


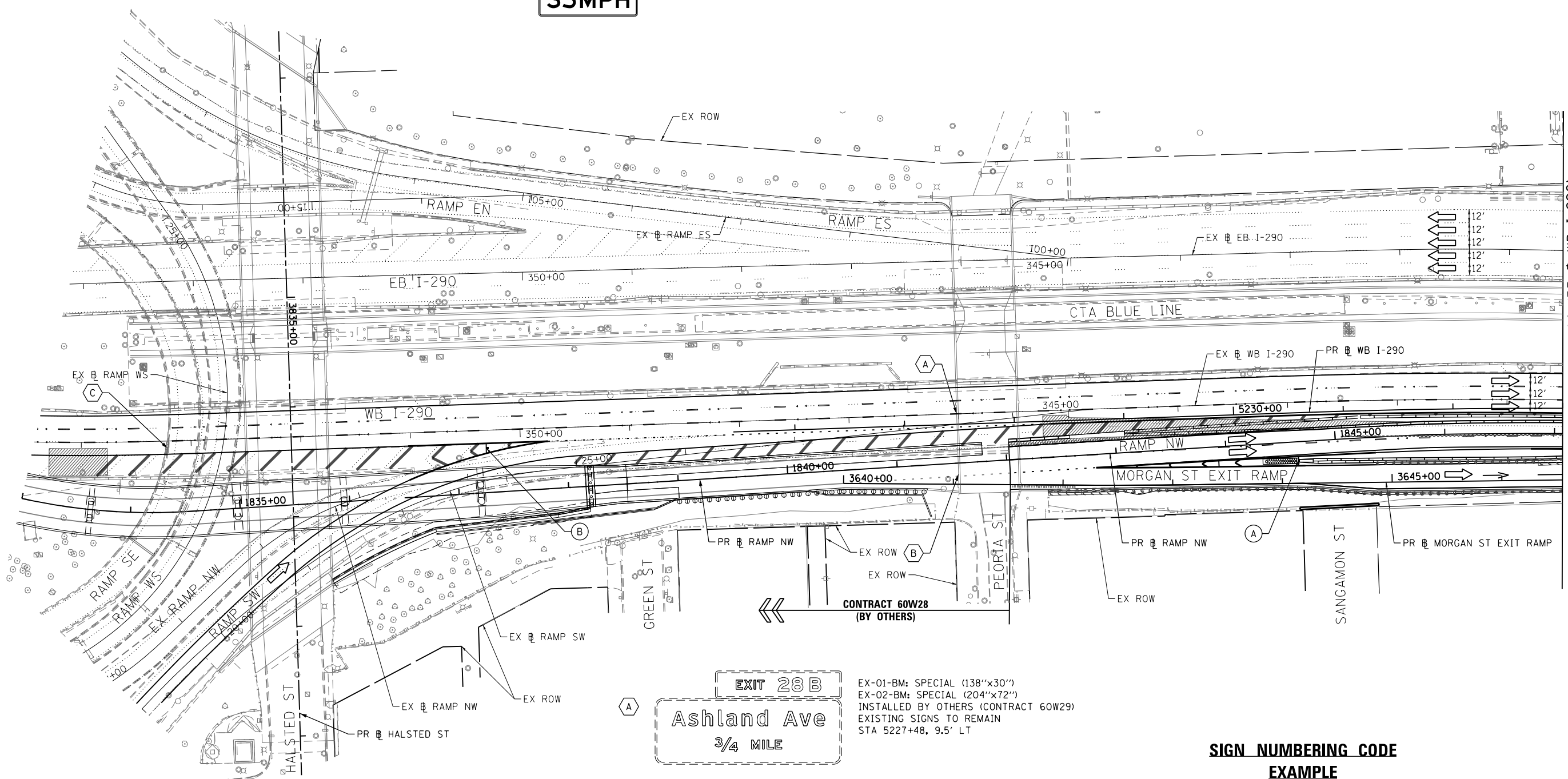


(A) **EXIT 29B**   
35MPH

MX-01-WP: E5-1A (90"x60")  
SIGN PANEL T3  
MX-02-WP: E13-1p (72"x24")  
SIGN PANEL T2  
WOOD SIN SUPPORT (x2)  
STA 3644+15, 20.6' LT  
(PR  WB I-290)

(B) 


WB-01-WP: W4-1R (48"x48")  
SIGN PANEL T2  
WOOD SIN SUPPORT  
STA 350+31, 16.3' LT  
(EX  WB I-290)



MATCH LINE STA 5233+00 (PR  WB I-290)  
SEE SHEET NO. 102


(A) **EXIT 28 B**  
**Ashland Ave**  
3/4 MILE

EX-01-BM: SPECIAL (138"x30")  
EX-02-BM: SPECIAL (204"x72")  
INSTALLED BY OTHERS (CONTRACT 60W29)  
EXISTING SIGNS TO REMAIN  
STA 5227+48, 9.5' LT

(B) **EXIT 29 B**  
**Morgan St**   
**RAMP CLOSED**

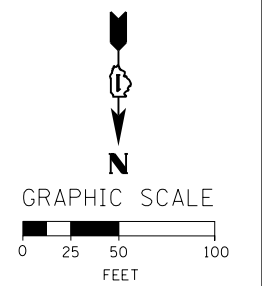
EX-03-BM: SPECIAL (138"x30")  
EX-04-BM: SPECIAL (210"x60")  
INSTALLED BY OTHERS (CONTRACT 60W29)  
EXISTING SIGNS TO REMAIN  
EX-05-OV: RAMP CLOSED (120"x24")  
REMOV SIGN PANEL T2 "RAMP CLOSED" AFTER  
COMPLETION OF MORGAN STREET EXIT RAMP  
STA 5227+48, 45.5' RT

(C) **EXIT TO MORGAN ST PROHIBITED**


EX-16-BM: SPECIAL (138"x72")  
REMOV SIGN PANEL T3  
STA 353+21, 6.6' LT  
(EX  WB I-290)

**SIGN NUMBERING CODE EXAMPLE**

DIRECTION OF TRAFFIC	NB-03-LP	MOUNTING TYPE
MX - MORGAN ST EXIT RAMP		ST - STEEL POST
WB - WESTBOUND I-290		TS - TELESCOPING STEEL
EX - EXISTING		LP - LIGHT POLE BANDING
SIGN PANEL NUMBER		SP - SIGNAL POLE BANDING
		SA - SIGNAL POLE MAST ARM
		BM - BRIDGE MOUNTED
		PM - PARAPET MOUNTED
		PP - PEDESTRIAN PUSH BUTTON
		BS - BREAKAWAY STEEL
		WP - WOOD POST
		OV - OVERHEAD
		TM - TRUSS SUPPORT MOUNTED
		(S) - SPECIAL



**SIGNING NOTES**

- SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.
- ALL STATIONINGS ARE FROM PR  WB I-290 UNLESS OTHERWISE NOTED.

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D160X61-sht-Sign-01  
USER NAME = ChiuA  
PLOT SCALE = 50.0000' / in.  
PLOT DATE = 10/19/2014

DESIGNED - AFC	REVISED -
DRAWN - AFC	REVISED -
CHECKED - DBM	REVISED -
DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN  
WB I-290 AUXILIARY LANE**  
SCALE: 1" = 50' SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 101
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

- (A) ONLY ONLY
- (B) DO NOT ENTER
- (C) NO TURN ON RED
- (D) DO NOT ENTER

- (E) St. Ignatius Historic Landmark
- (F) WEST INTERSTATE 290
- (G) MILE 29 5

- (H) EISENHOWER INTERSTATE SYSTEM
- (I) CRC ILLINOIS 110
- (J) [Sign Symbol]
- (K) [Sign Symbol]

**University of Illinois at Chicago EXIT 28 B**

**Illinois Medical District NEXT 2 EXITS**

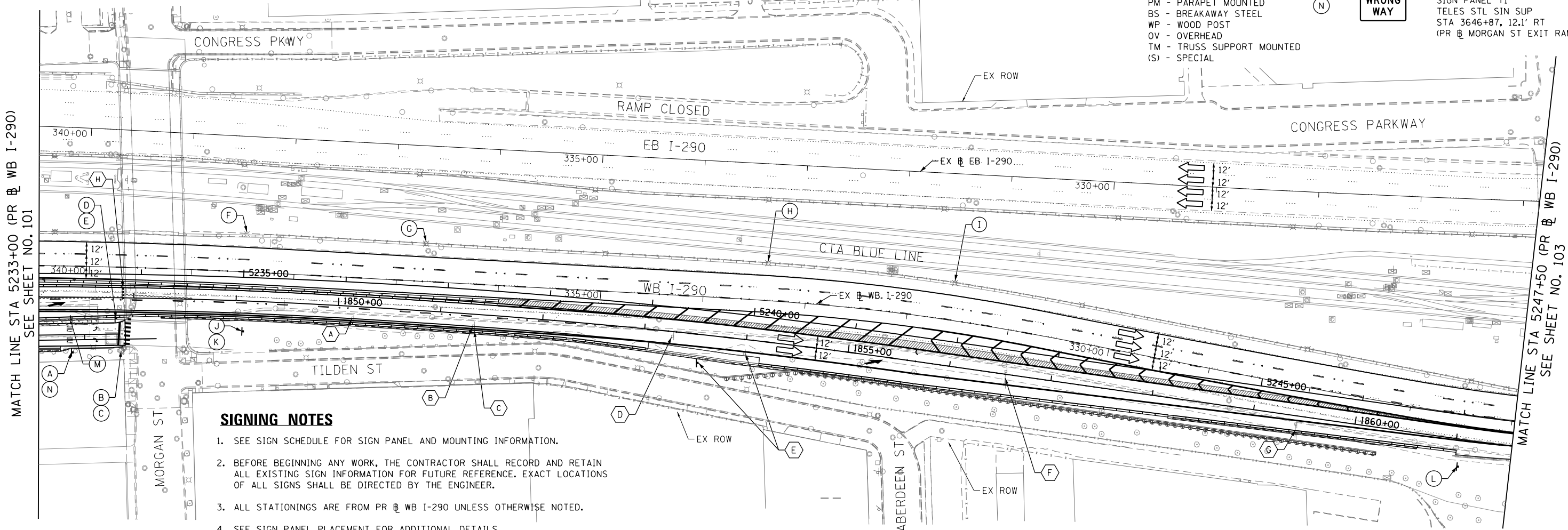
**SIGN NUMBERING CODE EXAMPLE**

DIRECTION OF TRAFFIC	NB-03-LP	MOUNTING TYPE
MX - MORGAN ST EXIT RAMP	ST - STEEL POST	
WB - WESTBOUND I-290	TS - TELESCOPING STEEL	
EX - EXISTING	LP - LIGHT POLE BANDING	
SIGN PANEL NUMBER	SP - SIGNAL POLE BANDING	
	SA - SIGNAL POLE MAST ARM	
	BM - BRIDGE MOUNTED	
	PM - PARAPET MOUNTED	
	BS - BREAKAWAY STEEL	
	WP - WOOD POST	
	OV - OVERHEAD	
	TM - TRUSS SUPPORT MOUNTED	
	(S) - SPECIAL	

(M) WRONG WAY

(N) WRONG WAY

- WB-05-LP: M1-10 (36"x36") SIGN PANEL T1 STA 5240+08, 52.7' LT
- WB-06-LP: M4-1110 (36"x18") SIGN PANEL T1 OBTAIN EXACT SIGN DESIGN FROM CENTRAL SIGN SHOP
- WB-07-LP: M1-1100 (36"x36") SIGN PANEL T1 STA 5241+90, 57.3' LT
- WB-08-GM: W4-2R (48"x48") SIGN PANEL T2 STR STL SIN SUP BA STA 5235+00, 52.8' RT (SEE NOTE 4)
- WB-09-GM: SPECIAL (186"x162") SIGN PANEL T3 STR STL SIN SUP BA CONC FOUNDATION STA 5235+00, 52.8' RT (SEE NOTE 4)
- WB-10-GM: SPECIAL (186"x162") SIGN PANEL T3 STR STL SIN SUP BA CONC FOUNDATION STA 5247+00, 51.0' RT (SEE NOTE 4)
- MX-03-PM: R5-1a (36"x24") SIGN PANEL T1 TELES STL SIN SUP SPL STA 3646+87, 19.9' LT (PR @ MORGAN ST EXIT RAMP)
- MX-04-TS: R5-1a (36"x24") SIGN PANEL T1 TELES STL SIN SUP STA 3646+87, 12.1' RT (PR @ MORGAN ST EXIT RAMP)



**SIGNING NOTES**

- SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.
- ALL STATIONINGS ARE FROM PR @ WB I-290 UNLESS OTHERWISE NOTED.
- SEE SIGN PANEL PLACEMENT FOR ADDITIONAL DETAILS.

- (A) EX-06-ST: D10-2a (12"x48") REMOV SIN PAN ASSY TA STA 5236+08, 35.0' RT
- (B) EX-07-ST: M3-4 (30"x15") EX-08-ST: M1-1 (45"x36") REMOV SIN PAN ASSY TB STA 5237+27, 35.5' RT
- (C) EX-09-ST: M4-1110 (36"x18") EX-10-ST: M1-1100 (36"x36") REMOV SIN PAN ASSY TB STA 5237+27, 39.3' RT

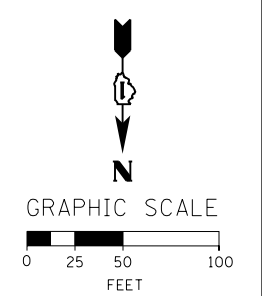
- (D) [Sign Symbol]
- (E) [Sign Symbol]

(F) ~~University of Illinois at Chicago EXIT 28 B~~

(H) ~~Ashland Ave 1/2 MILE~~

- EX-14-GM: SPECIAL (186"x162") REMOV SIGN PANEL T3 REM GR MT SIN SUPPORT REM CONC FDN-GR MT STA 5242+51, 27.6' RT
- EX-15-GM: SPECIAL (186"x162") REMOV SIGN PANEL T3 REM GR MT SIN SUPPORT REM CONC FDN-GR MT STA 5245+39, 37.9' RT
- EX-16-BM: SPECIAL (204"x102") EXISTING SIGN TO REMAIN STA 5233+84, 18.8' RT

~~Illinois Medical District NEXT 2 EXITS~~



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D160X61-sht-Sign-02  
 USER NAME = chluA  
 PLOT SCALE = 50.0000' / in.  
 PLOT DATE = 10/19/2014

DESIGNED - AFC	REVISED -
DRAWN - AFC	REVISED -
CHECKED - DBM	REVISED -
DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

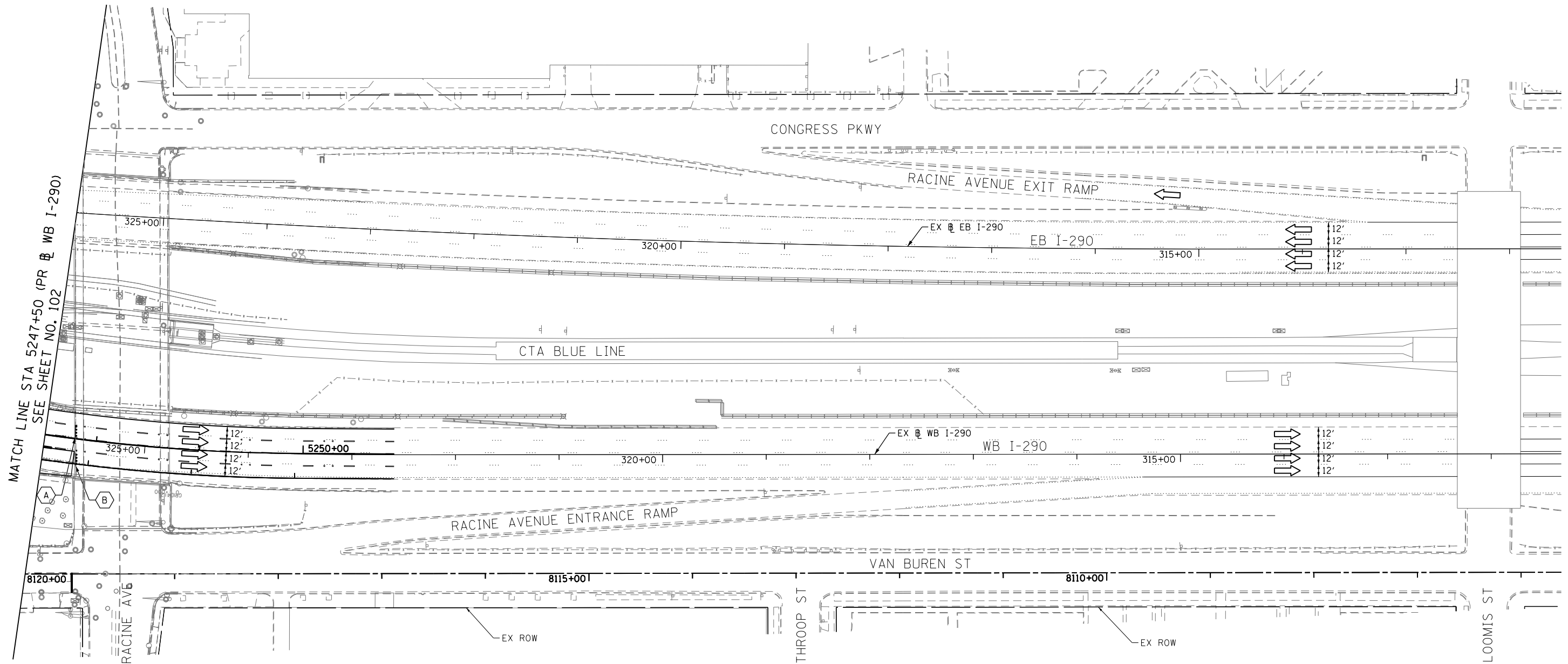
**SIGNING PLAN WB I-290 AUXILIARY LANE**

SCALE: 1" = 50' SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 102
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

**SIGNING NOTES**

1. SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
2. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.
3. ALL STATIONINGS ARE FROM PR @ WB I-290 UNLESS OTHERWISE NOTED.



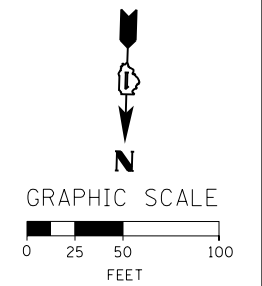
MATCH LINE STA 5247+50 (PR @ WB I-290) SEE SHEET NO. 102



EX-17-BM: SPECIAL (186"x102")  
EXISTING SIGN TO REMAIN  
STA 5247+79, 7.4' LT



EX-18-BM: SPECIAL (204"x102")  
EXISTING SIGN TO REMAIN  
STA 5247+82, 19.5' RT



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USER NAME = ChiuA  
PLOT SCALE = 50.0000' / in.  
PLOT DATE = 10/19/2014

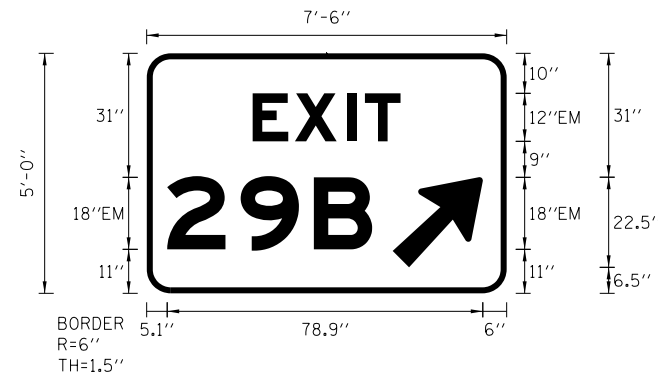
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DRAWN - AFC	REVISED -
CHECKED - DBM	REVISED -
DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SIGNING PLAN</b>	
<b>WB I-290 AUXILIARY LANE</b>	
SCALE: 1" = 50'	SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 103
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

SIGN DETAIL

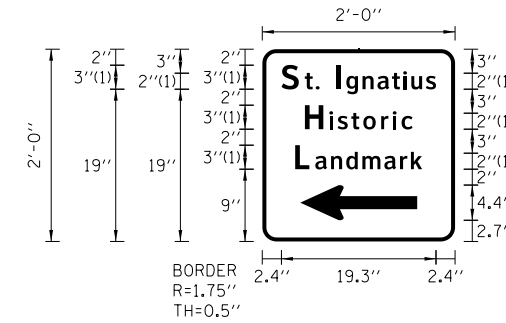


SIGN NUMBER	MX-01-WP
WIDTH x HGHT.	7'-6" x 5'-0"
BORDER WIDTH	1.5"
CORNER RADIUS	6"
MOUNTING	Ground
BACKGROUND	TYPE: ZZ Retro-Reflective COLOR: Green
LEGEND/BORDER	TYPE: ZZ Retro-Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
AR_Type A	135	61.5	6.5	18.2	28.6

LETTER POSITIONS (X)										LENGTH	SERIESSIZE
E	X	I	T							EM 2000	
26.5	37.1	50	54.6							37	12
2	9									EM 2000	
5.1	23.5									32.9	18
B										EM 2000	
41.8										14.6	18

SIGN DETAIL



SIGN NUMBER	MX-09-PM
WIDTH x HGHT.	2'-0" x 2'-0"
BORDER WIDTH	0.5"
CORNER RADIUS	1.75"
MOUNTING	Ground
BACKGROUND	TYPE: AP - Reflective COLOR: Brown
LEGEND/BORDER	TYPE: AP - Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
ARUP	270	4.7	2.7	4.4	14.6

LETTER POSITIONS (X)										LENGTH	SERIESSIZE	
S	t	.	I	g	n	a	t	i	u	s	ClearviewHwy-5-W	
2.4	5.3	6.7	9.2	10.5	12.5	14.4	16.2	17.6	18.6	20.4	19.3	3,21.6
H	i	s	t	o	r	i	c				ClearviewHwy-5-W	
5.3	8.4	9.4	11.1	12.6	14.9	16.3	17.4				13.4	3,21.6
L	a	n	d	m	a	r	k				ClearviewHwy-5-W	
4.1	6.6	8.6	10.5	12.5	15.3	17.2	18.6				15.9	3,21.6

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 PLOT SCALE = 10.0000 / in.  
 PLOT DATE = 10/15/2014

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DRAWN - AFC	REVISED -
CHECKED - DBM	REVISED -
DATE - 10/17/14	REVISED -

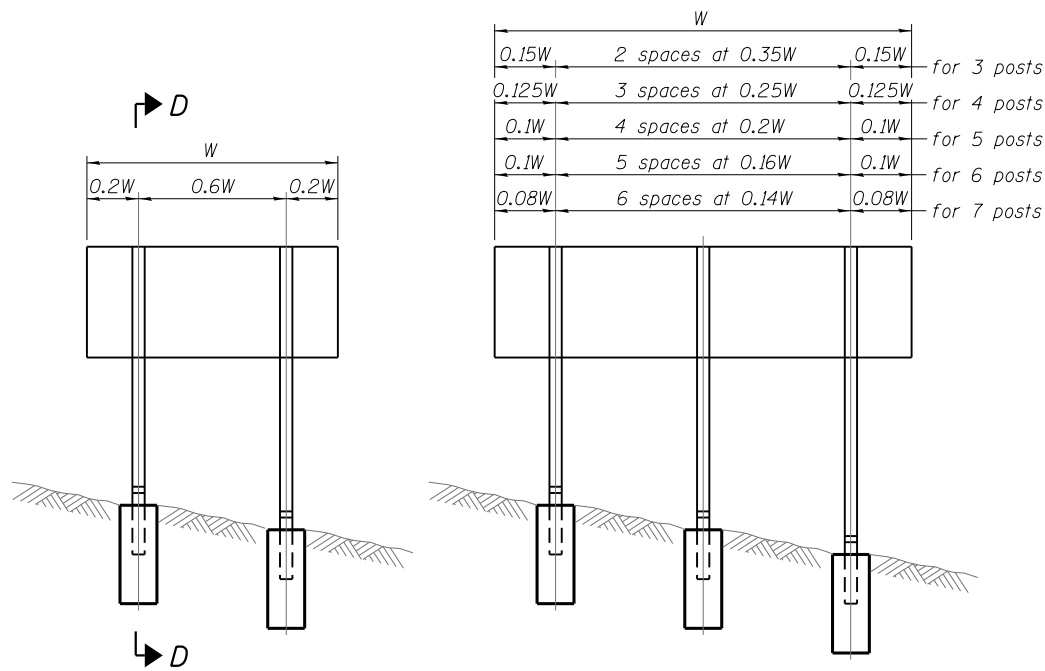
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

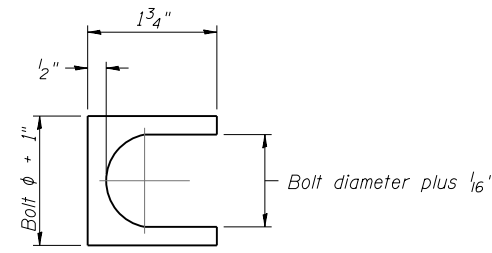
SCALE: N.T.S. SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	104
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



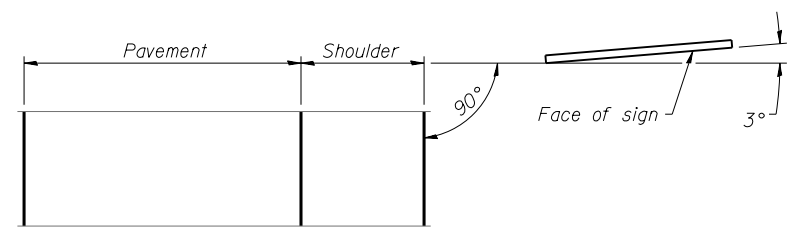


**ELEVATION**

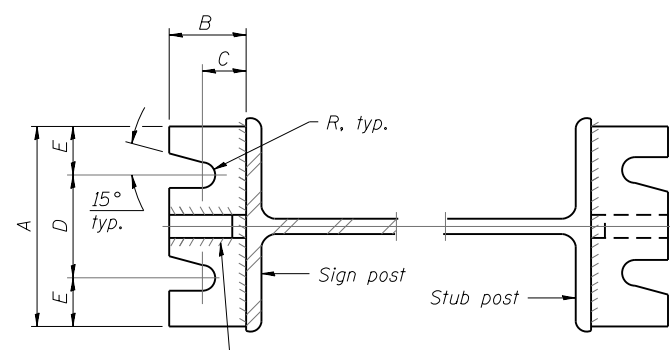


**SHIM DETAIL**

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

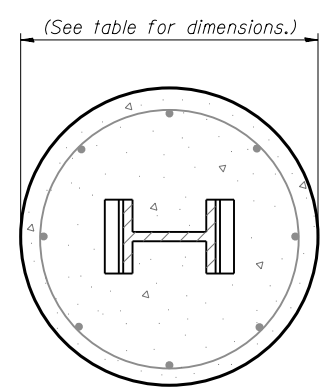


**LOCATION SKETCH**

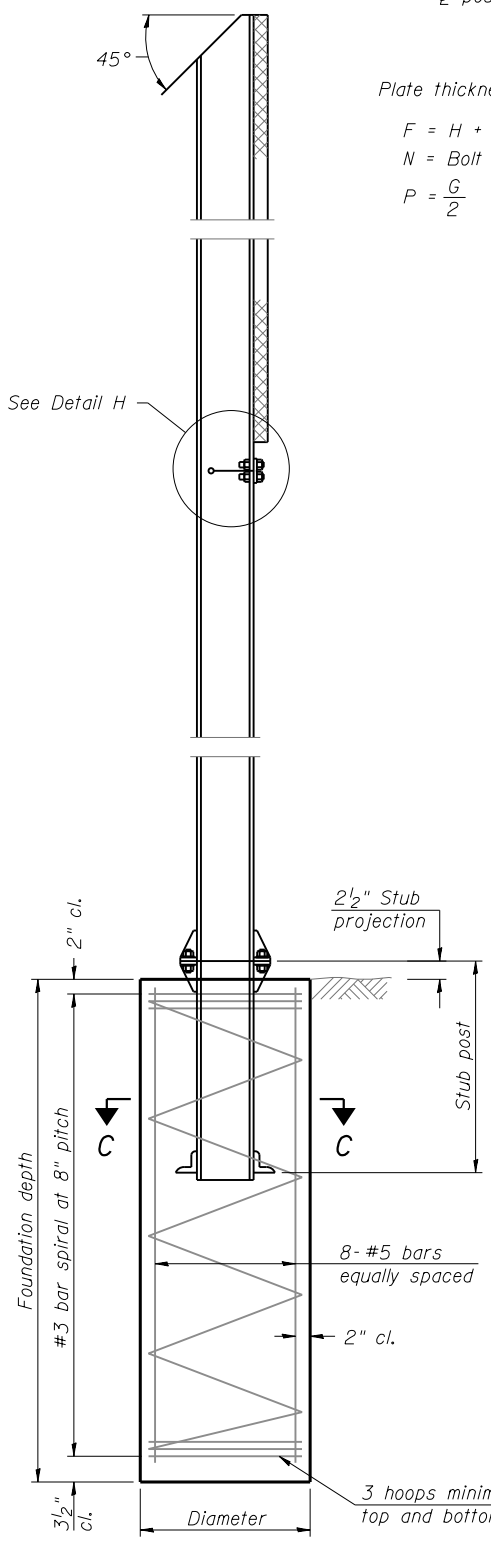


**SECTION A-A**

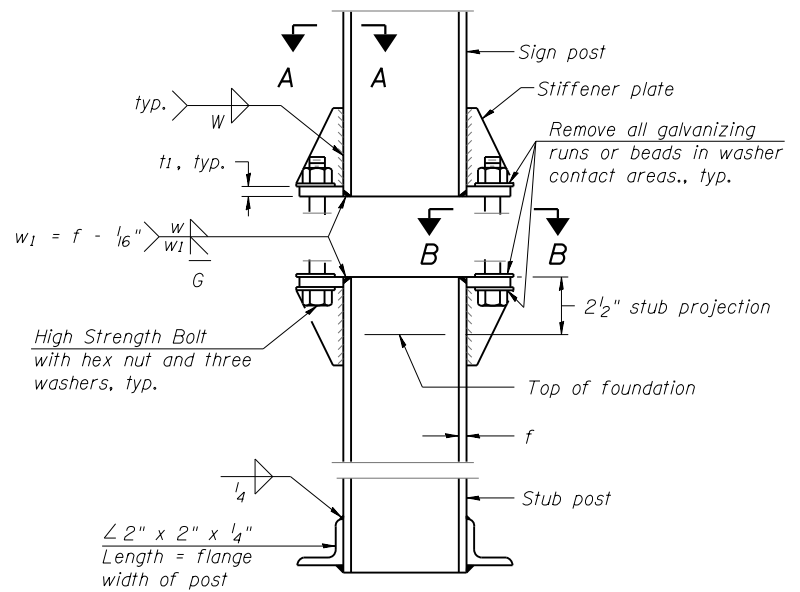
**SECTION B-B**



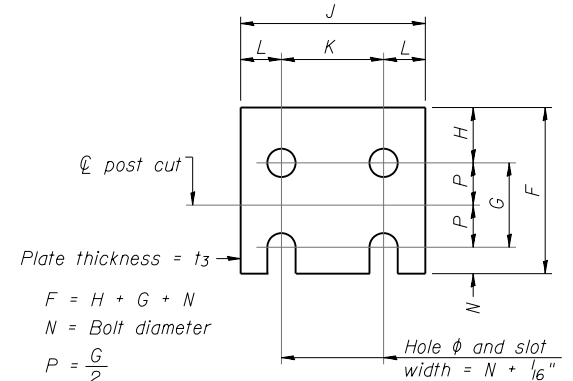
**SECTION C-C**



**SECTION D-D**

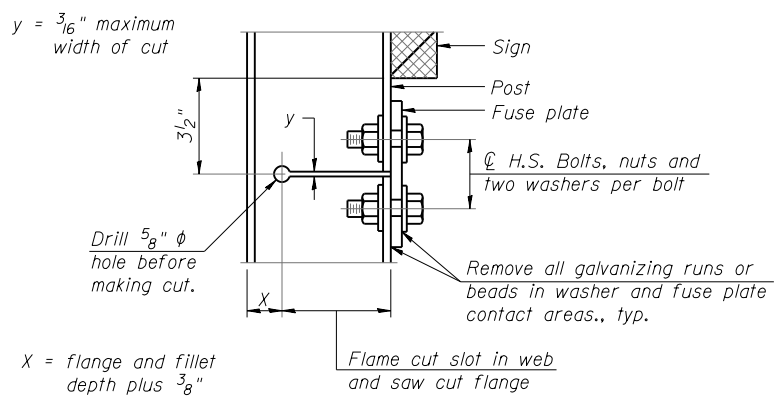


**ELEVATION SIGN POST & STUB POST**

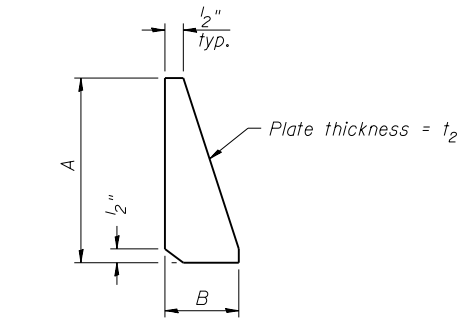


**FUSE PLATE DETAIL**  
(Install with notches down.)

FUSE PLATE DATA		
N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"
1 1/4"	3 1/2"	1 7/8"



