GIRDER NO. 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Pier C1	5212+90.39	-21.19	610.49	610.49
℄ W. Brg. Pier C1	5212+91.38	-21.15	610.47	610.47
A	5213+01.25	-20.72	610.33	610.39
B	5213+11.12	-20.36	610.18	610.30
C	5213+20.99	-20.05	610.03	610.19
D	5213+30.87	-19.80	609.87	610.06
E	5213+40.75	-19.62	609.68	609.88
F	5213+50.63	-19.49	609.45	609.65
G	5213+60.51	-19.43	609.22	609.40
H	5213+70.39	-19.43	608.99	609.13
I	5213+80.27	-19.48	608.75	608.85
J	5213+90.22	-19.59	608.50	608.56
K	5214+00.22	-19.71	608.24	608.27
℄ Brg. Pier 1	5214+12.72	-19.85	607.91	607.91
L	5214+22.72	-19.97	607.63	607.63
M	5214+32.72	-20.08	607.35	607.35
N	5214+42.72	-20.20	607.05	607.08
O	5214+52.71	-20.31	606.75	606.80
P	5214+62.71	-20.43	606.44	606.51
Q	5214+72.71	-20.54	606.12	606.21
R	5214+82.71	-20.66	605.80	605.89
S	5214+92.71	-20.77	605.46	605.55
T	5215+02.71	-20.89	605.12	605.19
U	5215+12.71	-21.00	604.77	604.82
V	5215+22.71	-21.12	604.41	604.44
W	5215+32.71	-21.23	604.04	604.06
℄ Brg. Pier 2	5215+44.71	-21.37	603.59	603.59
X	5215+54.71	-21.48	603.24	603.25
Y	5215+64.71	-21.60	602.91	602.94
Z	5215+74.71	-21.71	602.57	602.62
A1	5215+84.71	-21.83	602.23	602.30
B1	5215+94.71	-21.94	601.88	601.96
C1	5216+04.70	-22.06	601.52	601.61
D1	5216+14.70	-22.17	601.15	601.24
E1	5216+24.70	-22.29	600.78	600.85
F1	5216+34.70	-22.40	600.39	600.45
G1	5216+44.70	-22.52	600.00	600.04
H1	5216+54.70	-22.63	599.60	599.62
I1	5216+64.70	-22.75	599.20	599.20
℄ Brg. Pier 3	5216+76.70	-22.88	598.64	598.64
J1	5216+86.70	-23.00	598.15	598.17
K1	5216+96.70	-23.11	597.65	597.70
L1	5217+06.81	-23.21	597.14	597.23
M1	5217+16.95	-23.25	596.62	596.74
N1	5217+27.09	-23.22	596.09	596.26
O1	5217+37.24	-23.14	595.56	595.75
P1	5217+47.38	-22.99	595.02	595.22
Q1	5217+57.52	-22.78	594.55	594.74
R1	5217+67.65	-22.51	594.07	594.24
S1	5217+77.78	-22.18	593.59	593.73
T1	5217+87.91	-21.78	593.10	593.19
℄ Brg. W. Abut.	5218+00.56	-21.20	592.49	592.49
Bk. of W. Abut.	5218+03.12	-21.08	592.36	592.36

GIRDER NO. 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Pier C1	5212+89.80	-27.73	610.78	610.78
℄ W. Brg. Pier C1	5212+90.79	-27.68	610.77	610.77
A	5213+00.62	-27.25	610.62	610.69
B	5213+10.45	-26.88	610.48	610.60
C	5213+20.28	-26.57	610.32	610.49
D	5213+30.12	-26.32	610.17	610.36
E	5213+39.96	-26.13	609.97	610.18
F	5213+49.80	-26.00	609.73	609.93
G	5213+59.64	-25.93	609.48	609.66
H	5213+69.49	-25.93	609.23	609.38
I	5213+79.33	-25.98	608.97	609.08
J	5213+89.25	-26.08	608.71	608.77
K	5213+99.24	-26.20	608.43	608.46
℄ Brg. Pier 1	5214+11.74	-26.34	608.07	608.07
L	5214+21.74	-26.46	607.78	607.77
M	5214+31.74	-26.57	607.47	607.48
N	5214+41.74	-26.69	607.16	607.19
O	5214+51.74	-26.80	606.84	606.89
P	5214+61.74	-26.92	606.51	606.58
Q	5214+71.74	-27.03	606.18	606.26
R	5214+81.74	-27.15	605.83	605.92
S	5214+91.74	-27.26	605.48	605.57
T	5215+01.74	-27.37	605.12	605.19
U	5215+11.74	-27.49	604.75	604.80
V	5215+21.74	-27.60	604.37	604.40
W	5215+31.74	-27.72	603.98	604.00
℄ Brg. Pier 2	5215+43.74	-27.86	603.51	603.51
X	5215+53.73	-27.97	603.14	603.15
Y	5215+63.73	-28.09	602.81	602.84
Z	5215+73.73	-28.20	602.48	602.52
A1	5215+83.73	-28.32	602.13	602.20
B1	5215+93.73	-28.43	601.78	601.87
C1	5216+03.73	-28.55	601.42	601.52
D1	5216+13.73	-28.66	601.06	601.15
E1	5216+23.73	-28.78	600.68	600.76
F1	5216+33.73	-28.89	600.30	600.36
G1	5216+43.73	-29.01	599.91	599.95
H1	5216+53.73	-29.12	599.51	599.53
I1	5216+63.73	-29.24	599.11	599.11
℄ Brg. Pier 3	5216+75.73	-29.37	598.55	598.55
J1	5216+85.73	-29.49	598.04	598.06
K1	5216+95.73	-29.60	597.52	597.57
L1	5217+05.84	-29.70	596.98	597.08
M1	5217+16.03	-29.75	596.44	596.57
N1	5217+26.21	-29.73	595.89	596.06
O1	5217+36.40	-29.65	595.34	595.53
P1	5217+46.58	-29.51	594.78	594.99
Q1	5217+56.76	-29.30	594.30	594.50
R1	5217+66.94	-29.03	593.82	594.00
S1	5217+77.11	-28.71	593.33	593.47
T1	5217+87.28	-28.32	592.85	592.93
℄ Brg. W. Abut.	5217+99.98	-27.74	592.23	592.23
Bk. of W. Abut.	5218+02.55	-27.61	592.10	592.10

0161703-60X78-S016-TSE.dgn

PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JLP/HA	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS IV
STRUCTURE NO. 016-1703
SHEET NO. S1-16 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	201
			CONTRACT NO. 60X78	
	ILLINOIS FED. AID PROJECT			

NORTH EDGE OF SHOULDER

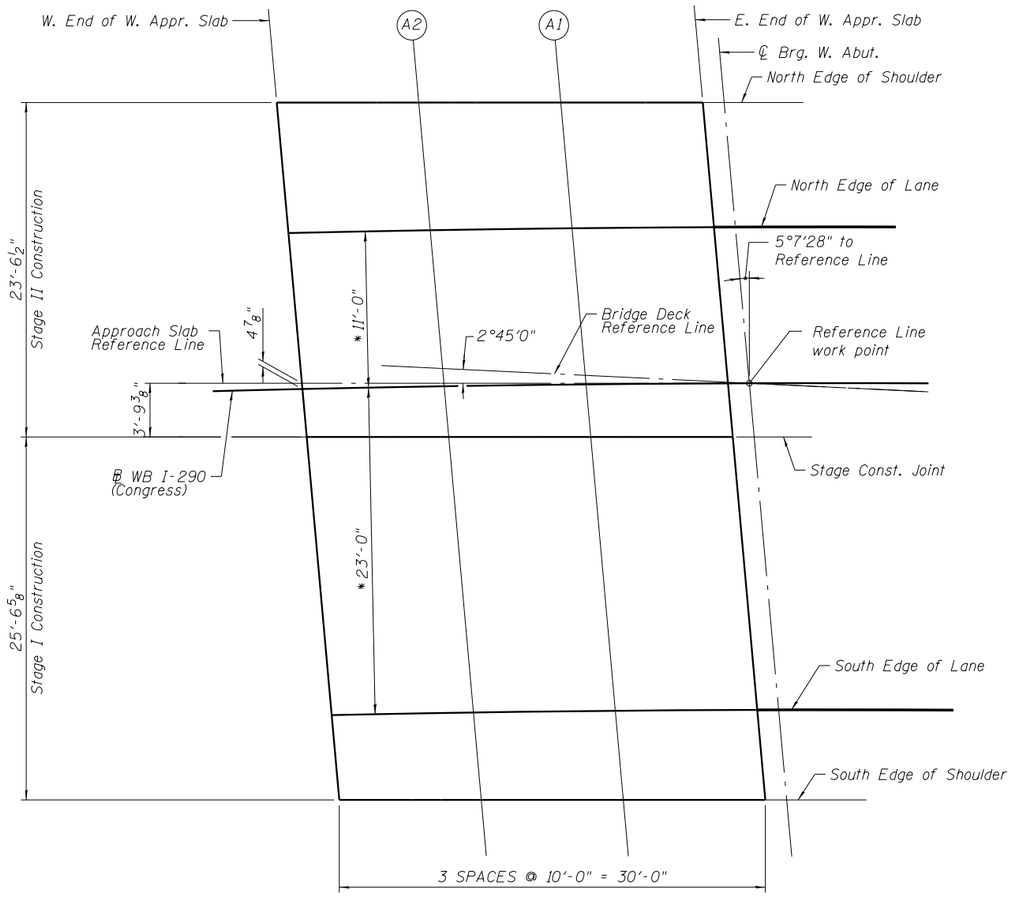
Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+05.59	19.78	594.04
A1	5218+15.47	19.86	593.53
A2	5218+25.35	20.00	593.02
W. End of W. Appr. Slab	5218+35.23	20.21	592.50

NORTH EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+04.86	11.00	593.69
A1	5218+14.78	11.00	593.18
A2	5218+24.71	11.00	592.66
W. End of W. Appr. Slab	5218+34.62	11.00	592.13

APPROACH SLAB REFERENCE LINE

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+03.92	0.00	593.26
A1	5218+13.92	0.08	592.74
A2	5218+23.92	0.21	592.22
W. End of W. Appr. Slab	5218+33.92	0.41	591.70



W. APPROACH SLAB PLAN

* Measured perpendicular to ℄ WB I-290 (Congress)

PGL & ℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+03.92	0.00	593.26
A1	5218+13.92	0.00	592.74
A2	5218+23.91	0.00	592.22
W. End of W. Appr. Slab	5218+33.89	0.00	591.68

STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+03.60	-3.78	593.11
A1	5218+13.62	-3.71	592.59
A2	5218+23.64	-3.58	592.07
W. End of W. Appr. Slab	5218+33.66	-3.38	591.55

SOUTH EDGE OF LANE

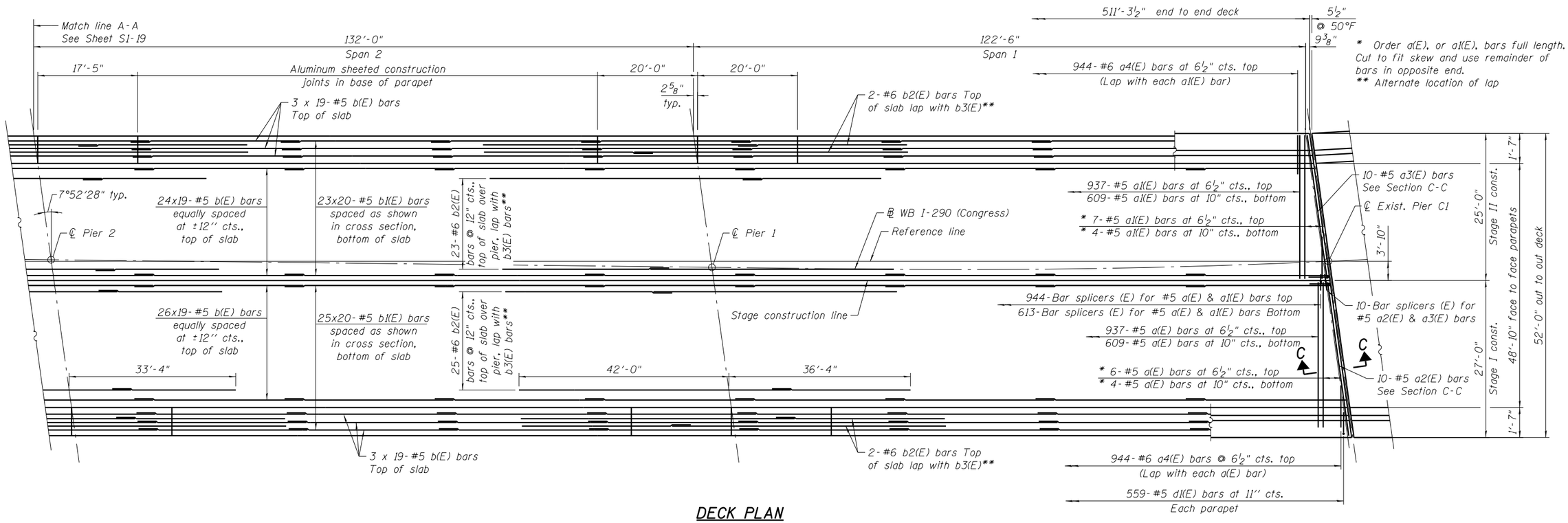
Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+01.93	-23.00	592.35
A1	5218+12.07	-23.00	591.82
A2	5218+22.20	-23.00	591.29
W. End of W. Appr. Slab	5218+32.33	-23.00	590.76

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
E. End of W. Appr. Slab	5218+01.37	-29.34	592.10
A1	5218+11.55	-29.28	591.57
A2	5218+21.73	-29.16	591.05
W. End of W. Appr. Slab	5218+31.91	-28.98	590.52

0161703-60X78-S017-TAE.dgn

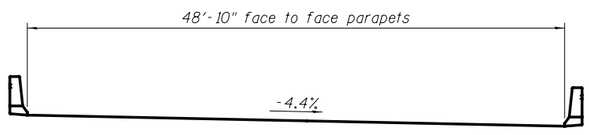
PARSONS BRINCKERHOFF				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF WEST APPROACH SLAB ELEVATION STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = pateld	DESIGNED - JZ	REVISED -			90/94/290	2014-004 R&B	COOK	706	202
		CHECKED - LFC	REVISED -							
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -					CONTRACT NO. 60X78		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-17 OF S1-53 SHEETS			ILLINOIS FED. AID PROJECT		



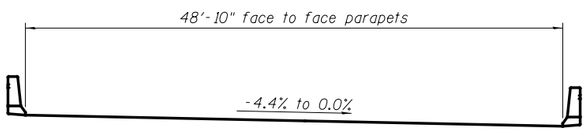
DECK PLAN

MINIMUM BAR LAP

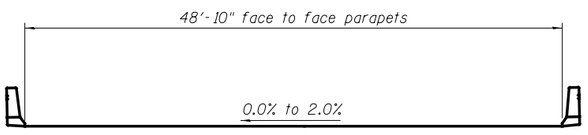
#5 bar = 2'-7"
#6 bar = 3'-1"



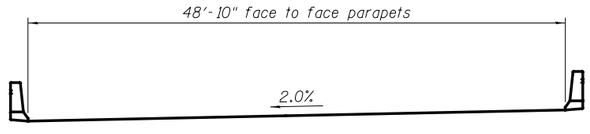
STA. 5211+99.79 to STA. 5213+35.86



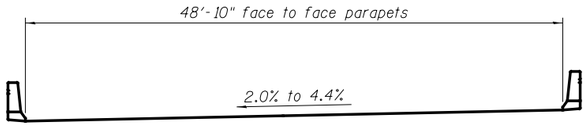
STA. 5213+35.86 to STA. 5214+82.30



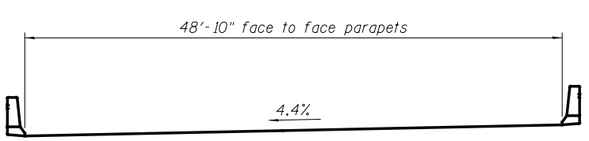
STA. 5214+82.30 to STA. 5215+48.86



STA. 5215+48.86 to STA. 5216+68.08



STA. 5216+68.08 to STA. 5217+48.08



STA. 5217+48.08 to STA. 5218+04.93

DECK CROSS SLOPE DETAIL

(Looking Upstation)

Notes:

1. See sheet S1-21 for deck details and Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See sheet S1-21 for parapet reinforcement.
4. See sheet S1-20, for section C-C.
5. See sheet S1-19, for cross section.

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JLP/JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK PLAN I STRUCTURE NO. 016-1703
		CHECKED - LFC	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-18 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	203
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

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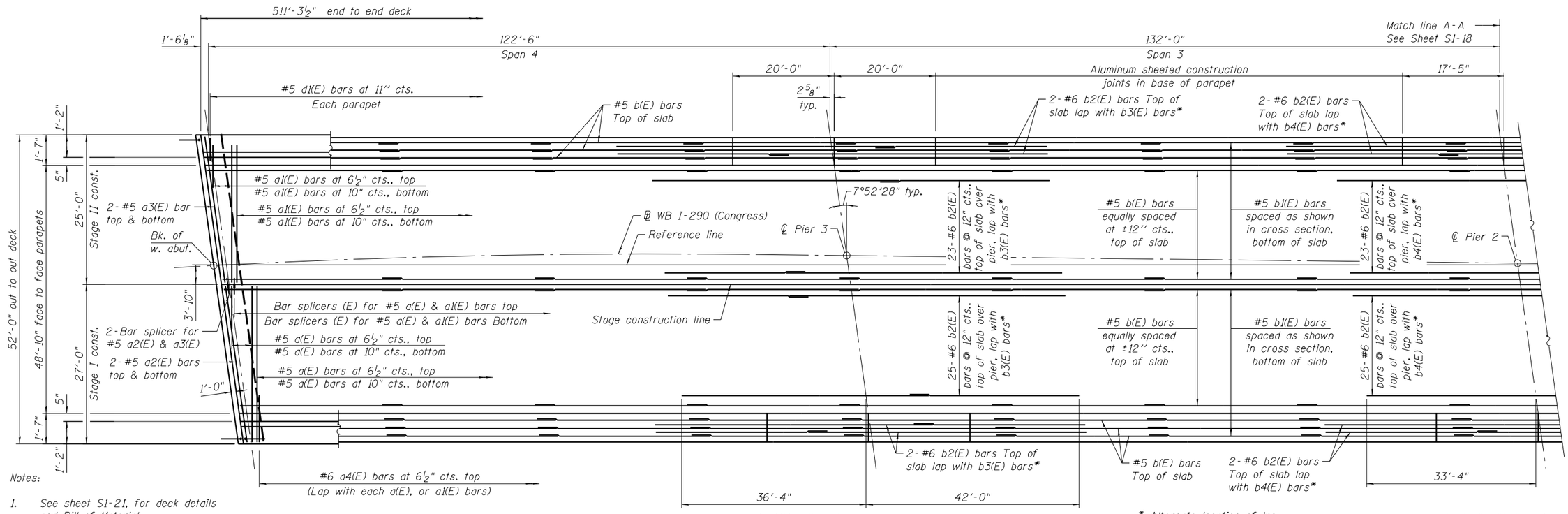


DECK PLAN

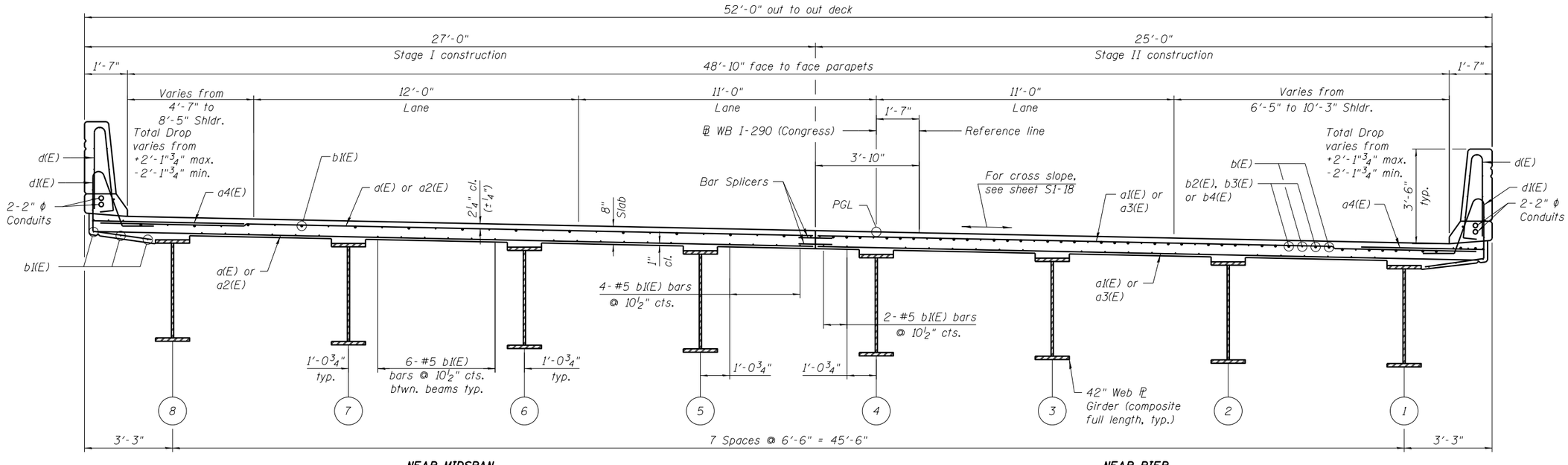
* Alternate location of lap

Notes:

1. See sheet S1-21, for deck details and Bill of Material.
2. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See sheet S1-21, for parapet reinforcement.

MINIMUM BAR LAP

#5 bar = 2'-7"
#6 bar = 3'-1"



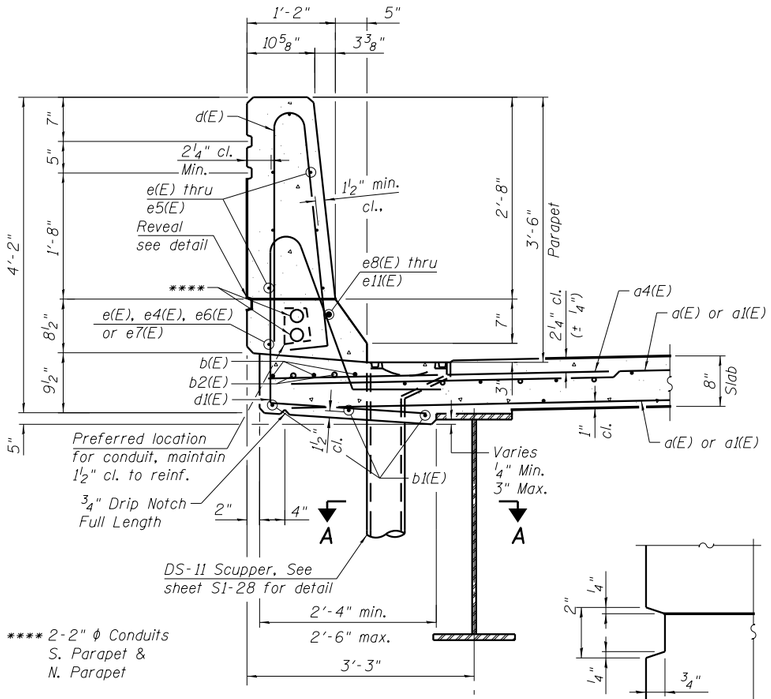
NEAR MIDSPAN **NEAR PIER**

CROSS SECTION

(Looking West)

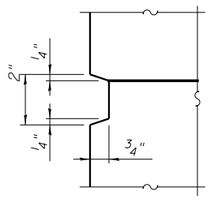
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JLP/JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK PLAN II STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	204
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-19 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	

0161703-60X78-S019-DEK.dgn

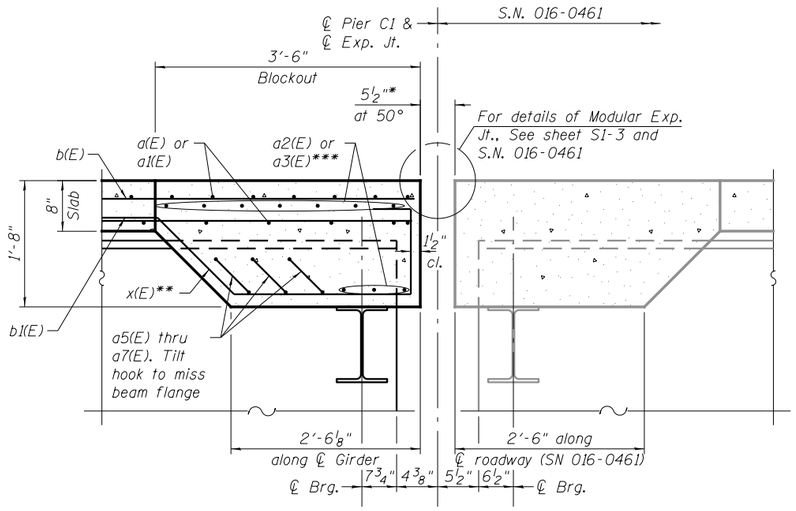


**** 2-2" ϕ Conduits
S. Parapet &
N. Parapet

SECTION THRU PARAPET



REVEAL DETAIL

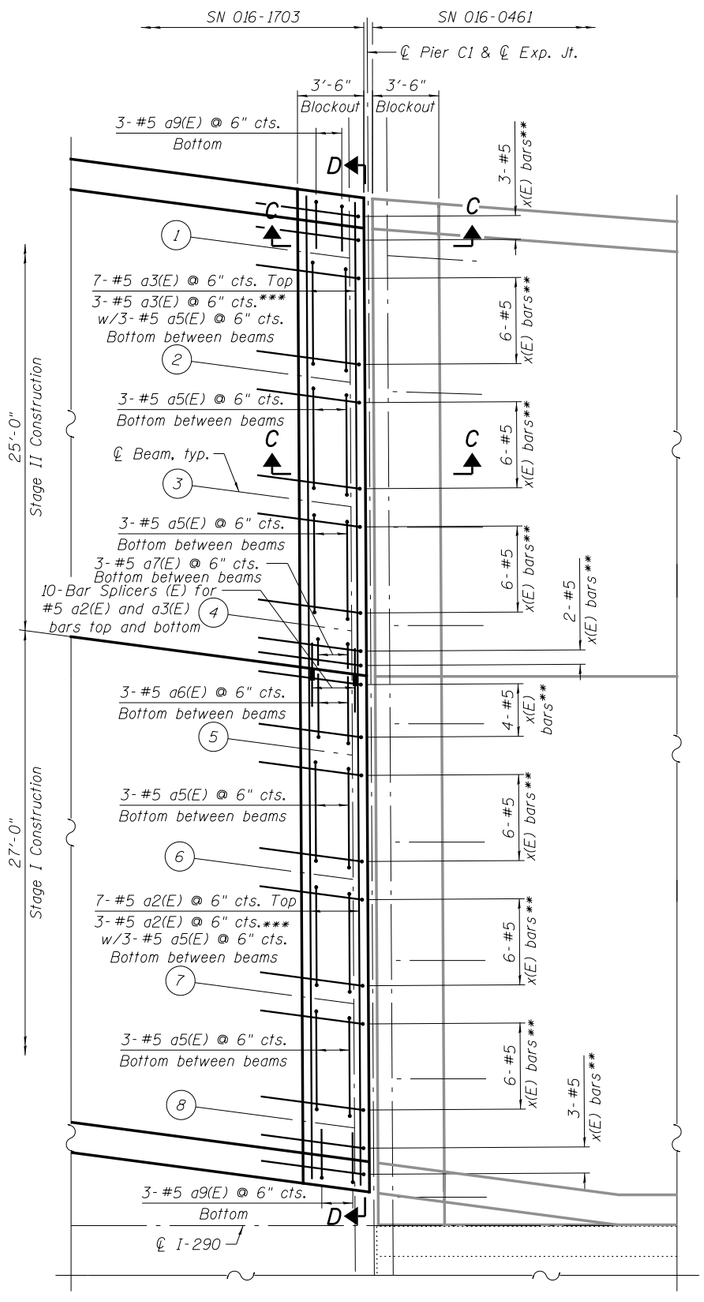


SECTION C-C

* Actual dimension may vary depending on Manufacturer's design

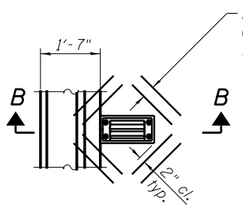
** x(E) bars to be placed at 12" cts. between beams and adjusted in field to miss support boxes

*** Bars to be adjusted and/or cut in field to miss support boxes and girder web, as allowed by the Engineer. The Contractor shall reference and coordinate rebar installation with the approved modular joint shop drawings.

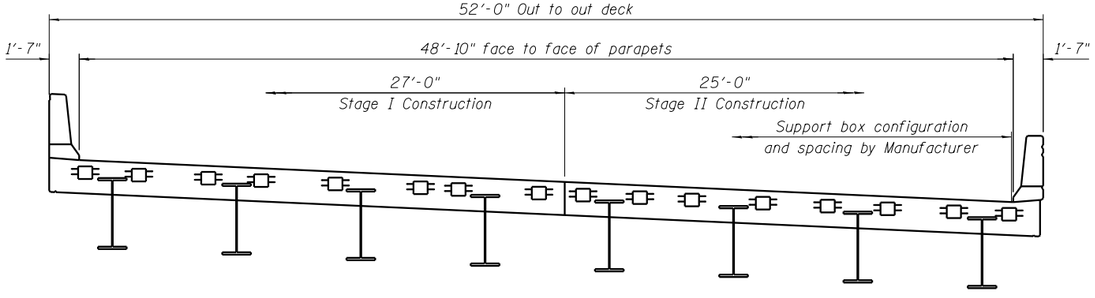


PARTIAL PLAN AT PIER C1

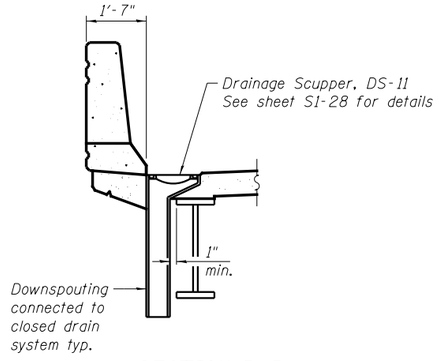
(Cost fo modualr joint is paid for under SN 016-0461)



DRAINAGE SCUPPER DS-11



SECTION D-D



SECTION B-B

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

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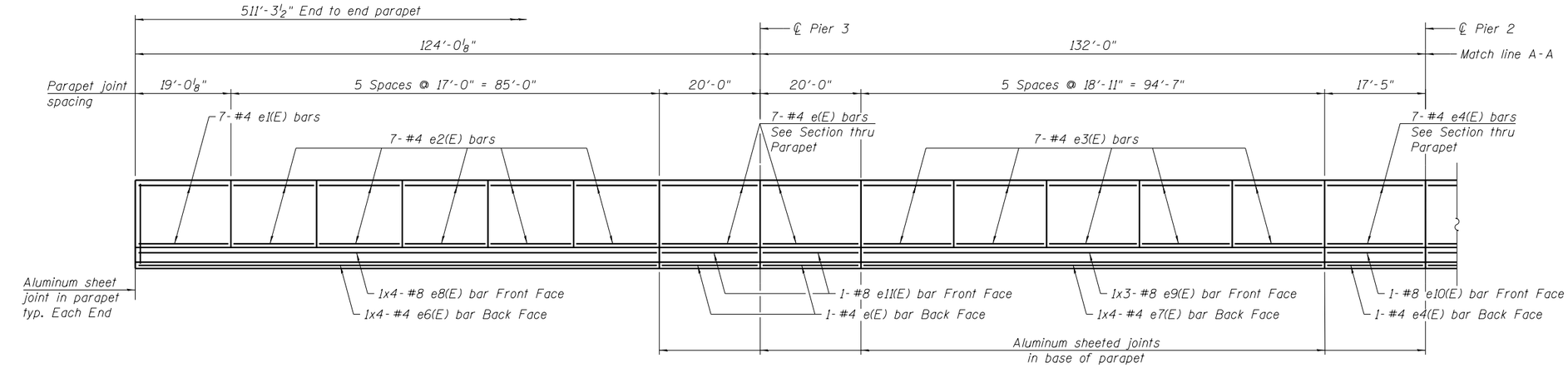
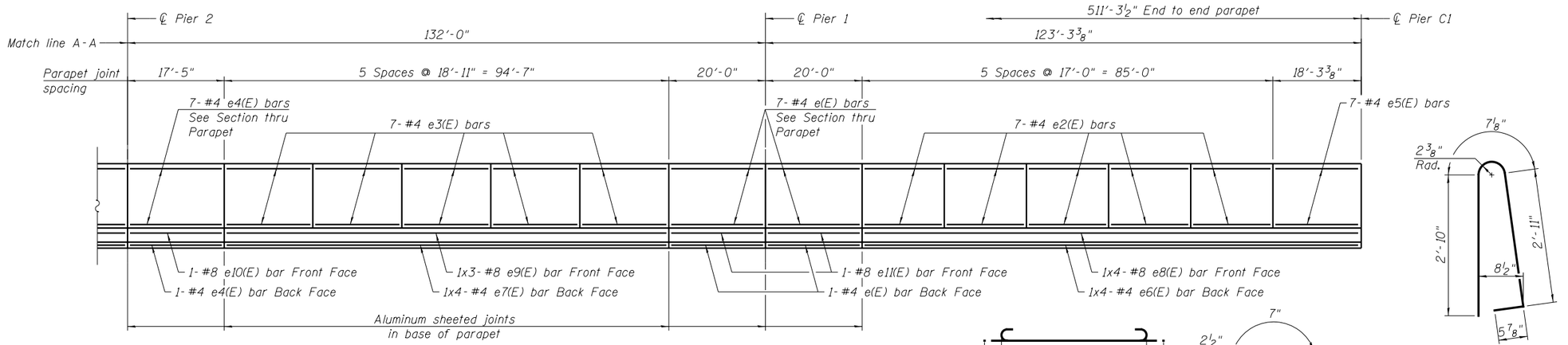
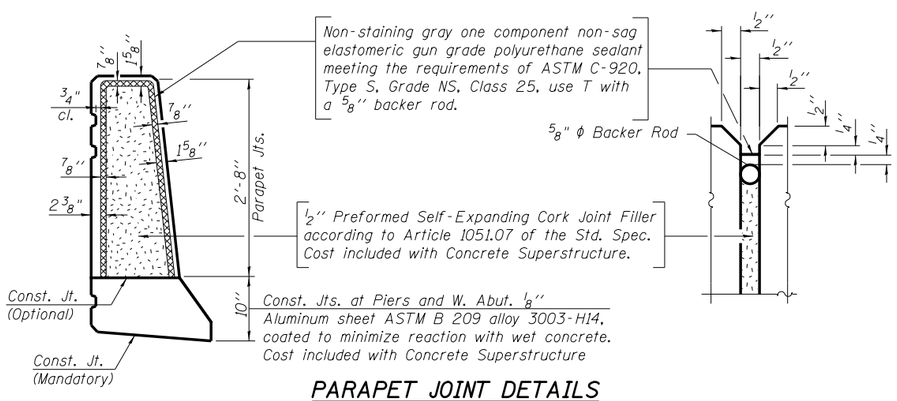
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JLP/JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DECK DETAILS I STRUCTURE NO. 016–1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	205
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-20 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	





INSIDE ELEVATION OF NORTH PARAPET

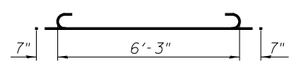
(South parapet similar)



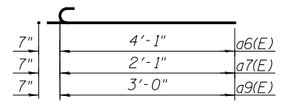
PARAPET JOINT DETAILS

MINIMUM BAR LAP

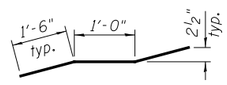
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"



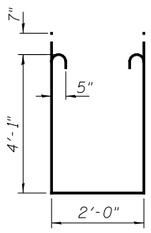
BAR a5(E)



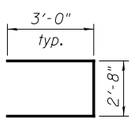
BAR a6(E), a7(E) & a9(E)



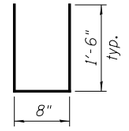
BAR m(E)



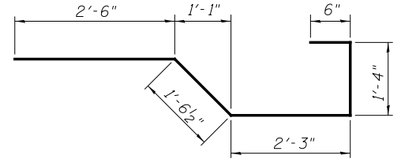
BAR s(E)



BAR s1(E)

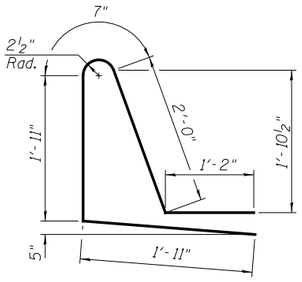


BAR u(E)



BAR x(E)

BAR d(E)



BAR d1(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	1556	#5	26'-4"	
a1(E)	1557	#5	24'-4"	
a2(E)	14	#5	26'-9"	
a3(E)	14	#5	24'-9"	
a4(E)	1888	#6	6'-6"	
a5(E)	18	#5	7'-5"	
a6(E)	3	#5	4'-8"	
a7(E)	3	#5	2'-8"	
a8(E)	56	#5	1'-6"	
a9(E)	6	#5	3'-7"	
b(E)	1064	#5	29'-5"	
b1(E)	960	#5	28'-1"	
b2(E)	156	#6	50'-0"	
b3(E)	104	#6	31'-5"	
b4(E)	52	#6	19'-9"	
d(E)	1118	#5	6'-10"	
d1(E)	1118	#5	7'-7"	
x(E)	48	#5	8'-2"	
e(E)	64	#4	19'-8"	
e1(E)	14	#4	18'-8"	
e2(E)	140	#4	16'-8"	
e3(E)	140	#4	18'-7"	
e4(E)	32	#4	17'-1"	
e5(E)	14	#4	17'-11"	
e6(E)	8	#4	28'-0"	
e7(E)	8	#4	25'-8"	
e8(E)	8	#8	30'-5"	
e9(E)	6	#8	35'-6"	
e10(E)	2	#8	17'-11"	
e11(E)	4	#8	19'-8"	
m(E)	16	#5	4'-0"	
m1(E)	24	#6	6'-3"	
m2(E)	8	#6	2'-11"	
m3(E)	4	#6	4'-0"	
m4(E)	4	#6	1'-11"	
m5(E)	8	#6	26'-11"	
m6(E)	8	#6	24'-11"	
s(E)	48	#5	11'-4"	
s1(E)	58	#5	8'-8"	
u(E)	54	#5	3'-8"	
Reinforcement Bars, Epoxy Coated		Pound	206,800	
Concrete Superstructure		Cu. Yd.	868	
Protective Coat		Sq. Yd.	3,290	
Bridge Deck Grooving		Sq. Yd.	2,661	

Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

0161703-60X78-S021-PAR.dgn

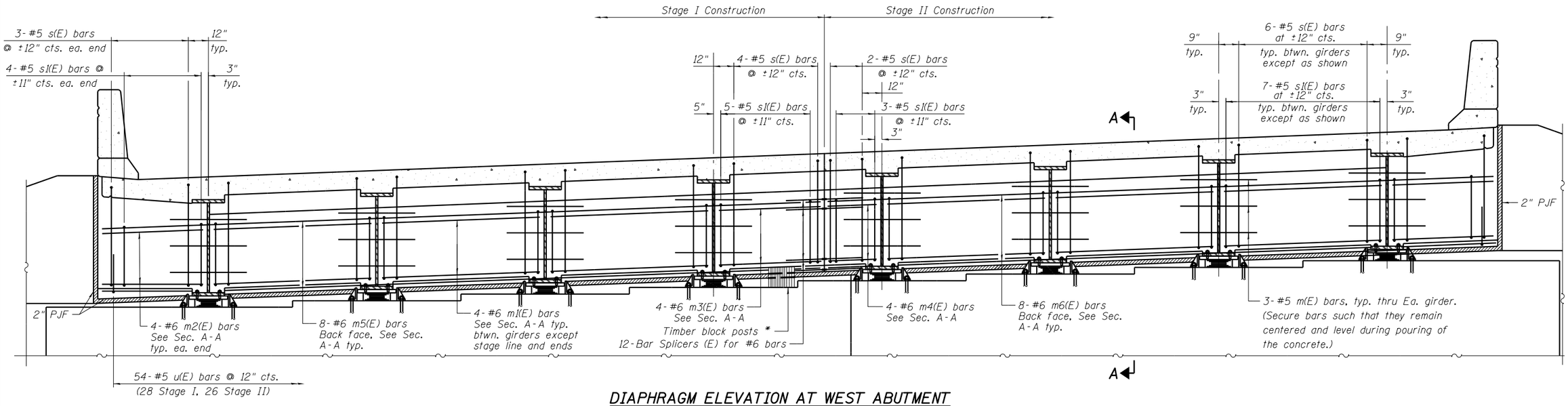
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JLP/JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DETAILS II
STRUCTURE NO. 016-1703
SHEET NO. S1-21 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	206
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		



DIAPHRAGM ELEVATION AT WEST ABUTMENT

(Looking West)

* Cost included in "Concrete Superstructure"

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet S1-21.

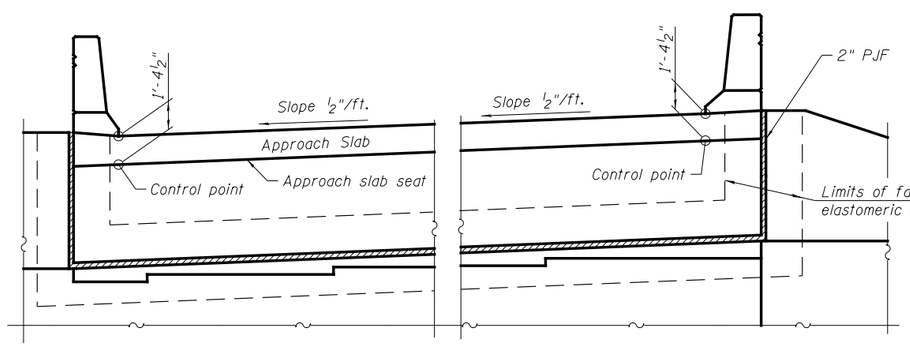
Concrete in diaphragm is included with Concrete Superstructure on sheet S1-21.

For details of bars s(E), s1(E), m(E) and u(E) see sheet S1-21.

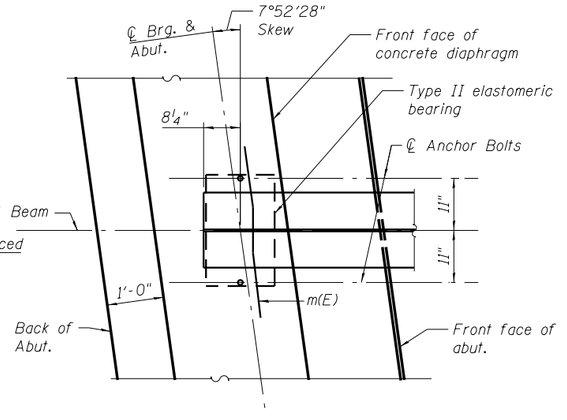
The s(E), s1(E) and u(E) bars shall be placed parallel to the girders. Spacing for these bars shall be at right angles to the beams.

The approach slab seat shall have a constant slope determined from the control points shown.

For bearing details see sheet S1-33.

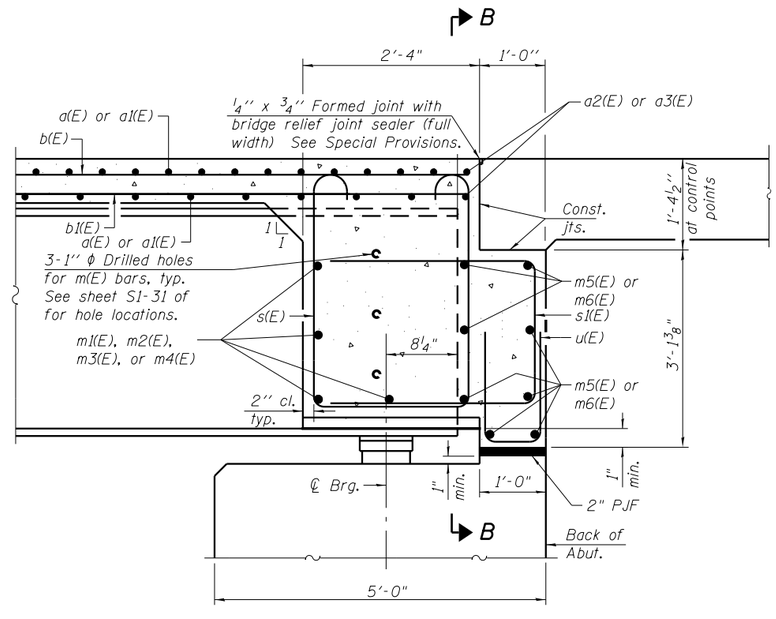


SECTION B-B



PARTIAL PLAN AT ABUTMENT

(Showing bottom flange of beam)



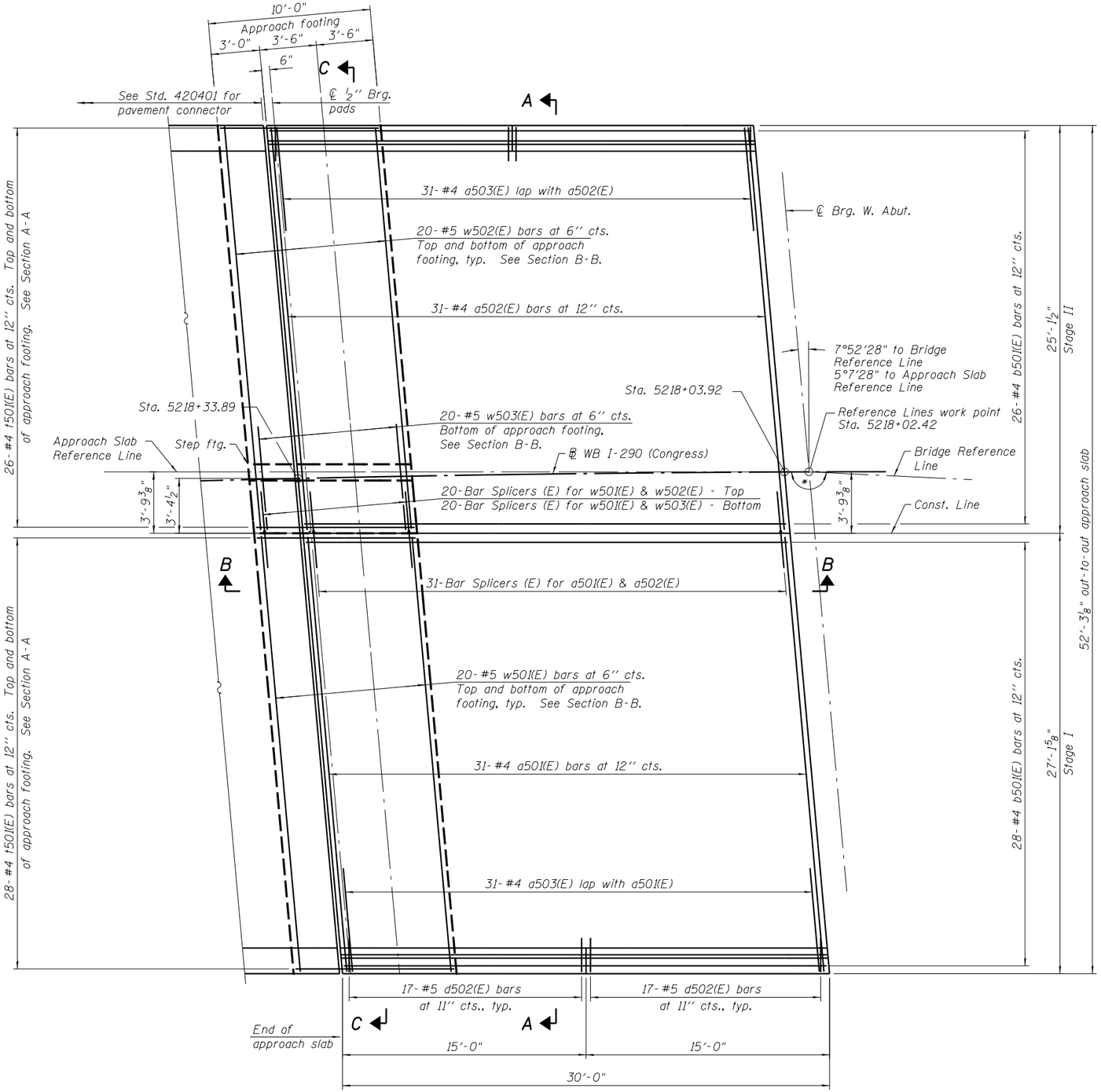
SECTION A-A

(at Rt. L's)

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE DIAPHRAGM DETAILS STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	207
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-22 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	

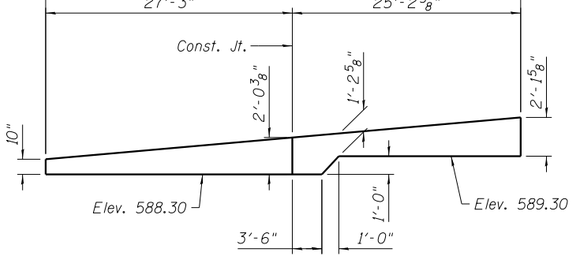
0161703-60X78-S022-01A.dgn

Notes:
See Sheet S1-24 for Sections A-A & B-B.

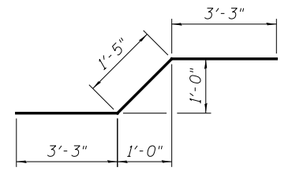


PLAN
(Showing wearing surface)

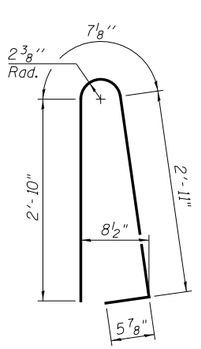
* 177°15'0" Measured between Bridge Reference Line and Approach Slab Reference Line



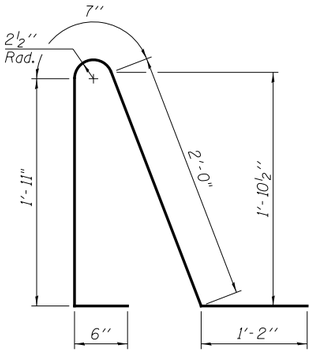
SECTION C-C
(Dimension measured along skew)



BAR w503(E)



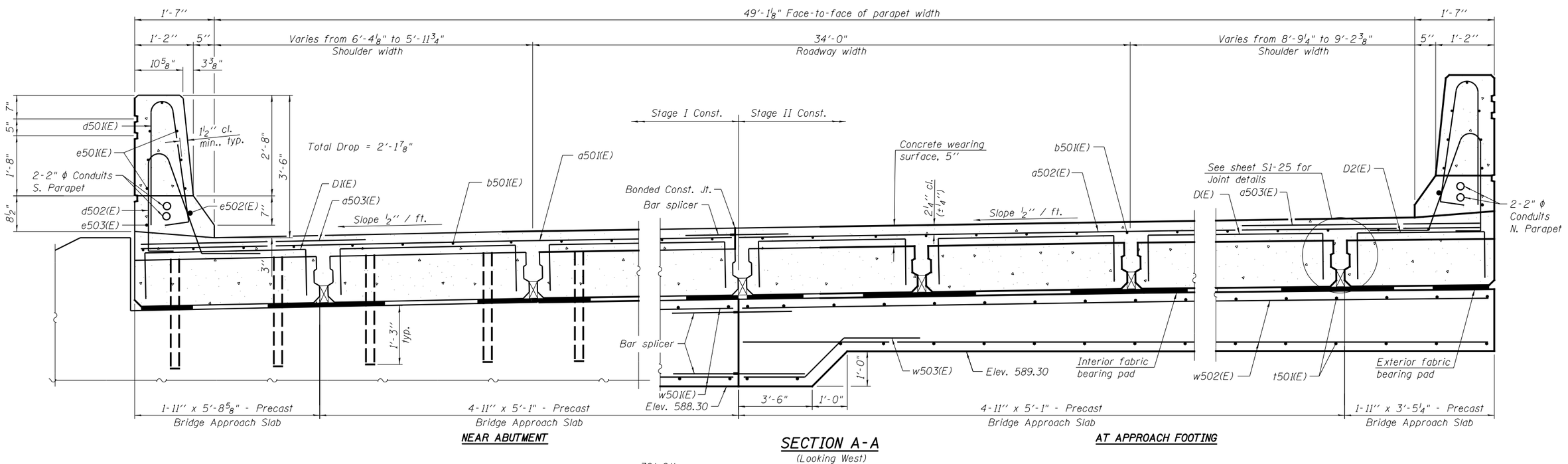
BAR d501(E)



BAR d502(E)

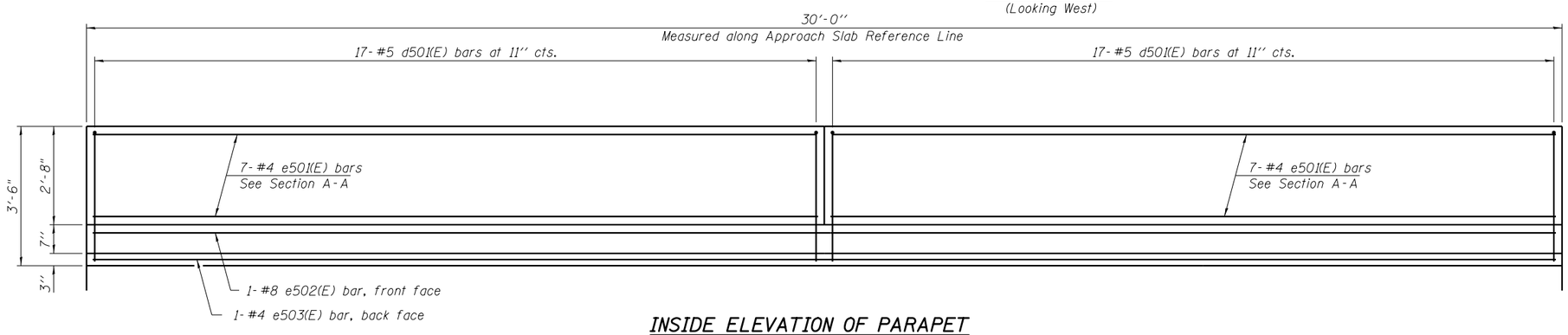
0161703-60X78-S023-BAP.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PRECAST BRIDGE APPROACH DETAILS I STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	208
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-23 OF S1-53 SHEETS		ILLINOIS	FED. AID PROJECT		

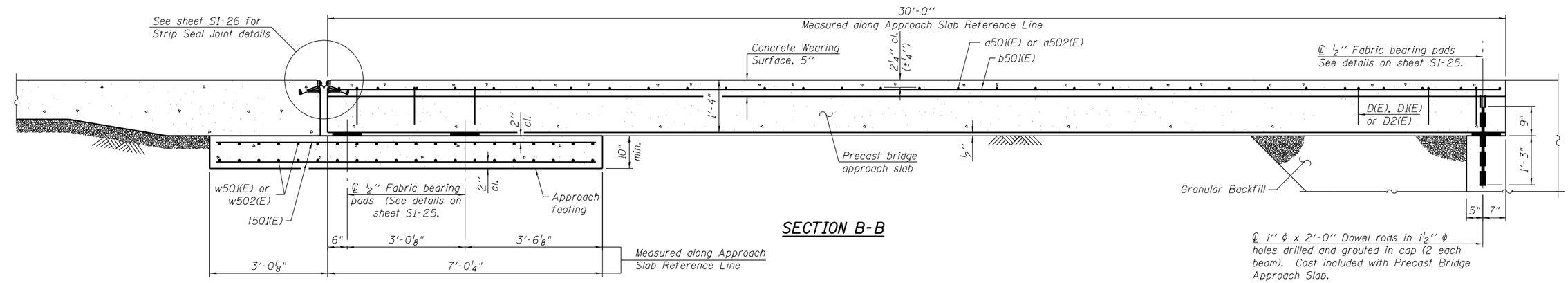


NEAR ABUTMENT — **AT APPROACH FOOTING**

SECTION A-A
(Looking West)



INSIDE ELEVATION OF PARAPET



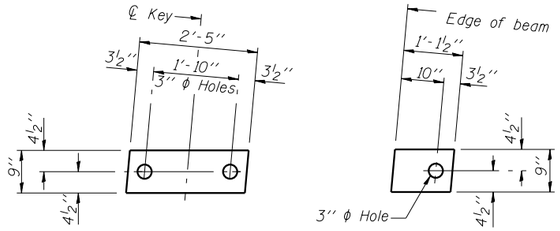
SECTION B-B

℄ 1" ϕ x 2'-0" Dowel rods in 1 1/2" ϕ holes drilled and grouted in cap (2 each beam). Cost included with Precast Bridge Approach Slab.

0161703-60X78-S024-BAP.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PRECAST BRIDGE APPROACH DETAILS II STRUCTURE NO. 016-1703**
		CHECKED - LFC	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. S1-24 OF S1-53 SHEETS
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	209
		CONTRACT NO. 60X78		
	ILLINOIS	FED. AID PROJECT		



INTERIOR **EXTERIOR**

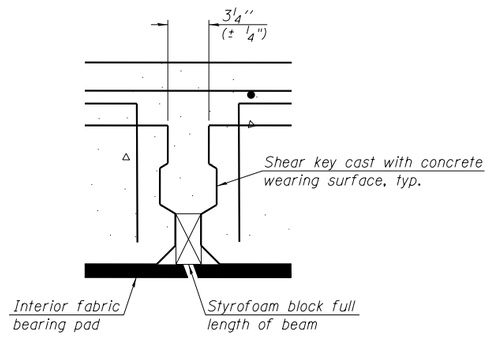
FABRIC BEARING PAD

Notes:

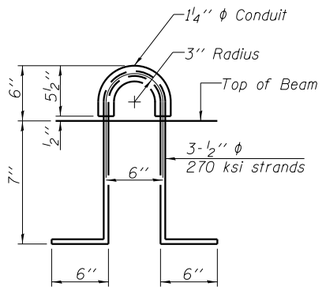
All bearing pads shall be ½" thick.

Omit holes for fabric bearing pads at approach slab footing end of beams.

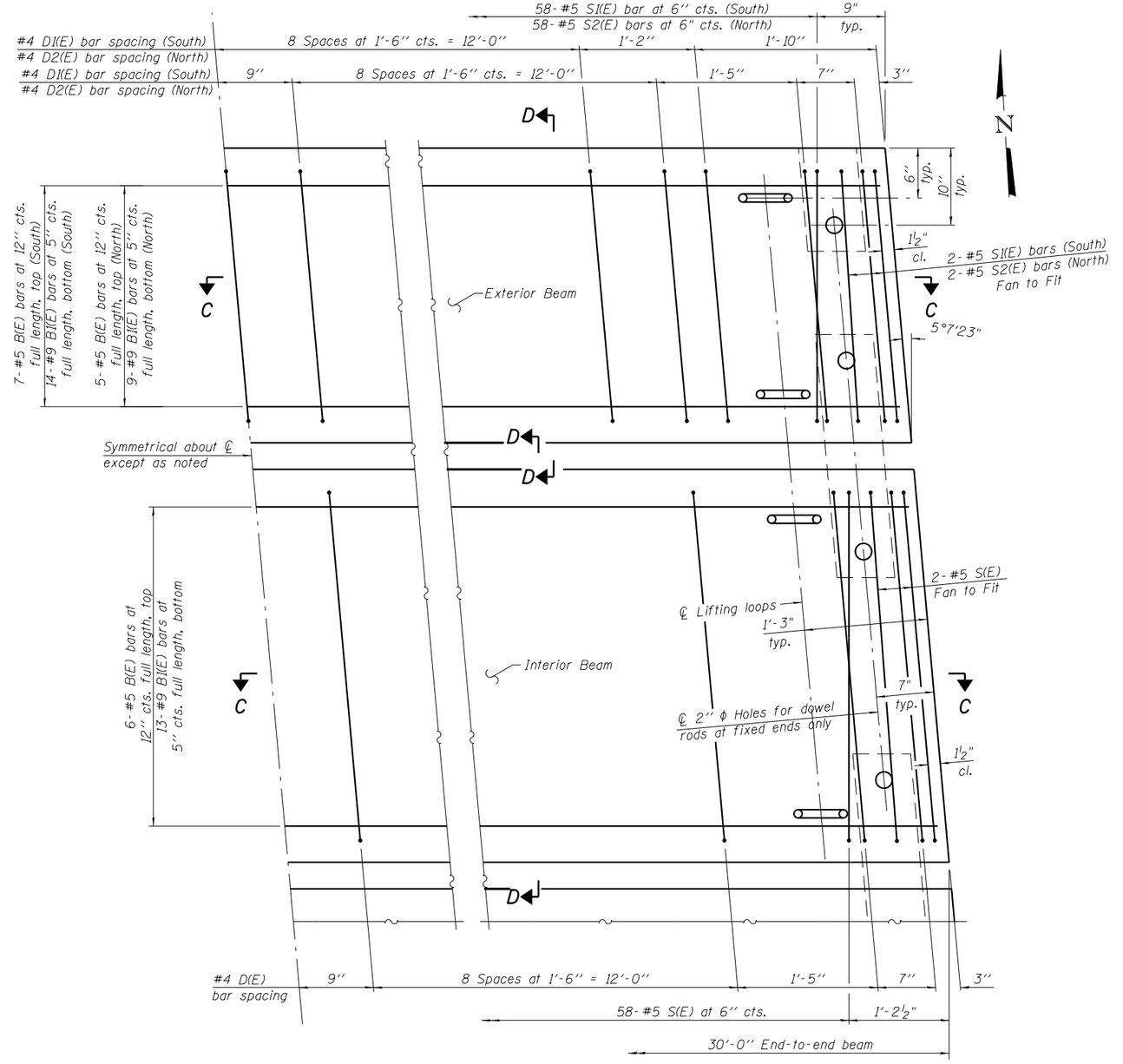
Expansion bearing pad shall be bonded to the approach slab footing.



SECTION THRU SHEAR KEY JOINT



LIFTING LOOP DETAIL

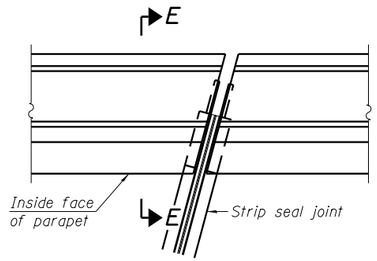


PLAN VIEW

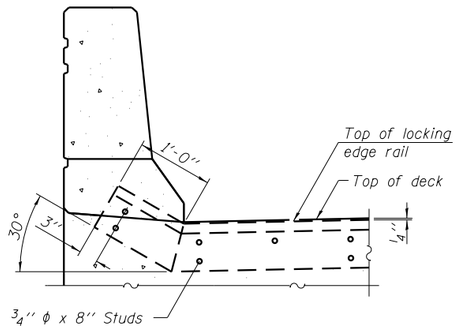
0161703-60X78-S025-BAP.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PRECAST BRIDGE APPROACH DETAILS III STRUCTURE NO. 016–1703**
		CHECKED - LFC	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. S1-25 OF S1-53 SHEETS
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

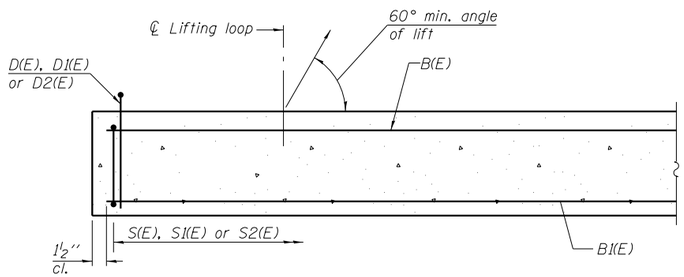
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	210
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



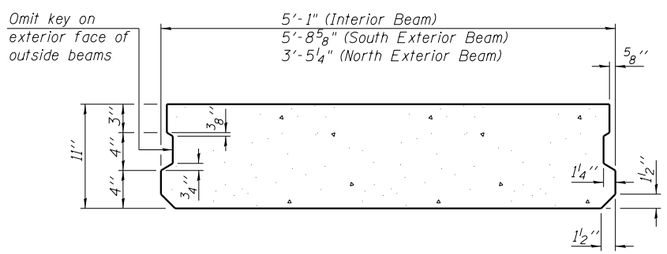
PLAN



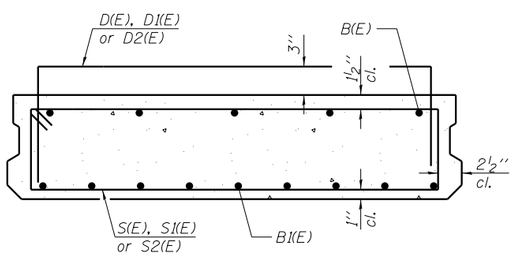
SECTION E-E



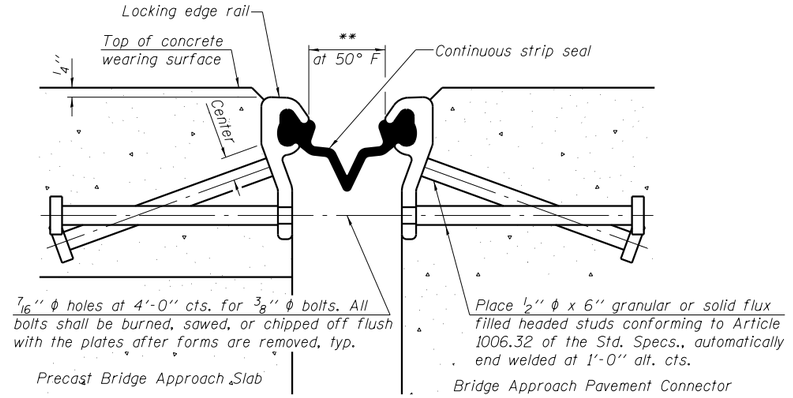
SECTION C-C



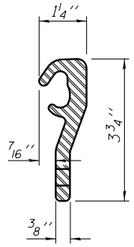
SECTION D-D
(Showing dimensions)



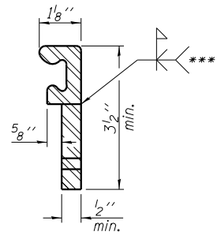
SECTION D-D
(Showing reinforcement)



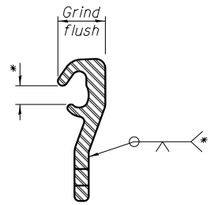
SECTION THRU STRIP SEAL JOINT
(at rt. angles)



ROLLED (EXTRUDED) RAIL



WELDED RAIL



LOCKING EDGE RAIL SPLICE
Rolled rail shown, welded rail similar.

LOCKING EDGE RAIL

* Omit weld at seal opening.

** 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 1/2" for installation purposes.

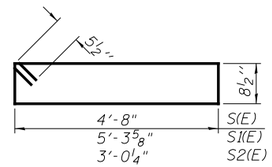
*** Back gouge not required if complete joint penetration is verified by mock-up.

BAR LIST EACH INTERIOR BEAM
(For information only)

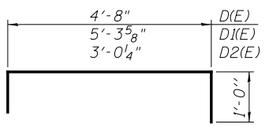
Bar	No.	Size	Length	Shape
B(E)	6	#5	29'-8"	—
B1(E)	13	#9	29'-8"	—
D(E)	22	#4	6'-8"	⊓
S(E)	62	#5	11'-8"	⊏

BAR LIST SOUTH EXTERIOR BEAM
(For information only)

Bar	No.	Size	Length	Shape
B(E)	7	#5	29'-8"	—
B1(E)	14	#9	29'-8"	—
D1(E)	41	#4	7'-4"	⊓
S1(E)	62	#5	12'-11"	⊏



BARS S(E), S1(E) & S2(E)



BARS D(E), D1(E) & D2(E)

BAR LIST NORTH EXTERIOR BEAM
(For information only)

Bar	No.	Size	Length	Shape
B(E)	5	#5	29'-8"	—
B1(E)	9	#9	29'-8"	—
D2(E)	41	#4	5'-0"	⊓
S2(E)	62	#5	8'-5"	⊏

Notes:

The precast bridge approach slab shall be according to Section 504 of the Standard Specifications and shall be paid for at the contract unit price per square foot for Precast Bridge Approach Slab.

Cast-in-place substitution of Precast Bridge Approach Slab is not allowed.

Parapet concrete shall be paid for as Concrete Superstructure.

Parapet and wearing surface reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.

Approach footing concrete shall be paid for as Concrete Structures.

The top surface of precast bridge approach slabs shall be roughened to a depth of 1/4" according to the IDOT "Manual for Fabrication of Precast Prestressed Concrete Products."

After precast bridge approach slab has been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and allowed to cure fully prior to grouting the longitudinal shear keys.

Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Bridge Approach Slab.

A minimum 2 1/2" ϕ lifting pins shall be used to engage the lifting loops during handling.

Compressive strength of precast concrete, f'c shall be 6,000 psi.

For additional parapet details, see sheets S1-21, S1-23 & S1-24.

Any concrete poured monolithically with the wearing surface, such as curbs, will not be paid for separately, but will be included in the cost of Concrete Wearing Surface, 5".

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The strip seal shall extend 6" beyond the edge of the approach slab on each end. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

The inside of the Locking Edge Rail groove shall be free of weld residue.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

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.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d501(E)	31	#4	26'-11"	—
d502(E)	31	#4	24'-11"	—
d503(E)	62	#4	6'-6"	—
b501(E)	54	#4	29'-8"	—
d501(E)	68	#5	6'-10"	⌐
d502(E)	68	#5	6'-2"	⌐
e501(E)	28	#4	14'-8"	—
e502(E)	2	#8	29'-8"	—
e503(E)	2	#4	29'-8"	—
t501(E)	108	#4	9'-8"	—
w501(E)	40	#5	26'-11"	—
w502(E)	40	#5	24'-11"	—
w503(E)	20	#5	7'-11"	⌒
Concrete Structures			Cu. Yd.	54
Concrete Superstructure			Cu. Yd.	9
Reinforcement Bars, Epoxy Coated			Pound	6,840
Preformed Joint Strip Seal			Foot	52
Concrete Wearing Surface, 5"			Sq. Yd.	175
Precast Bridge Approach Slab			Sq. Ft.	1,568
Bridge Deck Grooving			Sq. Yd.	157
Protective Coat			Sq. Yd.	193

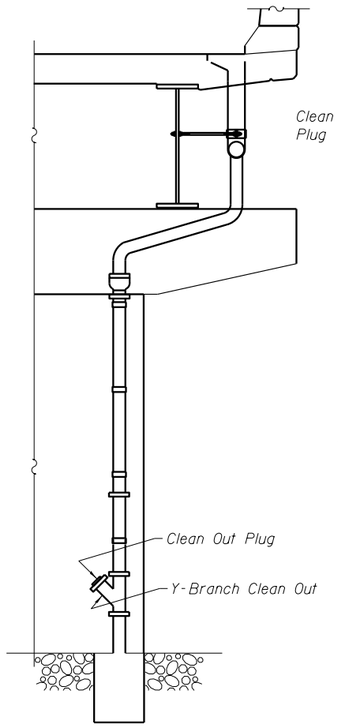
0161703-60X78-S026-BAP.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -
		CHECKED - LFC	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 5/2/2016	CHECKED - JIG	REVISED -

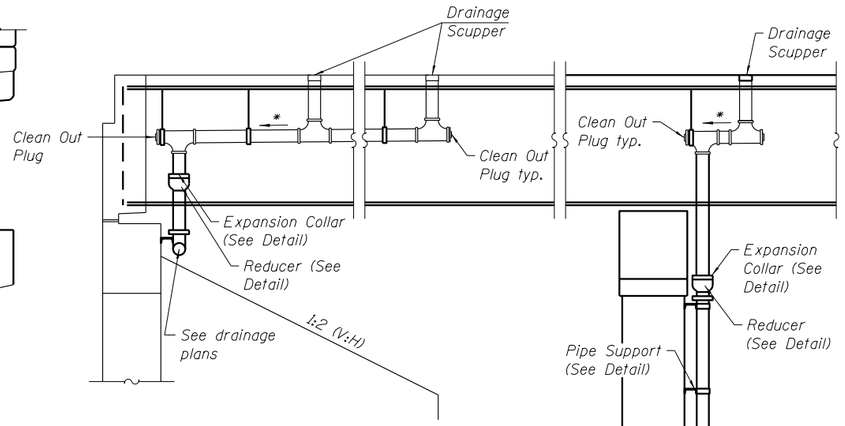
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST BRIDGE APPROACH DETAILS IV
STRUCTURE NO. 016-1703
SHEET NO. S1-26 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	211
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



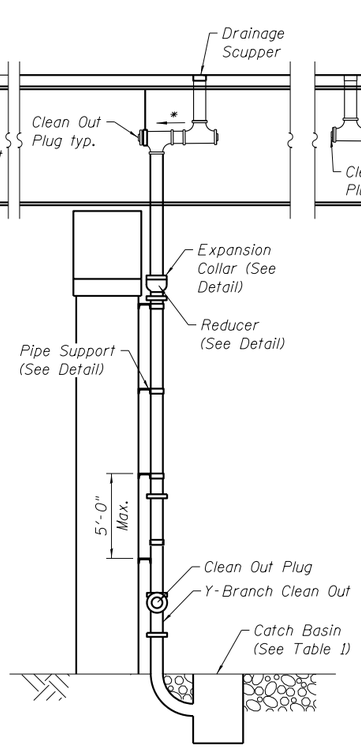
TYPICAL ELEVATION
VIEW PIER 1 & 2



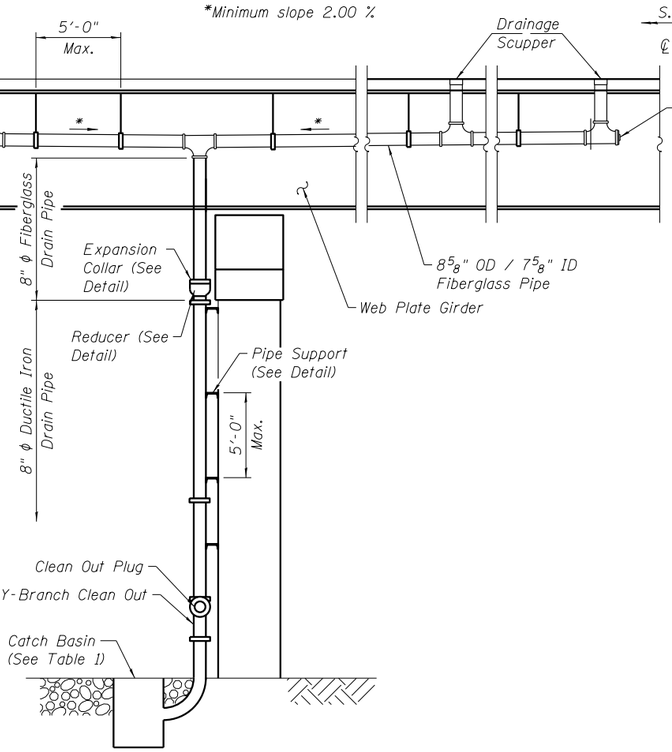
W. ABUTMENT
(Looking North)

TABLE 1

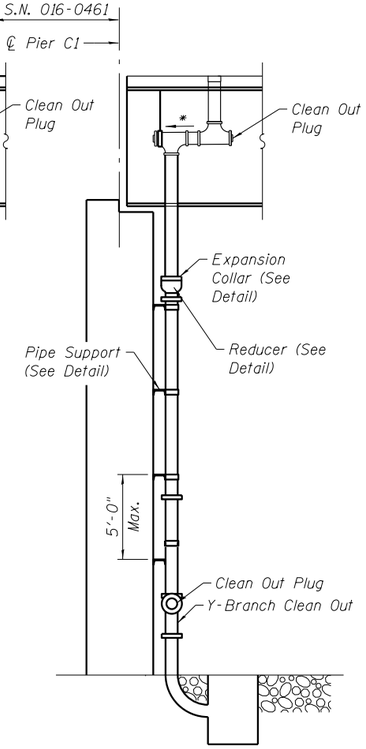
Catch Basin Location	Drainage Structure Number
Pier C1	S-06A
Pier 1	S-06
Pier 2	S-05
Pier 3	S-01



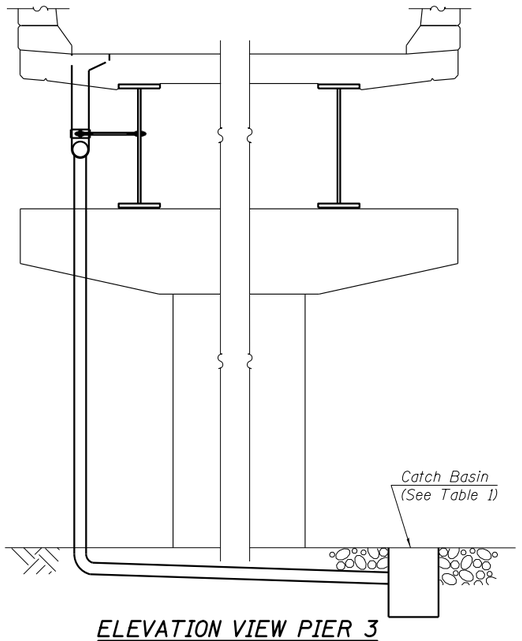
PIERS 2 & 3 END VIEW
(Looking North)



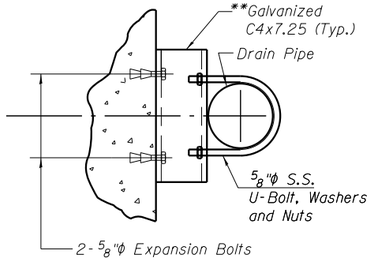
Pier 1 END VIEW
(Looking South)



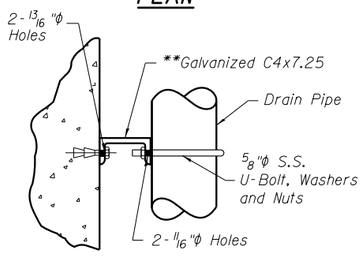
Pier C1 END VIEW
(Looking South)



ELEVATION VIEW PIER 3
(Looking West)



PLAN

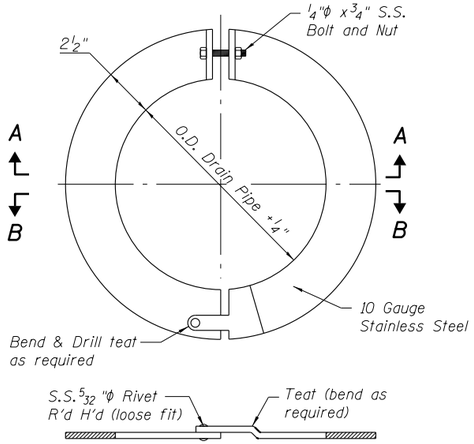


ELEVATION

PIPE SUPPORT DETAIL

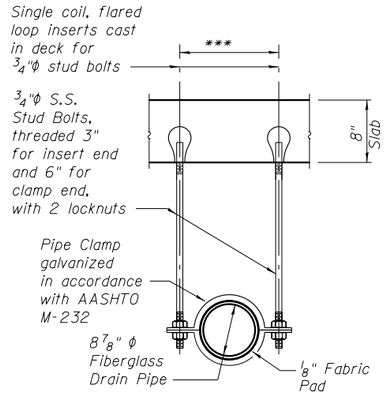
** Provide curved C6x8.2 to fit Round Pier Columns where needed

DRAINAGE SYSTEM



SECTION B-B

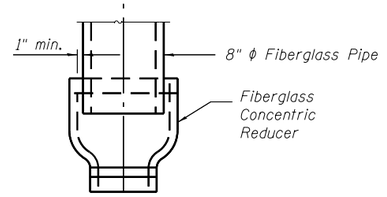
DETAIL OF EXPANSION COLLAR



PIPE SUPPORT DETAIL

*** Dimension as required by Pipe Clamp

SECTION A-A



REDUCER DETAIL

BILL OF MATERIAL

Item	Unit	Quantity
Drainage System	L. Sum	0.2

Note:
1. S.S. denotes Stainless Steel.

