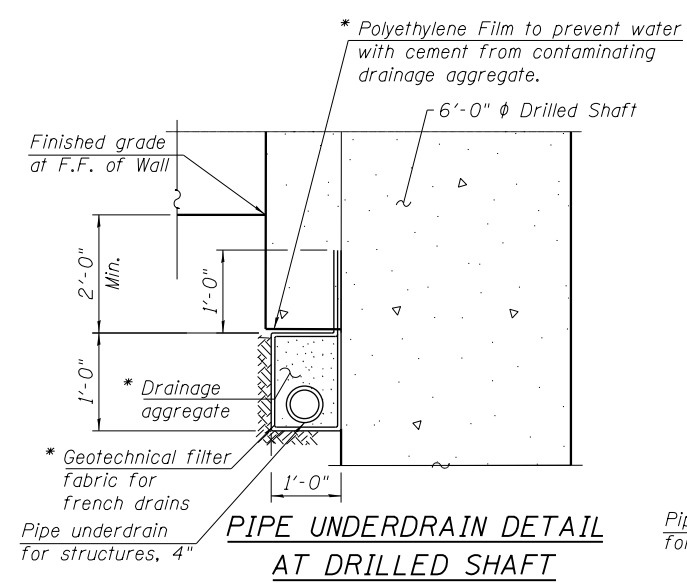
DRILLED SHAFT WALL SECTIONS AND DETAILS 1
RETAINING WALL 37 (STRUCTURE NO. 016-1826)

SHEET NO. S5-08 OF S5-19 SHEETS

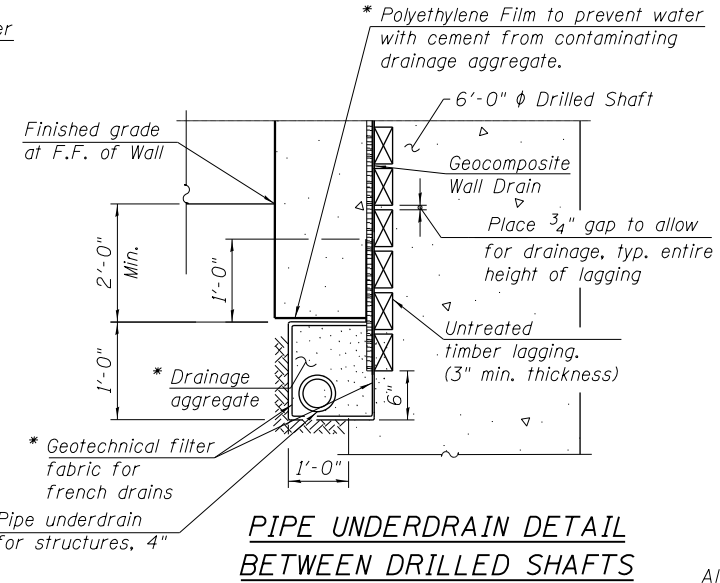
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2014-015R&B-R	COOK	825	499
CONTRACT NO.			60X94	
ILLINOIS FED. AID PROJECT				