**DETAIL H**



**STIFFENER PLATE DETAIL**

**GENERAL NOTES**

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:  
Structural steel - 20,000 p.s.i.  
Reinforcing steel - 20,000 p.s.i.  
Concrete - 1,400 p.s.i.  
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

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BAW-A-1

6-1-12

(Sheet 1 of 2)



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PLOT SCALE = 10.0000 "/in.  
PLOT DATE = 10/15/2014

DESIGNED -  
DRAWN -  
CHECKED -  
DATE - 10/17/14

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE  
STEEL SIGN POST DETAILS

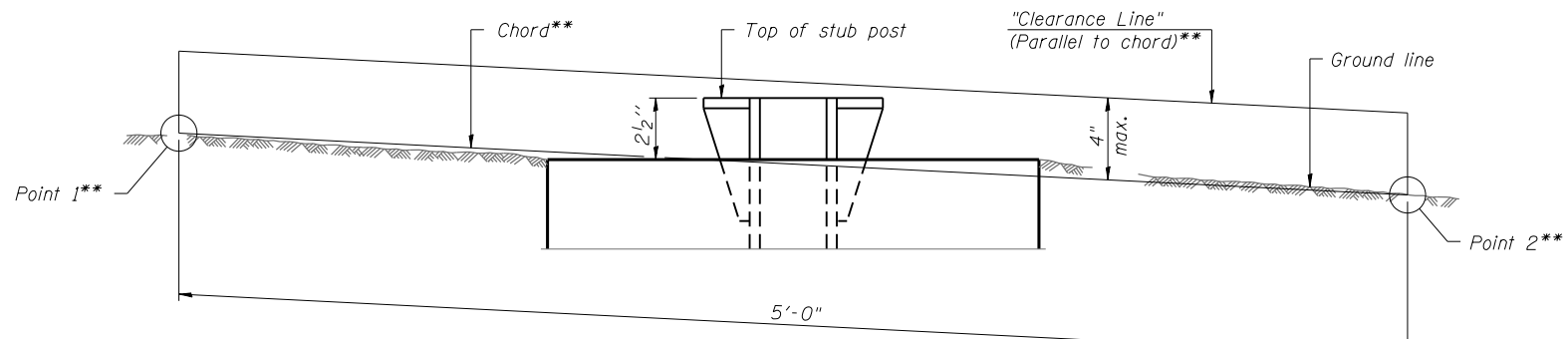
SCALE: 1"=10' SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 106
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA								FUSE PLATE DATA					
	Foundation			Reinforcement			Stub Post Length	Bolt Size	A	B	C	D	E	t <sub>1</sub>	t <sub>2</sub>	R	W	J	K	L	t <sub>3</sub>	
	Diameter	* Minimum Depth	Concrete cu. yds. ①	Vertical Bars Length	Bar Spirals Diameter	Length																lbs. ②
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-3"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	1 1/2"	1/4"	4"	2 1/4"	7/8"	1/4"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	1 1/2"	1/4"	6"	3 1/2"	1 1/4"	3/8"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	1 3/2"	5/16"	5 1/4"	2 3/4"	1 1/4"	3/8"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2 1/2"	105'-0"	92	3'-0"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	1 3/2"	5/16"	5 3/4"	2 3/4"	1 1/2"	1/2"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2 1/2"	112'-0"	98	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 5/2"	3/8"	5 3/4"	2 3/4"	1 1/2"	5/8"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2 1/2"	119'-0"	107	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 5/2"	3/8"	6 1/2"	3 1/2"	1 1/2"	5/8"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8 1/2"	145'-0"	113	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 5/2"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8 1/2"	153'-0"	122	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	1 7/2"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8 1/2"	162'-0"	130	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	1 7/2"	3/8"	7"	3 1/2"	1 3/4"	1/2"

\*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE																					
	Sign Height																					
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	
W6x9	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
W6x15	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—	—	
W8x18	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—	—	
W10x22	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—	—	—	—	
W10x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—	—	
W12x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—	
W14x30	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—	
W14x38	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"
W16x45	—	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"



**ELEVATION  
GROUND LINE & STUB POST**

\*\* For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- ① Quantity includes all concrete necessary for one foundation.
- ② Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2

6-1-12

(Sheet 2 of 2)



D160X61-sht-Sign-GM-DET-02.dgn  
 USER NAME = ChiuA  
 PLOT SCALE = 10.0000' / in.  
 PLOT DATE = 10/15/2014

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE - 10/17/14

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

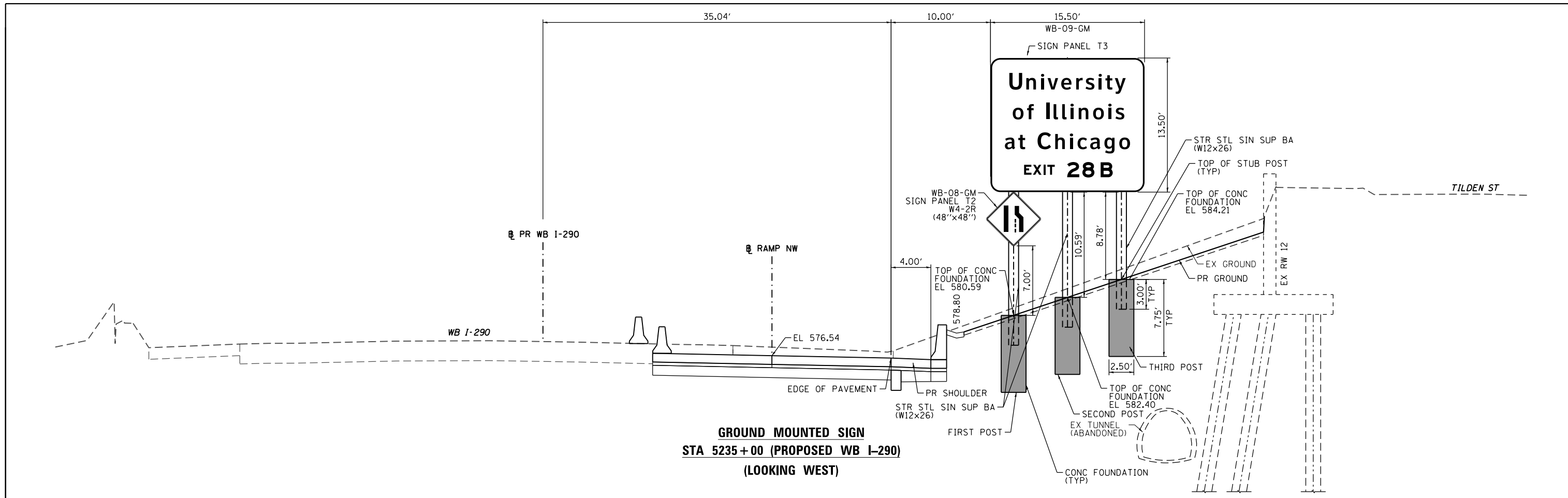
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BREAK-AWAY WIDE FLANGE  
 STEEL SIGN POST TABLES

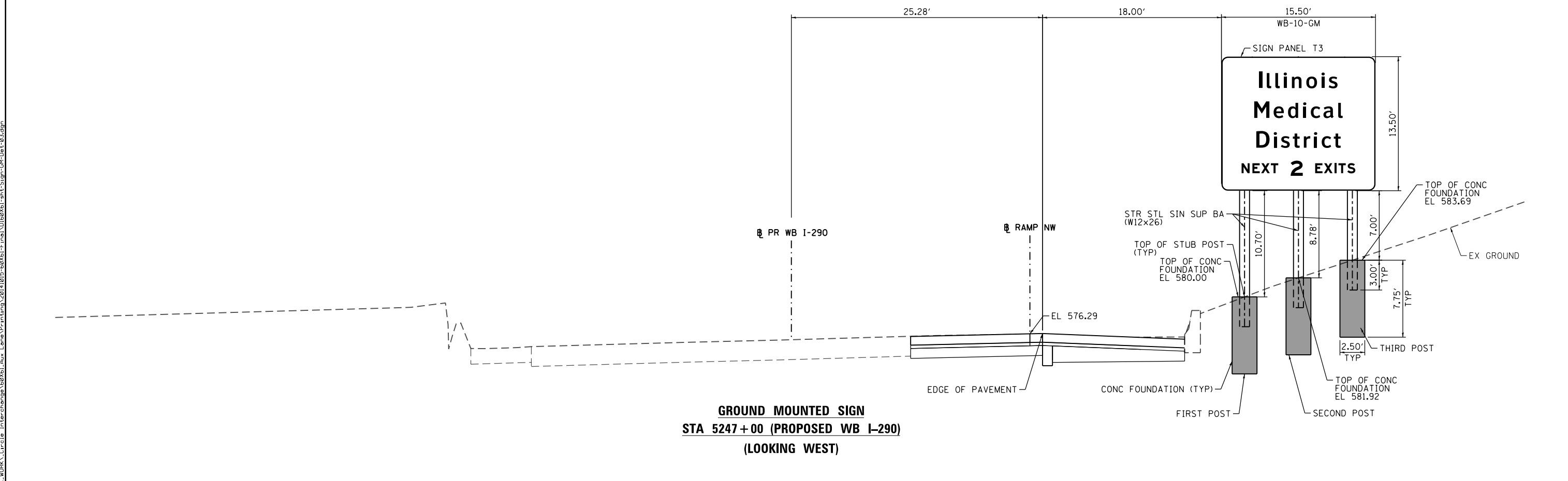
SCALE: 1"=10' SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	107
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

FILE PATH = F:\WORK\Circle Interchange\60X61\_Aux\_Lane\Printing\20141015-60X61-Final\0160X61-sht-Sign-GM-DET-02.dgn



**GROUND MOUNTED SIGN  
STA 5235 + 00 (PROPOSED WB I-290)  
(LOOKING WEST)**



**GROUND MOUNTED SIGN  
STA 5247 + 00 (PROPOSED WB I-290)  
(LOOKING WEST)**

FILE PATH = F:\WORK\Circle Interchange\60X61\_Aux\_Lane\Printing\20141015-60X61-Final\0160X61-shr-Sign-GM-Det-03.dgn



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 PLOT SCALE = 5.0000' / in.  
 PLOT DATE = 10/15/2014

DESIGNED - AFC	REVISED -
DRAWN - AFC	REVISED -
CHECKED - DBM	REVISED -
DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SIGN PANEL PLACEMENT**

SCALE: NTS    SHEET 3 OF 3 SHEETS    STA.    TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	108
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				





DIAL	CYCLE LENGTH	OFFSET	TIMES OF OPERATION	FLASH OPERATION
1	75"	0"	ALL TIMES	RØ2, RØ6, RØ4, RØ8, RØ10
2				ALL ARROWS AND WALK/DON'T WALK OFF
3				
4				

DIAL 1

PHASE NUMBER	PHASE									
	1	2	3	4	5	6	7	8	10	
DIRECTION	SBLT	NB	WBLT	EB	NBLT	SB	EBLT	WB-1	WB-2	
MIN GREEN		21		9		21		9	7	
VEHICLE EXT.				4				4	5	
MAX GREEN				17				17	22	
YELLOW CHANGE		3		3		3		3	3	
RED CLEARANCE		2		2		2		2	2	
WALK		12		6		12		6	0	
PED CLEARANCE		9		11		9		11	0	
RECALL		DWELL				DWELL				
SPLITS		26		22		26		22	27	

CITY OF CHICAGO  
DEPARTMENT OF TRANSPORTATION  
TRAFFIC SIGNAL TIMING SCHEDULE

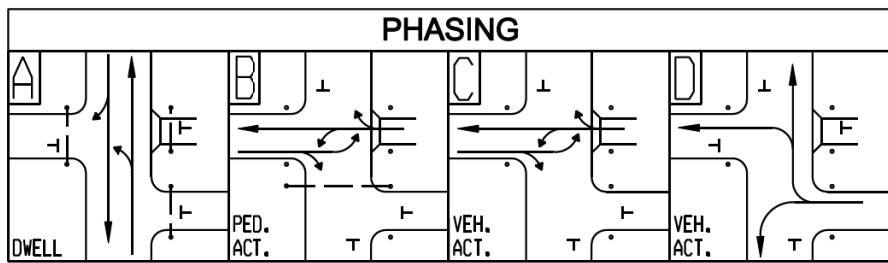
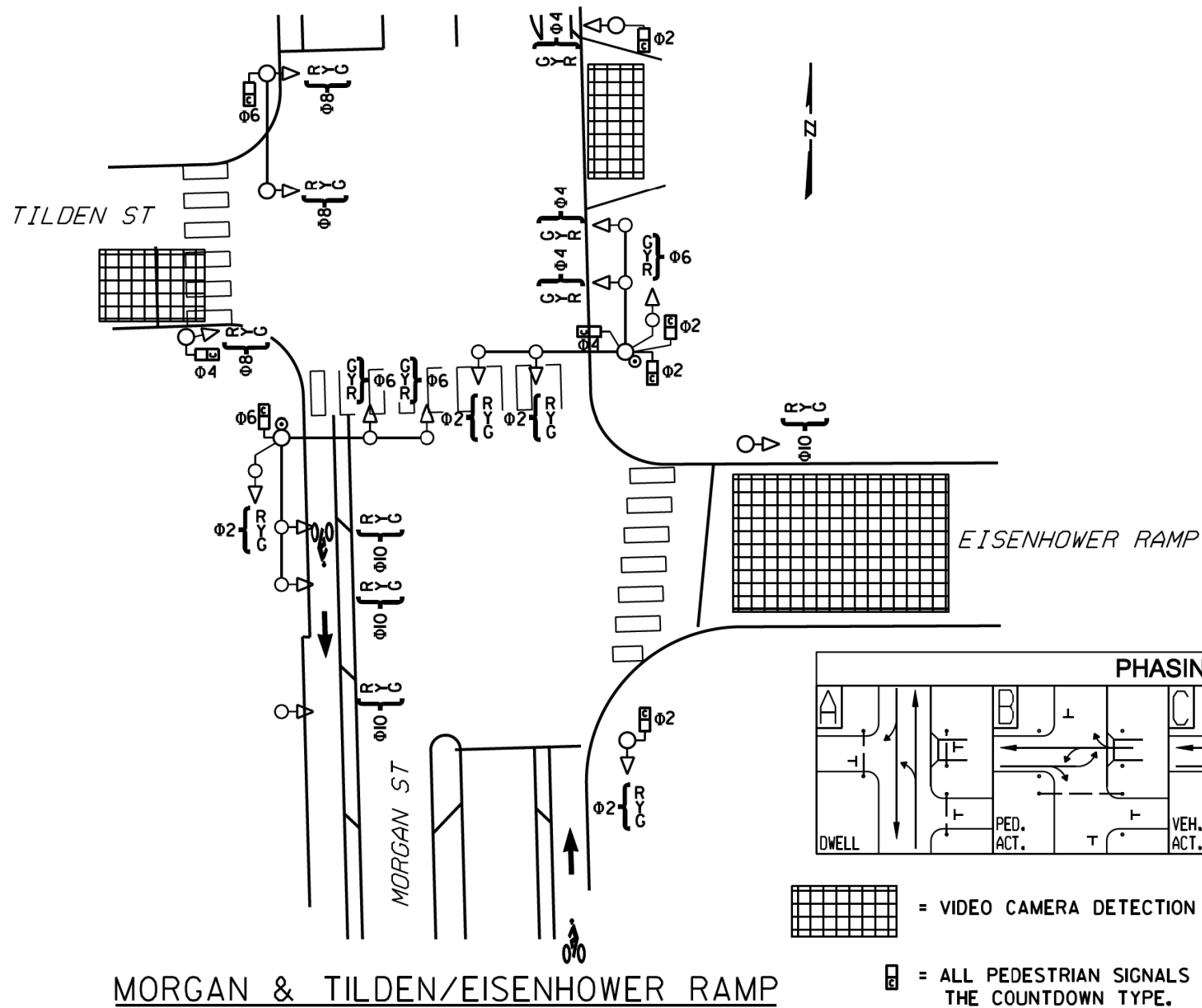
S. MORGAN ST., W. TILDEN ST., & WB. EISENHOWER EXIT

426 S./1000 W.

DESIGNED BY: PWF  
DATE: 04/17/13  
CHECKED BY: GC  
DATE: 04/17/13

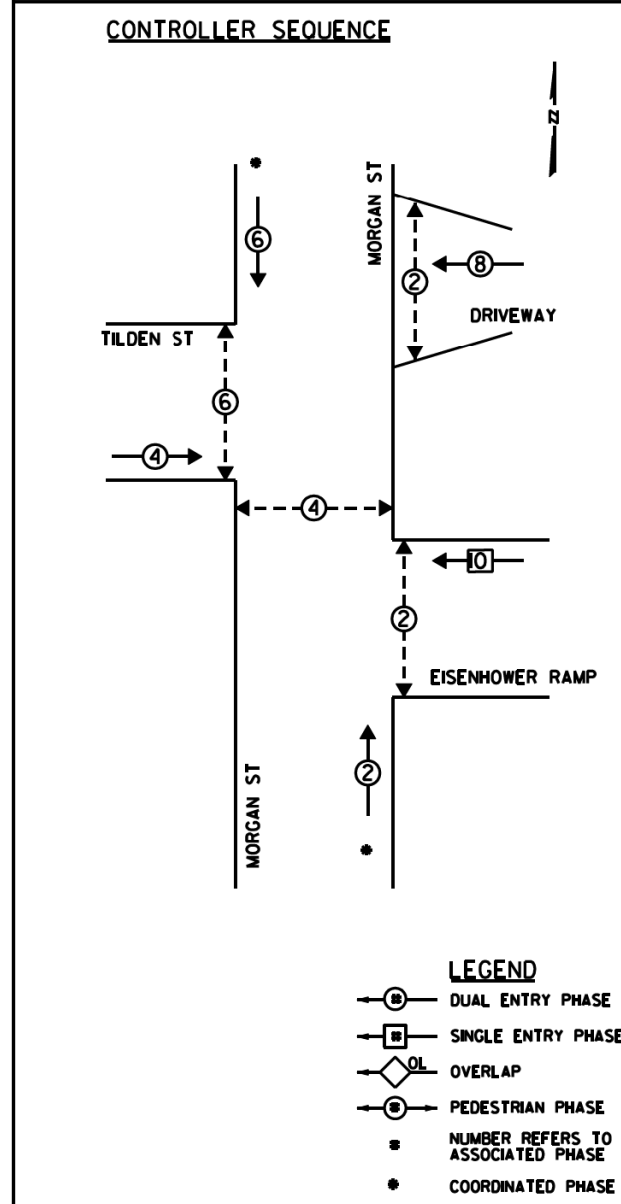
APPROVED: Nick An  
TRAFFIC ENGINEER

SENT: 1-10-2014  
INSTALLED:



[Grid Symbol] = VIDEO CAMERA DETECTION ZONE

[Square with X Symbol] = ALL PEDESTRIAN SIGNALS ARE OF THE COUNTDOWN TYPE.



LEGEND

- ⊕ DUAL ENTRY PHASE
- ⊞ SINGLE ENTRY PHASE
- ⊖ OVERLAP
- ⊙ PEDESTRIAN PHASE
- NUMBER REFERS TO ASSOCIATED PHASE
- COORDINATED PHASE

TRAFFIC SIGNAL TIMING SCHEDULE  
MORGAN ST/TILDEN ST/WB EISENHOWER EXIT

DEO/BOE DRAWING NUMBER: 14737

PWF  
PWF  
GC  
#DATE

STOTAL&TSP002

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PLOT DATE = 10/9/2014

DESIGNED - GJG  
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CHECKED - GJG  
DATE - 10/17/14

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REVISED -

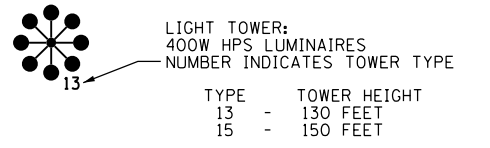
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL TIMING SCHEDULE  
MORGAN ST/TILDEN ST/WB EISENHOWER EXIT

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	110
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

## ELECTRICAL SYMBOLS FOR PROPOSED WORK



- LIGHTING UNIT: TYPE AS INDICATED**
- 47'-6" M.H., 15 FT. DAVIT ARM 400W HPS M-C-III LUMINAIRE. BREAKAWAY TRANSFORMER BASE
  - 47'-6" M.H., 2-15 FT. DAVIT ARM 2-400W HPS M-C-III LUMINAIRES. BREAKAWAY TRANSFORMER BASE
  - TEMPORARY LUMINAIRE AND POLE
  - UNDERPASS LUMINAIRE: HPS, WATTAGE AS SHOWN ON PLANS (PRIMARY DISTRIBUTION PATTERN DIRECTION AS INDICATED BY ARROW)
  - MANHOLE
  - ELECTRIC HANDHOLE: TYPE AS INDICATED  
 TYPE E1: PRECAST CONCRETE, 21.5"x21.5"x30", IDOT STANDARD 814001  
 TYPE E2: PRECAST CONCRETE-HEAVY DUTY, 22"x22"x30", IDOT STANDARD 814001  
 TYPE C1: COMMUNICATIONS VAULT, 49 5/8"x32 1/8"x57"  
 TYPE S1: PRECAST CONCRETE-HEAVY DUTY, 22"x22"x36"  
 TYPE S2: PRECAST CONCRETE-HEAVY DUTY SPECIAL, 30"x30"x36"
  - JUNCTION BOX: TYPE AND SIZE AS INDICATED ON PLANS
  - PULL BOX: TYPE AND SIZE AS INDICATED ON PLANS
  - TELEPHONE CONNECTION
  - FIBER OPTIC COMMUNICATIONS HUT

- EXISTING LIGHT TOWER**
- EXISTING LIGHT TOWER
  - EXISTING LIGHTING UNIT, TWIN LUMINAIRE
  - EXISTING LIGHTING UNIT
  - EXISTING TEMPORARY LIGHTING UNIT
  - EXISTING CDOT LIGHTING UNIT
  - EXISTING UNDERPASS LUMINAIRE
  - EXISTING ELECTRIC MANHOLE
  - EXISTING ELECTRIC HANDHOLE
  - EXISTING JUNCTION BOX
  - EXISTING PULL BOX
  - EXISTING TELEPHONE CONNECTION
  - EXISTING FIBER OPTIC COMMUNICATIONS HUT
  - EXISTING ELECTRIC HANDHOLE/MANHOLE
  - EXISTING CDOT SURVEILLANCE CABINET

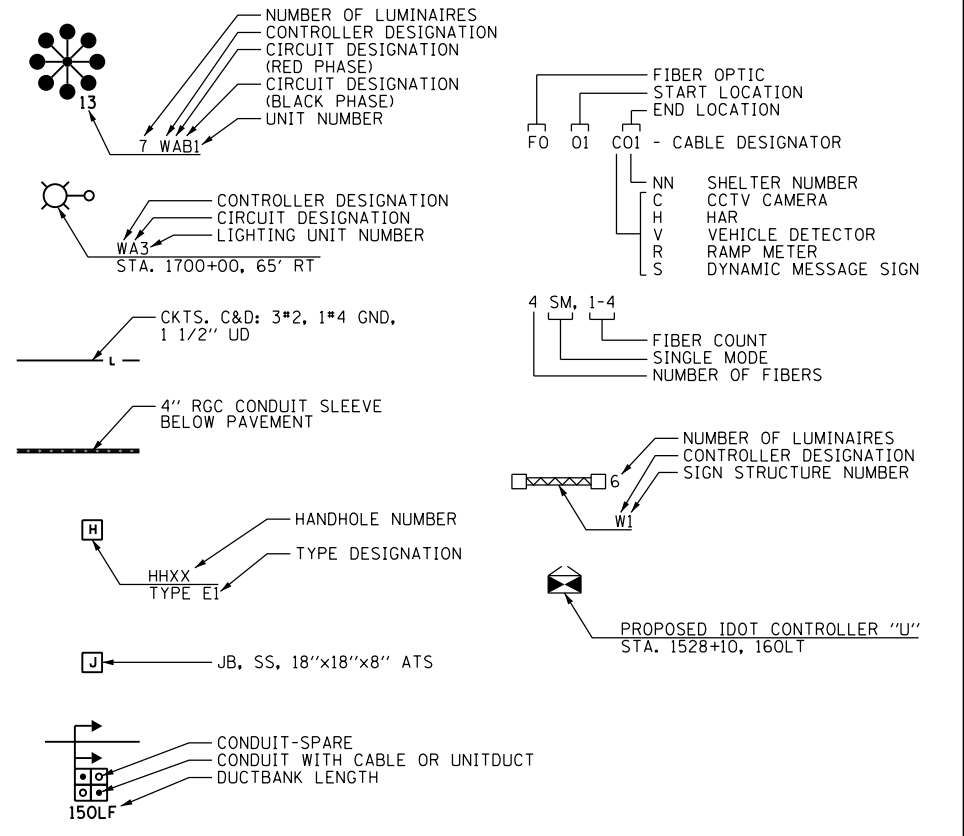
- LIGHTED SIGN STRUCTURE-CANTILEVER TYPE (NUMBER OF FLUORESCENT FIXTURES AS INDICATED - TYP.)
- LIGHTED SIGN STRUCTURE-TRUSS TYPE
- LIGHTED SIGN STRUCTURE-BRIDGE MOUNT TYPE
- DYNAMIC MESSAGE SIGN
- FLASHING BEACON SIGN
- CLOSED CIRCUIT TELEVISION CAMERA
- MICROWAVE DETECTOR
- DETECTOR LOOP
- CONTROLLER CABINET: LIGHTING, RADIO CONTROL DUPLEX TYPE WITH SCADA (DOOR SIDE AS INDICATED)
- CONTROLLER CABINET: SURVEILLANCE
- CONTROLLER CABINET: SURVEILLANCE, TYPE 334
- RAMP METER SIGNAL POLE/HEAD
- RAMP METER FLASHER POST
- TEMPORARY WOOD POLE, 60 FOOT LENGTH UNLESS NOTED OTHERWISE
- HIGHWAY ADVISORY RADIO ANTENNA
- ELECTRIC UTILITY POLE
- CCTV CAMERA POLE
- POLE MOUNTED ELECTRIC UTILITY TRANSFORMER(S)

## ELECTRICAL SYMBOLS FOR EXISTING CONDITIONS

- EXISTING CDOT ELECTRIC HANDHOLE/MANHOLE
- EXISTING LIGHTED SIGN STRUCTURE-CANTILEVER TYPE
- EXISTING LIGHTED SIGN STRUCTURE-TRUSS TYPE
- EXISTING LIGHTED SIGN STRUCTURE-BRIDGE MOUNT TYPE
- EXISTING DYNAMIC MESSAGE SIGN
- EXISTING FLASHING BEACON SIGN
- EXISTING CLOSED CIRCUIT TELEVISION CAMERA
- EXISTING MICROWAVE DETECTOR
- EXISTING DETECTOR LOOP
- EXISTING LIGHTING CONTROLLER, DUPLEX
- EXISTING CONTROLLER CABINET