0161703-60X78-S027-DRN.dgn

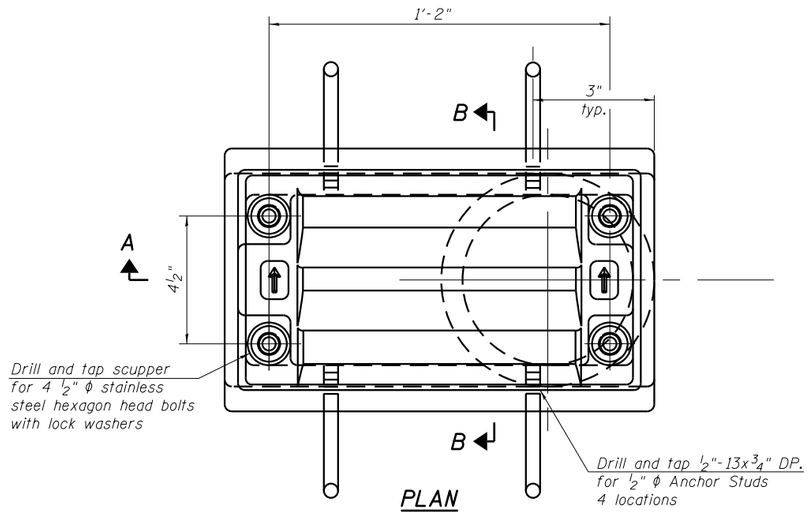
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - HA	REVISED -	
	CHECKED - JZ	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DE/DCP	REVISED -	
PLOT DATE = 5/2/2016	CHECKED - JIG	REVISED -	

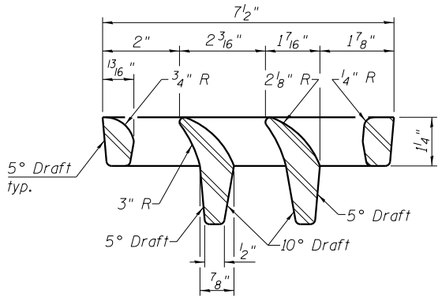
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SYSTEM
STRUCTURE NO. 016-1703
SHEET NO. S1-27 OF S1-53 SHEETS

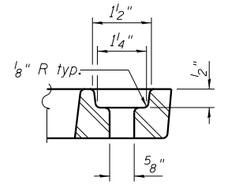
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	212
			CONTRACT NO. 60X78	
	ILLINOIS FED. AID PROJECT			



PLAN



VANE GRATE DETAIL



BOLT HOLE 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 specified for the exterior side of the fascia beam.

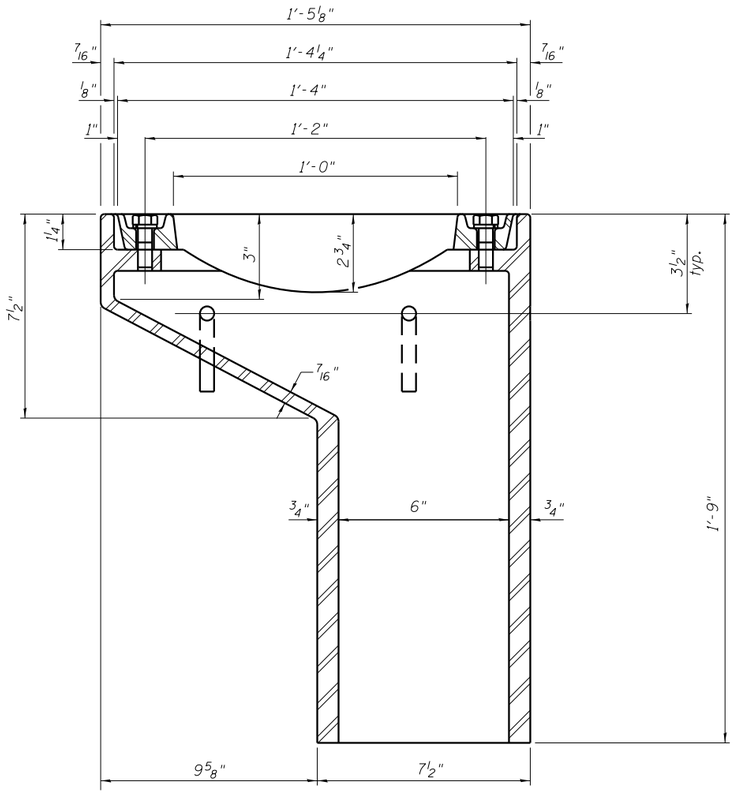
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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.

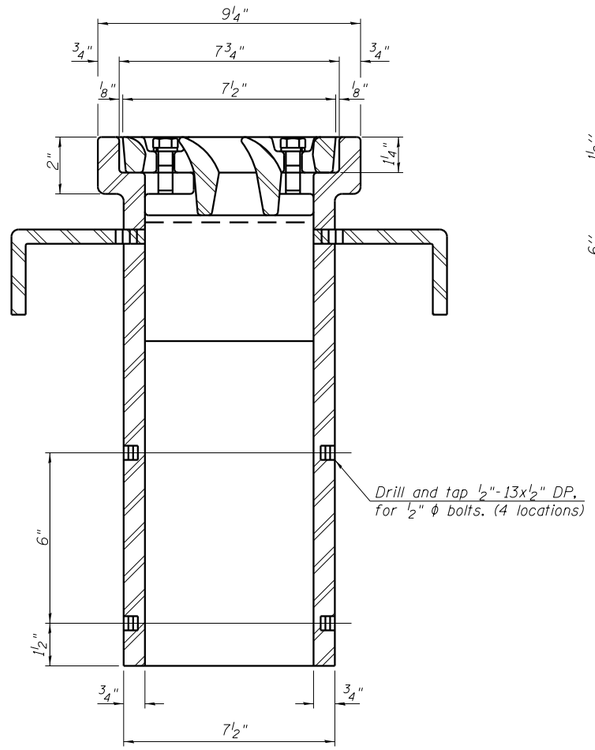
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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.

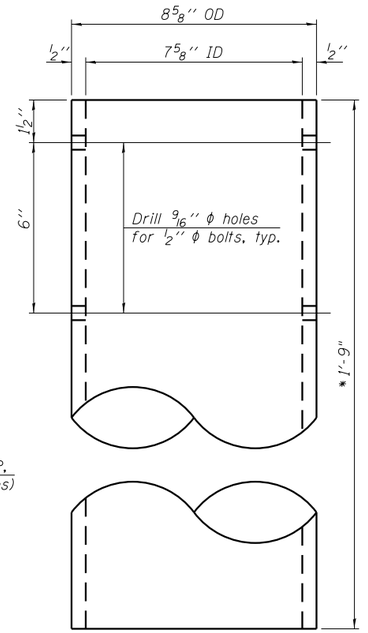


SECTION A-A

See sheet S1-20, scupper location relative to parapet.

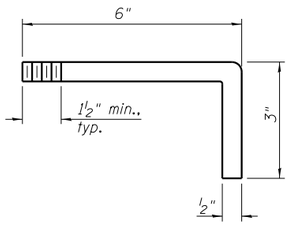


SECTION B-B



DOWNSPOUT

* Verify dimension in field prior to order in material



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	9

DS-11

7-1-10

USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - AH	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

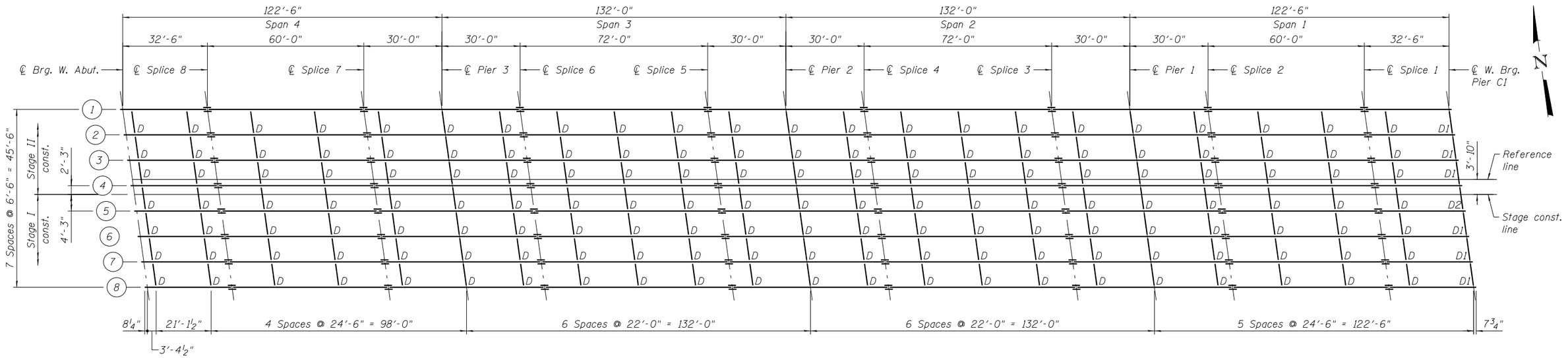
PARSONS BRINCKERHOFF

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

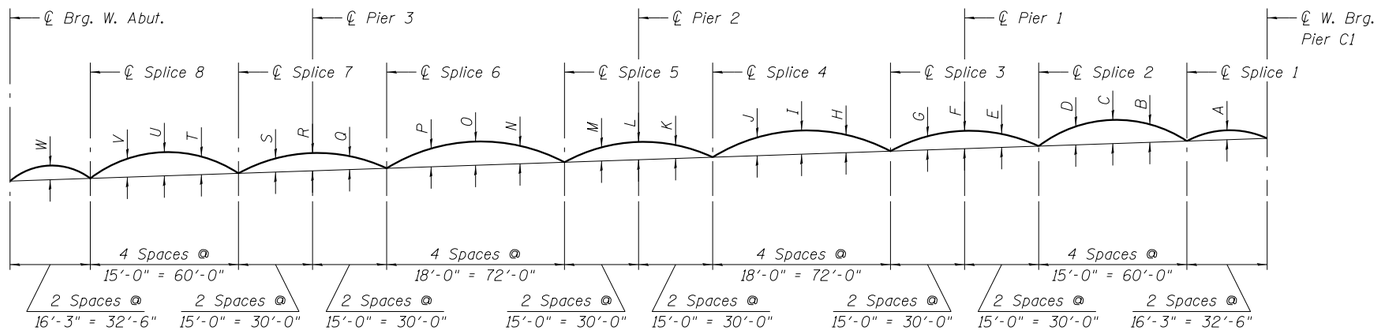
DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 016-1703
SHEET NO. S1-28 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	213
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

0161703-60X78-S028-SCP.dgn



FRAMING PLAN



CAMBER DIAGRAM

CAMBER TABLE

Girder No.	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A
1	¾"	2¼"	3"	2½"	0	0	0	2½"	3"	2½"	1"	1¼"	1"	2½"	3¼"	2½"	0	0	0	1¾"	2"	1½"	¾"
2	¾"	2¼"	2¾"	2¼"	0	0	0	2½"	3"	2½"	¾"	1"	¾"	2½"	3¼"	2½"	0	0	0	1¾"	2"	1½"	¾"
3	¾"	2"	2½"	2"	0	0	0	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2"	2¼"	1¾"	¾"
4	¾"	1¾"	2¼"	2"	0	0	0	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2"	2¼"	1¾"	¾"
5	¾"	1½"	2"	1¾"	0	0	¾"	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2"	2½"	2"	¾"
6	¾"	1¼"	1¾"	1½"	½"	¾"	½"	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2¼"	2¾"	2¼"	¾"
7	¾"	1"	1½"	1¼"	¾"	1"	¾"	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2¼"	2¾"	2¼"	¾"
8	¾"	¾"	1¼"	1"	1"	1¼"	1"	2½"	3"	2½"	0	0	0	2½"	3"	2½"	0	0	0	2¼"	2¾"	2¼"	¾"

TOP OF WEB ELEVATIONS

(For fabrication only)

Girder No.	℄ Brg. W. Abut.	℄ Splice 8	℄ Splice 7	℄ Pier 3	℄ Splice 6	℄ Splice 5	℄ Pier 2	℄ Splice 4	℄ Splice 3	℄ Pier 1	℄ Splice 2	℄ Splice 1	℄ W. Brg. Pier C1
1	593.22	594.91	597.28	598.37	599.41	602.26	603.26	603.98	605.53	606.07	606.48	607.50	607.88
2	592.96	594.65	597.10	598.25	599.32	602.16	603.16	603.93	605.60	606.21	606.68	607.79	608.17
3	592.70	594.40	596.92	598.14	599.22	602.07	603.06	603.88	605.69	606.35	606.88	608.09	608.47
4	592.44	594.13	596.75	598.02	599.13	601.97	602.96	603.84	605.79	606.50	607.08	608.39	608.76
5	592.18	593.88	596.59	597.92	599.04	601.87	602.87	603.80	605.88	606.66	607.29	608.69	609.06
6	591.92	593.63	596.42	597.81	598.95	601.78	602.78	603.76	605.98	606.81	607.50	608.99	609.35
7	591.66	593.38	596.26	597.71	598.86	601.68	602.69	603.73	606.09	606.97	607.73	609.28	609.65
8	591.41	593.13	596.11	597.61	598.77	601.59	602.61	603.72	606.20	607.14	607.95	609.59	609.94

Note:
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

0161703-60X78-S029-FRM.dgn

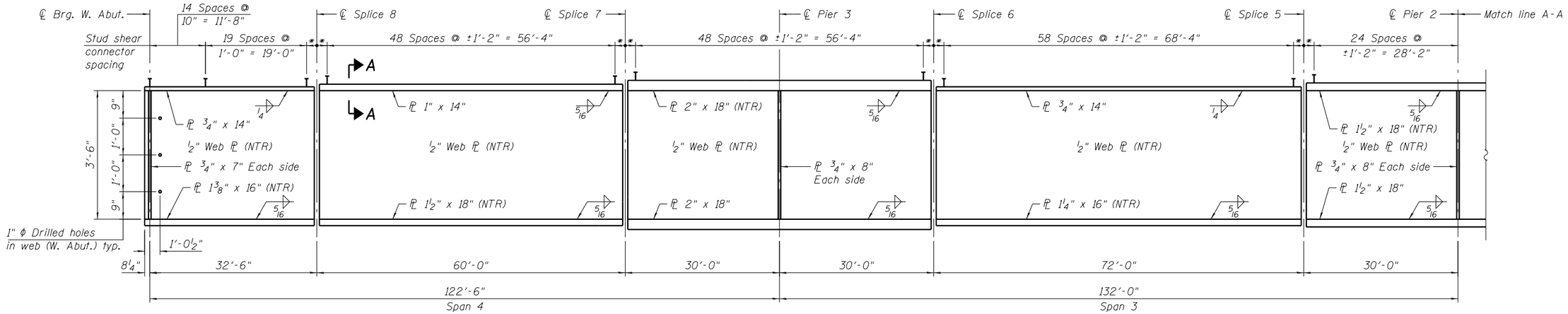
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - AH	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

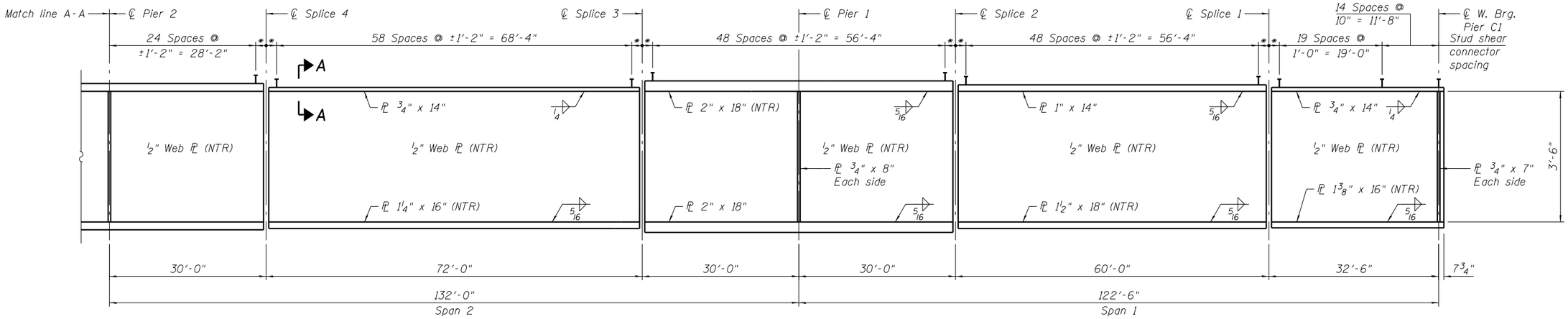
FRAMING PLAN
STRUCTURE NO. 016-1703
SHEET NO. S1-29 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	214
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



GIRDER ELEVATION

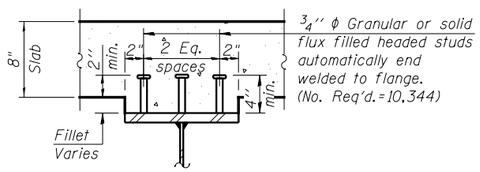
(Spans 3 & 4)



GIRDER ELEVATION

(Spans 1 & 2)

* 1'-10" (No studs)



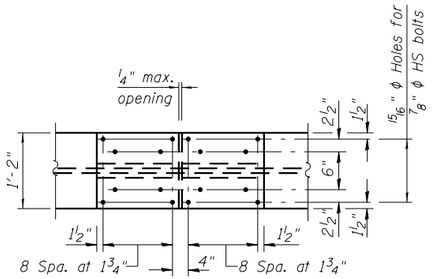
SECTION A-A

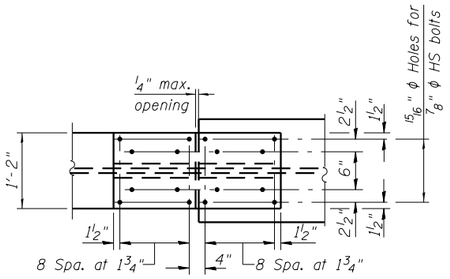
Notes:

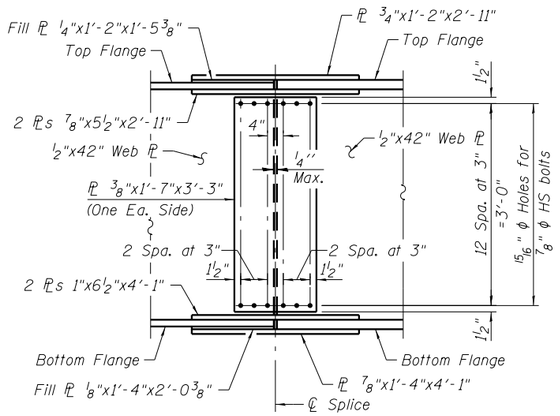
1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
2. Girders have bearing stiffeners and connection plates as required by design. Additional stiffeners may be added at the Contractor's expense as necessary to prevent distortion of the girders during galvanizing. The Contractor shall coordinate with the fabricator and the galvanizer to determine if additional stiffeners are necessary, and where these should be placed. Any proposed changes shall be submitted to the Engineer for approval prior to making any changes.
3. Temporary stiffener angles shall be bolted to each side of the splice ends of each girder segment to prevent distortion during galvanizing. Temporary stiffener angles shall bolt or fit tight against top & bottom flanges and include spacer tubes to minimize damage to galvanizing during removal. Cost included with Furnishing and Erecting Structural Steel.

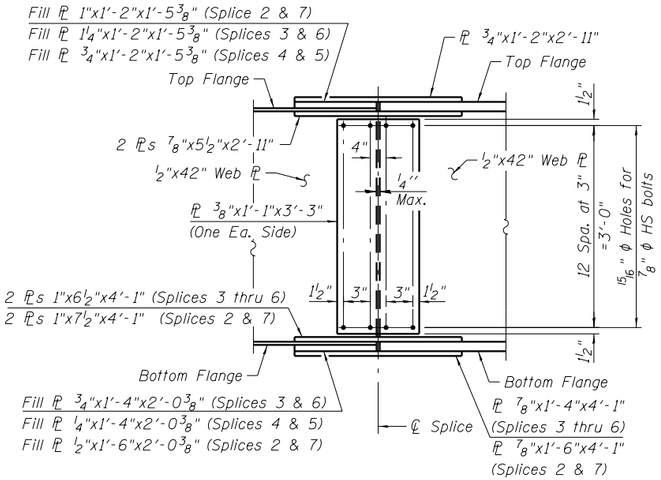
0161703-60X78-S030-DET.dgn

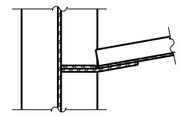
PARSONS BRINCKERHOFF				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STEEL DETAILS I STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = pateld	DESIGNED - AH	REVISED -			90/94/290	2014-004 R&B	COOK	706	215
		CHECKED - PJL	REVISED -							
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-30 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	



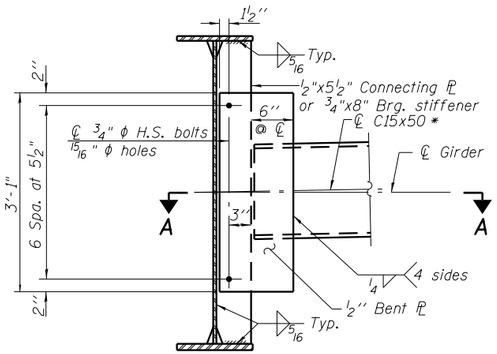








SECTION A-A



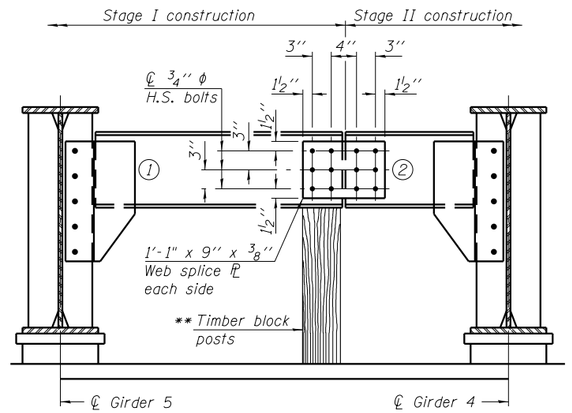
INTERIOR DIAPHRAGM D

(154 Required)

Note:
Two hardened washers required for each set of oversized holes.

* For the diaphragm connection between Girder 4 and 5, only the top bolt hole shall be shop drilled in the connecting angle. The diaphragms shall be installed with a finger tightened bolts in the top holes prior to the Stage II deck pour. After the Stage II deck pour, the remaining holes in the connecting angle for the diaphragm shall be drilled using the holes in the diaphragm as a template. Install and tighten the remaining bolts. Cost of field drilling included with Furnishing and Erecting Structural Steel.

** Cost of Timber Block Posts is included with Structural Steel.

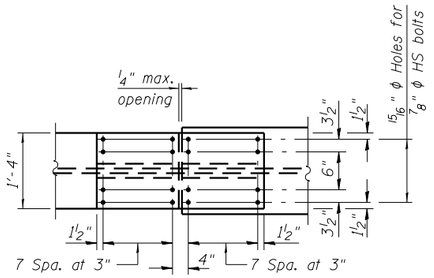


END DIAPHRAGM D2

(Looking West, 1 Required)

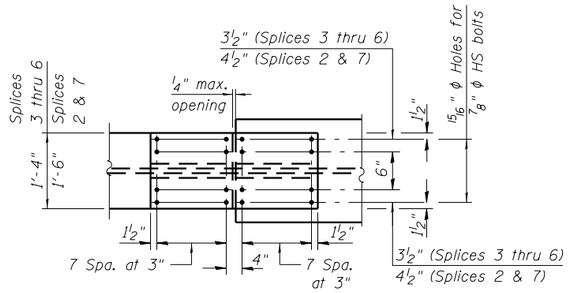
END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

1.) Order diaphragm in two sections.
2.) Attach section (1) of diaphragm to girder 5.
3.) Place timber block posts between section (1) of diaphragm and Pier C1 bearing section.
4.) Attach section (2) of diaphragm to both girder 4 and section (1) of diaphragm during Stage II construction with splice plates.
5.) Remove timber block posts.



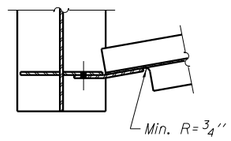
FIELD SPLICE DETAIL (SPLICE 1 & 8)

(16 Required)

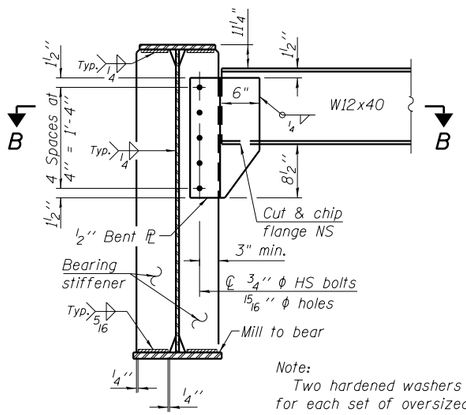


FIELD SPLICE DETAIL (SPLICES 2 THROUGH 7)

(48 Required)



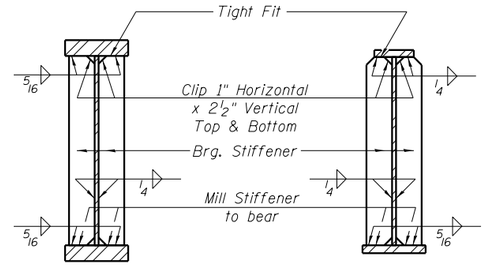
SECTION B-B



Note:
Two hardened washers required for each set of oversized holes.

END DIAPHRAGM D1

(6 Required)



SECTION AT PIER 1, PIER 2 & PIER 3

SECTION W. ABUTMENT & PIER C1

Notes:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2
2. All splice plates except filler plates shall meet NTR.
3. All structural steel shall be AASHTO M 270 Grade 50 Galvanized.

0161703-60X78-S031-DET.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - AH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STEEL DETAILS II STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B	COOK	706	216
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-31 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	

EXTERIOR GIRDER MOMENT TABLE					
		0.4 Sp. 1 or 0.6 Sp. 4	Pier 1 or Pier 3	0.5 Sp. 2 or 0.5 Sp. 3	Pier 2
I_s	(in^4)	21016	37959	16400	28642
$I_c(n)$	(in^4)	57152		47368	
$I_c(3n)$	(in^4)	39801		33285	
$I_c(cr)$	(in^4)		43048		33487
S_s	(in^3)	1175	1650	901	1273
$S_c(n)$	(in^3)	1607		1284	
$S_c(3n)$	(in^3)	1468		1170	
$S_c(cr)$	(in^3)		1732		1354
DC1	(k/')	0.96	1.07	0.92	1.01
M_{DC1}	('k)	962	1951	467	1282
DC2	(k/')	0.11	0.11	0.11	0.11
M_{DC2}	('k)	111	197	61	141
DW	(k/')	0.25	0.25	0.25	0.25
M_{DW}	('k)	287	496	155	350
M_{L+IM}	('k)	1719	2019	1437	1833
M_u (Strength I)	('k)	4781	6962	3408	5510
$\phi_f M_n$	('k)	7216		6020	
f_s DC1	(ksi)	9.82	14.18	6.22	12.08
f_s DC2	(ksi)	0.91	1.36	0.63	1.25
f_s DW	(ksi)	2.35	3.43	1.59	3.10
f_s (L+IM)	(ksi)	12.84	13.99	13.43	16.24
f_s (Service II)	(ksi)	29.76	37.16	25.90	37.54
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	39.40	49.06	34.45	49.74
$\phi_f F_n$	(ksi)		50.00		50.00
V_f	(k)	36.50	39.1	39.10	39.0

INTERIOR GIRDER MOMENT TABLE					
		0.4 Sp. 1 or 0.6 Sp. 4	Pier 1 or Pier 3	0.5 Sp. 2 or 0.5 Sp. 3	Pier 2
I_s	(in^4)	21016	37959	16400	28642
$I_c(n)$	(in^4)	57152		47368	
$I_c(3n)$	(in^4)	39801		33285	
$I_c(cr)$	(in^4)		43048		33487
S_s	(in^3)	1175	1650	901	1273
$S_c(n)$	(in^3)	1607		1284	
$S_c(3n)$	(in^3)	1468		1170	
$S_c(cr)$	(in^3)		1732		1354
DC1	(k/')	0.92	1.03	0.88	0.97
M_{DC1}	('k)	937	1894	452	1240
DC2	(k/')	0.11	0.11	0.11	0.11
M_{DC2}	('k)	111	197	61	141
DW	(k/')	0.32	0.32	0.32	0.32
M_{DW}	('k)	349	618	193	444
M_{L+IM}	('k)	1480	1773	1222	1611
M_u (Strength I)	('k)	4424	6643	3020	5212
$\phi_f M_n$	('k)	7216		6020	
f_s DC1	(ksi)	9.56	13.77	6.02	11.69
f_s DC2	(ksi)	0.91	1.36	0.63	1.25
f_s DW	(ksi)	2.86	4.28	1.98	3.94
f_s (L+IM)	(ksi)	11.05	12.28	11.42	14.28
f_s (Service II)	(ksi)	27.69	35.38	23.48	35.44
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	36.71	46.83	31.27	47.06
$\phi_f F_n$	(ksi)		50.00		50.00
V_f	(k)	30.30	33.5	35.10	35.1

EXTERIOR GIRDER REACTION TABLE					
		W. Abut.	Pier 1 or Pier 3	Pier 2	Pier C1
R_{DC1}	(k)	64.8	147.6	117.9	43.1
R_{DC2}	(k)	7.0	15.4	13.0	4.8
R_{DW}	(k)	16.5	37.9	31.8	11.9
R_{L+IM}	(k)	78.0	149.8	144.8	73.3
R_{Total}	(k)	176.6	350.7	307.5	133.1

INTERIOR GIRDER REACTION TABLE					
		W. Abut.	Pier 1 or Pier 3	Pier 2	Pier C1
R_{DC1}	(k)	63.4	143.2	114.1	41.8
R_{DC2}	(k)	7.0	15.4	13.0	4.8
R_{DW}	(k)	19.7	48.2	40.9	15.1
R_{L+IM}	(k)	73.2	141.1	135.4	68.5
R_{Total}	(k)	173.7	347.8	303.4	130.2

Note:

1. R_{DC1} Value at the West Abutment includes the deadload from the approach slab.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

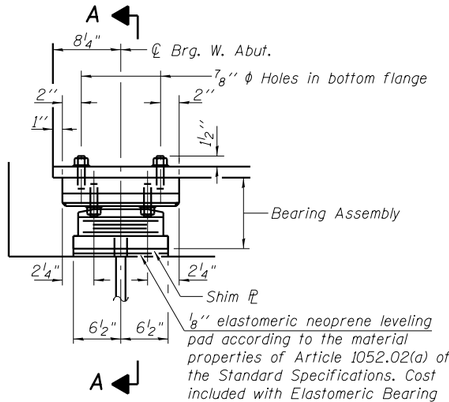
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

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

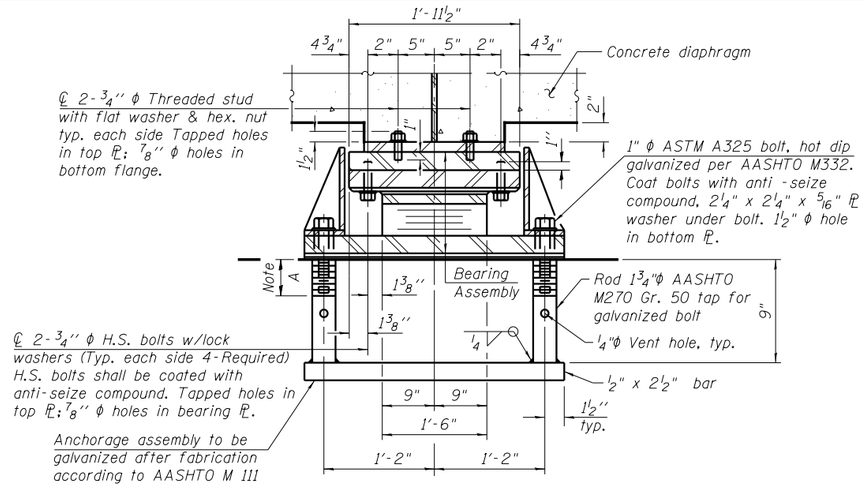
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

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

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



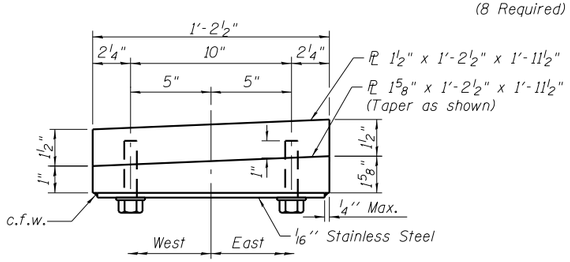
ELEVATION AT W. ABUT.



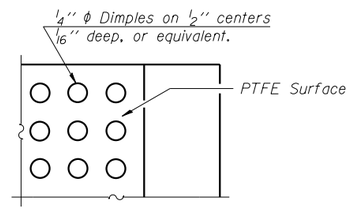
SECTION A-A

TYPE II ELASTOMERIC EXP. BRG. AT W. ABUT.

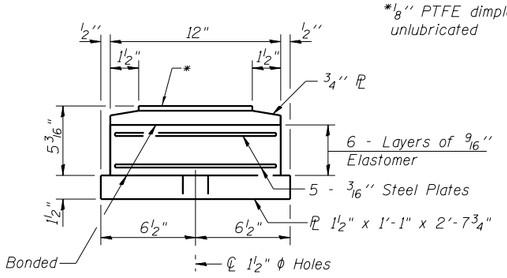
(8 Required)



TOP BEARING ASSEMBLY

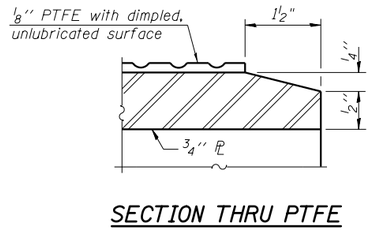


PLAN-PTFE SURFACE

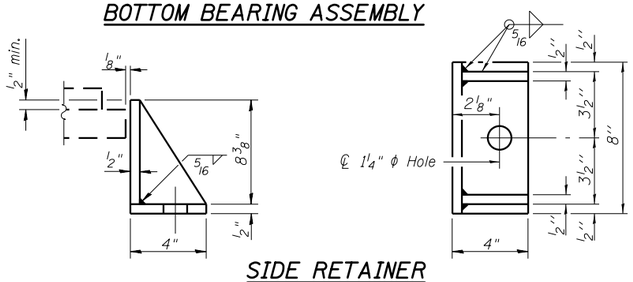


*⅛" PTFE dimpled, unlubricated

BOTTOM BEARING ASSEMBLY

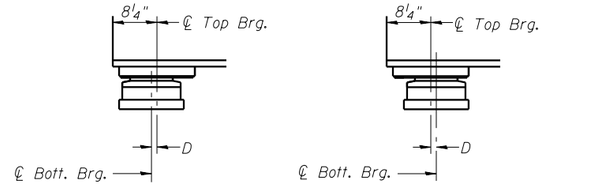


SECTION THRU PTFE



SIDE RETAINER

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



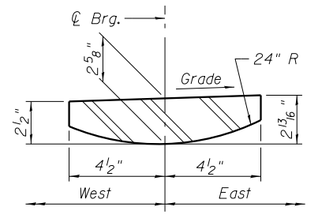
BELOW 50°F.
(Move bott. brg. away from fixed brg.)

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

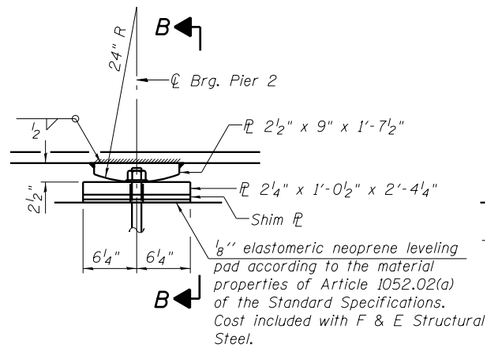
SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

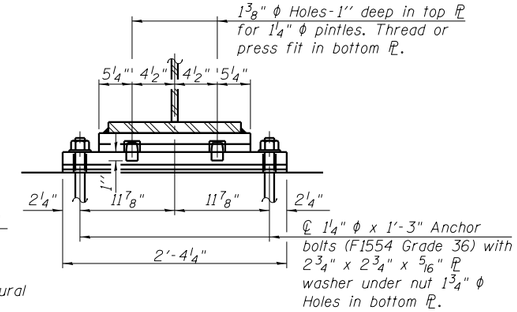
Note A:
Bolt engagement 1¼" min., 1⅝" max., allowing up to ⅜" adjustment shims. Tap full threads in rod 1¾" deep.



BEVELED TOP ℙ DETAIL



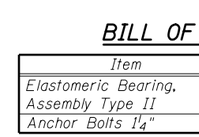
ELEVATION AT PIER



SECTION B-B

FIXED BEARING AT PIER 2

(8 Required)



PINTLE

Notes:

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

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

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

The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Fixed Bearing included in the cost of Furnishing and Erecting Structural Steel.

Two ⅛" 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, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing, Assembly Type II	Each	8
Anchor Bolts 1¼"	Each	16

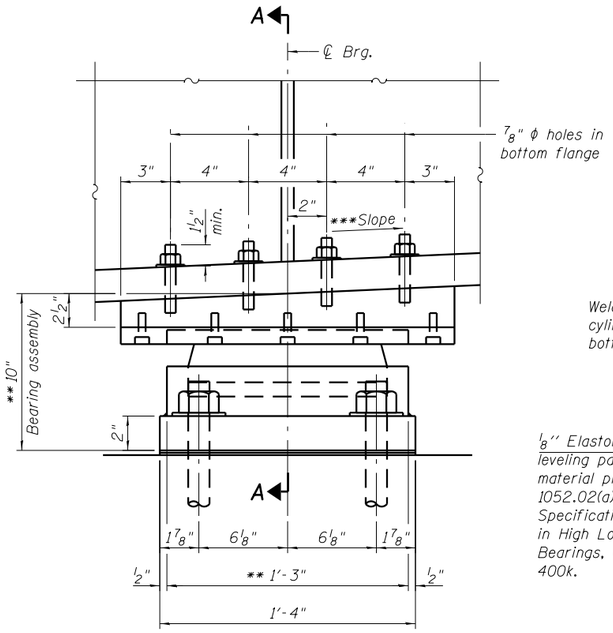
0161703-60X78-S033-BRG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -
		CHECKED - LFC	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

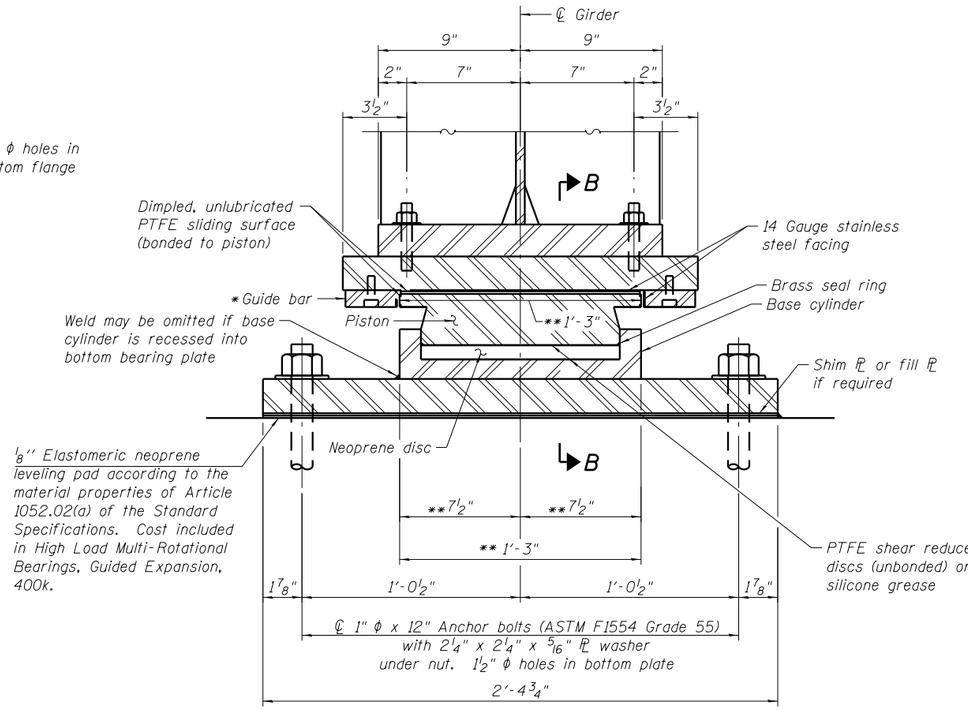
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS I
STRUCTURE NO. 016-1703
SHEET NO. S1-33 OF S1-53 SHEETS

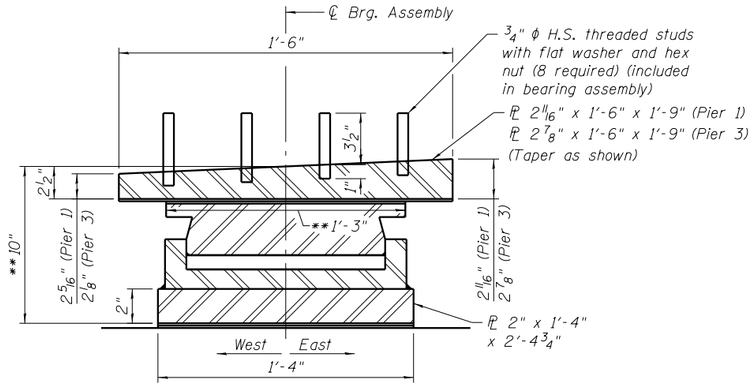
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	218
			CONTRACT NO. 60X78	
	ILLINOIS	FED. AID PROJECT		



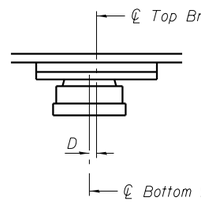
ELEVATION
(Looking North)



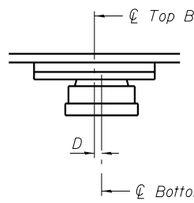
SECTION A-A



SECTION B-B
(Guide bar and girder omitted for clarity)



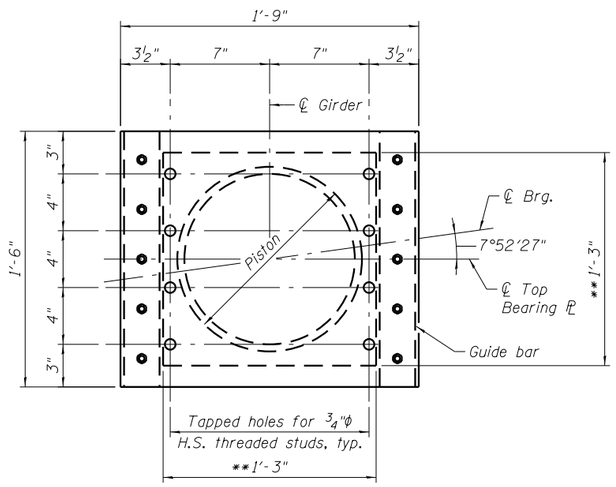
BELOW 50° F.
(Move bottom brg. away from fixed brg.)



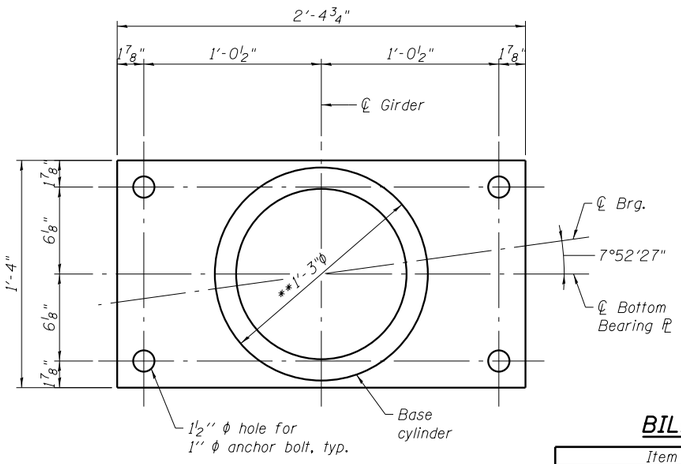
ABOVE 50° F.
(Move bottom brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

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



TOP BEARING ℙ AND PISTON PLAN



BOTTOM BEARING ℙ AND BASE CYLINDER PLAN

HLMR BEARING (AT PIERS 1 & 3)
(16 Required)

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 400k	Each	16
Anchor Bolts, 1"	Each	64

DESIGN DATA

Bearing Manufacturer Design Criteria	Piers 1 or 3
Vertical Design Load (kips)	352
Horizontal Design Load (kips), H_u	71
Design Rotation (rad), θ_u	0.0096
Total Required Movement (in.)	1

* As alternates to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece. If bolted connection is used, maintain a minimum clearance of 3" from the centerline of the threaded stud to the bolts in the guide bar.

** Dimensions may vary depending on Manufacturer's design.

*** 1.94% Slope at Pier 1
4.42% Slope at Pier 3

Notes:

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

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

For anchor bolt locations, See sheets S1-36 & S1-42.

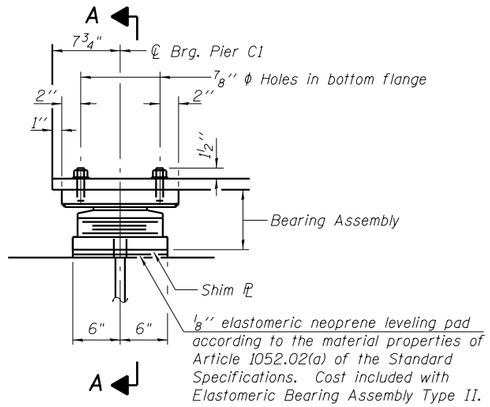
Two $\frac{1}{8}''$ adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Bearing dimensions and details shown are for a pot type HLMR bearing. Disc type HLMR bearing dimensions and details will vary.

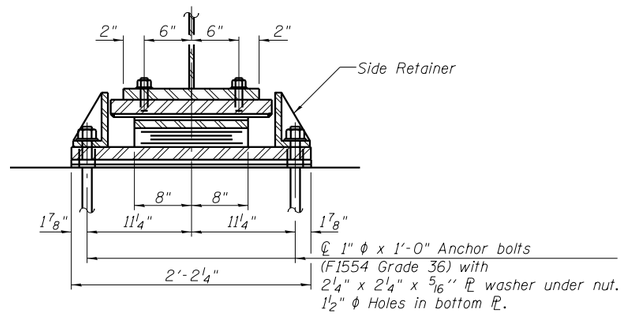
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

0161703-60X78-S034-BRG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS II STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	219
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-34 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	



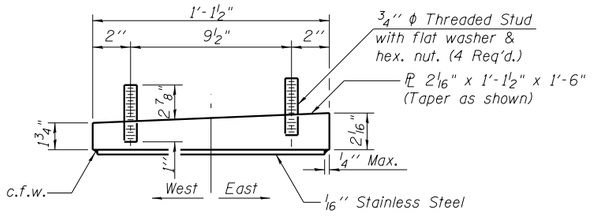
ELEVATION AT PIER



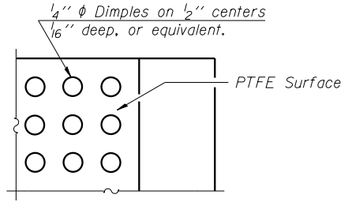
SECTION A-A

TYPE II ELASTOMERIC EXP. BRG. AT PIER C1

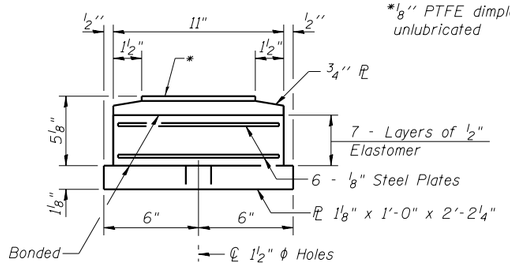
(8 Required)



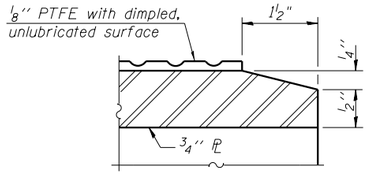
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

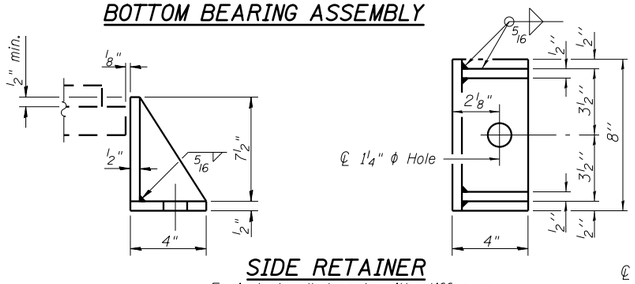


*1/8" PTFE dimpled, unlubricated



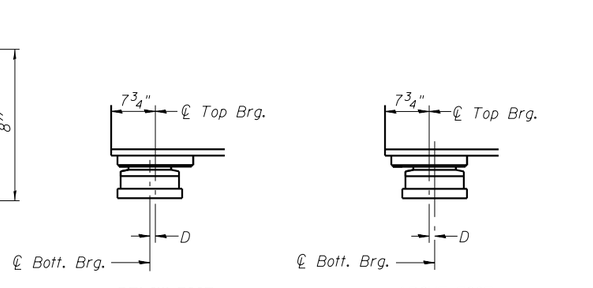
SECTION THRU PTFE

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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



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

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

SETTING ANCHOR BOLTS AT EXP. BRG.

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

Notes:

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

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

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

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

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

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

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing, Assembly Type II	Each	8
Anchor Bolts 1"	Each	16

0161703-60X78-S035-BRG.dgn

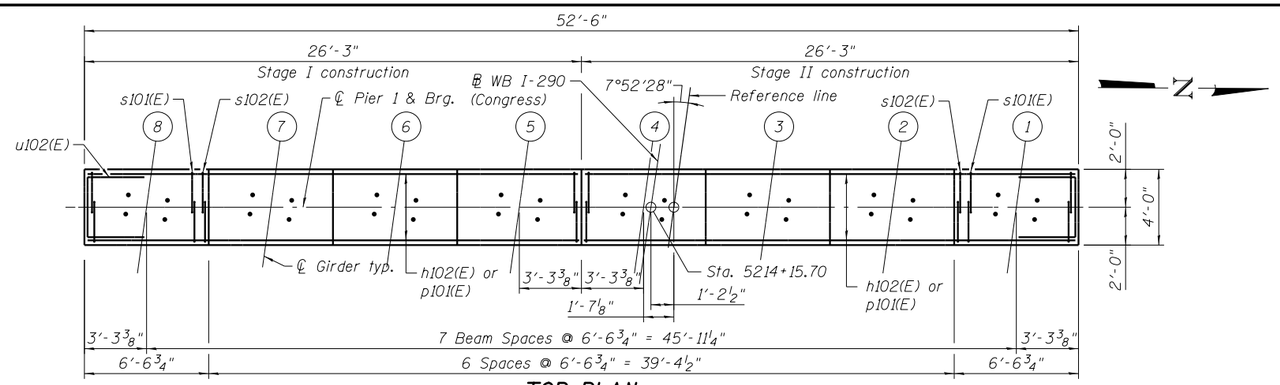
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - IJL	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

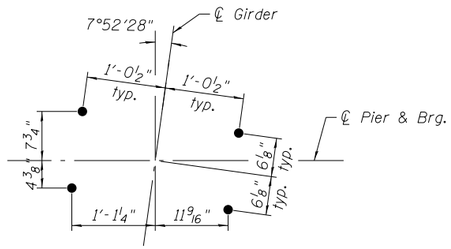
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS III
STRUCTURE NO. 016-1703
SHEET NO. S1-35 OF S1-53 SHEETS

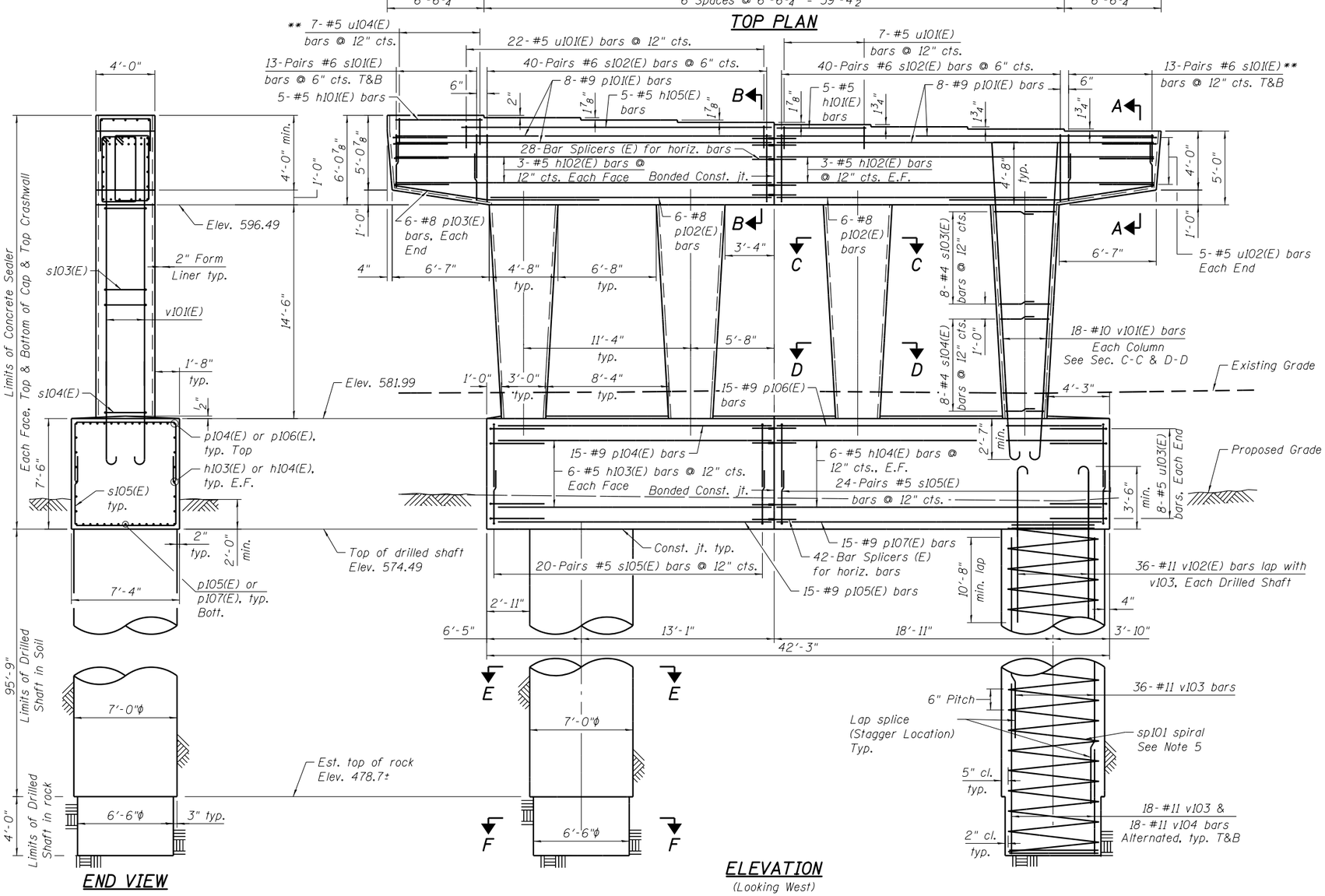
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	220
		CONTRACT NO. 60X78		
	ILLINOIS	FED. AID PROJECT		



TOP PLAN



ANCHOR BOLT LAYOUT



END VIEW

ELEVATION

(Looking West)

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. See sheet S1-37 for section A-A, B-B, C-C, D-D, E-E, and F-F.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
5. #5 sp101(E) spiral, each drilled shaft
   1. Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.
   2. When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

** Cut vertical leg of bars to fit.

MINIMUM BAR LAP

(Unless Noted Otherwise)

#5 bar = 3'-8"
#6 bar = 3'-10"
#8 bar = 6'-9"
#11 bar = 8'-11" (Uncoated)

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	601.49
2	601.63
3	601.78
4	601.93
5	602.08
6	602.24
7	602.40
8	602.56

0161703-60X78-S036-PR1.dgn

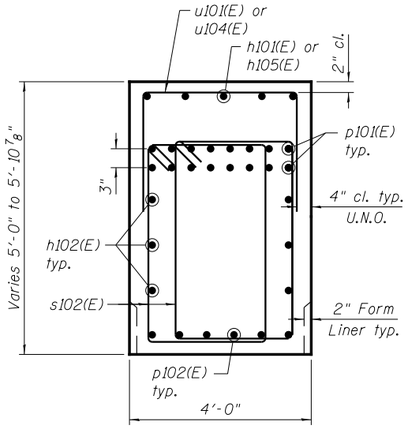
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

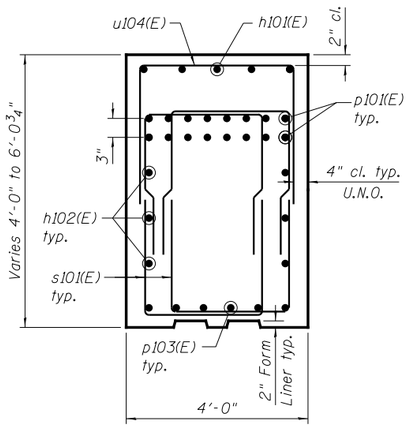
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1
STRUCTURE NO. 016-1703
SHEET NO. S1-36 OF S1-53 SHEETS

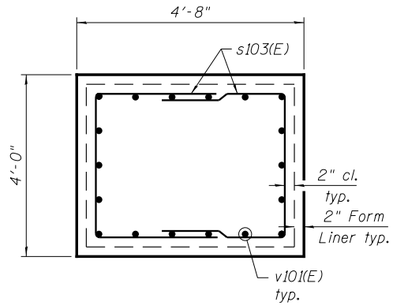
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	221
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



SECTION B-B

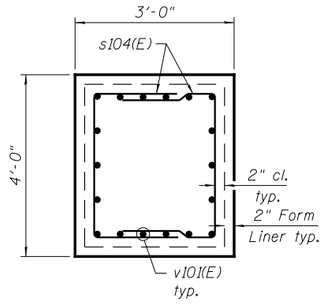


SECTION A-A



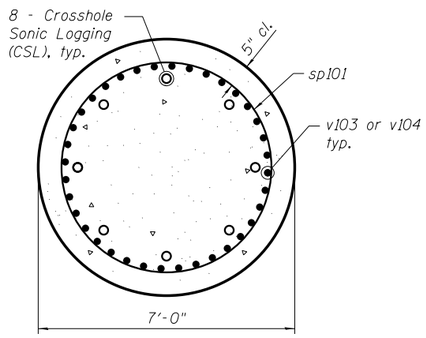
SECTION C-C

At Top of Column

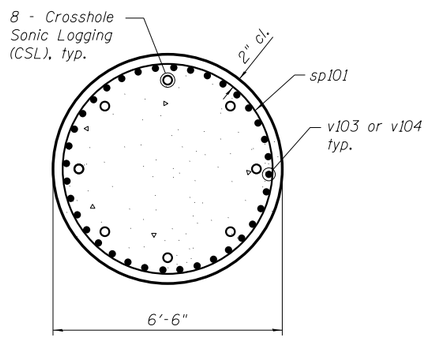


SECTION D-D

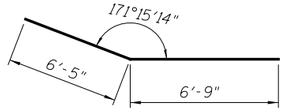
At Bottom of Column



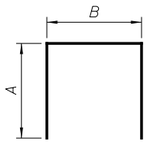
SECTION E-E



SECTION F-F

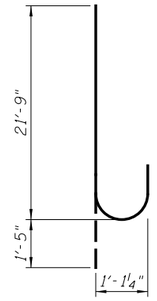


BAR p103(E)

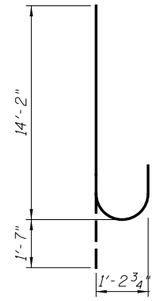


A & B DIMENSIONS

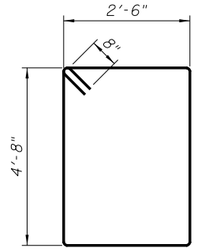
Bar	A	B
s101(E)	3'-10"	2'-6"
s103(E)	3'-4"	3'-4"
s104(E)	2'-4"	3'-4"
s105(E)	5'-2"	7'-0"
u101(E)	1'-4"	3'-4"
u102(E)	3'-6"	3'-4"
u103(E)	3'-3"	7'-0"
u104(E)	2'-1"	3'-4"



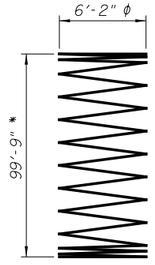
BAR v101(E)



BAR v102(E)



BAR s102(E)



BAR sp101

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h101(E)	10	#5	6'-3"	
h102(E)	12	#5	25'-9"	
h103(E)	12	#5	19'-2"	
h104(E)	12	#5	22'-5"	
h105(E)	5	#5	20'-6"	
p101(E)	32	#9	25'-9"	
p102(E)	12	#8	18'-11"	
p103(E)	12	#8	13'-0"	
p104(E)	15	#9	19'-2"	
p105(E)	15	#9	19'-2"	
p106(E)	15	#9	22'-5"	
p107(E)	15	#9	22'-5"	
s101(E)	104	#6	10'-2"	
s102(E)	160	#6	15'-8"	
s103(E)	64	#4	10'-0"	
s104(E)	64	#4	8'-0"	
s105(E)	88	#5	17'-4"	
* sp101	2	#5	99'-9"	
u101(E)	29	#5	6'-0"	
u102(E)	10	#5	10'-4"	
u103(E)	16	#5	13'-6"	
u104(E)	7	#5	7'-6"	
v101(E)	72	#10	23'-2"	
v102(E)	72	#11	15'-9"	
v103	144	#11	43'-0"	
v104	72	#11	31'-4"	
Structure Excavation			Cu. Yd.	378
Concrete Structures			Cu. Yd.	164
Reinforcement Bars			Pound	53,080
Reinforcement Bars, Epoxy Coated			Pound	30,570
Drilled Shaft in Soil			Cu. Yd.	273
Drilled Shaft in Rock			Cu. Yd.	10
Concrete Sealer			Sq. Ft.	2,869
Crosshole Sonic Logging			Each	1

* Length is height of spiral

Notes:

1. Bars noted thus, 14x2-#9 indicated 14 lines of bars with 2 lengths of bars per line.
2. Bars equally spaced, unless otherwise noted.
3. Apply concrete sealer to all exposed concrete surfaces of the pier.
4. All edges shall have standard $\frac{3}{4}$" chamfer.
5. The quantities and reinforcement detailing are based on the footing elevation and estimated top of rock elevation shown and may change depending on the actual top of rock encountered at each shaft. It is the Contractor's responsibility to make necessary, approved adjustments.
6. When Contractor's means and methods include initiating drilling for shafts at elevations higher than the final top of shaft elevation (e.g. Existing Ground Elevation), the costs for drilling, disposing of excavation, providing casing and backfilling of drilled shafts or other appurtenant work activities in the areas between the elevation where drilling is initiated and the proposed elevation of the top of shaft shall not be paid for separated but shall be included in the cost of Drilled Shaft in Soil.

0161703-60X78-S037-DET.dgn

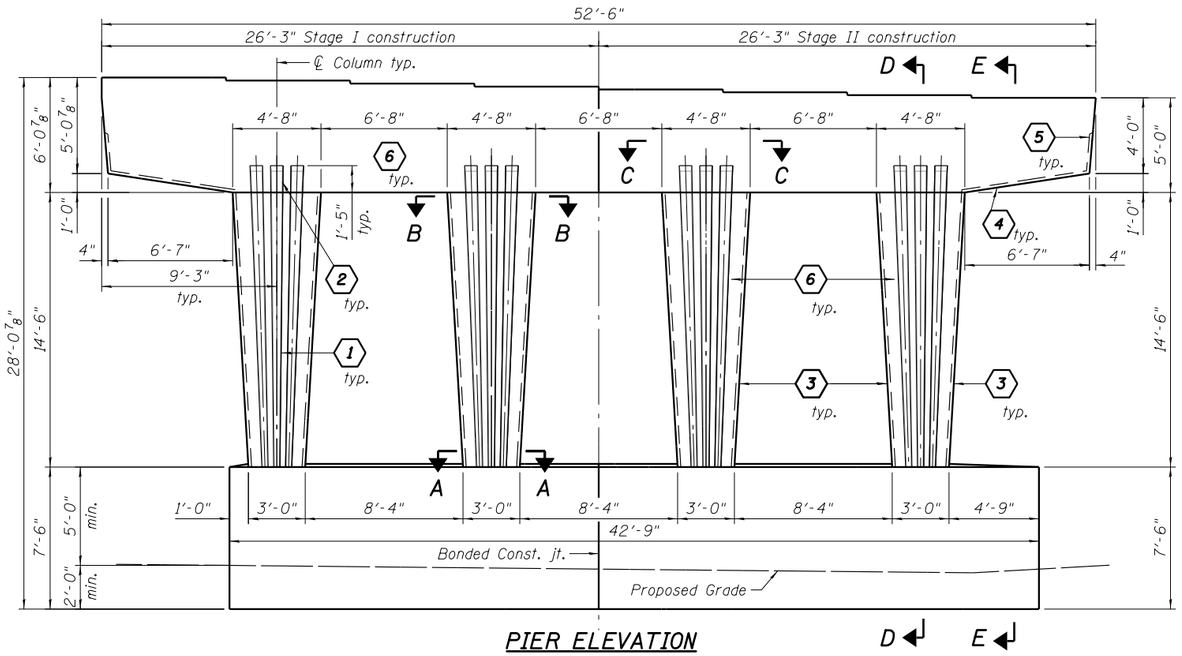
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

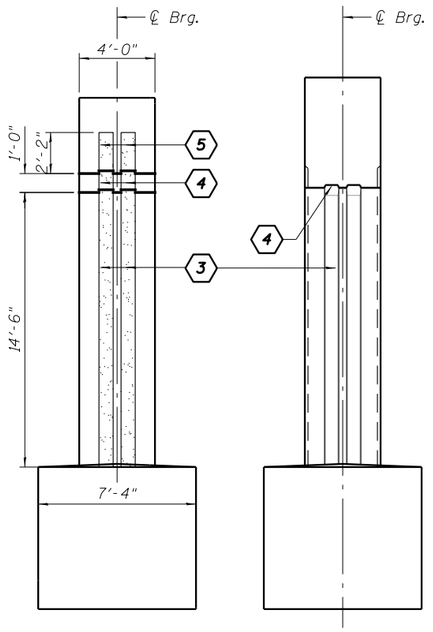
PIER 1 DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-37 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	222
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



PIER ELEVATION

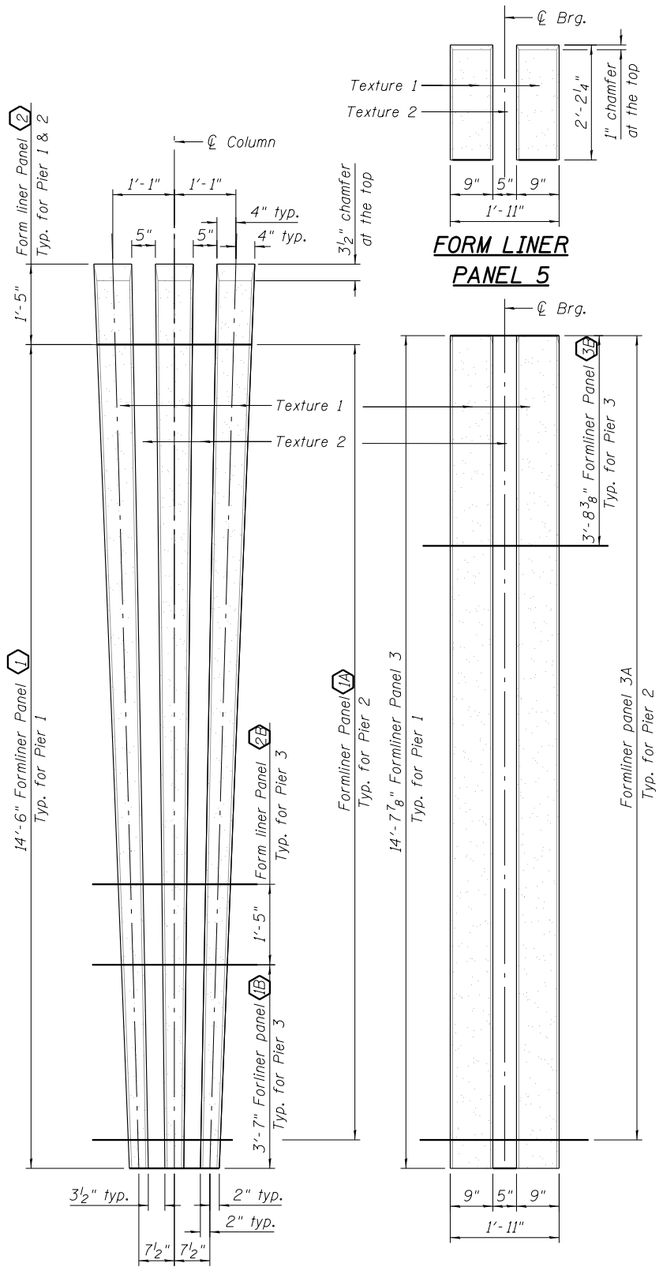
(Looking West)
(Looking East - Similar, Opposite hand)

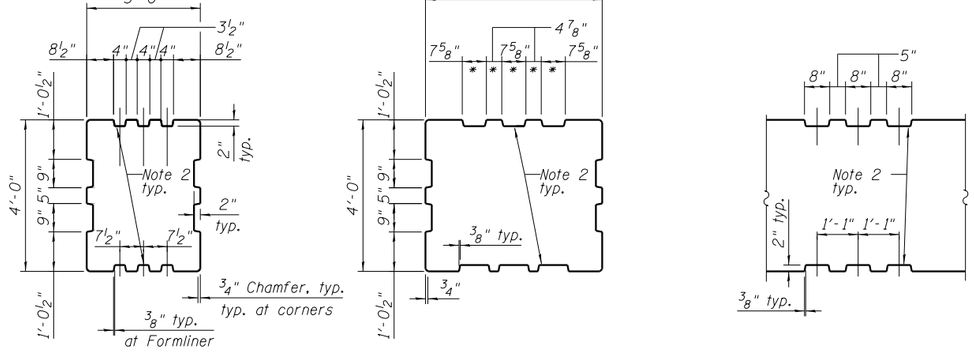


PIER END VIEW

(Looking South)
(Looking North)

SECTION E-E





SECTION A-A

At Bottom of Column

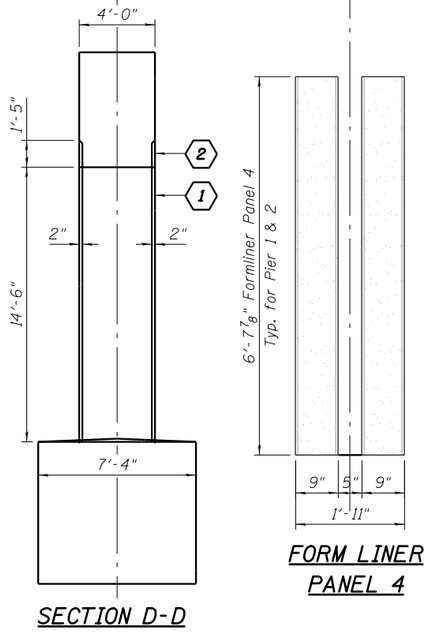
SECTION B-B

At Top of Column

SECTION C-C

In Cap

* Dimensions of formliner at top of column (panel 1) to match dimensions of formliner at bottom of pier cap (panel 2).



SECTION D-D

FORM LINER PANEL 4

Notes:

1. Surface indicated as (6) represents all surface except formliner and shall have smooth rubbed finish. Cost included with pay item Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1). Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5. Texture 1: Light Sandblast, 1/16" depth, as selected from samples provided by the Contractor.
   Texture 2: Smooth
6. Form liner panel (1) is similar to form liner panel (1A) and (1B) at Pier 2 & 3, only longer.