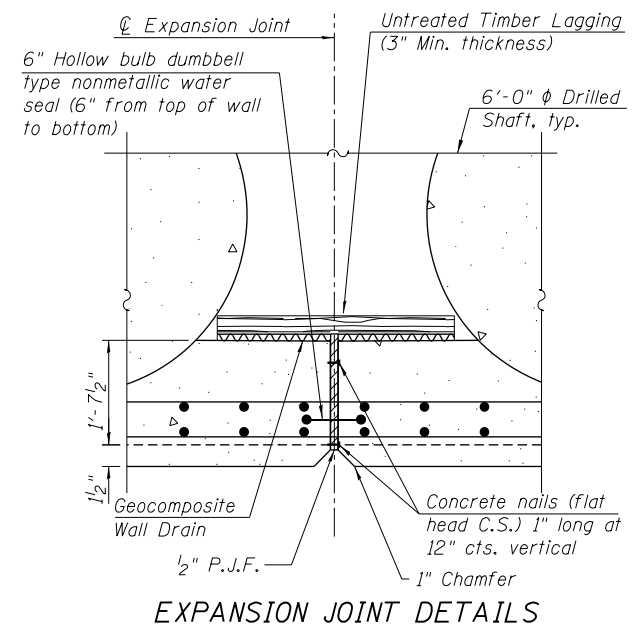
CONSTRUCTION JOINT DETAILS



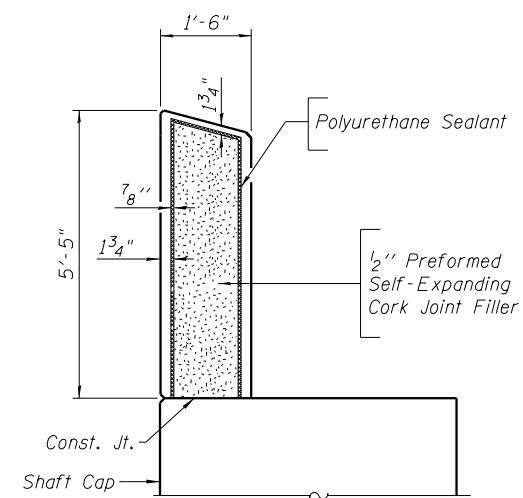
PIPE UNDERDRAIN DETAIL AT DRILLED SHAFT



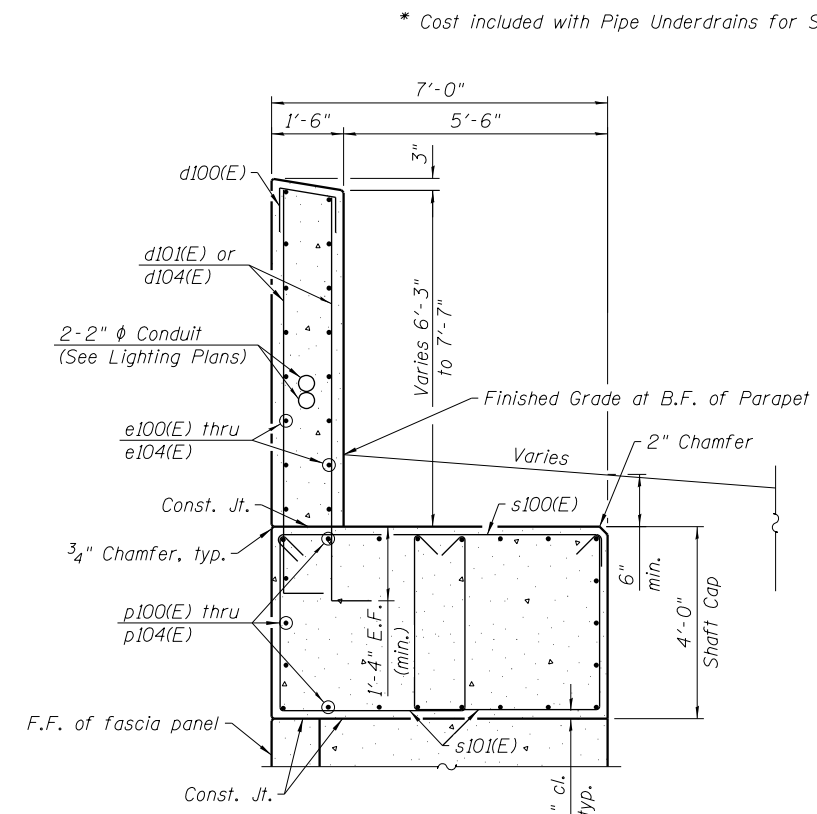
PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS



EXPANSION JOINT DETAILS



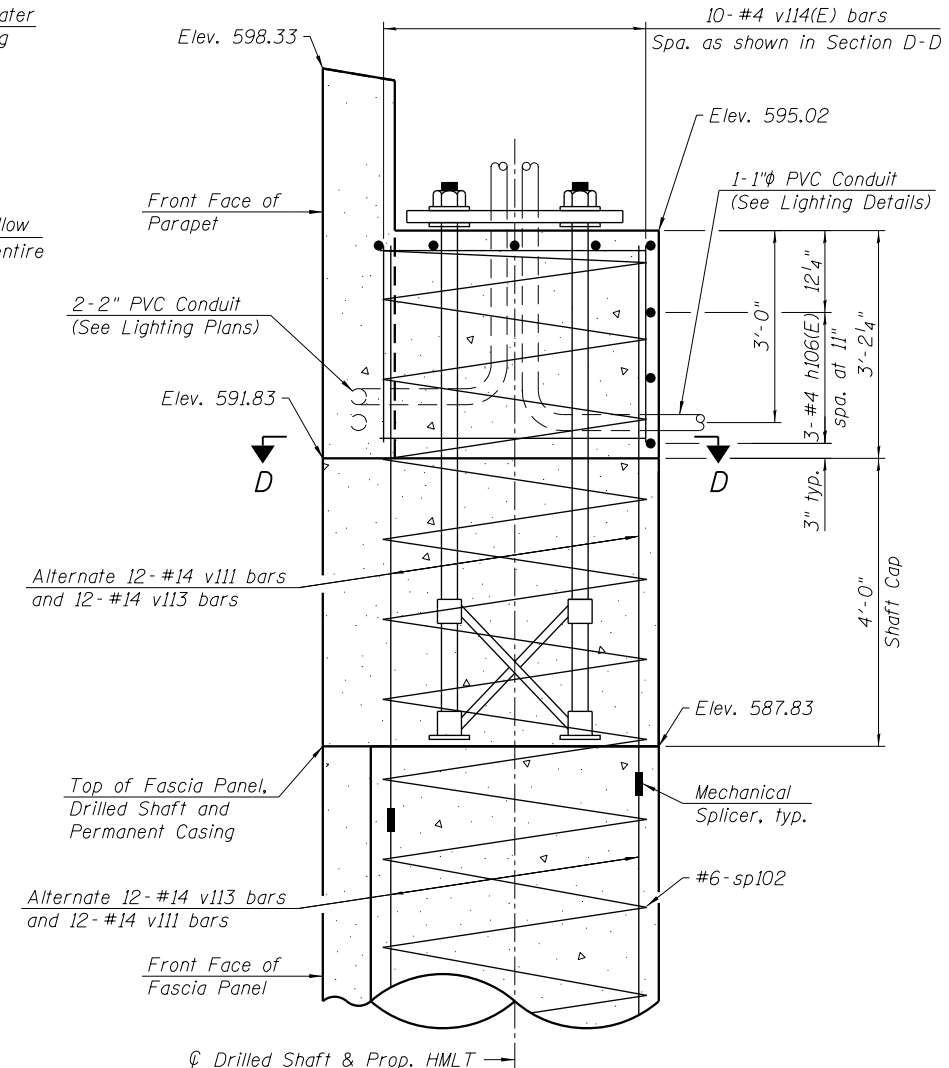
TRANSVERSE EXPANSION JOINT SECTION



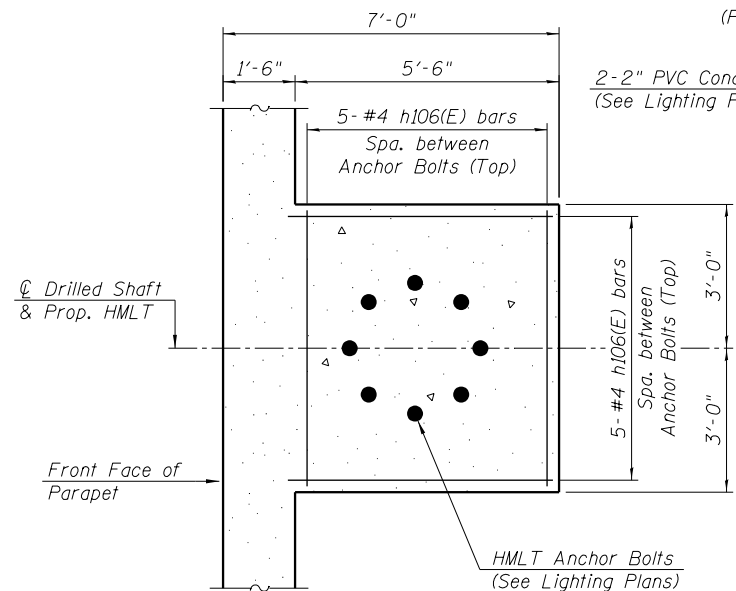
TYPICAL SECTION OF PARAPET AND CAP
(Shaft and fascia panel reinforcement not shown for clarity)

Notes:
 F.F. = Front Face.
 B.F. = Back Face.
 E.F. = Each Face.
 Work this sheet with Sheets S5-05 thru S5-07 of S5-19.
 The Polyurethane Sealant shall be according to Article 1050.04 of Std. Spec. and the color shall be gray.
 HMLT Pedestal Concrete included in the cost of Concrete Superstructure.
 For Anchor Rod Cage Details, see IDOT Standard BE-506.
 Cost of Anchor Rod Cage and Grounding Conduit included in the cost of Concrete Superstructure.

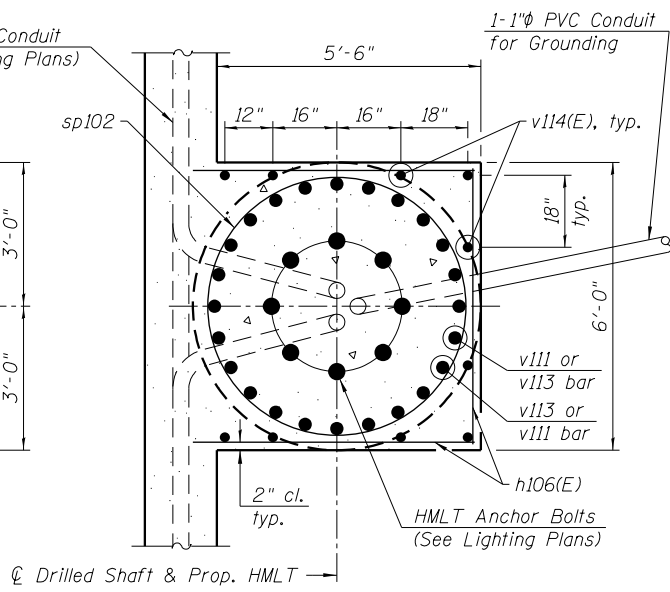
* Cost included with Pipe Underdrains for Structures, 4".



HMLT PEDESTAL ELEVATION
(Drilled Shaft 18 only)
(Parapet Reinforcement not shown for clarity)



DETAIL E



SECTION D-D
(Parapet Reinforcement not shown for clarity)

12:59:40 PM 0161826-60X94-5009-WallDetails.z.dgn



USER NAME = wjcolletti	DESIGNED - KRS	REVISED -
PLOT SCALE = NTS	CHECKED - DJG	REVISED -
PLOT DATE = 3/5/2020	DRAWN - AJD	REVISED -
	CHECKED - KRS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFT WALL SECTIONS AND DETAILS 2
RETAINING WALL 37 (STRUCTURE NO. 016-1826)**

SHEET NO. S5-09 OF S5-19 SHEETS

F.A.I. RTE. 90/94	SECTION 2014-015R&B-R	COUNTY COOK	TOTAL SHEETS 825	SHEET NO. 500
CONTRACT NO. 60X94			ILLINOIS FED. AID PROJECT	