- PAD MOUNTED ELECTRIC UTILITY TRANSFORMER
- GROUND ROD
- MAIN SERVICE FUSED DISCONNECT SWITCH (RATING AS INDICATED)
- PHOTOCELL
- AERIAL CABLE
- FLEXIBLE CONDUIT
- RACEWAY EMBEDDED IN STRUCTURE
- EXPOSED CONDUIT
- RACEWAY OR DIRECT BURIAL CABLE UNDERGROUND WITHOUT ENCASEMENT
- RIGID GALVANIZED STEEL CONDUIT SLEEVE, INSTALLED BELOW PAVEMENT
- UNDERGROUND REINFORCED CONCRETE ENCASED CONDUIT DUCTBANK, UNLESS NOTED OTHERWISE. (NUMBER, TYPE, AND SIZE OF DUCTS AS SHOWN)
- CONDUIT TURNED DOWN
- CONDUIT TURNED UP
- EXISTING RAMP METER FLASHER
- EXISTING HIGHWAY ADVISORY RADIO ANTENNA
- EXISTING CCTV CAMERA POLE
- EXISTING UTILITY SERVICE CONNECTION, POLE MOUNTED
- EXISTING UTILITY SERVICE CONNECTION, PAD MOUNTED
- EXISTING CONCEALED CONDUIT IN STRUCTURE
- EXISTING EXPOSED CONDUIT
- EXISTING RACEWAY OR DIRECT BURIED CABLE WITHOUT ENCASEMENT
- EXISTING CONCEALED CONDUIT UNDERGROUND, TRENCHED OR PUSHED
- EXISTING ELECTRIC CABLE IN CONDUIT SLEEVE
- EXISTING AERIAL CABLE TO REMAIN

## GENERAL ELECTRICAL CALLOUTS



## TYPICAL EXISTING TO BE REMOVED SYMBOLS

- EXISTING LIGHTING UNIT TO BE REMOVED
- EXISTING UNDERPASS LUMINAIRE TO BE REMOVED
- EXISTING JUNCTION BOX TO BE REMOVED
- EXISTING LIGHTED SIGN STRUCTURE-CANTILEVER TYPE TO BE REMOVED
- DYNAMIC MESSAGE SIGN TO BE REMOVED
- FLASHING BEACON SIGN TO BE REMOVED
- EXISTING LIGHTING CONTROLLER, DUPLEX TO BE REMOVED
- EXISTING CONTROLLER CABINET TO BE REMOVED
- EXISTING DETECTOR LOOP TO BE REMOVED
- EXISTING RAMP METER SIGNAL POLE/HEAD TO BE REMOVED
- EXISTING RAMP METER FLASHER TO BE REMOVED
- EXISTING POLE MOUNTED UTILITY SERVICE CONNECTION TO BE REMOVED
- EXISTING LIGHT TOWER, PAD, AND FOUNDATION TO BE REMOVED

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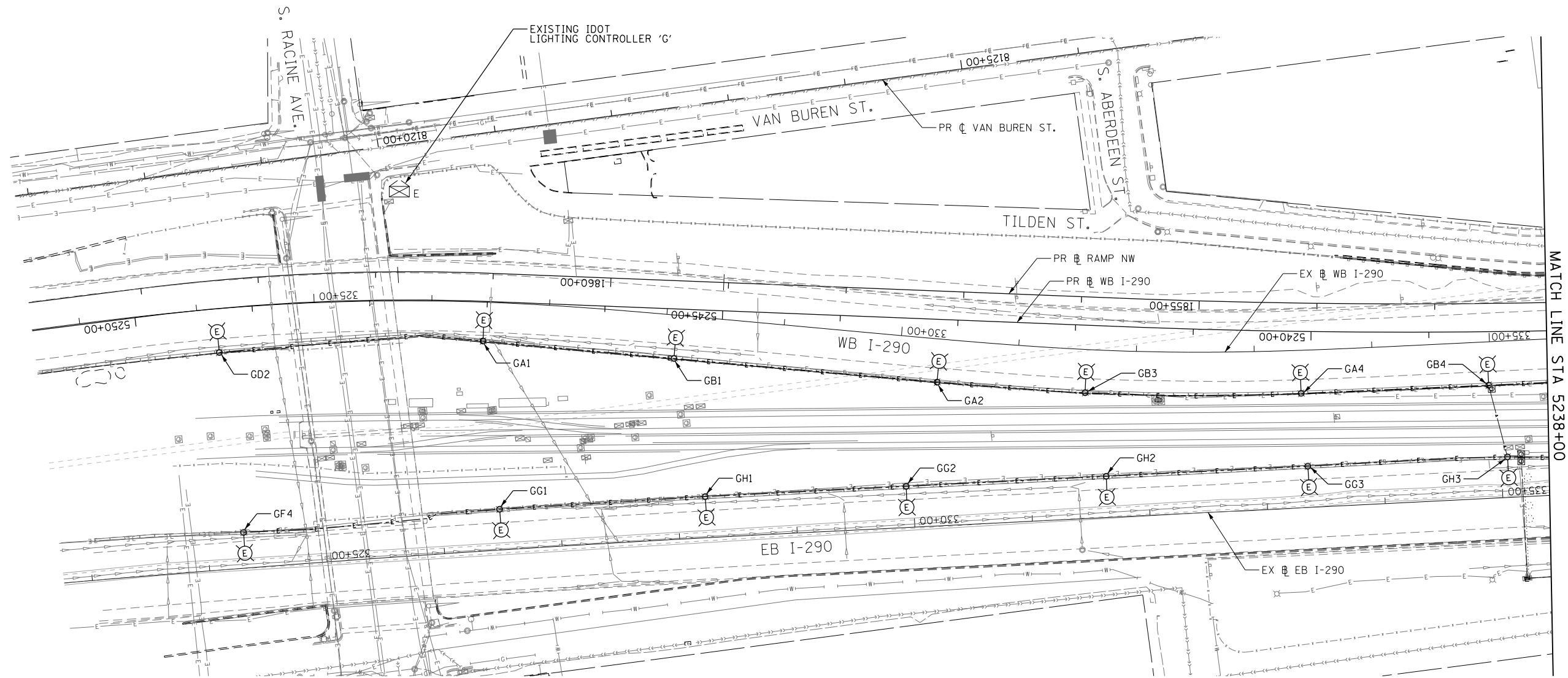
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IDOT ELECTRICAL SYMBOLS**

SCALE: N.T.S. SHEET 1 OF 9 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	111
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

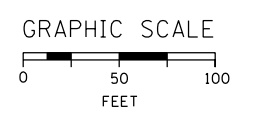
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MATCH LINE STA 5238+00

**NOTES:**

- SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
- LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT SHOWN ON THIS DRAWING ARE APPROXIMATIONS AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.



E-02



D160X61-sht-Light-02  
 USER NAME = myersc  
 PLOT SCALE = 50.0000' / in.  
 PLOT DATE = 10/14/2014

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DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 10/17/14	REVISED -

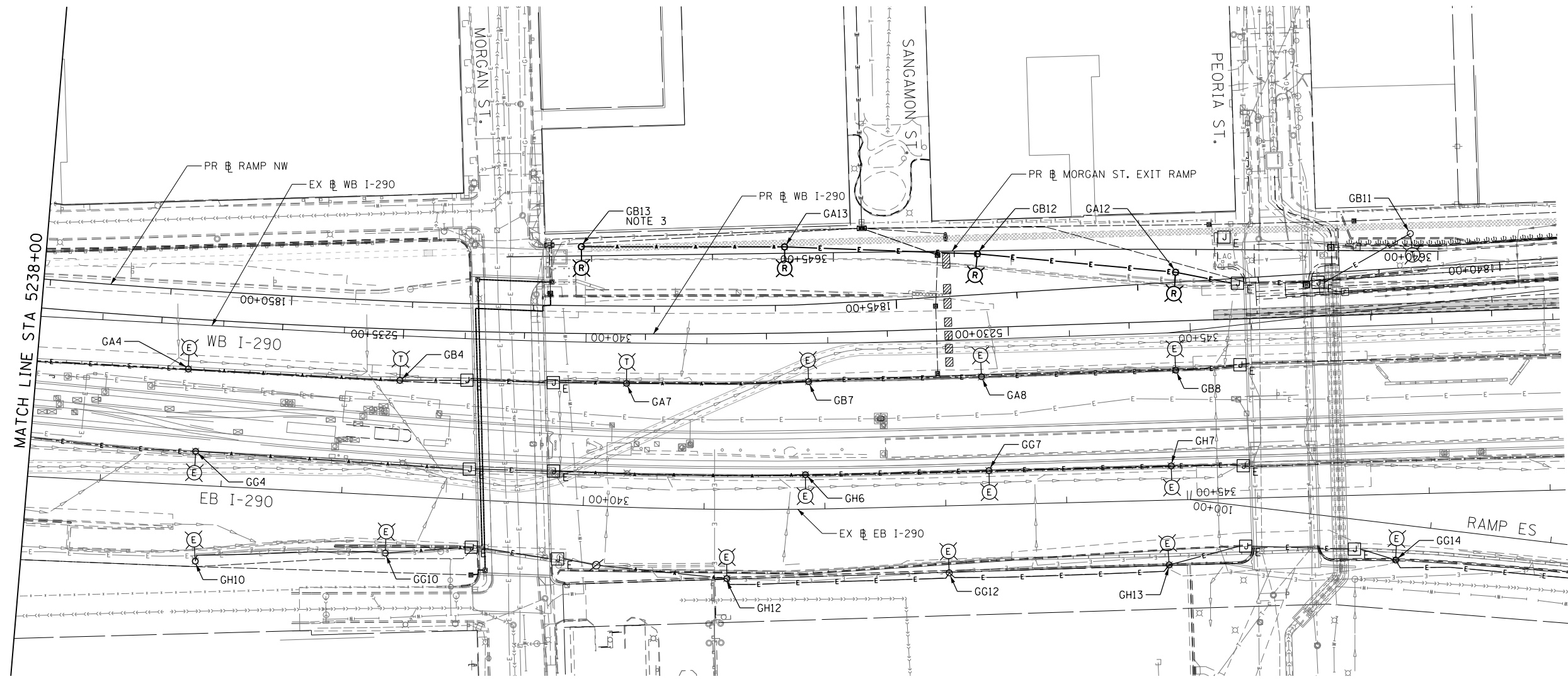
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE  
 EXISTING/DEMOLITION LIGHTING PLAN**

SCALE: 1"=50'    SHEET 2 OF 9 SHEETS    STA.    TO STA. 5238+00

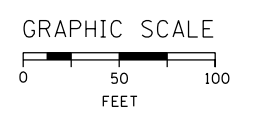
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	112
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT SHOWN ON THIS DRAWING ARE APPROXIMATIONS AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
3. REMOVAL OF THE TEMPORARY LIGHTING UNIT SHALL BE PAID FOR UNDER THE "REMOVAL OF LIGHTING UNIT, SALVAGE" PAY ITEM. THE LUMINAIRE AND MAST ARM SHALL BE SALVAGED TO IDOT. THE WOOD POLE WILL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF PROPERLY.
4. ALL WORK ON THIS SHEET MUST BE COORDINATED WITH THE CONSTRUCTION WORK AND STAGING FOR IDOT CONTRACTS 60W25 AND 60W29.



E-03



D160X61-sht-Light-03	DESIGNED - WDS	REVISED -
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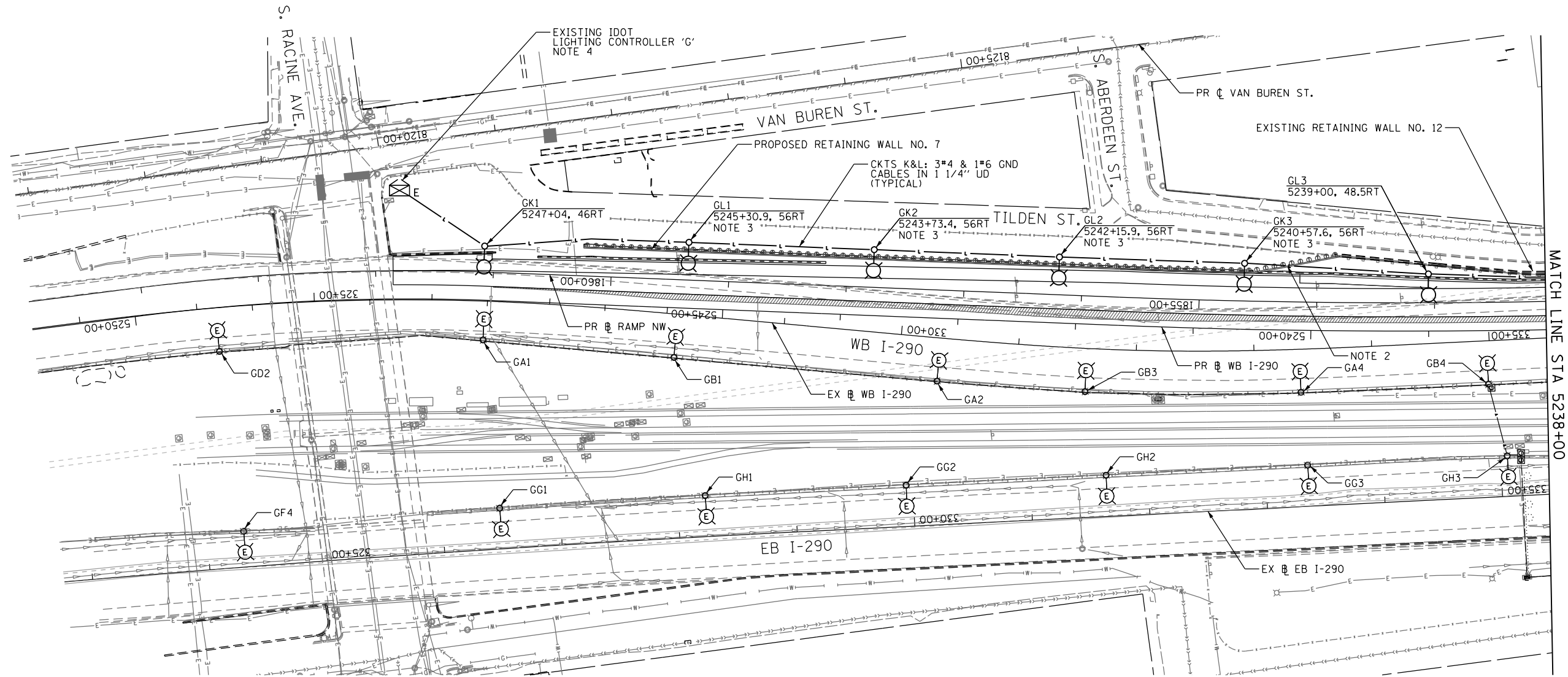
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>WB I-290 AUXILIARY LANE EXISTING/DEMOLITION LIGHTING PLAN</b>	
SCALE: 1"=50'	SHEET 3 OF 9 SHEETS STA. 5238+00 TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	113
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



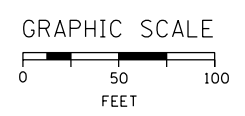
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MATCH LINE STA 5238+00

**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. PROVIDE A 4 INCH CONDUIT SLEEVE IN RETAINING WALL 7 TO ROUTE THE LIGHTING CONDUIT THROUGH THE WALL AS SHOWN. COORDINATE THE INSTALLATION OF THE CONDUIT SLEEVE WITH THE RETAINING WALL CONSTRUCTION WORK. SEE STRUCTURAL PLANS FOR ADDITIONAL INFORMATION AND LOCATION OF SLEEVE.
3. CENTER THE LIGHT POLE FOUNDATIONS BETWEEN THE RETAINING WALL DRILLED SHAFTS WHEREVER POSSIBLE.
4. ROUTE NEW ROADWAY LIGHTING CIRCUITS K AND L INTO THE EXISTING IDOT LIGHTING CONTROLLER CABINET 'G' AND CONNECT TO SPARE CIRCUIT BREAKERS WITHIN THE CABINET. THIS WORK WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN AND PAID FOR UNDER THE "UNIT DUCT, 3-1/2\"
5. ALL WORK ON THIS SHEET MUST BE COORDINATED WITH THE CONSTRUCTION WORK AND STAGING FOR IDOT CONTRACT 60W25.



E-05



D160X61-sht-Light-05  
 USER NAME = myersc  
 PLOT SCALE = 100.0000' / in.  
 PLOT DATE = 12/3/2014

DESIGNED - WDS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 12/05/14	REVISED -

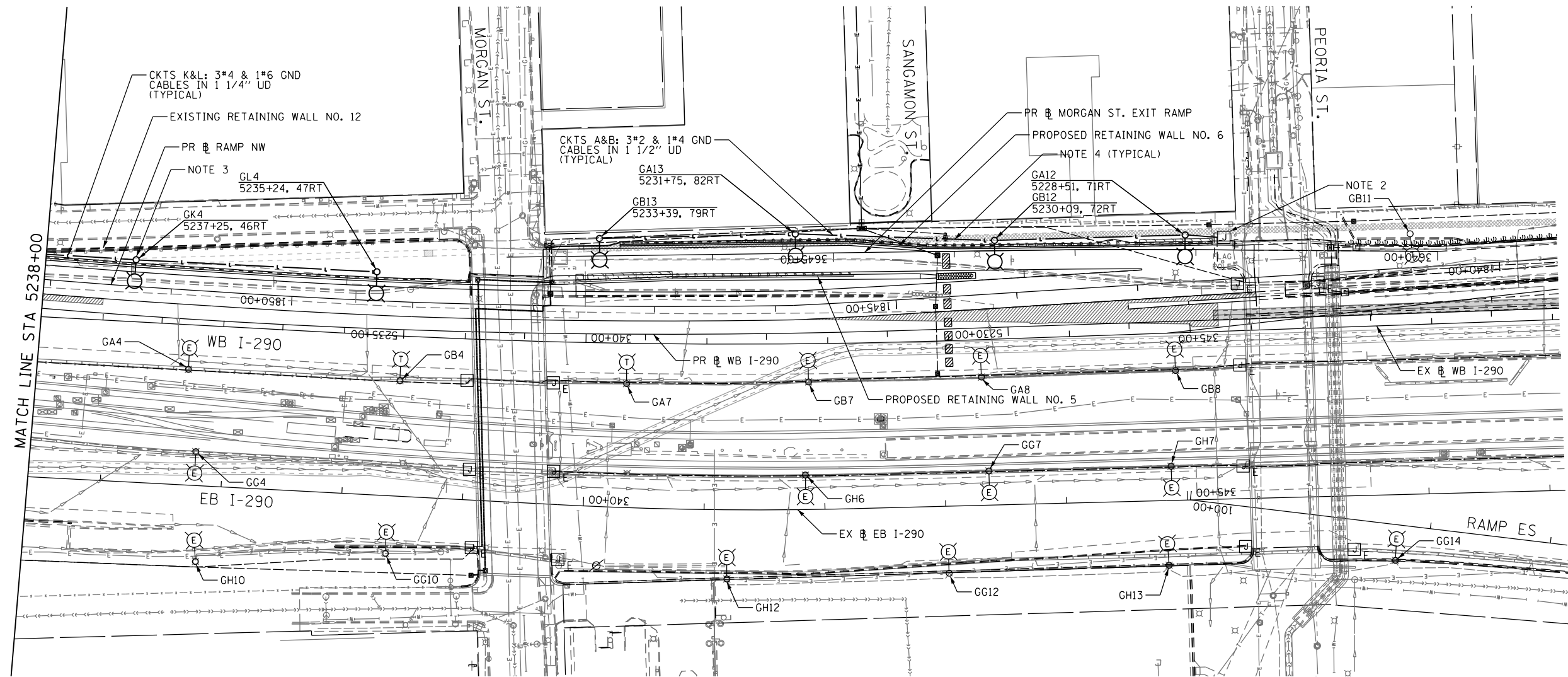
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE**  
**PROPOSED LIGHTING PLAN**

SCALE: 1"=50'    SHEET 5 OF 9 SHEETS    STA.    TO STA. 5238+00

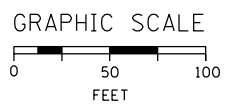
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	115
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

FILE PATH = p:\388035-P\INT\secomon\local\p\AECD\00\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\_1\1000\_CAD\015\_Electrical\Sheets\60X61\_Contract\160X61-sht-Light-06



**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. ROUTE THE NEW LIGHTING CABLES IN UNIT DUCT THROUGH EXISTING RGC CONDUIT ATTACHED TO STRUCTURE AND CONNECT THE NEW CABLES TO EXISTING ROADWAY LIGHTING CIRCUIT CABLES LOCATED IN EXISTING JUNCTION BOX ATTACHED TO STRUCTURE INSTALLED IN CONTRACT 60W29.
3. COORDINATE THE FINAL LOCATION OF THE LIGHT POLE FOUNDATION IN THE FIELD TO AVOID THE EXISTING RETAINING WALL NO. 12 STRUCTURE.
4. ALL WORK ON THIS SHEET MUST BE COORDINATED WITH THE CONSTRUCTION WORK AND STAGING FOR IDOT CONTRACTS 60W25 AND 60W29.



E-06



D160X61-sht-Light-06  
 USER NAME = myersc  
 PLOT SCALE = 100.0000' / 1" =  
 PLOT DATE = 12/3/2014

DESIGNED - WDS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 12/05/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

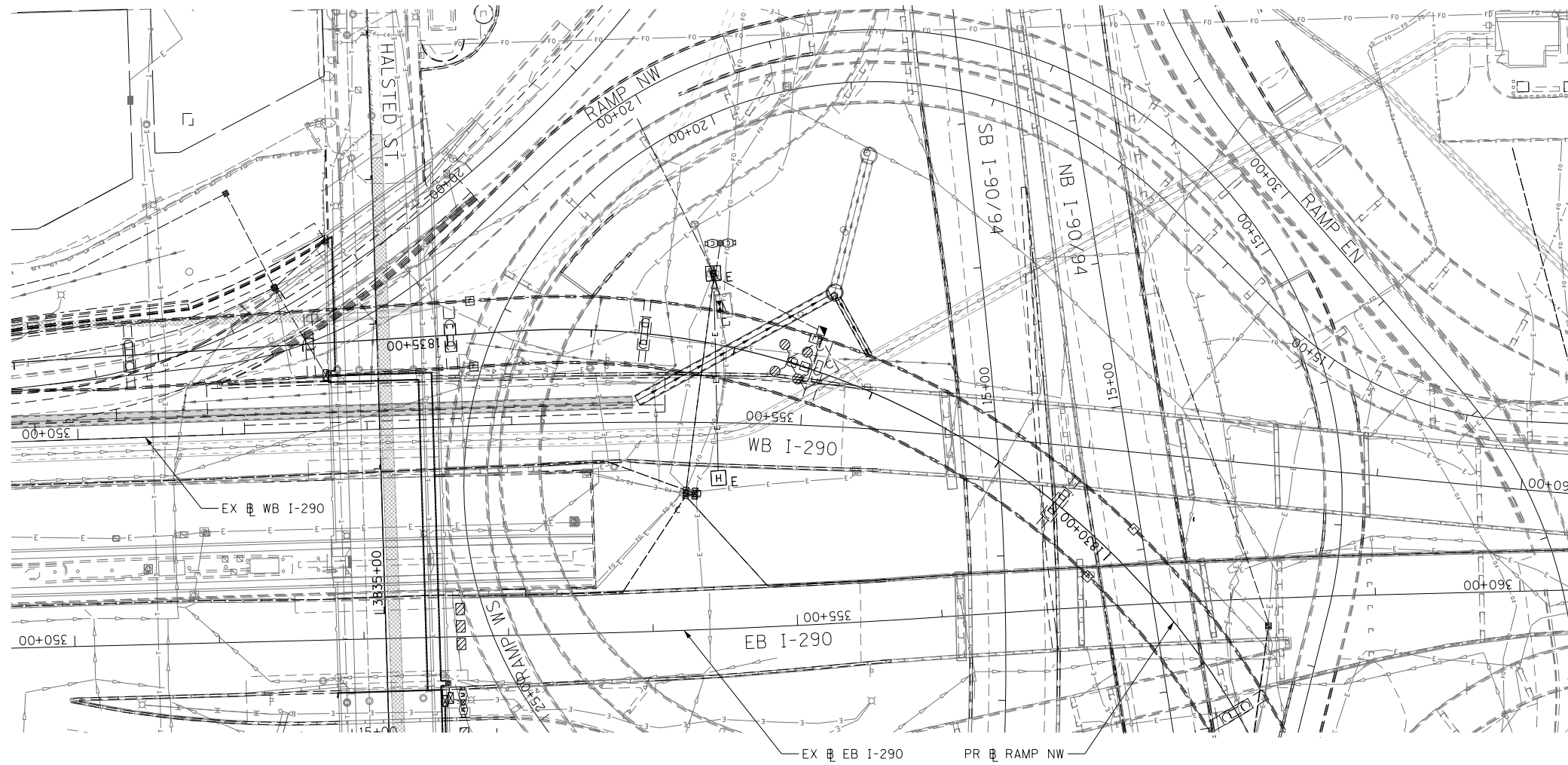
**WB I-290 AUXILIARY LANE  
 PROPOSED LIGHTING PLAN**

SCALE: 1"=50' SHEET 6 OF 9 SHEETS STA. 5238+00 TO STA.

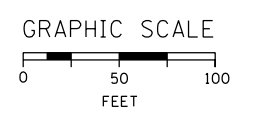
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	116
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



FILE PATH = p:\388035\pmt\escomonline\local\p\AECOM\Documents\01\_Americas\Transportation\6269938\_Circle\Phase\_1\000\_CAD\016\_Electrical\Sheets\60X61\_Contract\0160X61-sht-Light-07



NO WORK ON THIS SHEET



E-07



D160X61-sht-Light-07  
 USER NAME = myersc  
 PLOT SCALE = 50.0000' / in.  
 PLOT DATE = 10/14/2014

DESIGNED - WDS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 10/17/14	REVISED -









STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

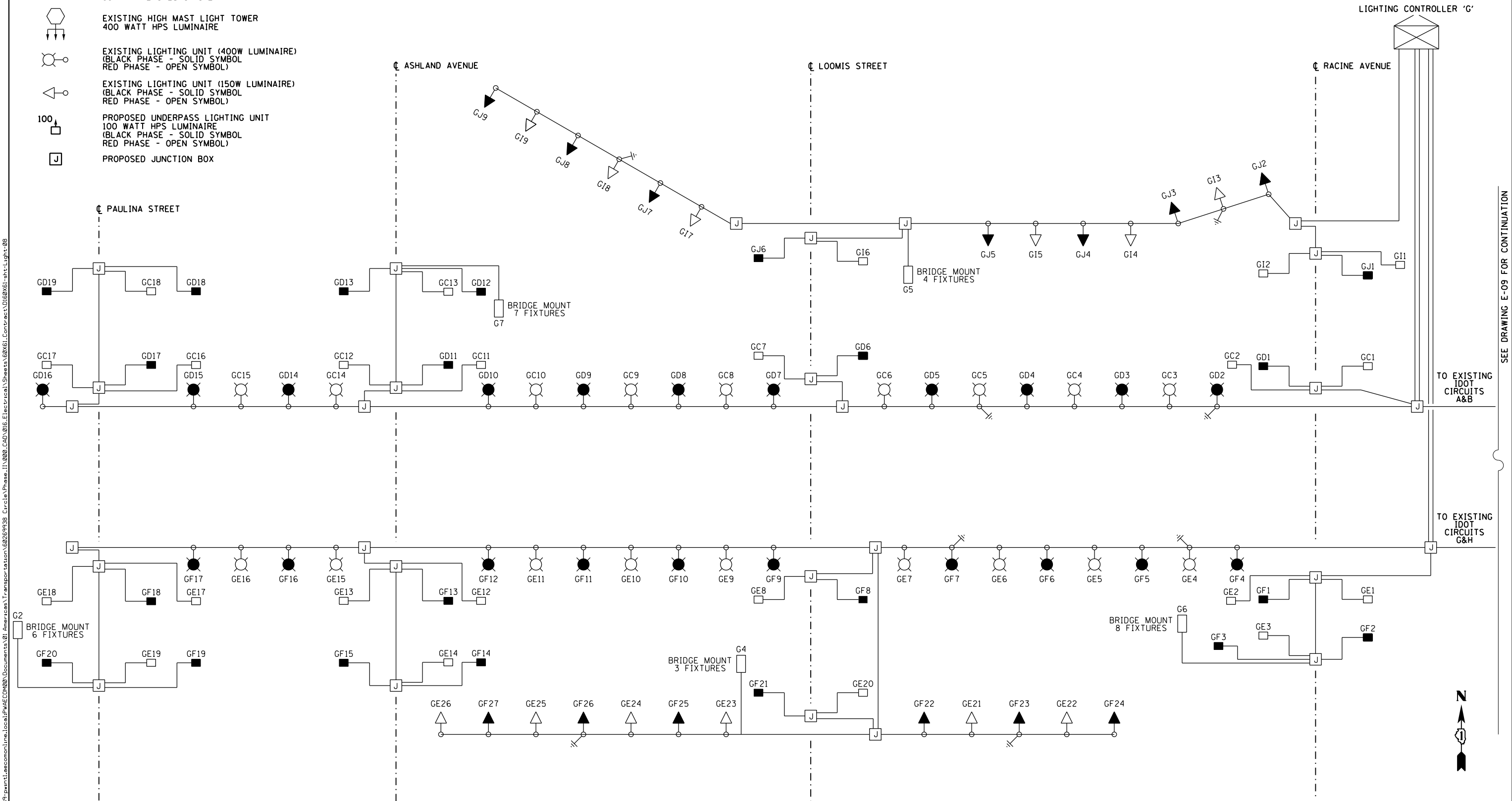
WB I-290 AUXILIARY LANE  
 PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET 7 OF 9 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	117
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

**SYMBOLS LEGEND**

-  EXISTING IDOT LIGHTING CONTROLLER
-  EXISTING JUNCTION BOX
-  EXISTING UNDERPASS LIGHTING UNIT  
55 WATT LPS LUMINAIRE
-  EXISTING HIGH MAST LIGHT TOWER  
400 WATT HPS LUMINAIRE
-  EXISTING LIGHTING UNIT (400W LUMINAIRE)  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)
-  EXISTING LIGHTING UNIT (150W LUMINAIRE)  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)
-  PROPOSED UNDERPASS LIGHTING UNIT  
100 WATT HPS LUMINAIRE  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)
-  PROPOSED JUNCTION BOX



SEE DRAWING E-09 FOR CONTINUATION



E-08

FILE PATH = p:\388035\pmt\escomonline\local\p\AECOM\Documents\01\_Americas\Transportation\62629938\_Circle\Phase\_1\000\_CAD\016\_Electrical\Sheets\60X61\_Contract\ID160X61-sht-Light-08



D160X61-sht-Light-08  
 USER NAME = myersc  
 PLOT SCALE = 20.0000' / in.  
 PLOT DATE = 10/14/2014

DESIGNED - WDS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 10/17/14	REVISED -