LEGEND

(1) (2) (3) (4) (5) — Textured Form Liner

(6) — Rubbed finish

BILL OF MATERIAL

Item	Unit	Total
Form Liner Textured Surface	Sq. Ft.	1,170
Rubbed Finish	Sq. Ft.	394

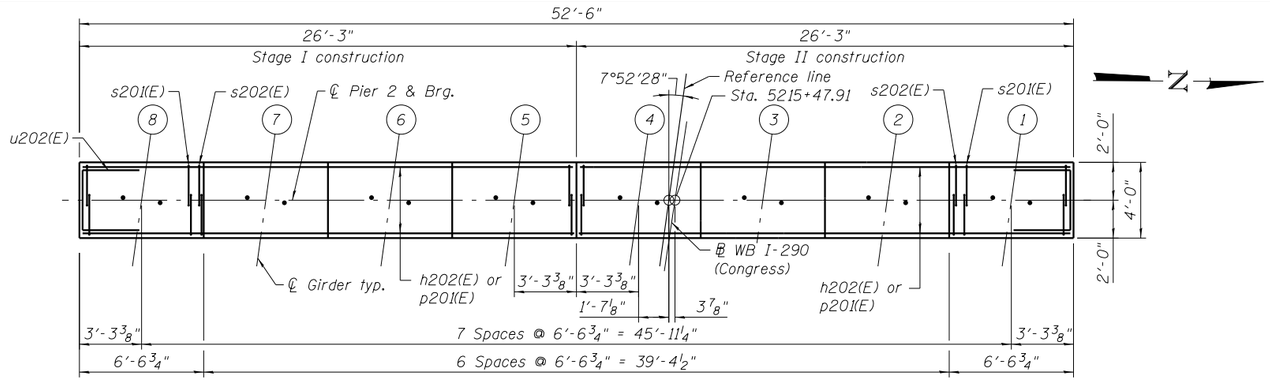
0161703-60X78-S038-PA1.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -
		CHECKED - LFC	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

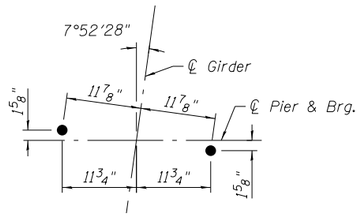
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-38 OF S1-53 SHEETS

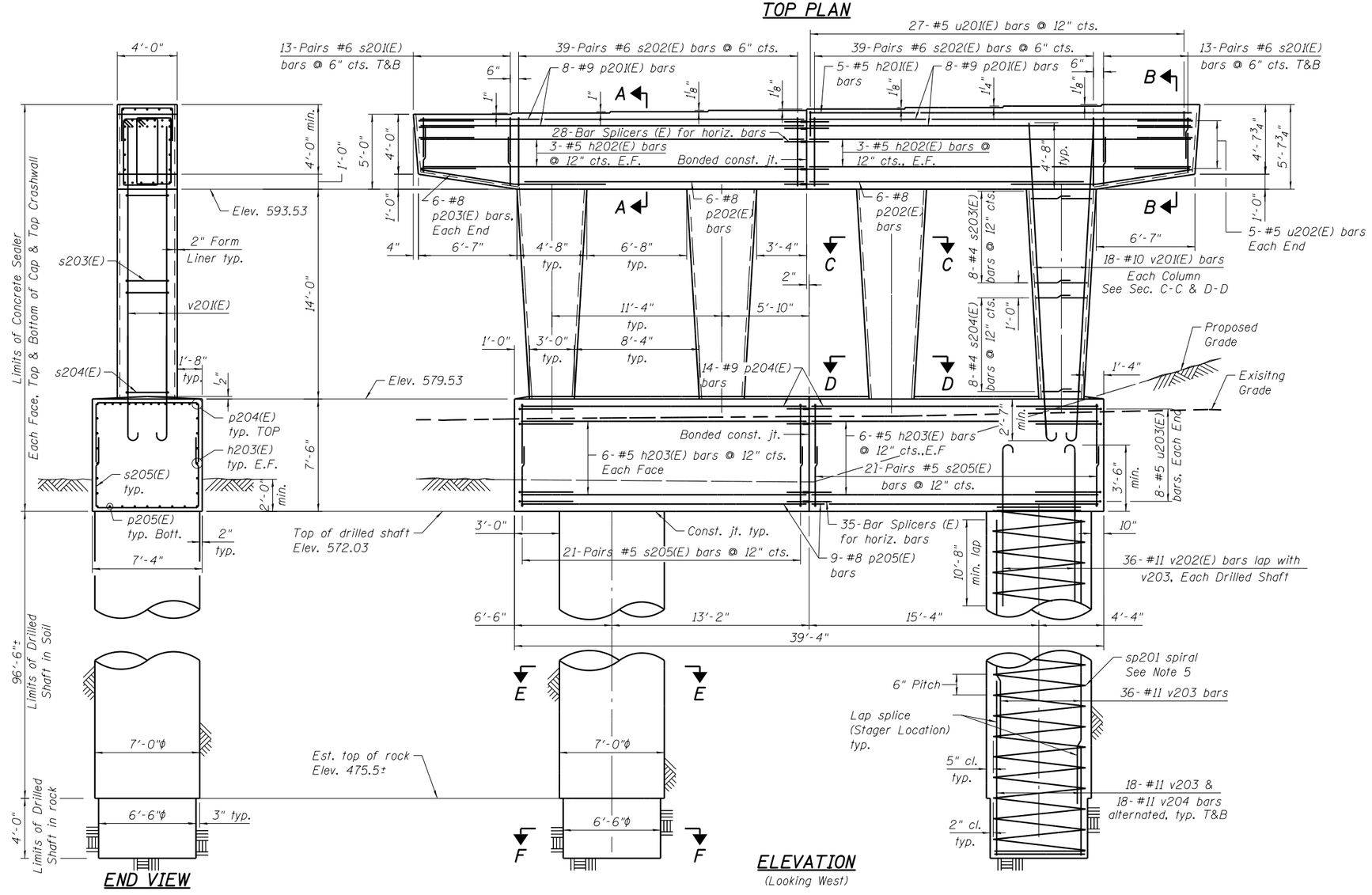
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	223
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



ANCHOR BOLT LAYOUT



END VIEW

ELEVATION

(Looking West)

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. See sheet S1-40 for section A-A, B-B, C-C, D-D, E-E, and F-F.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
5. #5 sp201(E) spiral, each drilled shaft
   1. Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.
   2. When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

MINIMUM BAR LAP

(Unless Noted Otherwise)
#5 bar = 3'-8"
#6 bar = 3'-10"
#8 bar = 6'-9"
#11 bar = 8'-11" (Uncoated)

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	599.18
2	599.08
3	598.98
4	598.88
5	598.79
6	598.70
7	598.61
8	598.53

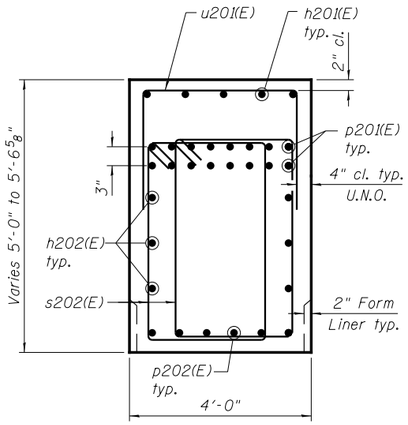
0161703-60X78-S039-FR2.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -
		CHECKED - LFC	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -

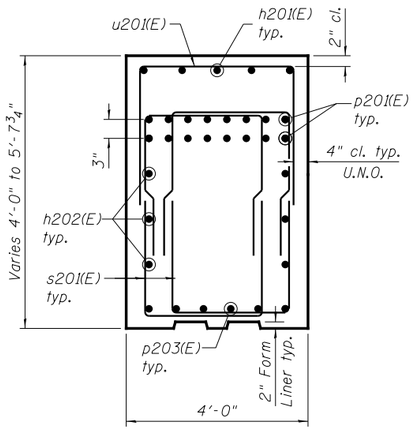
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2
STRUCTURE NO. 016-1703
SHEET NO. S1-39 OF S1-53 SHEETS

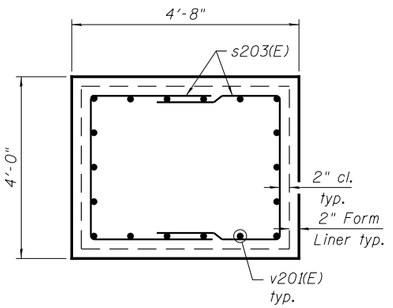
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	224
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



SECTION A-A

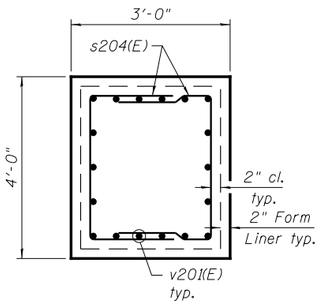


SECTION B-B



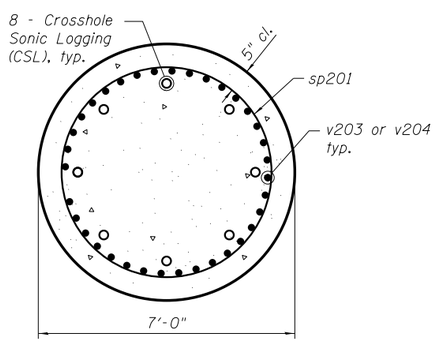
SECTION C-C

At Top of Column

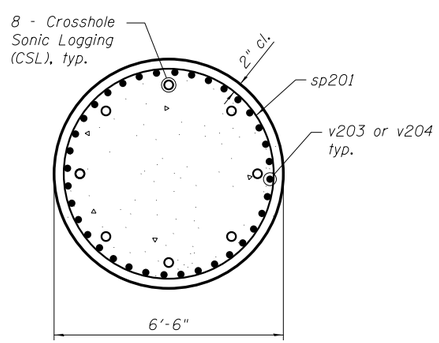


SECTION D-D

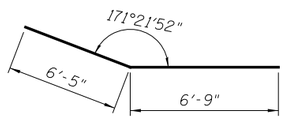
At Bottom of Column



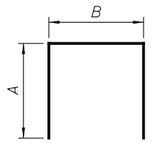
SECTION E-E



SECTION F-F

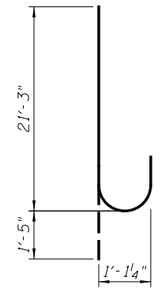


BAR p203(E)

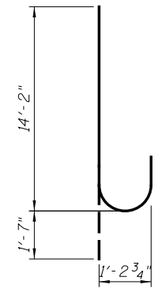


A & B DIMENSIONS

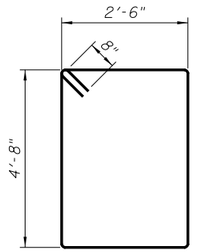
Bar	A	B
s201(E)	3'-10"	2'-6"
s203(E)	3'-1"	3'-4"
s204(E)	2'-4"	3'-4"
s205(E)	5'-2"	7'-0"
u201(E)	1'-4"	3'-4"
u202(E)	3'-6"	3'-4"
u203(E)	3'-3"	7'-0"



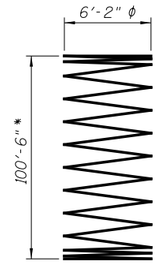
BAR v201(E)



BAR v202(E)



BAR s202(E)



BAR sp201

BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h201(E)	5	#5	25'-9"	
	h202(E)	12	#5	25'-6"	
	h203(E)	24	#5	19'-4"	
	p201(E)	28	#9	25'-9"	
	p202(E)	12	#8	18'-11"	
	p203(E)	12	#8	13'-5"	
	p204(E)	28	#9	19'-4"	
	p205(E)	18	#8	19'-4"	
	s201(E)	104	#6	10'-2"	
	s202(E)	156	#6	15'-8"	
	s203(E)	64	#4	9'-6"	
	s204(E)	64	#4	8'-0"	
	s205(E)	84	#5	17'-4"	
*	sp201	2	#5	100'-6"	
	u201(E)	27	#5	6'-0"	
	u202(E)	10	#5	10'-4"	
	u203(E)	16	#5	13'-6"	
	v201(E)	72	#10	22'-8"	
	v202(E)	76	#11	15'-9"	
	v203	144	#11	43'-0"	
	v204	72	#11	32'-1"	
	Structure Excavation			Cu. Yd.	189
	Concrete Structures			Cu. Yd.	155
	Reinforcement Bars			Pound	53,420
	Reinforcement Bars, Epoxy Coated			Pound	28,600
	Drilled Shaft in Soil			Cu. Yd.	276
	Drilled Shaft in Rock			Cu. Yd.	10
	Concrete Sealer			Sq. Ft.	2,748
	Crosshole Sonic Logging			Each	1

* Length is height of spiral

Notes:

1. Bars noted thus, 14x2-#9 indicated 14 lines of bars with 2 lengths of bars per line.
2. Bars equally spaced, unless otherwise noted.
3. Apply concrete sealer to all exposed concrete surfaces of the pier.
4. All edges shall have standard $\frac{3}{4}$" chamfer.
5. The quantities and reinforcement detailing are based on the footing elevation and estimated top of rock elevation shown and may change depending on the actual top of rock encountered at each shaft. It is the Contractor's responsibility to make necessary, approved adjustments.
6. When Contractor's means and methods include initiating drilling for shafts at elevations higher than the final top of shaft elevation (e.g. Existing Ground Elevation), the costs for drilling, disposing of excavation, providing casing and backfilling of drilled shafts or other appurtenant work activities in the areas between the elevation where drilling is initiated and the proposed elevation of the top of shaft shall not be paid for separated but shall be included in the cost of Drilled Shaft in Soil.

0161703-60X78-S040-DET.dgn

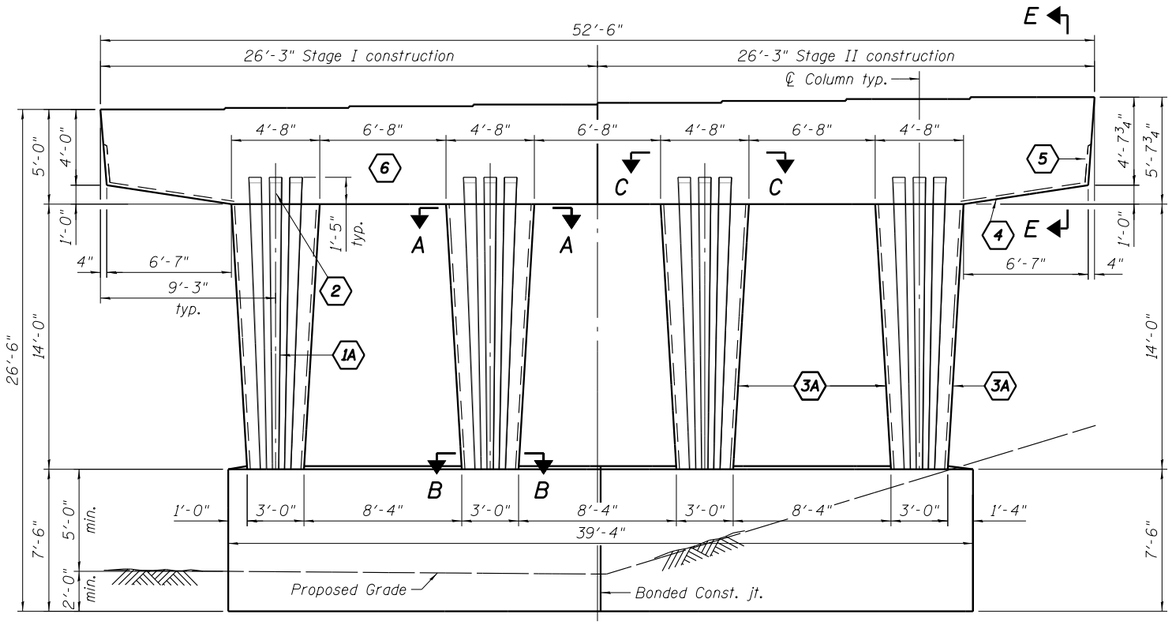
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

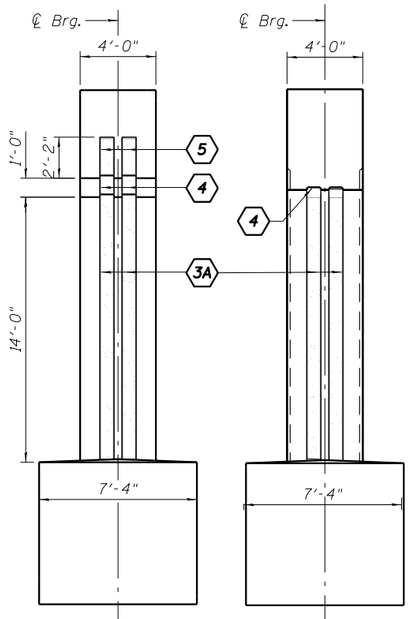
PIER 2 DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-40 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	225
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



PIER ELEVATION

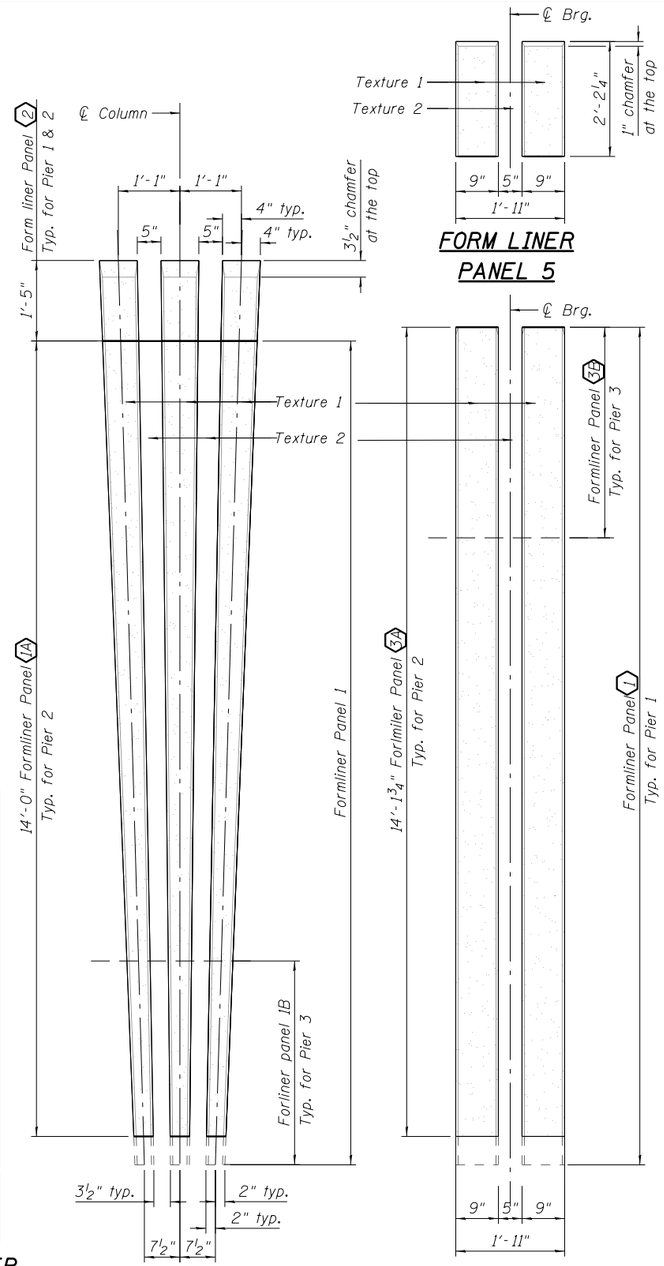
(Looking West)
(Looking East - Similar, Opposite hand)



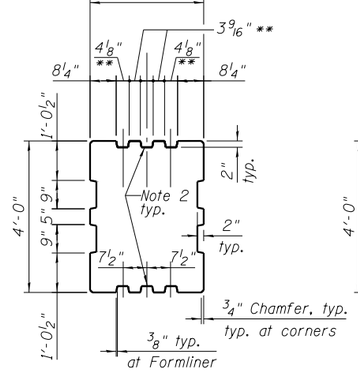
PIER END VIEW

(Looking South)
(Looking North)

SECTION E-E

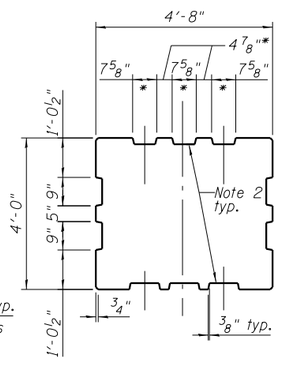


FORM LINER PANEL 5



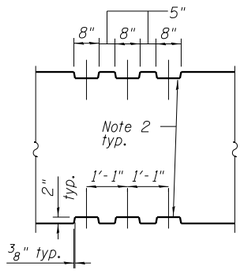
SECTION A-A

At Bottom of Column



SECTION B-B

At Top of Column

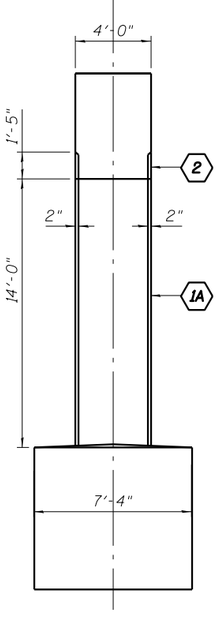


SECTION C-C

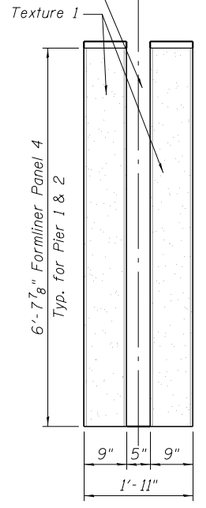
In Cap

** Bottom of formliner panel 1A is 6 " higher than formliner panel 1.

* Dimensions of formliner at top of column (panel 1) to match dimensions of formliner at bottom of pier cap (panel 2).



SECTION D-D



FORM LINER PANEL 4

FORM LINER PANEL 1A & 2

FORM LINER PANEL 3A

Notes:

1. Surface indicated as (6) represents all surface except formliner and shall have smooth rubbed finish. Cost included with pay item Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1) Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5. Texture 1: Light Sandblast, 1/16" depth, as selected from samples provided by the Contractor. Texture 2: Smooth
6. Form liner panel (1) is similar to form liner panel (1A) and (1B) at Pier 2 & 3, only longer.

LEGEND

(1) (2) (3) (4) (5) — Textured Form Liner

(6) — Rubbed finish

BILL OF MATERIAL

Item	Unit	Total
Form Liner Textured Surface	Sq. Ft.	1,126
Rubbed Finish	Sq. Ft.	382

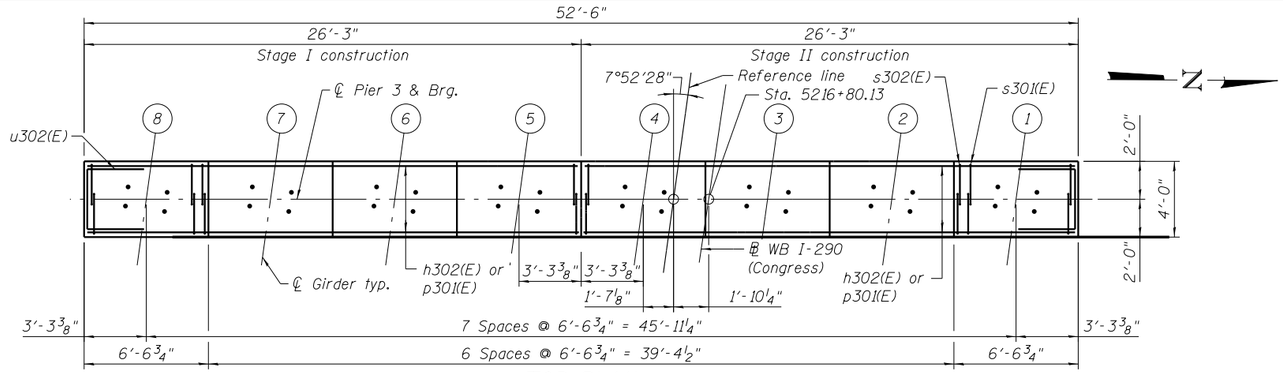
0161703-60X78-S041-PA2.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -
		CHECKED - LFC	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

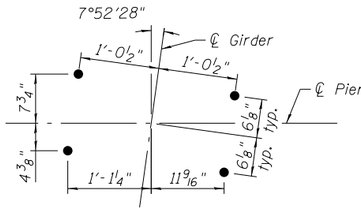
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-41 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	226
			CONTRACT NO. 60X78	
		ILLINOIS FED. AID PROJECT		



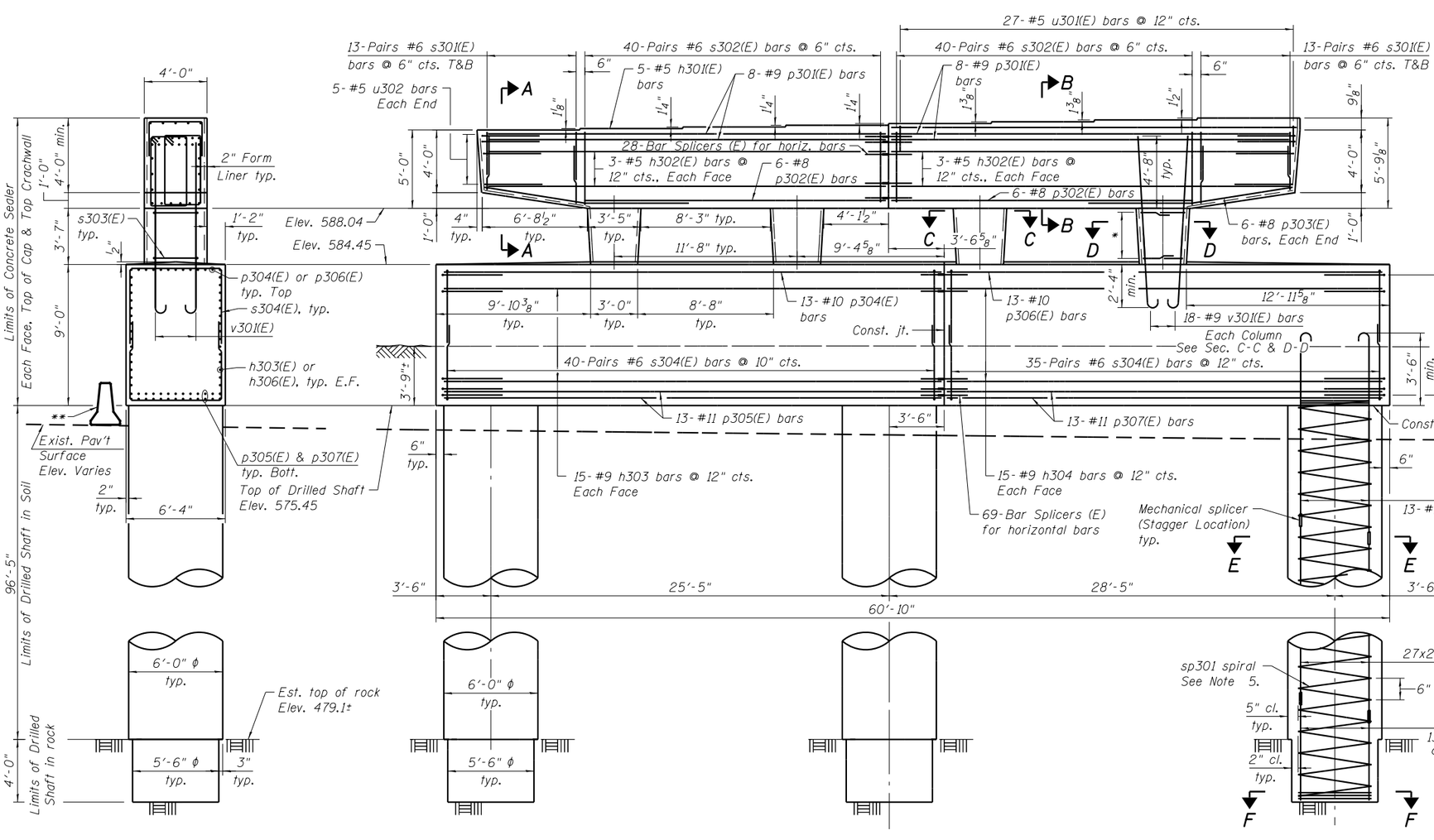
TOP PLAN



ANCHOR BOLT LAYOUT

Notes:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. See sheet S1-43 for section A-A, B-B, C-C, D-D, E-E, and F-F.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
5. #6 sp301(E) spiral, each drilled shaft
   1. Provide 1 1/2 extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into crashwall. Provide 4-#4 spacers or equivalent.
   2. When splicing spiral reinforcement is necessary, the spiral shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.



END VIEW

** Temporary Concrete Barrier, see roadway plans

ELEVATION

(Looking West)

* 4-#5 s303(E) bars @ 12" cts.

MINIMUM BAR LAP

(Unless Noted Otherwise)

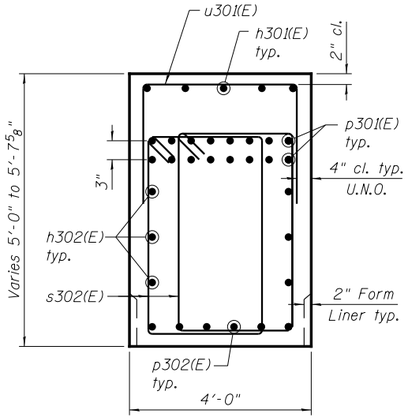
#5 bar = 3'-8"
#6 bar = 3'-10"
#8 bar = 6'-9"

TOP OF SEAT ELEVATION

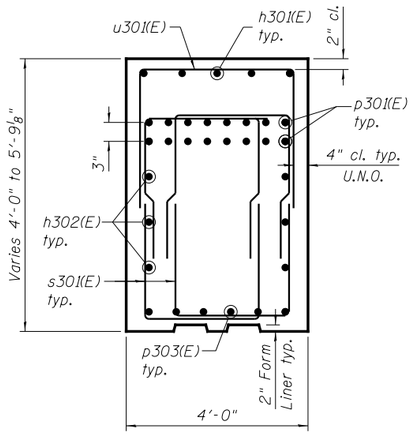
Girder No.	Seat Elevation
1	593.80
2	593.68
3	593.56
4	593.45
5	593.34
6	593.23
7	593.13
8	593.04

0161703-60X78-S042-PR3.dgn

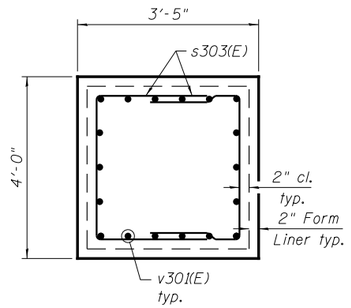
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 3 STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	227
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-42 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	



SECTION B-B

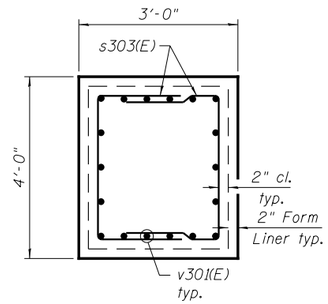


SECTION A-A



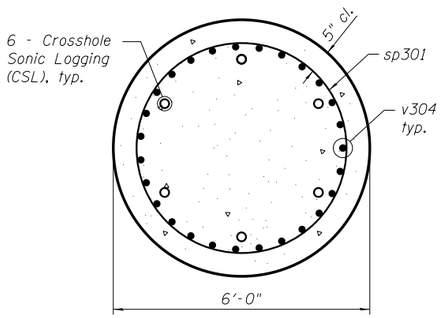
SECTION C-C

At Top of Column

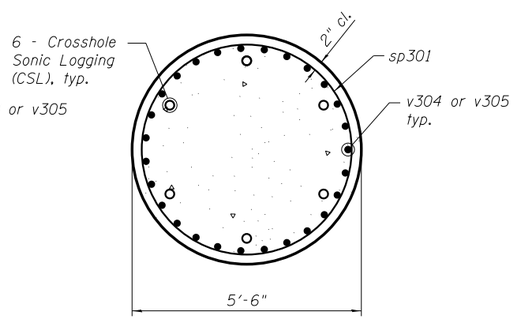


SECTION D-D

At Bottom of Column



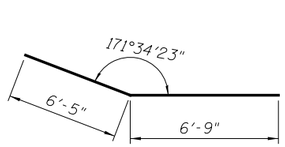
SECTION E-E



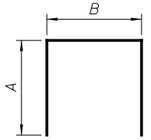
SECTION F-F

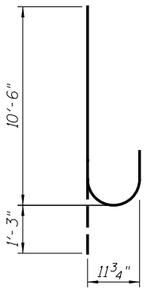
A & B DIMENSIONS

Bar	A	B
s301(E)	3'-6"	3'-4"
s303(E)	2'-4"	3'-4"
s304(E)	6'-3"	6'-0"
u301(E)	1'-4"	3'-4"
u302(E)	3'-6"	3'-4"
u303(E)	3'-3"	6'-0"

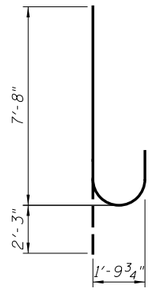


BAR p303(E)

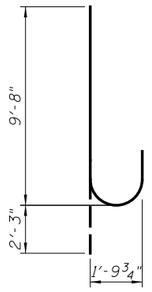




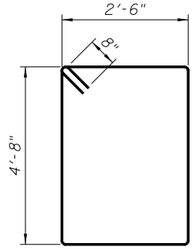
BAR v301(E)



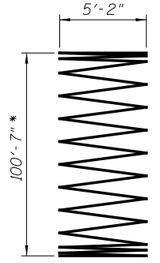
BAR v302(E)



BAR v303(E)



BAR s302(E)



BAR sp301

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h301(E)	5	#5	25'-9"	
h302(E)	12	#5	25'-7"	
h303(E)	30	#9	32'-1"	
h304(E)	30	#9	28'-1"	
p301(E)	32	#9	25'-11"	
p302(E)	12	#8	18'-11"	
p303(E)	12	#8	13'-4"	
p304(E)	13	#10	32'-1"	
p305(E)	26	#11	32'-1"	
p306(E)	13	#10	28'-1"	
p307(E)	26	#11	28'-1"	
s301(E)	104	#6	10'-4"	
s302(E)	160	#6	15'-8"	
s303(E)	32	#5	8'-0"	
s304(E)	150	#6	18'-6"	
sp301	3	#6	100'-7"	
u301(E)	27	#5	6'-0"	
u302(E)	10	#5	10'-4"	
u303(E)	36	#5	12'-6"	
v301(E)	72	#9	11'-9"	
v302(E)	42	#14	9'-11"	
v303(E)	39	#14	9'-11"	
v304	204	#14	32'-0"	
v305	39	#14	30'-0"	

Concrete Structures	Cu. Yd.	179
Reinforcement Bars	Pound	74,050
Reinforcement Bars, Epoxy Coated	Pound	42,300
Drilled Shaft in Soil	Cu. Yd.	303
Drilled Shaft in Rock	Cu. Yd.	11
Concrete Sealer	Sq. Ft.	2,710
Crosshole Sonic Logging	Each	1

* Length is height of spiral

Notes:

1. Bars noted thus, 14x2-#9 indicated 14 lines of bars with 2 lengths of bars per line.
2. Bars equally spaced, unless otherwise noted.
3. Apply concrete sealer to all exposed concrete surfaces of the pier.
4. All edges shall have standard $\frac{3}{4}$" chamfer.
5. The quantities and reinforcement detailing are based on the footing elevation and estimated top of rock elevation shown and may change depending on the actual top of rock encountered at each shaft. It is the Contractor's responsibility to make necessary, approved adjustments.
6. When Contractor's means and methods include initiating drilling for shafts at elevations higher than the final top of shaft elevation (e.g. Existing Ground Elevation), the costs for drilling, disposing of excavation, providing casing and backfilling of drilled shafts or other appurtenant work activities in the areas between the elevation where drilling is initiated and the proposed elevation of the top of shaft shall not be paid for separated but shall be included in the cost of Drilled Shaft in Soil.

0161703-60X78-S043-DET.dgn

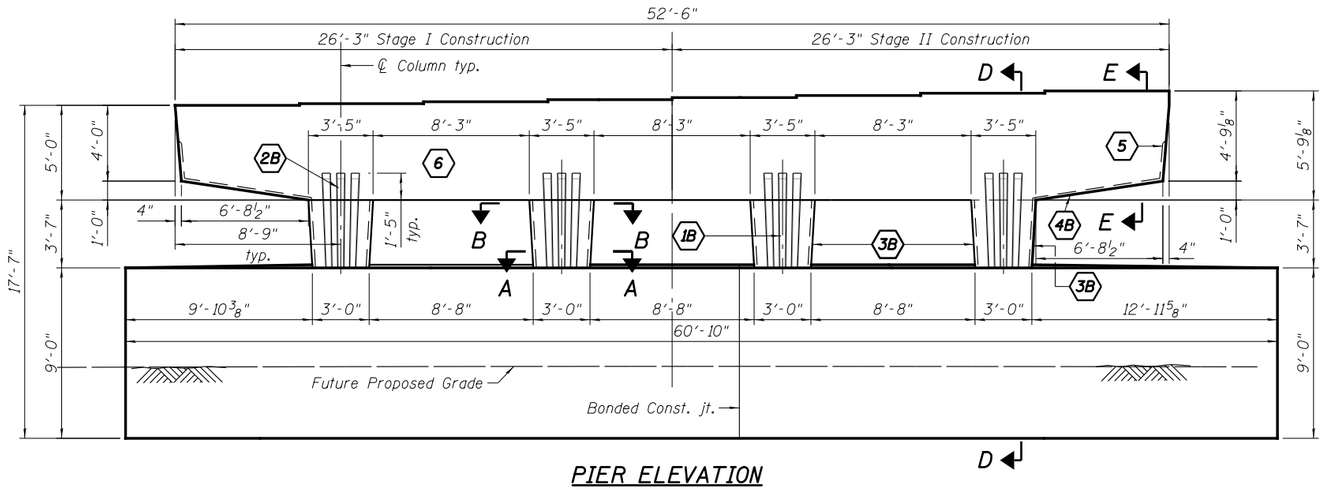
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

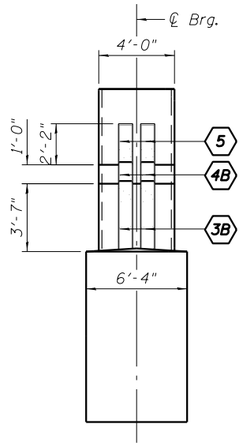
PIER 3 DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-43 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	228
			CONTRACT NO. 60X78	
		ILLINOIS	FED. AID PROJECT	



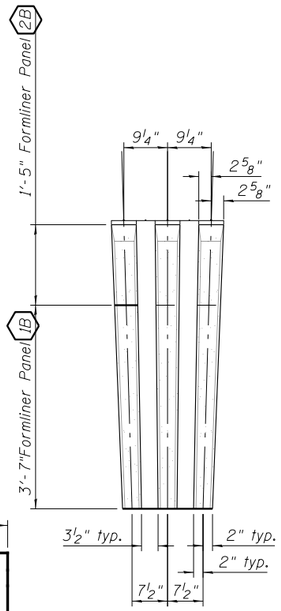
PIER ELEVATION

(Looking West)
(Looking East - Similar, Opposite hand)

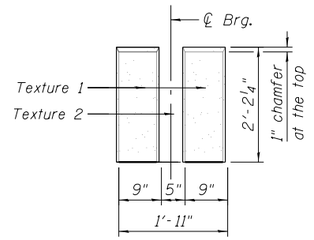


PIER END VIEW

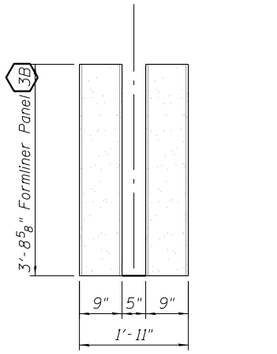
(Looking South)
(Looking North)



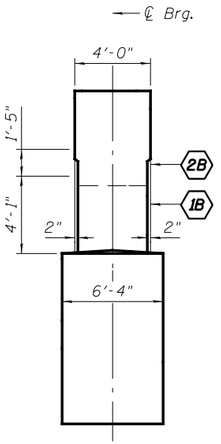
FORM LINER PANEL 1B & 2B



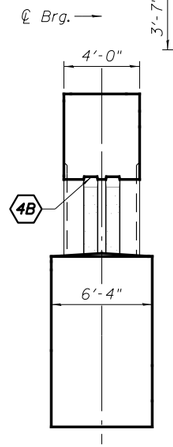
FORM LINER PANEL 5



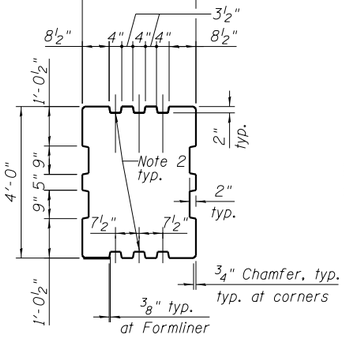
FORM LINER PANEL 3B



SECTION D-D

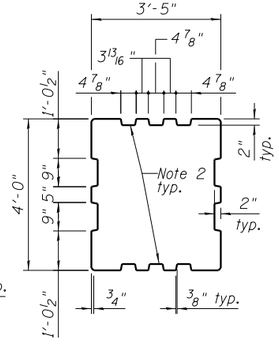


SECTION E-E



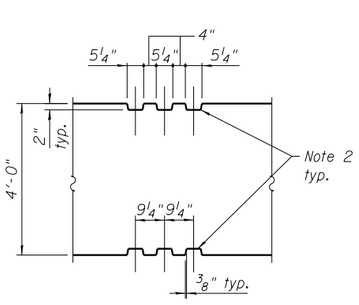
SECTION A-A

At Bottom of Column



SECTION B-B

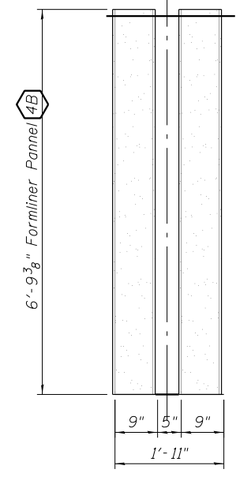
At Top of Column



SECTION C-C

In Cap

* Dimensions of formliner at top of column (panel 1B) to match dimensions of formliner at bottom of pier cap (panel 2B).



FORM LINER PANEL 4B

Notes:

1. Surface indicated as (6) represents all surface except formliner and shall have smooth rubbed finish. Cost included with pay item Rubbed Finish.
2. Tapered fluting - dimensions vary, see elevation profile.
3. Form liner panel (2) is continuation of panel (1) Keep adjacent form liners aligned.
4. Hand clean and smooth the surface of the construction joint between the pier and cap.
5. Texture 1: Light Sandblast, 1/16" depth, as selected from samples provided by the Contractor.
   Texture 2: Smooth
6. Form liner panel (1) is similar to form liner panel (1A) and (1B) at Pier 2 & 3, only longer.

LEGEND

(1) (2) (3) (4) (5) Textured Form Liner

(6) Rubbed finish

BILL OF MATERIAL

Item	Unit	Total
Form Liner Textured Surface	Sq. Ft.	726
Rubbed Finish	Sq. Ft.	119

PARSONS BRINCKERHOFF

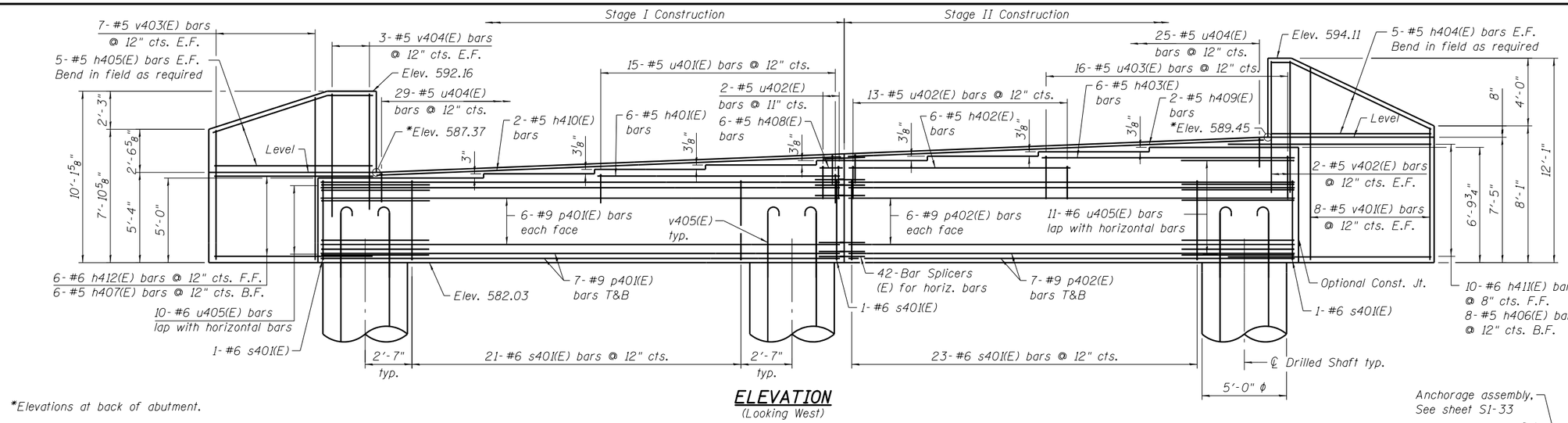
USER NAME = pateld	DESIGNED - JZ	REVISED -	
	CHECKED - LFC	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -	
PLOT DATE = 5/9/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 ARCHITECTURAL DETAILS
STRUCTURE NO. 016-1703
SHEET NO. S1-44 OF S1-53 SHEETS

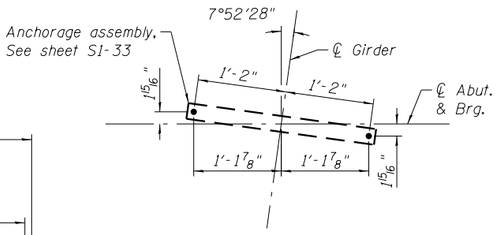
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	229
		CONTRACT NO. 60X78		
	ILLINOIS	FED. AID PROJECT		

0161703-60X78-S044-PA3.dgn

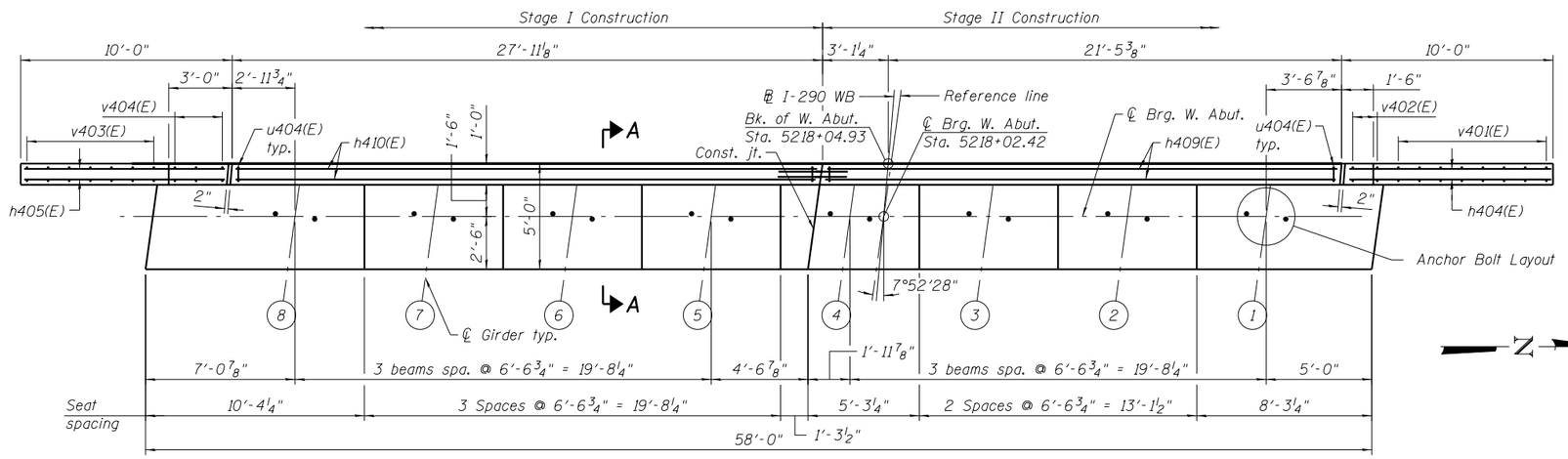


ELEVATION
(Looking West)

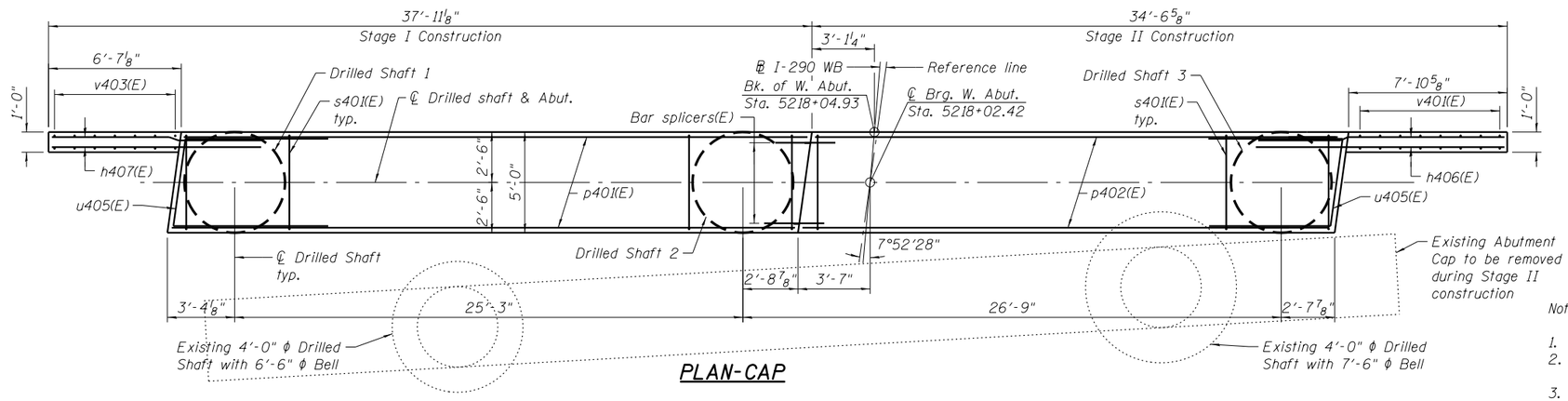
*Elevations at back of abutment.



ANCHOR BOLT LAYOUT



PLAN



PLAN-CAP

MINIMUM BAR LAP
(Unless Noted Otherwise)
#5 bar = 3'-3"
#6 bar = 4'-5"

TOP OF SEAT ELEVATION

Girder No.	Seat Elevation
1	588.84
2	588.58
3	588.32
4	588.06
5	587.80
6	587.54
7	587.28
8	587.02

Notes:

1. See sheet S1-46 for section A-A.
2. Bars indicated thus 5 x 3-#5 etc. indicates 5 lines of bars with 3 lengths per line.
3. Pour steps monolithically with cap.
4. Space cap reinforcement to miss anchor bolts.

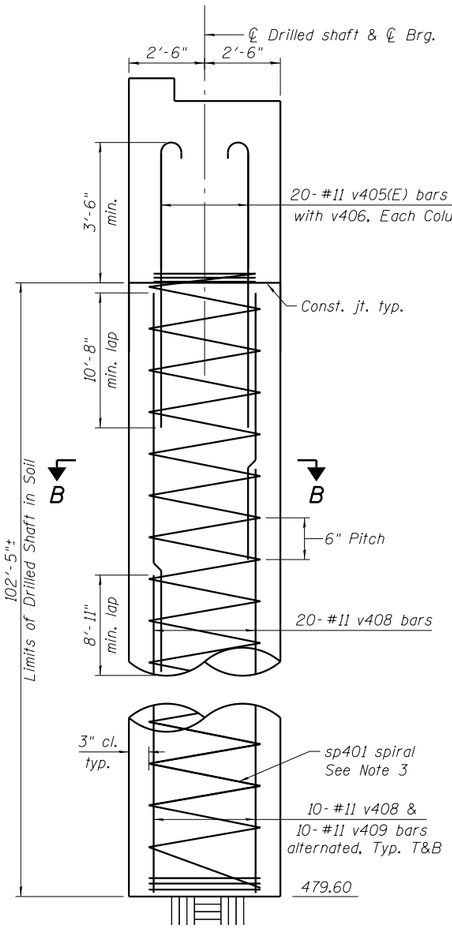
0161703-60X78-S045-WAB.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -
		CHECKED - DWS	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -

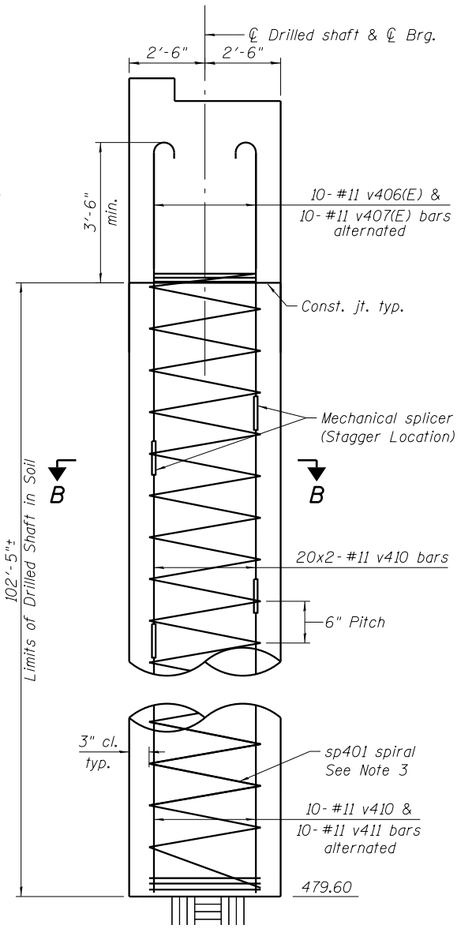
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 016-1703
SHEET NO. S1-45 OF S1-53 SHEETS

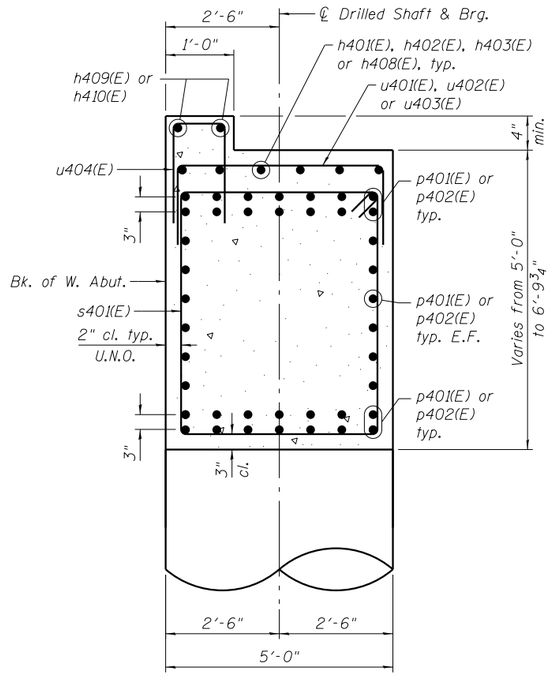
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	230
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



DRILLED SHAFT 1 DETAIL

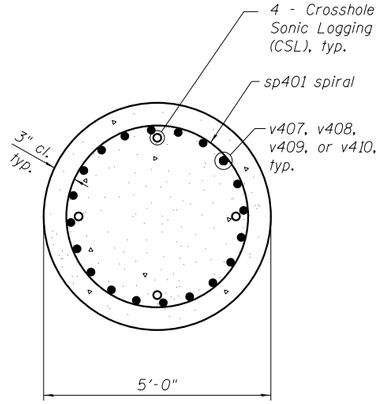


DRILLED SHAFTS 2 & 3 DETAIL



SECTION A-A

(Dimensions are at Rt. L's)

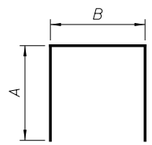


SECTION B-B

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h401(E)	6	#5	14'-1"	
h402(E)	6	#5	13'-0"	
h403(E)	6	#5	14'-6"	
h404(E)	10	#5	9'-9"	
h405(E)	10	#5	9'-9"	
h406(E)	8	#5	10'-11"	
h407(E)	6	#5	9'-8"	
h408(E)	6	#5	0'-11"	
h409(E)	2	#5	24'-3"	
h410(E)	2	#5	27'-7"	
h411(E)	10	#6	11'-7"	
h412(E)	6	#6	10'-3"	
p401(E)	40	#9	31'-0"	
p402(E)	40	#9	26'-4"	
s401(E)	46	#6	19'-10"	
* sp401	3	#4	102'-5"	
u401(E)	15	#5	7'-10"	
u402(E)	15	#5	8'-10"	
u403(E)	16	#5	9'-10"	
u404(E)	54	#5	4'-9"	
u405(E)	21	#6	22'-8"	
v401(E)	8	#5	18'-11"	
v402(E)	4	#5	7'-9"	
v403(E)	7	#5	17'-0"	
v404(E)	6	#5	7'-11"	
v405(E)	20	#11	15'-9"	
v406(E)	20	#11	22'-3"	
v407(E)	20	#11	17'-3"	
v408	40	#11	43'-0"	
v409	20	#11	34'-0"	
v410	100	#11	30'-0"	
v411	20	#11	25'-0"	
Structure Excavation			Cu. Yd.	427
Concrete Structures			Cu. Yd.	70
Reinforcement Bars			Pound	37,240
Reinforcement Bars, Epoxy Coated			Pound	17,810
Drilled Shaft in Soil			Cu. Yd.	224
Crosshole Sonic Logging			Each	1

* Length is height of spiral



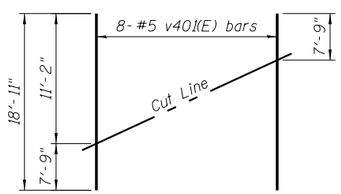
BARS

A & B DIMENSIONS

Bar	A	B
u401(E)	1'-7"	4'-8"
u402(E)	2'-1"	4'-8"
u403(E)	2'-7"	4'-8"
u404(E)	2'-0"	9"

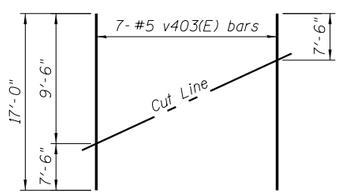
Notes:

1. Bars noted thus, 14X2-#9 indicated 14 lines of bars with 2 lengths of bars per line.
2. Bars equally spaced, unless otherwise noted.
3. #4 sp401 spiral, each drilled shaft
   1. Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into abutment cap. Provide 4-#4 spacers or equivalent.
   2. When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ 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.



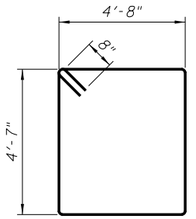
FIELD CUTTING DIAGRAM

Order v401(E) full length. Cut as shown and use remainder of bars in opposite face.

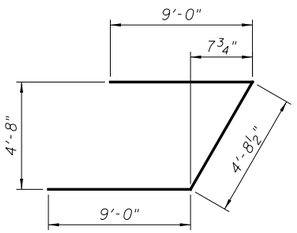


FIELD CUTTING DIAGRAM

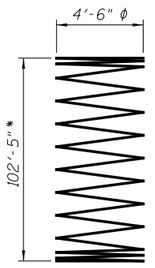
Order v403(E) full length. Cut as shown and use remainder of bars in opposite face.



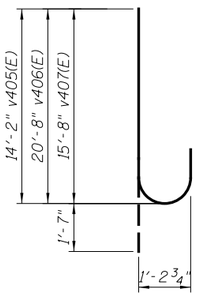
BAR s401(E)



BAR u405(E)



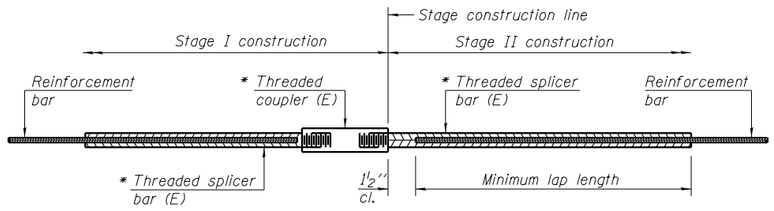
BAR sp401



BAR v405(E), v406(E) & v407(E)

0161703-60X78-S046-DET.dgn

PARSONS BRINCKERHOFF				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WEST ABUTMENT DETAILS STRUCTURE NO. 016-1703				
	USER NAME = pateld	DESIGNED - JZ	REVISED -			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - DWS	REVISED -			90/94/290	2014-004 R&B	COOK	706	231
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-46 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	



STANDARD BAR SPLICER ASSEMBLY

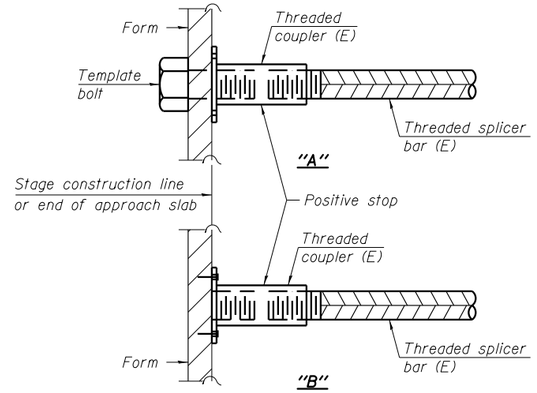
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

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

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

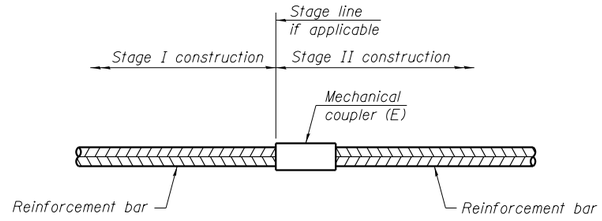
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	1574	Table 5
Deck	#6	12	Table 5
Pier 1	#5	18	Table 5
Pier 1	#8	6	Table 5
Pier 1	#9	15	Table 5
Pier 1 (Top Bar)	#9	31	Table 6
Pier 2	#5	18	Table 5
Pier 2	#8	15	Table 5
Pier 2 (Top Bar)	#9	30	Table 6
Pier 3	#5	6	Table 5
Pier 3	#8	6	Table 5
Pier 3	#9	30	Table 5
Pier 3	#11	26	Table 5
Pier 3 (Top Bar)	#9	16	Table 6
Pier 3 (Top Bar)	#10	13	Table 6
W. Abutment	#5	8	Table 5
W. Abutment	#9	26	Table 5
W. Abut. (Top Bar)	#9	14	Table 6
W. Approach Slab	#4	31	Table 5
W. Approach Slab	#5	40	Table 5



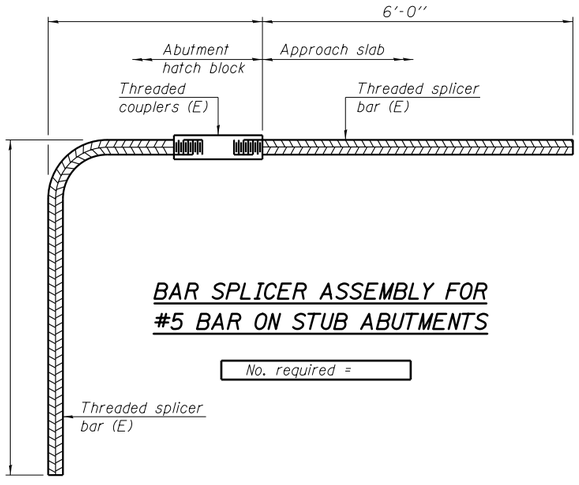
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 3	#14	243
W. Abut.	#11	120



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

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.

0161703-60X78-S047-BAR.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - LFC	REVISED -			90/94/290	2014-004 R&B	COOK	706	232
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 5/2/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-47 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	

BORING LOG 1703-B-01

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 588.78 ft
North: 1898095.24 ft
East: 1171405.63 ft
Station: 5218+54.94
Offset: 21.14 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	588.5	4-inch thick ASPHALT --PAVEMENT--							
	587.8	8-inch thick CONCRETE --PAVEMENT--				1	3 6 7	3.50 P	19
	585.8	Very stiff, brown and gray CLAY LOAM, trace gravel --FILL--							
		Very stiff, gray SILTY CLAY, trace gravel	5			2	3 5 4	3.28 B	18
	583.3	--L_L(%)=33, P_L(%)=18-- --%Gravel=2.7-- --%Sand=16.3-- --%Silt=51.9-- --%Clay=29.2-- --A-6 (11)--				3	2 2 2	0.66 B	22
		Soft to medium stiff, gray CLAY to SILTY CLAY LOAM, trace gravel	10			4	0 0 0	0.41 B	23
		--L_L(%)=30, P_L(%)=17-- --%Gravel=6.1-- --%Sand=20.0-- --%Silt=51.7-- --%Clay=22.3-- --A-6 (8)--				5	0 2 1	0.41 B	25
			15			6	0 0 2	0.25 P	24
						7	0 0 0	0.25 B	22
			20			8	0 2 2	0.25 B	26
						9	0 2 2	0.33 B	24
			25			10	0 0 1	0.25 B	22

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		--L_L(%)=30, P_L(%)=17-- --%Gravel=2.7-- --%Sand=16.4-- --%Silt=46.9-- --%Clay=34.0-- --A-6 (9)--	30			11	0 2 2	0.49 B	24
						12	0 0 0	0.33 B	26
			35			13	0 2 2	0.25 B	26
			40			14	0 0 2	0.41 B	25
		--L_L(%)=33, P_L(%)=18-- --%Gravel=4.4-- --%Sand=15.5-- --%Silt=48.6-- --%Clay=31.5-- --A-6 (11)--	45			15	1 2 3	0.49 B	26
			50			16	3 1 3	NA	

GENERAL NOTES

Begin Drilling: 10-07-2013 Complete Drilling: 10-07-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

BORING LOG 1703-B-01

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 588.78 ft
North: 1898095.24 ft
East: 1171405.63 ft
Station: 5218+54.94
Offset: 21.14 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	537.0	Very stiff, gray SILTY CLAY, trace gravel							
			55			17	5 9 11	2.13 B	17
	532.0	Very stiff, gray CLAY, trace gravel							
		--L_L(%)=37, P_L(%)=18-- --%Gravel=2.9-- --%Sand=13.6-- --%Silt=47.2-- --%Clay=36.3-- --A-6 (15)--	60			18	8 12 17	2.81 B	17
		--L_L(%)=34, P_L(%)=18-- --%Gravel=2.2-- --%Sand=7.0-- --%Silt=47.0-- --%Clay=43.8-- --A-6(14)--	65			19	4 6 9	2.21 B	25
	522.0	Gray SILTY LOAM							
	519.4	Hard, gray SILTY CLAY LOAM, trace gravel	70			20	12 10 9	NP	12
			75			21	10 18 24	7.13 B	16

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	512.0	Hard, gray SILTY LOAM, trace gravel							
		--L_L(%)=22, P_L(%)=14-- --%Gravel=9.7-- --%Sand=28.7-- --%Silt=49.7-- --%Clay=11.9-- --A-4(2)-- --HARD DRILLING--	80			22	12 25 28	6.23 B	12
		--HARD DRILLING-- --*Possible Cobbles*--	85			23	26 50/4	NP	15
		--L_L(%)=20, P_L(%)=14-- --%Gravel=12.3-- --%Sand=21.1-- --%Silt=56.3-- --%Clay=10.3-- --A-4(1)--	90			24	46 50/5	NP	11
			95			25	44 50/3	NP	10
	492.0	Hard, gray SILTY CLAY LOAM							
		--L_L(%)=28, P_L(%)=17-- --%Gravel=0.1-- --%Sand=2.2--	100			26	18 24 34	5.41 B	21

GENERAL NOTES

Begin Drilling: 10-07-2013 Complete Drilling: 10-07-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

BORING LOG 1703-B-01

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 588.78 ft
North: 1898095.24 ft
East: 1171405.63 ft
Station: 5218+54.94
Offset: 21.14 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		--%Silt=75.1-- --%Clay=22.6-- --A-6(10)--							
			105			27	70/3 50/3	NA	
	483.8	--ROLLER BIT REFUSAL-- Boring terminated at 105.00 ft							
			110						
			115						
			120						
			125						

GENERAL NOTES

Begin Drilling: 10-07-2013 Complete Drilling: 10-07-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-50 TMR
Driller: R&R Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

0161703-60X78-SO48-BOR.dgn

PARSONS BRINCKERHOFF				
	USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - AH	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

BORING LOGS I
STRUCTURE NO. 016–1703
SHEET NO. S1-48 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	233
			CONTRACT NO. 60X78	
		ILLINOIS	FED. AID PROJECT	

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

BORING LOG 1703-B-03

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 573.97 ft
North: 1898087.64 ft
East: 1171653.30 ft
Station: 5216+09.86
Offset: 35.26 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	573.0	12-inch thick ASPHALT --PAVEMENT--							
		Medium dense, white CRUSHED STONE --BASE COURSE--				1	14 17 11	NP	6
	571.0	Medium dense, dark gray SILTY LOAM, trace gravel --FILL--	5			2	7 7 4	NP	15
	568.5	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				3	1 2 3	0.41 B	23
			10			4	2 2 3	0.33 B	25
						5	0 2 1	0.41 B	26
			15			6	1 1 2	0.33 B	25
						7	1 1 2	0.41 B	27
			20			8	2 3 2	0.16 B	26
						9	1 1 1	0.16 B	24
			25			10	2 2 1	0.41 B	25
	544.1	Loose, gray GRAVELLY SAND --Moist--	30			11	2 1 2	0.33 B	27
						12	0 2 50	0.41 B	29
			35			13	6 3 3	NP	14
	537.2	Hard, gray SILTY CLAY LOAM, trace gravel							
			40			14	13 14 14	5.17 B	16
						15	10 11 16	5.61 B	17
			45						
	525.0	Dense, gray SILTY LOAM	50			16	28 24 29	NP	17

GENERAL NOTES

Begin Drilling: **10-22-2013** Complete Drilling: **10-22-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **CME-55 TMR**
Driller: **R&J** Logger: **A. Happel** Checked by: **C. Marin**
Drilling Method: **2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **32.00 ft**
At Completion of Drilling: **NA**
Time After Drilling: **NA**
Depth to Water: **NA**

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

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BORING LOG 1703-B-03

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 573.97 ft
North: 1898087.64 ft
East: 1171653.30 ft
Station: 5216+09.86
Offset: 35.26 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	517.2	Hard, gray SILTY CLAY LOAM, trace gravel	55			17	18 33 28	NP	21
			60			18	21 42 42	4.50 P	14
			65			19	18 50/4	7.95 B	16
	507.2	Very dense, gray SILTY LOAM, trace gravel							
			70			20	39 50/5	NP	13
	502.2	Very dense, gray SANDY GRAVEL							
			75			21	50/5	NP	14
	497.2	Very dense, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel							
			80			22	50/5	NP	14
			85			23	34 45 50	4.35 S	18
			90			24	20 30 28	2.05 S	21
	482.2	Very dense, gray SANDY GRAVEL, some cobbles --HARD DRILLING--	95			25	50/2	NP	
	475.5	Boring terminated at 98.50 ft	100						

GENERAL NOTES

Begin Drilling: **10-22-2013** Complete Drilling: **10-22-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **CME-55 TMR**
Driller: **R&J** Logger: **A. Happel** Checked by: **C. Marin**
Drilling Method: **2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **32.00 ft**
At Completion of Drilling: **NA**
Time After Drilling: **NA**
Depth to Water: **NA**

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

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BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 5214+48.43
Offset: 38.08 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	584.5	3-inch thick CRUSHED STONE --FILL--							
		Very stiff, dark brown and gray SILTY CLAY LOAM, trace gravel, brick and glass fragments --FILL--				1	5 11 15	2.25 P	26
	579.2	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel	5			2	3 7 9	2.75 P	16
		--L_L(%)=29, P_L(%)=16-- --%Gravel=3.8-- --%Sand=16.9-- --%Silt=54.2-- --%Clay=25.1-- --A-6(8)--				3	2 3 4	0.66 B	19
			10			4	2 2 3	0.57 B	21
						5	0 1 3	0.49 B	24
			15			6	0 2 2	0.44 B	23
						7	0 2 2	0.41 B	25
			20			8	0 0 0	0.41 B	25
						9	0 1 2	0.25 B	26
			25			10	0 0 2	0.25 B	26
			30			11	0 0 1	0.25 B	27
						12	0 0 2	0.33 B	26
		--L_L(%)=36, P_L(%)=18-- --%Gravel=1.8-- --%Sand=10.7-- --%Silt=50.0-- --%Clay=37.5-- --A-6(15)--	35			13	0 0 2	0.16 B	25
			40			14	0 1 2	0.33 B	28
						15	3 4 4	0.66 B	20
	538.0	Very stiff, gray SILTY CLAY, trace gravel	45						
		--L_L(%)=27, P_L(%)=16-- --%Gravel=6.1-- --%Sand=20.1--	50			16	4 7 11	3.53 B	23

GENERAL NOTES

Begin Drilling: **10-10-2013** Complete Drilling: **10-17-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **D-50 TMR**
Driller: **R&R** Logger: **D. Kolpacki** Checked by: **C. Marin**
Drilling Method: **2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **74.00 ft**
At Completion of Drilling: **91.25 ft**
Time After Drilling: **NA**
Depth to Water: **NA**

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

0161703-60X78-S049-BOR.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BORING LOGS II STRUCTURE NO. 016–1703**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - AH	REVISED -			90/94/290	2014-004 R&B	COOK	706	234
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						**CONTRACT NO. 60X78**	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-49 OF S1-53 SHEETS		ILLINOIS	FED. AID PROJECT		

BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 5214+48.43
Offset: 38.08 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	533.0	--%Silt=50.9-- --%Clay=22.9-- --A-6(6)--						
		Dense, gray SANDY LOAM, trace gravel						
	530.5	Hard, gray SILTY LOAM, trace gravel	55		17	11 14 20	NP	12
			60		18	18 15 22	5.49 S	13
		--L_L(%)=23, P_L(%)=16-- --%Gravel=7.7-- --%Sand=23.1-- --%Silt=55.2-- --%Clay=14.0-- --A-4(2)--	65		19	15 25 35	8.61 S	12
			70		20	14 19 25	8.45 S	14
	510.7	Very dense, gray SILTY LOAM, trace gravel	75		21	18 36 50/5	NP	20
	506.0	--Saturated-- Hard, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	80		22	34 50/6	7.95 S	11
			85		23	50/6	> 4.50 P	
		--HARD DRILLING-- *--Possible Cobbles--*	90		24	28 50/5	3.69 S	17
	493.5	--HARD DRILLING-- *--Possible Cobbles--* Very dense, gray GRAVELLY SAND --Saturated--	95		25	50/3	NP	10
			100		26	19 50/2	NP	10

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

GENERAL NOTES

Begin Drilling: **10-10-2013** Complete Drilling: **10-17-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **D-50 TMR**
Driller: **R&R** Logger: **D. Kolpacki** Checked by: **C. Marin**
Drilling Method: **2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **74.00 ft**
At Completion of Drilling: **91.25 ft**
Time After Drilling: **NA**
Depth to Water: **NA**

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

BORING LOG 1703-B-04

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 584.72 ft
North: 1898071.44 ft
East: 1171813.94 ft
Station: 5214+48.43
Offset: 38.08 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
			105		27	21 50/3	NP	14
	478.7	Strong, light gray, poor to excellent rock mass quality, bedded fresh DOLOSTONE, up to 30-inch beds, 17-inch spaced joints, horizontal joints with less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity. --Run 1 - RECOVERY=88%-- --RQD=26%-- 109.5ft-Qu=10990 psi ---> --Run 2 - RECOVERY=99%-- --RQD=92%-- 113.0ft-Qu=9060 psi --->	110	CORE	1			
			115	CORE	2			
	466.7	Boring terminated at 118.00 ft	120					
			125					

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

GENERAL NOTES

Begin Drilling: **10-10-2013** Complete Drilling: **10-17-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **D-50 TMR**
Driller: **R&R** Logger: **D. Kolpacki** Checked by: **C. Marin**
Drilling Method: **2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **74.00 ft**
At Completion of Drilling: **91.25 ft**
Time After Drilling: **NA**
Depth to Water: **NA**

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

BORING LOG 1703-B-05

WEI Job No.: 1100-04-01

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

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

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.89 RT

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

GENERAL NOTES

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

WATER LEVEL DATA

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

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

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

0161703-60X78-S050-BOR.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
		CHECKED - AH	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -	

BORING LOGS III
STRUCTURE NO. 016-1703
SHEET NO. S1-50 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	235
			CONTRACT NO. 60X78	
	ILLINOIS FED. AID PROJECT			

BORING LOG 1703-B-05

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

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.89 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
			55		17	12 20 29	6.64 B	14
	527.9	Dense, gray SANDY LOAM, trace gravel --Moist--	60		18	28 25 24	NP	15
	524.9	Hard, gray SILTY CLAY LOAM, trace gravel	65		19	18 25 31	5.41 S	13
			70		20	17 21 34	4.10 S	13
			75		21	15 27 46	8.28 B	15

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	509.9	Very dense, gray SILTY LOAM, trace gravel	80		22	50/5"	NP	10
	504.9	Hard, gray SILTY CLAY LOAM, trace gravel	85		23	28 38 50/5"	10.00 S	12
		--HARD DRILLING-- --Possible Cobbles--						
	497.6	Very dense, gray SILT, trace gravel	90		24	14 24 43	NP	23
		--HARD DRILLING-- --Possible Cobbles--						
			95		25	50/4"	NP	17
	489.9	Very dense, gray GRAVELLY SAND --Saturated--						
			100		26	50/4"	NP	14

GENERAL NOTES

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

WATER LEVEL DATA

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

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

BORING LOG 1703-B-05

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

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 586.64 ft
North: 1898050.50 ft
East: 1171954.33 ft
Station: 5213+04.97
Offset: 31.89 RT

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

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)

GENERAL NOTES

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

WATER LEVEL DATA

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

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

BORING LOG 1705-B-08

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

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 573.57 ft
North: 1898070.84 ft
East: 1171576.26 ft
Station: 5216+84.39
Offset: 9.51 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	573.2	5-inch thick ASPHALT --PAVEMENT--						
	572	9-inch thick CONCRETE --PAVEMENT--			1	9 9 12	NP	6
	570.6	Medium dense, brown, CRUSHED STONE --BASE COURSE--						
		Stiff, gray SILTY CLAY, trace gravel	5		2	6 5 5	1.39 B	18
	568.1	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel			3	2 1 1	0.41 B	24
		--In-Situ Vane Shear. 10.5 feet-- --$S_{u\,undis}$ = 414.4 psf-- --$S_{u\,remold}$ = 284.9 psf-- --Sensitivity = 1.45--	10		4	1 1 2	0.16 B	26
		--In-Situ Vane Shear, 13 feet-- --$S_{u\,undis}$ = 466.2 psf-- --$S_{u\,remold}$ = 233.1 psf-- --Sensitivity = 2.00--			5	1 1 2	0.16 B	26
		--In-Situ Vane Shear. 15.5 feet-- --$S_{u\,undis}$ = 518.0 psf-- --$S_{u\,remold}$ = 310.8 psf-- --Sensitivity = 1.66--	15		6	2 2 2	0.16 B	27
		--In-Situ Vane Shear. 18.0 feet-- --$S_{u\,undis}$ = 984.2 psf-- --$S_{u\,remold}$ = 310.8 psf-- --Sensitivity = 3.16--			7	2 2 3	0.25 B	27
		--In-Situ Vane Shear. 20.5 feet-- --$S_{u\,undis}$ = 984.2 psf-- --$S_{u\,remold}$ = 543.9 psf-- --Sensitivity = 1.81--	20		8	3 4 4	0.25 B	23
		--In-Situ Vane Shear. 23.0 feet-- --$S_{u\,undis}$ = 1320.9 psf-- --$S_{u\,remold}$ = 725.2 psf-- --Sensitivity = 1.82--			9	3 4 5	0.25 B	24
		--In-Situ Vane Shear. 25.5 feet-- --$S_{u\,undis}$ = 725.2 psf--	25		10	4 5 5	0.49 B	25

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type / recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		--$S_{u\,remold}$ = 414.4 psf-- --Sensitivity = 1.75--			7	3 4 4	0.33 B	26
		--In-Situ Vane Shear, 28.0 feet-- --$S_{u\,undis}$ = 595.7 psf-- --$S_{u\,remold}$ = 284.9 psf-- --Sensitivity = 2.09--			8			
	544.6	Medium dense, gray LOAM, trace gravel	30		12	3 5 10	NP	11
	541.8	Very stiff to hard, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel			13	3 6 9	2.05 B	20
			35					
			40		14	9 13 18	3.85 B	13
			45		15	11 17 25	5.33 S	16
	526.8	Very dense, gray SILTY LOAM, trace gravel						
			50		16	25 27 32	NP	11

GENERAL NOTES

Begin Drilling: 09-08-2013 Complete Drilling: 09-10-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100401.GPJ WANGENG.GDT 2/12/16

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

0161703-60X78-S051-BOR.dgn

PARSONS BRINCKERHOFF						
USER NAME = pateld	DESIGNED - JZ	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS IV STRUCTURE NO. 016-1703	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - AH	REVISED -			90/94/290	2014-004 R&B	COOK	706	236
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-51 OF S1-53 SHEETS			ILLINOIS	FED. AID PROJECT	

Wang Engineering

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BORING LOG 1705-B-08

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 573.57 ft
North: 1898070.84 ft
East: 1171576.26 ft
Station: 5216+84.39
Offset: 9.51 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	521.8	Very dense, gray SILT with sand lenses							
	518.8	Hard, gray SILTY CLAY, trace gravel	55			17	18 25 37	NP	20
			60			18	16 24 39	8.12 B	16
	511.8	Very dense, gray SILT --Wet--							
			65			19	20 27 41	NP	22
	506.8	Very dense, gray SILTY LOAM, trace gravel							
			70			20	50/5"	NP	14
			75			21	50/5"	NP	12

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	496.6	Very dense, gray SILT							
		--%Gravel=0.0-- --%Sand=1.5-- --%Silt=86.1-- --%Clay=12.4-- --A-4 (0)--				22	36 50/6"	NP	21
			85			23	22 50/5"	NP	17
	487.6	DOLOSTONE boulders							
		--Run 1 - RECOVERY= 66%-- --RQD= 47%-- 89.0ft-Qu=8880 psi --->	90	CORE	1				
		--3-inch thick SILTY LOAM, trace gravel--							
	479.1	Strong, fair rock quality, light gray, fresh, joint breaks with little to no infill, slightly vuggy DOLOSTONE 95.5ft-Qu=9380 psi --->	95	CORE	2				
		--Run 2 - RECOVERY= 94%-- --RQD= 72%-- 98.5ft-Qu=9080 psi --->	100						

GENERAL NOTES

Begin Drilling: 09-08-2013 Complete Drilling: 09-10-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

Wang Engineering

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Fax: 630 953-9938

BORING LOG 1705-B-08

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 573.57 ft
North: 1898070.84 ft
East: 1171576.26 ft
Station: 5216+84.39
Offset: 9.51 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		102.5ft-Qu=9750 psi --->							
		--Run 3 - RECOVERY= 100%-- --RQD= 65%--	105	CORE	3				
		106.5ft-Qu=7500 psi --->							
	465.1	Boring terminated at 108.50 ft							
			110						
			115						
			120						
			125						

GENERAL NOTES

Begin Drilling: 09-08-2013 Complete Drilling: 09-10-2013
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: P&N Logger: D. Kolpacki Checked by: C. Marin
Drilling Method: 2.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

WATER LEVEL DATA

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

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

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Fax: 630 953-9938

BORING LOG 1705-B-09

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 590.56 ft
North: 1898117.48 ft
East: 1171416.28 ft
Station: 5218+45.07
Offset: 43.65 RT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	589.7	10-inch thick, dark brown LOAM --TOPSOIL--							
		Medium dense, brown and gray, SILTY LOAM, trace roots and gravel				1	6 13 10	NP	10
	587.6	--FILL--							
		Medium dense, brown, medium SAND	5			2	10 9 6	NP	14
	585.1	Medium to very stiff, gray SILTY CLAY, trace gravel				3	2 3 4	2.38 B	20
			10			4	2 1 3	0.74 B	22
	580.1	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel				5	3 1 3	0.25 B	22
			15			6	0 0 3	0.33 B	18
						7	0 0 2	0.25 B	26
			20			8	0 0 2	0.41 B	21
						9	1 2 2	0.33 B	23
			25			10	0 2 2	0.25 B	23

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
						11	0 2 1	0.25 B	24
			30			12	0 0 2	0.25 P	25
						13	0 1 2	0.16 B	29
			35			14	1 2 3	0.25 B	25
			40			15	1 2 4	0.66 B	25
			45			16	2 3 4	0.33 B	29
			50						

GENERAL NOTES

Begin Drilling: 07-29-2013 Complete Drilling: 07-29-2013
Drilling Contractor: Wang Testing Services Drill Rig: CME-55 TMR
Driller: R&J Logger: A. Tomaras 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: NA
Time After Drilling: NA
Depth to Water: NA