**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**IDOT LIGHTING CONTROLLER 'G'  
 WIRING DIAGRAM**

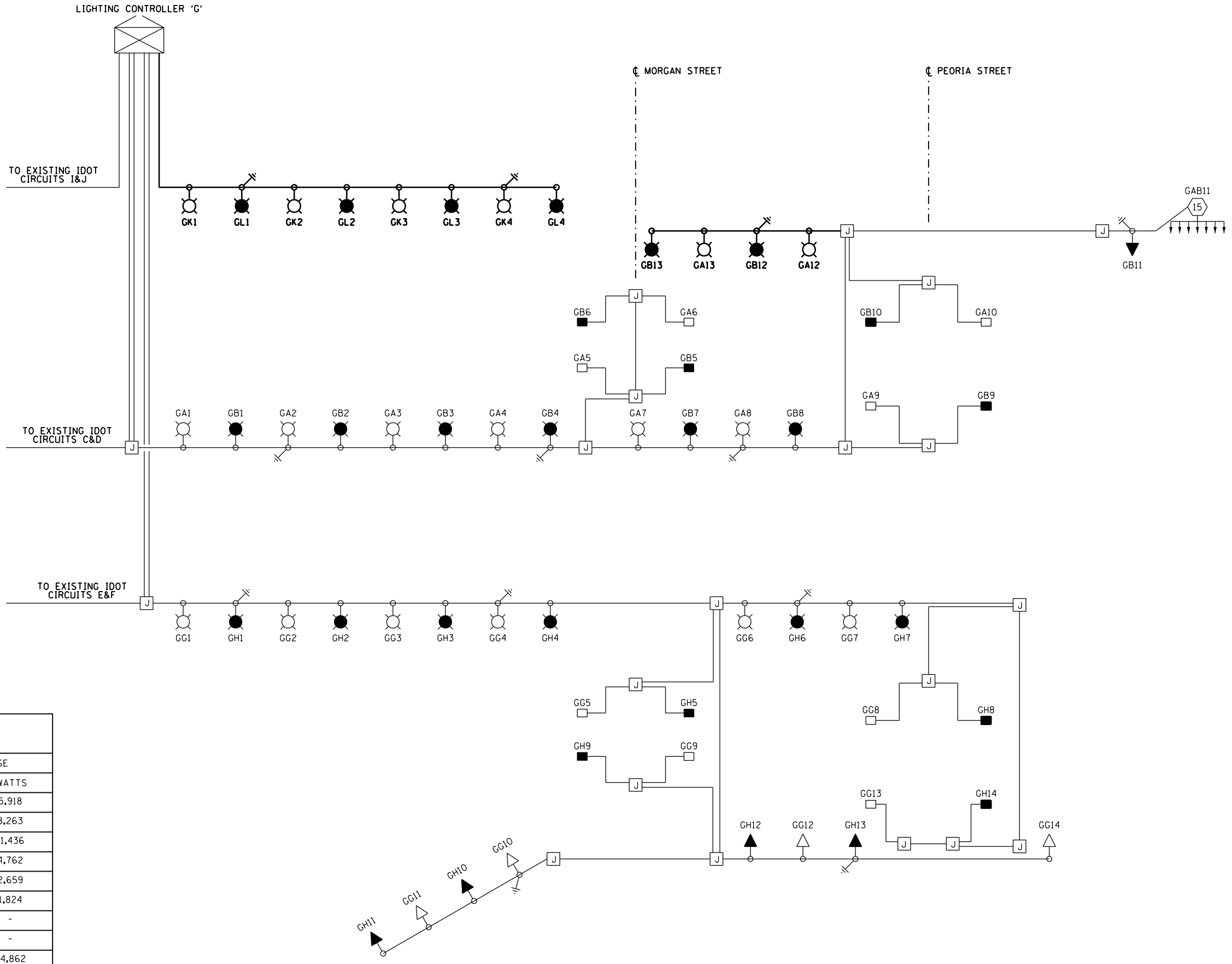
SCALE: N.T.S. SHEET 8 OF 9 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 118
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

**SYMBOLS LEGEND**

-  EXISTING IDOT LIGHTING CONTROLLER
-  EXISTING JUNCTION BOX
-  EXISTING UNDERPASS LIGHTING UNIT  
55 WATT LPS LUMINAIRE
-  EXISTING HIGH MAST LIGHT TOWER  
400 WATT HPS LUMINAIRE
-  EXISTING LIGHTING UNIT (400W LUMINAIRE)  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)
-  EXISTING LIGHTING UNIT (150W LUMINAIRE)  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)
-  PROPOSED LIGHTING UNIT (400W LUMINAIRE)  
(BLACK PHASE - SOLID SYMBOL  
RED PHASE - OPEN SYMBOL)

LIGHTING CONTROLLER 'G'



SEE DRAWING E-08 FOR CONTINUATION

LOAD TABLE LIGHTING CONTROLLER "G"					
CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
A	25.68	6,163	B	24.66	5,918
C	31.86	7,646	D	34.43	8,263
E	46.98	11,275	F	47.65	11,436
G	19.84	4,762	H	19.84	4,762
I	11.43	2,743	J	11.08	2,659
K	7.60	1,824	L	7.60	1,824
M	-	-	N	-	-
O	-	-	P	-	-
<b>TOTAL</b>	<b>143.4</b>	<b>34,414</b>	<b>TOTAL</b>	<b>145.3</b>	<b>34,862</b>

FILE PATH = p:\388035-P\INT\ecommon\local\PIAECDM00\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\_1\1000\_CAD\015\_Electrical\Sheets\60X61\_Contract\160X61\_sht-Light-09



D160X61-sht-Light-09  
 USER NAME = myersc  
 PLOT SCALE = 40.0000' / in.  
 PLOT DATE = 12/3/2014

DESIGNED - WDS  
 DRAWN - CAM  
 CHECKED - WDS  
 DATE - 12/05/14

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

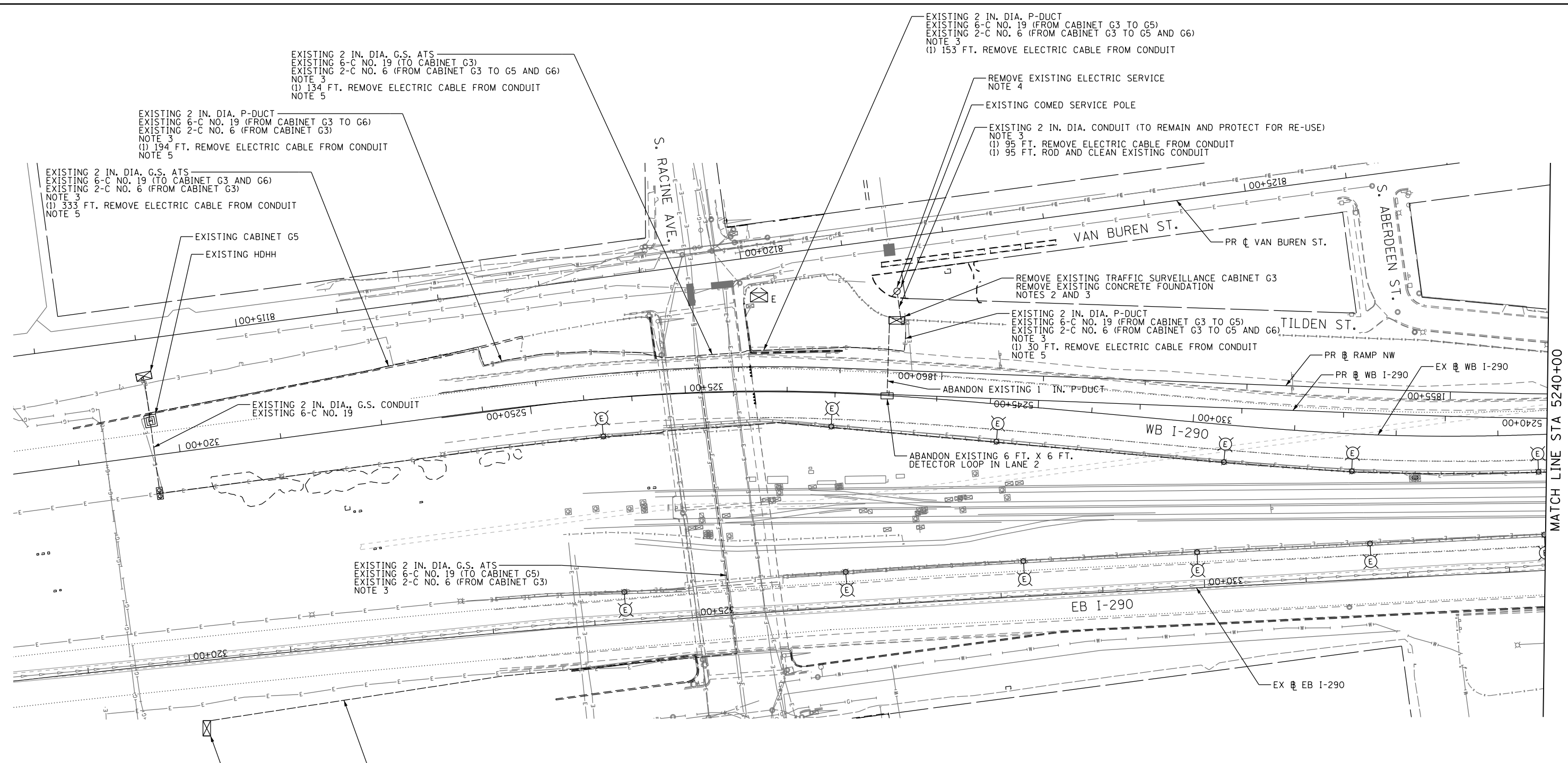
**IDOT LIGHTING CONTROLLER 'G'  
 WIRING DIAGRAM**

SCALE: N.T.S. SHEET 9 OF 9 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	119
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

E-09

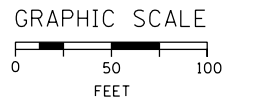
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MATCH LINE STA 5240+00

**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. REMOVE EXISTING SURVEILLANCE EQUIPMENT (SALVAGE) AND TURN OVER TO IDOT DISTRICT 1. REMOVE EXISTING TRAFFIC SURVEILLANCE CABINET (NO SALVAGE). REMOVE EXISTING CABINET FOUNDATION. THIS WORK SHALL NOT BE PAID FOR SEPARATELY AND WILL BE COVERED UNDER THE "REMOVE EXISTING TRAFFIC SURVEILLANCE EQUIPMENT" PAY ITEM.
3. MAINTAIN THE EXISTING CABINET AND POWER SERVICE UNTIL NEW CABINET AND POWER SERVICE EQUIPMENT CAN BE INSTALLED WITH MINIMAL DISRUPTION TO OPERATION OF THE EXISTING SURVEILLANCE CABINETS G5 AND G6 WHICH RECEIVE POWER AND COMMUNICATIONS THROUGH CABINET G3.
4. THE EXISTING COMED SERVICE WILL BE REMOVED AND REPLACED. THE COMPLETE REMOVAL OF THE EXISTING SERVICE SHALL NOT BE PAID FOR SEPARATELY AND WILL BE COVERED UNDER THE "REMOVAL OF EXISTING TRAFFIC SURVEILLANCE EQUIPMENT" PAY ITEM.
5. REMOVE ONLY THE EXISTING 2-C NO. 6 CABLES FROM CABINET G5 TO CABINET G3. THERE ARE OTHER EXISTING CABLES IN THE SAME CONDUIT WHICH ARE TO REMAIN.



ITS-01



D160X61-shr-ITS-01  
 USER NAME = myersc  
 PLOT SCALE = 100.0000' / 1" = 100'  
 PLOT DATE = 12/2/2014

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - JDG	REVISED -
DATE - 12/05/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

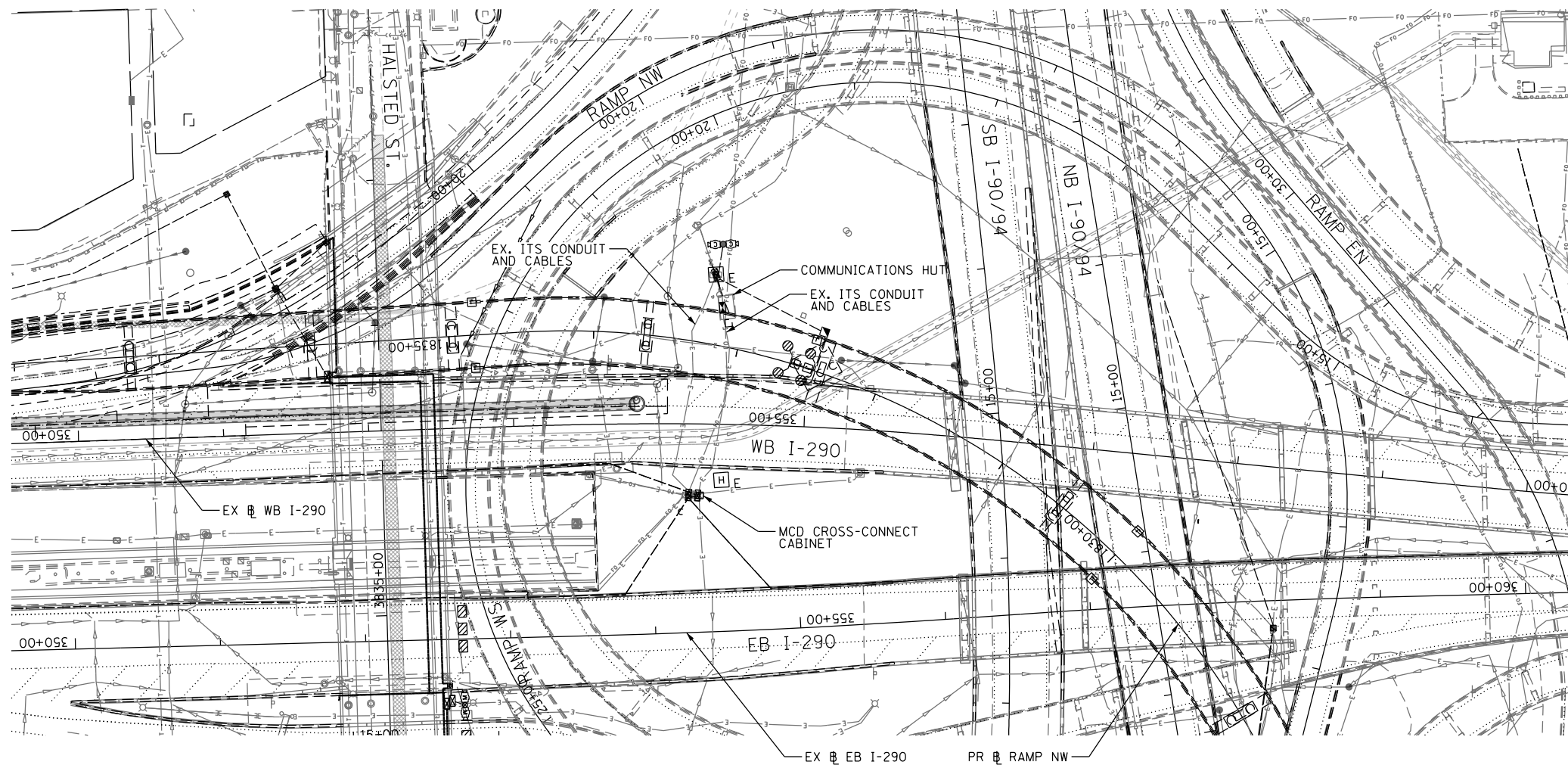
**WB I-290 AUXILIARY LANE  
 EXISTING/DEMOLITION ITS PLAN**

SCALE: 1"=50' SHEET 1 OF 14 SHEETS STA. TO STA. 5240+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	120
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



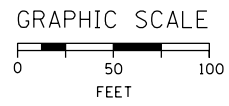
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**NOTES:**

- 1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.

**NO PROPOSED WORK ON THIS SHEET**



ITS-03



D160X61-ah-ITS-03	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED - JDG	REVISED -
PLOT DATE = 12/3/2014	DATE - 12/05/14	REVISED -

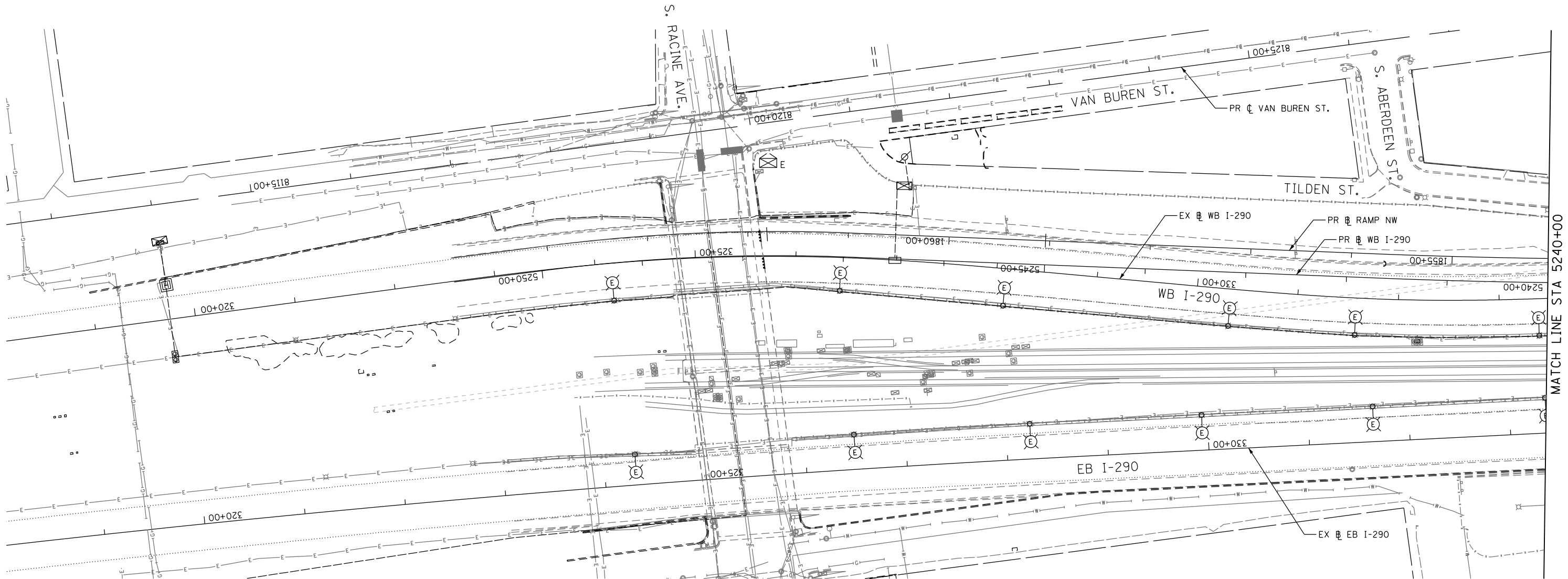
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE  
EXISTING/DEMOLITION ITS PLAN**

SCALE: 1"=50' SHEET 3 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	122
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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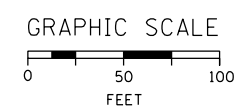


MATCH LINE STA 5240+00

**NOTES:**

- 1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.

**NO PROPOSED WORK ON THIS SHEET**



ITS-04



D160X61-sht-ITS-04  
 USER NAME = myersc  
 PLOT SCALE = 100.0000' / in.  
 PLOT DATE = 12/3/2014

DESIGNED - GWS  
 DRAWN - CAM  
 CHECKED - JDG  
 DATE - 12/05/14

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

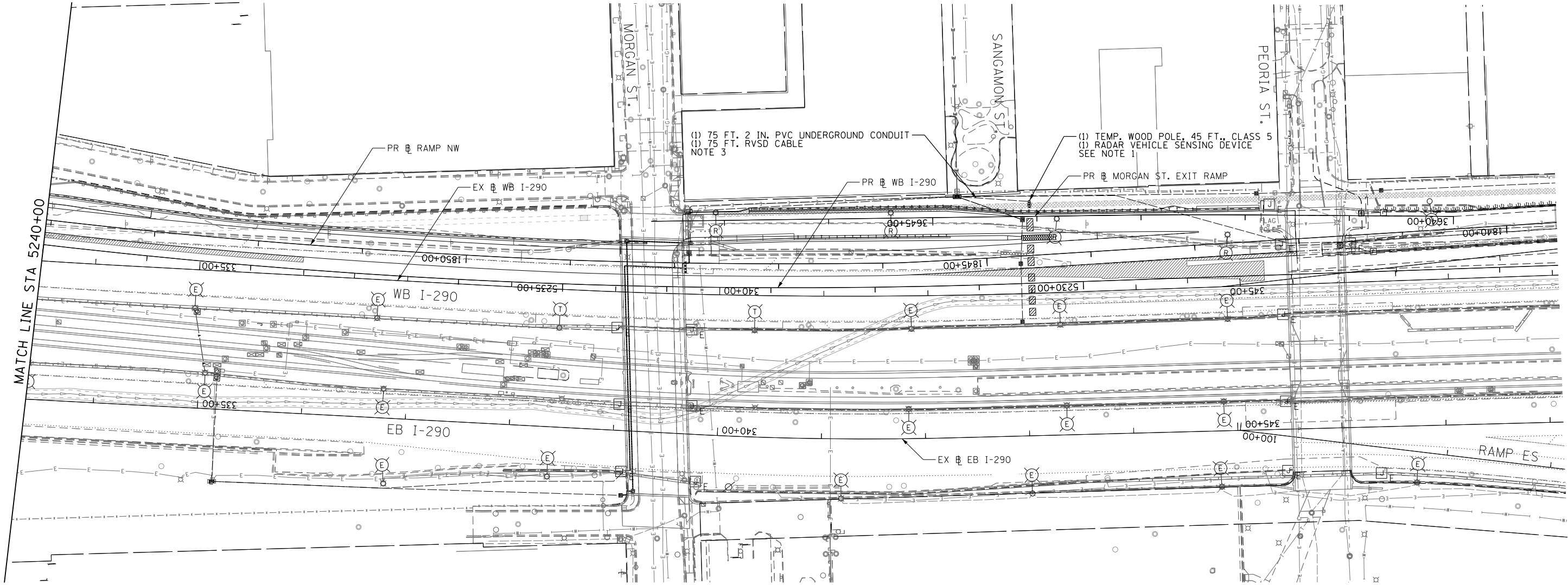
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

WB I-290 AUXILIARY LANE  
 TEMPORARY ITS PLAN

SCALE: 1"=50' SHEET 4 OF 14 SHEETS STA. TO STA. 5240+00

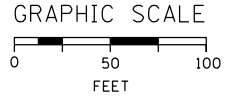
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	123
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

FILE PATH = p:\388035\pmt\lecomonline\local\p\AECOM\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\1\000\_CAD\005\_Roadway\Sheets\60X61\_Contract\0160X61-sht-ITS-05



**NOTES:**

1. MAINTAIN THE EXISTING CABINET AND POWER SERVICE FOR THE RADAR VEHICLE SENSING DEVICE UNTIL NEW POWER SERVICE AND CABINET EQUIPMENT CAN BE INSTALLED WITH MINIMAL DISRUPTION TO OPERATION OF THE TEMPORARY SURVEILLANCE SYSTEM.
2. THE EXISTING POWER SERVICE TO CABINET G1 ALSO SERVES OTHER SURVEILLANCE CABINETS.
3. THE RVSD CABLE IS INCIDENTAL TO THE RADAR VEHICLE SENSING DEVICE PAY ITEM.



ITS-05



D160X61-sht-ITS-05	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 50.0000' / in.	CHECKED - JDG	REVISED -
PLOT DATE = 10/16/2014	DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

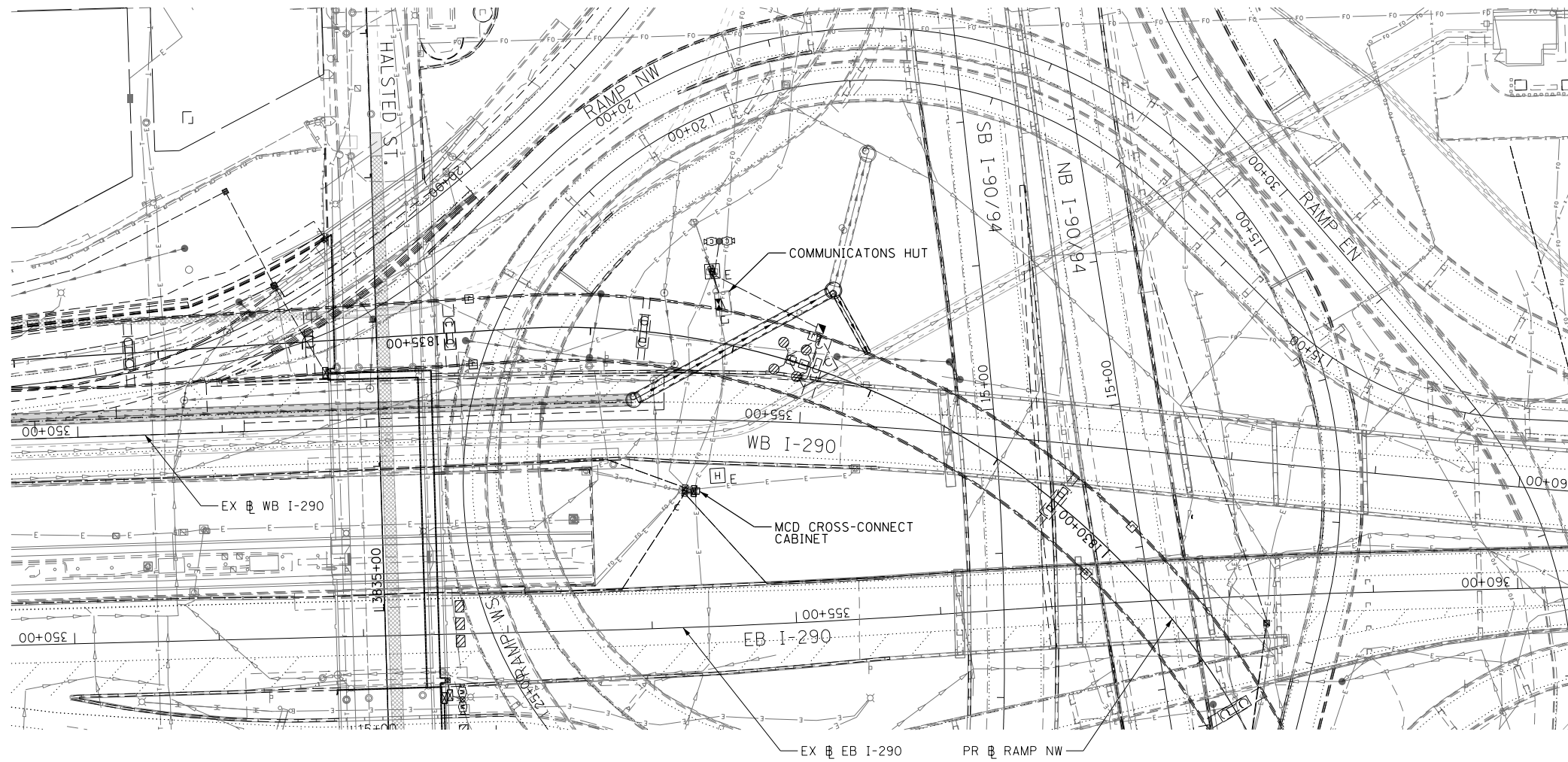
**WB I-290 AUXILIARY LANE  
TEMPORARY ITS PLAN**

SCALE: 1"=50' SHEET 5 OF 14 SHEETS STA. 5240+00 TO STA.

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 124
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

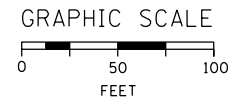


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**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. EXISTING UNDERGROUND ITS ELECTRICAL AND COMMUNICATIONS BETWEEN THE MCD AND THE COMMUNICATIONS HUT MUST REMAIN IN SERVICE FOR THE DURATION OF THIS PROJECT AND BE PROTECTED FROM DAMAGE DURING THE EXCAVATION AND CONSTRUCTION WORK FOR THE PROPOSED MAIN DRAIN TO BE INSTALLED IN THIS CONTRACT. THE COST OF PROTECTING THESE CIRCUITS WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF THE "MAINTAINING ITS DURING CONSTRUCTION" PAY ITEM. ANY DAMAGE INCURRED BY THE EXISTING CONDUITS/CIRCUITS WILL BE REPAIRED OR REPLACED IN KIND BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE CONTRACT.



ITS-06



D160X61-sht-ITS-06  
 USER NAME = myersc  
 PLOT SCALE = 50.0000' / in.  
 PLOT DATE = 10/14/2014

DESIGNED - GWS  
 DRAWN - CAM  
 CHECKED - JDG  
 DATE - 10/17/14

REVISED -  
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 REVISED -

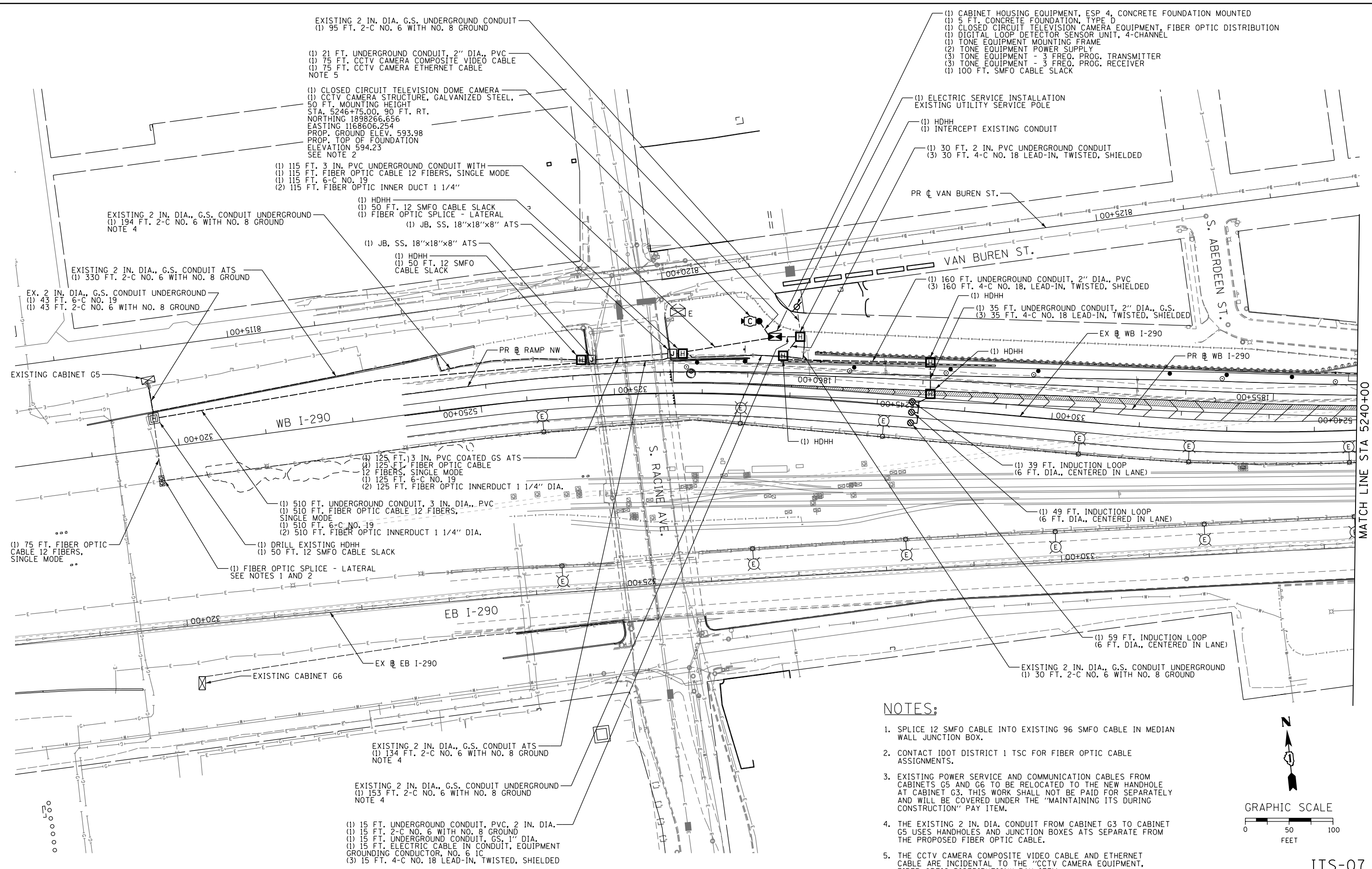
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE  
 TEMPORARY ITS PLAN**

SCALE: 1"=50' SHEET 6 OF 14 SHEETS STA. TO STA.

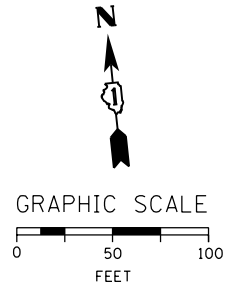
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	125
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

FILE PATH = p:\388035-P\INT\ecommon\local\p\AECOM\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\_1\000\_CDD\_006\_Roadway\Sheets\60X61\_Contracts\0160X61\_sht-ITS-07



**NOTES:**

1. SPLICE 12 SMFO CABLE INTO EXISTING 96 SMFO CABLE IN MEDIAN WALL JUNCTION BOX.
2. CONTACT IDOT DISTRICT 1 TSC FOR FIBER OPTIC CABLE ASSIGNMENTS.
3. EXISTING POWER SERVICE AND COMMUNICATION CABLES FROM CABINETS G5 AND G6 TO BE RELOCATED TO THE NEW HANDHOLE AT CABINET G3. THIS WORK SHALL NOT BE PAID FOR SEPARATELY AND WILL BE COVERED UNDER THE "MAINTAINING ITS DURING CONSTRUCTION" PAY ITEM.
4. THE EXISTING 2 IN. DIA. CONDUIT FROM CABINET G3 TO CABINET G5 USES HANDHOLES AND JUNCTION BOXES AT SEPARATE FROM THE PROPOSED FIBER OPTIC CABLE.
5. THE CCTV CAMERA COMPOSITE VIDEO CABLE AND ETHERNET CABLE ARE INCIDENTAL TO THE "CCTV CAMERA EQUIPMENT, FIBER OPTIC DISTRIBUTION" PAY ITEM.



ITS-07



D160X61-sht-ITS-07  
 USER NAME = myersc  
 PLOT SCALE = 100.0000' / in.  
 PLOT DATE = 12/2/2014

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - JDG	REVISED -
DATE - 12/05/14	REVISED -

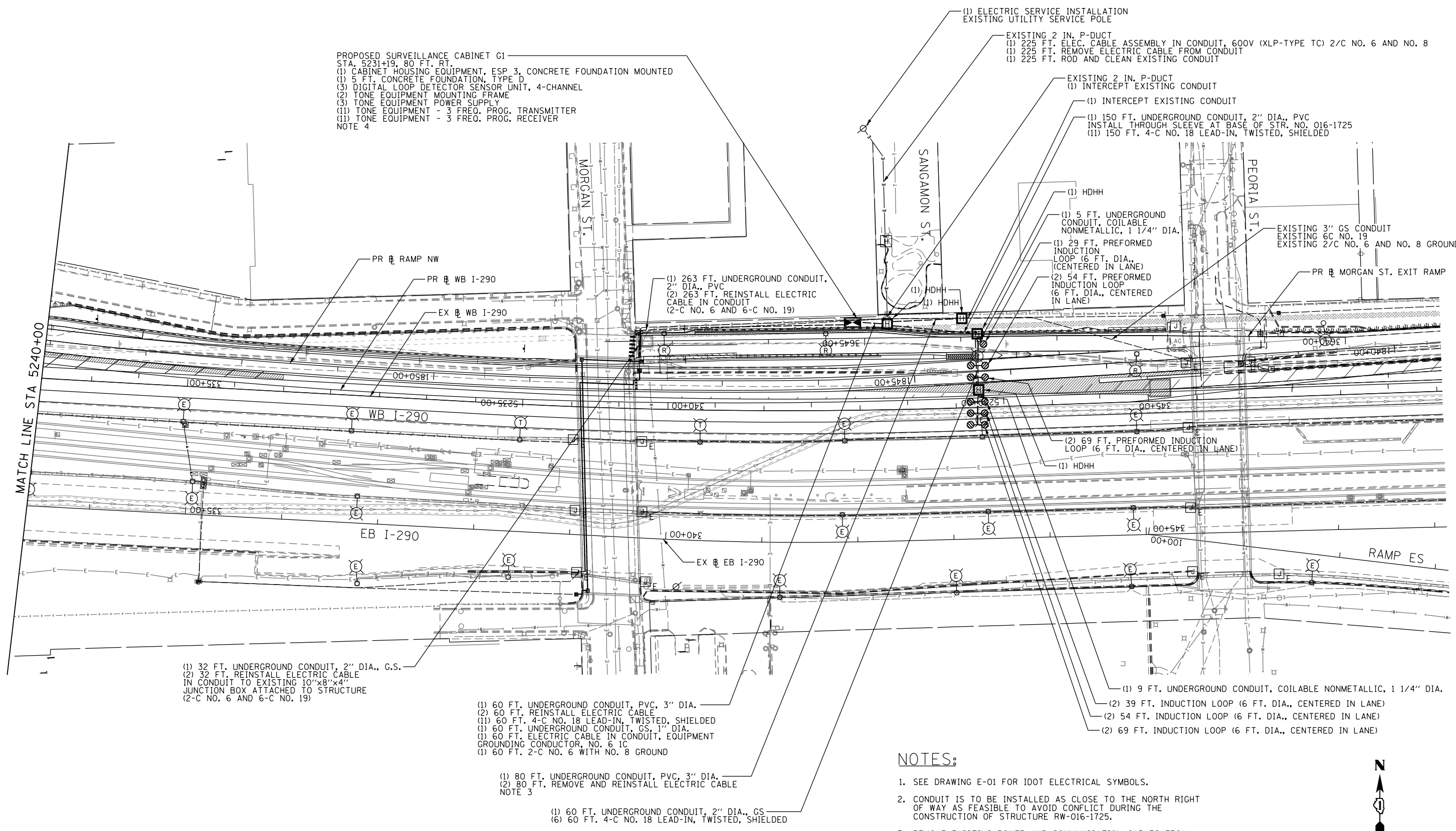
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE  
 PROPOSED ITS PLAN**

SCALE: 1"=50' SHEET 7 OF 14 SHEETS STA. TO STA. 5240+00

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	126
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

FILE PATH = p:\388035-P\INT\AECOM\1\local\p\AECOM\00\Documents\01\Americas\Transportation\60269938 Circle Phase II\000\_CAD\006\_Roadway\Sheets\60X61\_Contract\0160X61-shr-ITS-08



(1) 32 FT. UNDERGROUND CONDUIT, 2" DIA., G.S.  
 (2) 32 FT. REINSTALL ELECTRIC CABLE  
 IN CONDUIT TO EXISTING 10"x8"x4"  
 JUNCTION BOX ATTACHED TO STRUCTURE  
 (2-C NO. 6 AND 6-C NO. 19)

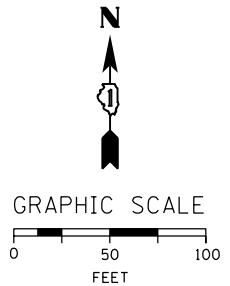
(1) 60 FT. UNDERGROUND CONDUIT, PVC, 3" DIA.  
 (2) 60 FT. REINSTALL ELECTRIC CABLE  
 (1) 60 FT. 4-C NO. 18 LEAD-IN, TWISTED, SHIELDED  
 (1) 60 FT. UNDERGROUND CONDUIT, GS, 1" DIA.  
 (1) 60 FT. ELECTRIC CABLE IN CONDUIT, EQUIPMENT  
 GROUNDING CONDUCTOR, NO. 6 IC  
 (1) 60 FT. 2-C NO. 6 WITH NO. 8 GROUND

(1) 80 FT. UNDERGROUND CONDUIT, PVC, 3" DIA.  
 (2) 80 FT. REMOVE AND REINSTALL ELECTRIC CABLE  
 NOTE 3

(1) 60 FT. UNDERGROUND CONDUIT, 2" DIA., GS  
 (6) 60 FT. 4-C NO. 18 LEAD-IN, TWISTED, SHIELDED

**NOTES:**

- SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
- CONDUIT IS TO BE INSTALLED AS CLOSE TO THE NORTH RIGHT OF WAY AS FEASIBLE TO AVOID CONFLICT DURING THE CONSTRUCTION OF STRUCTURE RW-016-1725.
- REMOVE EXISTING POWER AND COMMUNICATION CABLES FROM CONDUIT AND REINSTALL IN NEW CONDUIT.
- INTEGRATION OF THIS TRAFFIC SURVEILLANCE STATION SHALL BE COVERED UNDER THE "ATMS SYSTEMS INTEGRATION" PAY ITEM.
- AS REQUIRED, THE PROPOSED CABINET G1 AND THE PROPOSED CONDUIT AND CABLE BETWEEN PROPOSED CABINET G1 AND MORGAN STREET SHALL BE MAINTAINED AND PROTECTED DURING THE REMOVAL OF ABANDONED CTA FOUNDATIONS.



D160X61-shr-ITS-08  
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 PLOT SCALE = 100.0000' / in.  
 PLOT DATE = 12/2/2014

DESIGNED - GWS  
 DRAWN - CAM  
 CHECKED - JDG  
 DATE - 12/05/14

REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

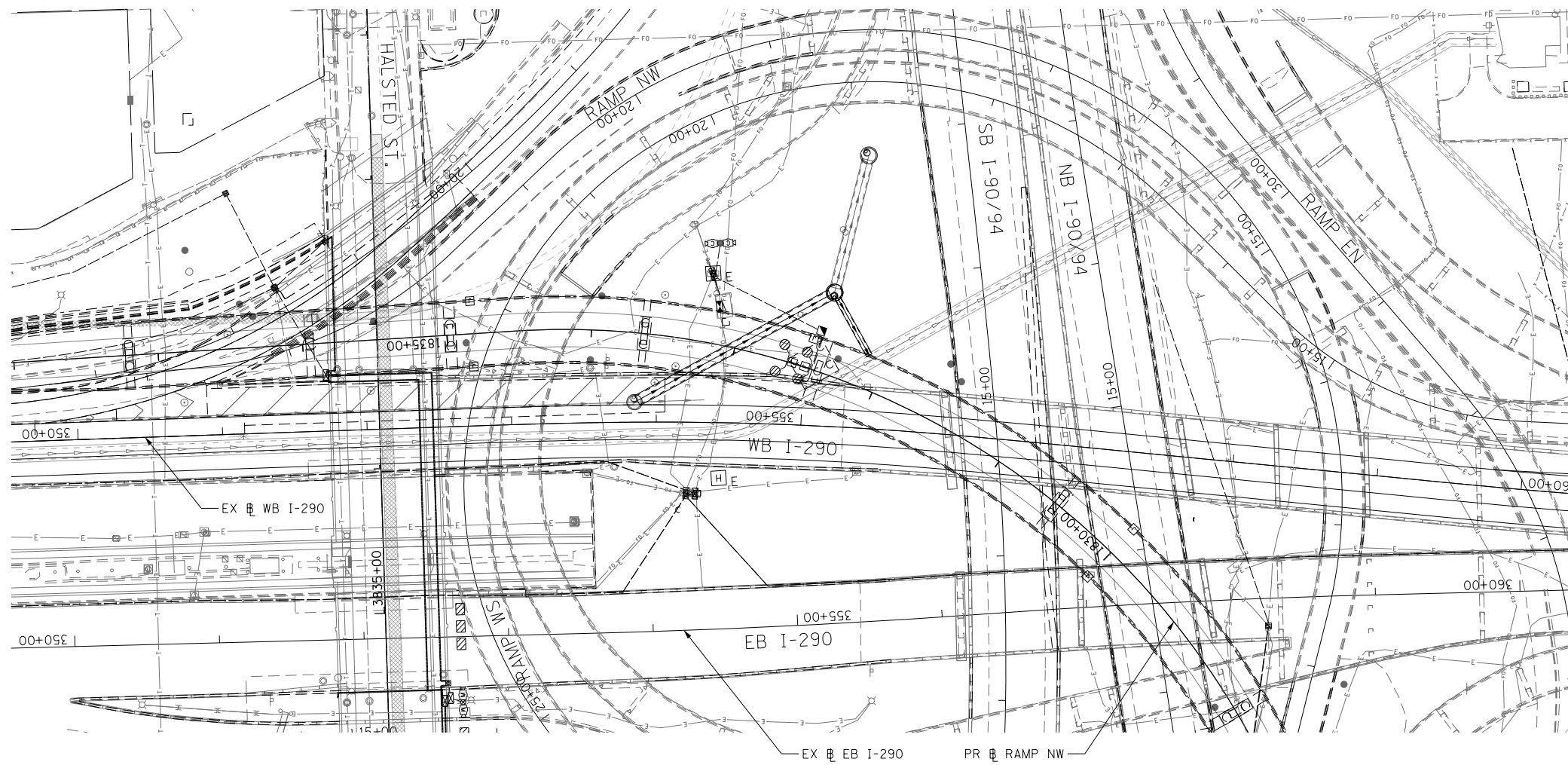
**WB I-290 AUXILIARY LANE  
 PROPOSED ITS PLAN**

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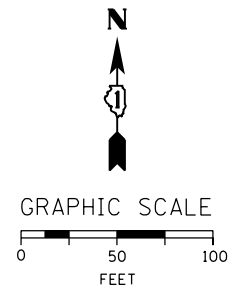
F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 127
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

ITS-08

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**NO PROPOSED WORK ON THIS SHEET**



ITS-09



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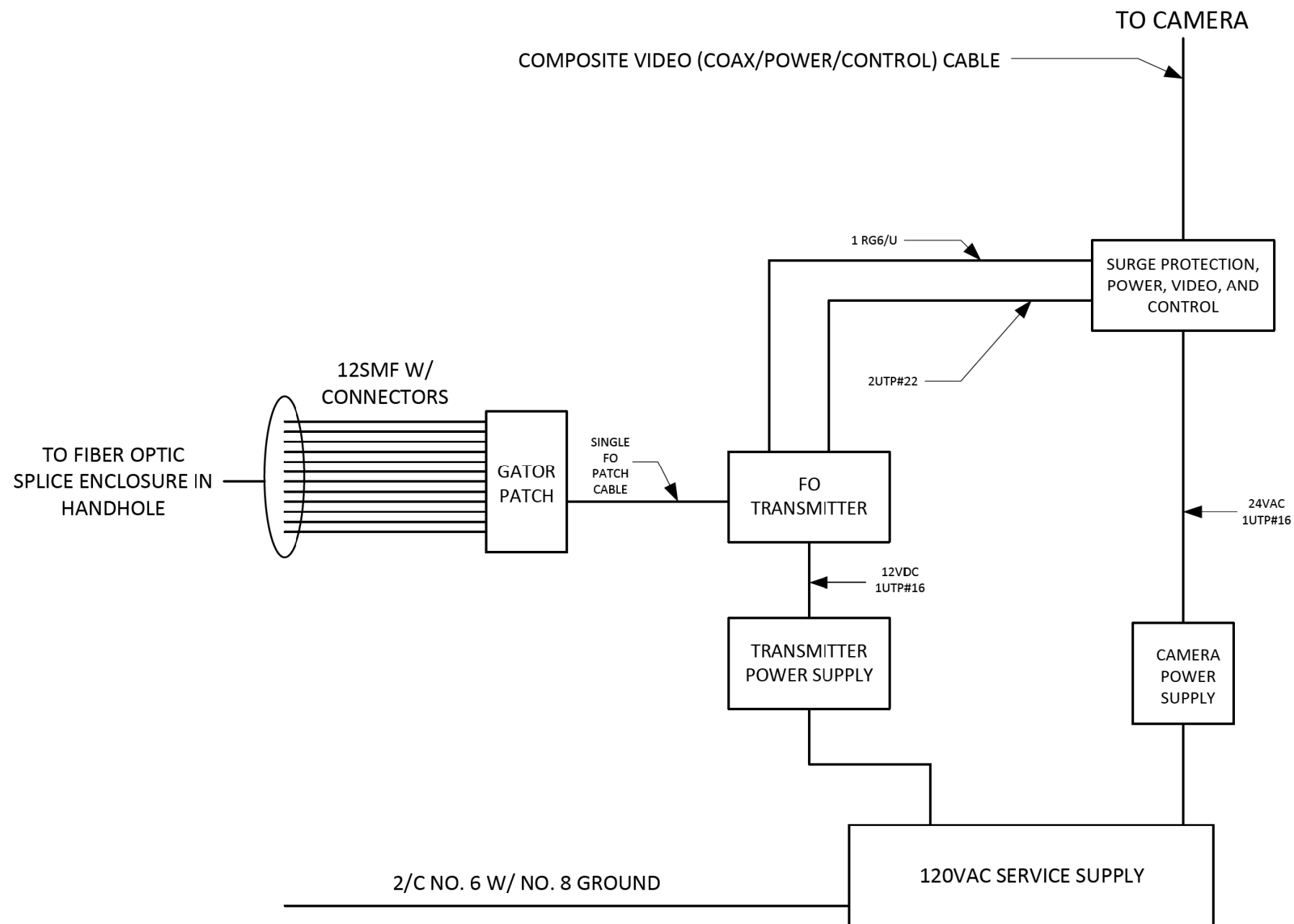
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DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**WB I-290 AUXILIARY LANE  
 PROPOSED ITS PLAN**

SCALE: 1"=50' SHEET 9 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	128
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



CCTV EQUIPMENT IN CABINET (TYPICAL)

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ITS-10



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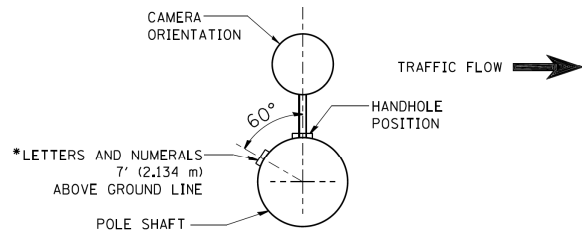
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CCTV DETAILS  
CABINET DETAIL

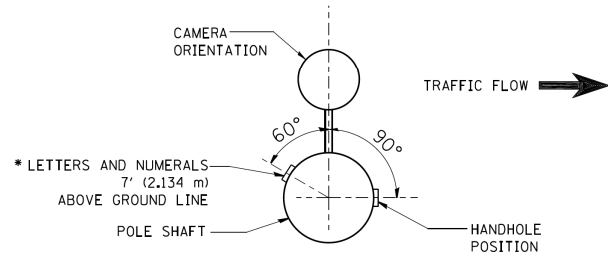
SCALE: N.T.S. SHEET 10 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	129
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

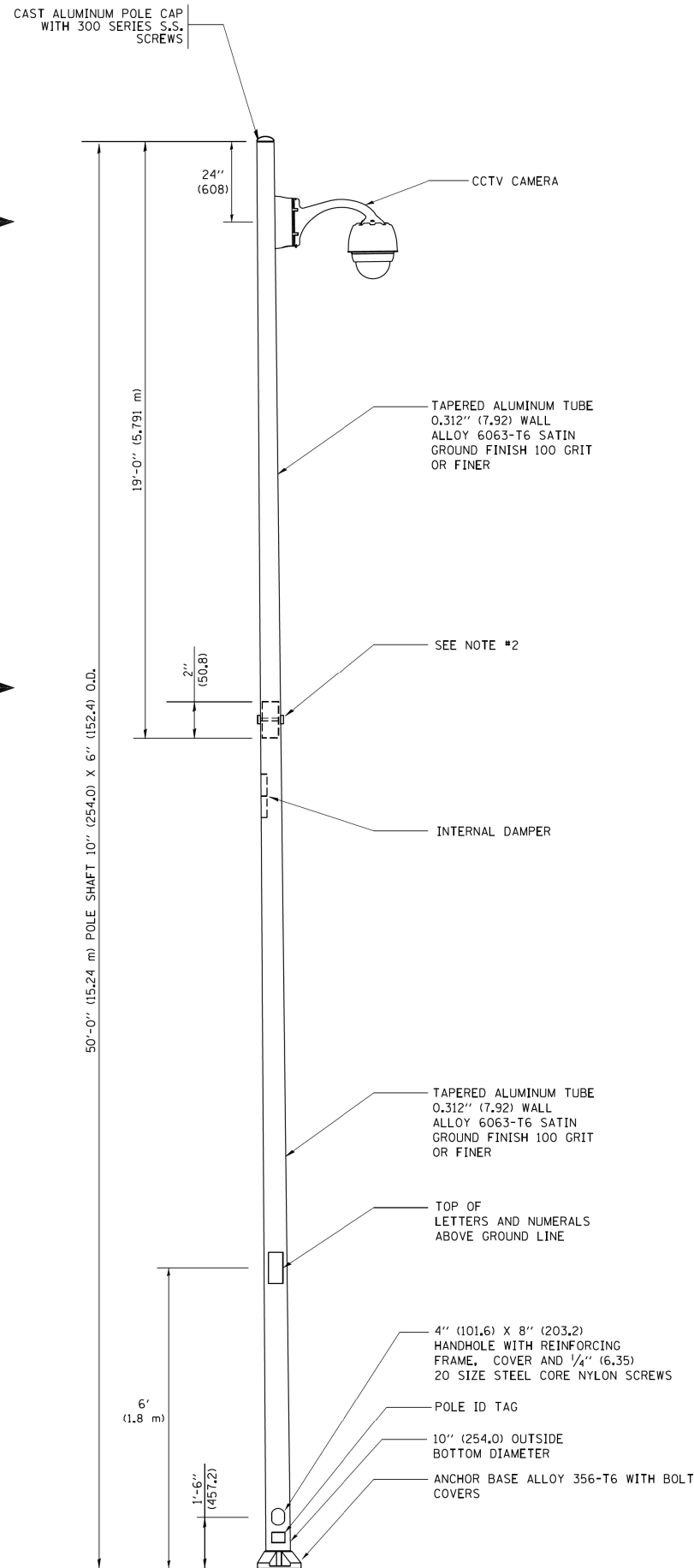
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POSITION OF HANDHOLE AND CAMERA NUMBER FOR POLE MOUNTED ON BRIDGE PARAPET OR BARRIER WALL

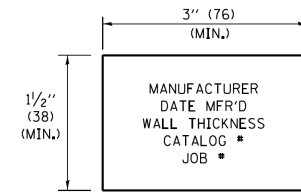


POSITION OF HANDHOLE AND CAMERA NUMBER

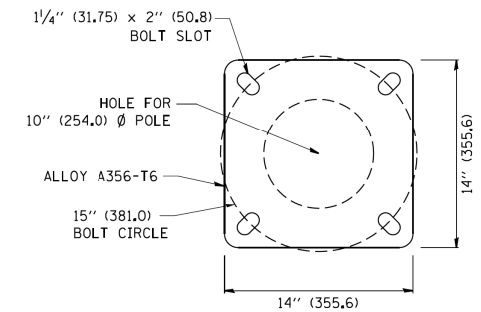


**NOTES:**

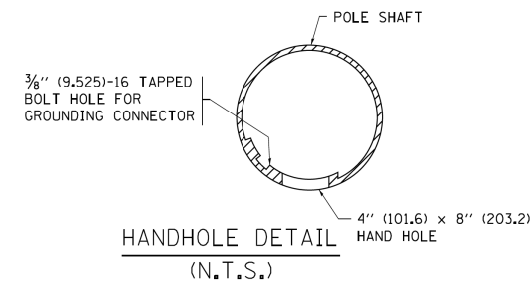
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
2. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
3. THE POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
4. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR, BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
5. POLES WILL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS.
6. POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.



POLE ID TAG  
N.T.S.



POLE BASE PLATE DETAIL  
15 INCH (381.0) BOLT CIRCLE



HANDHOLE DETAIL  
(N.T.S.)



D160X61-sht-ITS-11	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 1.0000' / 1"	CHECKED - JDG	REVISED -
PLOT DATE = 10/14/2014	DATE - 10/17/14	REVISED -

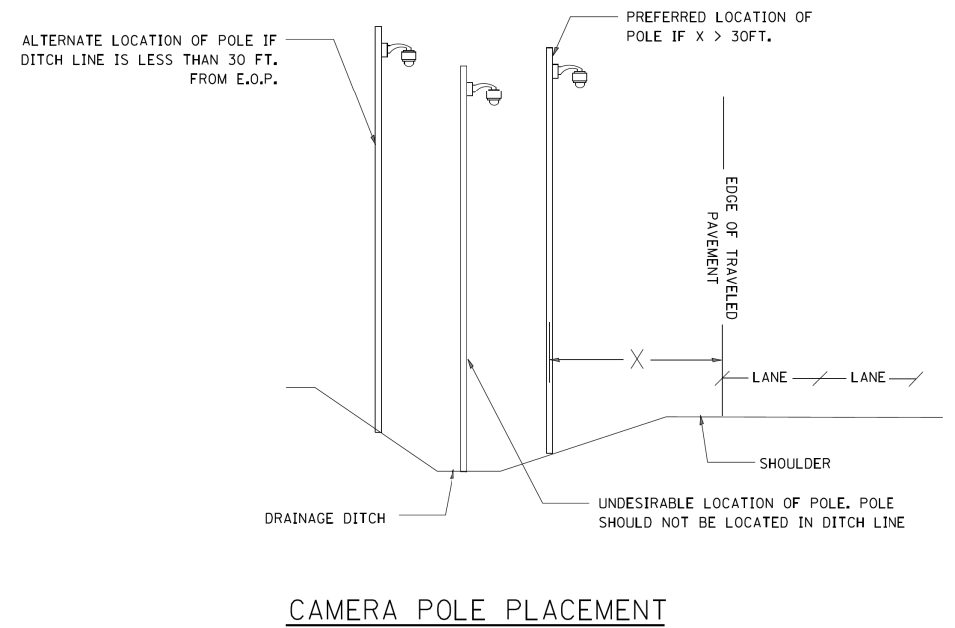
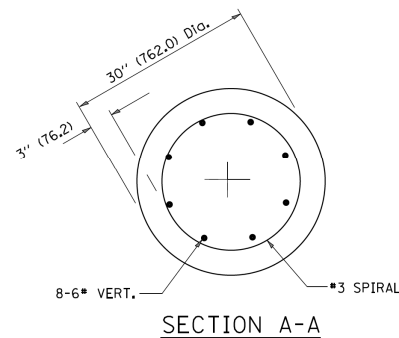
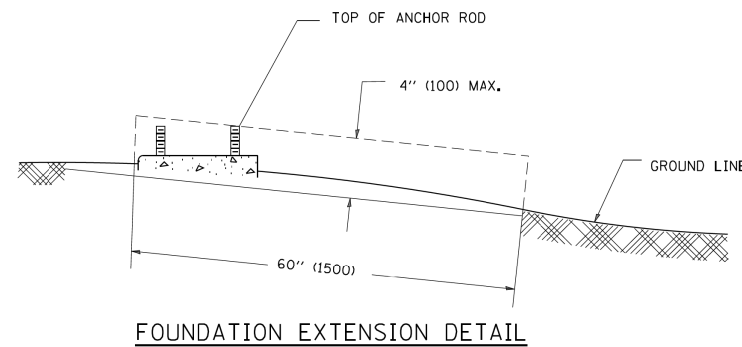
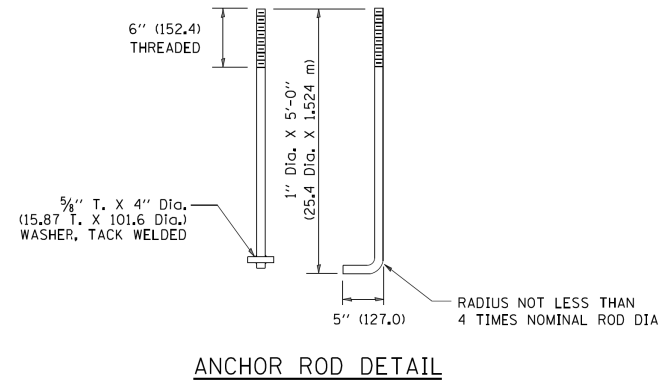
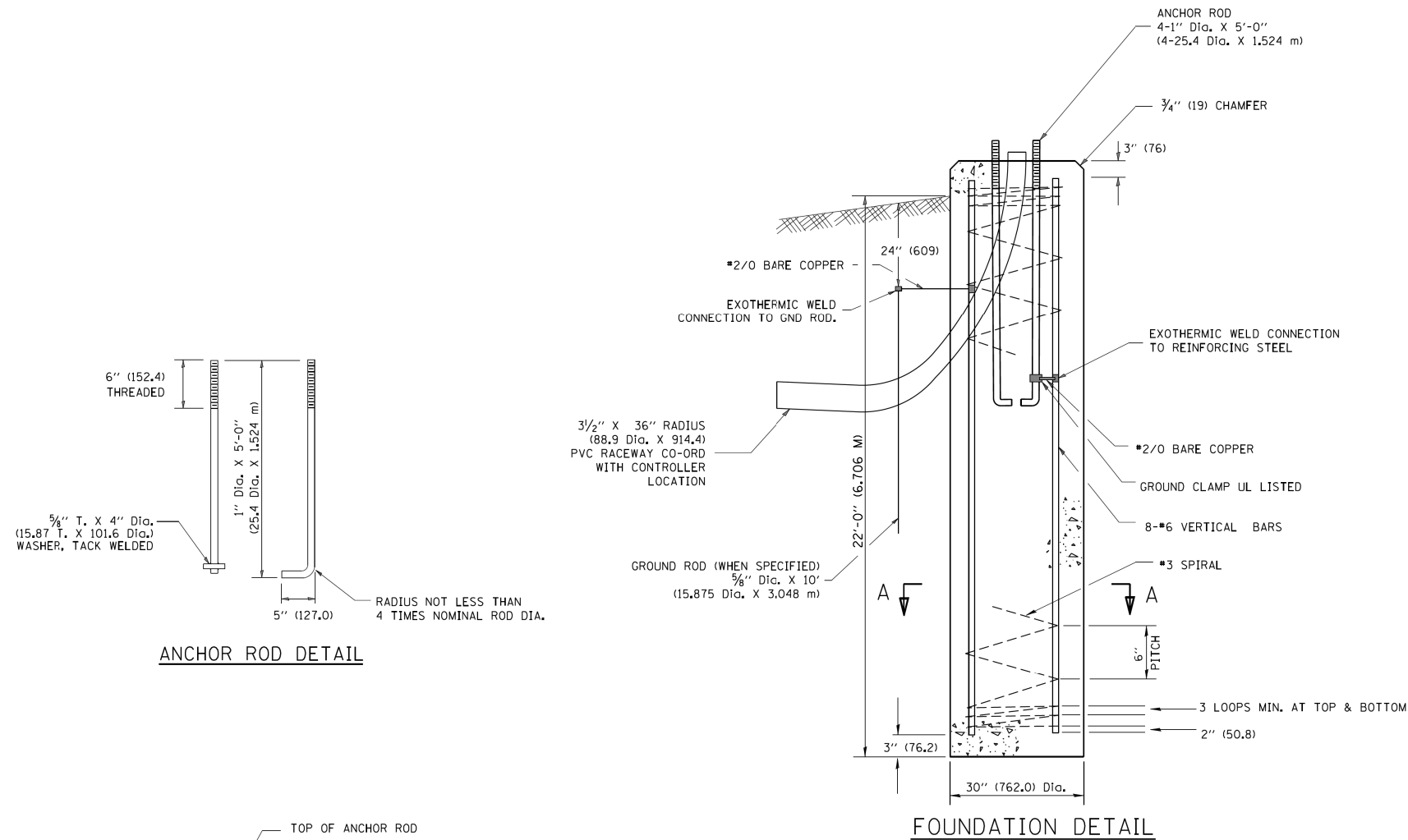
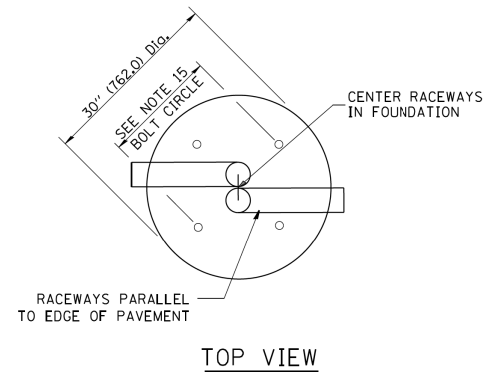
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CCTV CAMERA STRUCTURE  
50 (15.24m) MOUNTING HEIGHT