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

WANGENGINC 1100040I.GPJ WANGENG.GDT 2/12/16

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

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

BORING LOG 1705-B-09

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 590.56 ft
North: 1898117.48 ft
East: 1171416.28 ft
Station: 5218+45.07
Offset: 43.65 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
		55			17	7 10 13	1.50 P	20
533.8	Very stiff, gray SILTY CLAY, trace gravel							
		60			18	6 7 14	3.69 B	15
528.8	Hard, gray CLAY, trace gravel							
		65			19	7 10 12	4.10 B	23
523.8	Hard, gray SILTY CLAY LOAM, trace gravel and sand lenses							
		70			20	23 25 23	4.51 S	10
518.8	Medium dense, gray SILTY LOAM							
		75			21	9 10 10	NP	21
513.8	Hard, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel							
		80			22	17 27 28	9.43 S	14
	–L_L(%)=22, P_I(%)=15– –%Gravel=2.8– –%Sand=9.6–85 –%Silt=70.0– –%Clay=17.6– –A-4 (4)–							
		85			23	20 42 50/4	7.30 S	13
	–HARD DRILLING– *–Possible Cobbles–*							
		90			24	50/6	> 4.50 P	8
		95			25	50/6	> 4.50 P	12
493.8	Very dense, gray SILT							
		100			26	39 40 50/3	NP	21

GENERAL NOTES

Begin Drilling: **07-29-2013** Complete Drilling: **07-29-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **CME-55 TMR**
Driller: **R&J** Logger: **A. Tomaras** 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: **NA**
Time After Drilling: **NA**
Depth to Water: **NA**

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

WANGENGINC - 1100401.GPJ - WANGENG.GDT - 2/12/16

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Fax: 630 953-9938

BORING LOG 1705-B-09

WEI Job No.: 1100-04-01

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

Datum: NAVD 88
Elevation: 590.56 ft
North: 1898117.48 ft
East: 1171416.28 ft
Station: 5218+45.07
Offset: 43.65 RT

Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Recovery	Sample No.	SPT Values (bw/6 in)	Qu (tsf)	Moisture Content (%)
	–%Gravel=0.0– –%Sand=0.7– –%Silt=84.1– –%Clay=15.2–105 –A-4 (0)–				27	24 34 50/3	NP	20
482.3	Very dense, GRAVEL / WEATHERED DOLOSTONE BEDROCK	110			28	50/2		
479.6	–HARD DRILLING– –ROTARY BIT REFUSAL– Boring terminated at 111.00 ft							
		115						
		120						
		125						

GENERAL NOTES

Begin Drilling: **07-29-2013** Complete Drilling: **07-29-2013**
Drilling Contractor: **Wang Testing Services** Drill Rig: **CME-55 TMR**
Driller: **R&J** Logger: **A. Tomaras** 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: **NA**
Time After Drilling: **NA**
Depth to Water: **NA**

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

WANGENGINC - 1100401.GPJ - WANGENG.GDT - 2/12/16

Note:

1. *Station and offset are measured along ℄ WB I-290 (Congress)*

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - JZ	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BORING LOGS VI STRUCTURE NO. 016–1703**
		CHECKED - AH	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S1-53 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	238
				CONTRACT NO. 60X78
		ILLINOIS	FED. AID PROJECT	

0161703-60X78-S053-BOR.dgn

FOR INFORMATION ONLY

33

2424.23-B 32 1 37

INDEX OF SHEETS

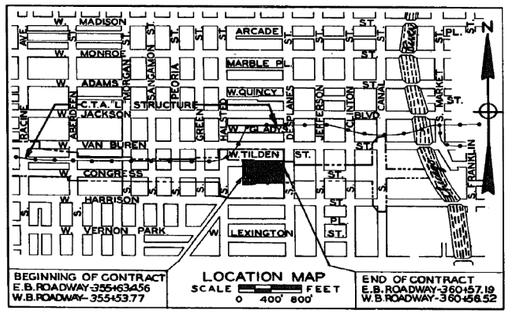
STATE OF ILLINOIS
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS

WEST ROUTE SUPERHIGHWAY

PLANS FOR SECTION 2424.23-B HALSTED STREET INTERCHANGE

ROADWAY STRUCTURES

F.A. ROUTE NO. 131 PROJECT UI-261(37)



BEGINNING OF CONTRACT
E.B. ROADWAY-355+63.56
W.B. ROADWAY-355+53.77

LOCATION MAP
SCALE 0 400' 800' FEET

END OF CONTRACT
E.B. ROADWAY-360+57.19
W.B. ROADWAY-360+56.52

GROSS LENGTH OF CONTRACT = 502.75 FEET OR 0.095 MILES
NET LENGTH OF CONTRACT = 502.75 FEET OR 0.095 MILES

SUMMARY OF ITEMS

ITEM NO.	UNIT	QUANTITY	DESCRIPTION
1	CU.YD.	20,000	SPECIAL EXCAVATION
2	CU.YD.	980	CLASS 'A' EXCAVATION FOR STRUCTURES
3	CU.YD.	3,425	CLASS 'X' CONCRETE
4	CU.FT.	26,000	SUB-PIERS
5	LB.	820,000	REINFORCEMENT BARS
6	LB.	2,330,000	STRUCTURAL STEEL
7	LIN.FT.	25	8-INCH SEWER, TYPE 2
8	LIN.FT.	330	10-INCH SEWER, TYPE 2
9	LIN.FT.	150	12-INCH SEWER, TYPE 2
10	LIN.FT.	130	15-INCH SEWER, TYPE 2
11	LIN.FT.	145	27-INCH SEWER, TYPE 2
12	LIN.FT.	325	30-INCH SEWER, TYPE 2
13	CU. YD.	420	TRENCH BACKFILL
14	EACH	8	CATCH BASINS, TYPE A
15	EACH	4	MANHOLES, TYPE A, 4 FT.
16	EACH	3	MANHOLES, TYPE A, 3 FT.
17	LB.	7,300	MISCELLANEOUS IRON CASTINGS
18	LB.	1,500	MISCELLANEOUS STEEL
19	LIN. FT.	230	6-INCH CAST IRON PIPE AND FITTINGS
20	LIN. FT	380	8-INCH CAST IRON PIPE AND FITTINGS
21	SQ.FT.	1,675	PREMOULDED JOINT FILLER
22	LIN.FT.	2,100	METAL HANDRAIL
23	LIN.FT.	145	WOOD GUARD RAIL
24	LIN.FT.	3,850	3½ INCH CONDUIT

EXPRESSWAY MAINTENANCE

CONVENTIONAL SIGNS

COMMONWEALTH EDISON CO
WESTERN UNION CO.
WATER
GAS
SEWER
SEWER MANHOLE (S)
CATCH BASIN (V)
VALVE VAULT
LIGHT STANDARD
FIRE HYDRANT
R.O.W LINE
SEWER MANHOLE (NEW)
SEWER MANHOLE (TO BE ADJUSTED)
CATCH BASIN (NEW)
CATCH BASIN (ABANDON)
C.T.A. "L" STRUCTURE

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
DATE APRIL 23, 1952
APPROVED W. E. Ramsey, ENGINEER OF SUBWAY DESIGN
APPROVED [redacted], ASST CHIEF SUBWAY ENGINEER
APPROVED [redacted], CHIEF SUBWAY ENGINEER
APPROVED [redacted], COMMISSIONER

THE DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS
APPROVED [redacted] 19
CHIEF HIGHWAY ENGINEER
APPROVED [redacted] 19
DIRECTOR

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL
[redacted] DISTRICT ENGINEER [redacted] DATE
APPROVED
[redacted] DIVISION ENGINEER [redacted] DATE

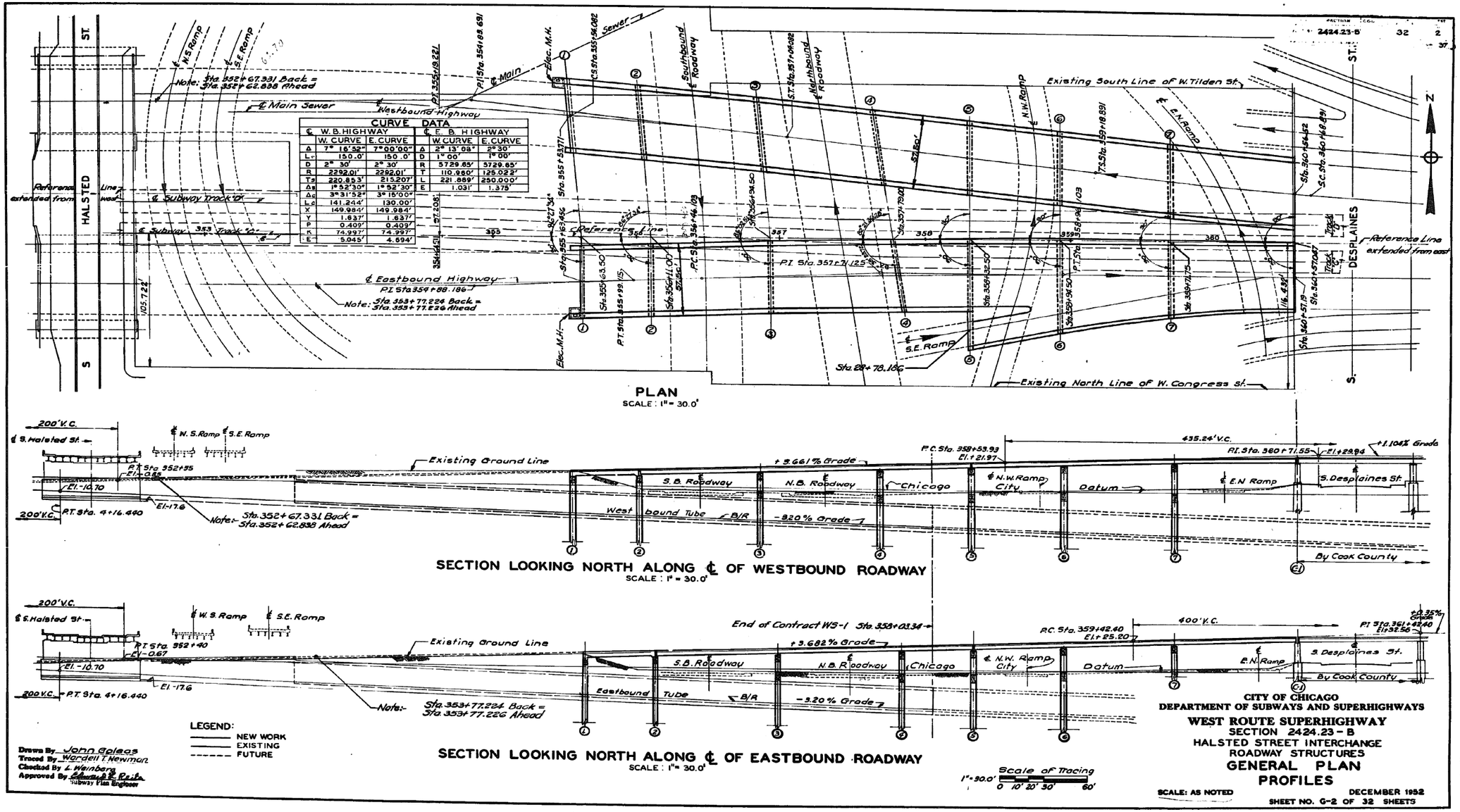
PLANS APPROVED
BY STATE DIVISION OF HIGHWAYS

SHEET NO. G-1 OF 32 SHEETS

0161703-60X78-S054-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	239
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 1 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	240
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 2 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

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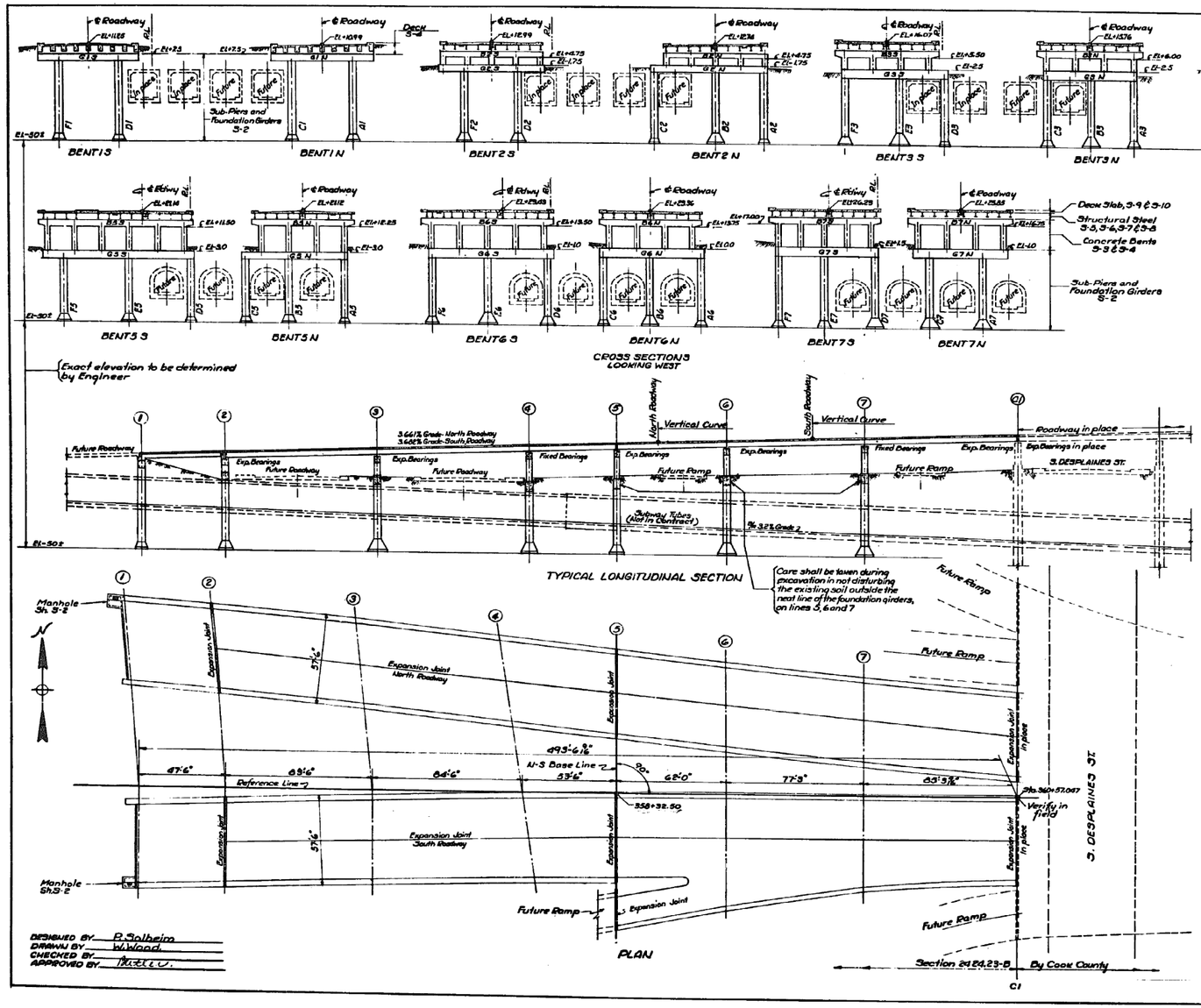


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424.23-B	COOK	32	13
FED. ROAD DIV. NO. 4	ILLINOIS	PROJECT UR 881 (37)		

Note:
Roadway elevations given are at center line of Sub-Piers

R.L. = Reference Line

GENERAL NOTES
These Notes apply to Sheets S-1 to S-10 inclusive

Design Data
Loading
AASHO - 1949 Specifications - H20-S16-44
Stresses
Structural Steel
f_s = 18 kips per sq. inch
Reinforced Concrete
f_s = 20 kips per sq. inch } n = 10
f_c = 1.2 kips per sq. inch }
Sub-Piers
Bearing: 12 kips per sq. foot

Fabrication
Structural Steel shall conform to current ASTM-A7 Specifications.
All connections shall be riveted unless otherwise shown
Rivets $\frac{7}{8}$"ø Holes $\frac{15}{16}$"ø unless otherwise shown.
Holes for girder splices to be reamed or drilled - See Detail S-5
All girders of a continuous unit shall be assembled in the shop in their proper position
Welding: See Specifications
Painting: See Specifications
Inspection: See Specifications
Reinforcement Bars shall conform to current ASTM designation A305-49 - Lap 20 bar Dia. unless otherwise noted.

Construction
Verify dimensions and elevations of adjoining structure in field
No construction joints except those shown on the plans will be allowed unless otherwise ordered by the Engineer
All exposed concrete edges shall have $\frac{3}{4}$" chamfer unless otherwise shown on the plans.
Concrete Finish: See Specifications

Designations
Westbound Roadway is designated North Roadway
Eastbound Roadway is designated South Roadway
County Pier #1 on west side of Desplaines Street is designated C1

References
For Location Map and index of drawings: see Sheet G1

Items (Structural)

Class X Concrete,	Item 3
Sub-Piers,	Item 4
Reinforcement Bars,	Item 5
Structural Steel,	Item 6
Premoulded Joint Filler,	Item 21

Sub-Piers
Sub-Piers D1, D2, D3, E3, D4, and E4 are to be constructed thru varying thickness of gravel, crushed stone, and clay backfill as shown on plans on file in the Commissioner's office.
The contractor shall take such precautions as are necessary to insure that the sub-piers will not be in contact with the subway tubes. The contractor shall submit to the Engineer any planned deviation from his normal procedure that may become necessary, in order to construct these sub-piers.

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
KEY PLAN

DESIGNED BY: R. Solheim
DRAWN BY: W. Wood
CHECKED BY:
APPROVED BY: Walter V.

Scale of tracing 1" = 30' (0 10' 20' 30' 60')
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. S-1 OF 32 SHEETS

0161703-60X78-S056-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	
		CHECKED -	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

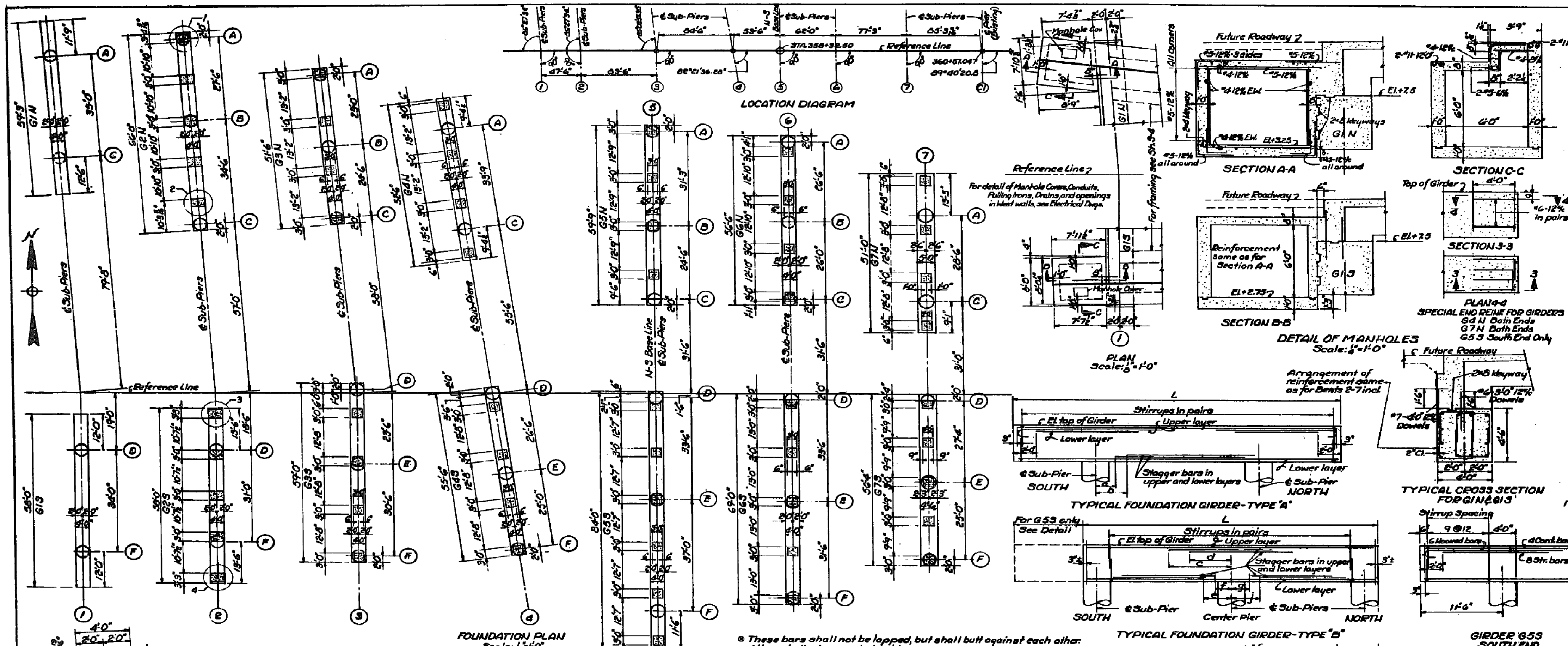
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 3 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	241
			CONTRACT NO. 60X78	
		ILLINOIS	FED. AID PROJECT	

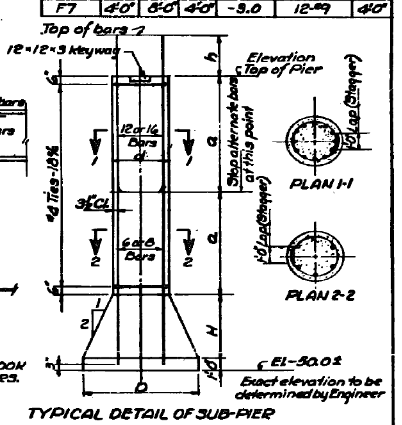
FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424.23-B	COOK	32	14
FED. ROAD DIV. NO. 4	ILLINOIS		PROJECT UI 261 (37)	



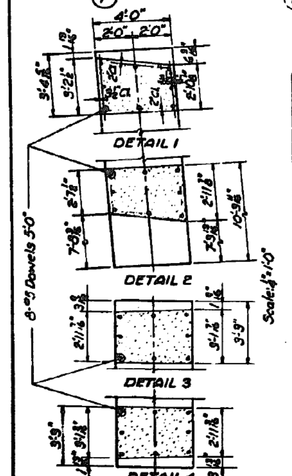
SUB-PIER SCHEDULE

MARK	d	D	H	ELEVATION TOP OF PIER	VERTICAL BARS	h
A1 & F1	4'0"	7'6"	3'6"	+3.0	12-#9	4'0"
C1 & D1	4'0"	6'6"	2'6"	+3.0	12-#9	4'0"
A2 & C2	4'0"	6'0"	2'0"	-6.5	12-#9	4'3"
B2	4'0"	9'6"	5'6"	-6.5	12-#9	4'3"
D2 & F2	4'0"	8'6"	4'6"	-6.5	12-#9	4'3"
A3 & C3	4'0"	7'6"	3'6"	-9.0	12-#9	6'0"
B3	4'0"	9'6"	5'6"	-9.0	12-#9	6'0"
D3	4'0"	6'0"	2'0"	-8.5	12-#9	5'6"
E3	4'0"	10'6"	6'6"	-8.5	12-#9	5'6"
F3	4'0"	8'6"	4'6"	-8.5	12-#9	5'6"
A4 & C4	4'0"	9'6"	5'6"	-11.0	16-#11	6'0"
D4	4'0"	6'6"	2'6"	-10.0	12-#9	6'0"
E4	4'0"	9'6"	5'6"	-10.0	16-#11	6'0"
F4	4'0"	7'0"	3'0"	-10.0	12-#9	6'0"
A5	4'0"	6'6"	2'6"	-7.25	12-#9	3'9"
B5	4'0"	8'6"	4'6"	-7.25	12-#9	3'9"
C5	4'0"	6'0"	2'0"	-7.25	12-#9	3'9"
D5	4'0"	6'0"	2'0"	-8.0	12-#9	4'6"
E5	4'0"	8'6"	4'6"	-8.0	12-#9	4'6"
F5	4'0"	8'0"	4'0"	-8.0	12-#9	4'6"
A6	4'0"	6'6"	2'6"	-6.5	12-#9	6'0"
B6	4'0"	9'6"	5'6"	-6.5	12-#9	6'0"
C6	4'0"	7'0"	3'0"	-6.5	12-#9	6'0"
D6	4'0"	7'0"	3'0"	-6.5	12-#9	5'0"
E6	4'0"	10'6"	6'6"	-6.5	12-#9	5'0"
F6	4'0"	8'0"	4'0"	-6.5	12-#9	5'0"
A7	4'6"	11'0"	6'6"	-8.0	16-#11	6'6"
C7	4'6"	9'6"	5'0"	-8.0	16-#11	6'6"
D7	4'0"	7'6"	3'6"	-3.0	12-#9	4'0"
E7	4'6"	10'6"	6'0"	-3.0	16-#11	4'0"
F7	4'0"	8'0"	4'0"	-3.0	12-#9	4'0"



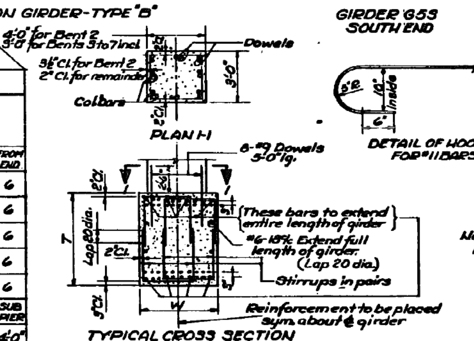
Note: For Key Plan and General Notes see Sheet S-1

⊕ These bars shall not be lapped, but shall butt against each other. Alternate the long and short bars.



FOUNDATION GIRDER SCHEDULE

TYPE	MARK	W	T	L	ELEVATION TOP OF GIRDER	TOP BARS #11 UPPER LAYER No.	Length	No.	Length	No.	Length	TOP BARS #11 LOWER LAYER No.	Length	No.	Length	DIMENSIONS		BOTTOM BARS #11 LOWER LAYER No.	Length	No.	Length	No.	Length	BOTTOM BARS #11 UPPER LAYER No.	Length	No.	Length	DIMENSIONS				STIRRUPS #6 No. PAIRS	TOTAL No. PIECES	SPACINGS SHOWN ARE FROM SOUTH TO NORTH. FIGURES THUS (12) ARE SPACINGS IN INCHES						
						CONTINUOUS		HOOKED SOUTH END		HOOKED NORTH END		SOUTH END		NORTH END				CONTINUOUS		BETWEEN PIERS				BETWEEN PIERS				a	b					FROM END	CANTILEVER	SUB PIER	BETWEEN SUB-PIERS	SUB PIER	CANTILEVER	FROM END
"A"	G1N	4'0"	4'6"	59'3"	+7.5	4	58'9"	6	24'0"	6	23'0"	2	18'0"	4	17'0"	—	—	4	58'9"	6	25'0"	—	—	6	25'0"	—	—	4'0"	6'0"	—	—	48	192	6	6(18)-2(6)	4'0"	4(6)-4(9)-14(18)-4(9)-4(6)	4'0"	1(9)-1(12)-5(18)	6
	G1S	4'0"	4'6"	58'0"	+7.5	4	57'6"	6	23'6"	6	23'0"	4	17'0"	2	17'0"	—	—	4	57'6"	6	24'0"	—	—	4	24'0"	—	—	4'0"	6'0"	—	—	45	180	6	6(18)-1(6)	4'0"	3(6)-4(9)-14(18)-4(9)-3(6)	4'0"	1(6)-6(18)	6
	G2S	4'0"	4'9"	58'0"	-1.75	4	57'6"	6	29'0"	6	29'0"	10	22'0"	10	22'0"	—	—	4	57'6"	6	15'0"	—	—	—	—	—	—	7'0"	9'0"	—	—	52	208	6	6(18)-2(12)	4'0"	6(6)-21(12)-6(6)	4'0"	2-(12)-6(18)	6
	G4N	4'0"	6'6"	52'6"	-4.5	4	52'0"	6	19'6"	6	19'6"	6	13'6"	6	13'6"	—	—	4	52'0"	6	22'0"	—	—	4	22'0"	—	—	5'0"	6'9"	—	—	51	204	6	4(12)-3(11½)	4'0"	2(6)-11(9)-7(18)-12(9)-2(6)	4'0"	3(1½)-4(18)	6
	G7N	5'0"	7'0"	51'0"	-1.0	4	50'6"	9	19'6"	9	24'6"	3	15'6"	13	19'6"	—	—	4	50'6"	4	24'0"	—	—	—	—	—	—	2'3"	2'3"	—	—	48	192	6	5(18)-2(8)	4'6"	2(6)-9(12)-6(18)-10(6)	4'6"	2(10)-9(12)	6
	—	—	—	—	—	CONTINUOUS		HOOKED SOUTH END		AT CENTER PIER		SOUTH END		AT CENTER PIER		c	d	CONTINUOUS		SOUTH SPAN		NORTH SPAN		SOUTH SPAN		NORTH SPAN		e	f	g	j	—	—	SUB PIER	BETWEEN SUB-PIERS	SUB PIER	BETWEEN SUB-PIERS	SUB PIER		
"B"	G2N	4'0"	4'9"	66'0"	-1.75	4 4	50'0"⊕ 15'0"⊕	—	—	6	17'0"	—	—	10	17'0"	10'0"	7'0"	4 4	33'6"⊕ 30'0"⊕	6	24'0"	6	15'0"	8	24'0"	2	15'0"	9'0"	7'0"	7'0"	9'0"	56	224	4'0"	6(12)-7(18)-18(9)-1(6)	4'0"	4(9)-10(12)-6(18)-2(9)	4'0"		
	G3S	4'0"	6'0"	59'0"	-2.5	4	58'6"	—	—	6	17'0"	—	—	6	17'0"	10'0"	7'0"	4	58'6"	6	21'0"	6	15'0"	10	21'0"	4	15'0"	9'6"	6'6"	6'6"	9'6"	48	192	4'0"	1(9)-7(18)-19(9)-2(6)	4'0"	3(6)-11(18)-3(10)	4'0"		
	G3N	4'0"	6'6"	51'6"	-2.5	4	51'0"	—	—	6	15'0"	—	—	4	15'0"	9'0"	6'0"	4	51'0"	6	15'0"	4	15'0"	—	—	—	—	6'0"	4'0"	4'0"	6'0"	41	164	4'0"	1(6)-8(18)-10(9)-1(6)	4'0"	1(6)-10(9)-7(18)-1(6)	4'0"		
	G4S	4'0"	6'6"	55'6"	-3.5	4	55'0"	—	—	6	15'0"	—	—	4	15'0"	9'0"	6'0"	4	55'0"	6	17'0"	6	22'0"	—	—	—	—	6'6"	4'6"	2'0"	4'0"	45	180	4'0"	1(6)-7(18)-9(12)-2(6)	4'0"	4(6)-6(9)-8(18)-4(9)-2(6)	4'0"		
	G5N	4'0"	4'3"	59'9"	-3.0	4	59'3"	—	—	6	15'0"	—	—	6	15'0"	9'0"	6'0"	4	59'3"	6	15'0"	6	22'0"	2	15'0"	10	22'0"	8'0"	6'0"	5'0"	7'0"	43	172	4'0"	2(9)-12(18)-2(6)	4'0"	1(9)-17(12)-6(18)-1(6)	4'0"		
	G6S	4'0"	5'6"	64'0"	-1.0	4 4	50'0"⊕ 18'6"⊕	—	—	6	19'0"	—	—	10	19'0"	11'0"	8'0"	4 4	36'6"⊕ 32'0"⊕	6	19'0"	6	22'0"	8	19'0"	8	22'0"	10'0"	7'0"	7'0"	10'0"	57	228	4'0"	1(6)-7(18)-15(12)-3(6)	4'0"	3(9)-15(18)-6(18)-3(9)-2(6)	4'0"		
	G6N	4'0"	6'6"	56'6"	0.0	4	56'0"	—	—	6	15'0"	—	—	6	15'0"	9'0"	6'0"	4	56'0"	6	15'0"	6	20'6"	—	—	—	—	6'0"	4'0"	4'0"	6'0"	44	176	4'0"	1(9)-7(18)-9(12)-3(7)	4'0"	2(6)-10(9)-9(18)-1(6)	4'0"		
	G7S	4'6"	4'6"	56'4"	+1.5	4	55'9"	—	—	6	15'0"	—	—	10	15'0"	9'0"	6'0"	4	55'9"	6	15'0"	6	17'0"	6	15'0"	10	17'0"	8'0"	5'0"	5'0"	8'0"	53	212	4'0"	2(9)-3(18)-15(9)-1(6)	4'6"	4(9)-15(9)-5(18)-4(6)	4'0"		
	G5S	4'0"	5'0"	84'0"	-3.0	4 4	54'0"⊕ 24'6"⊕	6	23'6"	6	17'0"	8	17'6"	6	17'0"	10'0"	7'0"	4 4	43'0"⊕ 40'6"⊕	6	25'0"	6	25'0"	2	25'0"	4	25'0"	7'0"	5'0"	5'0"	7'0"	68	272	4'0"	6(6)-4(9)-16(18)-4(9)	4'0"	6(9)-14(18)-4(9)-2(6)	4'0"		



Scales of tracing
1/16"=1'-0"
1/4"=1'-0"

DESIGNED BY P. Solheim
DRAWN BY W. Wood
CHECKED BY
APPROVED BY

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
SUB-PIERS
AND FOUNDATION GIRDERS

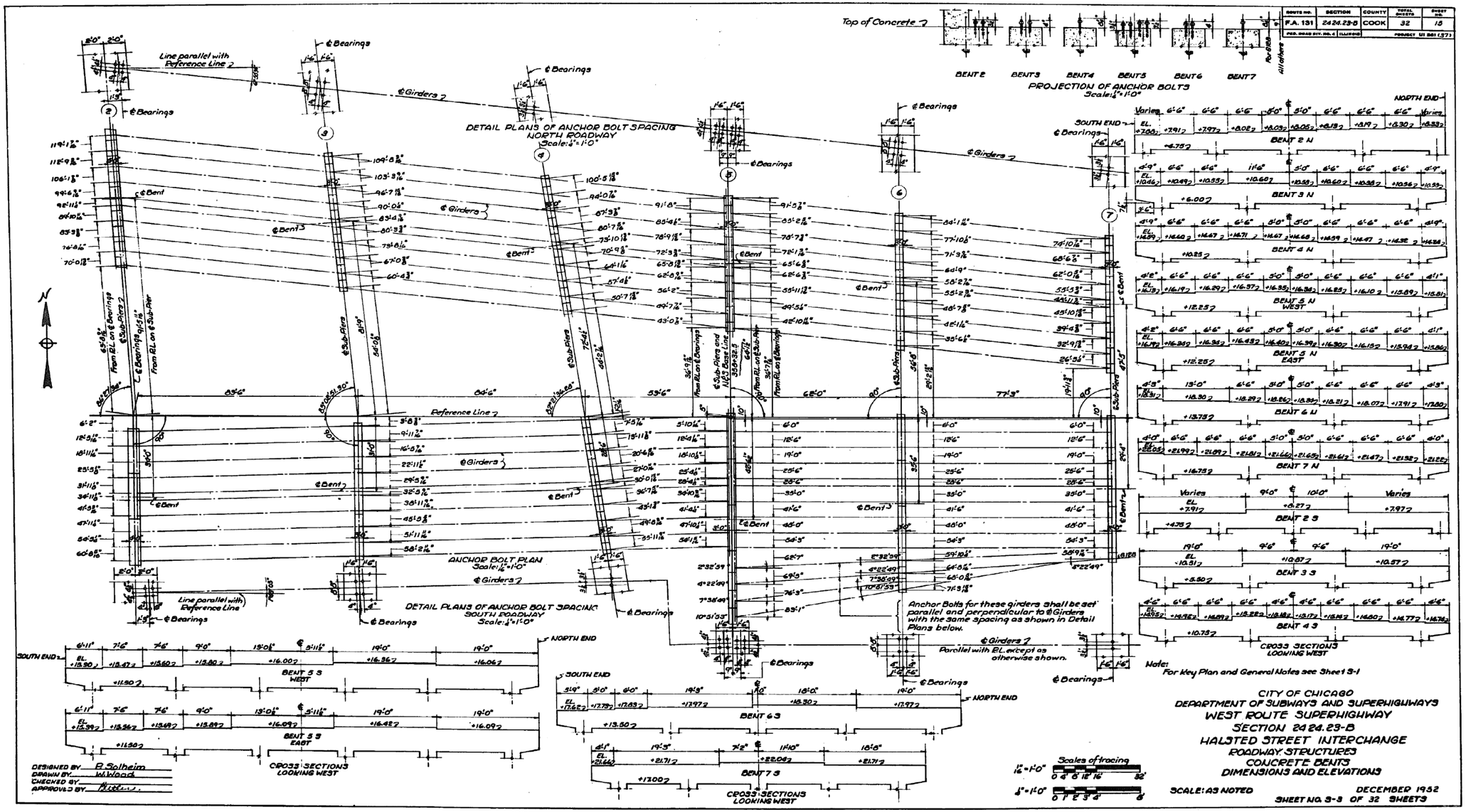
SCALE: AS NOTED

DECEMBER 1952

SHEET NO. S-2 OF 32 SHEETS

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424.23-B	COOK	32	15
PROJ. ROAD DIV. NO. 4	ILLINOIS		PROJECT UI 2651 (37)	



Note: For Key Plan and General Notes see Sheet 3-1

DESIGNED BY P. Solheim
DRAWN BY W. Wood
CHECKED BY
APPROVED BY

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
CONCRETE BENTS
DIMENSIONS AND ELEVATIONS

SCALE: AS NOTED — DECEMBER 1952

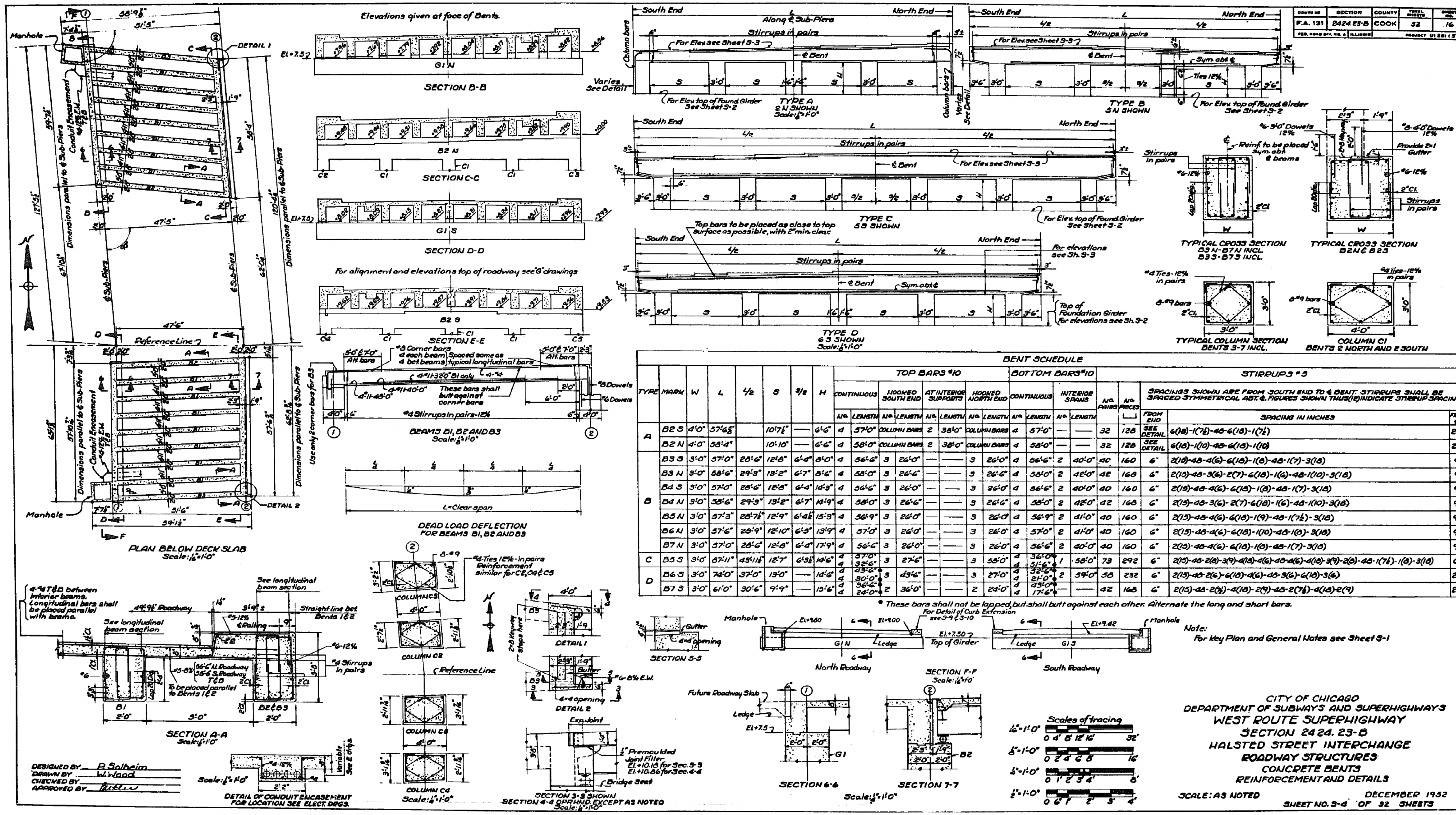
SHEET NO. 3-3 OF 32 SHEETS

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		SHEET NO. 5 OF 39 SHEETS
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	243
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

016I703-60X78-S058-EXT.dgn

FOR INFORMATION ONLY



BENT SCHEDULE

TYPE	MARK	W	L	L/2	S	S/2	H	TOP BARS #10 CONTINUOUS No.	LENGTH	HOOKED SOUTH END No.	LENGTH	AT INTERIOR SUPPORTS No.	LENGTH	HOOKED NORTH END No.	LENGTH	BOTTOM BARS #10 CONTINUOUS No.	LENGTH	INTERIOR SPANS No.	LENGTH	STIRRUPS #5 No. PAIRS	No. PIECES	FROM END	SPACING IN INCHES	FROM ℄
A	B2 S	4'-0"	57'-6⅝"		10'-7½"	—	6'-6"	4	57'-0"	COLUMN BARS		2	38'-0"	COLUMN BARS		4	57'-0"	—	—	32	128	SEE DETAIL	6(18)-1(7½)-48-6(18)-1(7½)	24"
	B2 N	4'-0"	58'-4"		10'-10"	—	6'-6"	4	58'-0"	COLUMN BARS		2	38'-0"	COLUMN BARS		4	58'-0"	—	—	32	128	SEE DETAIL	6(18)-1(10)-48-6(18)-1(10)	24"
B	B3 S	3'-0"	57'-0"	28'-6"	12'-8"	6'-4"	8'-0"	4	56'-6"	3	26'-0"	—	—	3	26'-0"	4	56'-6"	2	40'-0"	40	160	6"	2(15)-48-4(6)-6(18)-1(8)-48-1(7)-3(18)	9"
	B3 N	3'-0"	58'-6"	29'-3"	13'-2"	6'-7"	8'-6"	4	58'-0"	3	26'-6"	—	—	3	26'-6"	4	58'-0"	2	42'-0"	42	168	6"	2(15)-48-3(6)-2(7)-6(18)-1(6)-48-1(10)-3(18)	9"
	B4 S	3'-0"	57'-0"	28'-6"	12'-8"	6'-4"	14'-3"	4	56'-6"	3	26'-0"	—	—	3	26'-0"	4	56'-6"	2	40'-0"	40	160	6"	2(15)-48-4(6)-6(18)-1(8)-48-1(7)-3(18)	9"
	B4 N	3'-0"	58'-6"	29'-3"	13'-2"	6'-7"	14'-9"	4	58'-0"	3	26'-6"	—	—	3	26'-6"	4	58'-0"	2	42'-0"	42	168	6"	2(15)-48-3(6)-2(7)-6(18)-1(6)-48-1(10)-3(18)	9"
	B5 N	3'-0"	57'-3"	28'-7½"	12'-9"	6'-4½"	15'-3"	4	56'-9"	3	26'-0"	—	—	3	26'-0"	4	56'-9"	2	41'-0"	40	160	6"	2(15)-48-4(6)-6(18)-1(9)-48-1(7½)-3(18)	9"
	B6 N	3'-0"	57'-6"	28'-9"	12'-10"	6'-5"	13'-9"	4	57'-0"	3	26'-0"	—	—	3	26'-0"	4	57'-0"	2	41'-0"	40	160	6"	2(15)-48-4(6)-6(18)-1(10)-48-1(8)-3(18)	9"
	B7 N	3'-0"	57'-0"	28'-6"	12'-8"	6'-4"	17'-9"	4	56'-6"	3	26'-0"	—	—	3	26'-0"	4	56'-6"	2	40'-0"	40	160	6"	2(15)-48-4(6)-6(18)-1(8)-48-1(7)-3(18)	9"
C	B5 S	3'-0"	87'-11"	43'-11½"	12'-7"	6'-3½"	14'-6"	4 4	57'-0" 32'-6"	3	27'-6"	—	—	3	58'-0"	4 4	36'-0" • 51'-6" •	1	58'-0"	73	292	6"	2(15)-48-2(8)-3(9)-4(18)-4(6)-48-4(6)-4(18)-3(9)-2(8)-48-1(7½)-1(8)-3(18)	0
D	B6 S	3'-0"	74'-0"	37'-0"	13'-0"	—	14'-6"	4 4	43'-6" • 30'-0" •	3	43'-6"	—	—	3	27'-0"	4 4	32'-6" • 21'-0" •	2	59'-0"	58	232	6"	2(15)-48-2(6)-6(18)-4(6)-48-3(6)-6(18)-3(6)	24"
	B7 S	3'-0"	61'-0"	30'-6"	9'-9"	—	15'-6"	4 4	36'-6" • 24'-0" •	2	36'-0"	—	—	2	24'-0"	4 4	43'-0" • 17'-6" •	—	—	42	168	6"	2(15)-48-2(9)-4(18)-2(9)-48-2(7½)-4(18)-2(9)	24"

SPACINGS SHOWN ARE FROM SOUTH END TO ℄ BENT. STIRRUPS SHALL BE SPACED SYMMETRICAL ABT. ℄. FIGURES SHOWN THUS (12) INDICATE STIRRUP SPACING

• These bars shall not be lapped, but shall butt against each other. Alternate the long and short bars.

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -
	PLOT SCALE = N.T.S.	CHECKED -	REVISED -
	PLOT DATE = 3/23/2016	DRAWN - DCP	REVISED -
		CHECKED - JIG	REVISED -

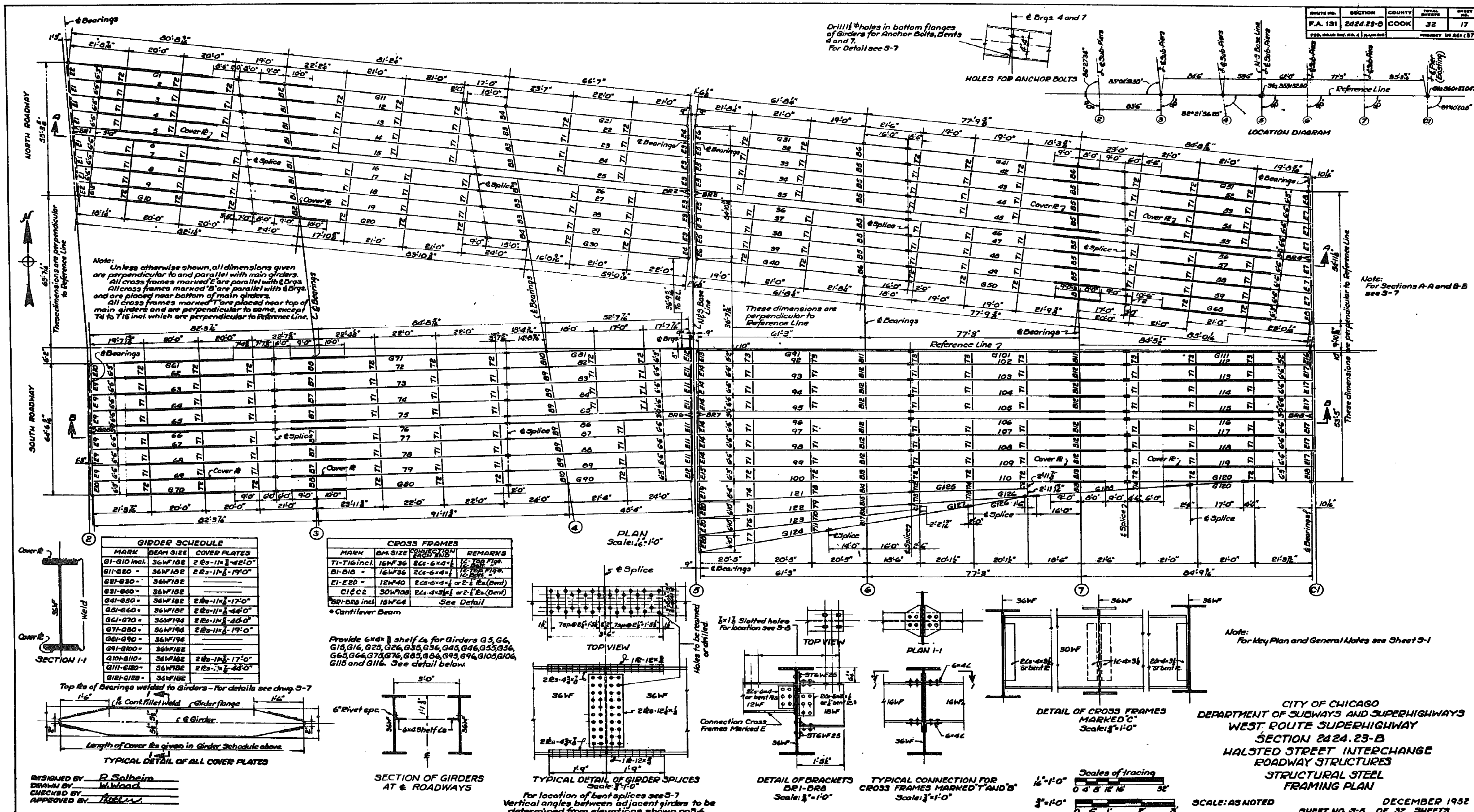
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 6 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	244
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

0161703-60X78-S059-EXT.dgn

FOR INFORMATION ONLY



GIRDER SCHEDULE

MARK	BEAM SIZE	COVER PLATES
G1-G10 incl.	36WF182	2 ℙs-11×7/8-42'-0"
G11-G20 "	36WF182	2 ℙs-11×7/8-19'-0"
G21-G30 "	36WF182	—
G31-G40 "	36WF182	—
G41-G50 "	36WF182	2 ℙs-11×7/8-17'-0"
G51-G60 "	36WF182	2 ℙs-11×7/8-44'-0"
G61-G70 "	36WF194	2 ℙs-11×7/8-40'-0"
G71-G80 "	36WF194	2 ℙs-11×7/8-19'-0"
G81-G90 "	36WF194	—
G91-G100 "	36WF182	—
G101-G110 "	36WF182	2 ℙs-11×7/8-17'-0"
G111-G120 "	36WF182	2 ℙs-11×7/8-44'-0"
G121-G128 "	36WF182	—

CROSS FRAMES

MARK	BM. SIZE	CONNECTION EACH END	REMARKS
T1-T16 incl.	16WF36	2∠s-6×4×1/2	1∠-Top Flge. 1∠-Bott. "
B1-B18 "	16WF36	2∠s-6×4×1/2	1∠-Top Flge. 1∠-Bott. "
E1-E20 "	12WF40	2∠s-6×4×1/2 or 2-1/2" ℙs (Bent)	
C1 & C2	30WF108	2∠s-4×3 1/2×1/2 or 2-1/2" ℙs (Bent)	
*BR1-BR8 incl.	18WF64	See Detail	

*Cantilever Beam

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424.23-B	COOK	32	17

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
STRUCTURAL STEEL
FRAMING PLAN

SCALE: AS NOTED

DECEMBER 1952

SHEET NO. S-5 OF 32 SHEETS

0161703-60X78-S060-EXT.dgn

PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED -	REVISED -	
	CHECKED -	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 7 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	245

CONTRACT NO. 60X78

ILLINOIS FED. AID PROJECT

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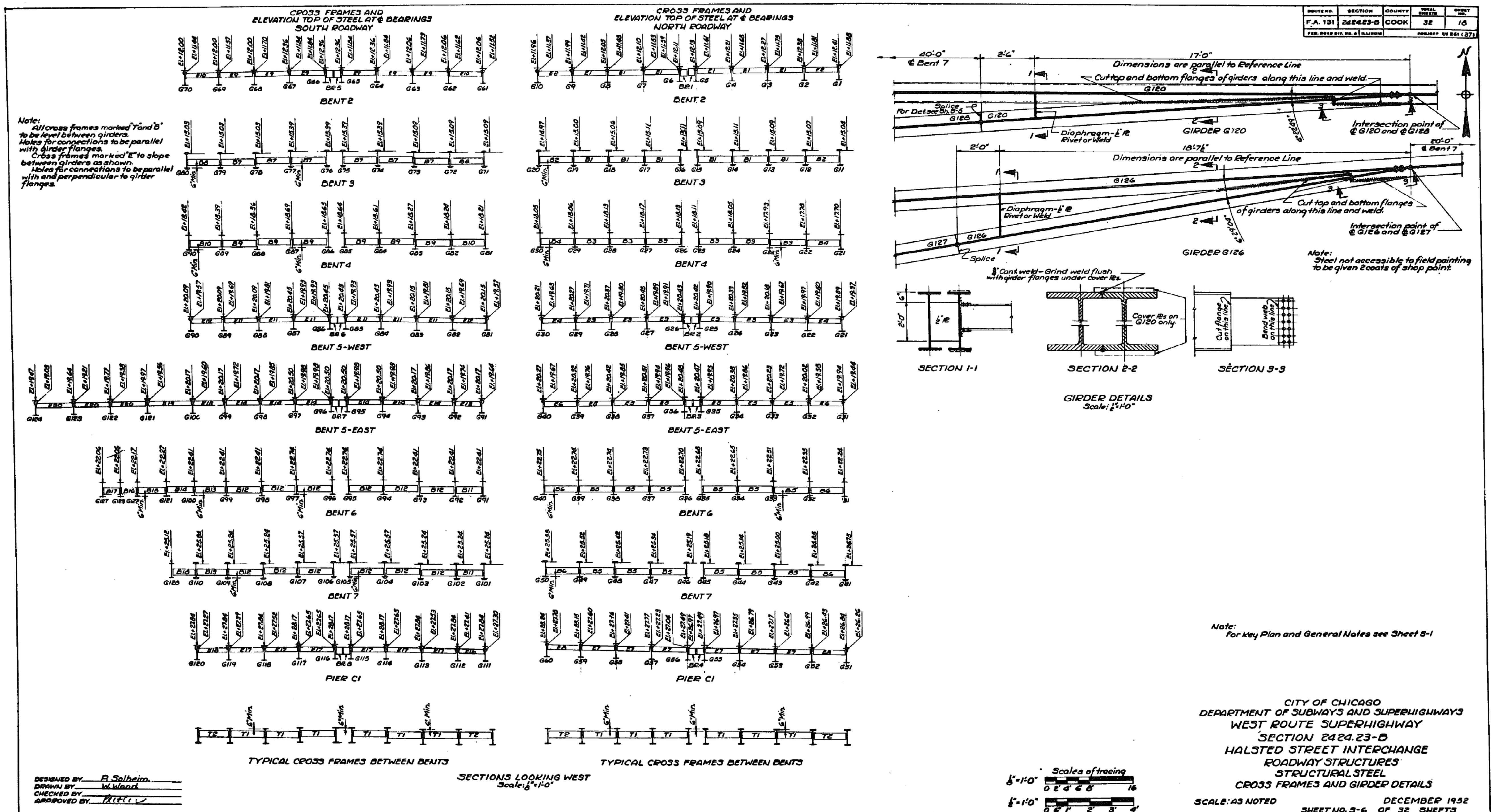


CROSS FRAMES AND ELEVATION TOP OF STEEL AT ℄ BEARINGS SOUTH ROADWAY
CROSS FRAMES AND ELEVATION TOP OF STEEL AT ℄ BEARINGS NORTH ROADWAY
BENT 2
BENT 3
BENT 4
BENT 5-WEST
BENT 5-EAST
BENT 6
BENT 7
PIER C1
Note: All cross frames marked "T" and "B" to be level between girders. Holes for connections to be parallel with girder flanges. Cross frames marked "E" to slope between girders as shown. Holes for connections to be parallel with and perpendicular to girder flanges.
TYPICAL CROSS FRAMES BETWEEN BENTS
SECTIONS LOOKING WEST Scale: 1/8"=1'-0"
DESIGNED BY R. Solheim
DRAWN BY W. Wood
CHECKED BY
APPROVED BY
F.A. 131 | 2424.23-B | COOK | 32 | 18
Dimensions are parallel to Reference Line
Cut top and bottom flanges of girders along this line and weld.
Intersection point of ℄ G120 and ℄ G128
Diaphragm
GIRDER G120
GIRDER G126
Intersection point of ℄ G126 and ℄ G127
Note: Steel not accessible to field painting to be given 2 coats of shop paint.
SECTION 1-1
SECTION 2-2
SECTION 3-3
GIRDER DETAILS Scale: 1/2"=1'-0"
Note: For Key Plan and General Notes see Sheet S-1
Scales of tracing
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
STRUCTURAL STEEL
CROSS FRAMES AND GIRDER DETAILS
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. S-6 OF 32 SHEETS

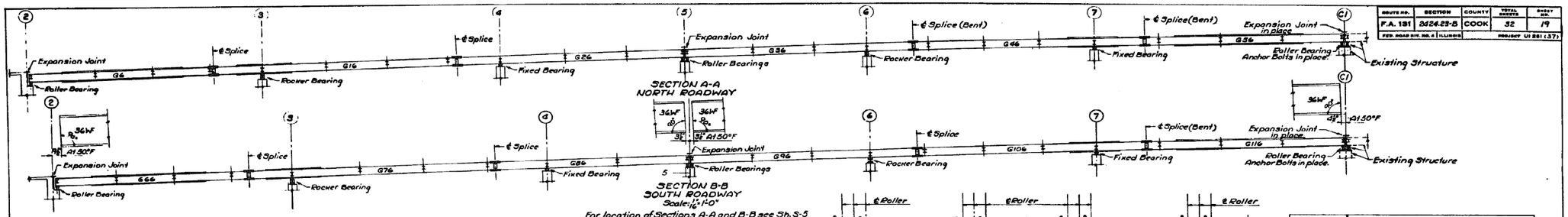
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 8 OF 39 SHEETS

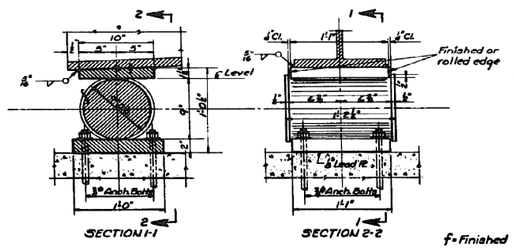
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	246
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

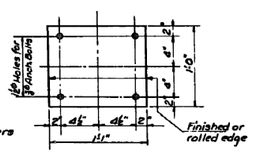
0161703-60X78-S061-EXT.dgn

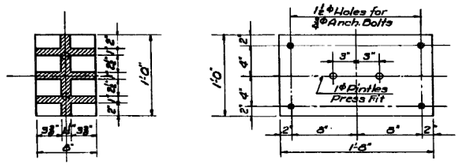
FOR INFORMATION ONLY

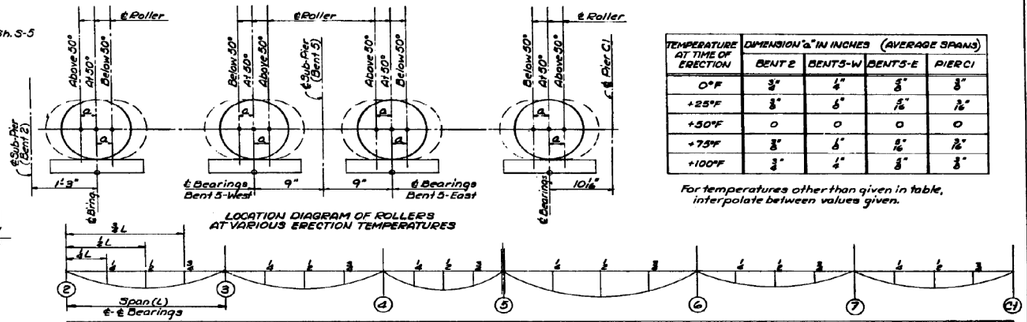
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 181	2424.23-B	COOK	32	19
FED. ROAD DIST. NO. 4	ILLINOIS		PROJECT UI 251 (371)	











TEMPERATURE AT TIME OF ERECTION	DIMENSION "a" IN INCHES (AVERAGE SPANS)			
	BENT 2	BENT 5-W	BENT 5-E	PIER C1
0°F	3/4"	1/4"	3/8"	3/8"
+25°F	3/8"	0	1/16"	1/16"
+50°F	0	0	0	0
+75°F	3/8"	1/4"	5/16"	3/16"
+100°F	3/4"	1/2"	3/8"	3/8"

For temperatures other than given in table, interpolate between values given.

SPAN	GIRDER	POINT ¼	POINT ½	POINT ¾
2-3	G1℄G10	1 1/8"	1 7/8"	2 5/8"
	G2-G9 incl.	1 1/8"	1"	1 3/8"
3-4	G11℄G12	5/8"	3/8"	1/4"
	G13℄G14	5/8"	7/16"	1/4"
	G15,G16 G17℄G18	3/16"	1/8"	1/16"
	G19	1/4"	5/16"	3/16"
	G20	1/4"	1/16"	1/16"
4-5	G21	3/16"	3/16"	1/8"
	G22℄G23	5/16"	1/16"	1/16"
	G24,G25 C&G26	1/4"	1/8"	1/16"
	G27	3/16"	1/16"	1/8"
	G28	3/16"	3/16"	1/16"
	G29℄G30	1/8"	1/16"	1/16"
5-6	G31℄G40	1/16"	1/8"	1/16"
	G32-G39 incl.	3/16"	1/16"	1/16"
6-7	G41℄G50	1/16"	1/16"	—
	G42-G49 incl.	1/8"	1/16"	—
7-C1	G51℄G60	3/16"	1/16"	1/16"
	G52-G59 incl.	1/8"	1/16"	1/8"

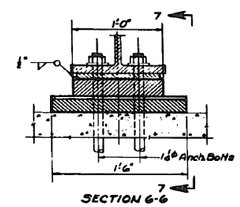
NORTH ROADWAY
DEAD LOAD DEFLECTION OF GIRDERS

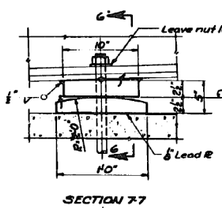
SPAN	GIRDER	POINT ¼	POINT ½	POINT ¾
2-3	G61	1 3/16"	1 5/16"	1 1/16"
	G62-G66 incl.	3/16"	1/16"	1/8"
	G67℄G68 C G69	3/16"	1/16"	1/16"
	G70	1/8"	1/16"	1/16"
3-4	G71℄G72	5/16"	3/16"	1/8"
	G73℄G74	3/16"	1/16"	1/16"
	G75,G76 C G77	1/16"	1/8"	1/8"
	G78	1/8"	1/16"	1/16"
	G79	1/16"	1/16"	1/16"
	G80	1/16"	1/16"	1/16"
4-5	G81℄G82	—	1/8"	1/16"
	G83	—	1/16"	1/8"
	G84,G85 C G86	—	1/16"	1/16"
	G87,G88 C G89	(-)1/16"	—	—
	G90	(-)1/16"	(+)1/16"	—
5-6	G91	1/16"	1/16"	1/16"
	G92-G99 incl.	3/16"	1/16"	1/16"
	G100	1/16"	1/16"	1/16"
	G121℄G124	1/16"	1/16"	1/16"
	G122	1/16"	1/16"	1/16"
	G123	3/16"	1/16"	1/16"
6-7	G101	1/16"	1/16"	1/16"
	G102-G109 incl.	1/16"	1/16"	—
	G110	1/16"	1/16"	1/16"
	G125	1/16"	1/16"	1/16"
	G126	1/16"	1/16"	1/16"
	G127	1/16"	1/16"	—
7-C1	G111℄G120	1/16"	1/16"	1/16"
	G112-G119 incl.	1/16"	1/16"	1/16"
	G128	1/16"	1/16"	—

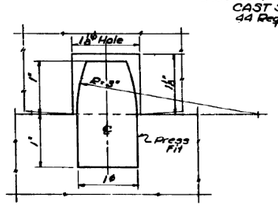
(-) Indicates upward deflection.

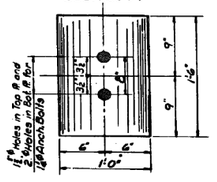
SOUTH ROADWAY
DEAD LOAD DEFLECTION OF GIRDERS

Note: For Key Plan and General Notes see Sheet S-1









DESIGNED BY P. Salheim
DRAWN BY W. Wood
CHECKED BY
APPROVED BY

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
STRUCTURAL STEEL
GIRDER BEARINGS AND DEAD LOAD DEFLECTIONS

1"=1'-0" Scales of tracing
1½"=1'-0"

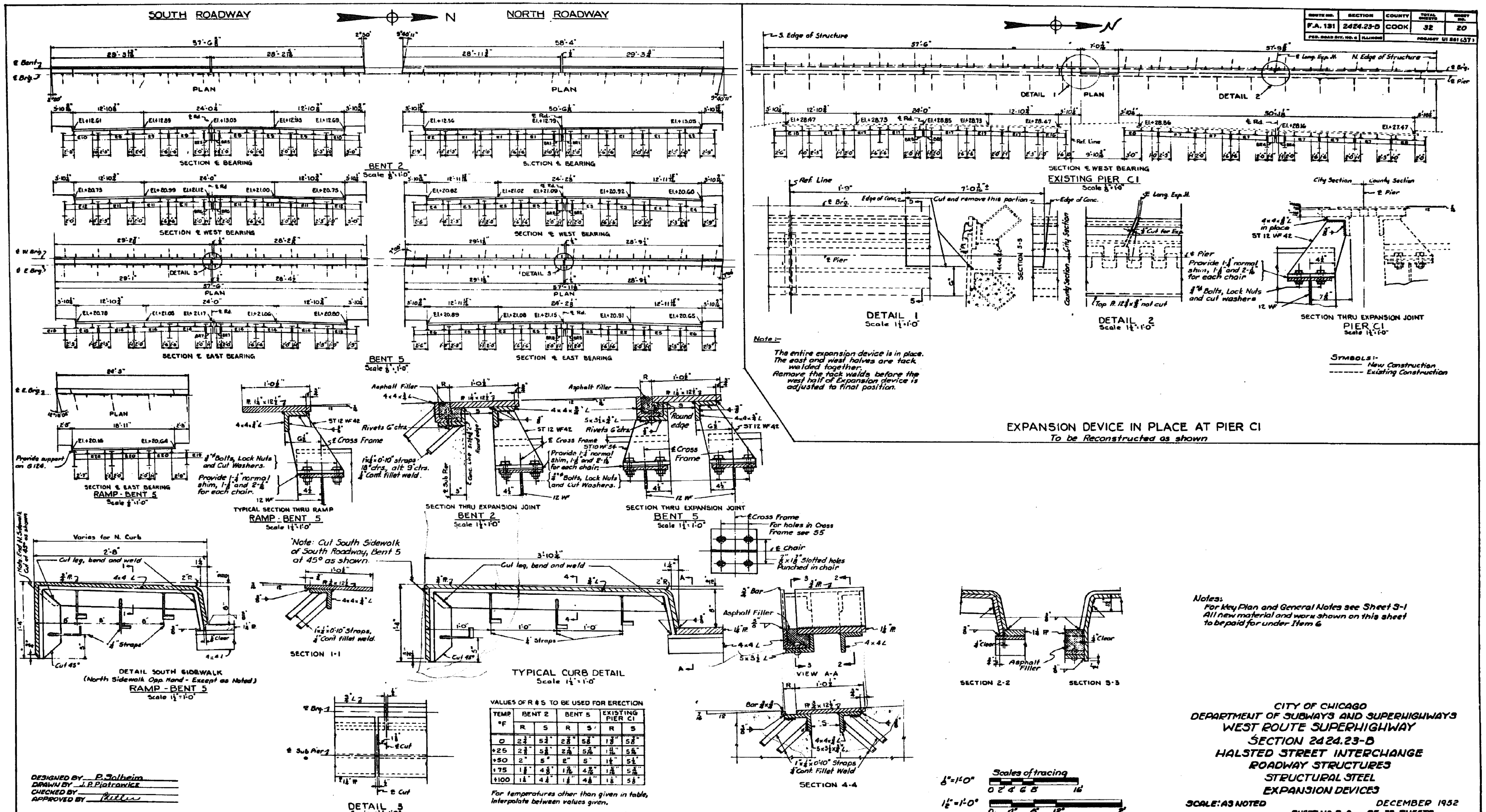
SCALE: AS NOTED

DECEMBER 1952
SHEET NO. S-7 OF 32 SHEETS

0161703-60X78-S062-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	247
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 9 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



VALUES OF R & S TO BE USED FOR ERECTION

TEMP °F	BENT 2		BENT 5		EXISTING PIER C1	
	R	S	R	S	R	S
0	2 3/4"	5 3/4"	2 7/8"	5 7/8"	1 7/8"	5 7/8"
+25	2 3/8"	5 3/8"	2 7/16"	5 7/16"	1 11/16"	5 11/16"
+50	2"	5"	2"	5"	1 1/2"	5 1/2"
+75	1 5/8"	4 5/8"	1 9/16"	4 9/16"	1 5/16"	5 5/16"
+100	1 1/4"	4 1/4"	1 1/8"	4 1/8"	1 1/8"	5 1/8"

For temperatures other than given in table, Interpolate between values given.

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
STRUCTURAL STEEL
EXPANSION DEVICES

SCALE: AS NOTED — DECEMBER 1952
SHEET NO. S-8 OF 32 SHEETS

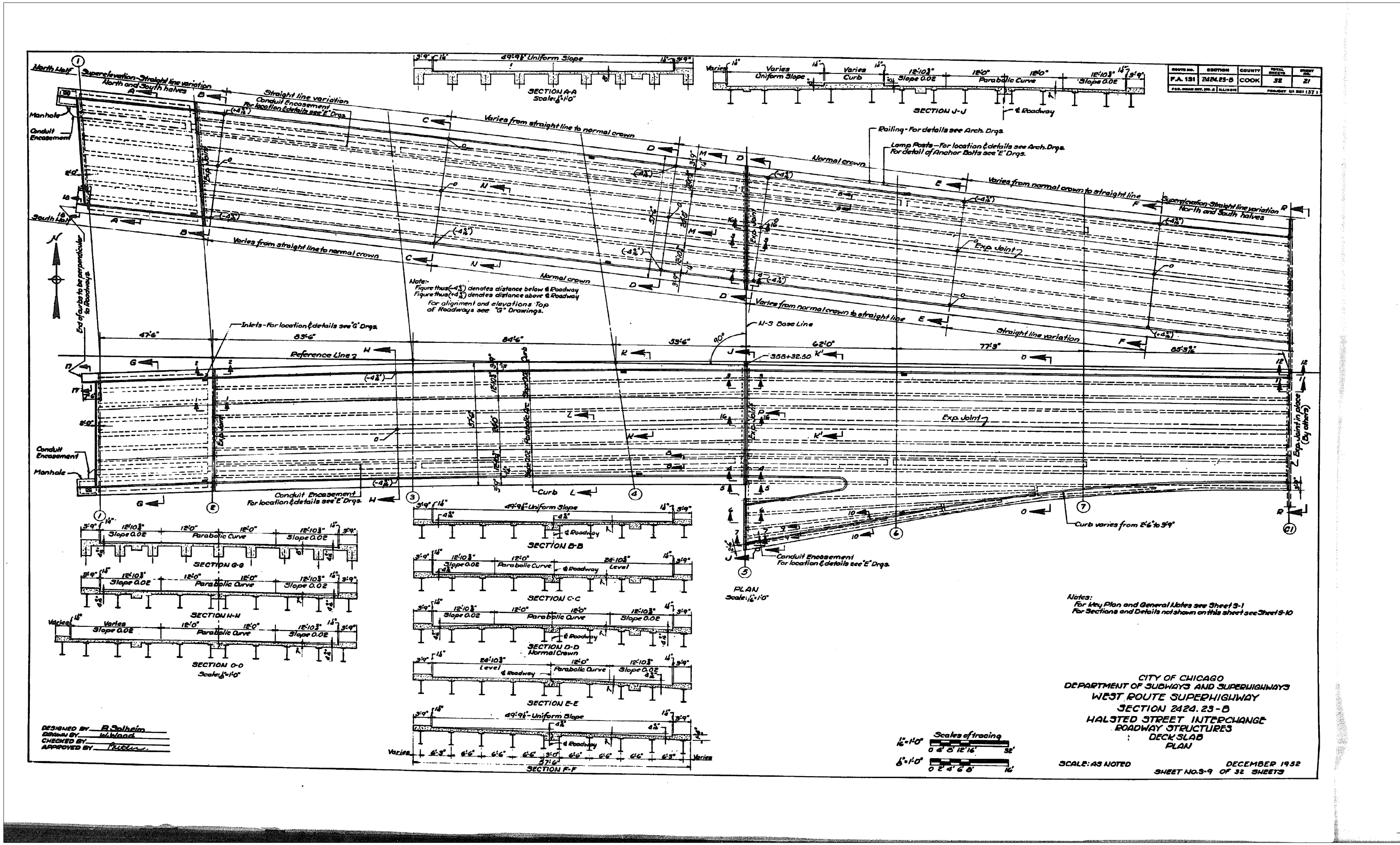
0161703-60X78-S063-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 10 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	248

CONTRACT NO. 60X78
ILLINOIS FED. AID PROJECT

FOR INFORMATION ONLY



CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
DECK SLAB
PLAN
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. S-9 OF 32 SHEETS
PLAN
Scale: 1/16"=1'-0"
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
Normal Crown
SECTION E-E
SECTION F-F
SECTION G-G
SECTION H-H
SECTION J-J
SECTION O-O
Notes:
For Key Plan and General Notes see Sheet S-1
For Sections and Details not shown on this sheet see Sheet S-10
Note:-
Figure thus (-4¾") denotes distance below ℄ Roadway
Figure thus (+4¾") denotes distance above ℄ Roadway
For alignment and elevations Top of Roadways see "G" Drawings.
Railing - For details see Arch. Drgs.
Lamp Posts - For location & details see Arch. Drgs.
For detail of Anchor Bolts see "E" Drgs.
Inlets - For location & details see "G" Drgs.
Conduit Encasement For location & details see "E" Drgs.
Curb varies from 2'-6" to 3'-9"
Reference Line
N-S Base Line
358+32.50
Exp. Joint
Exp. Joint in place (By others)
Varies from straight line to normal crown
Varies from normal crown to straight line
Straight line variation
Normal crown
Superelevation Straight line variation North and South halves
North Half
South Half
Manhole
Conduit Encasement
End of curbs to be perpendicular to Roadways
Scales of tracing
DESIGNED BY R. Solheim
DRAWN BY
CHECKED BY
APPROVED BY
F.A. 131
2424.23-B
COOK
32
21

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = N.T.S.	CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	249
	PLOT DATE = 3/23/2016	DRAWN - DCP	REVISED -		SHEET NO. 11 OF 39 SHEETS	CONTRACT NO. 60X78				
		CHECKED - JIG	REVISED -			ILLINOIS FED. AID PROJECT				

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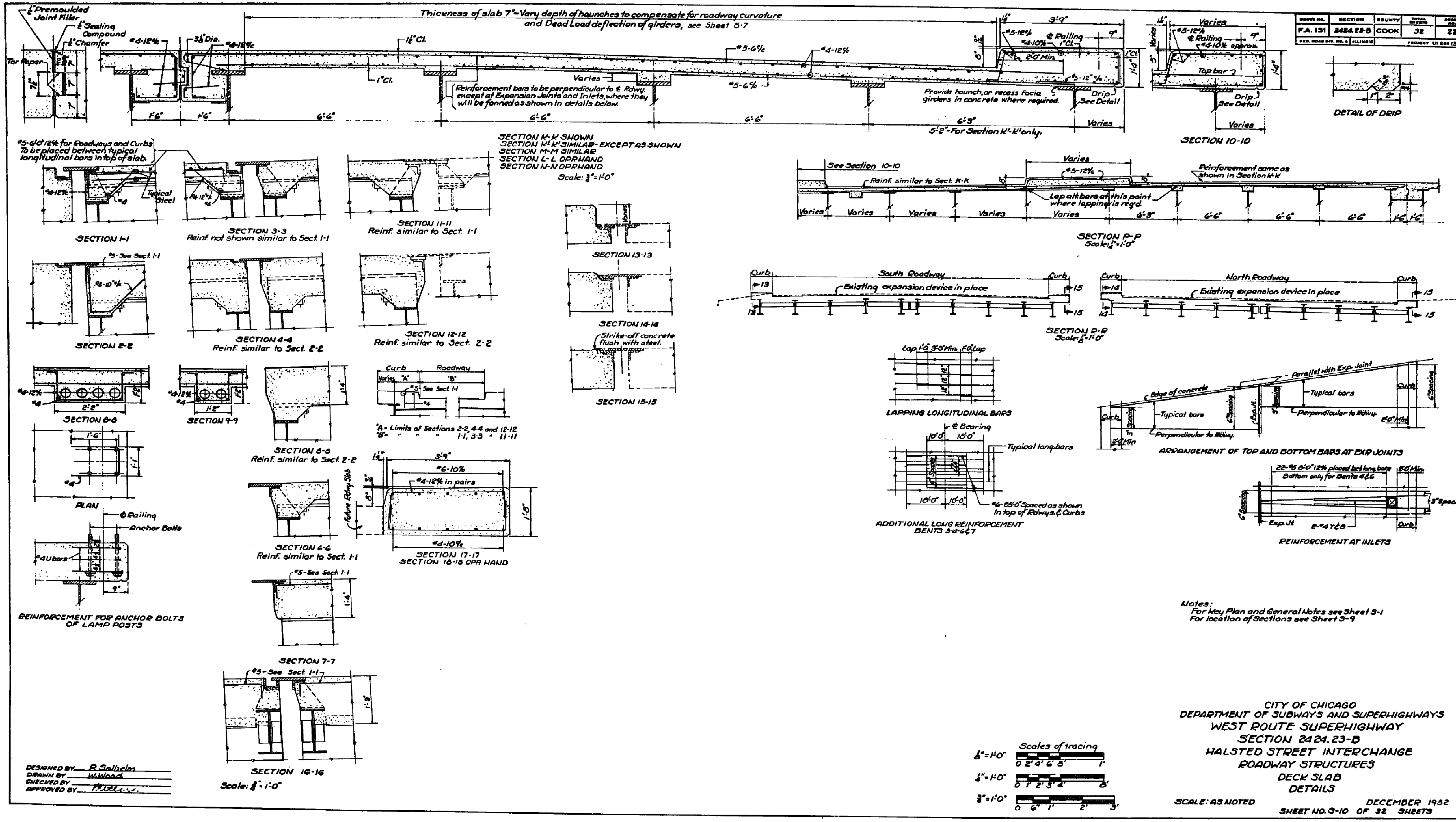
FOR INFORMATION ONLY



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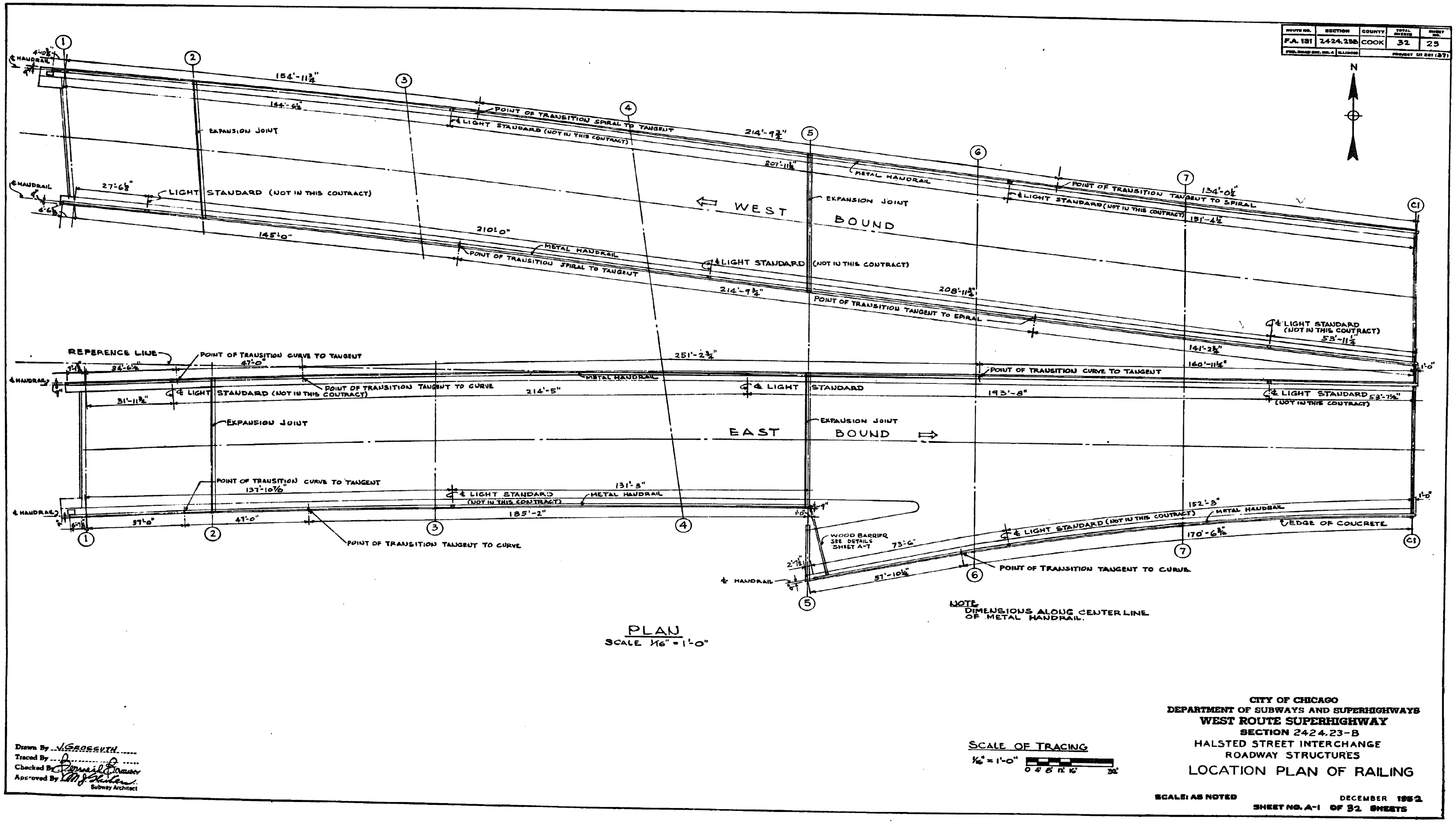
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 12 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	250
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY


F.A. 131
2424.23B
COOK
32
25
N
154'-11¾"
214'-9¾"
207'-11½"
134'-0½"
131'-4½"
27'-6⅛"
145'-0"
210'-0"
214'-9¾"
208'-11⅞"
141'-2⅞"
53'-11⅞"
EXPANSION JOINT
POINT OF TRANSITION SPIRAL TO TANGENT
LIGHT STANDARD (NOT IN THIS CONTRACT)
METAL HANDRAIL
POINT OF TRANSITION TANGENT TO SPIRAL
WEST
BOUND
REFERENCE LINE
POINT OF TRANSITION CURVE TO TANGENT
POINT OF TRANSITION TANGENT TO CURVE
251'-2¾"
214'-5"
193'-8"
160'-11⅝"
LIGHT STANDARD
EAST
BOUND
137'-10⅝"
131'-3"
185'-2"
152'-3"
170'-6⅜"
73'-6"
57'-10⅞"
WOOD BARRIER SEE DETAILS SHEET A-7
EDGE OF CONCRETE
NOTE
DIMENSIONS ALONG CENTER LINE OF METAL HANDRAIL.
PLAN
SCALE 1/16" = 1'-0"
SCALE OF TRACING
1/16" = 1'-0"
Drawn By J. GROSGUTH
Traced By
Checked By
Approved By
Subway Architect
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
LOCATION PLAN OF RAILING
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-1 OF 32 SHEETS

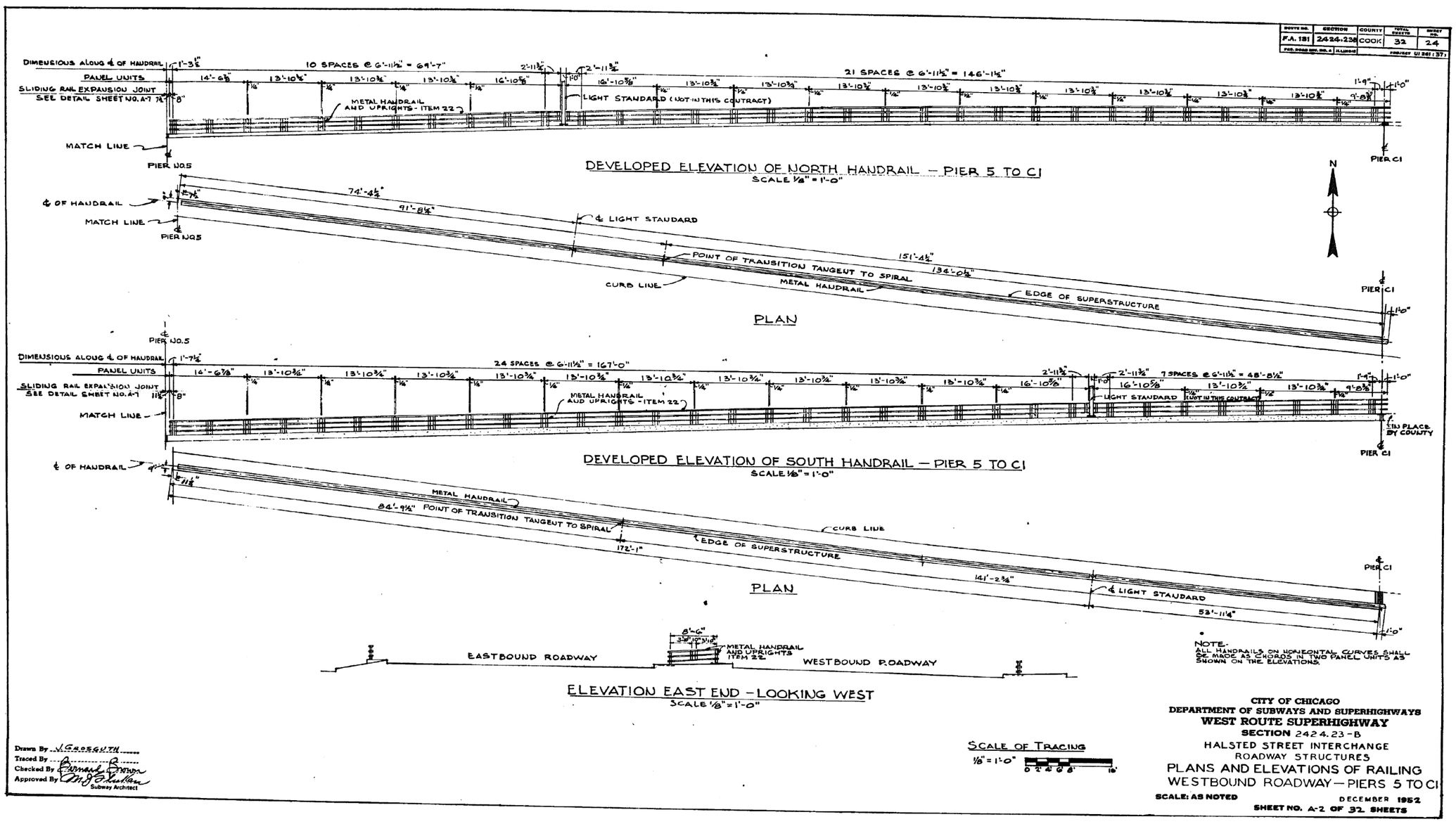
0161703-60X78-S066-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 13 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	251
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424-238	COOK	32	24
FED. ROAD DIST. NO. 4	ILLINOIS			PROJECT ILI 261 (37)



NOTE-
ALL HANDRAILS ON HORIZONTAL CURVES SHALL BE MADE AS CHORDS IN TWO PANEL UNITS AS SHOWN ON THE ELEVATIONS.

Drawn By N.GROSGUTH
Traced By
Checked By
Approved By M.J. Sullivan, Subway Architect

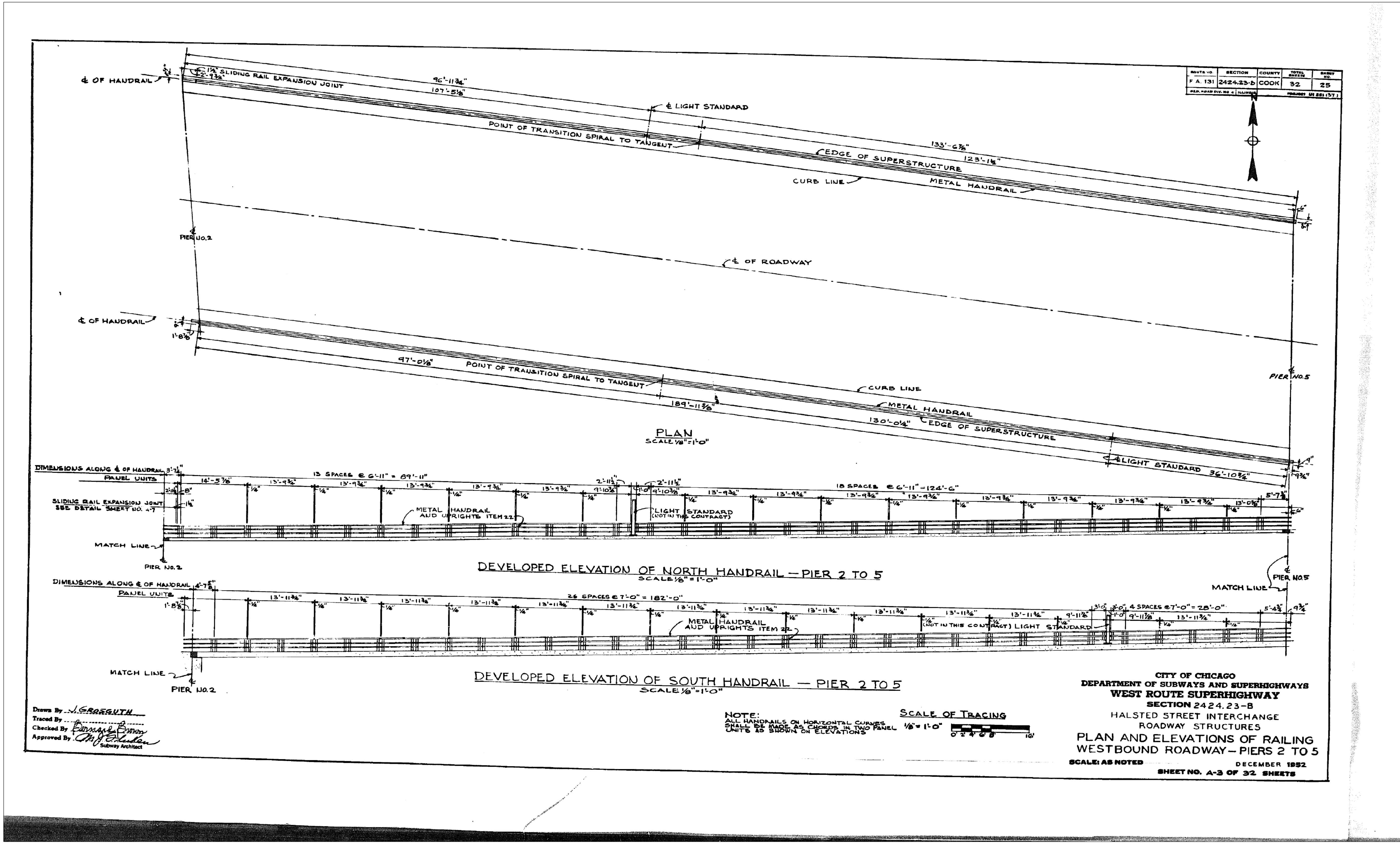
SCALE OF TRACING
⅛" = 1'-0"
0 2 4 6 8 16

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
PLANS AND ELEVATIONS OF RAILING
WESTBOUND ROADWAY — PIERS 5 TO C1
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-2 OF 32 SHEETS

0161703-60X78-S067-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**EXISTING PLANS STRUCTURE NO. 016-1030**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	252
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -							CONTRACT NO. 60X78
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 14 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



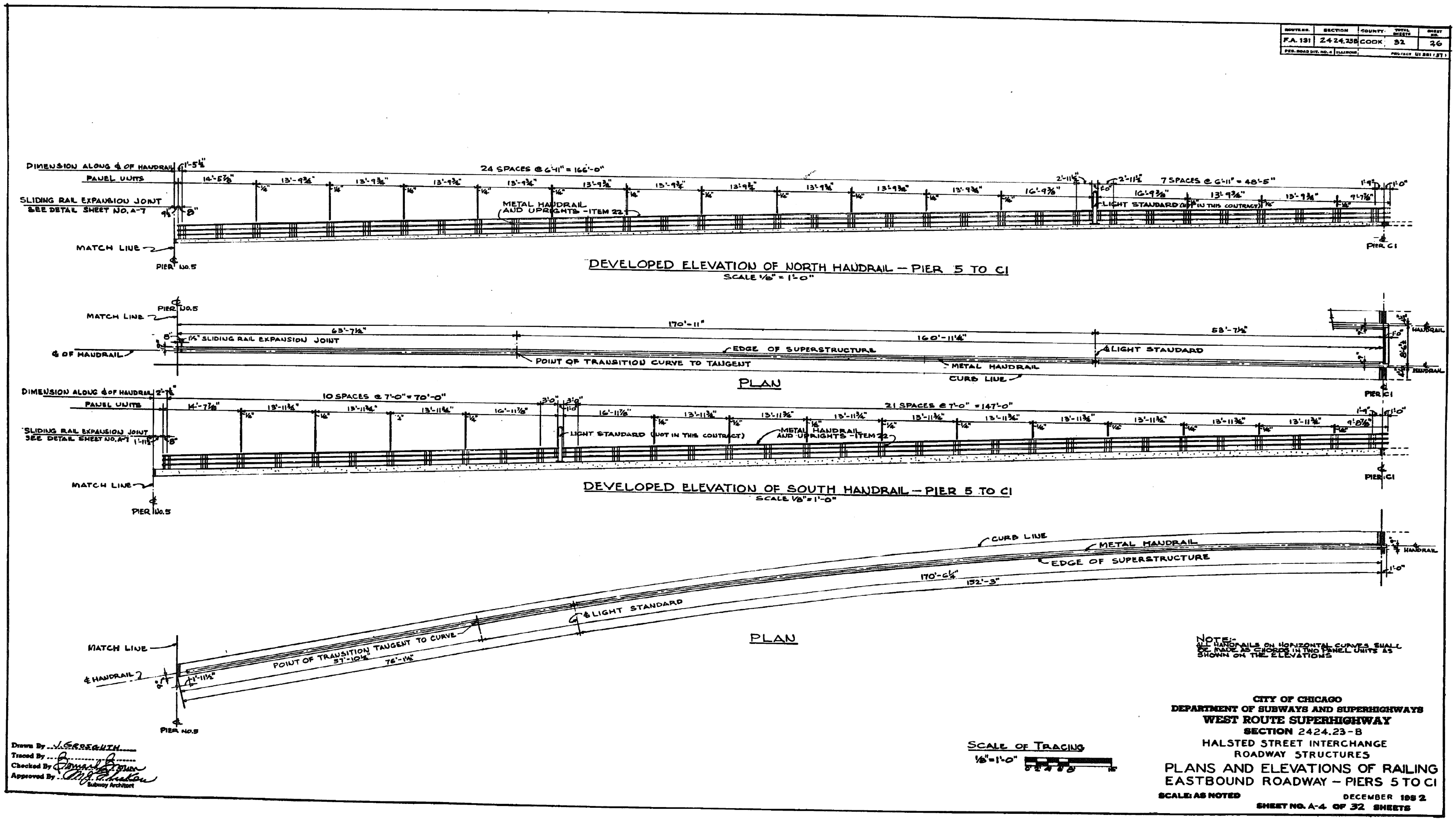
℄ OF HANDRAIL
1½" SLIDING RAIL EXPANSION JOINT
96'-11¾"
107'-5⅝"
℄ LIGHT STANDARD
POINT OF TRANSITION SPIRAL TO TANGENT
133'-6⅞"
EDGE OF SUPERSTRUCTURE
123'-1⅛"
CURB LINE
METAL HANDRAIL
PIER NO.2
℄ OF ROADWAY
PIER NO.5
97'-0⅛"
189'-11⅜"
130'-0¼"
36'-10¾"
PLAN
SCALE ⅛"=1'-0"
DIMENSIONS ALONG ℄ OF HANDRAIL
PANEL UNITS
13 SPACES @ 6'-11" = 89'-11"
18 SPACES @ 6'-11" = 124'-6"
SLIDING RAIL EXPANSION JOINT SEE DETAIL SHEET NO. A-7
METAL HANDRAIL AND UPRIGHTS ITEM 22
LIGHT STANDARD (NOT IN THIS CONTRACT)
MATCH LINE
DEVELOPED ELEVATION OF NORTH HANDRAIL – PIER 2 TO 5
SCALE ⅛"=1'-0"
26 SPACES @ 7'-0" = 182'-0"
4 SPACES @ 7'-0" = 28'-0"
DEVELOPED ELEVATION OF SOUTH HANDRAIL – PIER 2 TO 5
SCALE ⅛"=1'-0"
NOTE: ALL HANDRAILS ON HORIZONTAL CURVES SHALL BE MADE AS CHORDS IN TWO PANEL UNITS AS SHOWN ON ELEVATIONS
SCALE OF TRACING ⅛"=1'-0"
Drawn By J. GROSGUTH
Traced By
Checked By
Approved By
Subway Architect
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
PLAN AND ELEVATIONS OF RAILING
WESTBOUND ROADWAY – PIERS 2 TO 5
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-3 OF 32 SHEETS
F.A. 131
2424.23-B
COOK
32
25

0161703-60X78-S068-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	
		CHECKED -	REVISED -			
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -			
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 15 OF 39 SHEETS	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	253
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY



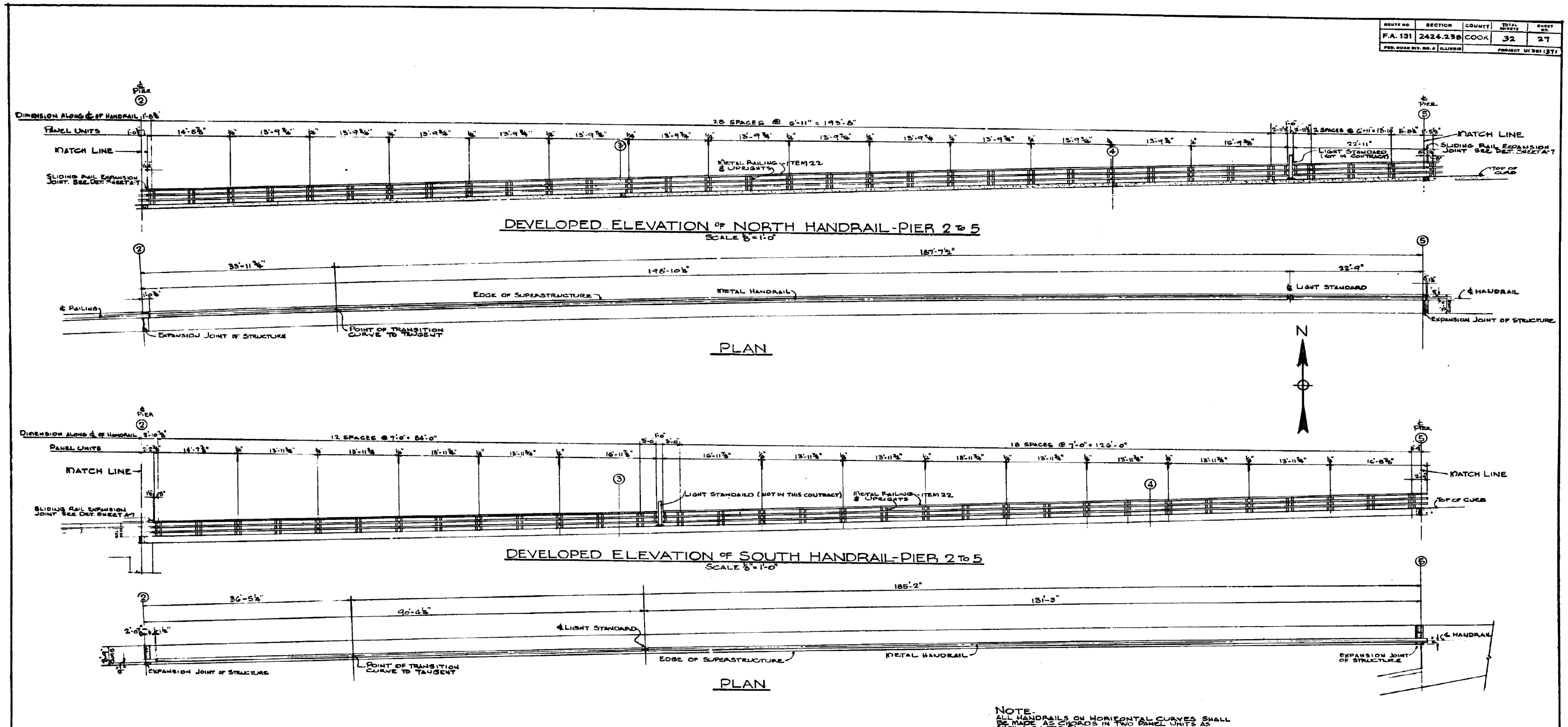
F.A. 131 | 2424.23B | COOK | 32 | 26
DIMENSION ALONG ℄ OF HANDRAIL
PANEL UNITS
24 SPACES @ 6'-11" = 166'-0"
7 SPACES @ 6'-11" = 48'-5"
SLIDING RAIL EXPANSION JOINT SEE DETAIL SHEET NO. A-7
METAL HANDRAIL AND UPRIGHTS - ITEM 22
LIGHT STANDARD (NOT IN THIS CONTRACT)
MATCH LINE
PIER NO.5
PIER C1
DEVELOPED ELEVATION OF NORTH HANDRAIL - PIER 5 TO C1
SCALE 1/8" = 1'-0"
1½" SLIDING RAIL EXPANSION JOINT
℄ OF HANDRAIL
170'-11"
63'-7½"
160'-11¼"
53'-7½"
EDGE OF SUPERSTRUCTURE
POINT OF TRANSITION CURVE TO TANGENT
℄ LIGHT STANDARD
METAL HANDRAIL
CURB LINE
PLAN
10 SPACES @ 7'-0" = 70'-0"
21 SPACES @ 7'-0" = 147'-0"
DEVELOPED ELEVATION OF SOUTH HANDRAIL - PIER 5 TO C1
SCALE 1/8" = 1'-0"
CURB LINE
METAL HANDRAIL
EDGE OF SUPERSTRUCTURE
170'-6¼"
152'-3"
℄ LIGHT STANDARD
POINT OF TRANSITION TANGENT TO CURVE
57'-10½"
76'-1¼"
PLAN
NOTE:-
ALL HANDRAILS ON HORIZONTAL CURVES SHALL BE MADE AS CHORDS IN TWO PANEL UNITS AS SHOWN ON THE ELEVATIONS
Drawn By J. GERSEUTH
Traced By
Checked By
Approved By
Subway Architect
SCALE OF TRACING
1/8" = 1'-0"
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
PLANS AND ELEVATIONS OF RAILING
EASTBOUND ROADWAY - PIERS 5 TO C1
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-4 OF 32 SHEETS

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
	PLOT SCALE = N.T.S.	CHECKED -	REVISED -		SHEET NO. 16 OF 39 SHEETS
	PLOT DATE = 3/23/2016	DRAWN - DCP	REVISED -		
		CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	254
CONTRACT NO. 60X78				
ILLINOIS FED. AID PROJECT				

0161703-60X78-S069-EXT.dgn

FOR INFORMATION ONLY



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 131	2424.23B	COOK	32	27

Drawn By ROBT. D. CHIDESTER
Traced By
Checked By
Approved By
Subway Architect

CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
PLANS AND ELEVATIONS OF RAILING
EASTBOUND ROADWAY - PIERS 2 TO 5
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-5 OF 32 SHEETS

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

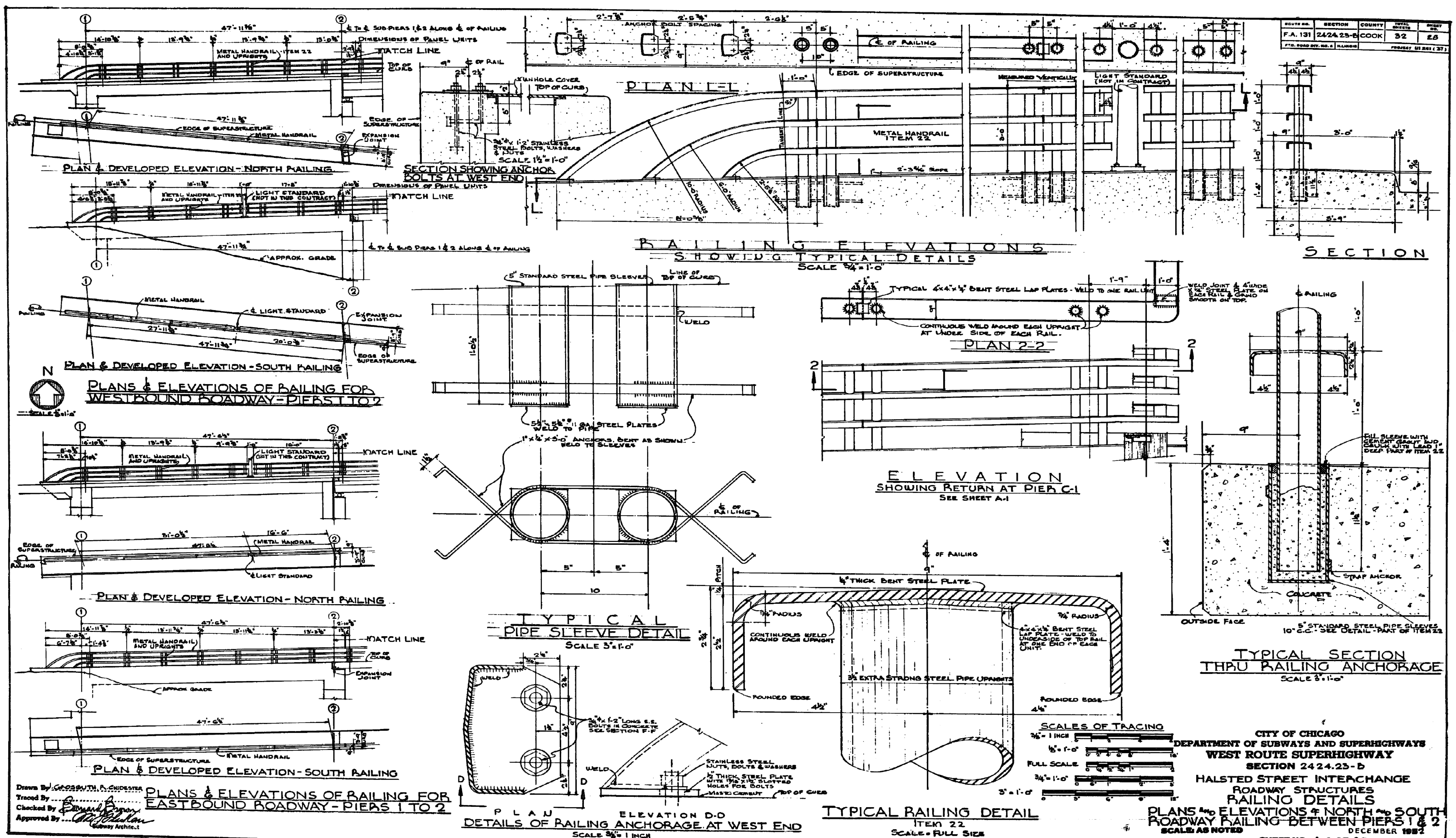
EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 17 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	255

CONTRACT NO. 60X78
ILLINOIS FED. AID PROJECT

0161703-60X78-S070-EXT.dgn

FOR INFORMATION ONLY



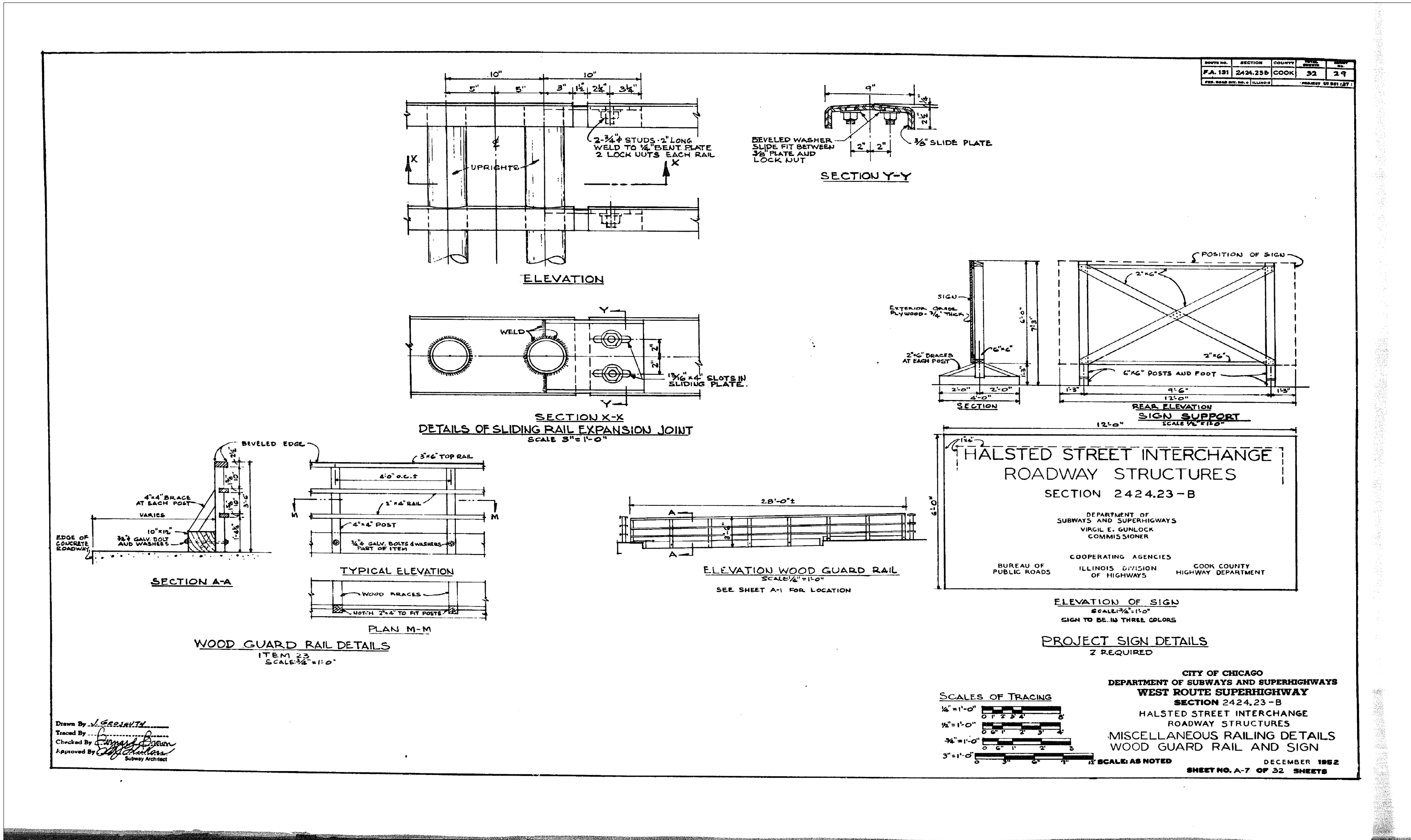
F.A. 131 | 2424.23-B | COOK | 32 | 28
PLAN & DEVELOPED ELEVATION - NORTH RAILING
SECTION SHOWING ANCHOR BOLTS AT WEST END
SCALE 1½" = 1'-0"
PLAN L-L
RAILING ELEVATIONS SHOWING TYPICAL DETAILS
SCALE ¾" = 1'-0"
SECTION
PLAN & DEVELOPED ELEVATION - SOUTH RAILING
PLANS & ELEVATIONS OF RAILING FOR WESTBOUND ROADWAY - PIERS 1 TO 2
TYPICAL PIPE SLEEVE DETAIL
SCALE 3" = 1'-0"
PLAN 2-2
ELEVATION SHOWING RETURN AT PIER C-1
SEE SHEET A-1
PLAN & DEVELOPED ELEVATION - NORTH RAILING
TYPICAL SECTION THRU RAILING ANCHORAGE
SCALE 3" = 1'-0"
PLAN & DEVELOPED ELEVATION - SOUTH RAILING
PLANS & ELEVATIONS OF RAILING FOR EASTBOUND ROADWAY - PIERS 1 TO 2
PLAN
ELEVATION D-D
DETAILS OF RAILING ANCHORAGE AT WEST END
SCALE 3⅛" = 1 INCH
TYPICAL RAILING DETAIL
ITEM 22
SCALE = FULL SIZE
SCALES OF TRACING
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
RAILING DETAILS
PLANS AND ELEVATIONS OF NORTH AND SOUTH ROADWAY RAILING BETWEEN PIERS 1 & 2
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-6 OF 32 SHEETS

0161703-60X78-S071-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 18 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	256
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY

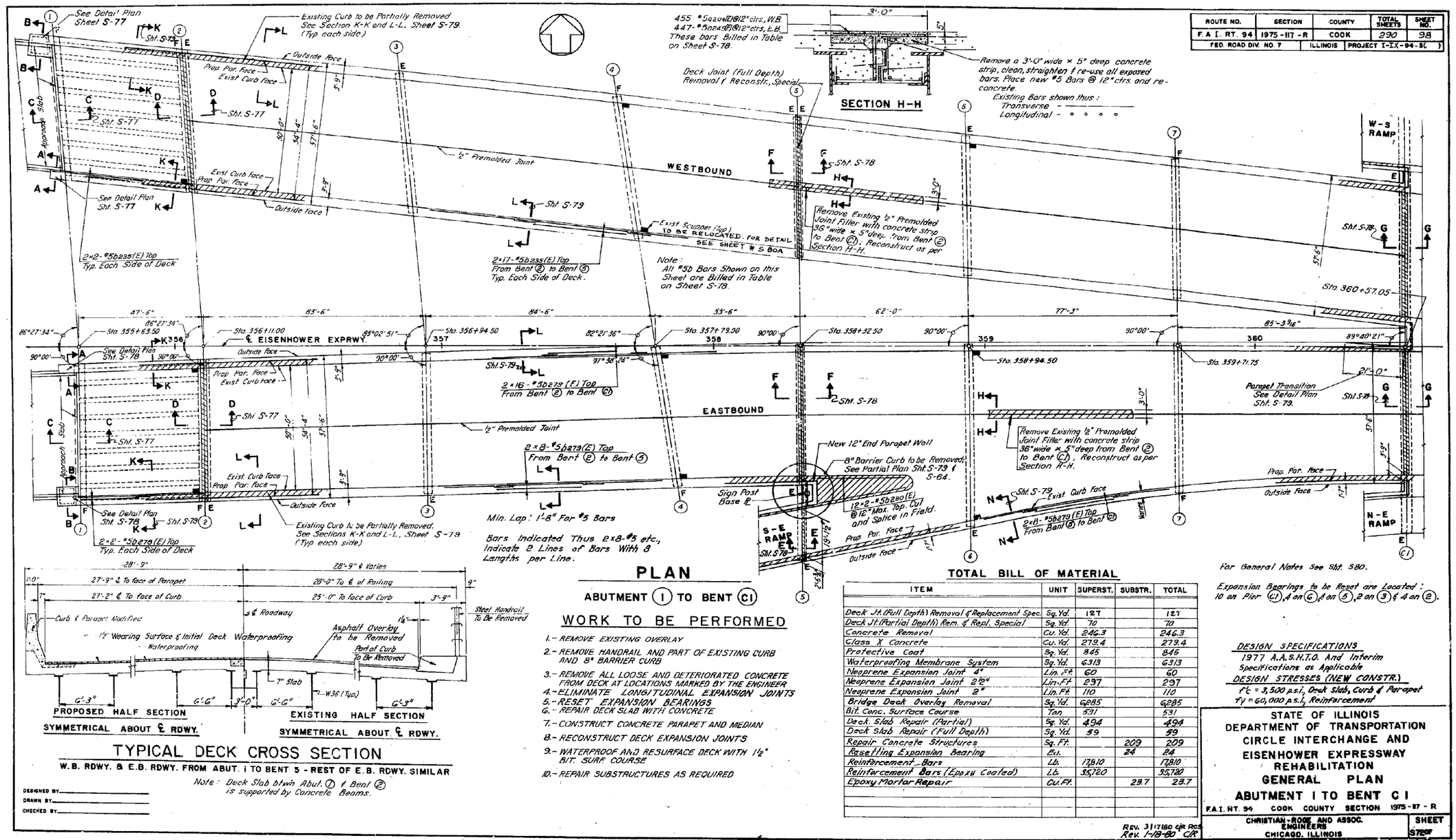

F.A. 131 | 2424.23B | COOK | 32 | 29
ELEVATION
2-3/4"ϕ STUDS-2" LONG WELD TO 1/4" BENT PLATE 2 LOCK NUTS EACH RAIL
UPRIGHTS
SECTION Y-Y
BEVELED WASHER SLIDE FIT BETWEEN 3/8" PLATE AND LOCK NUT
3/8" SLIDE PLATE
WELD
1 3/16" x 4" SLOTS IN SLIDING PLATE.
SECTION X-X
DETAILS OF SLIDING RAIL EXPANSION JOINT
SCALE 3" = 1'-0"
SIGN
EXTERIOR GRADE PLYWOOD-3/4" THICK
2"x6" BRACES AT EACH POST
6"x6"
SECTION
POSITION OF SIGN
6"x6" POSTS AND FOOT
REAR ELEVATION
SIGN SUPPORT
BEVELED EDGE
4"x4" BRACE AT EACH POST
VARIES
10"x1½"
3/4"ϕ GALV. BOLT AND WASHERS
EDGE OF CONCRETE ROADWAY
SECTION A-A
3"x6" TOP RAIL
4'-0" O.C. ±
2"x4" RAIL
4"x4" POST
3/4"ϕ GALV. BOLTS & WASHERS-PART OF ITEM
TYPICAL ELEVATION
WOOD BRACES
NOTCH 2"x4" TO FIT POSTS
PLAN M-M
WOOD GUARD RAIL DETAILS
ITEM 23
SCALE: 3/4" = 1'-0"
28'-0" ±
ELEVATION WOOD GUARD RAIL
SCALE: 1/4" = 1'-0"
SEE SHEET A-1 FOR LOCATION
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
SECTION 2424.23-B
DEPARTMENT OF SUBWAYS AND SUPERHIGWAYS
VIRGIL E. GUNLOCK COMMISSIONER
COOPERATING AGENCIES
BUREAU OF PUBLIC ROADS
ILLINOIS DIVISION OF HIGHWAYS
COOK COUNTY HIGHWAY DEPARTMENT
ELEVATION OF SIGN
SCALE: 3/4" = 1'-0"
SIGN TO BE IN THREE COLORS
PROJECT SIGN DETAILS
2 REQUIRED
SCALES OF TRACING
CITY OF CHICAGO
DEPARTMENT OF SUBWAYS AND SUPERHIGHWAYS
WEST ROUTE SUPERHIGHWAY
SECTION 2424.23-B
HALSTED STREET INTERCHANGE
ROADWAY STRUCTURES
MISCELLANEOUS RAILING DETAILS
WOOD GUARD RAIL AND SIGN
SCALE: AS NOTED
DECEMBER 1952
SHEET NO. A-7 OF 32 SHEETS
Drawn By J. GROSKUTH
Traced By
Checked By
Approved By
Subway Architect

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	257
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -			CONTRACT NO. 60X78				
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 19 OF 39 SHEETS	ILLINOIS FED. AID PROJECT				

0161703-60X78-S072-EXT.dgn

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. RT. 94	1975 - 117 - R	COOK	290	98
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-8( )		



PLAN

ABUTMENT (1) TO BENT (C1)

WORK TO BE PERFORMED

1. – REMOVE EXISTING OVERLAY
2. – REMOVE HANDRAIL AND PART OF EXISTING CURB AND 8" BARRIER CURB
3. – REMOVE ALL LOOSE AND DETERIORATED CONCRETE FROM DECK AT LOCATIONS MARKED BY THE ENGINEER
4. – ELIMINATE LONGITUDINAL EXPANSION JOINTS
5. – RESET EXPANSION BEARINGS
6. – REPAIR DECK SLAB WITH CONCRETE
7. – CONSTRUCT CONCRETE PARAPET AND MEDIAN
8. – RECONSTRUCT DECK EXPANSION JOINTS
9. – WATERPROOF AND RESURFACE DECK WITH 1½" BIT. SURF COURSE
10. – REPAIR SUBSTRUCTURES AS REQUIRED

TYPICAL DECK CROSS SECTION

W.B. RDWY. & E.B. RDWY. FROM ABUT. 1 TO BENT 5 - REST OF E.B. RDWY. SIMILAR

Note: Deck Slab b'twn Abut. ① & Bent ② is Supported by Concrete Beams.

DESIGNED BY_____
DRAWN BY_____
CHECKED BY_____

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPERST.	SUBSTR.	TOTAL
Deck Jt. (Full Depth) Removal & Replacement Spec.	Sq. Yd.	127		127
Deck Jt. (Partial Depth) Rem. & Repl. Special	Sq. Yd.	70		70
Concrete Removal	Cu. Yd.	246.3		246.3
Class X Concrete	Cu. Yd.	279.4		279.4
Protective Coat	Sq. Yd.	845		845
Waterproofing Membrane System	Sq. Yd.	6313		6313
Neoprene Expansion Joint 4"	Lin. Ft.	60		60
Neoprene Expansion Joint 2½"	Lin. Ft.	297		297
Neoprene Expansion Joint 2"	Lin. Ft.	110		110
Bridge Deck Overlay Removal	Sq. Yd.	6285		6285
Bit. Conc. Surface Course	Ton	531		531
Deck Slab Repair (Partial)	Sq. Yd.	494		494
Deck Slab Repair (Full Depth)	Sq. Yd.	99		99
Repair Concrete Structures	Sq. Ft.		209	209
Resetting Expansion Bearing	Ea.		24	24
Reinforcement Bars	Lb.	17610		17810
Reinforcement Bars (Epoxy Coated)	Lb.	35720		35720
Epoxy Mortar Repair	Cu. Ft.		23.7	23.7

Rev. 3/17/80 CJR RCS
Rev. 1-18-80 CJR

Expansion Bearings to be Reset are Located: 10 on Pier (C1), 4 on (6), 4 on (5), 2 on (3) & 4 on (2).

DESIGN SPECIFICATIONS
1977 A.A.S.H.T.O. And Interim Specifications as Applicable

DESIGN STRESSES (NEW CONSTR.)
f'c = 3,500 p.s.i. Deck Slab, Curb & Parapet
fy = 60,000 p.s.i. Reinforcement

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY REHABILITATION
GENERAL PLAN
ABUTMENT 1 TO BENT C1

F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

CHRISTIAN-ROOP AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET S78 OF

Rev. 10-16-80

0161703-60X78-S073-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

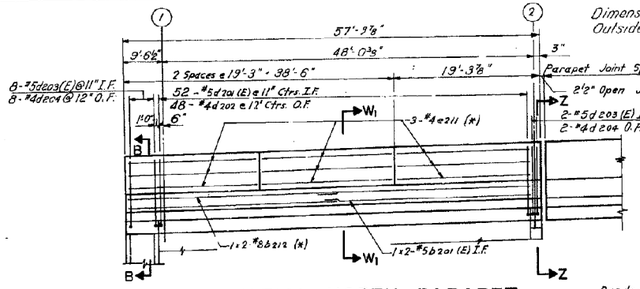
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 20 OF 39 SHEETS

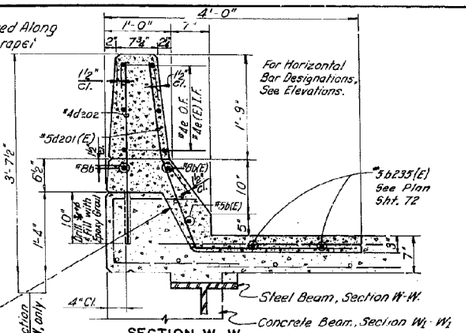
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	258
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY

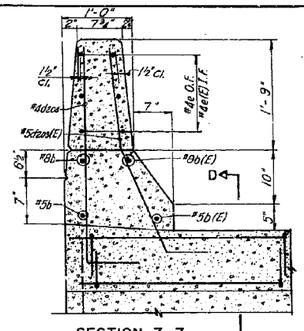
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	99
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3		



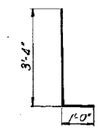
ELEVATION NORTH PARAPET
SHOWING INSIDE FACE



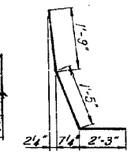
SECTION W-W
SECTION W1-W1



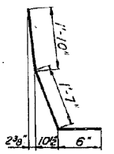
SECTION Z-Y



Bar d204



Bar d201 (E)

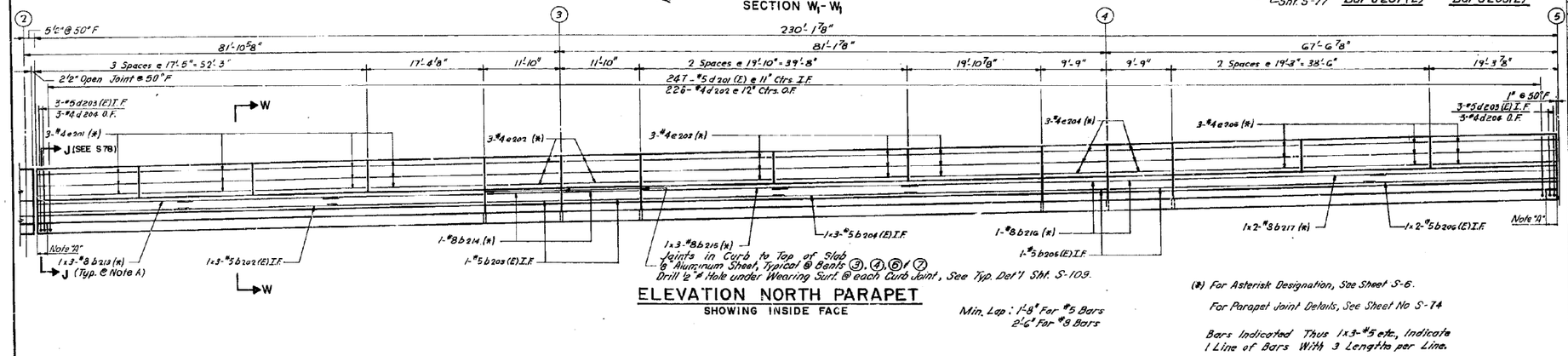


Bar d203(E)

BILL OF MATERIAL

BAR	NO.	SET	SIZE	LENGTH	SHAPE
b201(E)		2	#5	29'-7"	
b202(E)		3	#5	24'-2"	
b203(E)		2	#5	11'-6"	
b204(E)		3	#5	20'-10"	
b205(E)		2	#5	9'-5"	
b206(E)		2	#5	29'-6"	
b207(E)		2	#5	27'-4"	
b208(E)		2	#5	8'-8"	
b209(E)		2	#5	28'-10"	
b210(E)		2	#5	12'-2"	
b211(E)		3	#5	25'-6"	
b212(#)	2	2	#8	30'-0"	
b213(#)	3	3	#8	24'-9"	
b214(#)	2	2	#8	11'-6"	
b215(#)	3	3	#8	21'-5"	
b216(#)	2	2	#8	9'-6"	
b217(#)	2	2	#8	30'-0"	
b218(#)	2	2	#8	27'-10"	
b219(#)	2	2	#8	8'-8"	
b220(#)	2	2	#8	29'-3"	
b221(#)	2	2	#8	12'-2"	
b222(#)	3	3	#8	26'-0"	
d201(E)		541	#5	5'-5"	
d202	496		#4	2'-11"	
d205(E)		22	#5	3'-11"	
d204	22		#4	4'-4"	
e201(#)	12	12	#4	16'-11"	
e202(#)	6	6	#4	11'-6"	
e203(#)	9	9	#4	19'-6"	
e204(#)	6	6	#4	9'-5"	
e205(#)	9	9	#4	18'-11"	
e206(#)	9	9	#4	17'-3"	
e207(#)	6	6	#4	8'-8"	
e208(#)	9	9	#4	18'-5"	
e209(#)	6	6	#4	12'-2"	
e210(#)	12	12	#4	17'-11"	
e211(#)	9	9	#4	18'-10"	

Reinforcement Bars	Lb.	3460
Reinf. Bars (Epoxy Coated)	Lb.	6190
Class X Concrete	Cu. Yd.	58.8
Concrete Removal	Cu. Yd.	48.6
Protective Coat	Sq. Yd.	212



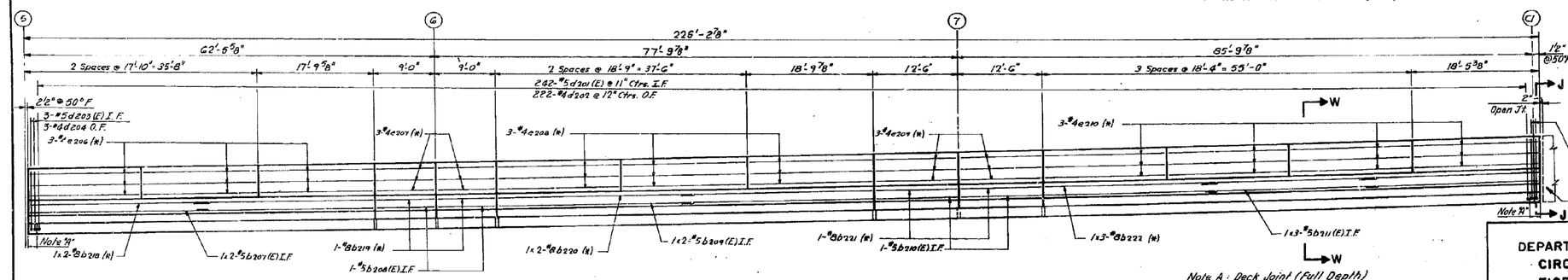
ELEVATION NORTH PARAPET
SHOWING INSIDE FACE

Min. Lap: 1'-8" For #5 Bars
2'-6" For #8 Bars

(#) For Asterisk Designation, See Sheet S-6.

For Parapet Joint Details, See Sheet No S-74

Bars Indicated Thus 1x3-#5 etc., Indicate 1 Line of Bars With 3 Lengths per Line.



ELEVATION NORTH PARAPET
SHOWING INSIDE FACE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
REHABILITATION
NORTH PARAPET W. B. ROADWAY
ABUTMENT 1 TO BENT C1
F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

CHRISTIAN-ROSE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

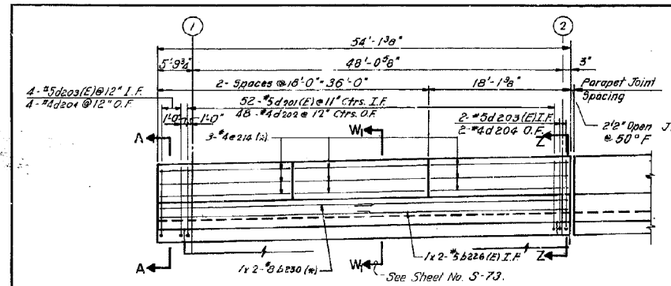
SHEET S-73 OF

DESIGNED BY
DRAWN BY
CHECKED BY

0161703-60X78-S074-EXT.dgn

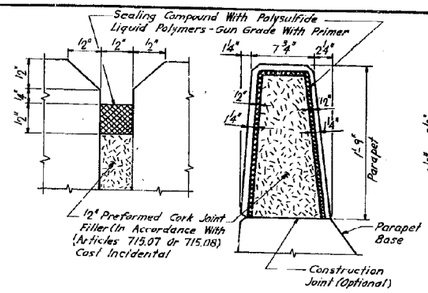
PARSONS BRINCKERHOFF						
	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE. 90/94/290 | SECTION 2014-004 R&B | COUNTY COOK | TOTAL SHEETS 706 | SHEET NO. 259
	PLOT SCALE = N.T.S.	CHECKED -	REVISED -		SHEET NO. 21 OF 39 SHEETS	CONTRACT NO. 60X78
	PLOT DATE = 3/23/2016	DRAWN - DCP	REVISED -			ILLINOIS | FED. AID PROJECT
		CHECKED - JIG	REVISED -			

FOR INFORMATION ONLY

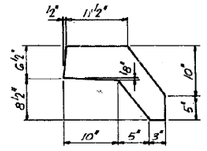


ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

Dimensions Measured Along Outside Face of Parapet



DETAILS OF PARAPET JOINT
(Install in all Parapet Joints)



DETAIL OF 1/8" ALUMINUM SHEET
(Install in Parapet Base For Locations see Elevations)

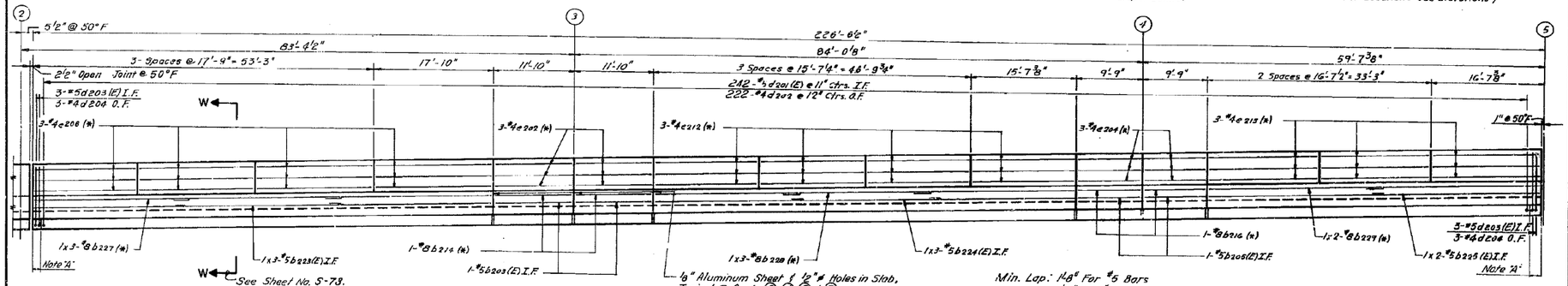
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	100
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3( )		

BILL OF MATERIAL

BAR	NO.	LEG	SIZE	LENGTH	SHAPE
b203(E)		2	#5	11'-6"	
b205(E)		2	#5	9'-5"	
b207(E)		2	#5	27'-4"	
b208(E)		2	#5	8'-8"	
b209(E)		2	#5	28'-10"	
b210(E)		2	#5	12'-2"	
b211(E)		3	#5	25'-6"	
b223(E)		3	#5	24'-8"	
b224(E)		3	#5	21'-10"	
b225(E)		2	#5	25'-7"	
b226(E)		2	#5	27'-9"	
b214(A)	2	2	#8	11'-6"	
b216(A)	2	2	#8	9'-5"	
b218(A)	2	2	#8	27'-10"	
b219(A)	2	2	#8	8'-8"	
b220(A)	2	2	#8	29'-3"	
b221(A)	2	2	#8	12'-2"	
b227(A)	3	3	#8	25'-3"	
b228(A)	3	3	#8	22'-7"	
b229(A)	5	5	#8	26'-10"	
b230(A)	2	2	#8	28'-2"	
d201(E)	536		#5	5'-5"	
d202	492		#4	2'-11"	
d203(E)	18		#5	3'-11"	
d204	18		#4	6'-4"	
e206(A)	6	6	#4	11'-6"	
e208(A)	6	6	#4	9'-5"	
e209(A)	21	21	#4	17'-5"	
e207(A)	6	6	#4	8'-8"	
e208(A)	9	9	#4	18'-5"	
e209(A)	6	6	#4	12'-2"	
e210(A)	12	12	#4	17'-11"	
e212(A)	12	12	#4	16'-4"	
e213(A)	9	9	#4	18'-3"	
e214(A)	9	9	#4	17'-8"	

Reinforcement Bars	Lb.	3410
Reinf. Bars (Epoxy Coated)	Lb.	6040
Class X Concrete	Cu. Yd.	58.0
Concrete Removal	Cu. Yd.	48.5
Protective Coat	Sq. Yd.	209

Reinforcement Bar Designated (E) shall be Epoxy Coated. See Special Provisions.



ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

Min. Lap: 1'-4" For #5 Bars
2'-6" For #8 Bars

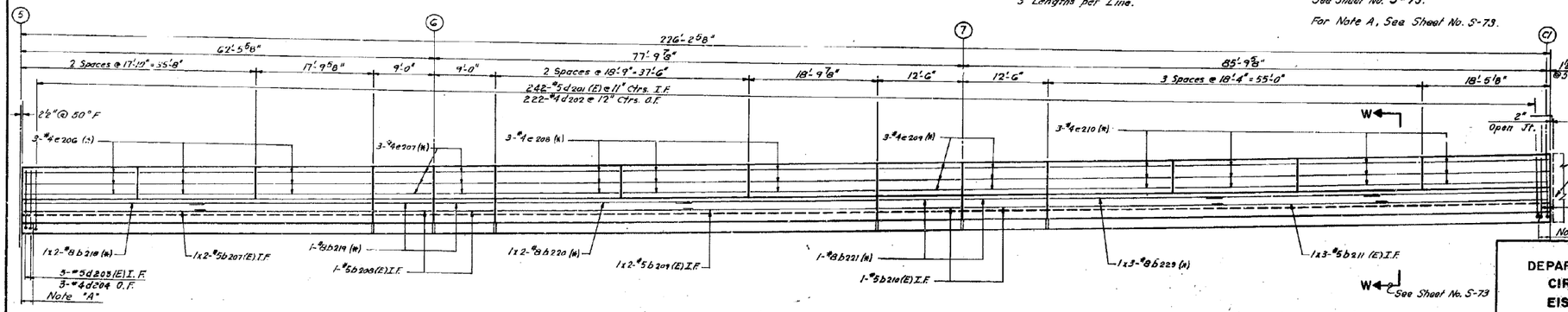
Bars Indicated Thus 1x3-#8 etc, Indicate 1 Line of Bars With 3 Lengths per Line.

(*) For Asterisk Designation See Sheet No. S-6.

For Sections W-W & Z-Z, See Sheet No. S-73.

For Reinforcement Bar Bending Details, See Sheet No. S-73.

For Note A, See Sheet No. S-73.



ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

DESIGNED BY
DRAWN BY
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
REHABILITATION
SOUTH PARAPET W. B. ROADWAY
ABUTMENT 1 TO BENT C1
F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

CHRISTIAN-ROSE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

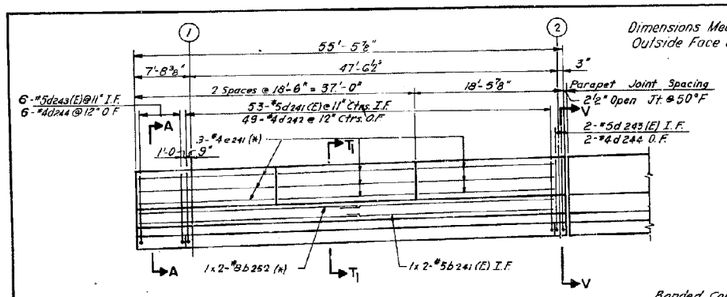
SHEET S74 OF

0161703-60X78-S075-EXT.dgn

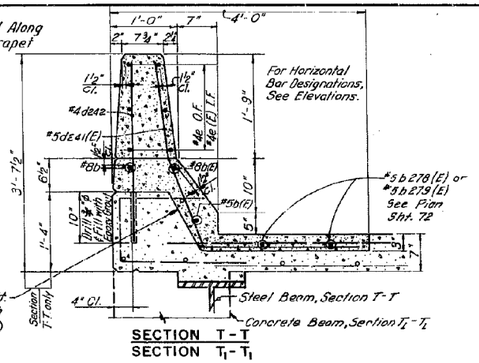
PARSONS BRINCKERHOFF						
	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE. 90/94/290 | SECTION 2014-004 R&B | COUNTY COOK | TOTAL SHEETS 706 | SHEET NO. 260
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. 22 OF 39 SHEETS	CONTRACT NO. 60X78
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -			ILLINOIS FED. AID PROJECT

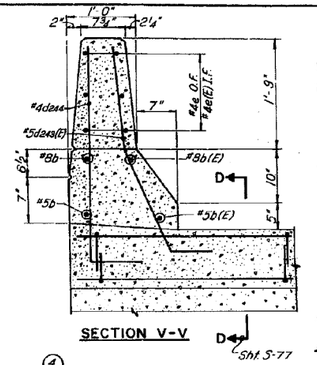
FOR INFORMATION ONLY

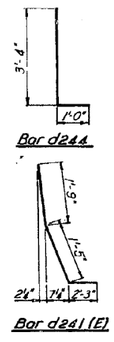
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	101
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3		

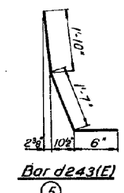


Dimensions Measured Along Outside Face of Parapet







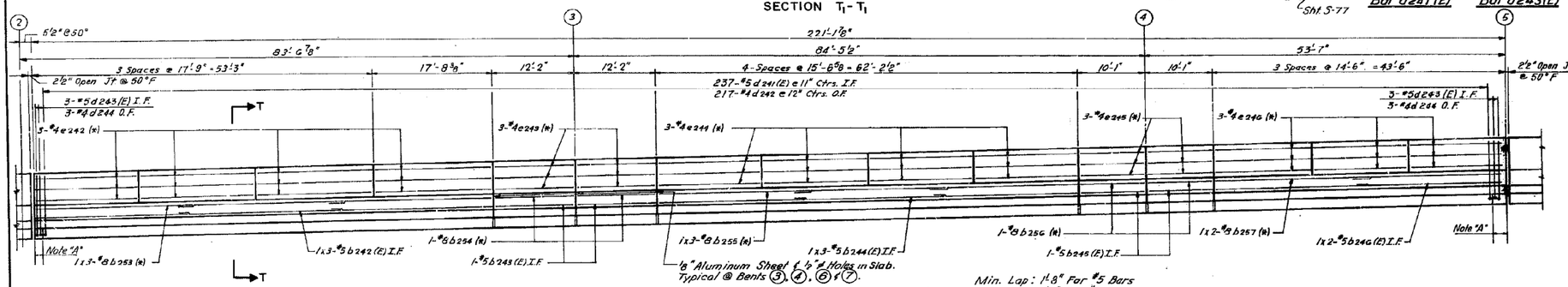


BILL OF MATERIAL

BAR NO.	(E)	SIZE	LENGTH	SHAPE
b241(E)	2	#5	29'-4"	
b242(E)	3	#5	24'-8"	
b243(E)	2	#5	11'-10"	
b244(E)	3	#5	21'-10"	
b245(E)	2	#5	9'-9"	
b246(E)	2	#5	22'-6"	
b247(E)	2	#5	27'-2"	
b248(E)	2	#5	8'-8"	
b249(E)	2	#5	28'-7"	
b250(E)	2	#5	12'-1"	
b251(E)	3	#5	25'-3"	
b252 (k)	2	#8	26'-10"	
b253 (k)	3	#8	25'-2"	
b254 (k)	2	#8	11'-10"	
b255 (k)	3	#11	22'-3"	
b256 (k)	2	#8	9'-9"	
b257 (k)	2	#8	22'-10"	
b258 (k)	2	#8	27'-6"	
b259 (k)	2	#3	8'-8"	
b260 (k)	2	#8	29'-0"	
b261 (k)	2	#8	12'-1"	
b262 (k)	3	#8	25'-10"	
d241(E)	537	#5	5'-5"	
d242	487	#4	2'-11"	
d243(E)	20	#5	3'-11"	
d244	20	#4	4'-4"	
e241 (k)	9	#4	18'-2"	
e242 (k)	12	#4	17'-5"	
e243 (k)	6	#4	11'-10"	
e244 (k)	12	#4	15'-3"	
e245 (k)	5	#4	9'-9"	
e246 (k)	9	#4	14'-2"	
e247 (k)	9	#4	17'-1"	
e248 (k)	6	#4	8'-8"	
e249 (k)	9	#4	18'-5"	
e250 (k)	6	#4	12'-1"	
e251 (k)	12	#4	17'-11"	

Reinforcement Bars	Lb.	3380
Reinf. Bars (Epoxy Coated)	Lb.	5990
Class X Concrete	Cu. Yd.	57.4
Concrete Removal	Cu. Yd.	47.8
Protective Coat	Sq. Yd.	201

Reinforcement Bar Designated (E) shall be Epoxy Coated. See Special Provisions.



ELEVATION NORTH PARAPET
SHOWING INSIDE FACE

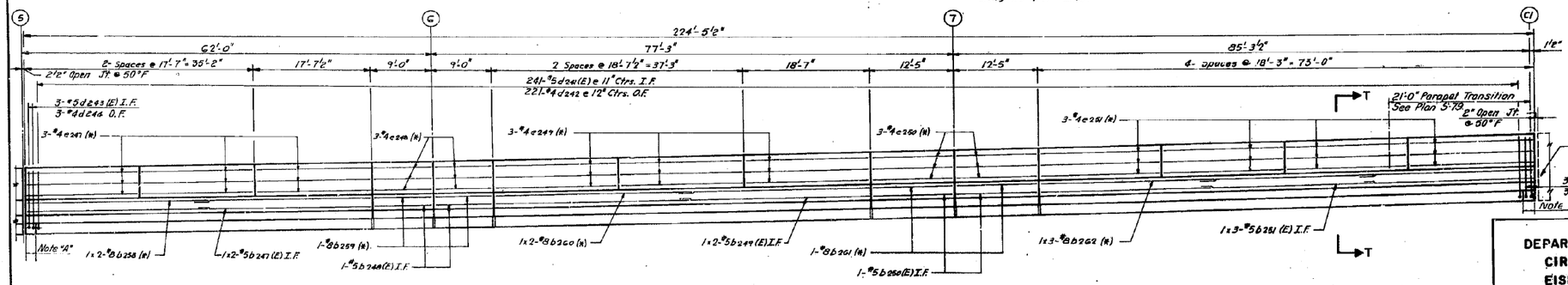
Min. Lap: 1'-8" For #5 Bars
2'-6" For #8 Bars

Bars Indicated Thus 1x2-#5 etc., Indicate 1 Line of Bars With 2 Lengths per Line.

(E) For Asterisk Designation, See Sheet No. S-6.

For Parapet Joint Details, See Sheet No. S-6.

For Note A, See Sheet S-73.



ELEVATION NORTH PARAPET
SHOWING INSIDE FACE

DESIGNED BY
DRAWN BY
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY REHABILITATION
NORTH PARAPET E. B. ROADWAY ABUTMENT 1 TO BENT C-1
F.A.I. RT. 94 / COUNTY SECTION 1975-117-R

CHRISTIAN-RIDGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

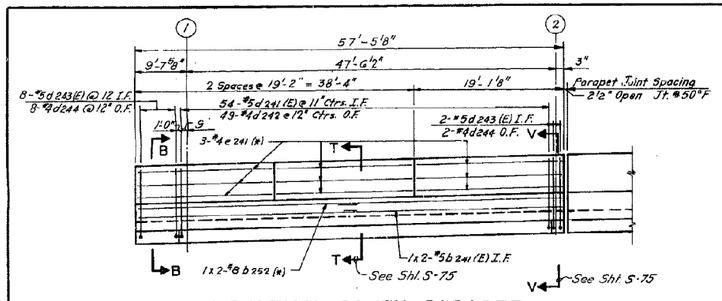
1975-117-R Cook

0161703-60X78-S076-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	261
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 23 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

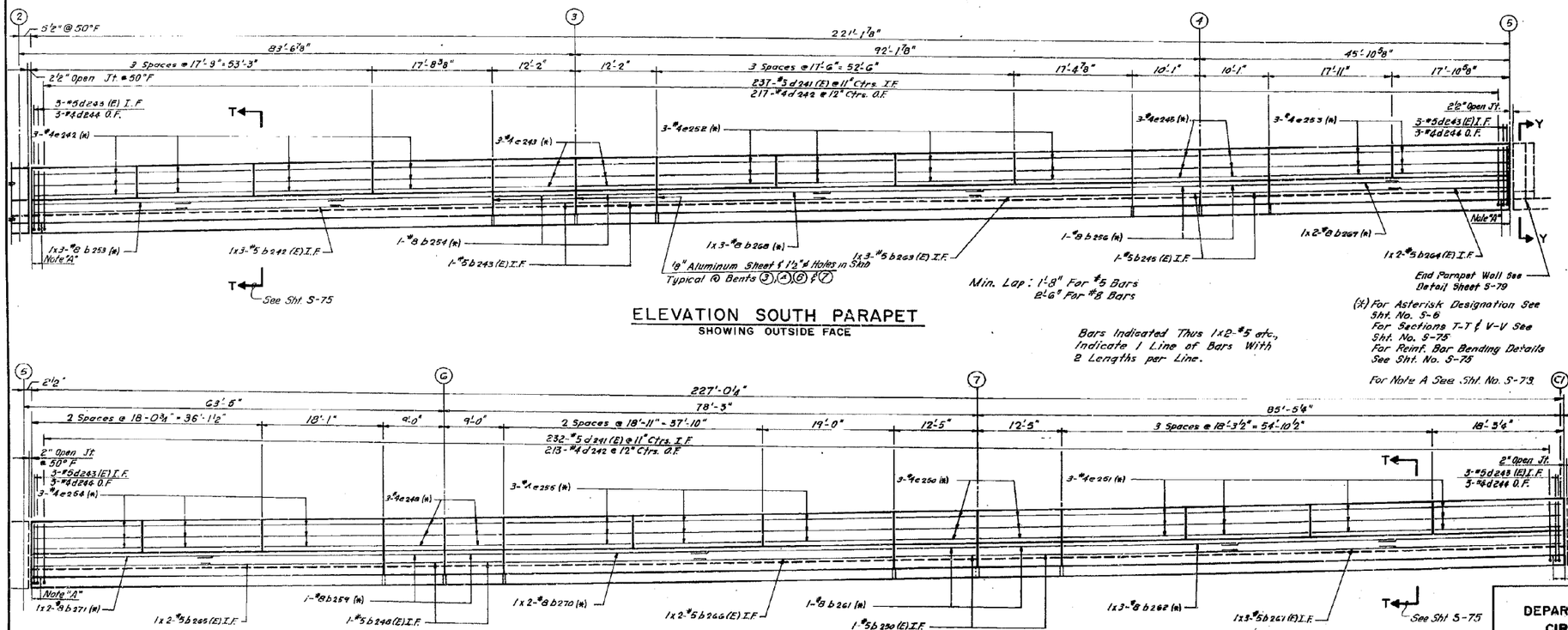
FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	102
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3( )		



ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

Dimensions Measured Along Outside Face of Parapet



ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

Min. Lap: 1'-8" For #5 Bars
2'-6" For #8 Bars

Bars Indicated Thus 1x2-#5 etc., Indicate 1 Line of Bars With 2 Lengths per Line.

(*) For Asterisk Designation See Sht. No. S-6
For Sections T-T & V-V See Sht. No. S-75
For Reinf. Bar Bending Details See Sht. No. S-75

For Note A See Sht. No. S-79

ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

Reinforcement Bar Designated (E) shall be Epoxy Coated. See Special Provisions.

BILL OF MATERIAL

BAR	NO. (E)		SIZE	LENGTH	SHAPE
b241(E)		2	#5	29'-4"	
b242(E)		3	#5	24'-8"	
b243(E)		2	#5	11'-10"	
b245(E)		2	#5	9'-9"	
b248(E)		2	#5	8'-8"	
b250(E)		2	#5	12'-1"	
b263(E)		3	#5	24'-6"	
b264(E)		2	#5	18'-7"	
b265(E)		2	#5	27'-9"	
b266(E)		2	#5	29'-1"	
b267(E)		3	#5	25'-6"	
b252(R)	2	2	#8	29'-10"	
b253(R)	3	3	#8	25'-3"	
b254(R)	2	2	#8	11'-10"	
b258(R)	2	2	#8	9'-9"	
b259(R)	2	2	#8	8'-8"	
b261(R)	2	2	#8	12'-1"	
b262(R)	3	3	#8	26'-0"	
b268(R)	3	3	#8	24'-10"	
b269(R)	2	2	#8	19'-0"	
b270(R)	2	2	#8	29'-6"	
b271(R)	2	2	#8	28'-3"	
d241(E)	523		#5	5'-5"	
d242	479		#4	2'-11"	
d243(E)	22		#5	3'-11"	
d244	22		#4	4'-4"	
e241(R)	9	9	#4	18'-10"	
e242(R)	12	12	#4	17'-5"	
e243(R)	6	6	#4	11'-10"	
e245(R)	6	6	#4	9'-9"	
e249(R)	6	6	#4	8'-8"	
e250(R)	6	6	#4	12'-1"	
e251(R)	12	12	#4	17'-11"	
e252(R)	12	12	#4	17'-1"	
e253(R)	6	6	#4	17'-7"	
e254(R)	9	9	#4	17'-9"	
e256(R)	9	9	#4	18'-7"	
Reinforcement Bars			Lb.	3390	
Reinf. Bars (Epoxy Coated)			Lb.	5980	
Class X Concrete			Cu.Yd.	57.9	
Concrete Removal			Cu.Yd.	44.3	
Protective Coat			Sq.Yd.	209	

DESIGNED BY
DRAWN BY
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
REHABILITATION
SOUTH PARAPET E. B. ROADWAY
ABUTMENT 1 TO BENT C1
F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

CHRISTIAN-ROSE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

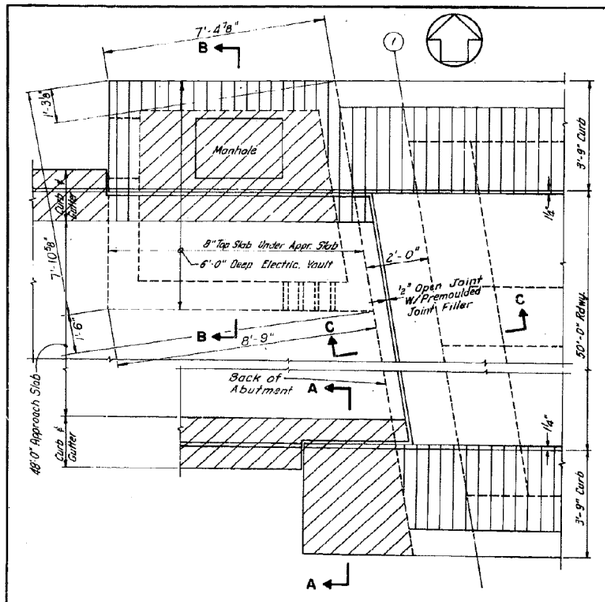
SHEET S79F

0161703-60X78-S077-EXT.dgn

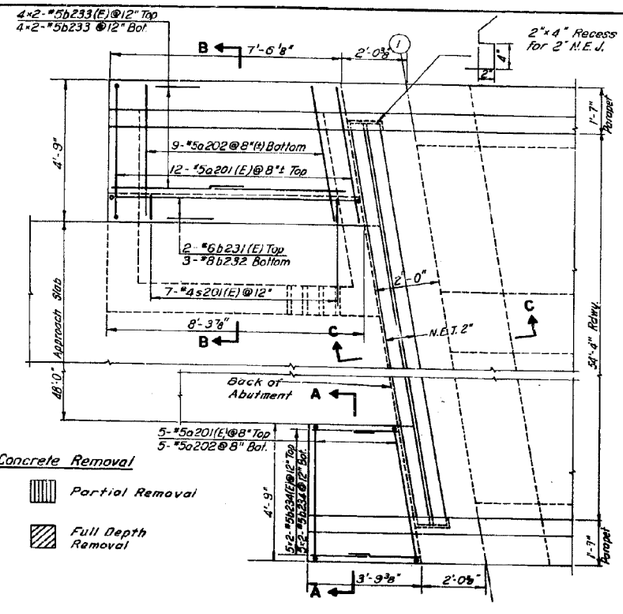
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	262
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. 24 OF 39 SHEETS				CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -					ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	103
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3( )		



PLAN - EXISTING JOINT AT ABUT. 1 W.B.

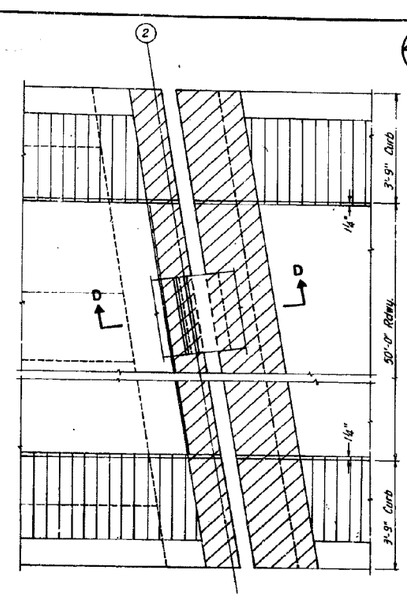


Concrete Removal

Partial Removal

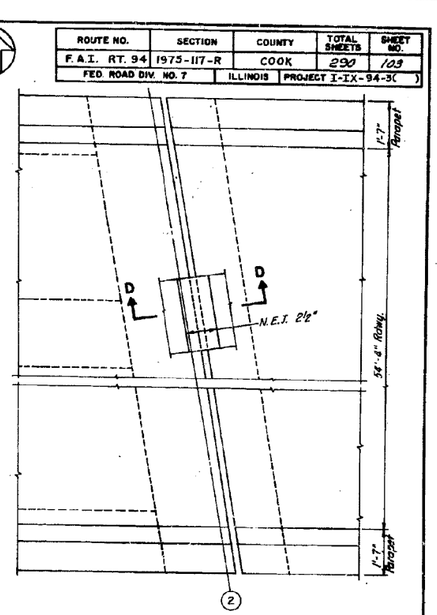
Full Depth Removal

PLAN - PROPOSED JOINT AT ABUT. 1 W.B.