SCALE: N.T.S. SHEET 11 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	130
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

ITS-11



**NOTES**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- ANCHOR ROD BOLT CIRCLE TO BE COORDINATED WITH CAMERA STRUCTURE

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D160X61-sht-ITS-12  
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 PLOT SCALE = 1.0000' / 1"  
 PLOT DATE = 10/14/2014

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
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DATE - 10/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

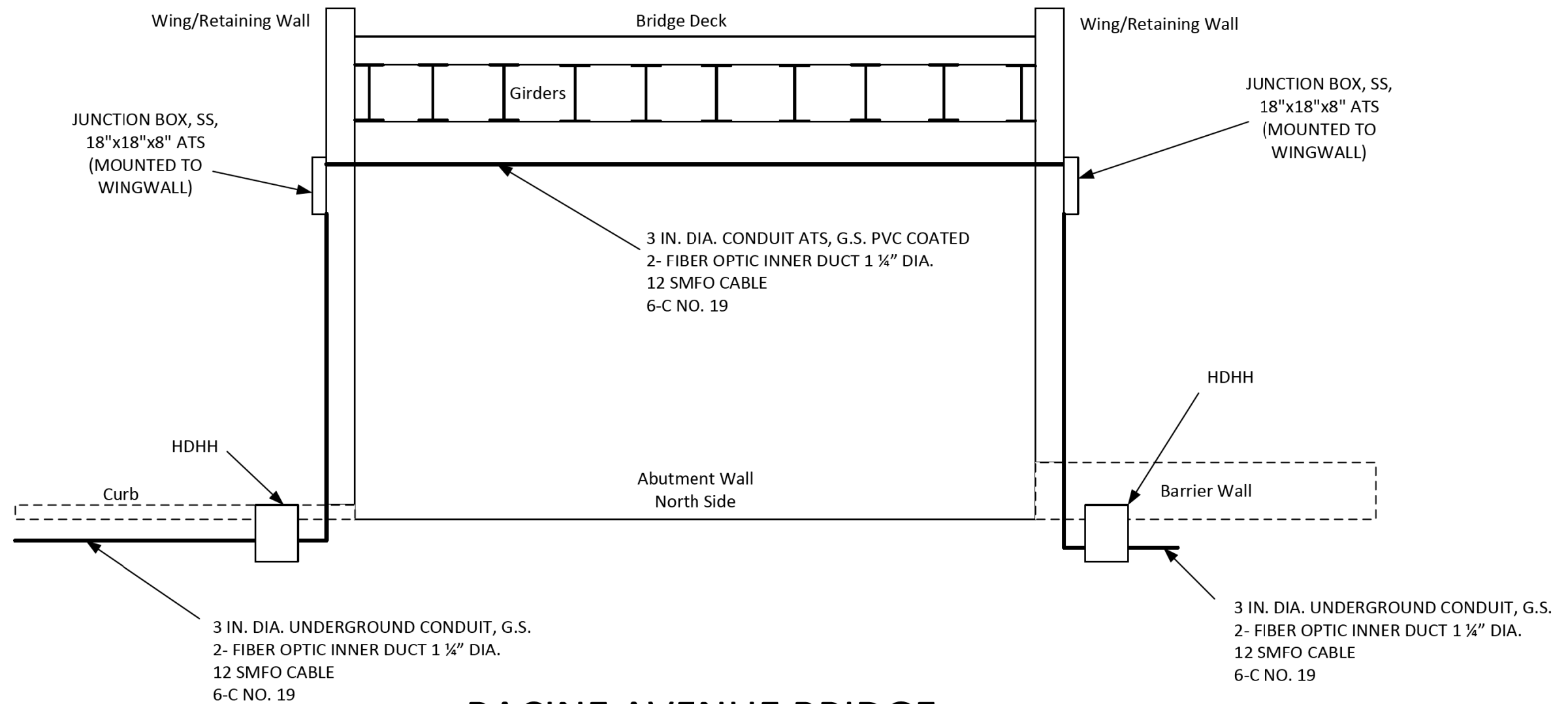
**CCTV CAMERA STRUCTURE FOUNDATION  
 50' (15 - 24m) MOUNTING HEIGHT**

SCALE: N.T.S. SHEET 12 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	131
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

ITS-12

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## RACINE AVENUE BRIDGE (FACING NORTH)



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PLOT DATE = 12/2/2014	DATE - 12/05/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**RACINE AVENUE ABUTMENT DETAIL**

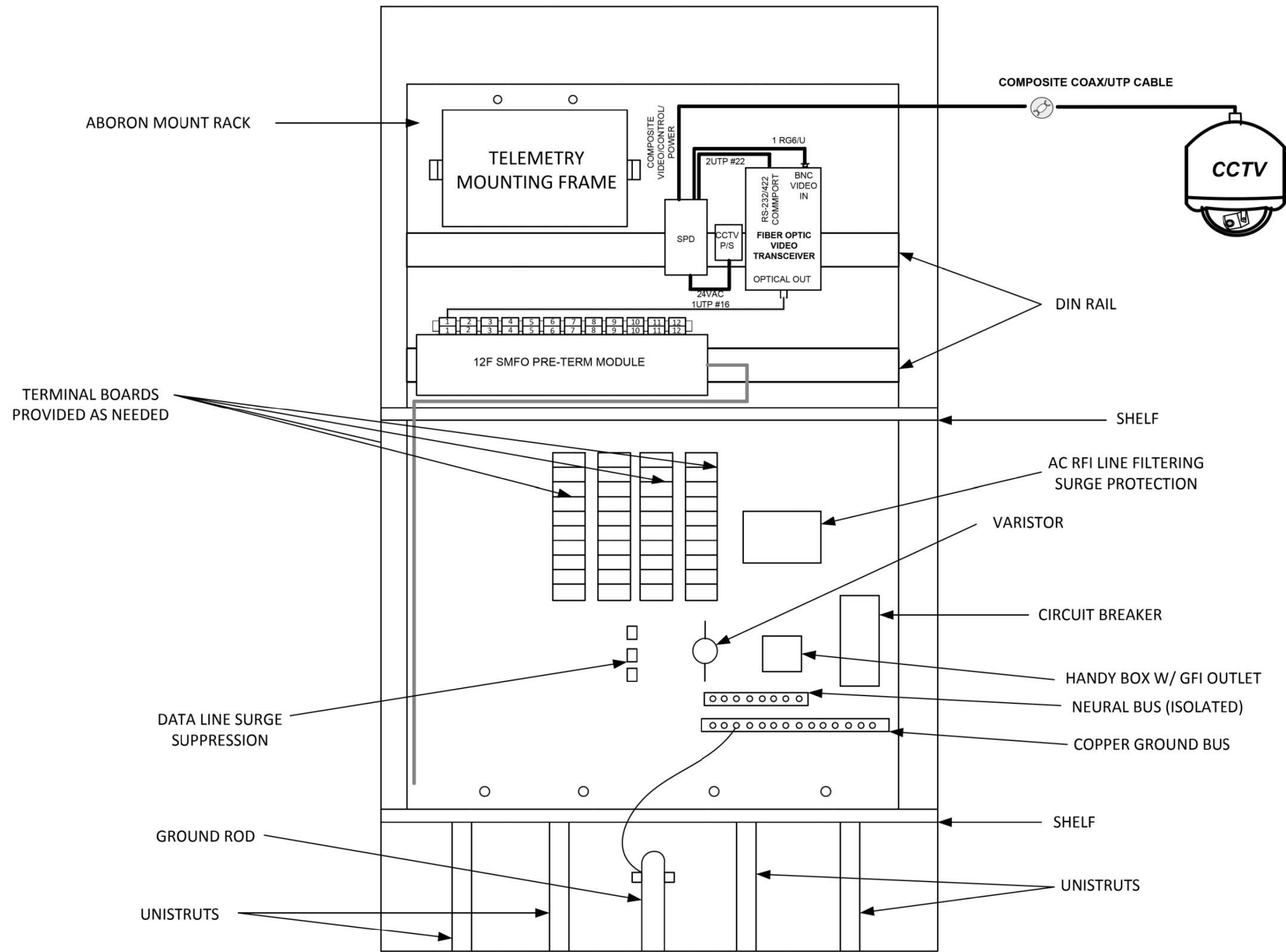
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

ITS-13



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**ESP 4 CABINET WITH LOOP TELEMERTY AND CCTV EQUIPMENT**

ITS-14



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DRAWN - CAM	REVISED -
CHECKED - JDG	REVISED -
DATE - 12/05/14	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CCTV DETAILS**  
**CABINET G3**

SCALE: N.T.S. SHEET 14 OF 14 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	133
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

**Benchmark:** Cut square on northwest corner of sign foundation at north side of Harrison Street, approximately 80' west of west line of Morgan Street. Elevation 593.07.

**Existing Structure:** The existing retaining wall is a reinforced concrete T-type wall supported on concrete piles with attached guardrail above. The total length of the retaining wall is 282'-6 1/2" with an exposed height that varies from approximately 18'-5" at the west end to 1'-11" at the east end (measured from grade at front face of wall). The retained height varies from 22'-8" to 9'-3 3/8". A 2'-8" high crashwall is present in front of the retaining wall in Panels 1 thru 3. A 25'-4 3/4" portion of the existing wall was removed and replaced in Contract 60W25 with a 26'-3" long T-type wall panel adjacent to the northeast wingwall of Morgan St. Bridge (S.N. 016-1709).

**Traffic Control:** Morgan Street Exit Ramp will be closed during construction.

**Salvage:** Existing railing attached to top of existing retaining wall. See Special Provision for Removal of Existing Structures No. 1.

- NOTES:**
1. Stations and offsets for the wall are given from the @ of WB I-290 to the front face of wall.
  2. Wall to be built along straight chords between construction joints.
  3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.
  4. For Stations and Offsets at kink points, see Offset Sketch on Sheet SI-02.
  5. For Suggested Construction Sequence see Sheet SI-07.

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 7,000$  psi (Drilled Shafts)  
Panels 2, 3 & 4

$f'_c = 3,500$  psi (All other Concrete)

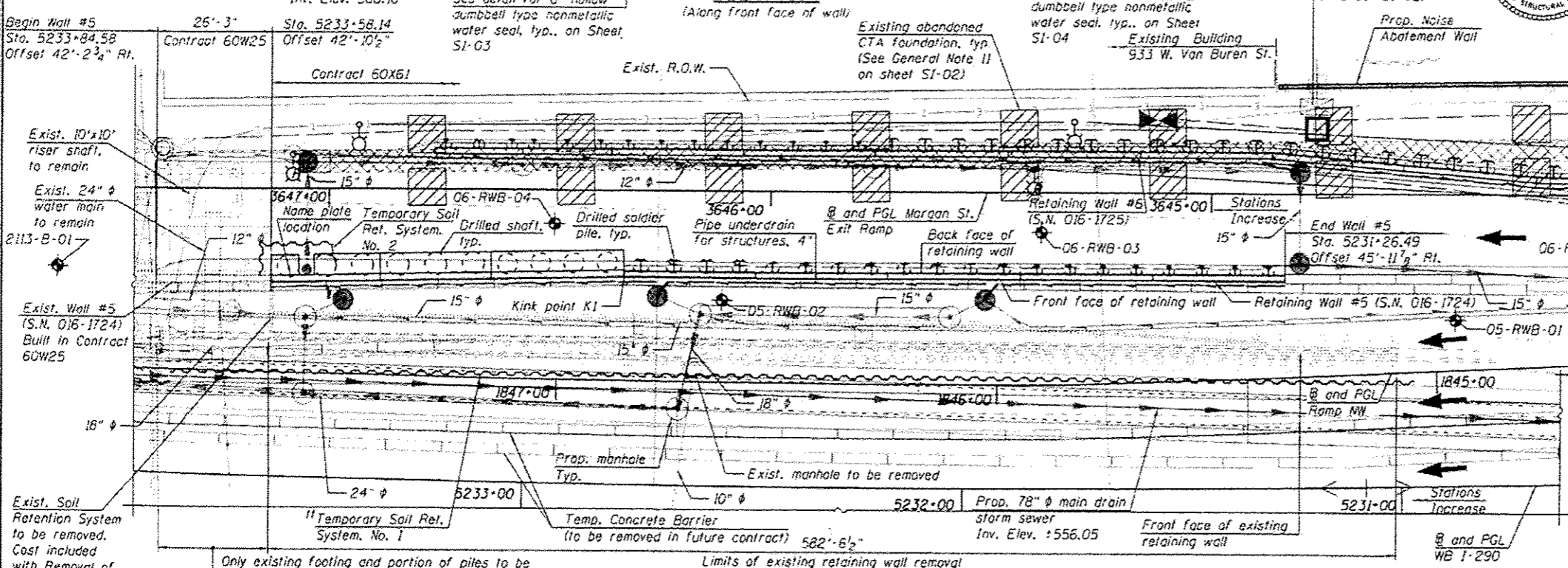
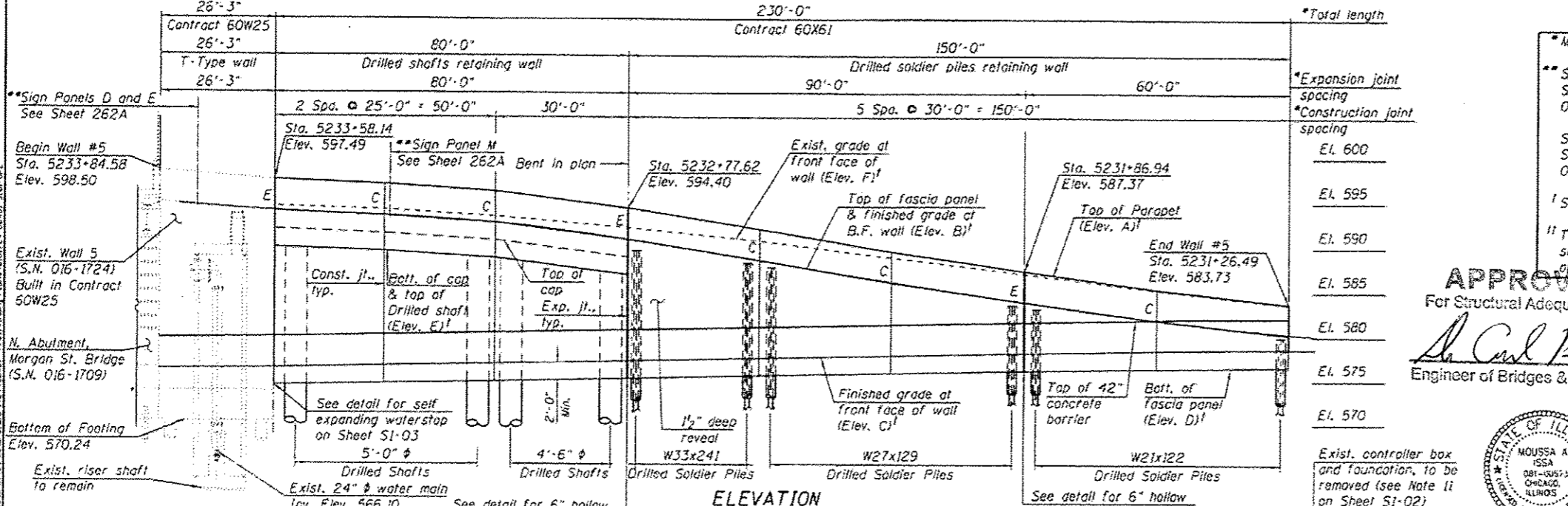
$f_y = 60,000$  psi (Reinforcement)

$f_y = 50,000$  psi (M270 Grade 50)  
Soldier piles

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition

- LEGEND:**
- Front Face F.F.
  - Back Face B.F.
  - Combined Sewer
  - Boring Log
  - Fire Hydrant
  - Light Pole
  - Electric
  - Fiber Optic
  - Exist. Storm Sewer
  - Prop. Storm Sewer
  - Temp. Soil Ret. System
  - Water Line
  - Proposed catchbasin
  - Foundation Removal included with prop. Retaining Wall 5 (S.N. 016-1725) const.
  - Existing Abandoned CTA Water Tunnel (Filled with CLSM in Contract 60W26)



**PLAN**

Only existing footing and portion of piles to be removed in this Contract (Stem removed in Contract 60W25). Cost included with Removal of Existing Structures No. 1

Limits of existing retaining wall removal

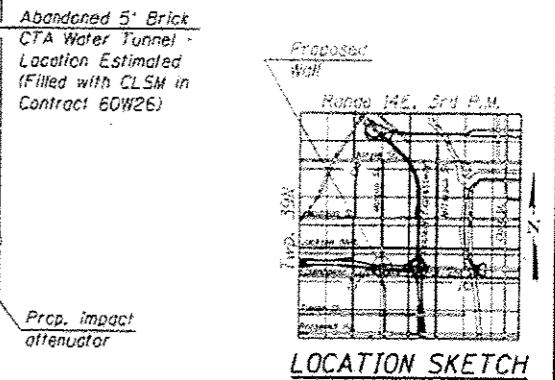
**APPROVED**  
For Structural Adequacy Only

*Moussa A. Issa*  
Engineer of Bridges & Structures



Signed **Moussa A. Issa**  
Moussa A. Issa, HEM IL Lic. No. 081-005738  
Expires 11-30-2016

Date **12/17/2014** For Sheets SI-01 Thru SI-19 (Total of 23 Sheets)

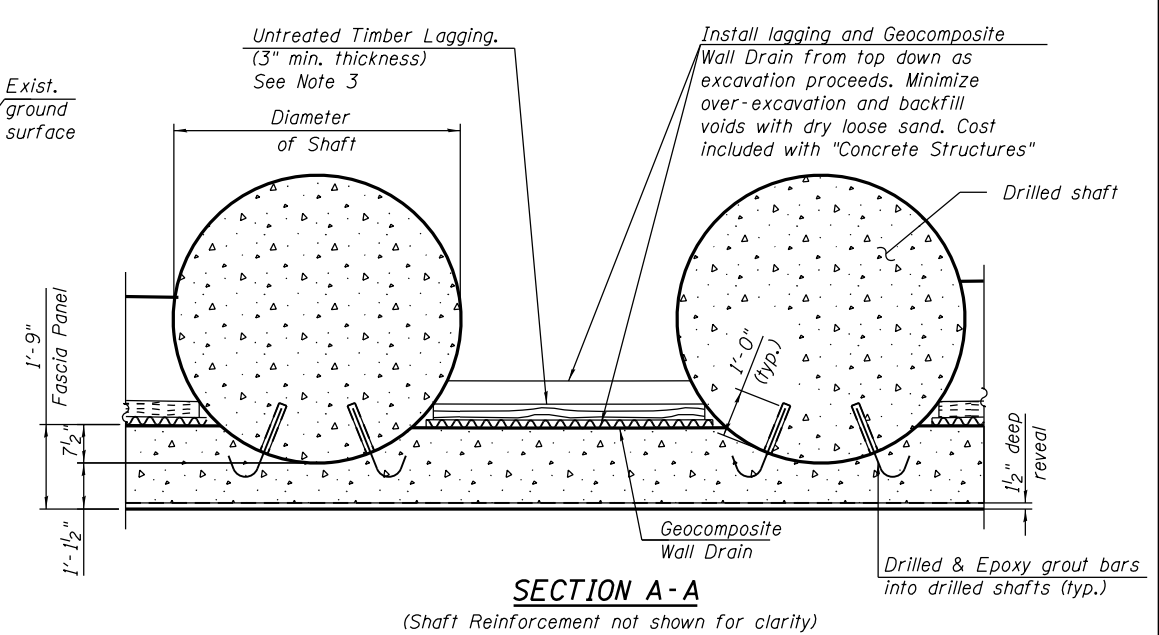
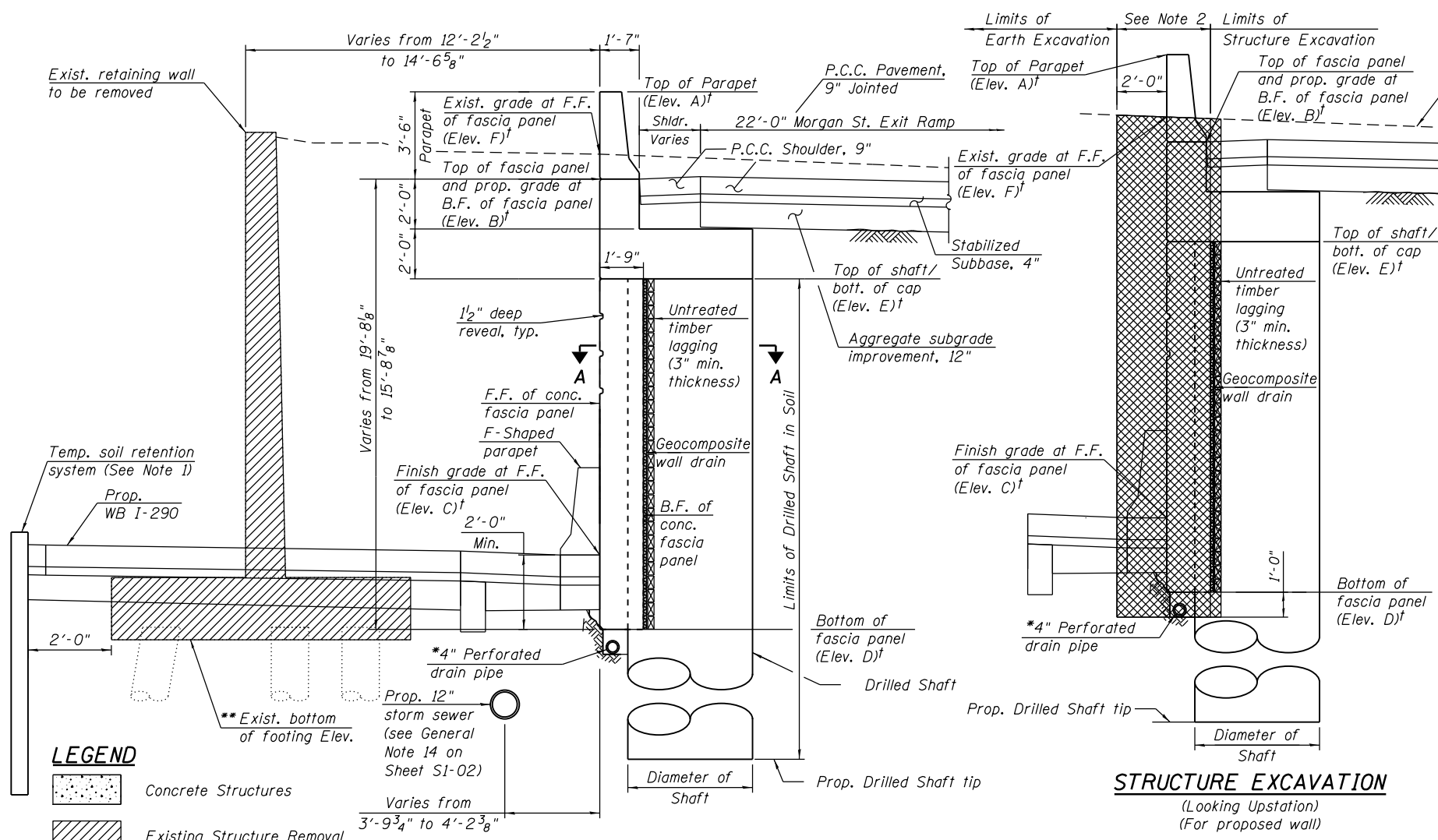


**GENERAL PLAN AND ELEVATION**  
**RETAINING WALL 5 ALONG**  
**MORGAN ST. EXIT RAMP**  
**F.A.I. RTE. 290**  
**(EISENHOWER EXPRESSWAY)**  
**F.A.I. RTE. 290 - SECTION 2013-077R**  
**COOK COUNTY**  
**STA. 5233+84.58 TO STA. 5231+26.49**  
**STRUCTURE NO. 016-1724**

<b>HBM</b> 4415 WEST HARRISON ST. SUITE 211 MELROSE, IL 60462 PHONE: (708) 236-0900 FAX: (708) 236-0901	DESIGNED - WM, ARA DRAWN - FA, MAA, WM CHECKED - MI, JJS DATE - 10/17/2014	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET SI-01 OF SI-19 SHEETS
	USER NAME: jshmod... PLOT SCALE: 30.00' / 1"	CONTRACT NO. 60X61		
	PLOT DATE: 12/17/2014	F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO. 90/94/290 2013-077R COOK 317 134		
	ILLINOIS REGISTERED PROFESSIONAL ENGINEER	CONTRACT NO. 60X61		



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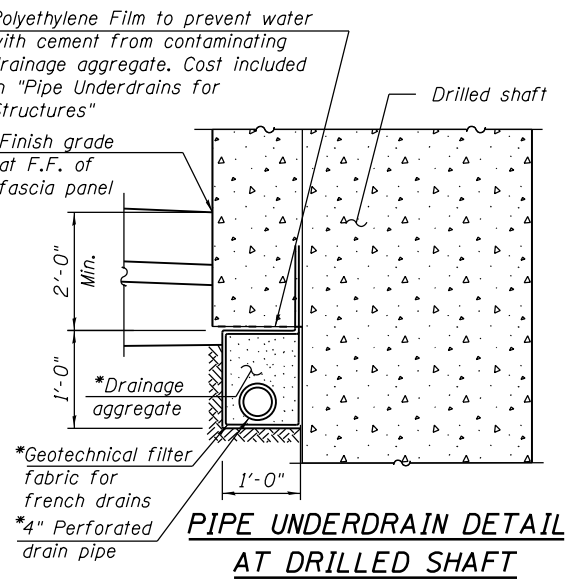


**LEGEND**

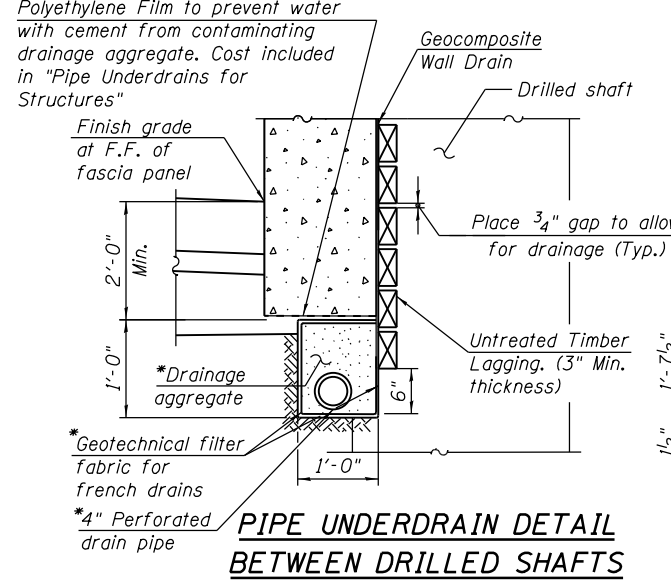
- Concrete Structures
- Existing Structure Removal
- Structure Excavation
- B.F. Back Face
- F.F. Front Face

**TYPICAL CROSS SECTION**  
 (Looking Upstation)  
 (From Sta. 5232+77.62 to Sta. 5233+58.14)  
 (Prop. 78"  $\phi$  main drain storm sewer is not shown for clarity. Inv. Elev. +556.05)

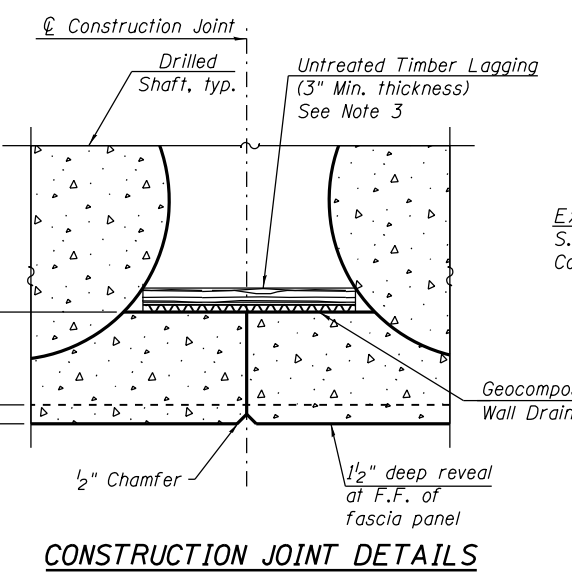
\*Cost included with "Pipe Underdrains for Structures, 4".  
 \*\*As Estimated from Record Drawings  
 Elev. 573.69 (from Sta. 5233+82.60 to Sta. 5232+81.65)  
 Elev. 574.19 (from Sta. 5232+81.65 to Sta. 5231+30.84)  
 Elev. 574.44 (from Sta. 5231+30.84 to Sta. 5231+00.89)  
 †See Elevations Table on Sheet S1-02.