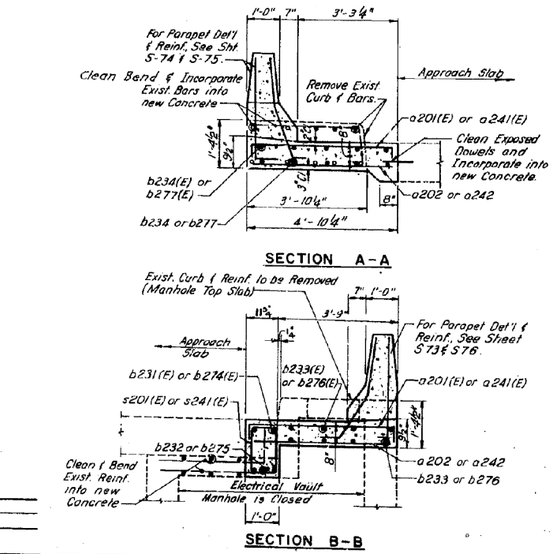
PLAN - EXISTING JOINT AT BENT 2 W.B.

E.B. SIMILAR



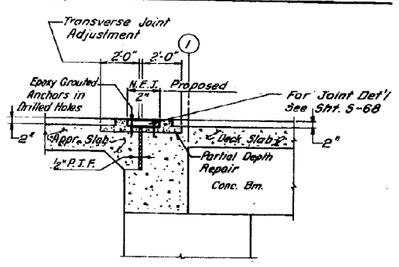
PLAN - PROPOSED JOINT AT BENT 2 W.B.

E.B. SIMILAR

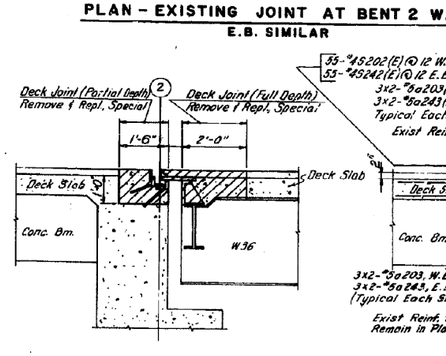


SECTION A-A

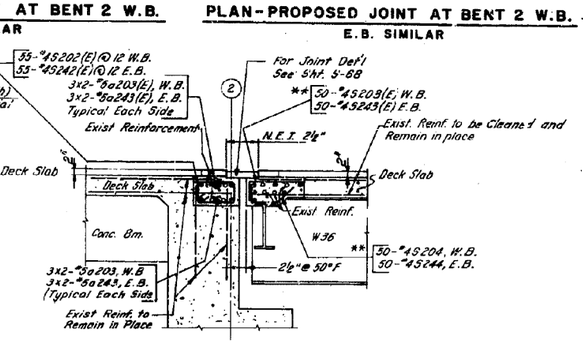
SECTION B-B



SECTION C-C



EXISTING



PROPOSED

For Reinforcement Bar List & Bar Bending Details See Sht. 78

SECTION D-D

(Joint @ Bent (2) W.B. & E.B.)

DESIGNED BY

DRAWN BY

CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY REHABILITATION
DECK JOINT DETAILS ABUTMENT 1 AND BENT 2

F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

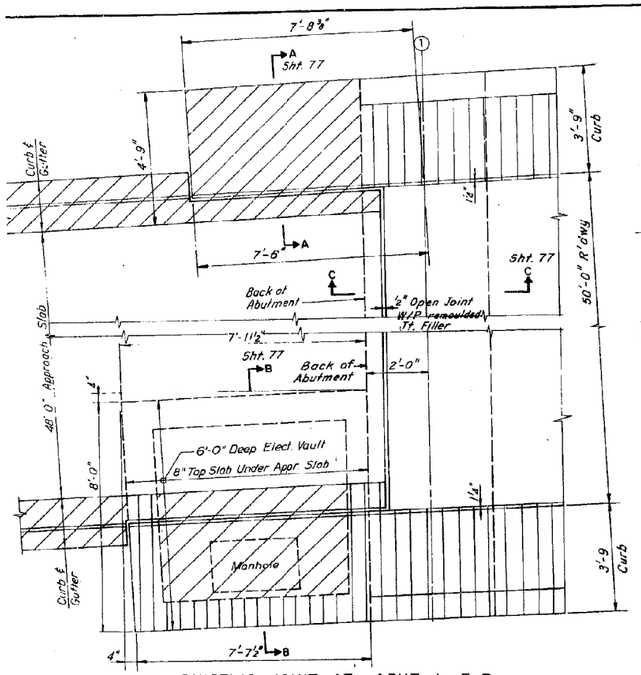
CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 277 OF

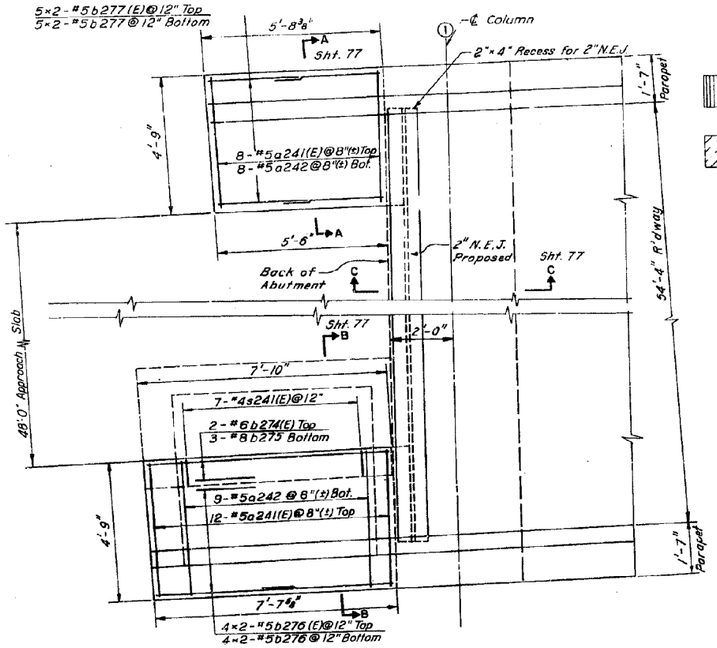
0161703-60X78-S078-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	263
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 25 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



PLAN - EXISTING JOINT AT ABUT. 1 E.B.

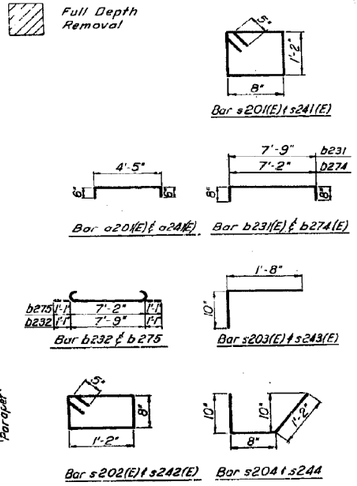


PLAN - PROPOSED JOINT AT ABUT. 1 E.B.

Concrete Removal

Partial Removal

Full Depth Removal



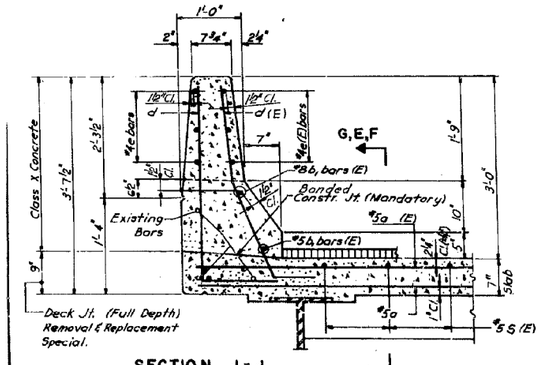
BAR BENDING DETAILS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	104
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3( )		

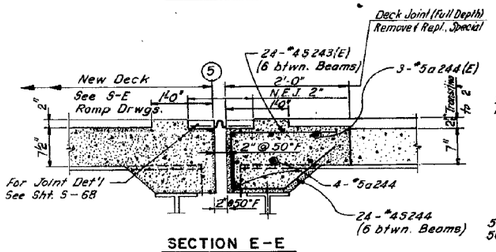
BILL OF MATERIAL
FOR DECK JOINT RECONSTRUCTION

LOCATION	BAR	NO.	NO. (E)	SIZE	LENGTH	SHAPE
Abutment 1 - W.B. I-90	a201(E)		17	#5	5'-5"	
	a202	14		#5	4'-5"	
	b231(E)		2	#6	9'-1"	
	b232	3		#8	9'-11"	
	b233	8		#5	4'-9"	
	b233(E)		8	#5	4'-9"	
	b234	10		#5	2'-7"	
	b234(E)		10	#5	2'-7"	
	s201(E)		7	#4	4'-6"	
Abutment 1 - E.B. I-90	a241(E)		20	#6	5'-5"	
	a242	17		#5	4'-5"	
	b274(E)		2	#6	8'-6"	
	b275	3		#8	9'-4"	
	b276	8		#5	4'-9"	
	b276(E)		8	#5	4'-9"	
	b277	10		#5	3'-9"	
	b277(E)		10	#5	3'-9"	
	s241(E)		7	#4	4'-6"	
Bent 2 W.B.	a201	12		#5	30'-6"	
	a203(E)		12	#5	30'-6"	
	s202(E)		55	#4	4'-6"	
	s203(E)		50	#4	2'-6"	
	s204	50		#4	2'-8"	
Bent 2 E.B.	a243	12		#5	30'-6"	
	a243(E)		12	#5	30'-6"	
	s242(E)		55	#4	4'-6"	
	s243(E)		50	#4	2'-6"	
	s244	50		#4	2'-8"	
Bent 5 W.B.	a203	16		#5	30'-6"	
	a203(E)		12	#5	30'-6"	
	s203(E)		100	#4	2'-6"	
	s204	100		#4	2'-8"	
Bent 5 E.B.	a243	16		#5	30'-6"	
	a243(E)		12	#5	30'-6"	
	s243(E)		100	#4	2'-6"	
	s244	100		#4	2'-8"	
Bent C1 W.B.	a203	12		#5	30'-6"	
	a203(E)		12	#5	30'-6"	
	s203(E)		104	#4	2'-6"	
	s204	104		#4	2'-8"	
Bent C1 E.B.	a243	12		#5	30'-6"	
	a243(E)		12	#5	30'-6"	
	s243(E)		100	#4	2'-6"	
	s244	100		#4	2'-8"	
Bent 5 Adjacent to S.E. Ramp	a244	4		#5	23'-10"	
	a244(E)		3	#5	23'-10"	
	s243(E)		24	#4	2'-6"	
	s244	24		#4	2'-8"	
Long'l Bars in Deck Slab adjacent to Curb	b235(E)		76	#5	28'-6"	
E.B. W.B.	b278(E)		8	#6	28'-6"	
	b279(E)		64	#5	30'-0"	
	b280(E)		24	#5	20'-0"	
Long'l Jt. W.B.	a204(E)		455	#5	2'-6"	
Long'l Jt. E.B.	a245(E)		447	#5	2'-6"	

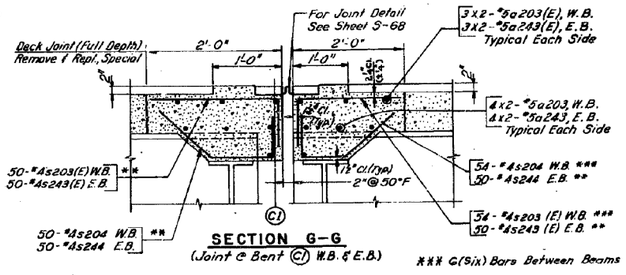
For Continuation of "Bill of Material" See Bottom Left, This Sht.



SECTION J - J
At Bents 2, 5, C1

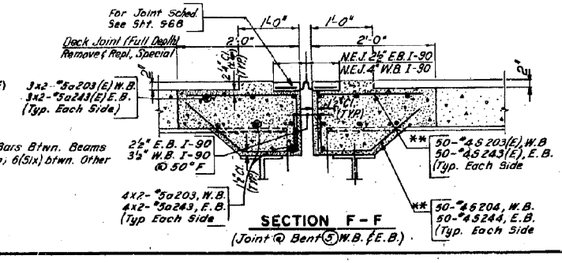


SECTION E-E
(Joint @ Bent 5 Adjacent to Ramp S-E)



SECTION G-G
(Joint @ Bent C1 W.B. & E.B.)

*** 6 (Six) Bars Between Beams



SECTION F-F
(Joint @ Bent 5 W.B. & E.B.)

** 2 (two) Bars Btwn. Beams @ Median; 6 (Six) btwn. Other Beams.

Reinforcement Bars (Epoxy Coated)	Lb.	11380
Reinforcement Bars	Lb.	4030
Class X Concrete	Cu.Yd.	45.6
Concrete Removal	Cu.Yd.	47.2
Deck Joint (Full Depth) Removal and Replacement Special	Sq.Yd.	127
Deck Joint (Partial Depth) Removal and Replacement Special	Sq.Yd.	70
Neoprene Expansion Joint 4"	Lin.Ft.	60
Neoprene Expansion Joint 22"	Lin.Ft.	297
Neoprene Expansion Joint 2"	Lin.Ft.	110

Reinforcement Bars Designated (E) Shall be Epoxy Coated. See Special Provisions.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
REHABILITATION
DECK JOINT DETAILS
ABUTMENT 1 AND BENT 2
F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 376 OF

REV. 3/17/16 CB/RCS

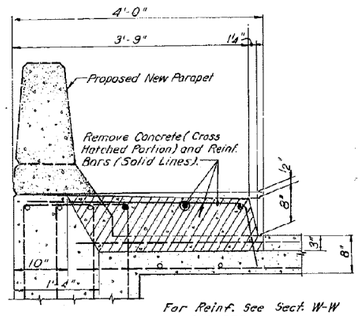
DESIGNED BY
DRAWN BY
CHECKED BY

0161703-60X78-S079-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	264
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 26 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

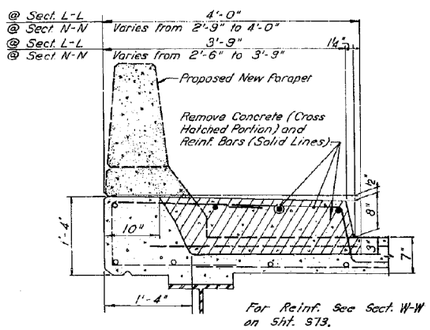
FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RT. 94	1975-117-R	COOK	290	105
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT I-IX-94-3(		



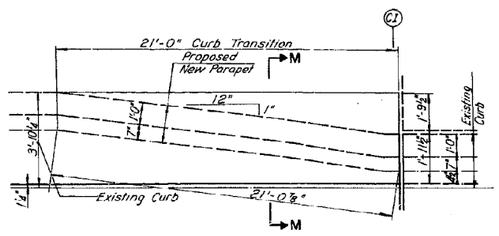
For Reinf. See Sect. W-W on Sht. 573.

SECTION K-K

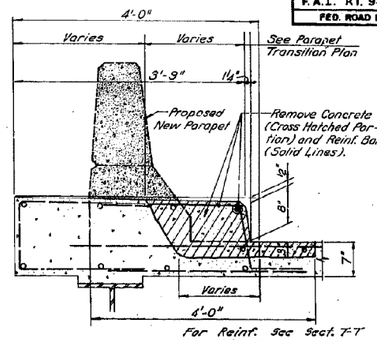


For Reinf. See Sect. W-W on Sht. 573.

SECTION L-L
SECTION N-N



PARAPET TRANSITION
PARTIAL PLAN



For Reinf. See Sect. T-T on Sht. 575.

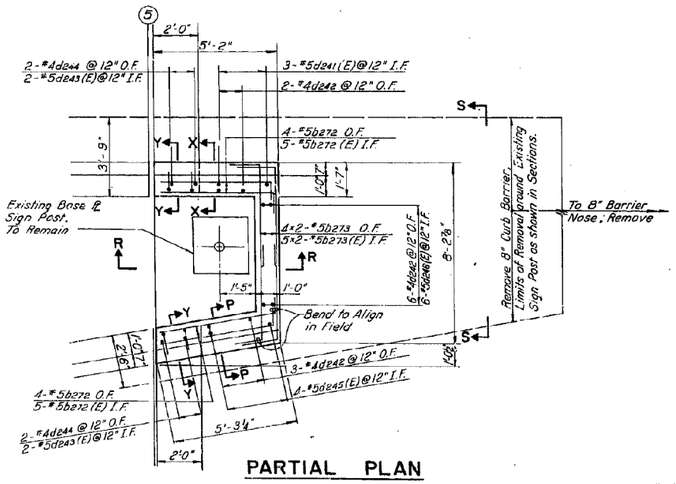
SECTION M-M

BILL OF MATERIAL

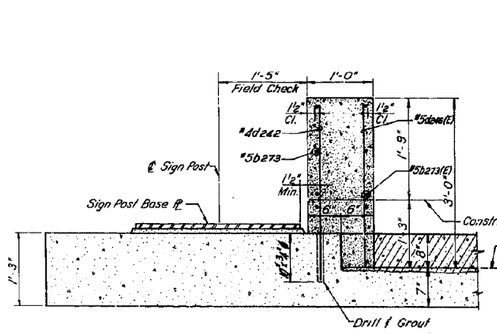
BAR	NO. (E)	NO.	SIZE	LENGTH	SHAPE
b272	8		#5	5'-6"	
b272(E)		10	#5	5'-6"	
b273	8		#5	6'-9"	
b273(E)		10	#5	6'-9"	
d241(E)		3	#5	5'-5"	
d242	11		#4	2'-11"	
d243(E)		4	#5	3'-11"	
d244	4		#4	4'-4"	
d245(E)		4	#5	4'-1"	
d246(E)		6	#5	2'-9"	

Reinforcement Bars	Lb.	140
Reinf. Bars (Epoxy Co. 'ed)	Lb.	200
Class A Concrete	Cu. Yd.	1.7
Concrete Removal	Cu. Yd.	9.7
Protective Coat	Sq. Yd.	8

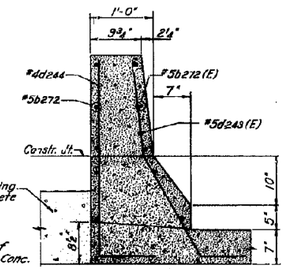
For (E) Designation See Sht. 578.



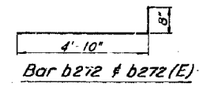
PARTIAL PLAN
AT 8" BARRIER CURB



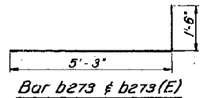
SECTION R-R



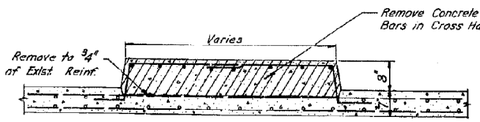
SECTION Y-Y



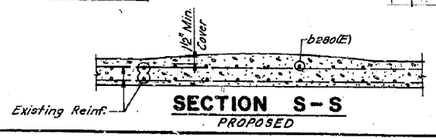
Bar b272 & b272(E)



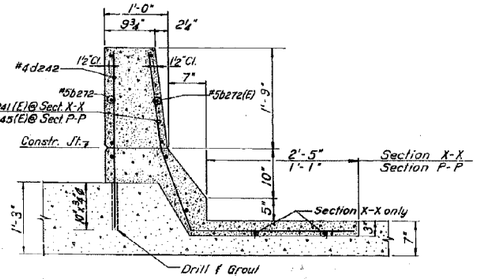
Bar b273 & b273(E)



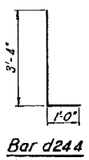
SECTION S-S
EXISTING



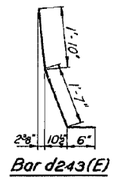
SECTION S-S
PROPOSED



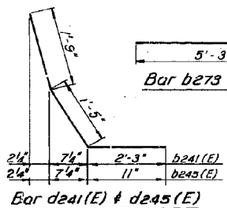
SECTION X-X
SECTION P-P



Bar d244



Bar d243(E)



Bar d241(E) & d245(E)

REINF. BAR
BENDING DETAILS

DESIGNED BY
DRAWN BY
CHECKED BY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
REHABILITATION
SECTIONS AND DETAILS
ABUTMENT 1 TO BENT C1
F.A.I. RT. 94 COOK COUNTY SECTION 1975-117-R
CHRISTIAN-MOORE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS
SHEET 573of

0161703-60X78-S080-EXT.dgn

PARSONS BRINCKERHOFF					
	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
		CHECKED -	REVISED -		SHEET NO. 27 OF 39 SHEETS
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	265
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

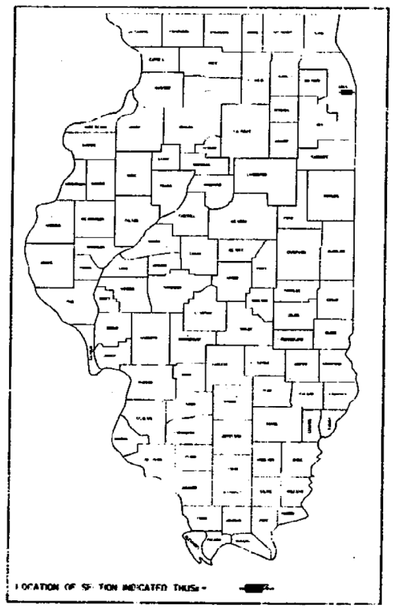
FOR INFORMATION ONLY

6

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	1
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT ACNHI-290-4(109)98			

* (2424 [2B,3,4,8,9,16,23B]: 2525-105) RS-1 &
(2424 &[2B,3,4,9,16,23B]: 0101, 6-IP) BR

D-91-133-94



LOCATION OF SECTION INDICATED THUS =

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

I-290 (EISENHOWER EXPRESSWAY), I-90/94 (KENNEDY EXPRESSWAY) TO FRANKLIN ST.

BRIDGE DECK REPAIRS & RESURFACING

SECTION: (2424 [2B,3,4,8,9,16,23B]: 2525-105) RS-1 & (2424 & [2B,3,4,9,16,23B]: 0101, 6-IP) BR

PROJECT: ACNHI-290-4(109)98
C-91-133-94

COOK COUNTY

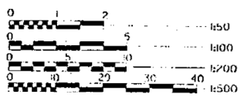
FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA
ADT = 123,600 (1995)
188,114 (2011)

DESIGN DESIGNATION:

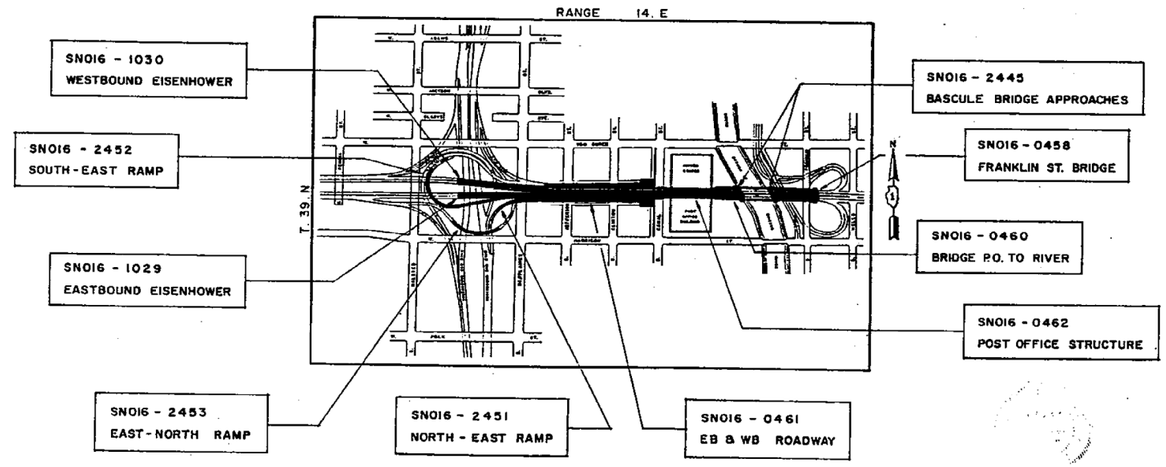
PROJECT LOCATED IN CITY OF CHICAGO

FOR UNDERGROUND UTILITY LOCATIONS, CALL
J.U.L.I.E.
TOLL FREE
TEL. 1-800-892-0123



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

CONTRACT NO. 82704



LOCATION MAP

GROSS LENGTH OF IMPROVEMENT = 1.671 KM
NET LENGTH OF IMPROVEMENT = 1.671 KM

Belton C. Cattoni
License Expires 11/30/97

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED November 28, 1996
Duane P. Carlson
DIRECTOR OF HIGHWAYS
EXAMINED _____
PASSED _____
APPROVED _____

PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

016-1030

I-290 WB / I-90,94

11-18-96

Eisenhower T.S.

BUREAU OF DESIGN CONSULTANT SERVICES SECTION ENGINEER RICK YOUNG 847-705-4232

0161703-60X78-S081-EXT.dgn

PARSONS BRINCKERHOFF			
USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED -	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 28 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	266
			CONTRACT NO. 60X78	
	ILLINOIS	FED. AID PROJECT		

FOR INFORMATION ONLY

OF SHEETS

DESCRIPTION
SHEET
OF SHEETS, LIST OF STATE STANDARDS, AN NOTES
Y OF QUANTITIES
L PLAN VIEW
C CONTROL & PROTECTION, ARY CONSTRUCTION SIGNS
ICT ONE FREEWAY STANDARD - ONE
ICT ONE FREEWAY STANDARD - TWO CLOSURE
NCE AND EXIT RAMP CLOSURE DETAILS
R LANE CLOSURE, TWO LANE WEAVE, OULDER LANE
-LANE FREEWAY PAVEMENT MARKING S
ARY PAVEMENT MARKING - LETTERS MBOLS
C CONTROL DETAILS FOR SHOULDER & L RAMP CLOSURES
CONDUIT & DUCT INSTALLATION DETAILS
GULAR INDUCTION LOOP TYPICALS (METRIC)
NG ROUND INDUCTION LOOP TYPICALS
NG ROUND INDUCTION LOOP INSTALLATION
ENT PAVEMENT MARKING PLANS
P (SN-016-2451)
P (SN-016-2452)
P (SN-016-2453)
DWAY & ABUT. 1 TO BENT -016-1029).
DWAY ABUT. 1 TO BENT -016-1029).
B ROADWAY. BENT C1 TO BENT C17 6-1030)
NDER U.S. POST OFFICE (SN-016-0462)
STRUCTURE. POST OFFICE TO RIVER 6-0460)
E BRIDGE APPROACHES (SN-016-2445)
IN ST. BRIDGE (SN-016-0458)

LIST OF STATE STANDARDS

STD. No.	DESCRIPTION
000001	STANDARDS SYMBOLS, ABBREVIATIONS AND PATTERNS
606301	PC CONCRETE MEDIANS
702001	TRAFFIC CONTROL DEVICES
509001	TUBULAR THRIE BEAM RETROFIT RAIL FOR BRIDGES
631056	TRAFFIC BARRIER TERMINAL, TYPE 12
780001	TYPICAL PAVEMENT MARKINGS
701501	URBAN LANE CLOSURE, 2-LANE, 2-WAY, UNDIVIDED
701601	URBAN LANE CLOSURE, MULTILANE, 1-WAY OR 2-WAY WITH NON TRAVERSABLE MEDIAN
701426	LANE CLOSURE MULTILANE, INTERMITTENT OR MOVING OPERATION
701101	MULTILINE OFF ROAD OPERATIONS

PLAN NOTES

1. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
2. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
3. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD 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 THE SCOPE OF QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
4. PRIOR TO PLACING THE NEW CONCRETE AT EXPANSION JOINTS, ALL LOOSE RUST, LOOSE MILL SCALE, LOOSE PAINT AND ALL OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM THE EMBEDDED PORTIONS OF FLANGES OF STRINGERS (GIRDERS). THE REMOVAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SSPC SURFACE PREPARATION SPECIFICATIONS SP-3 FOR POWER TOOL CLEANING OR SP-2 FOR HAND TOOL CLEANING. COST SHALL BE INCLUDED IN THE COST FOR CONCRETE REMOVAL.
5. THE EXISTING BITUMINOUS BRIDGE DECK OVERLAY AND MEMBRANE WATERPROOFING SYSTEM SHALL BE REMOVED AND THE AREA OF PARTIAL AND FULL-DEPTH REPAIR SHALL BE DETERMINED BY THE ENGINEER AND MARKED. PARTIAL AND FULL-DEPTH REMOVAL AND REPAIR SHALL BE PERFORMED, AS REQUIRED. AFTER WHICH THE CONCRETE DECK SURFACE SHALL BE SCARIFIED AND A 60mm LATEX CONCRETE OVERLAY SHALL BE PLACED. SEE SPECIAL PROVISIONS FOR BRIDGE DECK OVERLAY.
6. THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS. PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAWCUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGES IS NOT PERMITTED.
7. THE INORGANIC ZINC-SILICATE / ACRYLIC / ACRYLIC PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED.
8. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE DONE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL THE EXISTING STRUCTURAL STEEL LOCATED WITHIN 5 FEET OF EITHER SIDE OF EXPANSION JOINTS SHALL BE CLEANED AND PAINTED BY METHOD 1.
9. THE THREE COAT LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR FIELD PAINTING OF EXISTING STRUCTURAL STEEL. THE COLOR OF THE FINAL FINISH COAT OF THE EXTERIOR FACE AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE PAINTED LIGHT GRAY. MUNSELL 10Y7/1 COLOR.
10. THE COST OF SAWCUTTING FULL DEPTH THE EXISTING PAVEMENT AND OTHER APPURTENANCES LISTED IN SECTION 440 OF THE STANDARD SPECIFICATIONS SHALL BE INCLUDED IN THE ITEM OF WORK BEING PERFORMED.
11. ALL FRAMES AND GRATES AND DELINEATORS DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
12. ADDED EXPENSE WHICH WILL BE INVOLVED IN CONNECTING EXISTING DRAINAGE STRUCTURES, PIPE CULVERTS OR STORM SEWERS TO THE PROPOSED DRAINAGE SYSTEM SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT OR AS NOTED ON PLAN.
13. NOT USED
14. QUANTITIES: QUANTITIES SHOWN ON THE PLANS ARE BASED ON FIELD INSPECTION AT THE TIME OF PLAN PREPARATION AND ARE TO BE USED FOR PREPARATION PROPOSALS. HOWEVER, AS DETERMINED BY THE ENGINEER, QUANTITIES MAY CHANGE BASED UPON CONDITIONS UNCOVERED AT THE TIME OF CONSTRUCTION.
15. SCALE: DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
16. NIGHT OPERATIONS: WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTION IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC.
17. ANY DAMAGE TO THE REINFORCEMENT BARS AS A RESULT OF THE CONTRACTOR'S CONCRETE SAWING AND/OR CONCRETE REMOVAL OPERATION SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
18. WHEREVER EXISTING CONCRETE IS TO BE REMOVED AND NEW CONCRETE IS TO BE PLACED ADJACENT TO IT, EXISTING REINFORCEMENT SHALL BE CLEANED AND EXTENDED INTO THE NEW CONSTRUCTION COST OF THIS WORK SHALL BE CONSIDERED INCLUDED IN THE ITEM.
19. SAWING OF PORTLAND CEMENT CONCRETE PAVEMENT OR DECK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE ITEMS FOR WHICH SAWING IS REQUIRED.
20. WHERE BEARING ADJUSTMENTS ARE REQUIRED AND JACKING IS NECESSARY IN PERFORMANCE OF THIS WORK. THE CONTRACTOR SHALL SCHEDULE THE WORK SO THAT THE BEARING ADJUSTMENTS ARE COMPLETED PRIOR TO PLACEMENT OF EXPANSION JOINTS ABOVE THESE LOCATIONS.
21. FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SANDBAGS PER BARRICADE.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHT. NO.
290	-	COOK	429	-
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* (2424(29,3,4,8,9,16,23B):2525-105)RS-1 (2424 B(28,3,4,9,16,23B):0101,6-1P1BR

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
INDEX OF SHEETS, LIST OF STATE STANDARDS AND PLAN NOTES
SCALE: DATE 11-18-96

HAM & ASSOC., INC.

0161703-60X78-S082-EXT.dgn

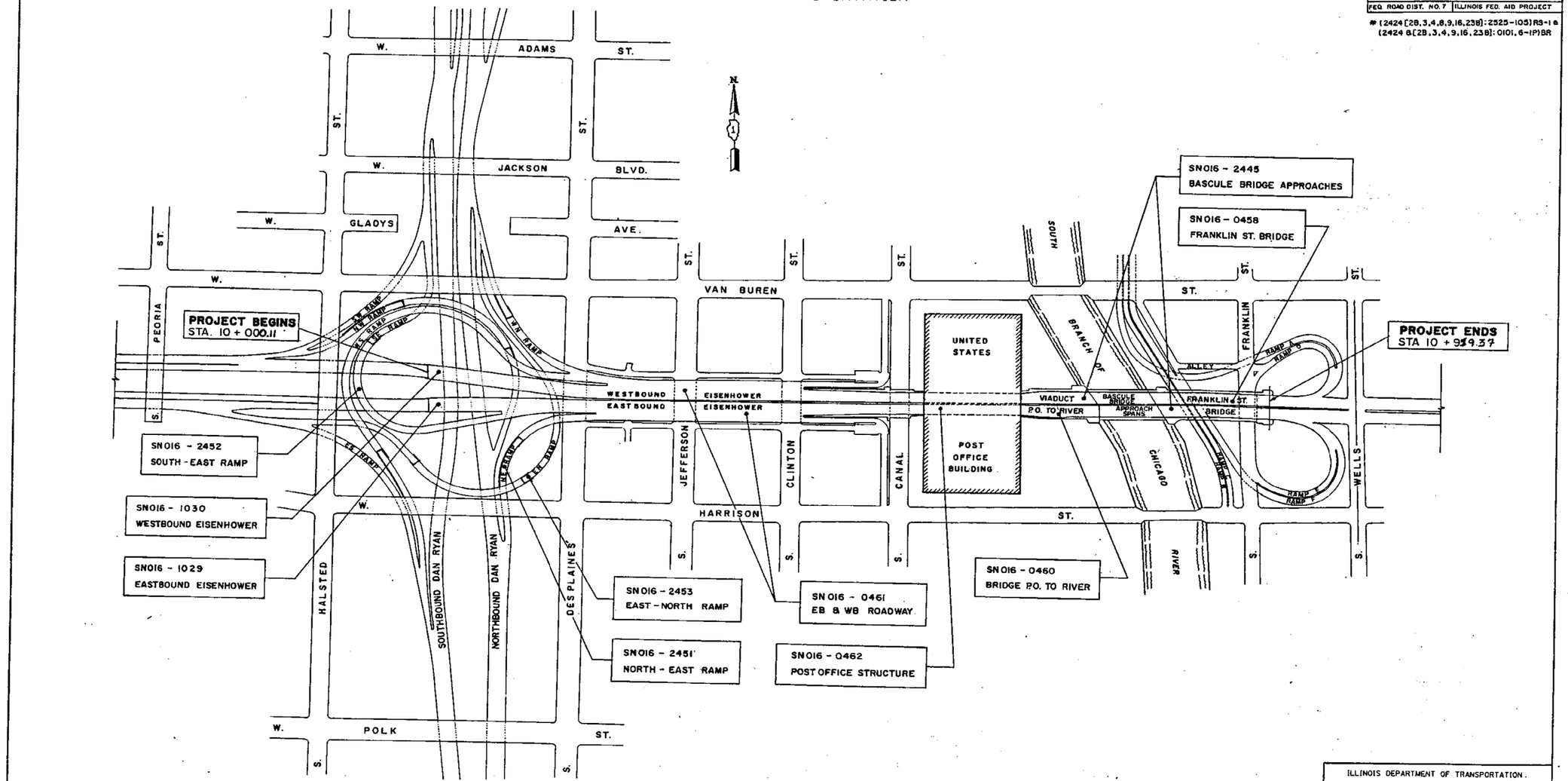
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 29 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	267
			CONTRACT NO. 60X78	
		ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	4
STA.		TO STA.		
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT			

* (2424[2B,3,4,8,9,16,23B]:2525-105)RS-1 &
(2424 B[2B,3,4,9,16,23B]:0101,6-(P)BR

DESIGNED BY ARZ
CHECKED BY BCO
DRAWN BY FCO
CHECKED BY ARZ

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS PARK RIDGE, ILLINOIS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION.
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
GENERAL PLAN VIEW

SCALE: VERT.
HORIZ.

DATE 11-18-96

0161703-60X78-S083-EXT.dgn

PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED -	REVISED -	
	CHECKED -	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS
STRUCTURE NO. 016–1030
SHEET NO. 30 OF 39 SHEETS

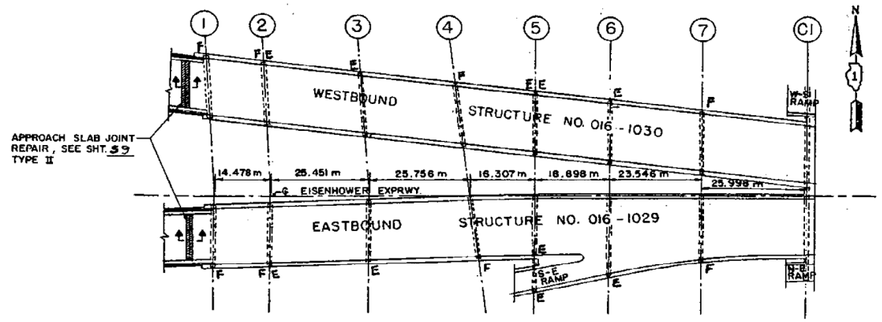
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	268
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY

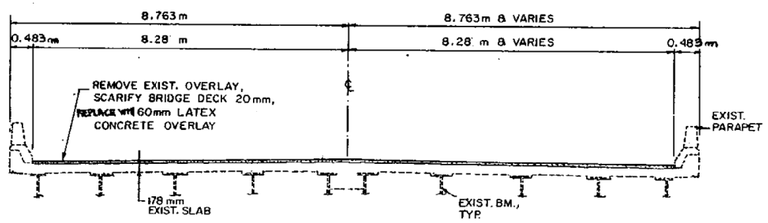
SHEET NO. 31
9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	66
STA.		TO STA		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* (2424 [28,3,4,8,9,16,238]: 2525-105) RS-1
(2424 B [28,3,4,9,16,238]: 0101, 6-IP) BR



PLAN



NOTE:
SLAB BETWEEN ABUT. ① & BENT ② IS SUPPORTED BY CONCRETE BEAMS

TYPICAL DECK CROSS SECTION
LOOKING EAST
W.B. RDWY. FROM ABUTMENT ① TO BENT ⑤ –

DESIGNED BY RAO
CHECKED BY BCO
DRAWN BY BT
CHECKED BY BCO, RAO

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS PARK RIDGE, ILLINOIS

GENERAL NOTES

1. REINFORCEMENT BARS SHALL CONFORM TO REQUIREMENTS OF AASHTO M-31M, M-42M, OR M-53M, GRADE 400.
2. PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD 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 THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
3. THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS, PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGES IS NOT PERMITTED.
4. PRIOR TO PLACING THE NEW CONCRETE AT EXPANSION JOINTS, ALL LOOSE RUST, LOOSE MILL SCALE, LOOSE PAINT AND ALL OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM THE EMBEDDED PORTIONS OF FLANGES OF STRINGERS (GIRDERS). THE REMOVAL SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SSPC SURFACE PREPARATION SPECIFICATIONS SP-3 FOR POWER TOOL CLEANING OR SP-2 FOR HAND TOOL CLEANING. COST SHALL BE INCIDENTAL TO CONCRETE REMOVAL.
5. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STRUCTURAL STEEL WITHIN 1.5M OF EITHER SIDE OF EXPANSION JOINTS WHERE CALLED FOR ON THE PLANS SHALL BE CLEANED BY METHOD 1 AND PAINTED WHERE CALLED TO BE PAINTED ON THE PLANS. THE LEAD AND CHROMATE FREE ALKYD PAINT SYSTEM SHALL BE USED FOR PAINTING OF EXISTING STRUCTURAL STEEL. THE PRIME AND INTERMEDIATE COATS SHALL BE APPLIED AS SPECIFIED IN THE SPECIAL PROVISION, FOLLOWED BY A FULL FINAL FINISH COAT OVER ALL DESIGNATED STEEL SURFACES. THE COLOR OF THE FINAL FINISH COAT SHALL BE LIGHT GRAY, MUNSELL NO. 10Y 7/1.
6. ALL DIMENSIONS ARE IN MILLIMETERS (mm) EXCEPT AS NOTED.

WORK TO BE PERFORMED

1. THE EXISTING BITUMINOUS BRIDGE DECK OVERLAY AND MEMBRANE WATERPROOFING SYSTEM SHALL BE REMOVED AND THE AREAS OF PARTIAL AND FULL-DEPTH REPAIR DETERMINED BY THE ENGINEER SHALL BE MARKED ON THE DECK. PARTIAL AND FULL-DEPTH REMOVAL AND REPAIR SHALL BE PERFORMED, AS REQUIRED, AFTER WHICH THE CONCRETE DECK SURFACE SHALL BE SCARIFIED TO A DEPTH OF 20mm AND A 60mm LATEX CONCRETE OVERLAY SHALL BE PLACED. SEE SPECIAL PROVISIONS FOR BRIDGE DECK OVERLAY.
2. RECONSTRUCT DECK JOINTS AS NOTED.
3. REPAIR PARAPETS OR REPLACE IF SO NOTED.
4. REPAIR SUBSTRUCTURE AS REQUIRED.
5. CLEAN AND PAINT FIXED BEARINGS.
6. CLEAN AND PAINT ENDS OF STEEL BEAMS AND DIAPHRAGMS AT EXPANSION JOINTS AS NOTED.

STATE OF ILLINOIS
BELTON C. OSTROM
2098
REGISTERED STRUCTURAL ENGINEER
CHICAGO, ILLINOIS

Belton C. Ostrom
My license expires 11/30/98

NOTE: THE REPAIR QUANTITIES ARE AN ESTIMATE. THE ACTUAL QUANTITIES WILL BE DETERMINED BY THE ENGINEER AT TIME OF CONSTRUCTION.

DESIGN SPECIFICATIONS
1992 A.A.S.H.T.O. with
1993, 1994 & 1995 Interims

DESIGN STRESSES (NEW CONSTRUCTION)
f'_c = 24 MPa (Concrete)
f_y = 400 MPa (Reinforcement)

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANT.
Blasting Residue Containment & Disposal	Lump Sum	.05
BRIDGE DECK 6X00 VIN6"	m^2	2522
Jack and Reposition Bearings	Each	8
Bituminous Concrete Removal (Asbestos)	m^2	2600
Concrete Bridge Deck Scarification	m^2	2522
Bridge Deck Latex Concrete Overlay	m^2	2522
Deck Slab Repair (Partial)	m^2	283
Deck Slab Repair (Full Depth Type I)	m^2	3
Deck Slab Repair (Full Depth Type II)	m^2	12
Reinforcement Bars (Epoxy Coated)	kg	2230
Concrete Removal	m^3	25.4
Neoprene Expansion Joint, 50mm	m	17.5
Neoprene Expansion Joint, 65mm	m	52
Concrete Superstructure	m^3	25.4
Formed Concrete Repair (Depth = or < 125mm)	m^2	4.6
Formed Concrete Repair (Depth = > 125mm)	m^2	23.9
Delaminated Concrete Removal	m^2	82
Protective Shield	m^2	1093
Epoxy Crack Sealing	m	90
Protective Coat	m^2	28
Joint Sealer	m	19.6
Bar Splicer	Each	48
CLEANING BRIDGE SCUPPERS & DOWNSPOUTS	Each	2
Storm Sewers to be Cleaned	m	20
Catch Basins to be Cleaned	Each	2
Cleaning & Painting Steel Bridge	Lump Sum	.05
BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE E, CLASS I, TYPE I	M. TON	30.0
BITUMINOUS SURFACE REMOVAL, 40mm	m^2	150

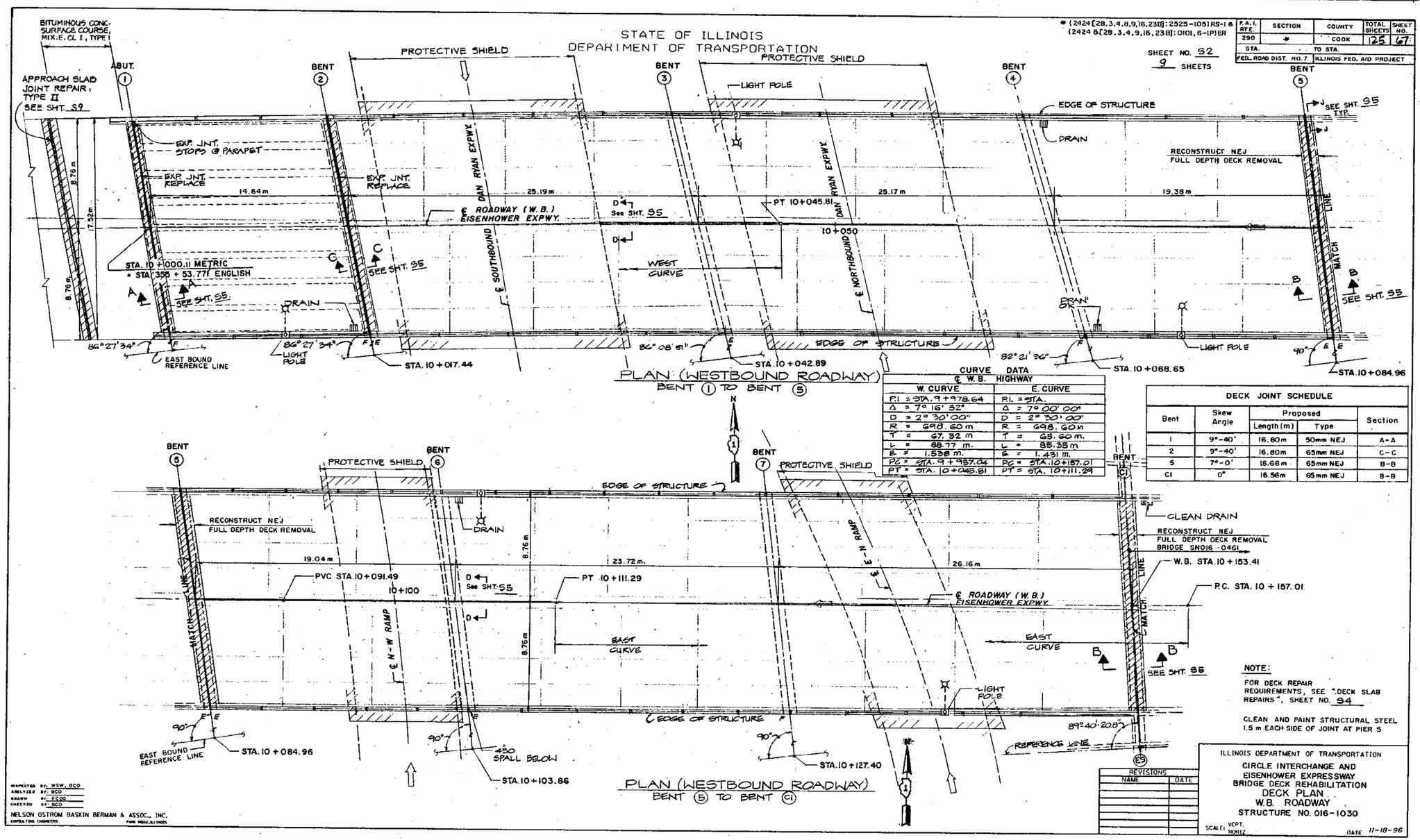
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
GENERAL PLAN
W.B. ROADWAY - STRUCTURE NO. 016-1030
SCALE: VERT.
HORIZ.
DATE 11-18-96

0161703-60X78-5084-EXT.dgn

PARSONS BRINCKERHOFF				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030 SHEET NO. 31 OF 39 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = pateld	DESIGNED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	269
		CHECKED -	REVISED -						CONTRACT NO. 60X78	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -					ILLINOIS	FED. AID PROJECT	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -							

FOR INFORMATION ONLY



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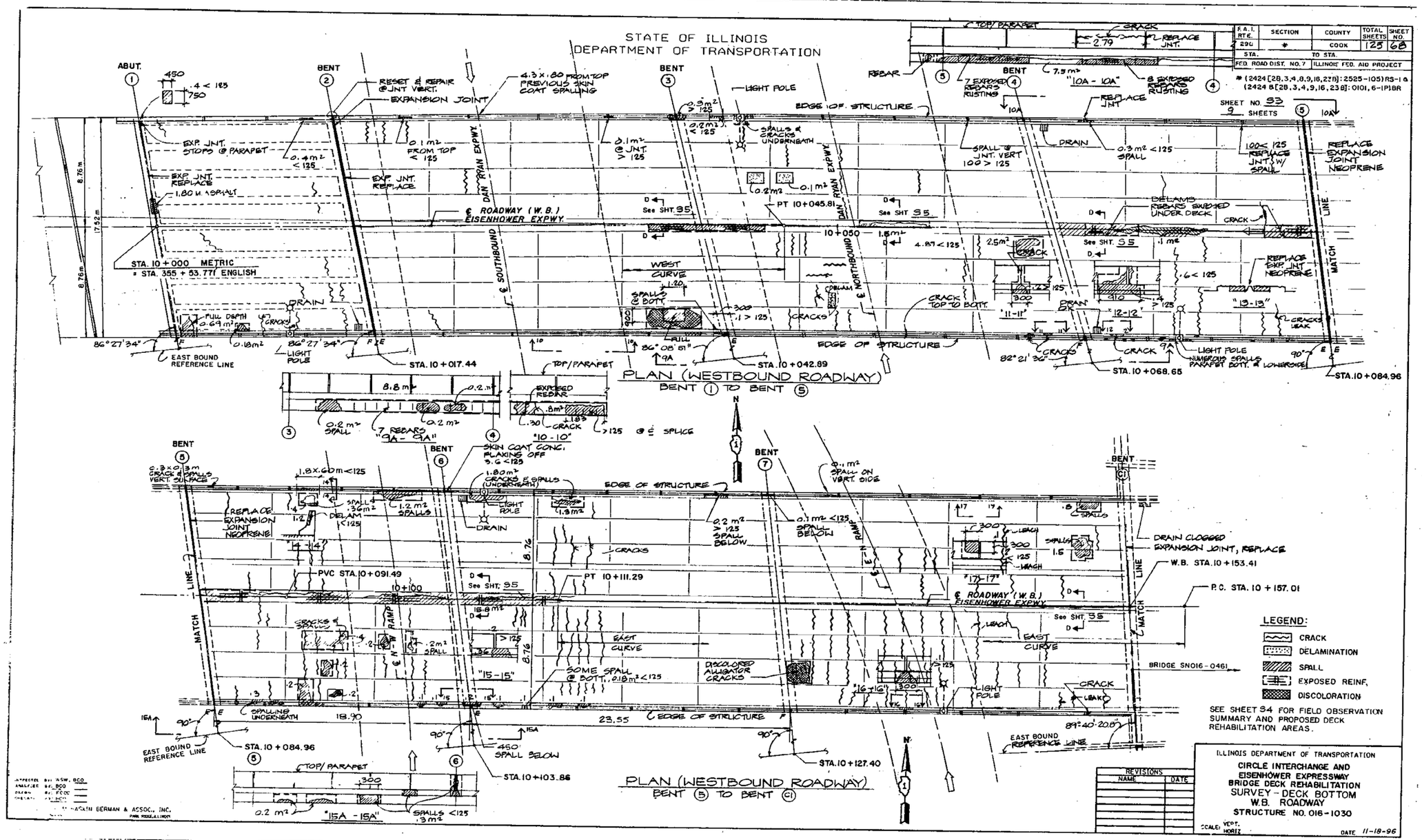
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**EXISTING PLANS STRUCTURE NO. 016-1030**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	270
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 32 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	68
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

* (2424 [28,3,4,8,9,16,27B]: 2525-105) RS-1 &
(2424 B [28,3,4,9,16,23B]: 0101, 6-1P) BR

SHEET NO. 33
9 SHEETS

0161703-60X78-S086-EXT.dgn

PARSONS BRINCKERHOFF					
USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	
	CHECKED -	REVISED -			
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -			
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 33 OF 39 SHEETS	

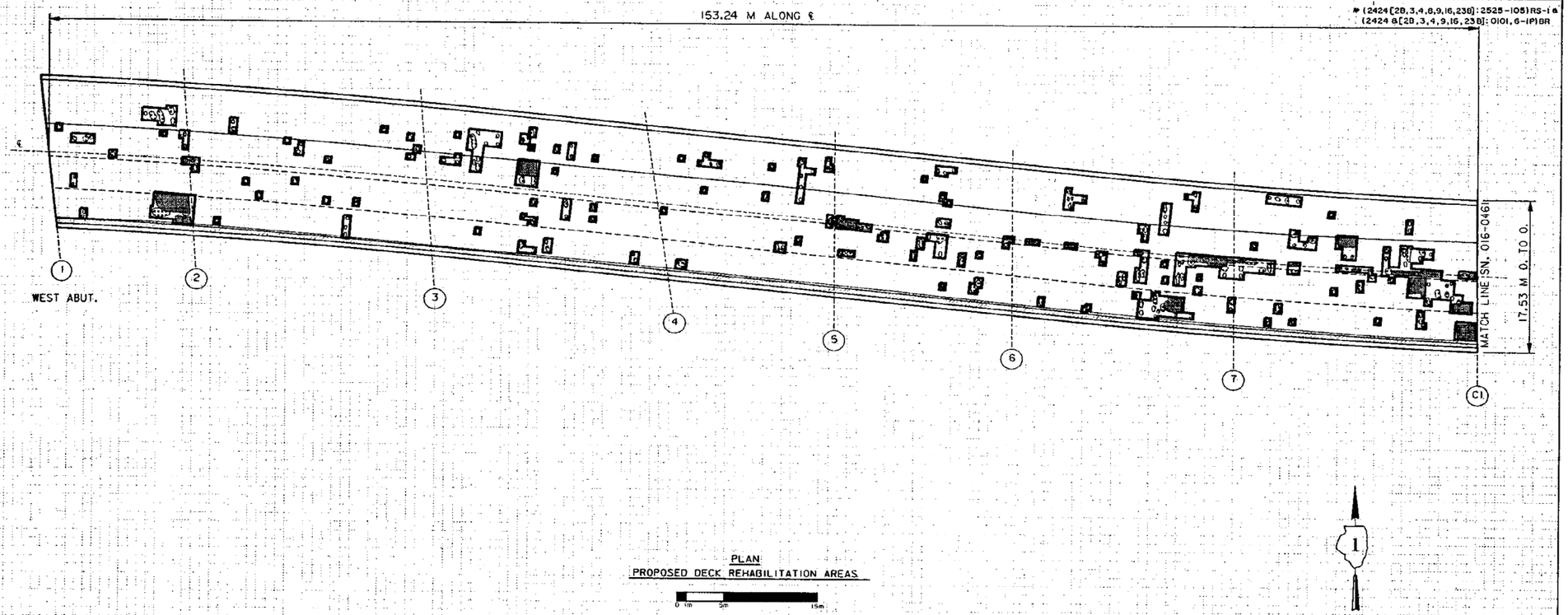
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	271
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	69
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

SHEET NO. 34
9 SHEETS

* (2424[28,3,4,8,9,16,23B]:2525-105)RS-1 &
(2424 B[28,3,4,9,16,23B]: 0101, 6-1P1BR



PLAN
PROPOSED DECK REHABILITATION AREAS

0 1m 5m 15m

STRUCTURE NO. 016-1030

UNDERSIDE QUANT.	UNDERSIDE %	FIELD OBSERVATIONS SUMMARY ITEM	UNIT	TOPSIDE QUANT.	TOPSIDE %
2,682		TOTAL AREA	m^2	2530.4	
0		SHADE/DEBRIS	m^2	117.6	
2,682		AREA INSPECTED	m^2	2412.8	
** 62	2.4	DELAMINATION	m^2	41.3	1.7
6.7	2.2	SPALL	m^2	—	—
—	—	DEBOND	m^2	—	—
—	—	ASPHALT PATCH	m^2	37.1	1.5
—	—	CONCRETE PATCH	m^2	—	—
—	—	SUBSURFACE PATCH	m^2	—	—
15.0	0.6	REHAB. AREA PARTIAL DEPTH	m^2	246.7	10.2
125	—	CRACKS	m	—	—
10 *	0.4	REHAB. AREA FULL DEPTH	m^2	10	0.4

* QUANTITY INCLUDED WITH TOPSIDE REHAB AREA.

** TO BE PAID FOR AS DELAMINATED CONCRETE REMOVAL

LEGEND

DECK TOPSIDE	DECK UNDERSIDE
DELAMINATION	CRACK
SPALL	DELAMINATION
DEBOND	SPALL
ASPHALT PATCH	EXPOSED REINF.
CONCRETE PATCH	DISCOLORATION
SUBSURFACE PATCH	FLOOR DRAIN
SHADE/DEBRIS	
REHAB. AREA PART.	
REHAB. AREA FULL	

TOPSIDE INSPECTION DATE: 10/13/95

FOR UNDERSIDE INSPECTION SEE SHT. 33

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.

RUST ENVIRONMENT & INFRASTRUCTURE

PROJECT NUMBER 74924 DATE PLOTTED 1/15/96

RUST FILE NAME ST1030.DGN

INSPECTED	ANALYZED	DRAWN	CHECKED
BY: DS	BY: DS TC	BY: DS DG	BY: DU

ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK SLAB REPAIRS

CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY REHABILITATION

WESTBOUND ROADWAY

STRUCTURE NUMBER 016-1030

11-18-96

0161703-60X78-S087-EXT.dgn

PARSONS BRINCKERHOFF

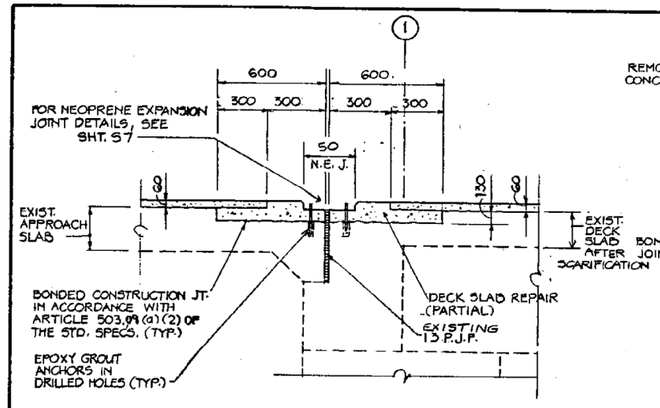
USER NAME = pateld	DESIGNED -	REVISED -
	CHECKED -	REVISED -
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

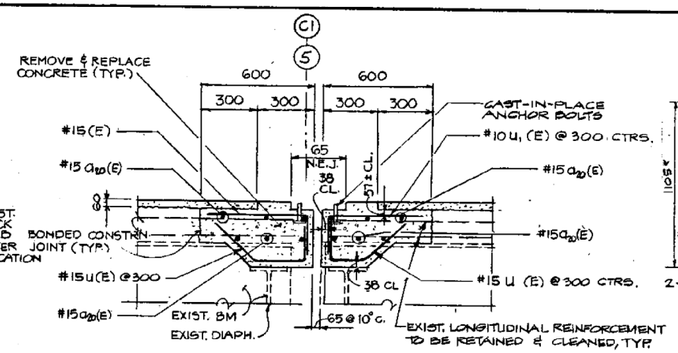
EXISTING PLANS
STRUCTURE NO. 016-1030
SHEET NO. 34 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	272
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

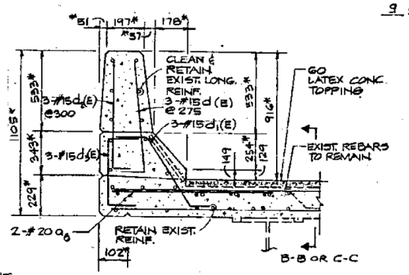
FOR INFORMATION ONLY



SECTION A-A



SECTION B-B

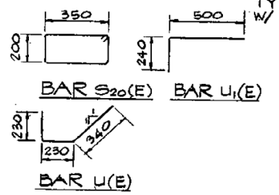


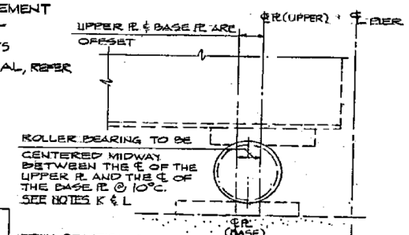
SECTION J-J

TYPICAL AT EXP. JOINT REPLACEMENT W/ FULL DEPTH DECK REMOVAL

* HATCH EXISTING PARAPETS

NOTE: FOR BILL OF MATERIAL, REFER TO SHT. 36



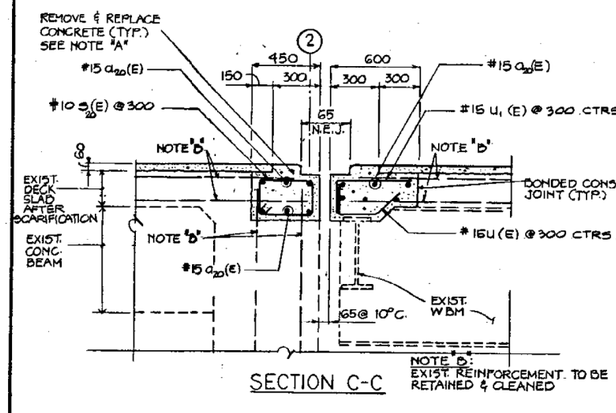


BEAM REACTION :

BENT 2 : 19,100 kg

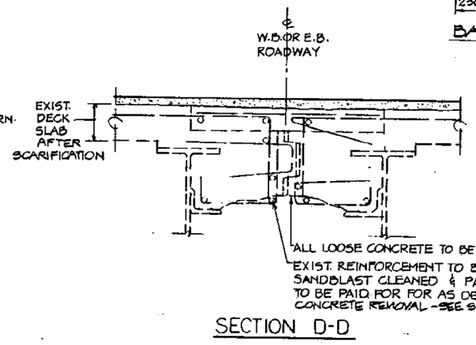
NOTE: WHERE UPPER PLATE IS TO BE RESET, WELD THUS: (SEE NOTE M)

ROLLER BEARING ADJUSTMENT DETAIL 'G'



NOTE 'D': EXIST. REINFORCEMENT TO BE RETAINED & CLEANED

SECTION C-C



ALL LOOSE CONCRETE TO BE REMOVED

EXIST. REINFORCEMENT TO BE RETAINED, SANDBLAST CLEANED & PAINTED, TYP. TO BE PAID FOR FOR AS DELAMINATED CONCRETE REMOVAL - SEE SPECIAL PROVISIONS.

SECTION D-D

BILL OF MATERIAL
DECK JOINT REPLACEMENT

Location	Bar	No.	Size	Length (m)	Shape
Pier 2	a_{20}(E)	24	#15	8.80	
	s_{20}(E)	60	#10	1.35	
	u(E)	58	#15	0.80	
	u_1(E)	58	#15	0.74	
Pier 5	a_{21}(E)	24	#15	8.64	
	u(E)	116	#15	0.74	
	u_1(E)	116	#15	0.80	
Pier C1	a_{20}(E)	24	#15	8.74	
	u(E)	116	#15	0.80	
	u_1(E)	116	#15	0.74	

Item	Unit	Quantity
Reinforcement Bars Epoxy Coated	kg	1750
Concrete Removal	m^3	20.7
Concrete Superstructure	m^3	20.7
Deck Slab Repair, Partial *	m_2	21.0
Neoprene Expansion Joint, 65mm	m	52
Neoprene Expansion Joint, 50mm	m	17.5
Bar Splicer **	Each	48

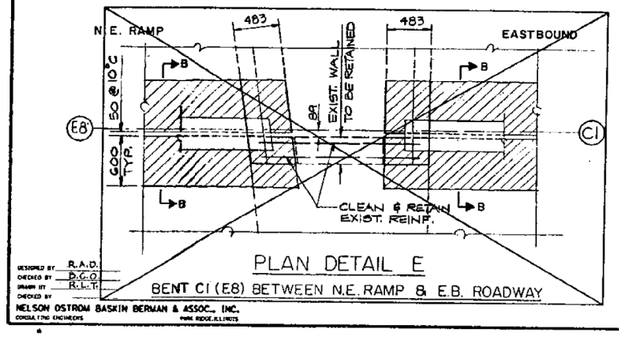
* FOR JOINT AT ABUTMENT 1

** REQUIRED AT CONSTRUCTION JOINT

NOTE K:
CENTER ROLLER BEARINGS MIDWAY BETWEEN THE ℄ OF THE TOP PLATE AND THE ℄ OF THE BASE PLATE AT 10°C. USING THE MIDWAY LINE, SET ROLLERS 5 mm CLOSER TO THE FIXED BEARING FOR EACH 10°C BELOW NORMAL TEMPERATURE OF 10°C AND 5 mm FURTHER FROM THE FIXED BEARING FOR EACH 10°C ABOVE 10°C PER 42 m OF EXPANSION LENGTH FROM THE FIXED BEARING.

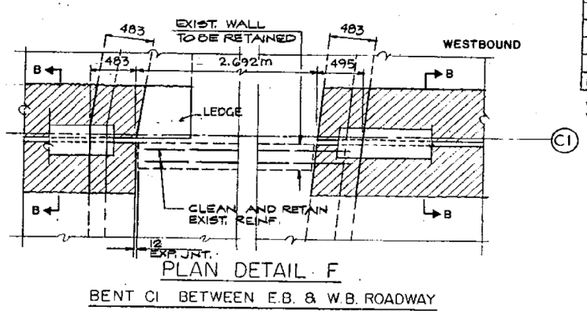
NOTE L:
IF THE ADJUSTMENT PLACES THE ROLLER CLOSER THAN 70mm TO THE EDGE OF THE UPPER PLATE OR CLOSER THAN 70mm TO THE ANCHOR BOLTS, THE UPPER PLATE SHALL BE REMOVED AND RESET TO CENTER TOP AND BOTTOM PLATES AT 10°C. ADJUST THE POSITION OF THE TOP PLATE AS DESCRIBED IN NOTE K IF THE TEMPERATURE IS NOT AT 10°C. SEE NOTE M. ROLLER BEARING SHALL BE POSITIONED MIDWAY BETWEEN ℄ OF PLATES.

NOTE M:
JACK BEAM. RAISE BRIDGE ± 6mm. REMOVE THE TOP BEARING PLATE BY AIR-CARBON ARC GOUGING OR BY OTHER ACCEPTABLE MEANS. BURNING OF WELD WILL NOT BE ALLOWED. BOTTOM FLANGE OF BEAM SHALL BE GROUND SMOOTH. REWELD TOP BEARING PLATE IN NEW POSITION. REPOSITION BEARINGS. AFTER BEARINGS HAVE BEEN REPOSITIONED, RETURN THE BRIDGE TO EXACT ORIGINAL ELEVATIONS.



PLAN DETAIL E

BENT C1 (E8) BETWEEN N.E. RAMP & E.B. ROADWAY



PLAN DETAIL F

BENT C1 BETWEEN E.B. & W.B. ROADWAY

DESIGNED BY R.A.D.
CHECKED BY D.C.O.
DRAWN BY R.L.T.
CHECKED BY

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS PARK RIDGE, ILLINOIS

REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
DECK REPAIR AND JOINT DETAILS
W.B. ROADWAY
STRUCTURE NO. 016-1030

SCALE:

DATE 11-18-96

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	※	COOK	125	70
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

※ (2424 [28, 3, 4, 8, 9, 16, 23B]: 2525-105) RS-1 ⊕ (2424 B [28, 3, 4, 9, 16, 23B]: 0101, 6-1P) BR

SHEET NO. 35
9 SHEETS

0161703-60X78-S088-EXT.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	273
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 35 OF 39 SHEETS			ILLINOIS	FED. AID PROJECT	

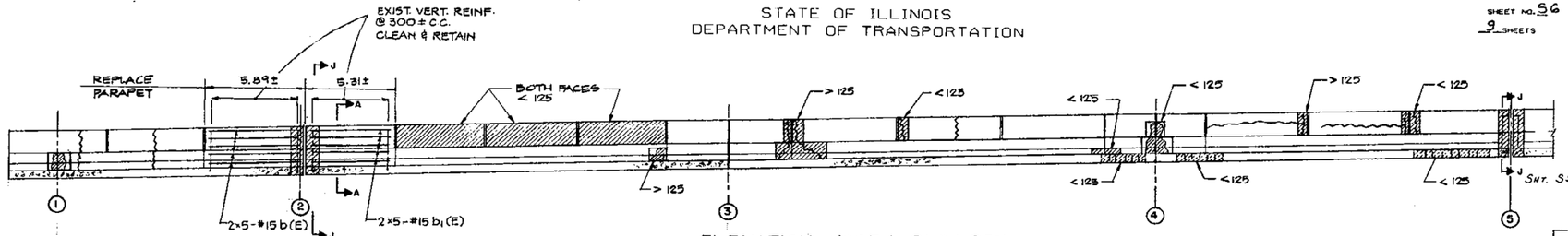
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

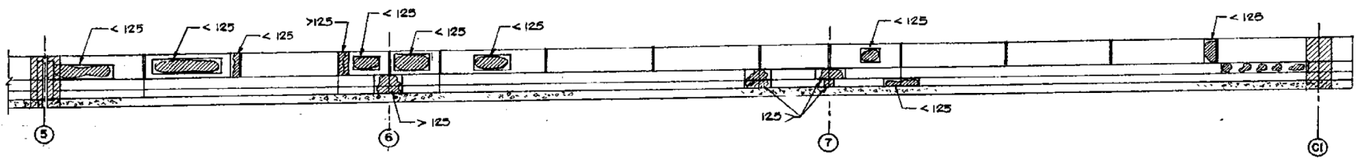
SHEET NO. 56
9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	71
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT			

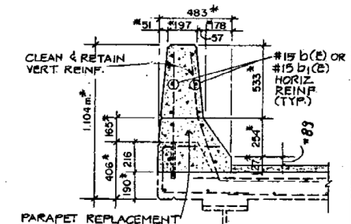
* (2424 [2B,3,4,8,9,16,23B]: 2525-105) RS-1 &
(2424 &[2B,3,4,9,16,23B]: 0101, 6-1P) BR



ELEVATION NORTH PARAPET
SHOWING INSIDE FACE



ELEVATION NORTH PARAPET
SHOWING INSIDE FACE



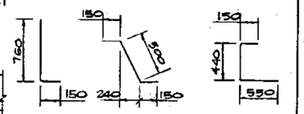
SECTION 'A-A'
* MATCH EXISTING PARAPET

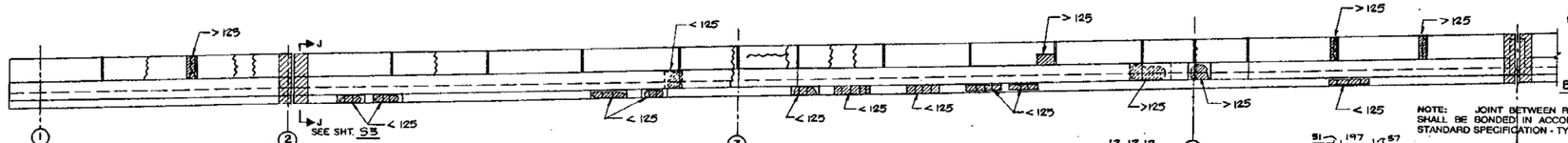
BILL OF MATERIAL

Bar	No.	Size	Length/m	Shape
d(E)	72	#15	0.91	
d1(E)	36	#15	0.80	
d2(E)	36	#15	1.14	
a8(E)	24	#20	1.60	
b(E)	10	#15	5.79	
b1(E)	10	#15	5.22	

ITEM	UNIT	QUANT.
Reinf. Bars Epoxy Coated	Kg	480
Concrete Superstructure	m^3	4.7
Concrete Removal	m^3	4.7
Protective Coat	m^2	21
Formed Conc. Repair > 125	m^2	23.9
Formed Conc. Repair < 125	m^2	4.6
Epoxy Crack Sealing **	m	90
Joint Sealer	m	19.6

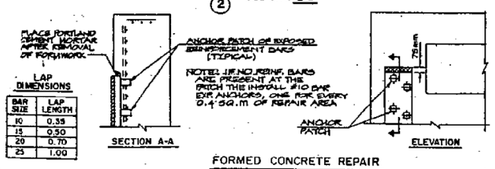
** INCLUDES SEALING CONSTRUCTION JOINT AT BASE OF PARAPET. ENGINEER TO DETERMINE EXTENT.





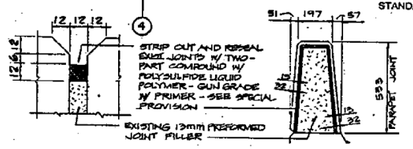
ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

NOTE: JOINT BETWEEN REPLACED PARAPET AND EXISTING PARAPET SHALL BE BONDED IN ACCORDANCE WITH ARTICLE 503.09(a)(2) OF THE STANDARD SPECIFICATION - TYPICAL.

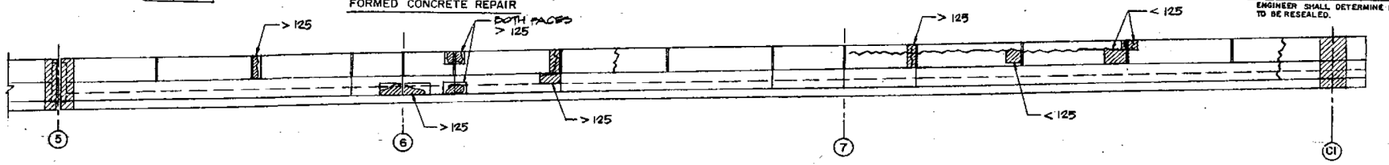


LAP DIMENSIONS	
BAR SIZE	LAP LENGTH
10	0.35
15	0.50
20	0.70
25	1.00

FORMED CONCRETE REPAIR



TYPICAL PARAPET JOINT RESEALING DETAIL
ENGINEER SHALL DETERMINE PARAPET JOINTS TO BE RESEALED.



ELEVATION SOUTH PARAPET
SHOWING OUTSIDE FACE

LEGEND:
NEAR SIDE — OPPOSITE SIDE
CRACK
SPALL
EXPOSED REINF.

NOTE:
FOR PARAPET JOINT DETAILS, SEE SHEET NO. 55

ENGINEER SHALL DETERMINE PARAPET JOINTS TO BE RESEALED.

INSPECTED BY: BCO, W.W, FOG
ANALYZED BY: BCO
DRAWN BY: MAS
CHECKED BY: BCO

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS
PARK RIDGE, ILLINOIS

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
NORTH & SOUTH PARAPETS
W.B. ROADWAY
ABUT. 1 TO BENT C1
SCALE: STRUCTURE NO. 016-1030
DATE 11-18-96

0161703-60X78-S089-EXT.dgn

PARSONS BRINCKERHOFF				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = pateld	DESIGNED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	274
		CHECKED -	REVISED -		SHEET NO. 36 OF 39 SHEETS				CONTRACT NO. 60X78	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -					ILLINOIS	FED. AID PROJECT	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -							

FOR INFORMATION ONLY

SHEET NO. 57
9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	•	COOK	125	72
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

• SECTION: (2424(28,3,4,8,9,16,23B)) 2525-105)RS-1 & (2424&2424(3,4,9,16,23B))0101.6-P)BR

Joint Size	"C" at 10 °C	"D" at 10 °C
50	50	40 Min.
65	65	45 Min.
100	75	65 Min.

INSTALLATION NOTES

① Install sponge mandrels into positions shown to form flap convolution.

② Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).

③ Install continuous seal in roadway.

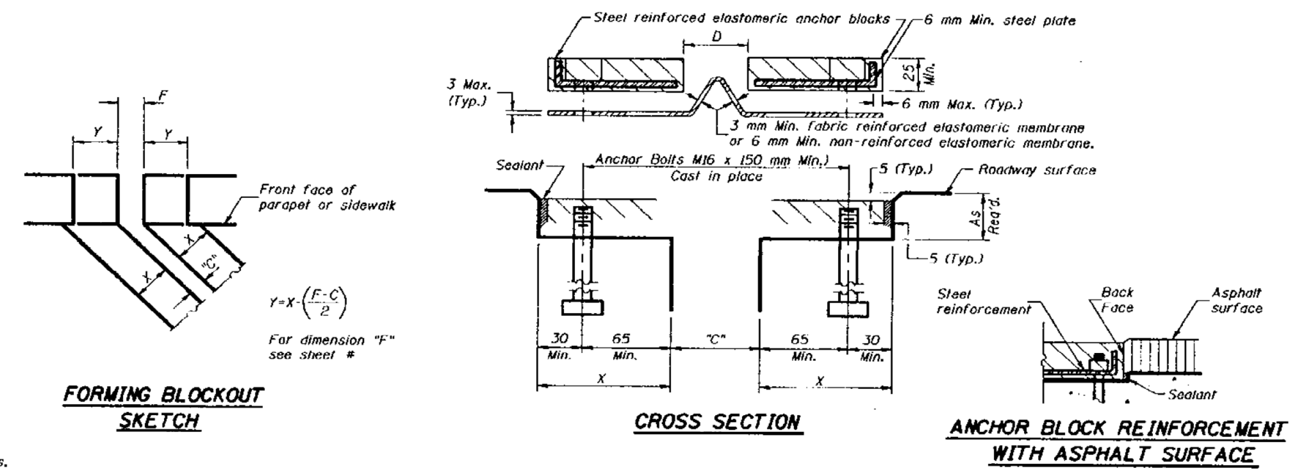
④ Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 300 centers.

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 40 mm from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±300 cts.



GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

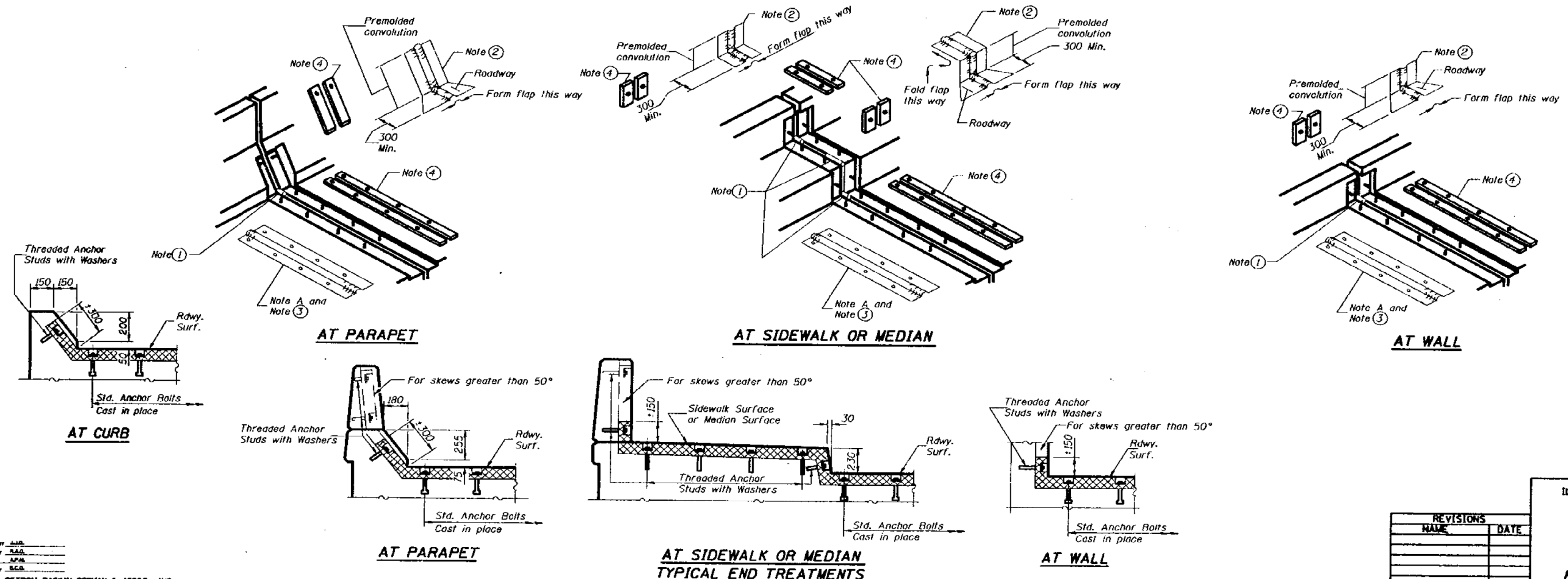
The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 10 °C.

The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

All dimensions are in millimeters (mm) except as noted.



NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS

EJ-CS (M) 7-1-94

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION
CONTINUOUS SEAL TYPE NEOPRENE EXPANSION JOINTS
For 50, 65 and 100 Movement
SCALE: STRUCTURE NO. 016-1030 DATE 11-18-96

0161703-60X78-S090-EXT.dgn

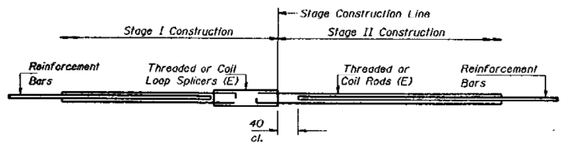
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030
	PLOT SCALE = N.T.S.	CHECKED -	REVISED -		
		DRAWN - DCP	REVISED -		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 37 OF 39 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	275
		CONTRACT NO. 60X78		
		ILLINOIS	FED. AID PROJECT	

FOR INFORMATION ONLY

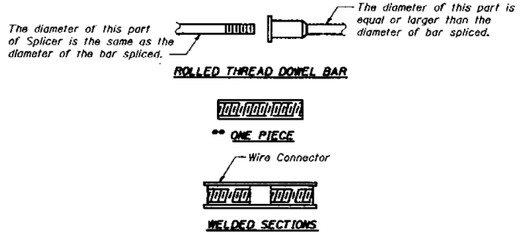
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	75
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

(2424[28,3,4,8,9,16,23B]:2525-105)RS-1 &
(2424 B[28,3,4,9,16,23B]:0101,6-1P)BR



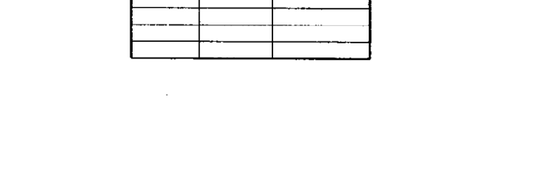
SPLICER DETAIL

Bar Size	No. Req'd. (Splicers)	Location
#15	48	Expansion Joints



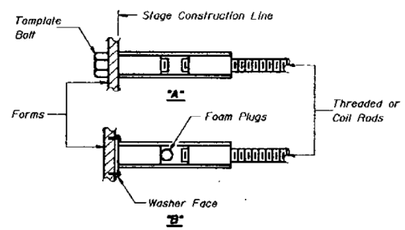
SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



BAR SPLICER ASSEMBLY DETAIL FOR INTEGRAL ABUTMENT

20 mm ϕ Bar Splicer Assembly x 1.2 m and 1.8 m Splicer Rods — Minimum Capacity = 100 kN-tension; Minimum Pull-out Strength = 40 kN-tension



INSTALLATION AND SETTING METHODS

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

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Steel Splicer rods shall be of minimum 400 MPa yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods.

Splicer (coupler) assembly shall be epoxy coated in accordance with the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed splicer (coupler) assembly satisfies the following requirements:

① Minimum Capacity (Tension in kN) $= 1.25 \times 10^{-3} \times f_y \times A_1$

② Minimum *Pull-out Strength (Tension in kN) $= 1.25 \times 10^{-3} \times f_{s\,allow} \times A_1$

Where f_y = Yield strength of lapped reinforcement bars in MPa.
$f_{s\,allow}$ = Allowable tensile stress in lapped reinforcement bars in MPa (Service Load)
A_1 = Tensile stress area of lapped reinforcement bars (mm^2).
* = 28 day concrete

Typical Splicer (Coupler) Assembly Sizes:

- #15 bar lap with 20 mm ϕ Splicer (Coupler) x 610 mm Splicer Rods — Minimum Capacity = 100 kN-tension; Minimum Pull-out Strength = 40 kN-tension
- #20 bar lap with 25 mm ϕ Splicer (Coupler) x 790 mm Splicer Rods — Minimum Capacity = 150 kN-tension; Minimum Pull-out Strength = 60 kN-tension
- #25 bar lap with 30 mm ϕ Splicer (Coupler) x 1.04 m Splicer Rods — Minimum Capacity = 250 kN-tension; Minimum Pull-out Strength = 100 kN-tension
- #30 bar lap with 36 mm ϕ Splicer (Coupler) x 1.37 m Splicer Rods — Minimum Capacity = 350 kN-tension; Minimum Pull-out Strength = 140 kN-tension

Bar splicer assemblies shall be in accordance with Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

All dimensions are in millimeters (mm) except as noted.

DESIGNED BY A.J.P.
CHECKED BY R.A.O.
DRAWN BY A.P.M.
CHECKED BY R.A.O.
NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS — PARK RIDGE, ILLINOIS

BSD-1 (M) 3-31-95

REVISIONS NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND
EISENHOWER EXPRESSWAY
BRIDGE DECK REHABILITATION

BAR SPLICER (COUPLER) DETAILS AT STAGE CONSTRUCTION

W.B. ROADWAY
STRUCTURE NO. 016-1030 11-18-96

0161703-60X78-S091-EXT.dgn

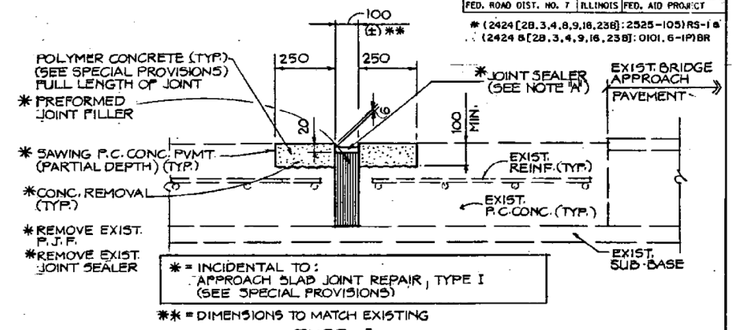
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS STRUCTURE NO. 016-1030	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED -	REVISED -			90/94/290	2014-004 R&B	COOK	706	276
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -					CONTRACT NO. 60X78		
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. 38 OF 39 SHEETS			ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY

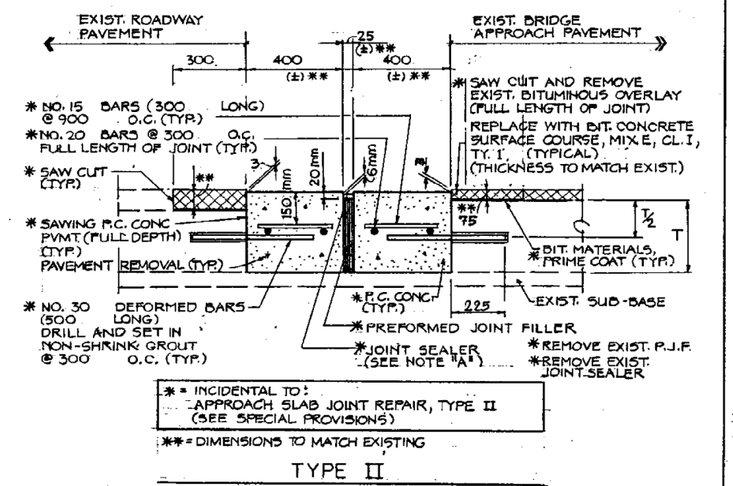
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 59 OF 9 SHEETS				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	*	COOK	125	74
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

* (2424[28,3,4,8,9,16,23B]:2525-105)RS-1
(2424 B[28,3,4,9,16,23B]: 0101.6-1P)BR



TYPE I



TYPE II

NOTE "A":
THE PREFORMED JOINT FILLER SHALL BE SEALED WITH HOT POURED JOINT SEALER MEETING THE REQUIREMENTS OF ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS. THE HOT POURED JOINT SEALER SHALL BE POURED TO 6mm BELOW THE PAVEMENT ELEVATION.

APPROACH SLAB JOINT REPAIR DETAILS

DESIGNED BY BCO
CHECKED BY
DRAWN BY BT
CHECKED BY BCO

NELSON OSTROM BASKIN BERMAN & ASSOC., INC.
CONSULTING ENGINEERS PARK RIDGE, ILLINOIS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CIRCLE INTERCHANGE AND EISENHOWER EXPRESSWAY BRIDGE DECK REHABILITATION
W.B. ROADWAY
APPROACH SLAB JOINT REPAIR
STRUCTURE NO. 016-1030
SCALE: DATE 11-18-96

0161703-60X78-S092-EXT.dgn

PARSONS BRINCKERHOFF				
	USER NAME = pateld	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED -	REVISED -	EXISTING PLANS STRUCTURE NO. 016-1030
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	SHEET NO. 39 OF 39 SHEETS
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

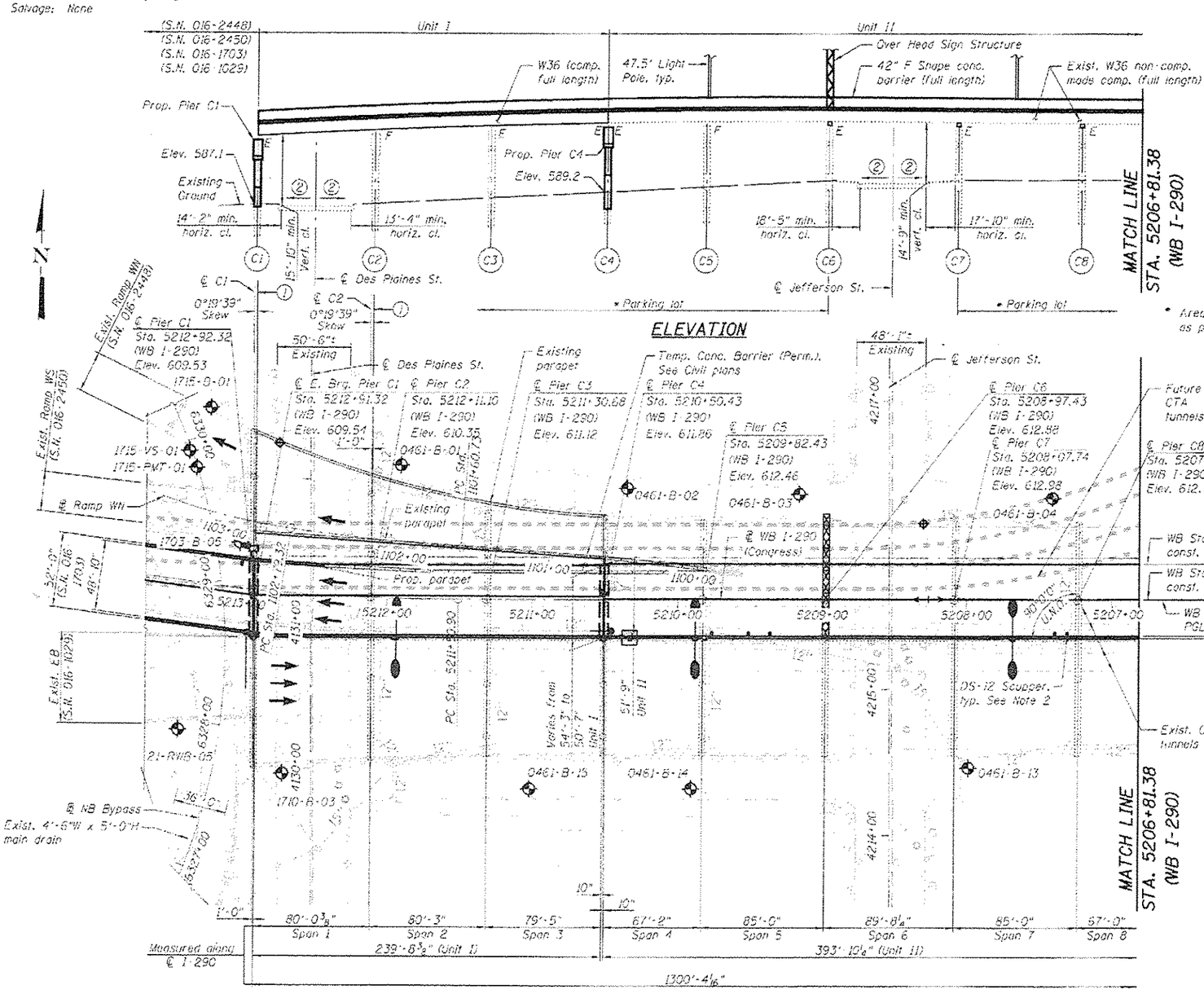
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B	COOK	706	277
		CONTRACT NO. 60X78		
	ILLINOIS	FED. AID PROJECT		

Bench Mark: Square cut at center of door entrance to 707 W. Harrison St; South side of Harrison St. +90' west of west line of Des Plaines. Elevation 597.47. A + cut in the SE anchor bolt at the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. = 594.06.

Existing Structure: S.N. 016-0461 was originally built in 1952 as F.A. Route Number 131, Section 062-2424.4. The existing structure consists of 16 main spans of multi-unit steel continuous multi-beam superstructures with additional entrance and exit ramp spans along Spans 12 and 13. The existing structure has an overall length of approximately 1301'-4" and an average out-to-out width of approximately 162'-0" for the main spans and 25'-0" for the ramp spans. The substructure units are founded on drilled shafts and consist of 17 multi column piers. The existing bridge is to be rehabilitated through a combination of partial removal and replacement, repairs, and partial infill of ramp spans.

Traffic Control: Two lanes of mainline traffic will be maintained utilizing stage construction. Canal Street Entrance Ramp will be closed during stage construction. Ramp traffic will be maintained utilizing stage construction.

Salvage: None



① Line perpendicular to ℄ I-290

② Varies 1.4% to 3.6%

Notes:
1. For Scope of Work and Scupper Table, see sheet S2-2.
2. For ℄ Pier & ℄ I-290 Intersect Stationing, see sheet S2-5.
3. For Curve Data and Geometric Layout, see sheet S2-5.
4. For Profile Grades, see sheet S2-6 and S2-7.
5. For Protective Shield limits, see sheet S2-20.
6. Skew is taken from a line normal to ℄ I-290.
7. Existing utilities attached to structure will be maintained/relocated during construction.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

* Area below structure is utilized as parking lot.

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications 7th Edition (Spans 1-3)
2002 AASHTO Standard Specifications for Highway Bridges (Spans 4-16)

DESIGN STRESSES

FIELD UNITS (New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

FIELD UNITS (Exist. Construction)
f'c = 3,500 psi
fy = 60,000 psi (Deck Reinforcement)
fy = 40,000 psi (Pier Reinforcement)
fy = 33,000 psi (ASTM A7)

LOADING HL-93 (SPANS 1-3 & PIER C1 THRU C4) LOADING HS20-44 & ALT. MILITARY (SPANS 4-16)

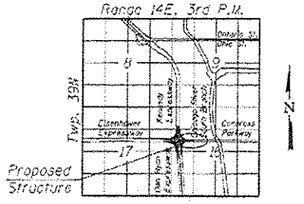
Allow 25#/sq. ft. for future wearing surface

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.144
Soil Site Class = D

STATE OF ILLINOIS
JAMAL I. GRAINAWI
081-005161
CHICAGO, ILLINOIS
HIGHWAY STRUCTURAL ENGINEER

Signed Jamal Grainawi
JAMAL I. GRAINAWI, S.E. Il. Lic. No. 081-005161
Expires 11-30-2016.
Date 3/18/2016



LOCATION SKETCH

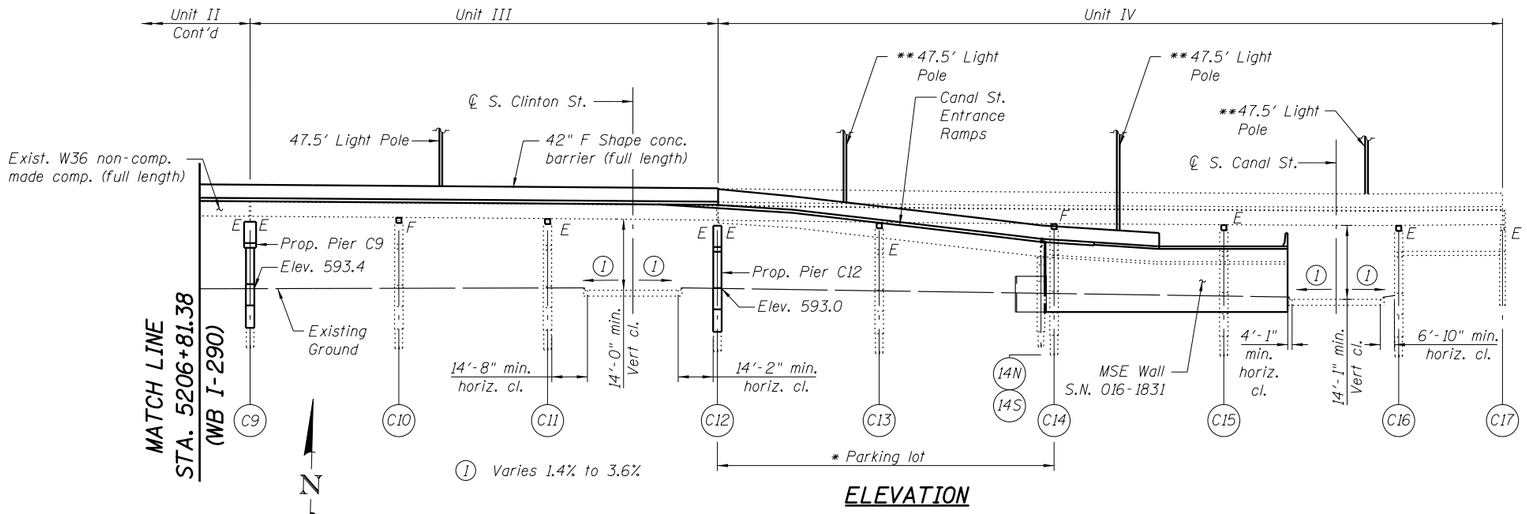
LEGEND:
- W — Water Line
- E — Electric
- T — Telephone line
- CTV — Television line
- Combined Sewer
- Storm Sewer
- Point of min. vert. cl.
- Soil Boring Location

GENERAL PLAN & ELEVATION - I I-290 (CONGRESS) VIADUCT OVER DES PLAINES ST. TO CANAL ST.

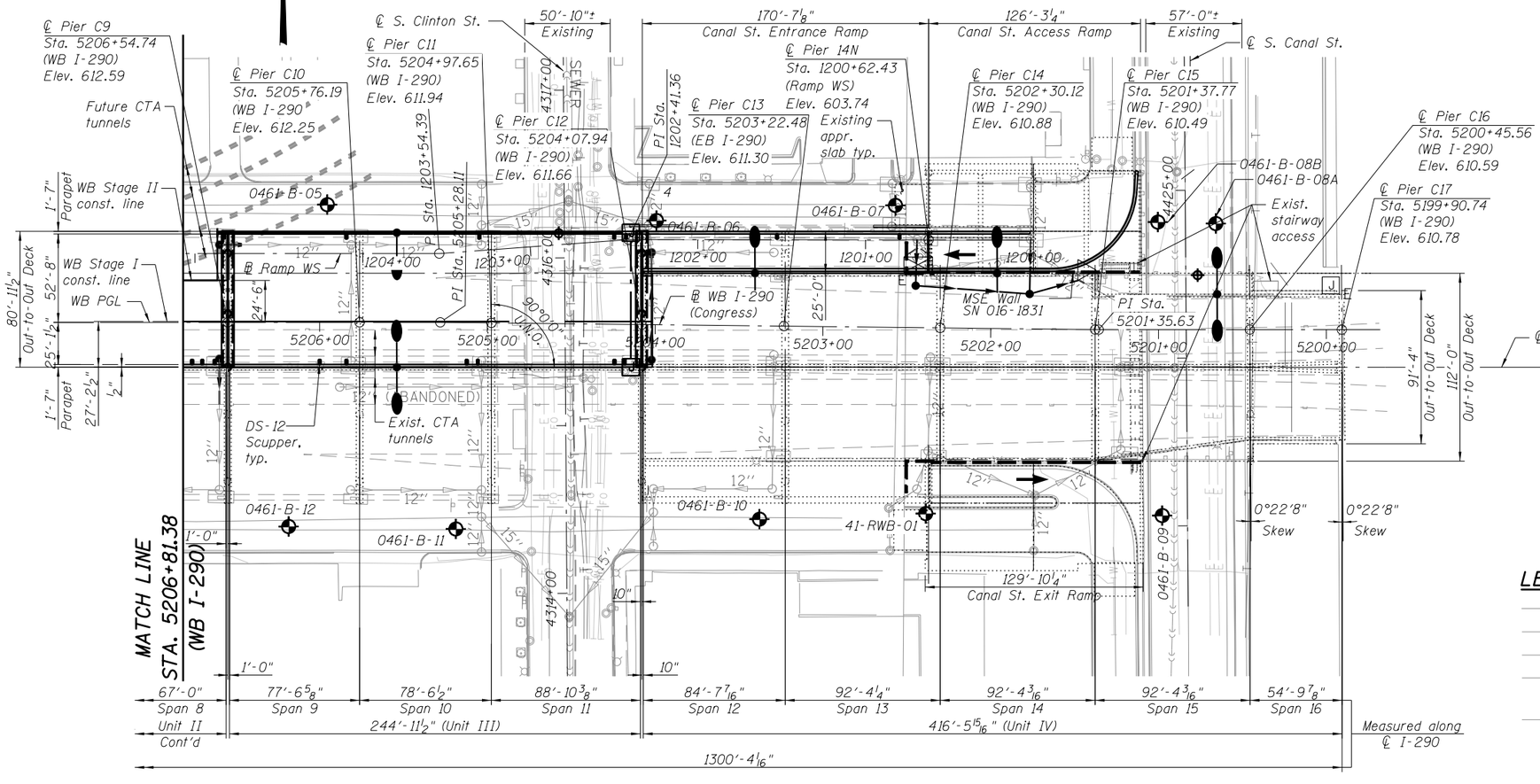
F.A.I. ROUTE 90/94/290
SECTION 2014-001 R&B (EB), 2014-004 R&B (WB)
COOK COUNTY
STATION 5165+03.09
STRUCTURE NO. 016-0461

PARSONS BRINCKERHOFF	USER NAME = DGTOIC	DESIGNED - PJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - AH	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	106	278
	PLOT SCALE = N.T.S.	DRAWN DCP	REVISED					CONTRACT NO. 60X78		
	PLOT DATE = 3/23/2016	CHECKED JIG	REVISED -		SHEET NO. S2-01 OF S2-145 SHEETS			ILLINOIS FED. AID PROJECT		

0165-0461-60X78-S001-GPE.dgn



ELEVATION



PLAN

DS-12 SCUPPER LOCATIONS WB I-290

Station	Offset
5209+76.29	25.13 Lt.
5209+51.00	25.13 Lt.
5209+36.00	25.13 Lt.
5207+39.00	25.13 Lt.
5207+30.56	25.13 Lt.
5206+76.00	25.13 Lt.
5206+70.00	25.13 Lt.
5206+62.56	25.13 Lt.
5206+56.97	52.67 Rt.
5206+00.00	25.13 Lt.
5205+84.00	25.13 Lt.
5205+84.00	52.67 Rt.
5205+12.00	24.95 Lt.
5205+05.46	24.88 Lt.
5205+05.46	52.92 Rt.
5204+24.00	23.98 Lt.
5204+25.00	53.81 Rt.
5204+17.90	53.89 Rt.
5204+17.90	23.91 Lt.
5203+28.00	54.88 Rt.
5202+55.00	55.69 Rt.

* Area below structure is utilized as parking lot.

SCOPE OF WORK

1. Replace WB deck in Spans 1 through 11 with a composite deck.
2. Repair WB deck in Spans 12 through 15.
3. Repair WB superstructure in Spans 4 through 15. (End diaphragms).
4. Remove and replace WB superstructure between Piers C1 & C4.
5. Replace WB bridge deck expansion joints with modular type at Piers C1, C9 & C12 and strip seal type at Piers C4 & 14N.
6. Replace high profile rocker bearings with elastomeric bearings at WB Piers C3, C6, C7, C8, C11, C13, C15 & C16.
7. Replace nested roller bearings with high-load multi-rotational bearings at center-column of piers C1 thru C14.
8. Repair all WB substructure units except Piers C1, C4, C9, C12 & C17.
9. Reconstruct concrete columns and caps of WB Piers C1, C4, C9 & C12 and reconfigure beam seats at Piers C1 through C4 to accommodate the proposed WB deck geometry.
10. Remove and replace existing Chain Link Fence in Spans 14 through 16 (See roadway plans).
11. Remove and replace drainage system in WB Spans 1 through 11 (See drainage plans). Clean and/or repair the existing scupper system (grates and pipes) in Spans 12 through 15.
12. Remove and replace underpass lighting over the existing roadways (See electrical plan).

** Existing light poles in Unit IV to be removed and replaced and to utilize existing light support. The Contractor shall provide all precautions necessary to prevent damage to the existing light support during the removal work. If the existing light support is damaged such as the new light pole cannot be installed properly, contractor must provide detail to match existing light support to be approved by the engineer. All Cost of new light support shall be included in Concrete Superstructure. For existing light support detail, See sheet 178 of 194 of existing plans for S.N. 016-0461.

Notes:
1. For ℄ Pier & ℄ I-290 Intersect Stationing, see sheet S2-5.
2. For Curve Data, Geometric Layout, and Highway Classification, see sheet S2-5.
3. For Profile Grades, see sheet S2-6 and S2-7.
4. For Protective Shield limits, see sheet S2-20.
5. Skew is taken from a line normal to ℄ I-290.
6. Existing utilities attached to structure will be maintained/relocated during construction.

LEGEND:

- W — Water Line
- E — Electric
- T — Telephone line
- CTV — Television line
- Combined Sewer
- Storm Sewer
- Point of min. vert. cl.
- Soil Boring Location

GENERAL PLAN & ELEVATION - II
I-290 (CONGRESS) VIADUCT OVER DES PLAINES ST. TO CANAL ST.
F.A.I. ROUTE 90/94/290
SECTION 2014-001 R&B (EB), 2014-004 R&B (WB)
COOK COUNTY
STATION 5165+03.09
STRUCTURE NO. 016-0461

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - PJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - AH	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

SHEET NO. S2-02 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	279
		CONTRACT NO. 60X78		
		ILLINOIS FED. AID PROJECT		

0160461-60X78-S002-GPE.dgn

GENERAL NOTES:

1. Fasteners shall be ASTM A325 Type 1, hot dipped galvanized bolts. Bolts $\frac{7}{8}$" ϕ, holes $\frac{15}{16}$" ϕ, unless otherwise noted.

2. Calculated weight of Structural Steel = 390,250 lbs. (Gr. 50)
   = 2,890 lbs. (Gr. 36)

3. All structural steel except for steel in Temporary Support System shall be hot-dip galvanized (see special provisions).

4. The Contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

5. No field welding is permitted except as specified in the contract documents.

6. Reinforcement bars designated (E) shall be epoxy coated.

7. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

   As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $\frac{1}{4}$ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

8. If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

9. 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.

10. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$" (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

11. Concrete Sealer shall be applied to the designated areas of the Piers C1, C4, C9 & C12.

12. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

13. Cleaning and field painting of structural steel shall be done under a separate painting contract, unless noted otherwise.

14. Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

15. Slipforming of the parapet is not allowed.

16. Contractor shall coordinate deck construction work between Piers 10 & 11 in Unit III with MEGA Bus. The Contractor shall install deck inserts underside of the deck for the future lighting work. Deck incerts will be provided by MEGA Bus and Contractor shall ask the Engineer in advance for these incerts. This work shall not be paid separately but shall be included with Concrete Superstructure.

INDEX OF SHEETS

STRUCTURAL ASSESSMENT OF EXISTING STRUCTURE NOTES:

1. In order to construct proposed superstructure & substructure elements, Contractor may elect to support temporary construction material and/or equipment, on the existing structures in the vicinity of the proposed structure. The Contractor shall submit Structural Assessment Report(s) for approval prior to beginning the work. See Special Provision.

2. An Existing Structure Information Package (ESIP) will be provided by the Department to the Contractor upon request.

3. The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Highway Bridge (Complex), for preparation of the Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provision.

   Current Ratings on File for Existing Structures are as follows:

   S.N. 016-0461 (I-290 (Congress) Viaduct over Des Plaines St. to Canal St.)
   Inventory: HS 21.3
   Operating: HS 34.3
   Live Load Restrictions: None

   S.N. 016-1029 (EB I-290 over I-90/94)
   Inventory: HS 17.2
   Operating: HS 28.7
   Live Load Restrictions: None

   S.N. 016-1030 (WB I-290 over I-90/94)
   Inventory: HS 14.7
   Operating: HS 24.5
   Live Load Restrictions: None

   S.N. 016-2448 (Ramp WB I-290 to NB I-90/94 over Des Plaines Ave.)
   Inventory: HS 32-1 (HS 20+MOD)
   Operating: HS 53-5 (HS 20+MOD)
   Live Load Restrictions: None

   S.N. 016-2450 (Ramp WB I-290 to SB I-90/94 over I-90/94)
   Inventory: HS 14.2
   Operating: HS 23.6
   Live Load Restrictions: None

4. Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

5. The contractor is advised that the existing structures may contain members in deteriorated conditions with reduced load carrying capacities. It is the Contractor's responsibility to account for the condition of existing structures when developing construction procedures for using them to support construction loads and for the complete or partial removal or replacement of the structure.

6. The contractor shall verify that the structural demands of the applied loads due to the Contractor's means and methods will not exceed the available capacity of the structure at the time loads are applied. Most likely, the Contractor will be required to provide additional shoring under the existing bridges (or other methods of retrofitting) to support construction loads. Design, installation and subsequent removal of such shoring system will be the responsibility of the Contractor and will not be paid separately.

7. The Contractor shall use caution and not damage any component of the existing structure. Upon completion of work and prior to allowing traffic back on the existing structure the contractor must restore existing structure in its original condition.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures No. 2	Each	1		1
Concrete Removal	Cu. Yd.	13.0	173.5	186.5
Removal of Existing Concrete Deck	Each	3		3
Protective Shield	Sq. Yd.	7,713		7,713
Structure Excavation	Cu. Yd.		201	201
Concrete Structures	Cu. Yd.		397.8	397.8
Concrete Superstructure	Cu. Yd.	1,837.1		1,837.1
Bridge Deck Grooving	Sq. Yd.	5,914		5,914
Protective Coat	Sq. Yd.	6,878		6,878
Furnishing and Erecting Structural Steel	L. Sum	0.4		0.4
Stud Shear Connectors	Each	29,112		29,112
Reinforcement Bars, Epoxy Coated	Pound	404,640	99,490	504,130
Bar Splicers	Each	4,143	228	4,371
Preformed Joint Strip Seal	Foot	75		75
Elastomeric Bearing Assembly, Type I	Each	89		89
Elastomeric Bearing Assembly, Type II	Each	66		66
Elastomeric Bearing Assembly, Type III	Each	14		14
Anchor Bolts, 3/4"	Each	114		114
Anchor Bolts, 1"	Each	224	16	240
Anchor Bolts, 1 1/4"	Each	18		18
Anchor Bolts, 1 1/2"	Each		40	40
Temporary Soil Retention System	Sq. Ft.		3,174	3,174
Concrete Sealer	Sq. Ft.		7,596	7,596
Cleaning Bridge Scuppers and Downspouts	Each	12		12
Access Door	Each		1	1
High Load Multi-Rotational Bearings, Guided Expansion, 250k	Each		8	8
High Load Multi-Rotational Bearings, Guided Expansion, 450k	Each		20	20
Jack and Remove Existing Bearings	Each	142	16	158
Structural Steel Repair	Pound	22,263		22,263
Bridge Deck Latex Concrete Overlay, 2 3/4 inches	Sq. Yd.	613		613
Handrail Removal	Foot	62.5		62.5
Bridge Deck Scarification 2 3/4"	Sq. Yd.	613		613
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.		651	651
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq. Ft.	16	20	36
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	2		2
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	19		19
Drainage Scuppers, DS-12	Each	21		21
Drainage System	L. Sum	0.7		0.7
Temporary Drainage System No. 2	L. Sum	1		1
Silicone Joint Sealer, ½"	Foot	75		75
Silicone Joint Sealer, 1"	Foot	21		21
Modular Expansion Joint 6"	Foot	209		209
Temporary Shoring	Each	6	3	9
Temporary Support System (to Remain in Place)	Each		6	6

CURVE DATA
(WB I-290 (Congress))

PROP. CURVE P-CON-WB-1
PI STA. = 5212+68.02
Δ = 8° 12′ 18" (RT)
D = 3° 30′ 31"
R = 1,633.00′
T = 117.13′
L = 233.85′
E = 4.20′
e = 4.40%
T.R. = 67′
S.E. RUN = 147′
P.C. STA. = 5211+50.90
P.T. STA. = 5213+84.75
DS = 45
PS = 45

CURVE DATA
(Ramp WN)

PROP. CURVE P-CIR-WN-1
PI STA. = 1102+20.05
Δ = 4° 14′ 49" (RT)
D = 3° 34′ 52"
R = 1,600.00′
T = 59.33′
L = 118.60′
E = 1.10′
e = 4.40%
T.R. = NA
S.E. RUN = 64′
P.C. STA. = 1101+60.73
P.T. STA. = 1102+79.32
DS = 30
PS = 30

PROP. CURVE P-CIR-WN-2
PI STA. = 1105+88.67
Δ = 69° 00′ 44" (RT)
D = 12° 43′ 57"
R = 450.00′
T = 309.35′
L = 542.02′
E = 96.07′
e = 5.20%
T.R. = NA
S.E. RUN = 46′
P.C. STA. = 1102+79.32
P.T. STA. = 1108+21.34
DS = 30
PS = 30

CURVE DATA
(EB I-290 (Congress))

PROP. CURVE P-CON-EB-2
PI STA. = 5159+19.48
Δ = 1° 39′ 04" (RT)
D = 0° 52′ 23"
R = 6,562.00′
T = 94.56′
L = 189.11′
E = 0.68′
e = 2.00%
T.R. = 72′
S.E. RUN = 72′
P.C. STA. = 5158+24.92
P.T. STA. = 5160+14.03
DS = 50
PS = 45

PROP. CURVE P-CON-EB-3
PI STA. = 5184+63.84
Δ = 2° 50′ 37" (RT)
D = 1° 02′ 45"
R = 5,478.00′
T = 135.97′
L = 271.88′
E = 1.69′
e = NC
T.R. = NA
S.E. RUN = NA
P.C. STA. = 5183+27.87
P.T. STA. = 5185+99.75
DS = 40
PS = 35

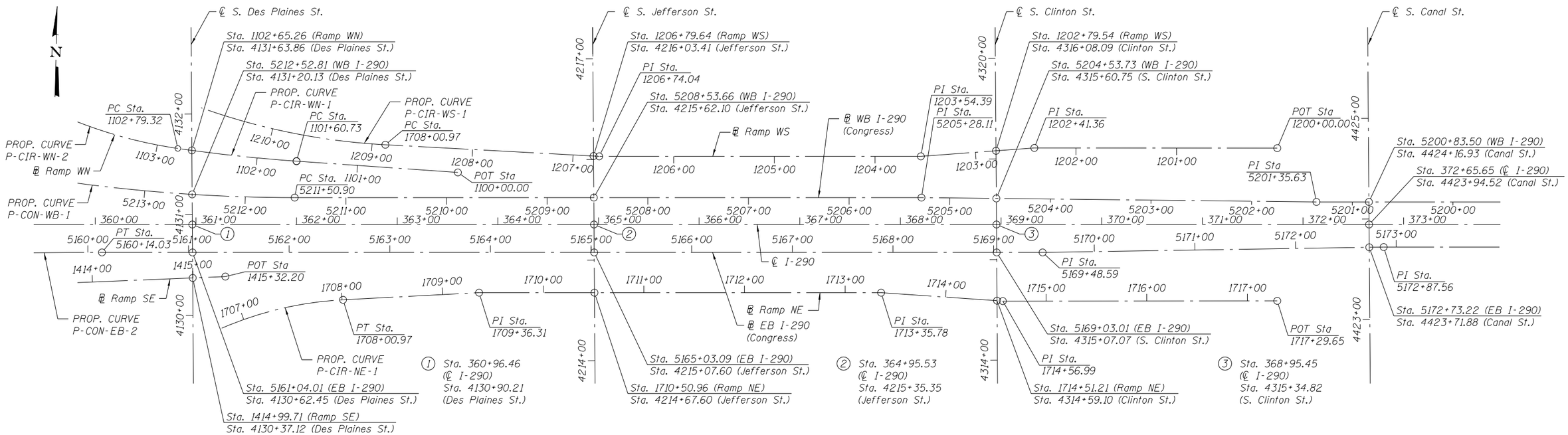
CURVE DATA
(Ramp NE)

PROP. CURVE P-CIR-NE-1
PI STA. = 1706+01.77
Δ = 86° 38′ 23" (RT)
D = 16° 22′ 13"
R = 350.00′
T = 330.05′
L = 529.25′
E = 131.08′
e = 5.60%
T.R. = 48′
S.E. RUN = 136′
P.C. STA. = 1702+71.71
P.T. STA. = 1708+00.97
DS = 30
PS = 30

CURVE DATA
(Ramp WS)

PROP. CURVE P-CIR-WS-1
PI STA. = 1210+36.88
Δ = 26° 00′ 07" (RT)
D = 8° 48′ 53"
R = 650.00′
T = 150.08′
L = 294.98′
E = 17.10′
e = 5.20%
T.R. = 52′
S.E. RUN = 134′
P.C. STA. = 1208+86.80
P.T. STA. = 1211+81.78
DS = 35
PS = 25

For information only, part of future contract

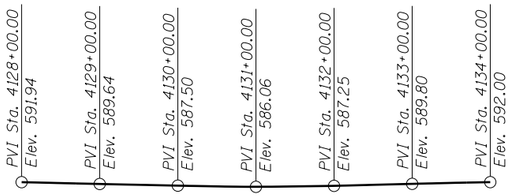


GEOMETRIC LAYOUT

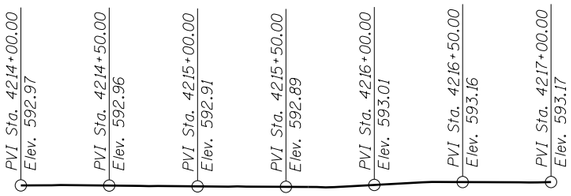
0160461-60X78-S005-DET.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - PJL	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**GEOMETRIC LAYOUT & CURVE DATA STRUCTURE NO. 016-0461**
		CHECKED - AH	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. S2-05 OF S2-145 SHEETS
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

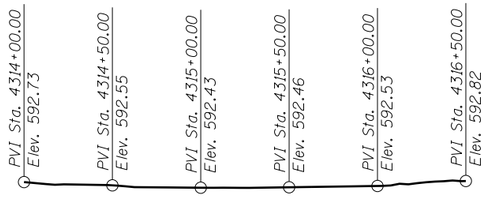
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	282
			CONTRACT NO. 60X78	
	ILLINOIS FED. AID PROJECT			



EXISTING PROFILE GRADE
(Along ℄ S. Des Plaines St.)



EXISTING PROFILE GRADE
(Along ℄ S. Jefferson St.)



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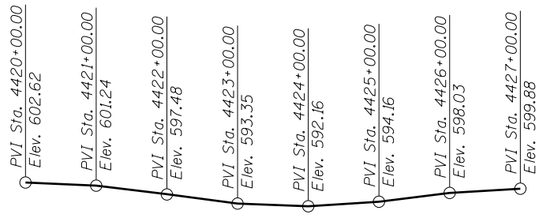
(Along ℄ S. Clinton St.)



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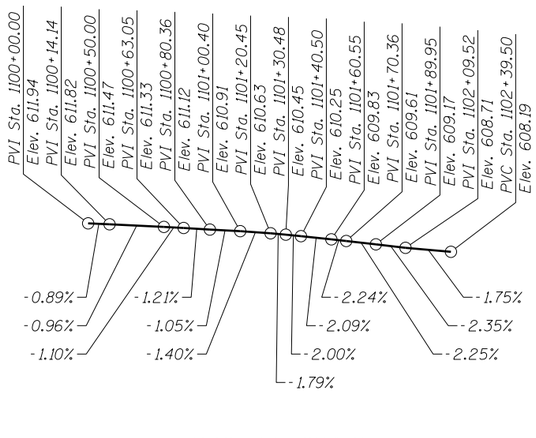
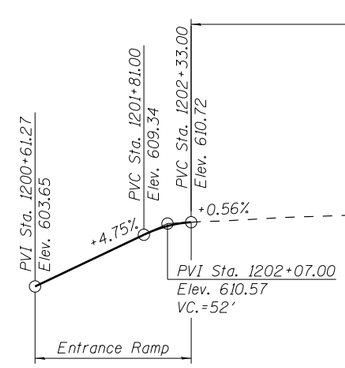
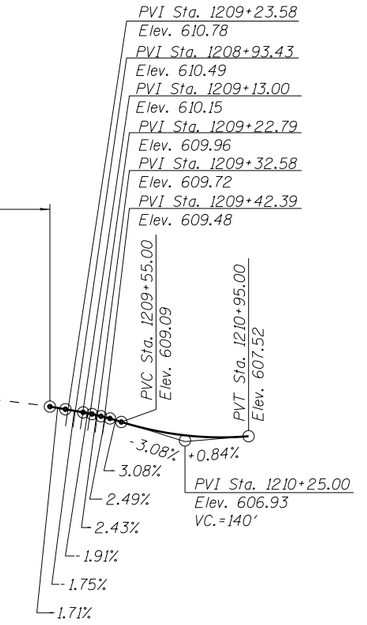
(Along ℄ S. Canal St.)

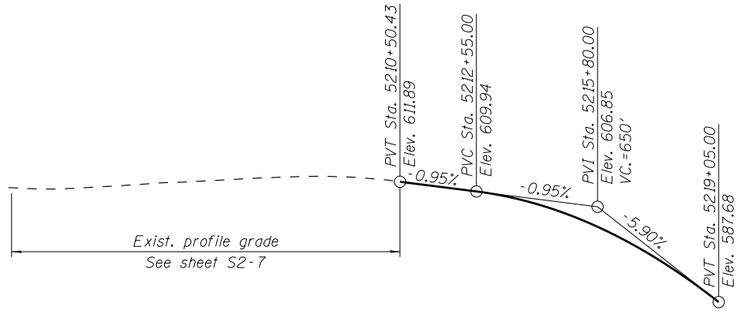


PROFILE GRADE
(Along ℄ Ramp WN)





PROFILE GRADE
(Along ℄ Ramp WS)



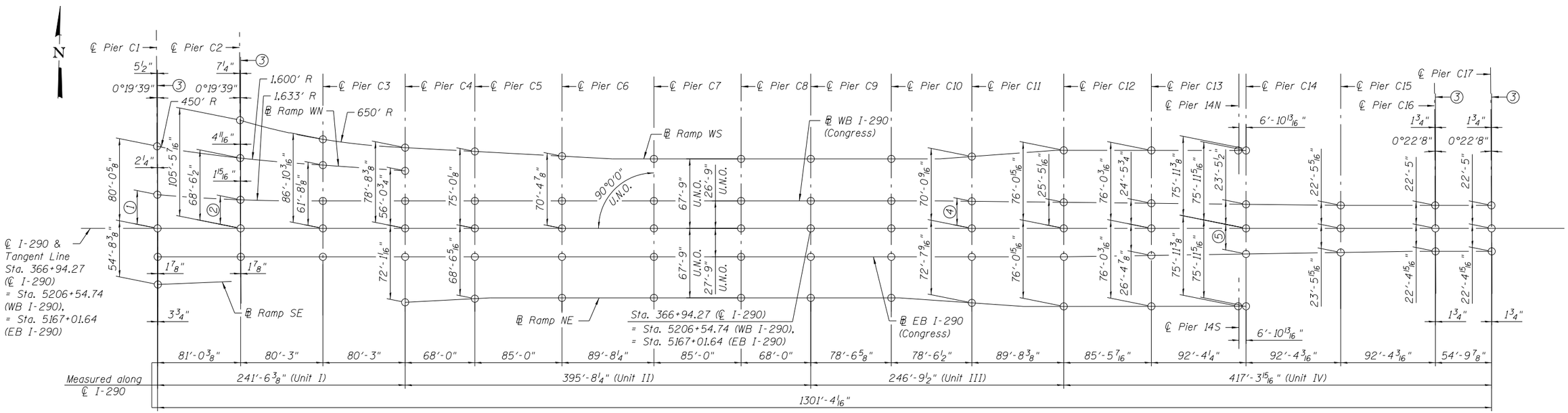
PROFILE GRADE
(Along ℄ WB I-290 (Congress))

Note:

1. Existing profiles of WB I-290 (Congress) from Pier C4 to Pier C12, S. Des Plains St., S. Jefferson St., S. Clinton St. and S. Canal St. is based on a field survey by Dynasty Group, Inc. on 09-18-2015. Existing profile grade is to remain unchanged.

0160461-60X78-S006-PGL.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - PJL	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**PROFILE GRADE STRUCTURE NO. 016-0461**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - AH	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	283
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-06 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



OFFSET SKETCH

℄ PIER & ℄ I-290 INTERSECT STATIONING

℄ Pier C1	Sta. 360+57.05	℄ Pier C10	Sta. 367+72.82
℄ Pier C2	Sta. 361+38.08	℄ Pier C11	Sta. 368+51.36
℄ Pier C3	Sta. 362+18.33	℄ Pier C12	Sta. 369+41.06
℄ Pier C4	Sta. 362+98.58	℄ Pier C13	Sta. 370+26.51
℄ Pier C5	Sta. 363+66.58	℄ Pier 14N/14S	Sta. 371+11.96
℄ Pier C6	Sta. 364+51.58	℄ Pier C14	Sta. 371+18.86
℄ Pier C7	Sta. 365+41.27	℄ Pier C15	Sta. 372+11.21
℄ Pier C8	Sta. 366+26.27	℄ Pier C16	Sta. 373+03.56
℄ Pier C9	Sta. 366+94.27	℄ Pier C17	Sta. 373+58.38

Notes:

1. Stationing along ℄ I-290 is for information only. Stationing along ℄ EB I-290 (Congress) and ℄ Ramp NE are for information only, part of future contract.
2. Existing profile of WB I-290 (Congress) from Pier C4 to Pier C12 is based on a field survey by Dynasty Group, Inc. on 09-18-2015. Existing profile grade is to remain unchanged.

EXISTING PROFILE GRADE

(Along a Line 27' N. of ℄ I-290.

① 32'-10 7/16"
② 27'-10 5/16"
③ Line perp. to ℄ I-290
④ 26'-4 15/16"
⑤ 24'-11 7/16"

EXISTING PROFILE GRADE STATIONS AND ELEVATIONS

PVI Sta.	Elev.	PVI Sta.	Elev.	PVI Sta.	Elev.	PVI Sta.	Elev.	PVI Sta.	Elev.	PVI Sta.	Elev.
362+98.58	611.86	364+80.00	612.96	366+70.00	612.67	368+60.00	611.91	370+50.00	611.08	372+40.00	610.41
363+00.00	611.88	364+90.00	612.98	366+80.00	612.65	368+70.00	611.88	370+60.00	611.03	372+50.00	610.42
363+10.00	612.01	365+00.00	613.01	366+90.00	612.61	368+80.00	611.84	370+70.00	610.99	372+60.00	610.44
363+20.00	612.11	365+10.00	613.02	367+00.00	612.57	368+90.00	611.81	370+80.00	610.95	372+70.00	610.45
363+30.00	612.21	365+20.00	613.01	367+10.00	612.54	369+00.00	611.78	370+90.00	610.90	372+80.00	610.46
363+40.00	612.29	365+30.00	612.99	367+20.00	612.49	369+10.00	611.75	371+00.00	610.86	372+90.00	610.49
363+50.00	612.36	365+40.00	612.98	367+30.00	612.44	369+20.00	611.73	371+10.00	610.82	373+00.00	610.51
363+60.00	612.42	365+50.00	612.97	367+40.00	612.40	369+30.00	611.71	371+20.00	610.78	373+10.00	610.54
363+70.00	612.49	365+60.00	612.95	367+50.00	612.36	369+40.00	611.67	371+30.00	610.74	373+20.00	610.58
363+80.00	612.55	365+70.00	612.93	367+60.00	612.31	369+50.00	611.63	371+40.00	610.70	373+30.00	610.62
363+90.00	612.61	365+80.00	612.91	367+70.00	612.27	369+60.00	611.59	371+50.00	610.65	373+40.00	610.64
364+00.00	612.68	365+90.00	612.88	367+80.00	612.22	369+70.00	611.53	371+60.00	610.61	373+50.00	610.68
364+10.00	612.74	366+00.00	612.86	367+90.00	612.18	369+80.00	611.46	371+70.00	610.56	373+59.26	610.72
364+20.00	612.78	366+10.00	612.83	368+00.00	612.14	369+90.00	611.40	371+80.00	610.52		
364+30.00	612.83	366+20.00	612.81	368+10.00	612.10	370+00.00	611.34	371+90.00	610.50		
364+40.00	612.86	366+30.00	612.78	368+20.00	612.06	370+10.00	611.29	372+00.00	610.47		
364+50.00	612.88	366+40.00	612.75	368+30.00	612.03	370+20.00	611.24	372+10.00	610.44		
364+60.00	612.90	366+50.00	612.72	368+40.00	611.99	370+30.00	611.18	372+20.00	610.42		
364+70.00	612.93	366+60.00	612.69	368+50.00	611.95	370+40.00	611.14	372+30.00	610.40		

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PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - PJL	REVISED -	
	CHECKED - AH	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OFFSET SKETCH
STRUCTURE NO. 016-0461
SHEET NO. S2-07 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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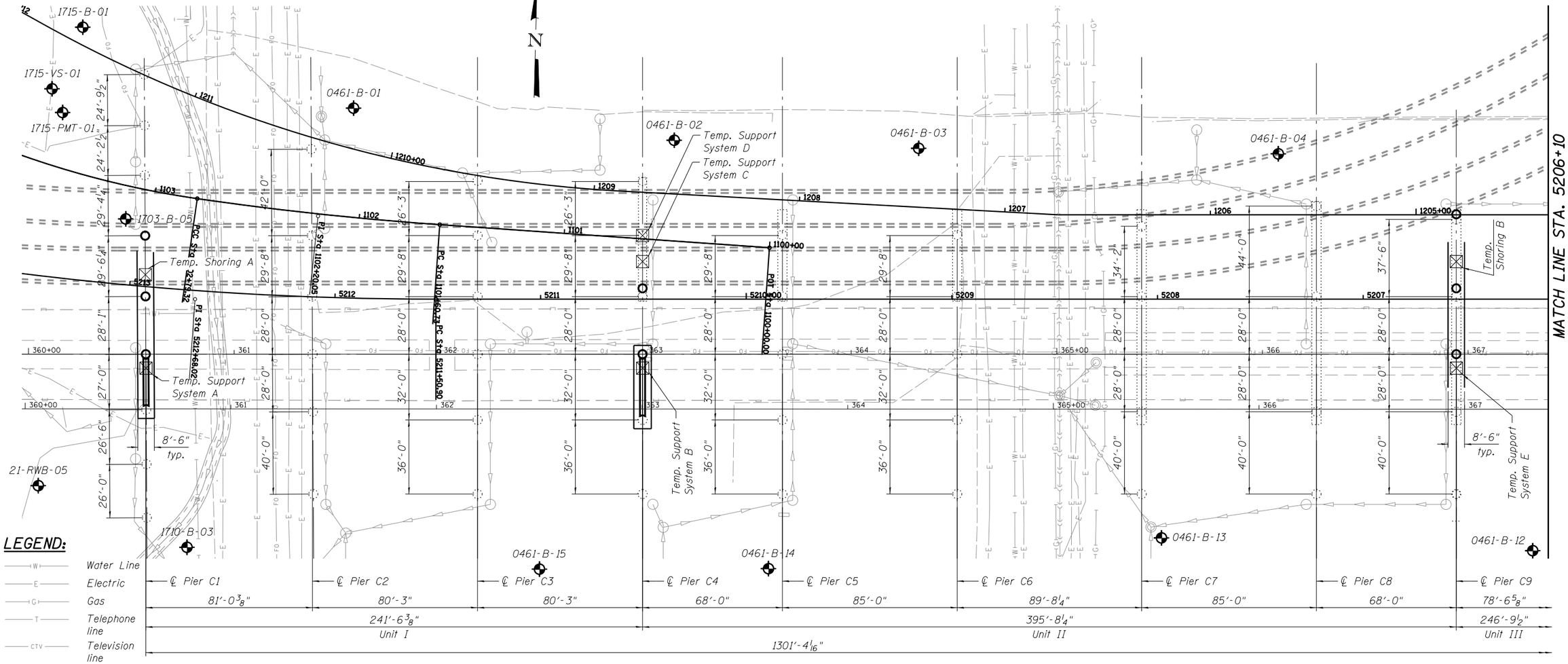
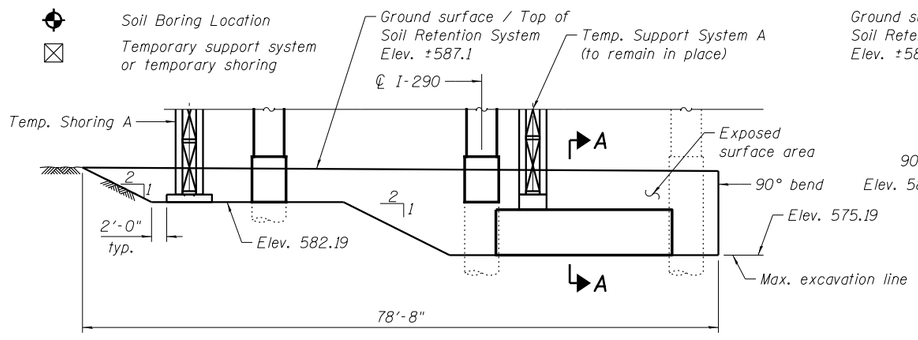
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

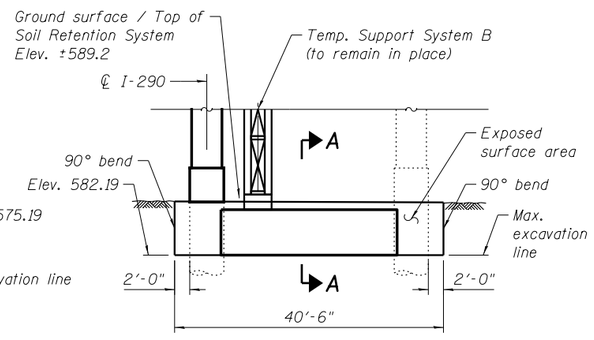


SUBSTRUCTURE LAYOUT PLAN - 1



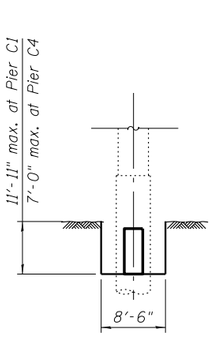
ELEVATION - TEMPORARY SOIL RETENTION SYSTEM AT EXISTING PIER C1

(Looking East)



ELEVATION - TEMPORARY SOIL RETENTION SYSTEM AT EXISTING PIER C4

(Looking East)



SECTION A-A

Notes:

1. *Temporary Soil Retention System required for existing pier removal and Temporary Support System. See sheets S2-10 thru S2-15.*
2. *Temporary Soil Retention System to be left in place. Required for Temporary Support System. To be removed in future contract (by others).*
3. *A cantilever 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.*
4. *The Contractor shall take precautions to protect existing utilities and foundations during construction of the bridge. The utilities were located based on SUE and utility supplier information available at design.*
5. *Temporary soil retention system shall avoid existing roadway drainage.*

BILL OF MATERIAL

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	3,174

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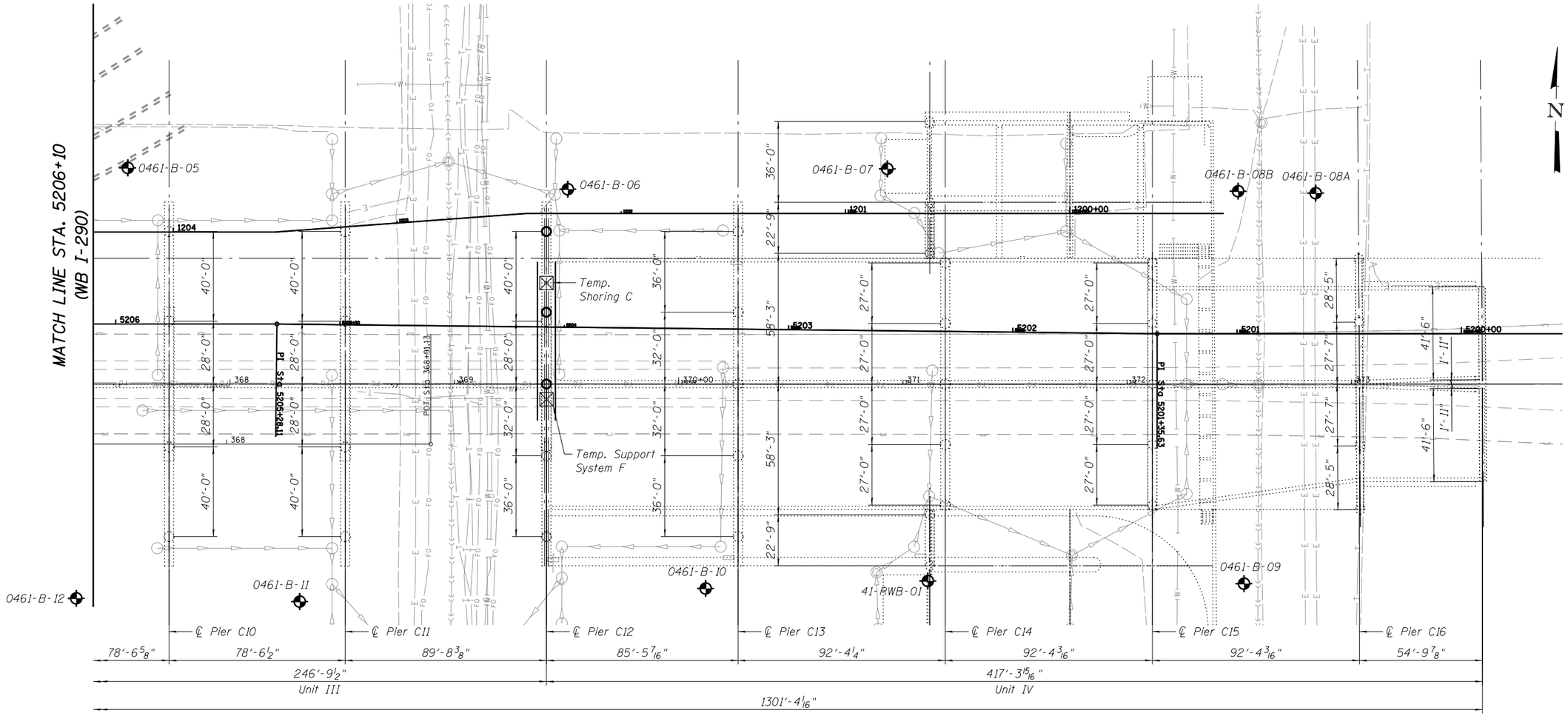
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - PJL	REVISED -	
	CHECKED - AH	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

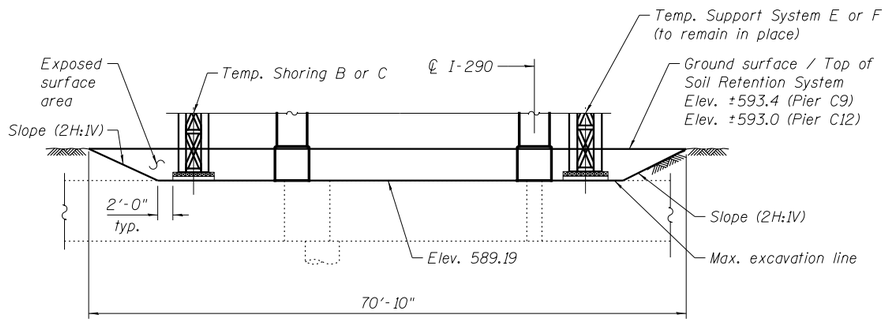
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE LAYOUT I
STRUCTURE NO. 016-0461
SHEET NO. S2-08 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	285
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



SUBSTRUCTURE LAYOUT PLAN - 2



ELEVATION - TEMPORARY SOIL RETENTION SYSTEM AT EXISTING PIERS C9 & C12

(Looking East)

LEGEND:

- Water Line
- Electric
- Gas
- Telephone line
- Television line
- Combined Sewer
- Storm Sewer
- Soil Boring Location
- Temporary support system or temporary shoring

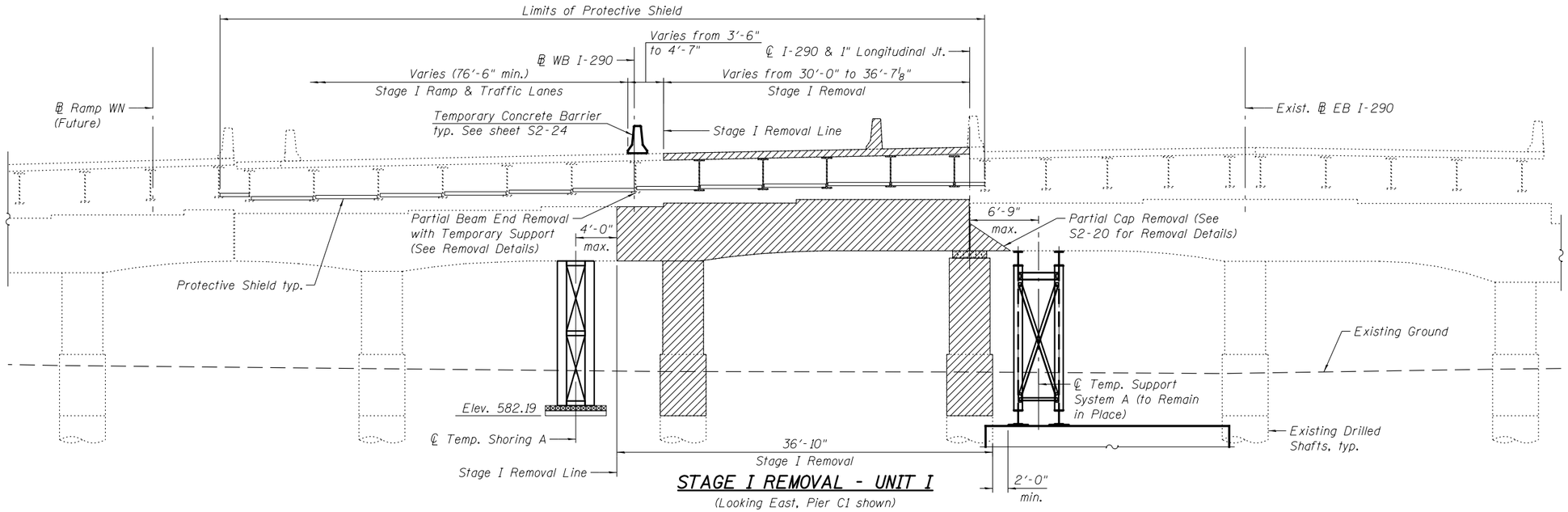
0160461-60X78-S009-LAY.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - PJL	REVISED -
		CHECKED - AH	REVISED -
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

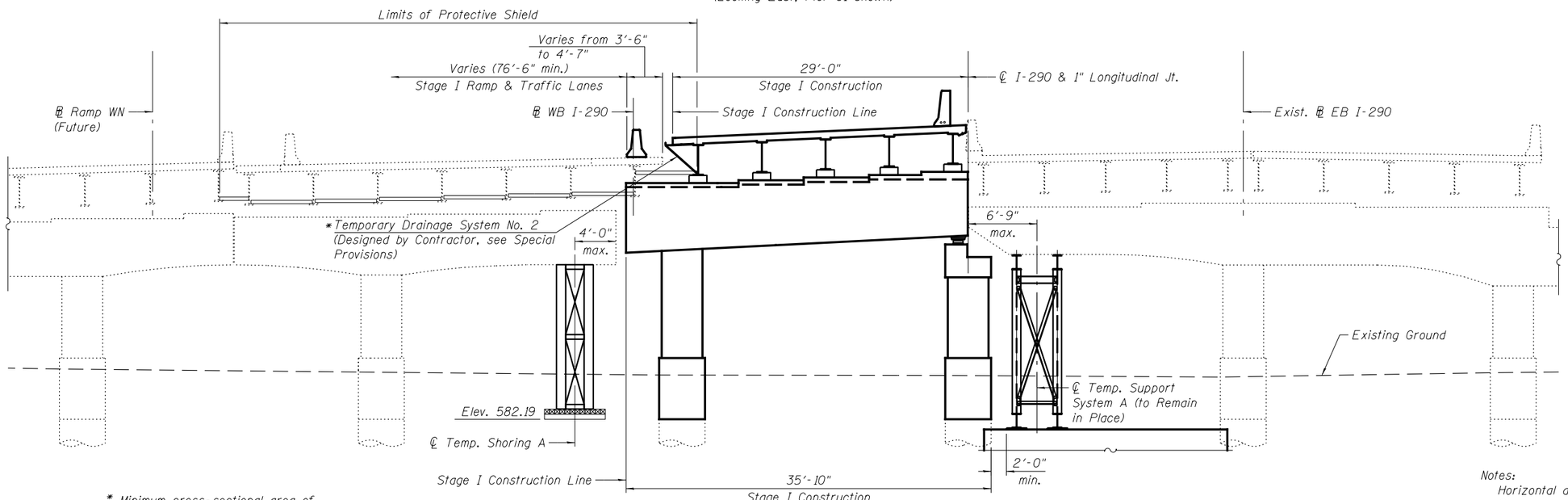
SUBSTRUCTURE LAYOUT II
STRUCTURE NO. 016-0461
SHEET NO. S2-09 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	286
		CONTRACT NO. 60X78		
		ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL - UNIT I

(Looking East, Pier C1 shown)



STAGE I CONSTRUCTION - UNIT I

(Looking East, Pier C1 shown)

* Minimum cross-sectional area of Temporary Drainage System = 0.79 sq. ft.

STAGE I REMOVAL - UNIT I

1. Install temporary concrete barrier as shown to locate construction work area on the south side of the existing structure.
2. Install Temporary Shoring and Temporary Support System (to Remain in Place) for pier caps at Pier C1 and for existing westbound Beam No. 20. For temporary support reaction summary and details, See S2-17 for Removal Details.
3. Install Temporary Soil Retention System at Pier C1.
4. Remove existing utilities and drainage system attached to substructure.
5. Remove the existing structure as indicated.

STAGE I CONSTRUCTION - UNIT I

1. Repair existing Piers C2 and C3. Construct Piers C1 and C4.
2. Erect Beams 14 through 18.
3. Construct reinforced concrete deck.
4. Perform bridge deck grooving.
5. Apply protective coat for the bridge deck and parapet.
6. Provide a temporary drainage system. Connection of formwork to beam must be designed to withstand additional loading.

LEGEND

Removal of Existing Structures No. 2

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Drainage System No. 2	L. Sum	1

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

Contractor shall provide Temporary Shoring for the existing pier cap and existing Beam No. 20. The Temporary Shoring shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to remain in place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

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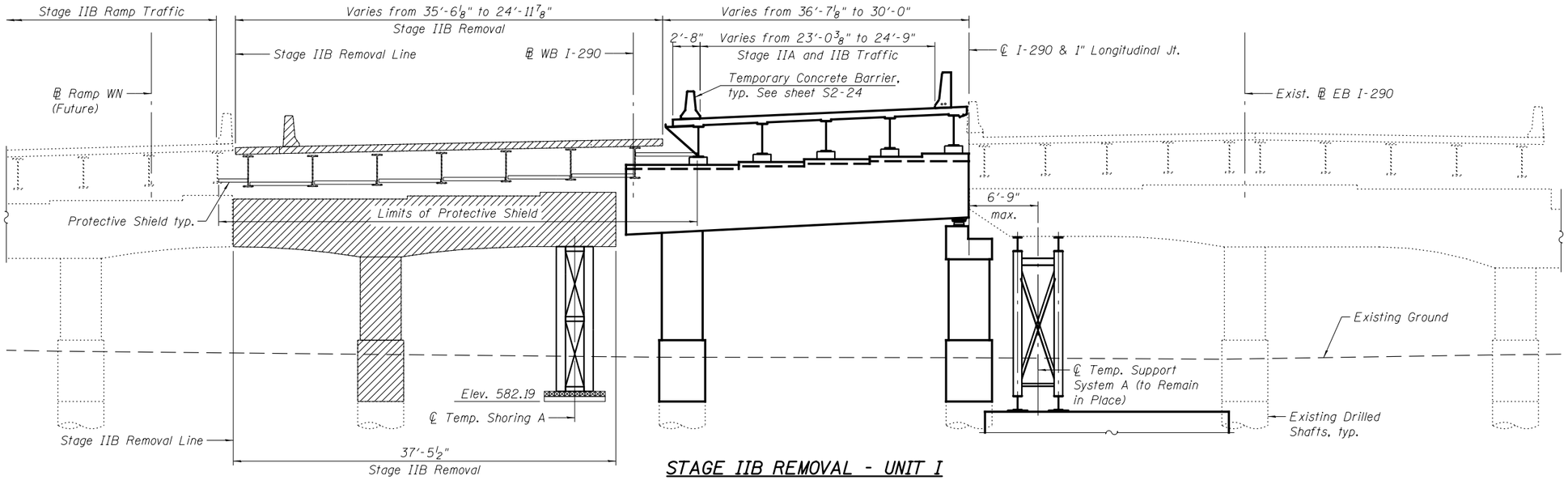
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - IJL	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -	
PLOT DATE = 5/2/2016	CHECKED - JIG	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

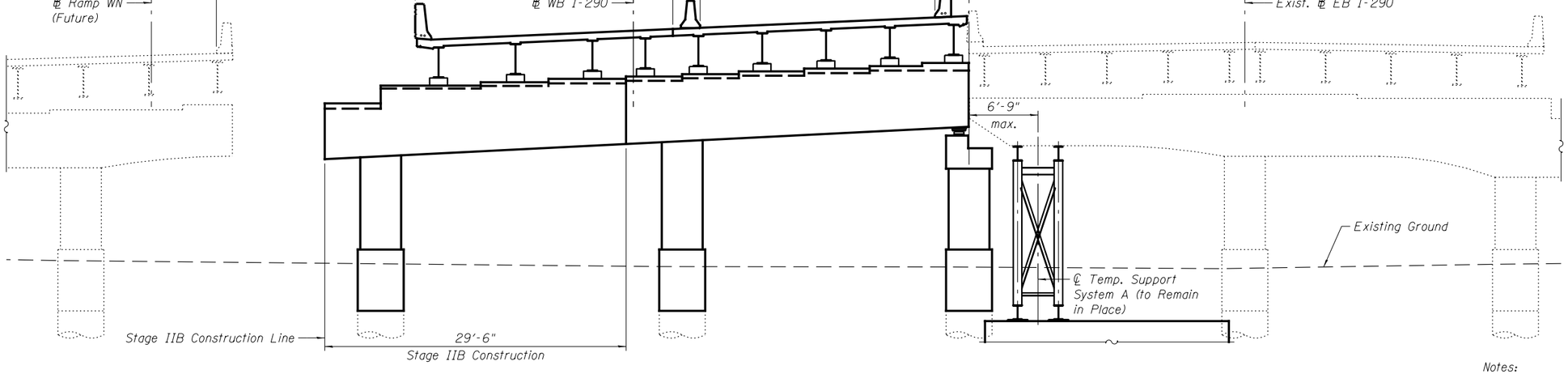
STAGE CONSTRUCTION DETAILS I – UNIT I
STRUCTURE NO. 016-0461
SHEET NO. S2-10 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	287
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



STAGE IIB REMOVAL - UNIT I

(Looking East, Pier C1 shown)



STAGE IIB CONSTRUCTION - UNIT I

(Looking East, Pier C1 shown)

STAGE IIA TRAFFIC - UNIT I

1. Install temporary concrete barrier on the new deck to locate IIA Traffic and construction work area on the Stage I constructed portion of the bridge.

STAGE IIB REMOVAL - UNIT I

1. Begin removal operations on Unit I upon completion of work on Unit II and III under Stage IIA traffic.
2. Remove existing utilities and drainage system attached to substructure.
3. Remove the existing structure as indicated.
4. Remove Temporary Shoring A.

STAGE IIB CONSTRUCTION - UNIT I

1. Repair and rehabilitate existing Piers C2 and C3. Construct Piers C1 and C4.
2. Erect Beams 10 through 13.
3. Construct reinforced concrete deck.
4. Perform bridge deck grooving.
5. Apply protective coat for the bridge deck and parapet.
6. Place temporary pavement markings on the top of deck for staged traffic.

LEGEND

Removal of Existing Structures No. 2

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

Contractor shall provide Temporary Shoring for the existing pier cap. The Temporary Shoring shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to remain in place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

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PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS II – UNIT I STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	288
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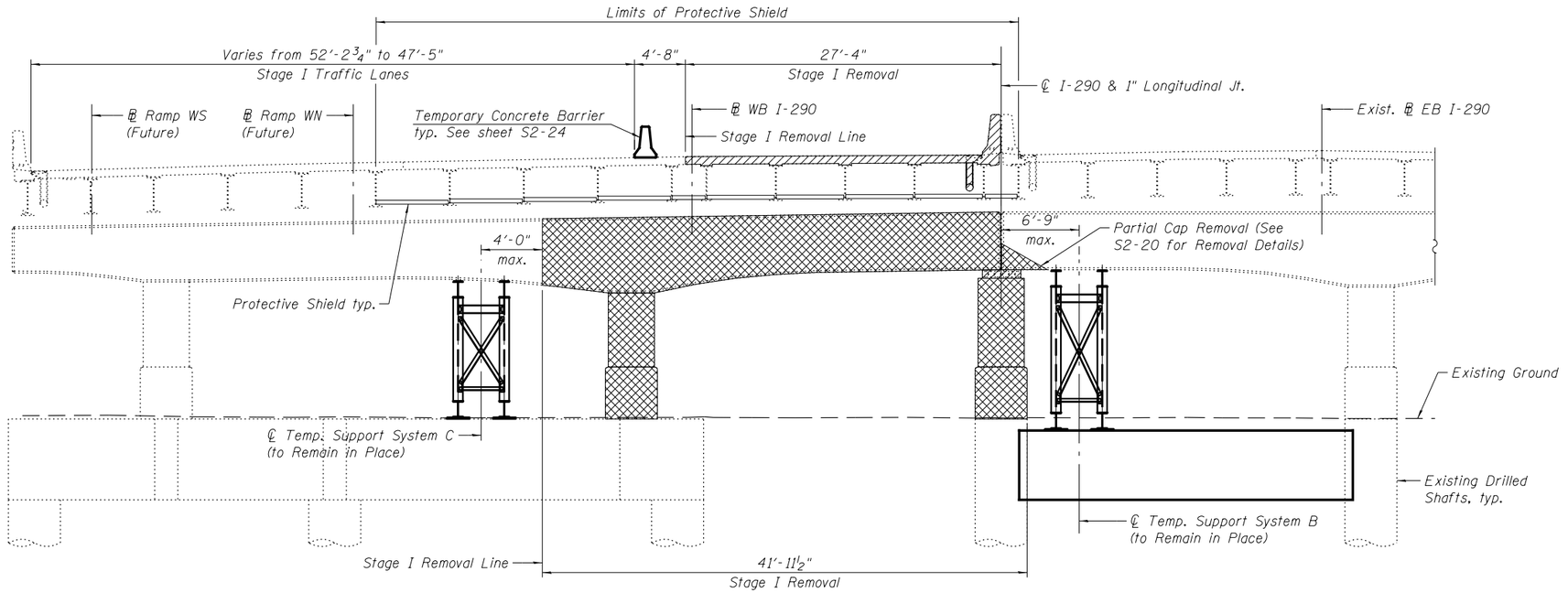
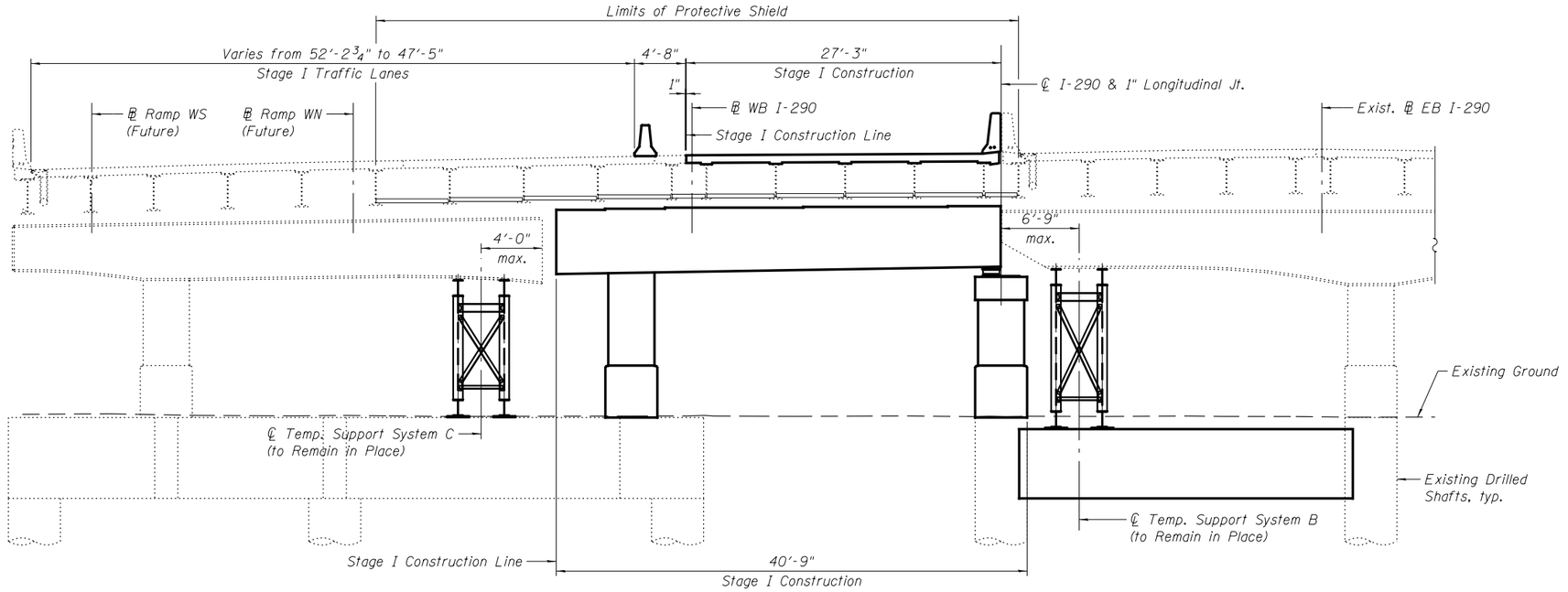
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-11 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL - UNIT II

(Looking East, Pier C4 shown)



STAGE I CONSTRUCTION - UNIT II

(Looking East, Pier C4 shown)

STAGE I REMOVAL - UNIT II

1. Install temporary concrete barrier as shown to locate construction work area on the south side of the existing structure.
2. Install Temporary Support System B and C (to Remain in Place). Install temporary shoring and cribbing for existing westbound Beams 8 thru 14.
3. Remove existing utilities and drainage system attached to substructure.
4. Remove the existing structure as indicated.