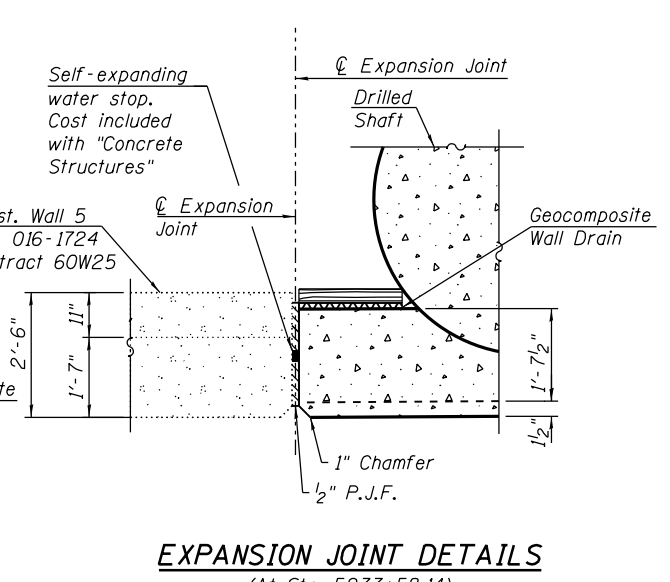
**PIPE UNDERDRAIN DETAIL AT DRILLED SHAFT**



**PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS**



**CONSTRUCTION JOINT DETAILS**



**EXPANSION JOINT DETAILS (At Sta. 5233+58.14)**

- NOTES:**
- The Contractor shall design the Temporary Soil Retention System. The Temporary Soil Retention System shall be designed to meet the City of Chicago Office of Underground Coordination (OUC) Building Requirements for maximum deflection. The design shall be performed by a Structural Engineer licensed and registered in the State of Illinois and shall be approved by the Engineer.
  - Structure Excavation is measured 2'-0" from front face of wall to back of Drilled Shaft timber lagging.
  - The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer.
  - For expansion joint details in parapet, see detail in Sheet S1-04.

**HBM**  
 ENGINEERING GROUP, LLC  
 CONSULTING & DESIGN  
 INSPECTION & RATING  
 RESEARCH & TESTING

4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161724-60X61-S103-DrilledShaftWallXSC  
 USER NAME = ahmed.issa  
 PLOT SCALE = 6.0000' / 1" IN.  
 PLOT DATE = 12/17/2014

DESIGNED - WM, ARA  
 DRAWN - FA, MAA, WM  
 CHECKED - MI, JJS  
 DATE - 10/17/2014

REVISED -  
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 REVISED -  
 REVISED -

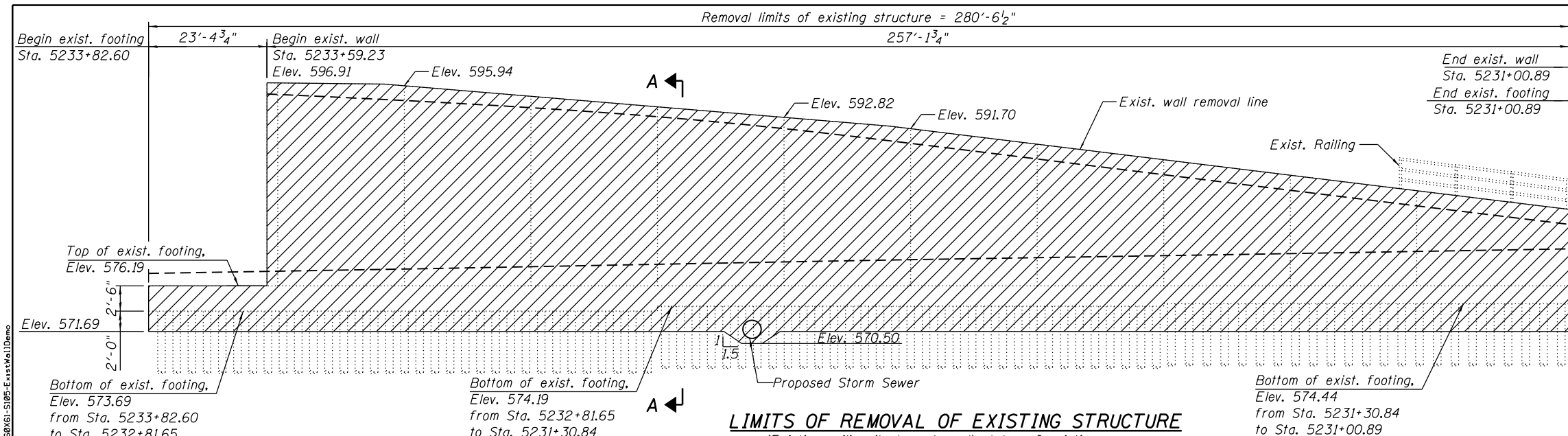
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DRILLED SHAFTS WALL TYPICAL CROSS SECTIONS AND DETAILS  
 RETAINING WALL 5 (STRUCTURE NO. 016-1724)

SHEET S1-03 OF S1-19 SHEETS

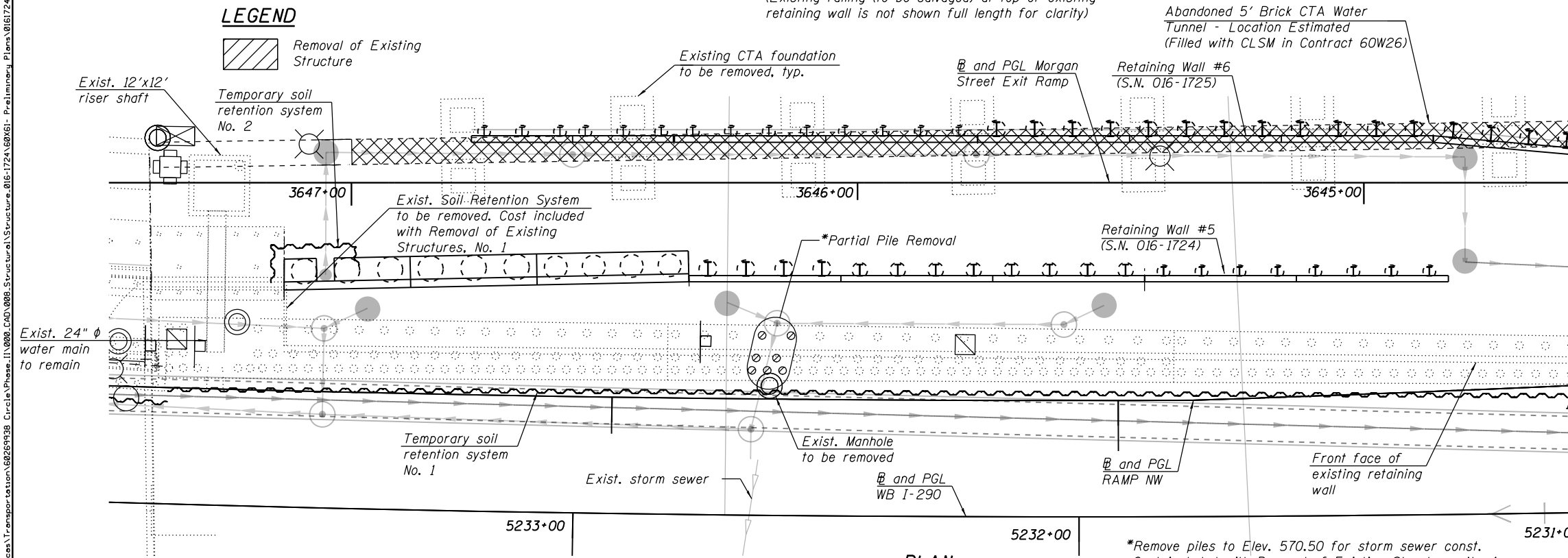
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	136
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



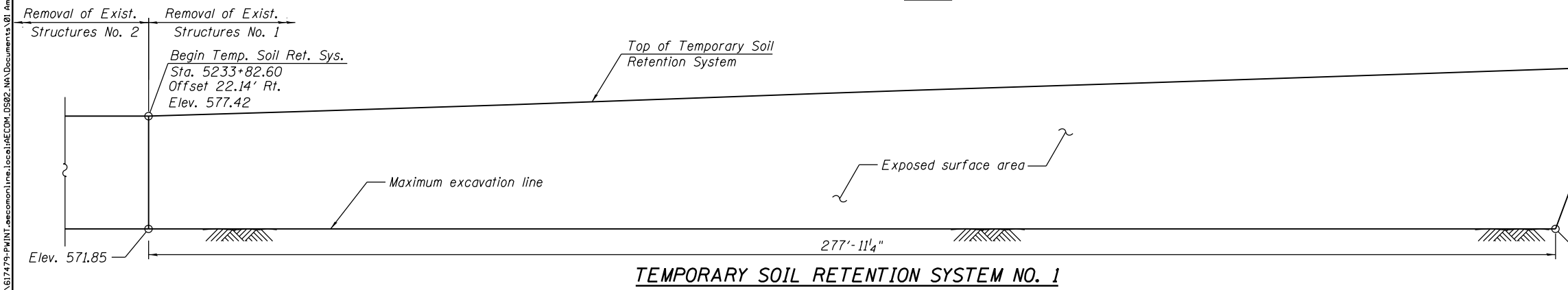


**LIMITS OF REMOVAL OF EXISTING STRUCTURE**

(Existing railing (to be salvaged) at top of existing retaining wall is not shown full length for clarity)



**PLAN**



**TEMPORARY SOIL RETENTION SYSTEM NO. 1**

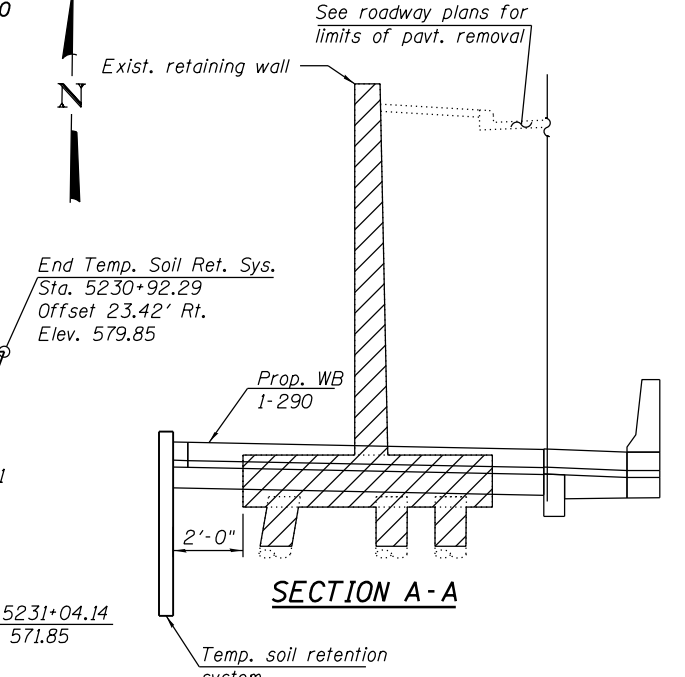
**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 1	EACH	1
Temporary Soil Retention System	SQ FT	1,919

- NOTES:**
- All existing piles are 18"Ø concrete piles based on record drawings.
  - The geometry and configuration of the existing retaining wall presented in the removal plan, elevation and section on this sheet are taken from existing 1958 plans. The contractor is hereby alerted to a discrepancy in the geometry of the 18" Ø concrete piles as seen in the existing plans, namely, the typical section depicts a single battered front row of piles at the wall toe and two rows of straight piles at the wall heel, whereas existing plan view information presents two rows of piles at the wall toe and one row of piles at the wall heel. See Sheets S116c and S116d for details. No additional compensation shall be provided to the Contractor as a result of this discrepancy. All costs shall be included with Removal of Existing Structures No. 1.
  - During removal of the existing retaining wall and piles, soil disturbance shall be kept at a minimum, and coordinated and approved by the Engineer.
  - Dimensions shown have been taken from historical design drawing and may not represent "as built" conditions. The Contractor must verify all dimensions in the field. Variation in the field dimensions shall not warrant additional compensation for Removal Existing Structures No. 1.
  - For Soil Retention System No. 2 constructed in Contract 60W25 removal details, see Sheet S1-06.
  - For portion of Braced Excavation constructed in Contract 60W25 and interfering with new construction removal details, see Sheet S1-06.
  - A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a soil retention system design including plan details and calculations for review and acceptance by The Engineer.
  - Driving piles and temporary sheet piling is not allowed.

**REMOVAL LIMITS:**

- Remove remaining portions of existing retaining wall stem and pile cap/footing.
- Parts of existing piles interfering with proposed drainage items shall be removed to a depth of 1' below bottom of proposed drainage pipe. Cost included with Removal of Existing Structures No. 1.
- Existing railing attached to top of existing retaining wall shall be salvaged.



**SECTION A-A**

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DESIGNED - WM, ARA  
DRAWN - FA, MAA, WM  
CHECKED - MI, JJS  
DATE - 10/17/2014

REVISÉ -  
REVISÉ -  
REVISÉ -  
REVISÉ -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING WALL REMOVAL  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)**

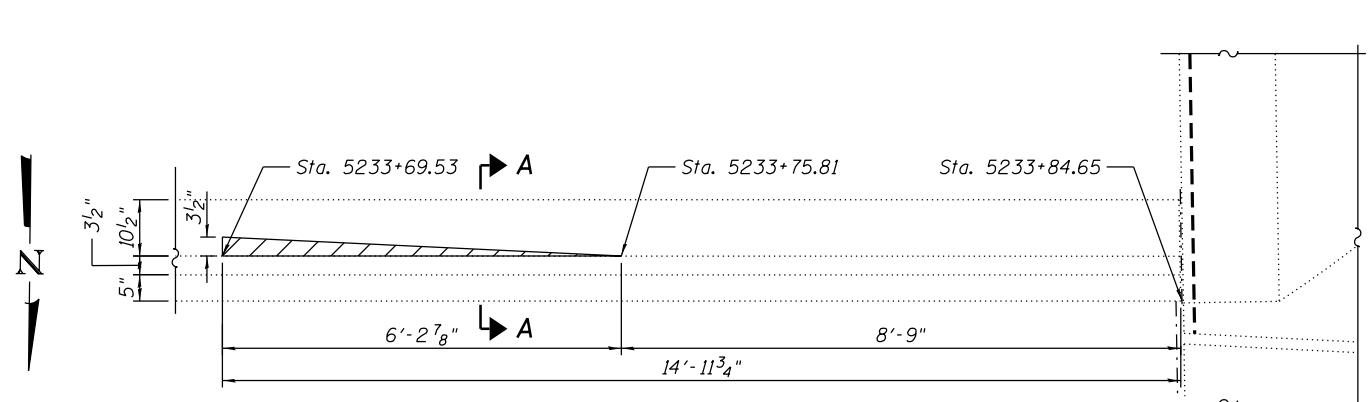
SHEET S1-05 OF S1-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	138

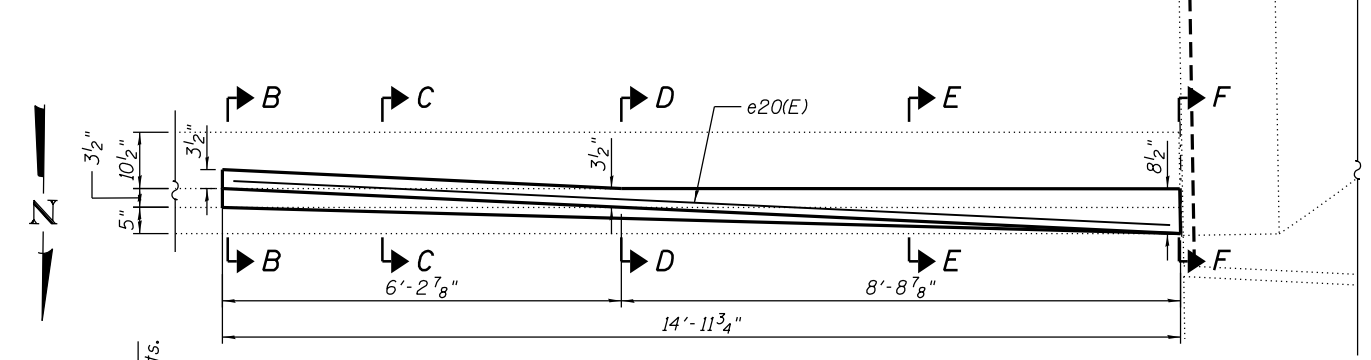
CONTRACT NO. 60X61  
ILLINOIS FED. AID PROJECT

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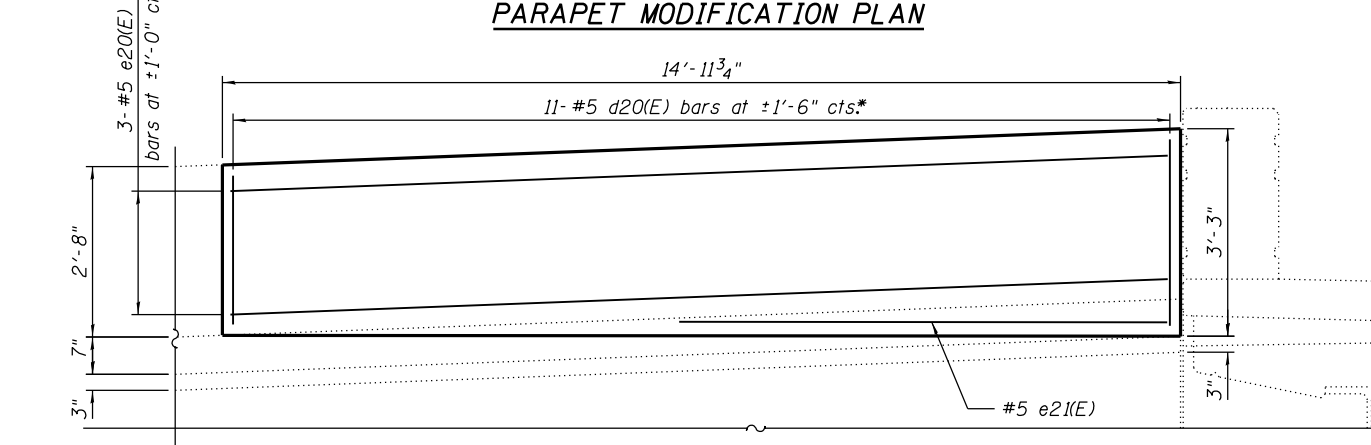
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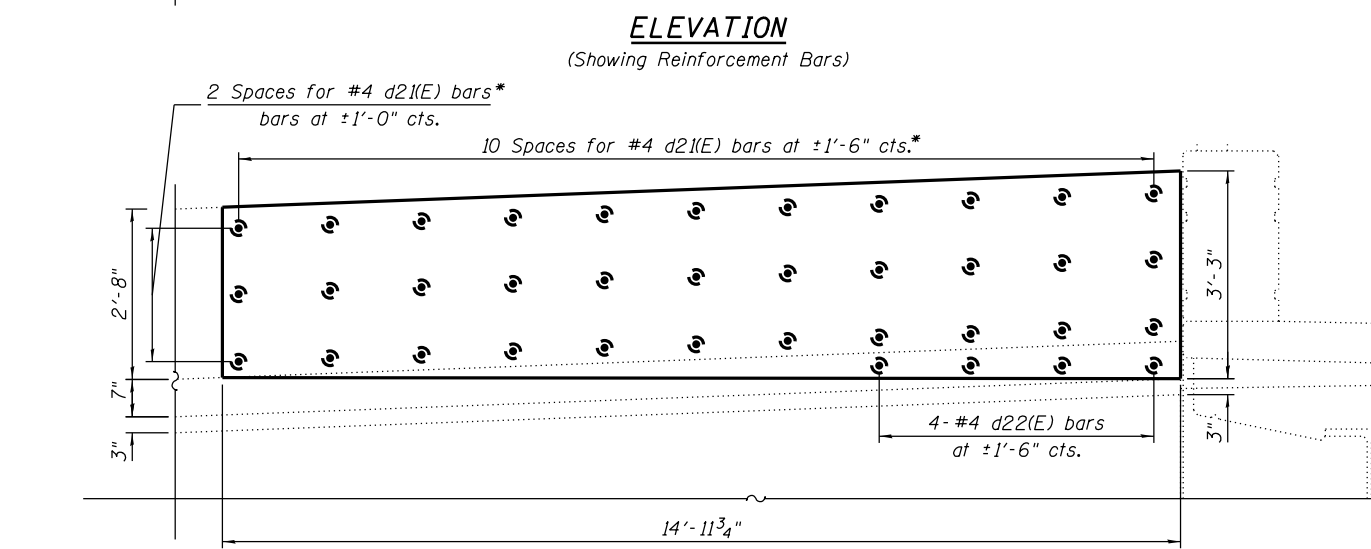
**REMOVAL PLAN**



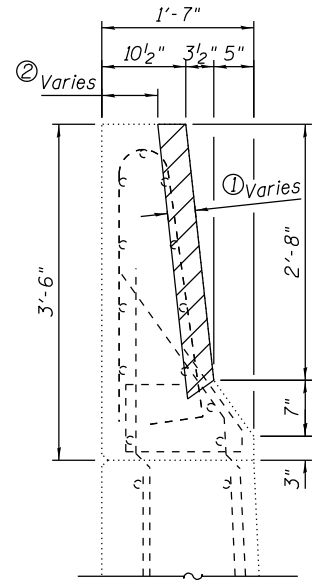
**PARAPET MODIFICATION PLAN**



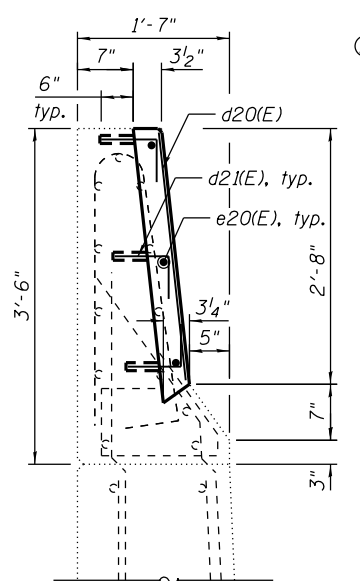
**ELEVATION**  
(Showing Reinforcement Bars)



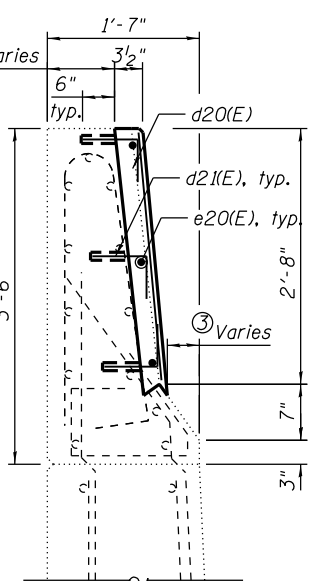
**ELEVATION**  
(Showing Dowel Bars)



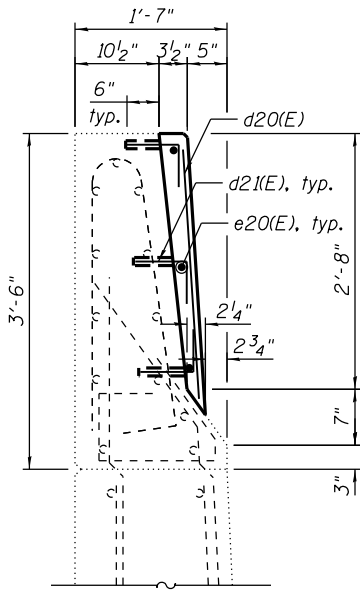
**SECTION A-A**



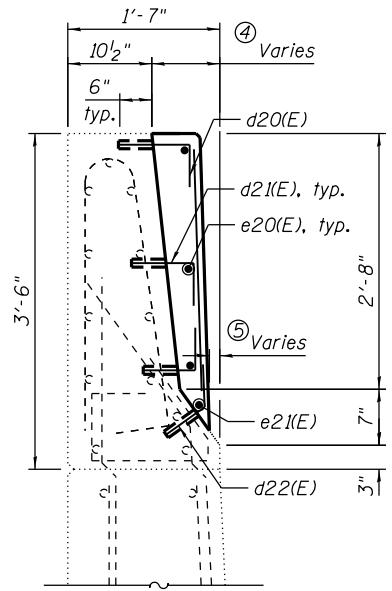
**SECTION B-B**  
(at Sta. 5233+69.53)



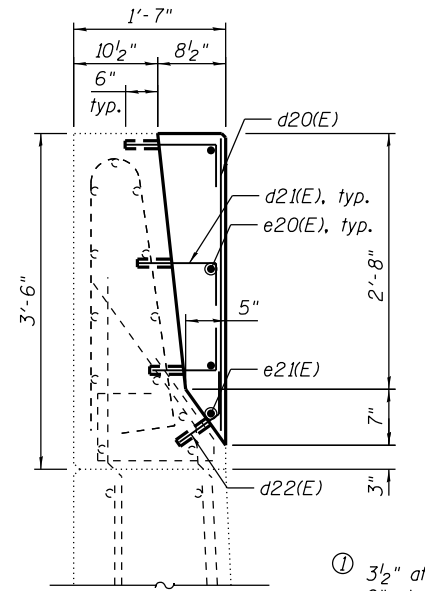
**SECTION C-C**



**SECTION D-D**  
(at Sta. 5233+75.81)



**SECTION E-E**



**SECTION F-F**  
(at Sta. 5233+84.65)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
*d20(E)	11	#5	2'-11"	—
*d21(E)	33	#4	1'-9"	└┘
*d22(E)	4	#4	1'-4"	└┘
*e20(E)	3	#5	14'-8"	—
*e21(E)	1	#5	7'-8"	—
Concrete Superstructure			CU YD	1.0
Protective Coat			SQ YD	14
Reinforcement Bars, Epoxy Coated			POUND	130

\*Cut to fit in field

**Minimum Bar Laps**

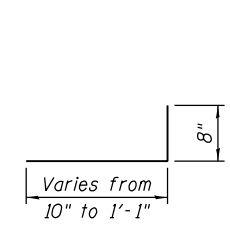
Bar	Lap
#4	2'-7"
#5	3'-3"

**NOTES:**

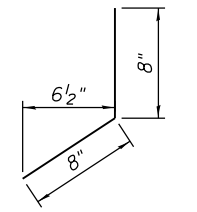
- Concrete to be removed shall not be paid separately and shall be included in the Removal of Existing Structures No. 1.
- Existing reinforcement shall remain during concrete removal.
- Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Removal of Existing Structures No. 1.
- Epoxy grout d21(E) and d22(E) bars according to Article 584 of the Standard Specifications. Drill to miss existing reinforcement.

**LEGEND:**

Concrete to be removed (See Note 1).



**BAR d21(E)**



**BAR d22(E)**

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0161724-60X61-SI05A-ExistParapetMod	DESIGNED - KJD, LAB	REVISED -
USER NAME = ahmad.issa	DRAWN - LAB, KJD	REVISED -
PLOT SCALE = 3/8" = 1'-0"	CHECKED - MI, MAI	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PARAPET MODIFICATION**  
**RETAINING WALL 5 (STRUCTURE NO. 016-1724)**

SHEET S1-05A OF S1-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-07TR	COOK	317	138A
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

**NOTES:**

- Dimensions shown have been taken from historical design drawings and may not represent "as built" conditions. The Contractor must verify all dimensions in the field. Variation in the field dimensions shall not warrant additional compensation for Removal of Existing Structures No. 1.
- The Removal of the Soil Retention System No. 2 constructed in Contract 60W25 includes the existing HSS 12x6x1/4" steel lagging, L6x6x3/8" angle, bolts and any related items. Cost shall be included with Removal of Existing Structures No. 1.
- The removal of the portions of Braced Excavation constructed in Contract 60W25 includes the soldier piles, wood and steel lagging, and any remaining portions of elements of the Braced excavation interfering with the new construction of Retaining Wall No. 5 (S.N. 016-1724), mainline pavement, drainage sewers, roadway pavement and subbase. Cost shall be included with Removal of Existing Structures No. 1.
- Remove wood lagging and portions of exist. soldier piles and any other elements of the braced excavation interfering with the construction of roadway pavement and subbase to a depth of 2'-0" below the bottom of subbase.

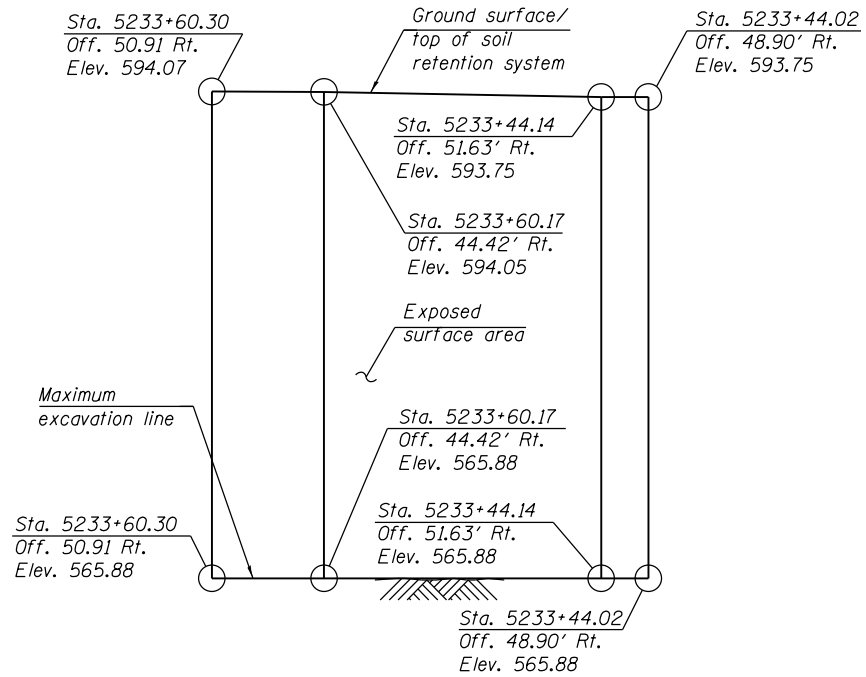
- A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a soil retention system design including plan details and calculations for review and acceptance by The Engineer.
- Driving piles and temporary sheet piling is not allowed.