STAGE I CONSTRUCTION - UNIT II

1. Repair existing cap, columns and reconstruct beam seats at Piers C5 thru C8. Construct Piers C4 and C9.
2. Remove and Replace existing bearings.
3. Install Shear Stud Connectors to existing beams and set in new bearings.
4. Construct reinforced concrete deck.
5. Perform bridge deck grooving.
6. Apply protective coat for the bridge deck and parapet.

LEGEND

Removal of Existing Concrete Deck

Removal of Existing Structures No. 2

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

Contractor shall provide temporary shoring and cribbing for the existing westbound Beams 8 thru 14. Cost included with Jack and Remove Existing Bearings. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to Remain in Place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

0160461-60X78-S012-STG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS I – UNIT II STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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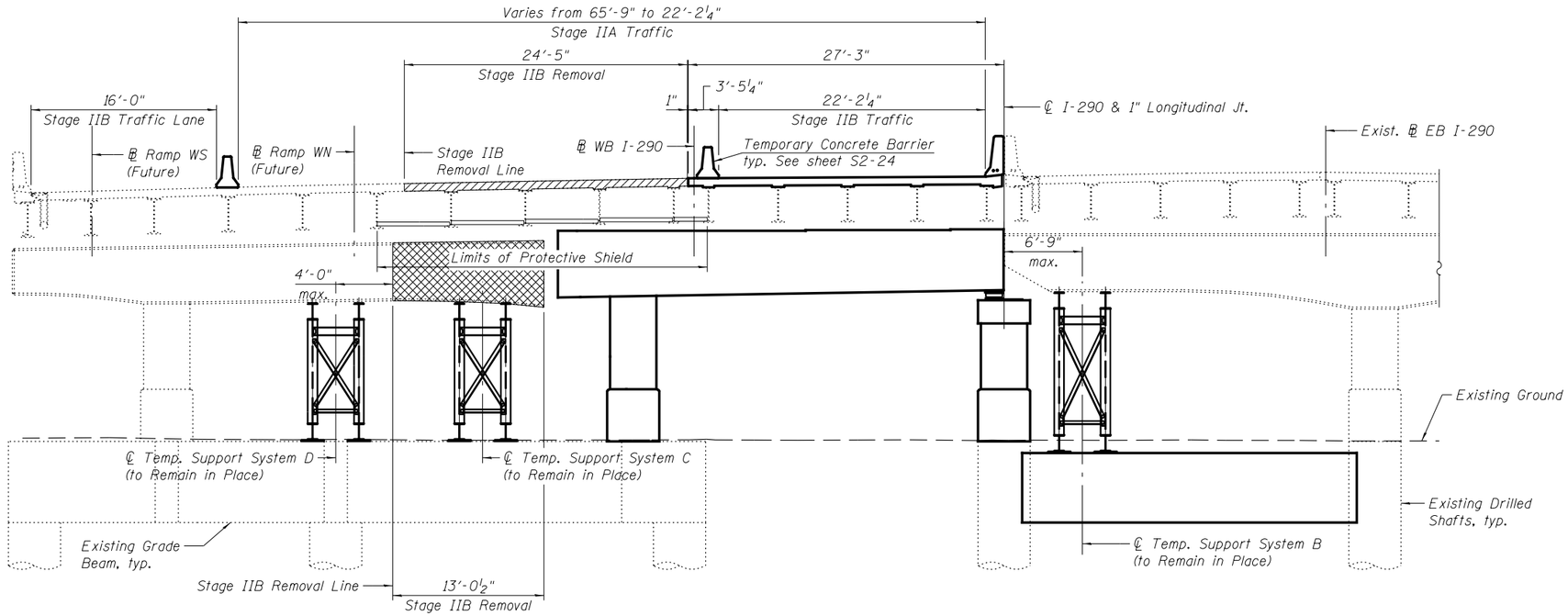
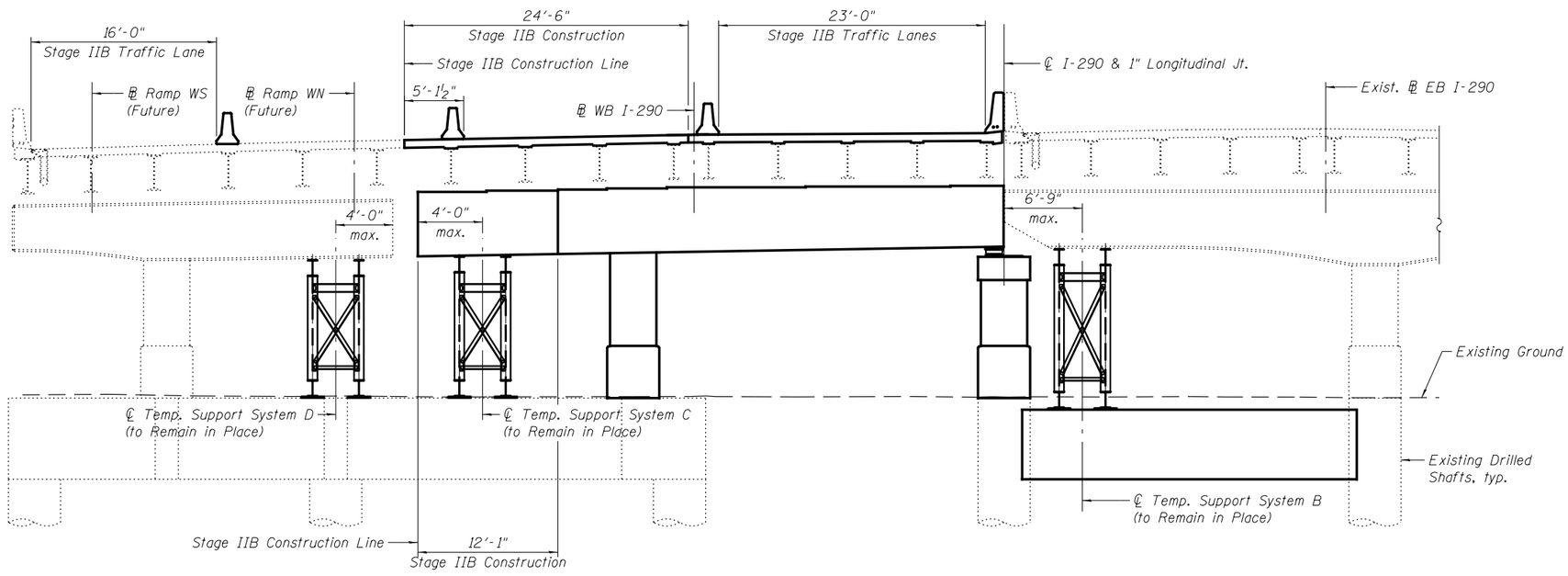


STAGE IIB REMOVAL - UNIT II

(Looking East, Pier C4 shown)



STAGE IIB CONSTRUCTION - UNIT II

(Looking East, Pier C4 shown)

STAGE IIA TRAFFIC - UNIT II

1. Install temporary concrete barrier on the new and existing deck to locate Stage IIA Traffic and construction work area on the Stage I constructed portion of the bridge. Refer to Roadway Plans for additional details on Stage IIA Traffic.
2. Construction work to be completed during Stage IIA Traffic includes the reconstruction of Pier C9, bearing replacement, deck expansion joint and installation of shear studs within limits of deck expansion joint.

STAGE IIB REMOVAL - UNIT II

1. Relocate temporary concrete barrier on the new and existing deck to locate Stage IIB Traffic and construction work area on the Stage I constructed portion of the bridge.
2. Install Temporary Support System D (to Remain in Place) under existing pier cap. Install temporary shoring and cribbing for existing westbound Beams 6 and 7.
3. Remove existing utilities and drainage system attached to substructure.
4. Remove the existing structure as indicated.

STAGE IIB CONSTRUCTION - UNIT II

1. Repair existing cap, columns and reconstruct beam seats at Piers C5 thru C8. Construct Piers C4 and C9.
2. Remove and Replace existing bearings.
3. Install Shear Stud Connectors to existing beams and set in new bearings.
4. Construct reinforced concrete deck.
5. Perform bridge deck grooving.
6. Apply protective coat for the bridge deck and parapet.

LEGEND

Removal of Existing Concrete Deck

Removal of Existing Structures No. 2

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

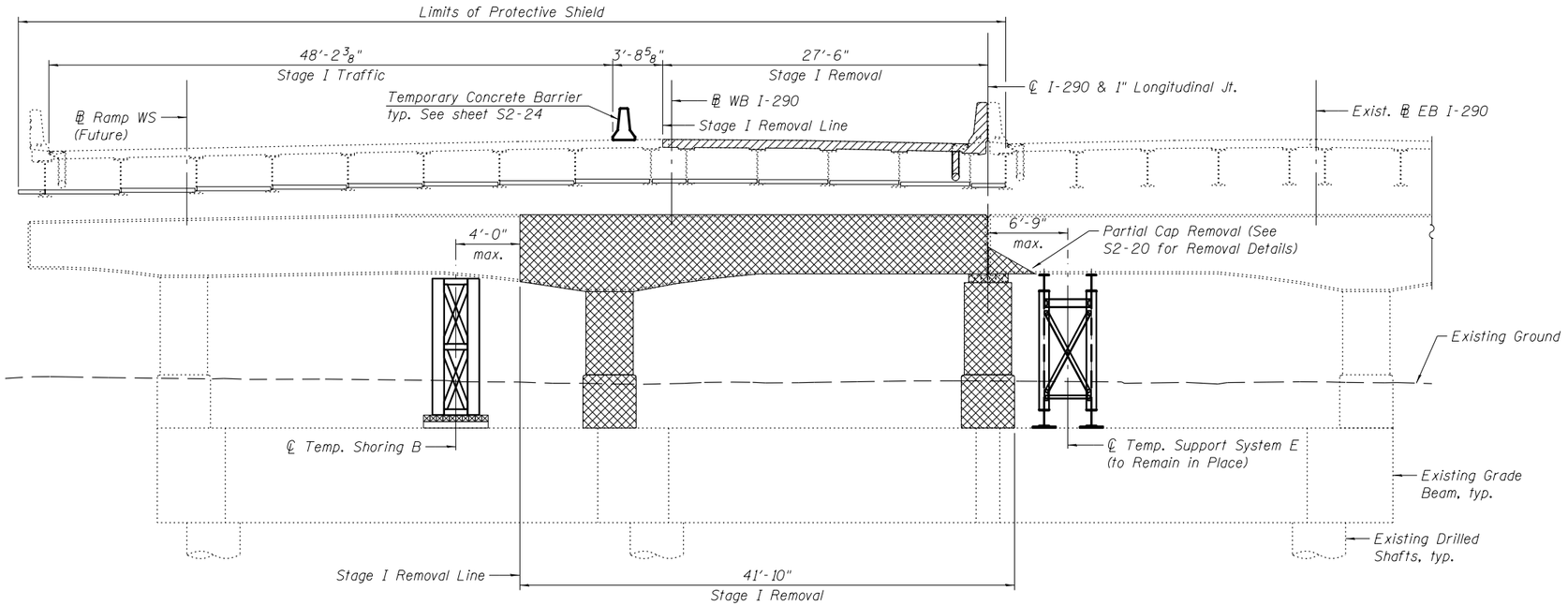
Contractor shall provide temporary shoring and cribbing for the existing westbound Beams 6 and 7. Cost included with Jack and Remove Existing Bearings. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to Remain in Place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

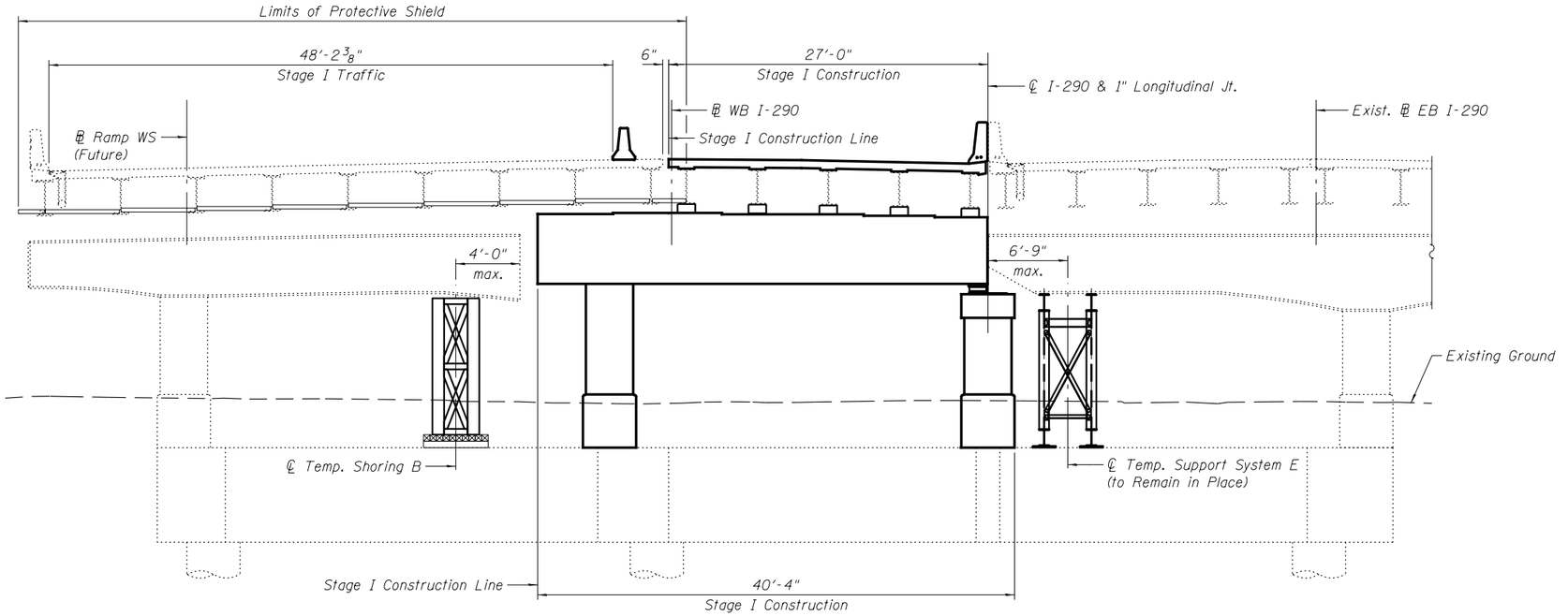
0160461-60X78-S013-STG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS II – UNIT II STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	290
	PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-13 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL - UNIT III

(Looking East, Pier C9 shown, Pier C12 similar)



STAGE I CONSTRUCTION - UNIT III

(Looking East, Pier C9 shown, Pier C12 similar)

STAGE I REMOVAL - UNIT III

1. Install temporary concrete barrier as shown to locate construction work area on the south side of the existing structure.
2. Install temporary shoring and cribbing for existing westbound Beams 8 thru 14 and Temporary Supports E System (to Remain in Place) and Temporary Shoring B for existing Pier Cap.
3. Remove existing utilities and drainage system attached to substructure.
4. Remove the existing structure as indicated.

STAGE I CONSTRUCTION - UNIT III

1. Repair existing cap, columns and reconstruct beam seats at Piers C10 and C11. Construct Piers C9 and C12.
2. Remove and Replace existing bearings.
3. Install Shear Stud Connectors to existing beams and set in new bearings.
4. Construct reinforced concrete deck.
5. Perform bridge deck grooving.
6. Apply protective coat for the bridge deck and parapet.

LEGEND:

Removal of Existing Concrete Deck

Concrete Removal

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

Contractor shall provide temporary shoring and cribbing for the existing westbound Beams 8 thru 14. Cost included with Jack and Remove Existing Bearings. See Special Provisions.

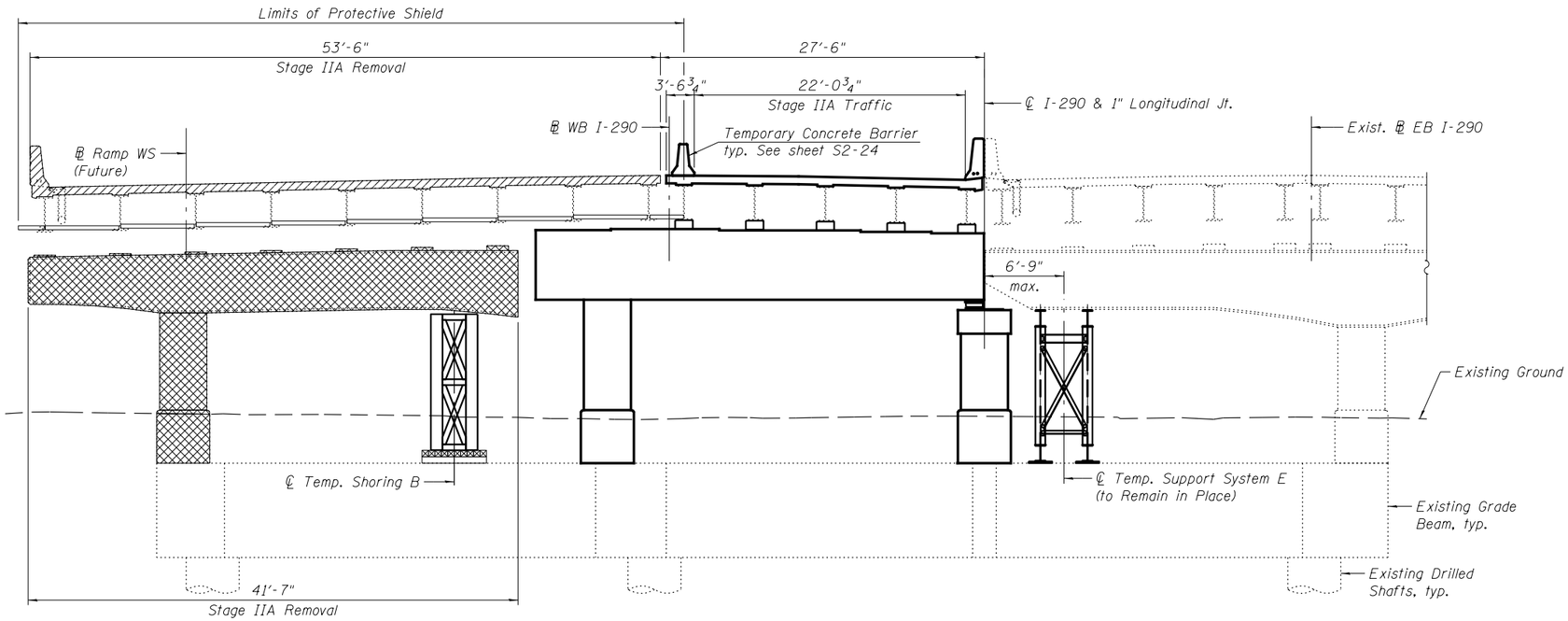
Contractor shall provide Temporary Shoring for the existing pier cap. The Temporary Shoring shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to Remain in Place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

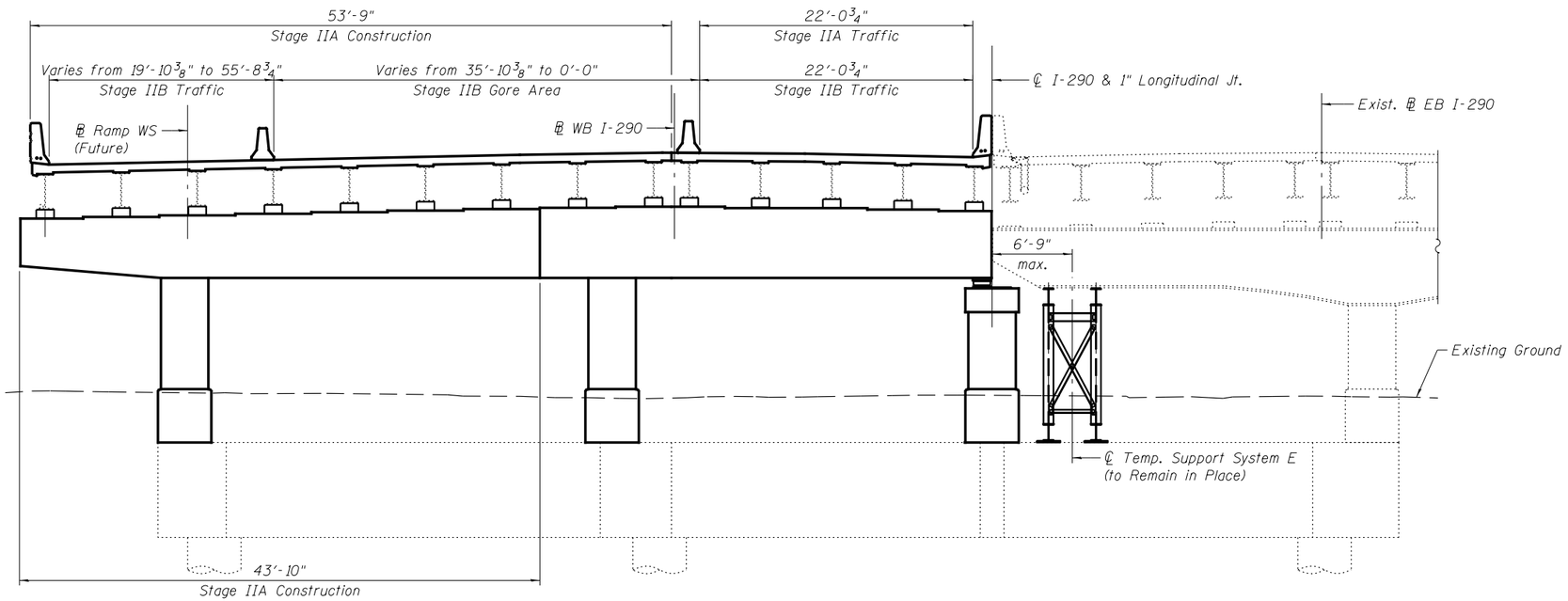
0160461-60X78-S014-STG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS I – UNIT III STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	291
	PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -							CONTRACT NO. 60X78
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-14 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



STAGE IIA REMOVAL - UNIT III

(Looking East, Pier C9 shown, Pier C12 similar)



STAGE IIA CONSTRUCTION - UNIT III

(Looking East, Pier C9 shown, Pier C12 similar)

STAGE IIA REMOVAL - UNIT III

1. Install temporary concrete barrier on new deck to locate Stage IIA Traffic and construction work area on the Stage I Constructed portion of the bridge.
2. Install temporary shoring and cribbing for existing westbound Beams 1 thru 7.
3. Remove the existing structure as indicated.

STAGE IIA CONSTRUCTION - UNIT III

1. Repair existing cap, columns and reconstruct beam seats at Piers C10 thru C11. Construct Piers C9 and C12.
2. Remove Temp. Shoring B.
3. Remove and Replace existing bearings.
4. Install Shear Stud Connectors to existing beams and set in new bearings.
5. Construct reinforced concrete deck and expansion joints.
6. Perform bridge deck grooving.
7. Apply protective coat for the bridge deck and parapet.

STAGE IIB TRAFFIC - UNIT III

1. Relocate temporary concrete barrier on the new deck to locate Stage IIB Traffic and construction work area on the constructed portion of the bridge.

LEGEND

Removal of Existing Concrete Deck

Concrete Removal

Notes:

Horizontal dimensions are measured perpendicular to ℄ I-290.

Stage removal and stage construction lines are different for the superstructure and substructure.

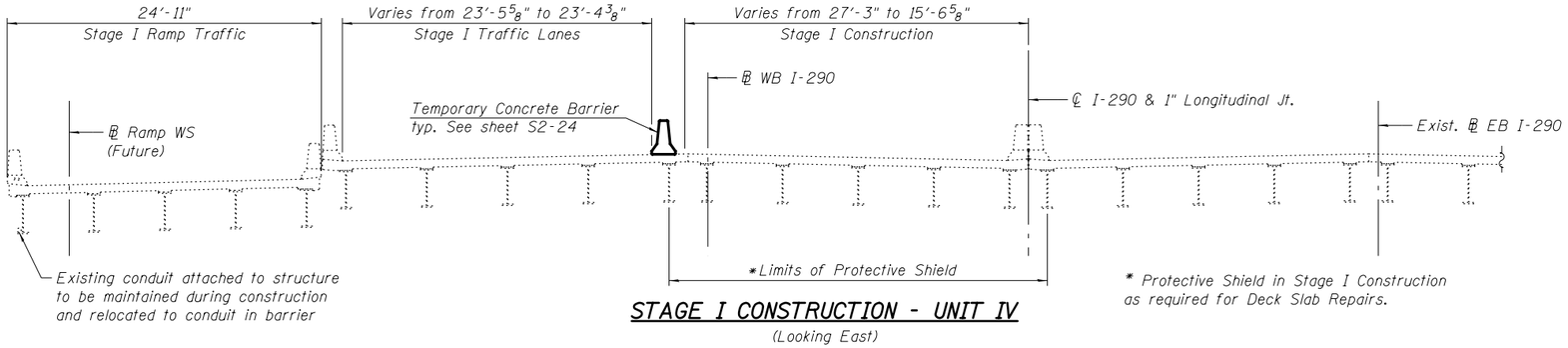
Contractor shall provide temporary shoring and cribbing for the existing westbound Beams 1 thru 7. Cost included with Jack and Remove Existing Bearings. See Special Provisions.

For quantity of Temporary Concrete Barrier, see roadway plans.

For Temporary Shoring and Temporary Support System (to Remain in Place) reactions and quantities, see sheets S2-16 and S2-17, respectively.

0160461-60X78-S015-STG.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS II – UNIT III STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	292
	PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-15 OF S2-145 SHEETS			ILLINOIS FED. AID PROJECT		



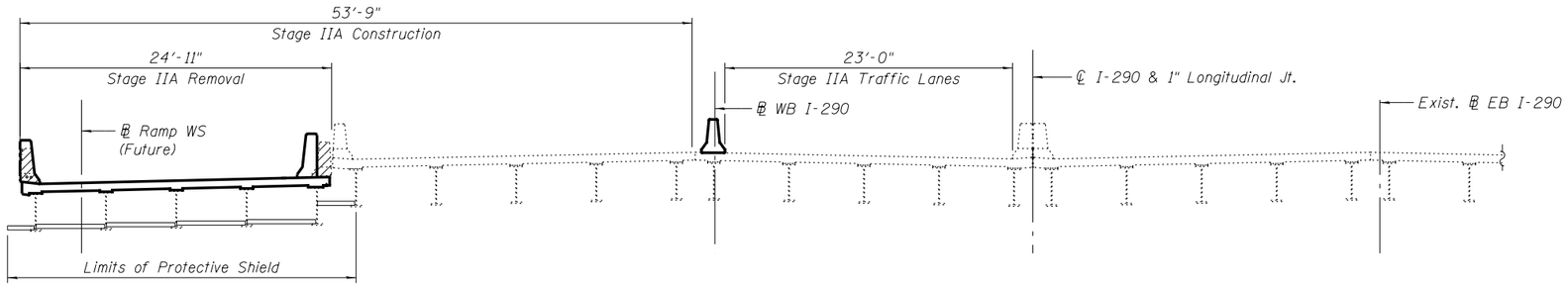
* Protective Shield in Stage I Construction as required for Deck Slab Repairs.

STAGE I CONSTRUCTION - UNIT IV

(Looking East)

STAGE I CONSTRUCTION - UNIT IV

1. Install temporary concrete barrier as shown to locate construction work area on the south side of the existing structure.
2. Install temporary shoring and cribbing for existing westbound Beams 8 thru 14.
3. Repair concrete deck and reconstruct deck expansion joint at Pier C12.



STAGE IIA REMOVAL AND CONSTRUCTION - UNIT IV

(Looking East)

STAGE IIA REMOVAL AND CONSTRUCTION - UNIT IV

1. Install Temp. Shoring and Cribbing for existing westbound Beams 1A thru 7.
2. Remove Entrance Ramp deck.
3. Repair existing cap, columns and reconstruct beam seats at Piers C13, C15 and C16.
4. Remove and Replace existing bearings at Piers C12, C13, C15 and C16.
5. Install Shear Stud Connectors to existing beams (Entrance Ramp only) and set in new bearings.
6. Construct reinforced concrete deck (Entrance Ramp only) and deck expansion joint at Pier C12.
7. Perform bridge deck grooving (Entrance Ramp only).
8. Apply protective coat for the bridge deck and parapet (Entrance Ramp only).

SERVICE REACTION TABLE FOR TEMPORARY SHORING OF EXISTING PIERS			
Location	Pier C1	Pier C9	Pier C12
Temp. Shoring	A	B	C
D (k)	368.4	274.7	380.8
L (k)	131.6	93.7	120.9
Imp. (k)	0.0	0.0	0.0
Total (k)	500.0	368.4	501.7

SERVICE REACTION TABLE FOR TEMPORARY SHORING OF EXISTING BEAMS *						
Location	Exist. Beam at Pier C1	Pier C4 (East Side)	Pier C9 (East Side)	Pier C9 (West Side)	Pier C12 (East Side)	Pier C12 (West Side)
Temp. Shoring	D	E	F	G	H	I
D (k)	34.1	28.3	37.3	28.3	36.6	44.6
L (k)	60.6	45.4	46.4	45.4	47.1	47.4
Imp. (k)	23.4	11.8	11.5	11.8	11.2	11.1
Total (k)	118.1	85.6	95.2	85.6	94.9	103.1

* Reactions shown represent the maximum reaction for a single beam.

Notes:
Horizontal dimensions are measured perpendicular to ℄ I-290.
For quantity of Temporary Concrete Barrier, see roadway plans.

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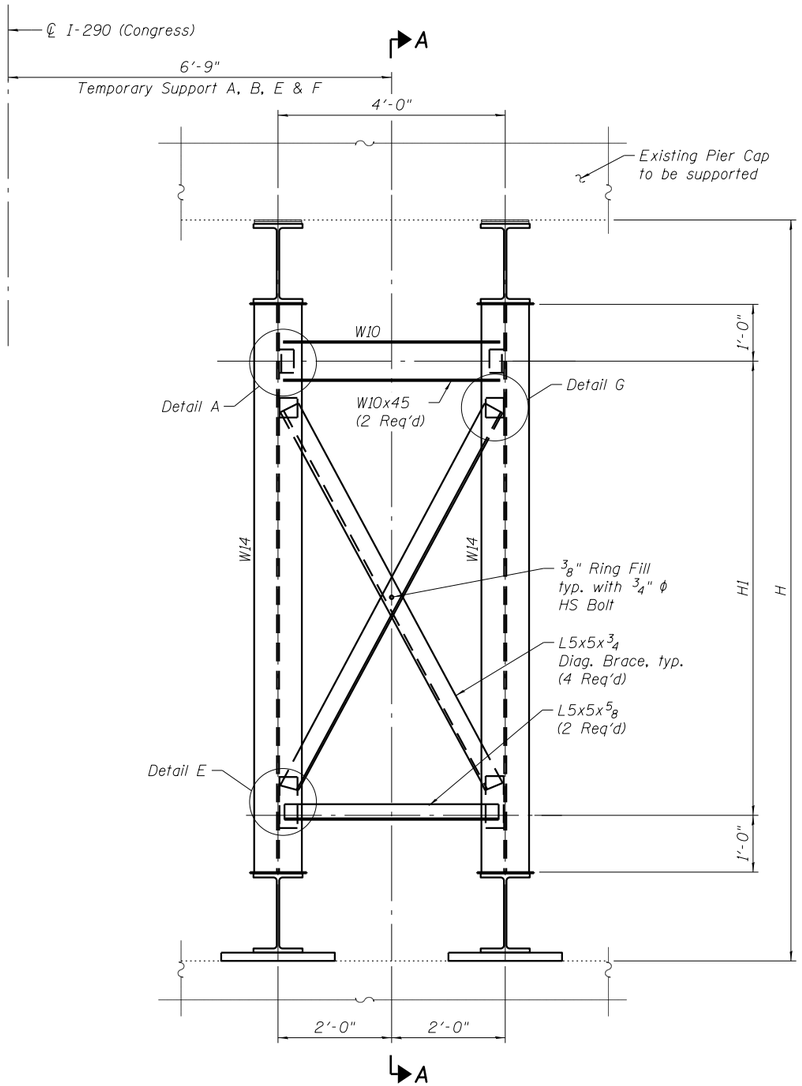
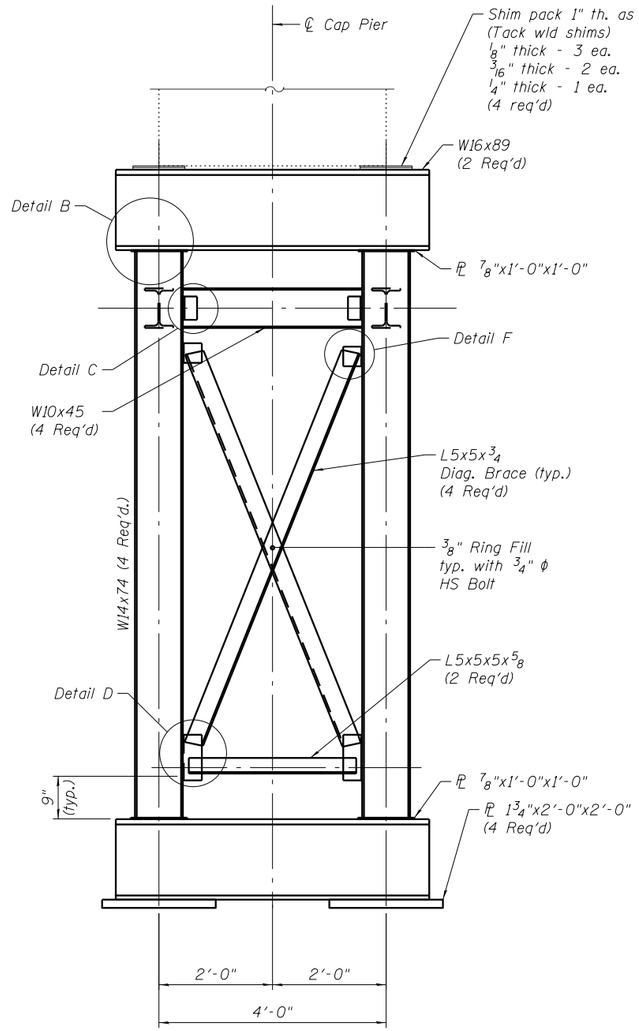
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS – UNIT IV & ENTRANCE RAMP STRUCTURE NO. 016–0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PJL	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	293
	PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 4/25/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-16 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



TEMPORARY SUPPORT ELEVATION

(Looking East)
(Temp. Support A, B, E & F shown,
Temp. Support C & D similar)



SECTION A-A

HEIGHTS - TEMPORARY SUPPORT (TO REMAIN IN PLACE)		
Location	H	H1
Temp. Support A	±16'-2 1/4"	±11'-1 1/4"
Temp. Support B	±12'-9 7/8"	±7'-8 7/8"
Temp. Support C	±11'-11 3/4"	±6'-10 3/4"
Temp. Support D	±12'-0 3/4"	±6'-11 3/4"
Temp. Support E	±13'-0 1/2"	±7'-11 1/2"
Temp. Support F	±11'-10 3/8"	±6'-9 3/8"

Notes:

1. See sheet S2-8 thru S2-15, for locations of temporary supports.
2. See sheet S2-18, for Detail A thru Detail G.
3. All structural steel for temporary supports shall be AASHTO M270 Grade 50. Cost of structural steel included with Temporary Support System (to Remain in Place).

SERVICE REACTION TABLE FOR TEMPORARY SUPPORT SYSTEM (TO REMAIN IN PLACE)						
Location		Pier C1	Pier C4			Pier C9	Pier C12
Temp. Support		A	B	C	D	E	F
℄	(k)	280.7	213.9	58.4	265.0	242.2	285.4
4	(k)	100.3	93.6	94.0	170.3	82.7	90.6
Total	(k)	381.0	307.5	152.4	435.3	325.1	376.0

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Support System (to Remain in Place)	Each	6

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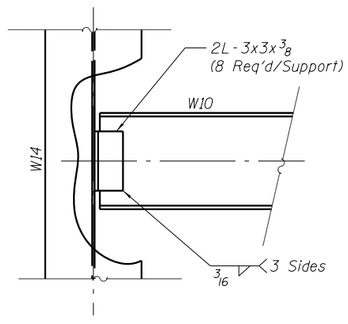
PARSONS BRINCKERHOFF				
	USER NAME = pateld	DESIGNED - CWL	REVISED -	
		CHECKED - DWS	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -	
	PLOT DATE = 4/26/2016	CHECKED - JIG	REVISED -	

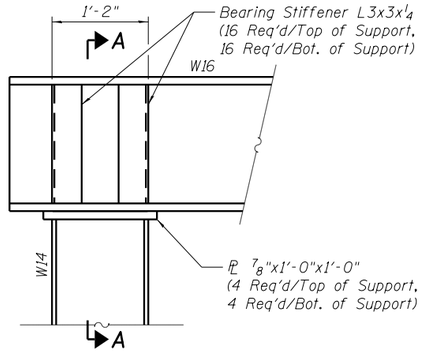
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SUPPORT DETAILS I
STRUCTURE NO. 016-0461
SHEET NO. S2-17 OF S2-145 SHEETS

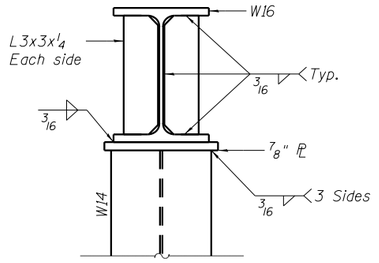
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	294
		CONTRACT NO. 60X78		
ILLINOIS FED. AID PROJECT				



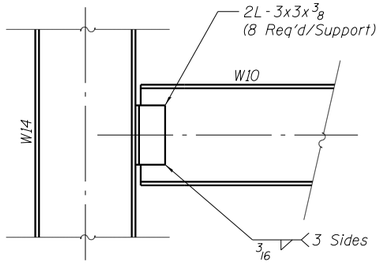
DETAIL A



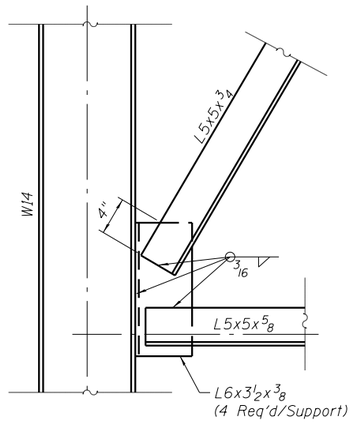
DETAIL B



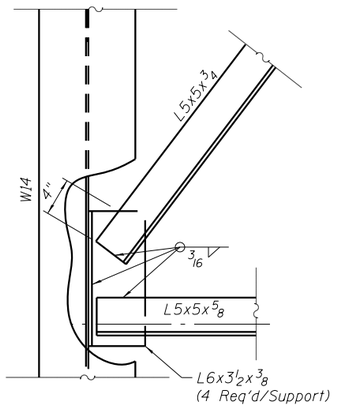
SECTION A-A



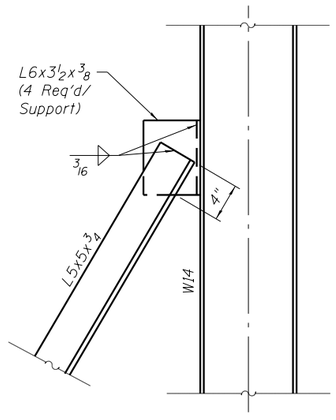
DETAIL C



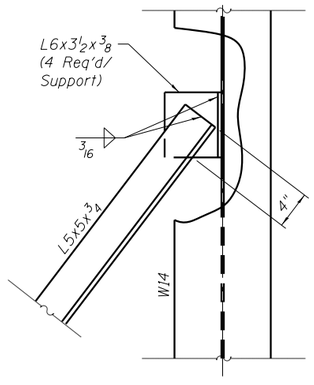
DETAIL D



DETAIL E



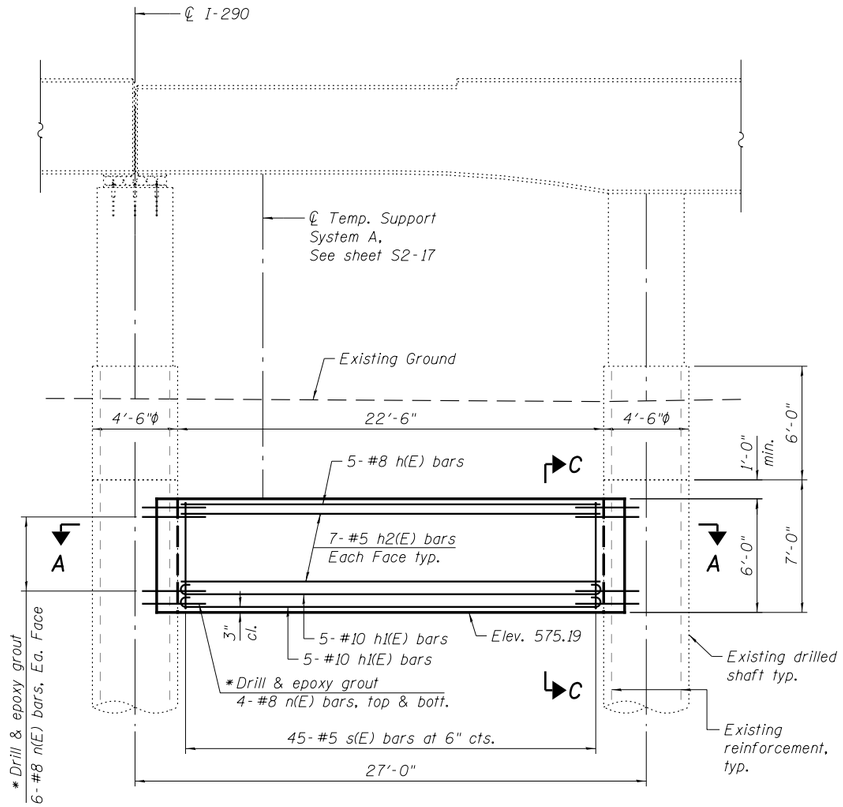
DETAIL F



DETAIL G

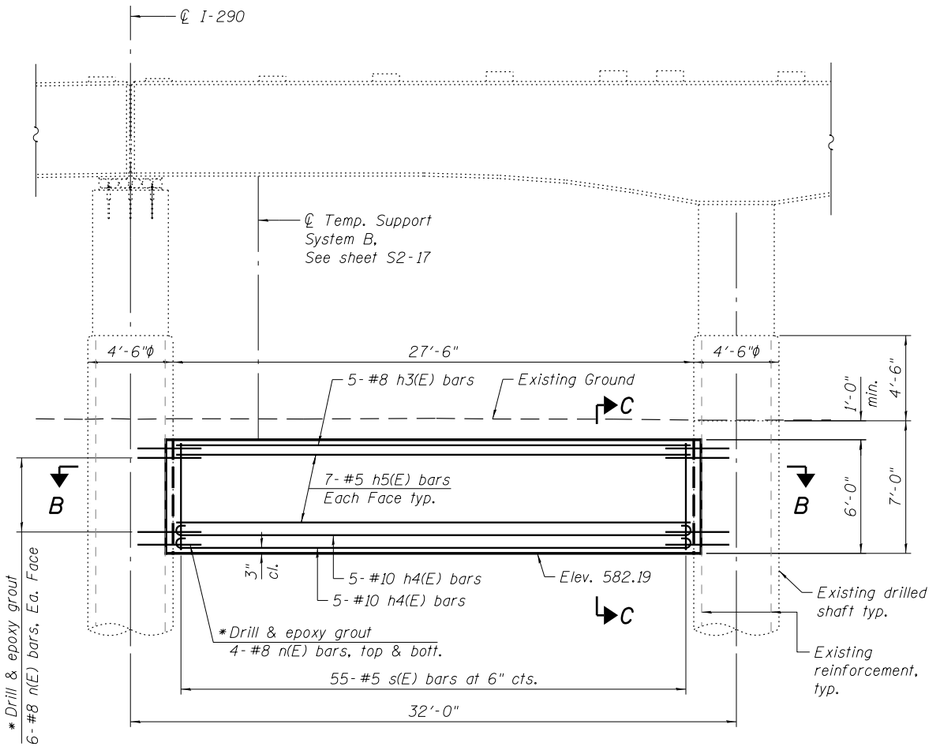
0160461-60X78-S018-SOR.dgn

PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - CWL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SUPPORT DETAILS II STRUCTURE NO. 016-0461	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - DWS	REVISED -			90/94/290	2014-004 R&B (WB)	COOK	706	295
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -						CONTRACT NO. 60X78	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		SHEET NO. S2-18 OF S2-145 SHEETS			ILLINOIS	FED. AID PROJECT	



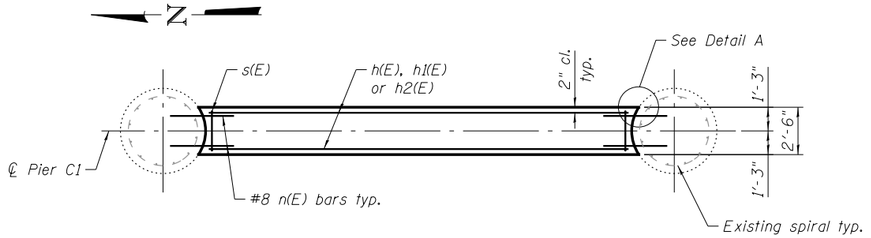
WEB WALL ELEVATION - PIER C1

(Looking East)

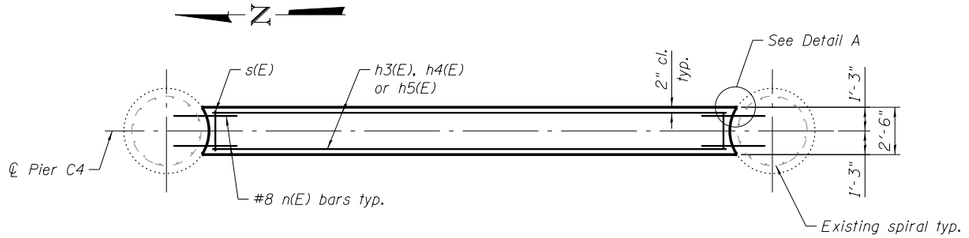


WEB WALL ELEVATION - PIER C4

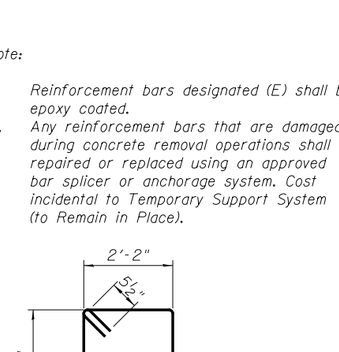
(Looking East)



SECTION A-A



SECTION B-B



SECTION C-C

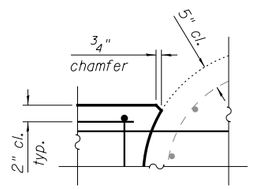
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	5	#8	22'-3"	
h1(E)	10	#10	25'-1"	
h2(E)	14	#5	22'-3"	
h3(E)	5	#8	27'-3"	
h4(E)	10	#10	30'-1"	
h5(E)	14	#5	27'-3"	
n(E)	80	#8	3'-4"	
s(E)	100	#5	14'-5"	
Concrete Structures			Cu. Yd.	28.0
Reinforcement Bars, Epoxy Coated			Pound	5,980
Structure Excavation			Cu. Yd.	131

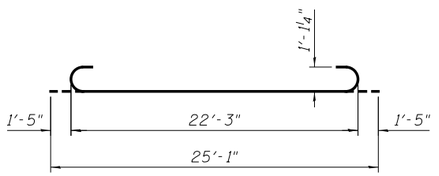
Note:

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Temporary Support System (to Remain in Place).

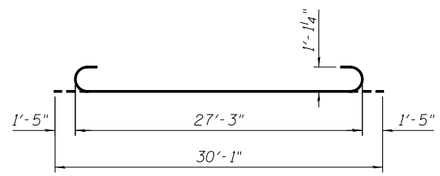
* Drill and grout bars according to Article 584 of the Std. Specs., with a minimum embedment of 1'-4", place to miss existing drilled shaft reinforcement. Cost included in the cost of Reinforcement Bars, Epoxy Coated



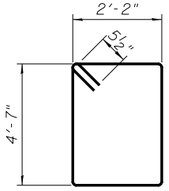
DETAIL A



h1(E) BAR



h4(E) BAR



s(E) BAR

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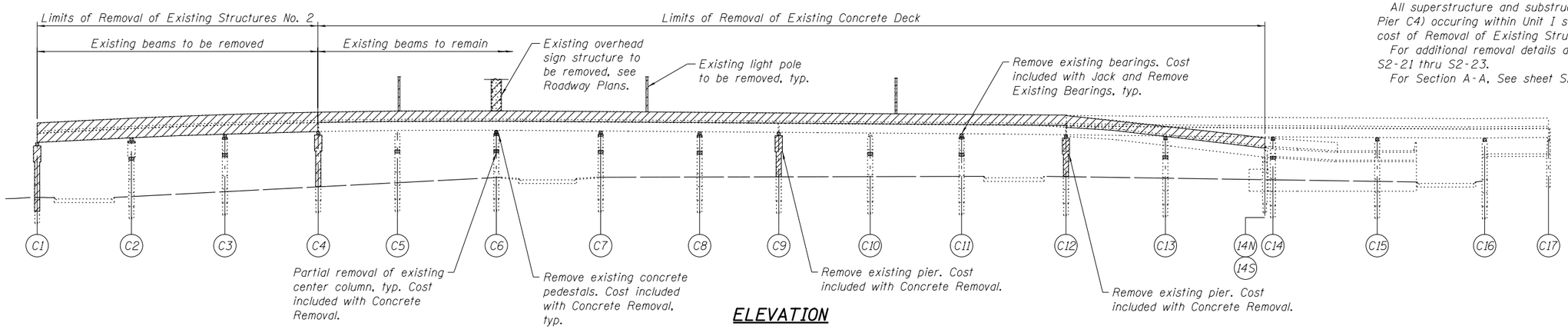
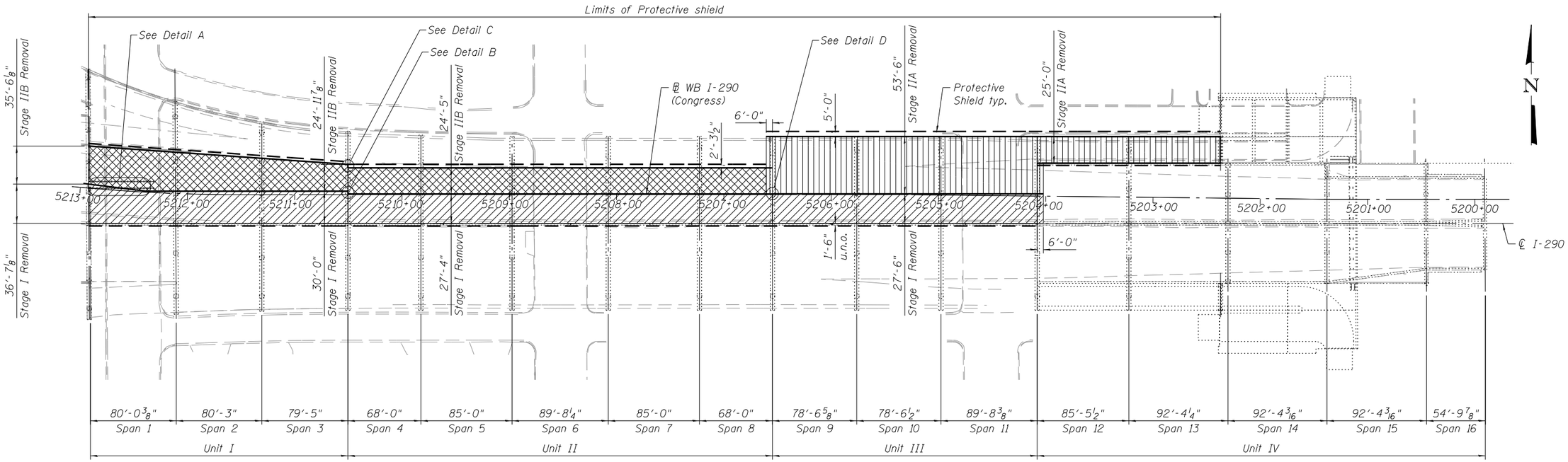
PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SUPPORT DETAILS III STRUCTURE NO. 016-0461
		CHECKED - PJL	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -		SHEET NO. S2-19 OF S2-145 SHEETS
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	296
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

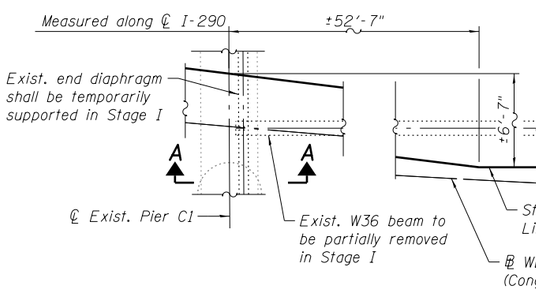
Notes:
All superstructure and substructure removal (including Pier C4) occuring within Unit I shall be included in the cost of Removal of Existing Structures No. 2.
For additional removal details and quantities, See sheet S2-21 thru S2-23.
For Section A-A, See sheet S2-23.



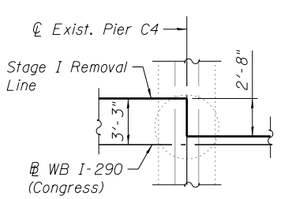
ELEVATION



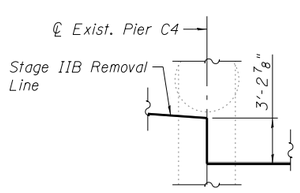
PLAN



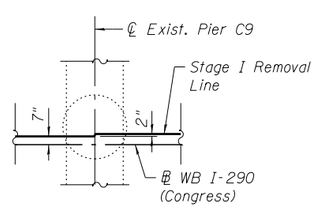
DETAIL A



DETAIL B



DETAIL C



DETAIL D

LEGEND:

- Stage I Removal
- Stage IIA Removal
- Stage IIB Removal
- Protective Shield

BILL OF MATERIAL

	Item	Unit	Quantity
	Removal of Existing Structures No. 2	Each	1
	Removal of Existing Concrete Deck	Each	3
*	Protective Shield	Sq Yd	7,713

* Protective Shield quantity includes areas for Deck Slab Repairs occurring within Unit IV.

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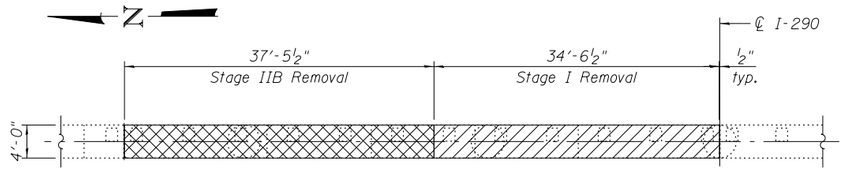
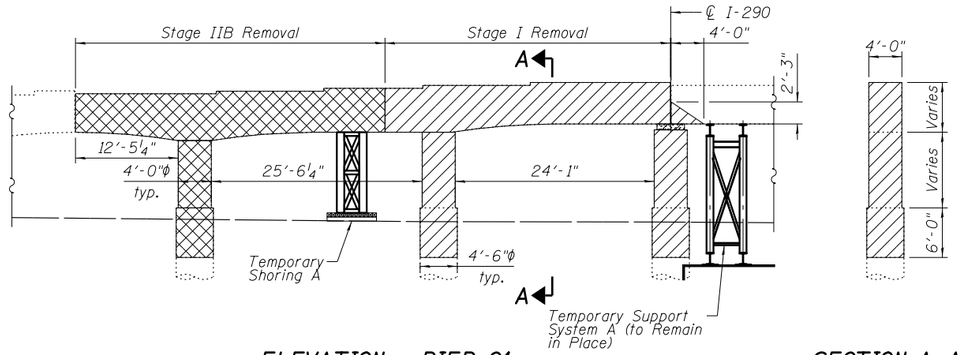
		CHECKED - PJL	REVISED -	
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

EXISTING STRUCTURE REMOVAL DETAILS I
STRUCTURE NO. 016-0461
SHEET NO. S2-20 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	297
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

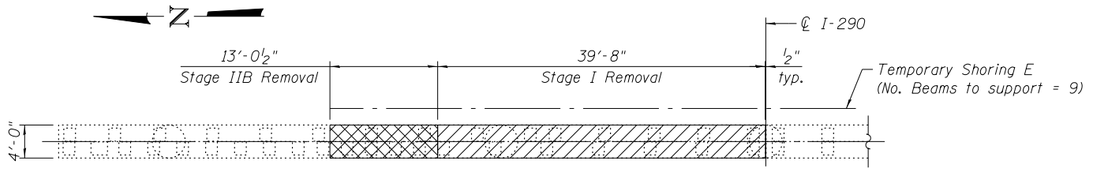


PLAN - PIER C1

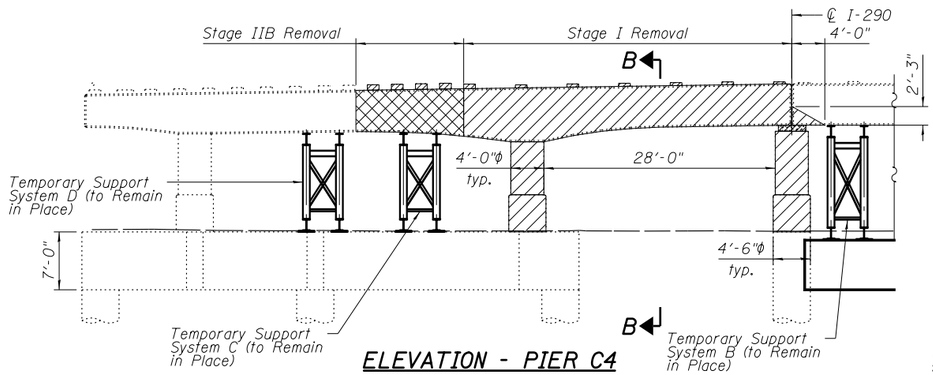


ELEVATION - PIER C1

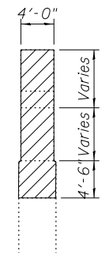
SECTION A-A



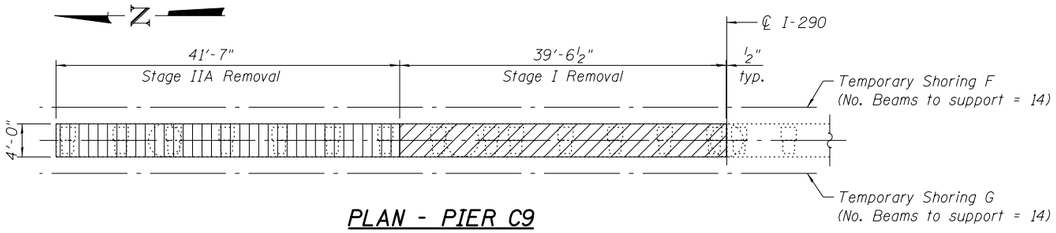
PLAN - PIER C4



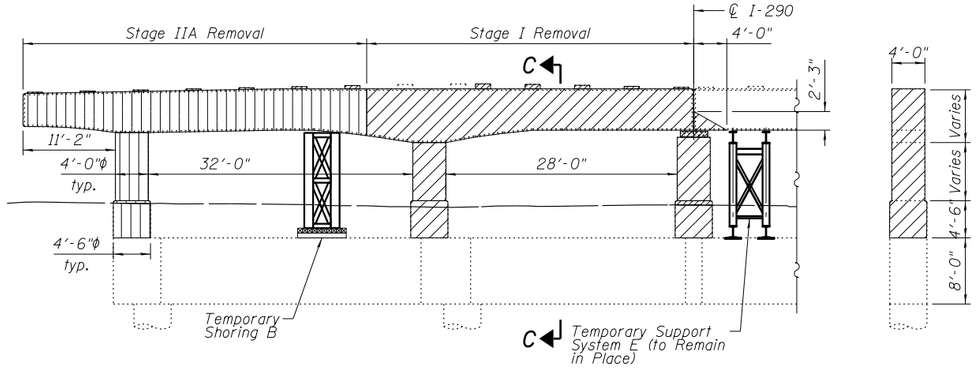
ELEVATION - PIER C4



SECTION B-B

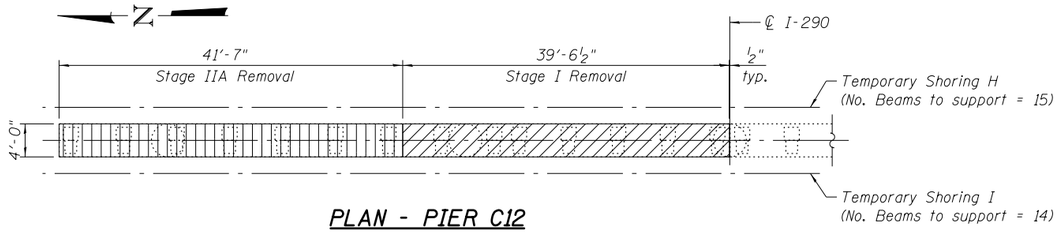


PLAN - PIER C9

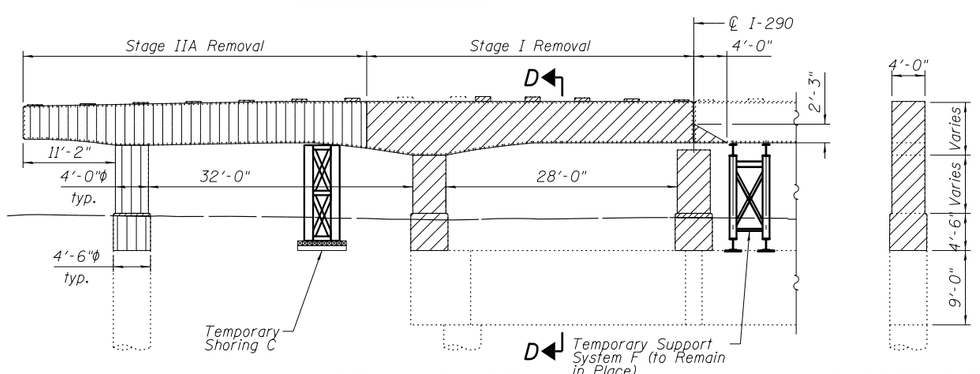


ELEVATION - PIER C9

SECTION C-C



PLAN - PIER C12



ELEVATION - PIER C12

SECTION D-D

Notes:

1. All plan and elevation views are looking East.
2. See sheet S2-20, for stage removal plan.
3. See sheet S2-17 & S2-18, for details of Temporary Support System (to Remain in Place).
4. Removal of Piers C1 and C4 shall be included in the cost of Removal of Existing Structures No. 2.
5. Removal of Piers C9 and C12 shall be included in the cost of Concrete Removal.
6. Temporary Shorings A, B, and C are required to support the existing pier caps at Piers C1, C9, and C12, respectively, during Stage I Removal. Temporary Shorings D thru I are required to support existing beams affected by pier removal and reconstruction operations during each stage. See Special Provisions.
7. See sheet S2-16, for Temporary Shoring reactions.

LEGEND:

- Stage I Removal
- Stage IIA Removal
- Stage IIB Removal

BILL OF MATERIAL

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	161.8
Temporary Shoring	Each	9

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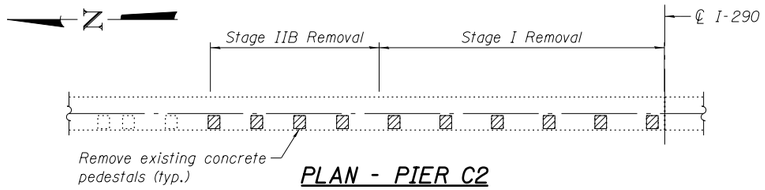
PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - IJL	REVISED -	
	CHECKED - PJL	REVISED -	
PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -	
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -	

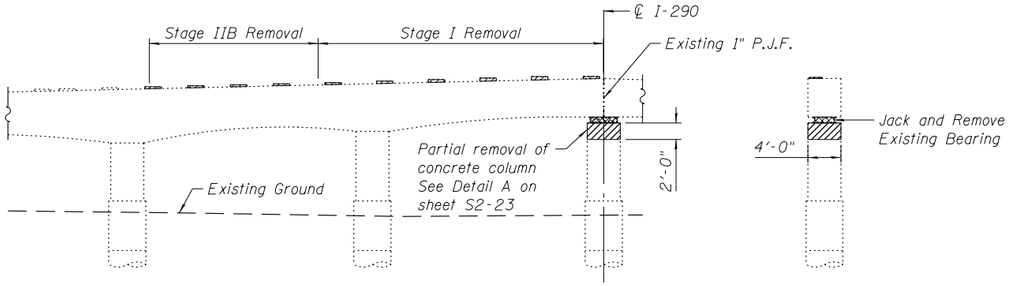
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE REMOVAL DETAILS II
STRUCTURE NO. 016-0461
SHEET NO. S2-21 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	298
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			



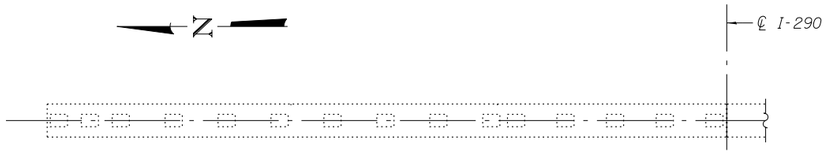
PLAN - PIER C2



ELEVATION - PIER C2

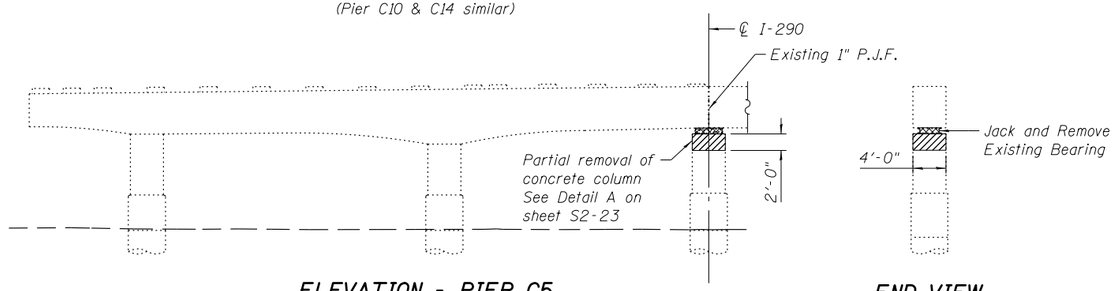
(Looking East, Pier C3 similar)

END VIEW



PLAN - PIER C5

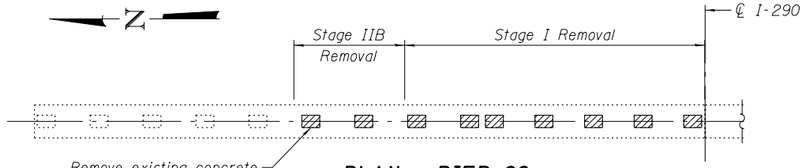
(Pier C10 & C14 similar)



ELEVATION - PIER C5

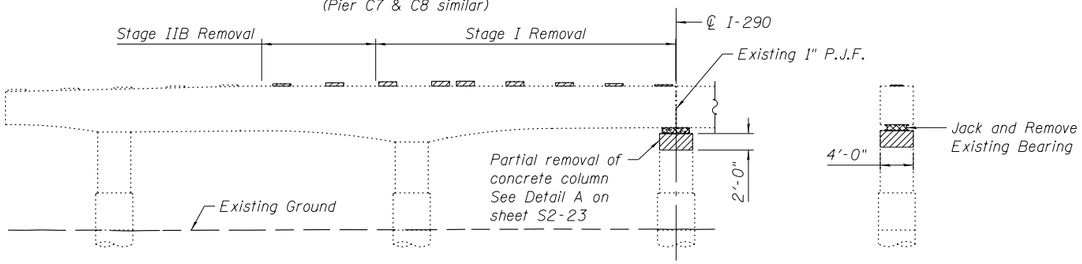
(Looking East, Pier C10 & C14 similar)

END VIEW



PLAN - PIER C6

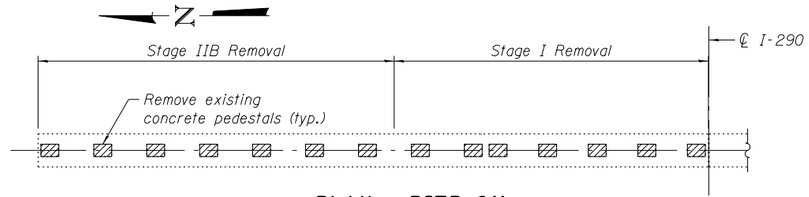
(Pier C7 & C8 similar)



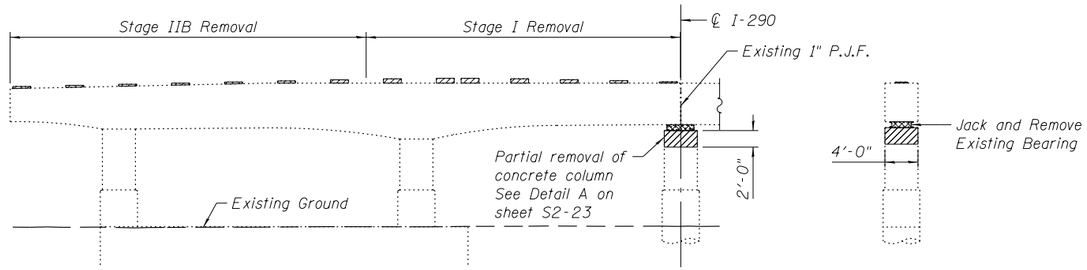
ELEVATION - PIER C6

(Looking East, Pier C7 & C8 similar)

END VIEW



PLAN - PIER C11



ELEVATION - PIER C11

(Looking East)

END VIEW

Notes:

1. *Removal of existing concrete pedestals, top of center column, and nested bearing at Piers C2 and C3 shall be included in the cost of Removal of Existing Structures No. 2.*
2. *Removal of existing concrete pedestals and top of center column at Piers C5 through C16 shall be included in the cost of Concrete Removal.*
3. *Removal of existing nested bearings at Piers C5 through C14 shall be included in the cost of Jack and Remove Existing Bearings.*
4. *See sheet S2-22 for Detail A.*

LEGEND

Concrete Removal

Jack and Remove Existing Bearings

BILL OF MATERIAL

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	9.2
Jack and Remove Existing Bearings	Each	14

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PARSONS BRINCKERHOFF

USER NAME = pateld	DESIGNED - IJL	REVISED -
	CHECKED - PJL	REVISED -
PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -
PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE REMOVAL DETAILS III
STRUCTURE NO. 016-0461
SHEET NO. S2-22 OF S2-145 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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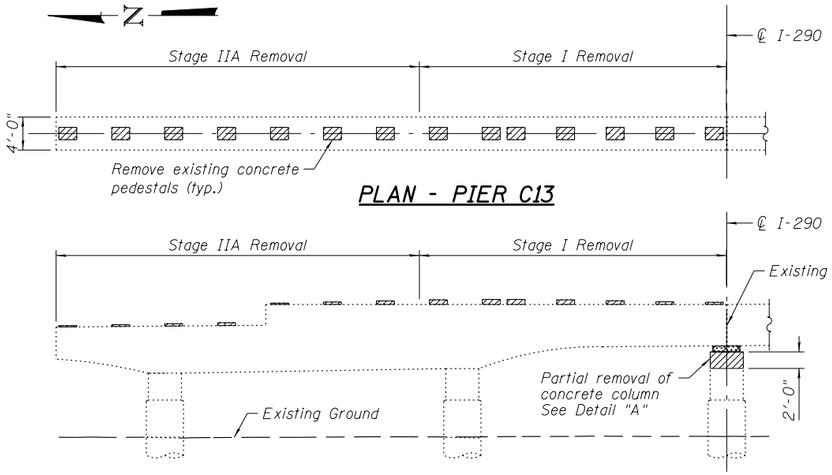
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			

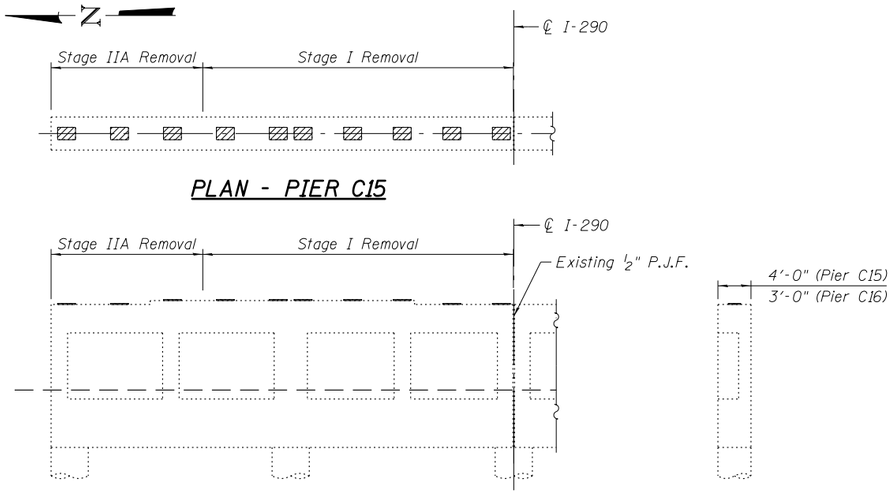


PLAN - PIER C13

ELEVATION - PIER C13

(Looking East)

END VIEW

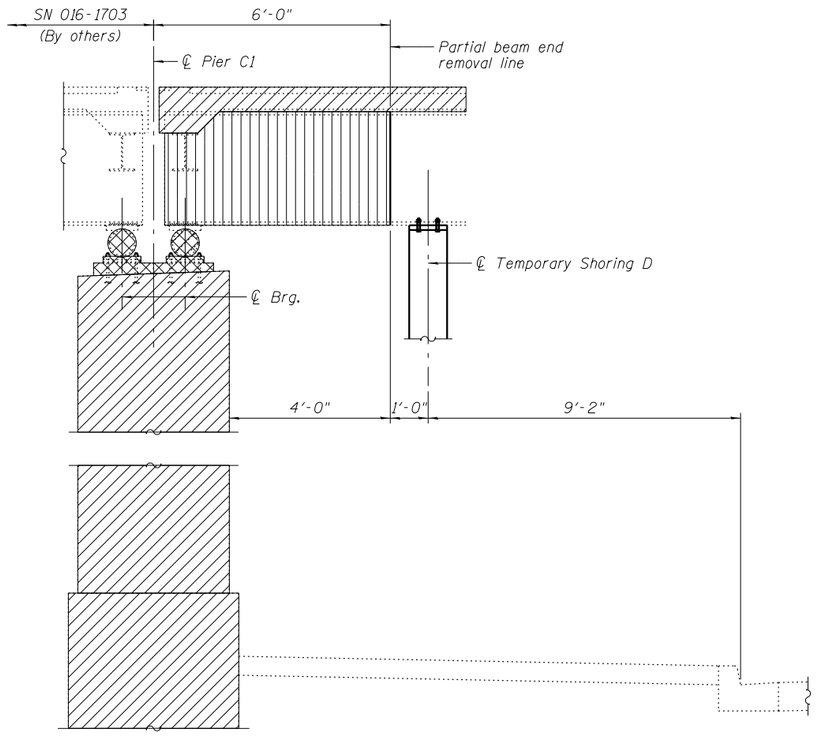


PLAN - PIER C15

ELEVATION - PIER C15

(Looking East, Pier C16 similar)

END VIEW



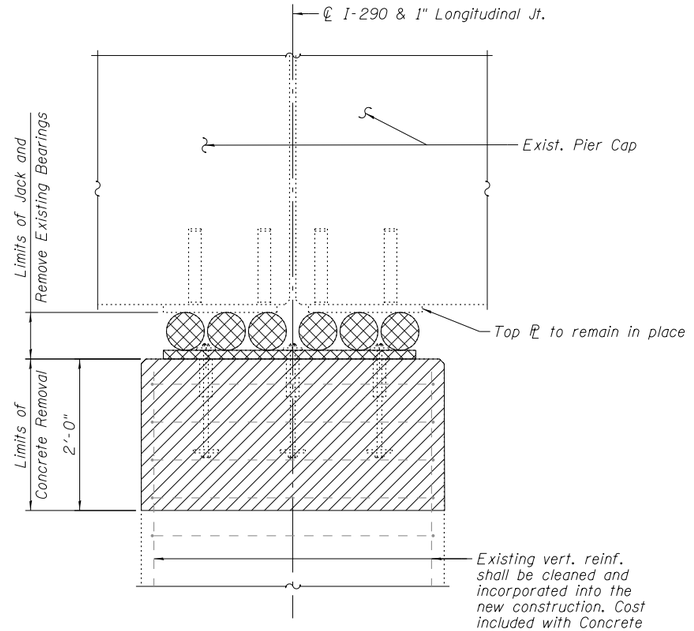
SECTION A-A

LEGEND

- Concrete Removal
- Jack and Remove Existing Bearings
- Partial Beam End Removal

Notes:

1. Partial beam end removal of existing beam as shown in Section A-A shall be included in the cost of Removal of Existing Structure No. 2.
2. Removal of existing concrete pedestals and top of center column at Piers C5 through C16 shall be included in the cost of Concrete Removal.
3. Removal of existing nested bearings at Piers C5 through C14 shall be included in the cost of Jack and Remove Existing Bearings.
4. For temporary shoring reactions see sheet, S2-16.
5. For location of section A-A, See sheet S2-20.
6. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Concrete Removal.



DETAIL A

BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	2.5
Jack and Remove Existing Bearings	Each	2

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PARSONS BRINCKERHOFF	USER NAME = pateld	DESIGNED - IJL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE REMOVAL DETAILS IV STRUCTURE NO. 016-0461
		CHECKED - PJL	REVISED -		
	PLOT SCALE = N.T.S.	DRAWN - DE	REVISED -		SHEET NO. S2-23 OF S2-145 SHEETS
	PLOT DATE = 3/23/2016	CHECKED - JIG	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-004 R&B (WB)	COOK	706	300
		CONTRACT NO. 60X78		
	ILLINOIS FED. AID PROJECT			