**BILL OF MATERIAL**

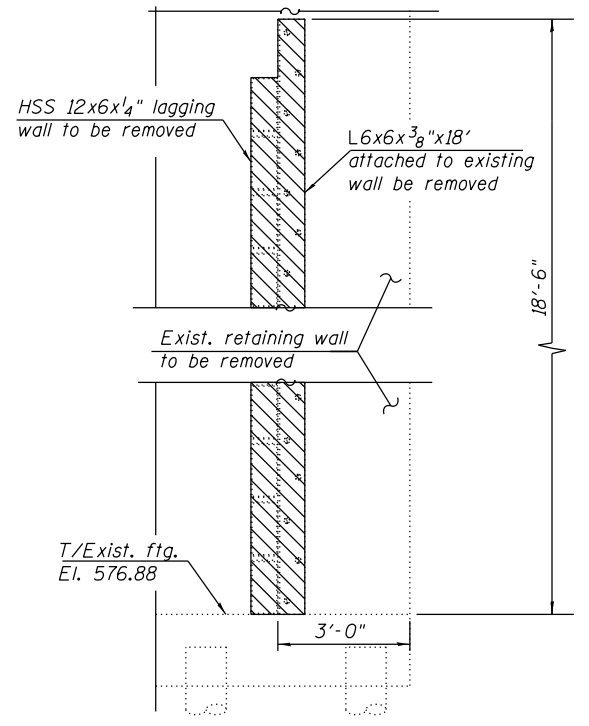
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	73
Granular Backfill for Structures	CU YD	67
Temporary Soil Retention System	SQ FT	709

**LEGEND**

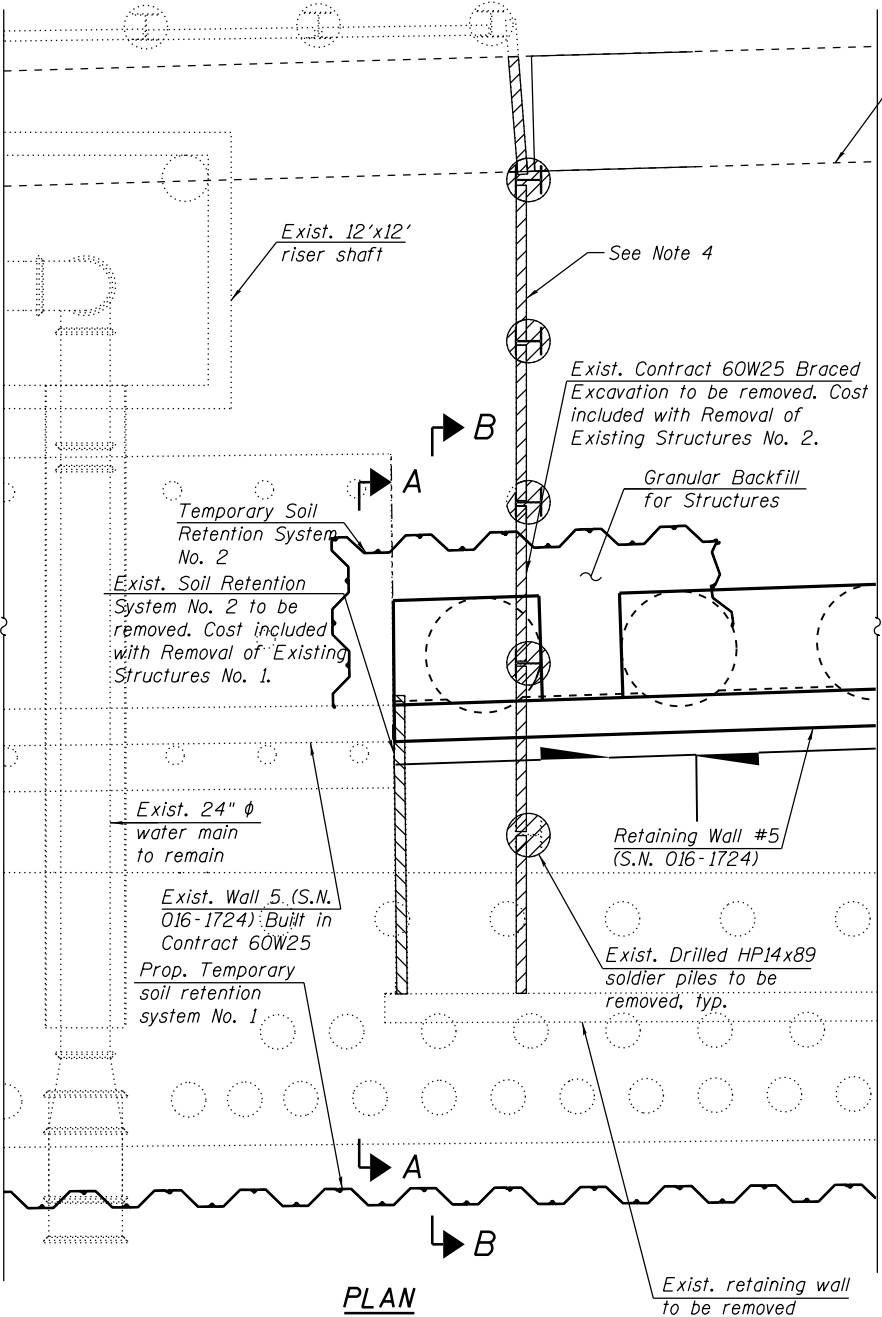
- Removal of Existing Soil Retention System No. 2 constructed in contract 60W25.
- Removal of portions of Existing Braced Excavation constructed in contract 60W25 interfering with Retaining Wall #5 (S.N. 016-1724).



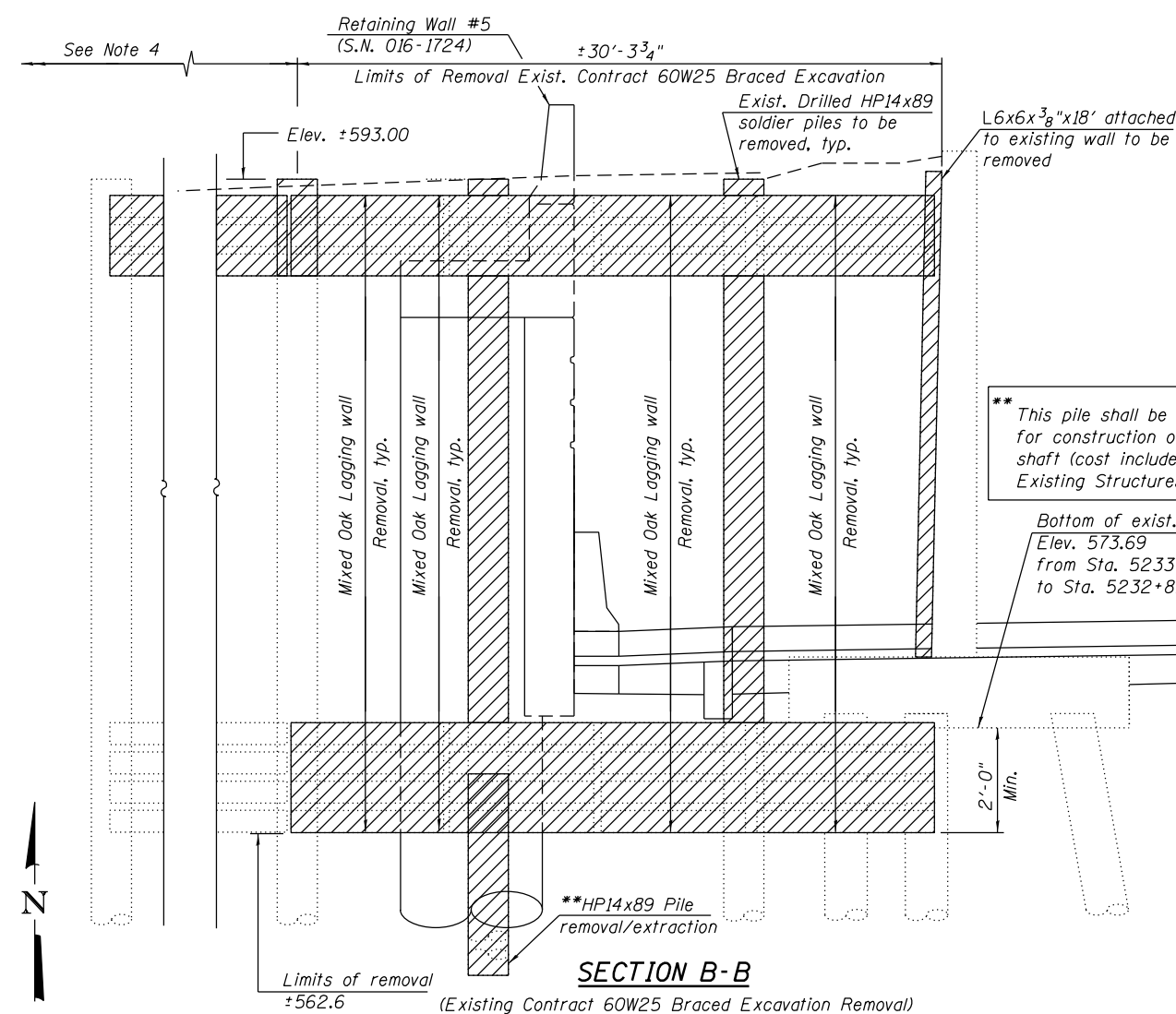
**TEMPORARY SOIL RETENTION SYSTEM**



**SECTION C-C**

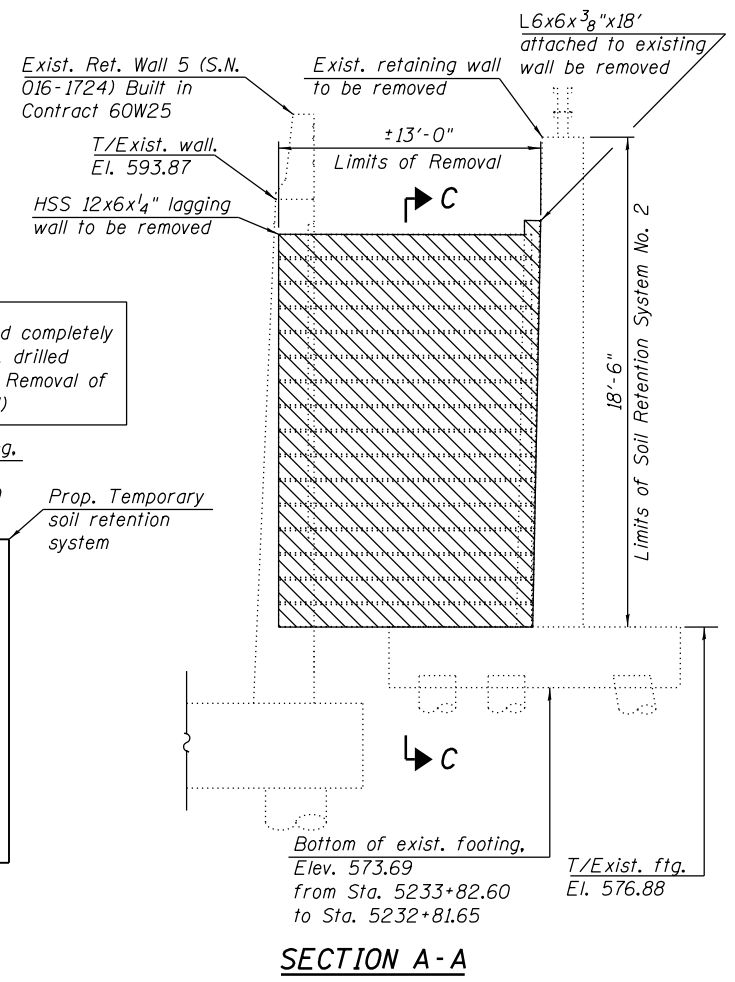


**PLAN**



**SECTION B-B**

(Existing Contract 60W25 Braced Excavation Removal)  
(All lagging not shown for clarity)



**SECTION A-A**

(Soil Retention System No. 2 Removal)

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0161724-60X61-5106-TSRRemoval	DESIGNED - WM	REVISED -
USER NAME = ahmad.issa	DRAWN - WM	REVISED -
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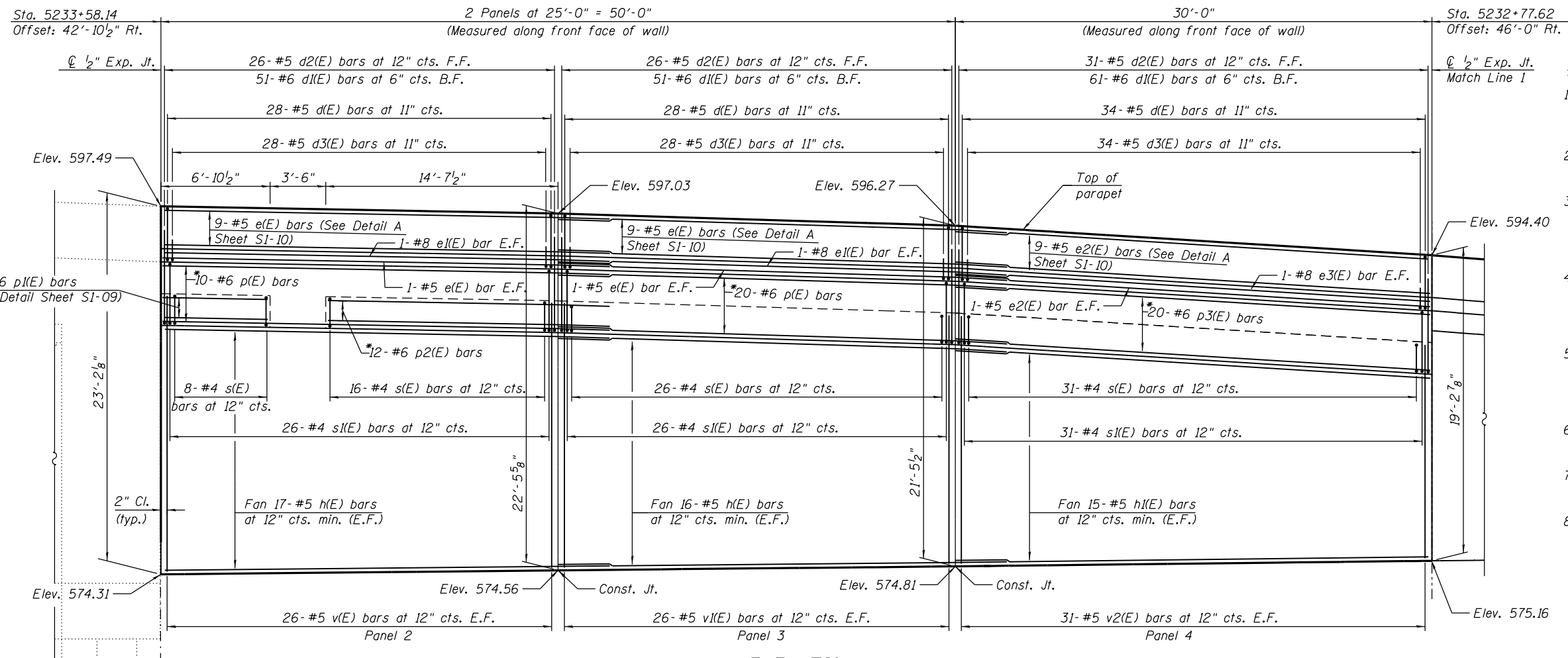
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRACED EXCAVATION AND SOIL RETENTION SYSTEM NO. 2 REMOVAL  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)**

SHEET 51-06 OF 51-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-07TR	COOK	317	138B
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				





**ELEVATION**

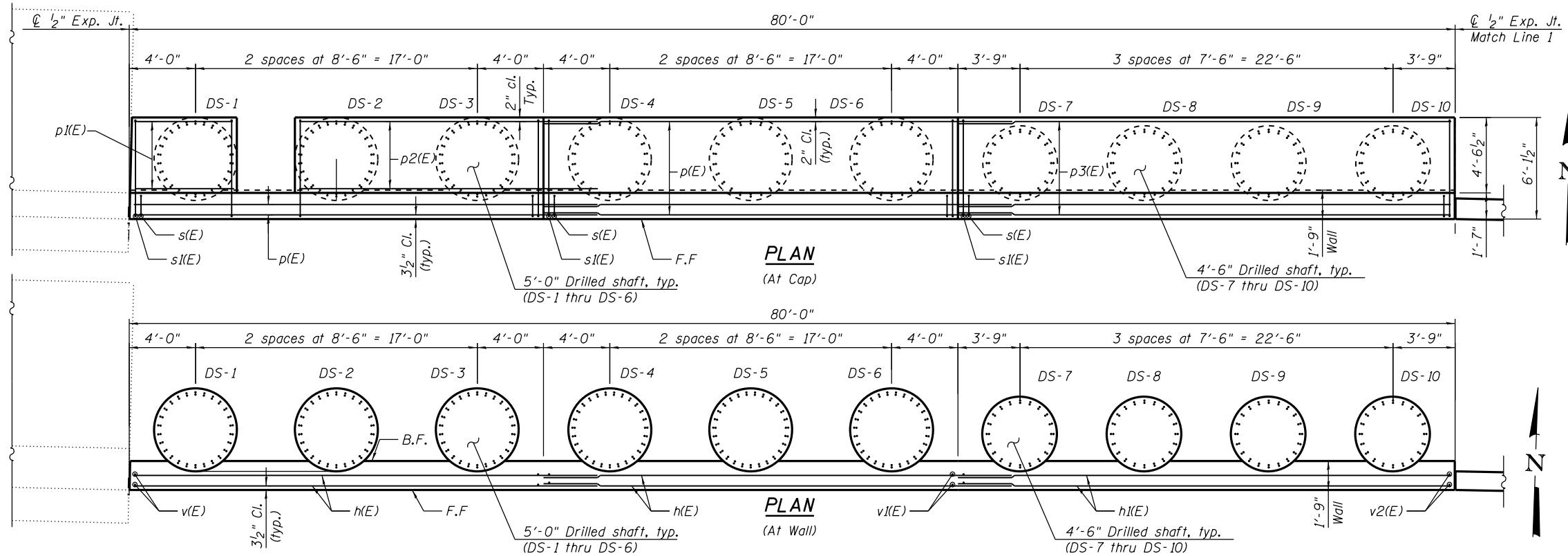
\* See drilled shafts wall cross sections on Sheet S1-10

**SUGGESTED CONSTRUCTION SEQUENCE**

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals, of, existing utilities with utility owner.
2. Install Drilled Shaft DS-2 through DS-10 and Drilled Soldier Piles.
3. Install Temporary Soil Retention System No. 2 and remove all interfering portions of the existing braced excavation and Soil Retention System No. 2 installed during Contract 60W25.
4. Excavate for Retaining Wall 5. Install temporary lagging for Drilled Shafts DS-2 through DS-10 and Drilled Soldier Piles from top down as excavation proceeds.
5. Install Drilled Shaft DS-1 and remaining portions of wood lagging for Retaining Wall 5 and backfill area between wood lagging and Temporary Soil Retention System No. 2 with Granular Backfill for Structures.
6. Install concrete facing on Drilled Shafts and Drilled Soldier Piles for Retaining Wall 5.
7. Install Temporary Soil Retention System No. 1 and complete Removal of Existing Structures No. 1.
8. After completion of the concrete facing for Retaining Wall 6 (SN 016-1725), Excavate to proposed subgrade depth of the Morgan Street Exit Ramp between Retaining Walls 5 and 6 in accordance with the Civil Plans and Typical Sections. Construction loading behind the wall shall be restricted if possible until installation of storm sewers in front of the Retaining Wall 5 has been completed and backfilled with CLSM (see Note 9).
9. Install 12"Ø and 15"Ø storm sewers and drainage structures located in front of the wall. To minimize the impact to the recently constructed Retaining Wall 5, the excavation should be opened for a limited time period and the trench shall be backfilled with Controlled Low Strength Material (CLSM) as shown in the Civil Plans.
10. After installation of the storm sewers and drainage structures located in front of Retaining Wall 6 (SN 016-1725), install the roadway (subgrade, subbase and pavement) for Morgan Street Exit Ramp.

**NOTES:**

1. For drilled shafts typical wall cross sections and details, see Sheet S1-03.
2. For drilled shafts layout, cross sections and details, minimum bar laps, and Bill of Material, see Sheets S1-10 and S1-11.



**PLAN (At Cap)**

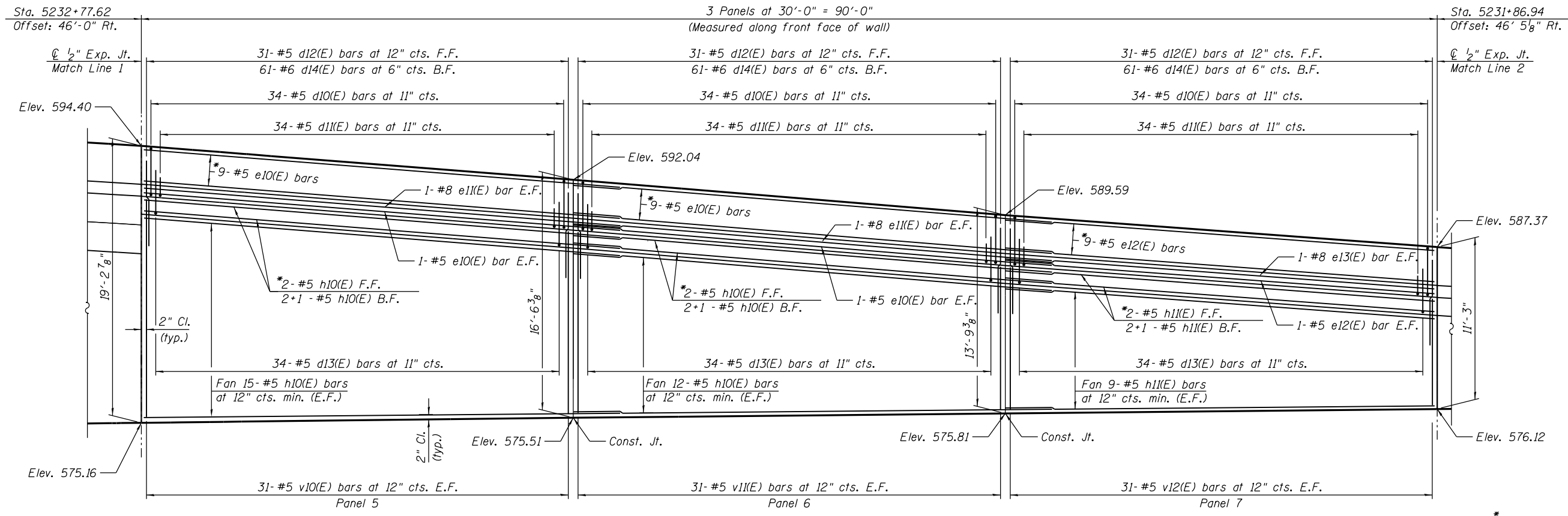
**PLAN (At Wall)**

**LEGEND:**

B.F. - Back Face.  
E.F. - Each Face.  
F.F. - Front Face.

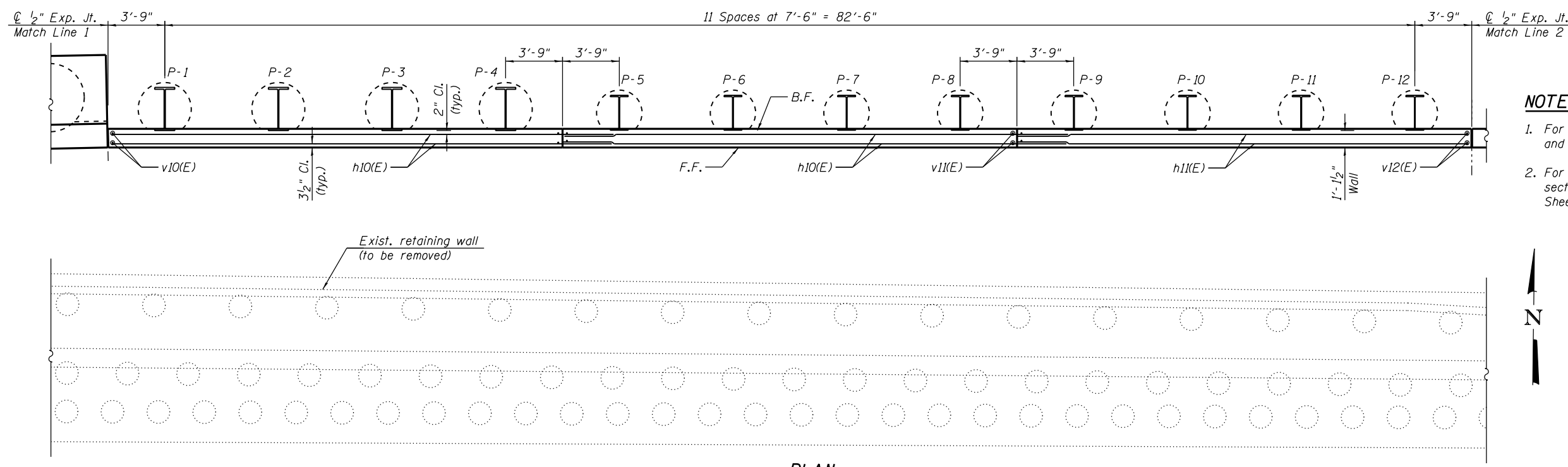
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<b>HBM</b> ENGINEERING GROUP, LLC CONSULTING & DESIGN INSPECTION & RATING RESEARCH & TESTING 4415 WEST HARRISON ST. SUITE 231 HILLSIDE, IL 60162 PHONE: (708) 236-0900 FAX: (708) 236-0901	0161724-60X61-S107-Elevation.lgdg	DESIGNED - WM, ARA	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND ELEVATION (STA. 5233 + 58.14 TO STA. 5232 + 77.62)</b> <b>RETAINING WALL 5 (STRUCTURE NO. 016-1724)</b>	F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	USER NAME = ahmad.issa	DRAWN - FA, MAA, WM	REVISED -			90/94/290	2013-07TR	COOK	317	139
	PLOT SCALE = 8:0 "1" / 1"	CHECKED - MI, JJS	REVISED -			CONTRACT NO. 60X61				
	PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -			ILLINOIS FED. AID PROJECT				



**ELEVATION**

\* See typical soldier pile wall cross section on sheet S1-12



**PLAN**

(Parapet not shown for clarity)

**NOTES:**

1. For soldier pile typical wall cross sections and details, see Sheet S1-04.
2. For soldier pile layout, minimum bar laps, sections and details and Bill of Material, see Sheet S1-12.



**LEGEND:**

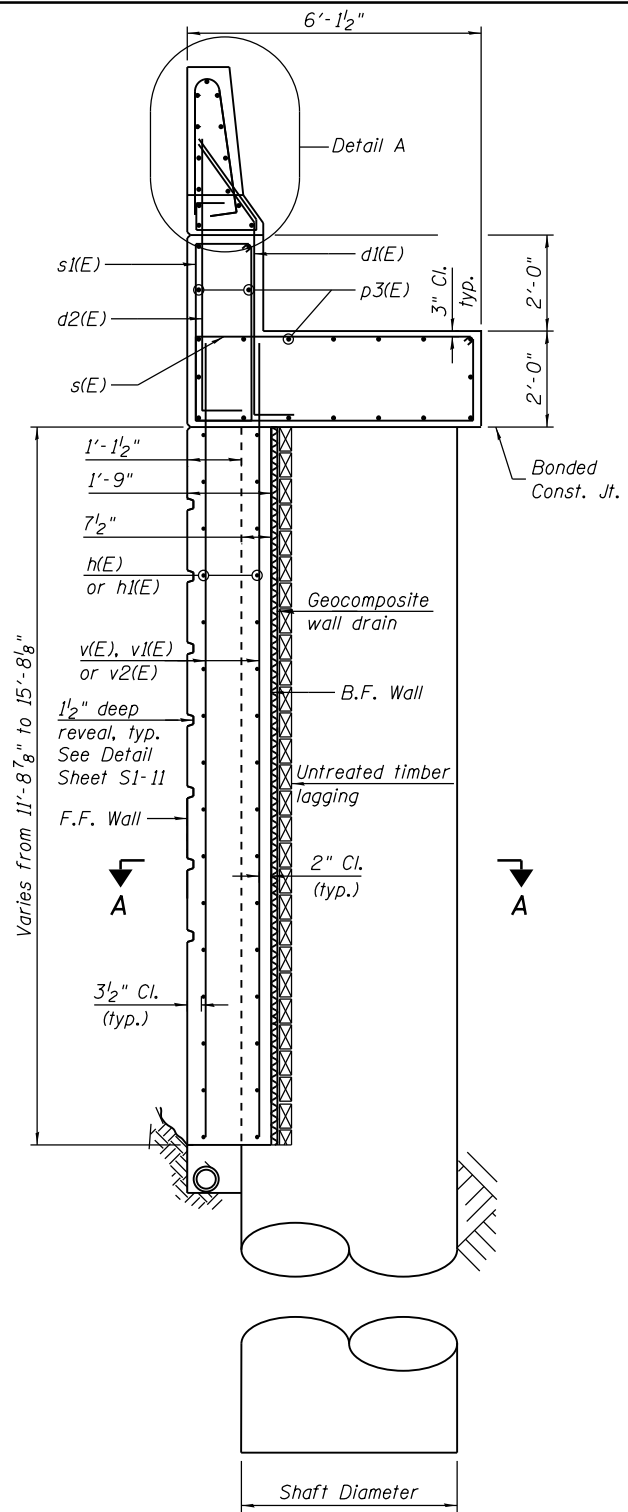
B.F. - Back Face.  
E.F. - Each Face.  
F.F. - Front Face.

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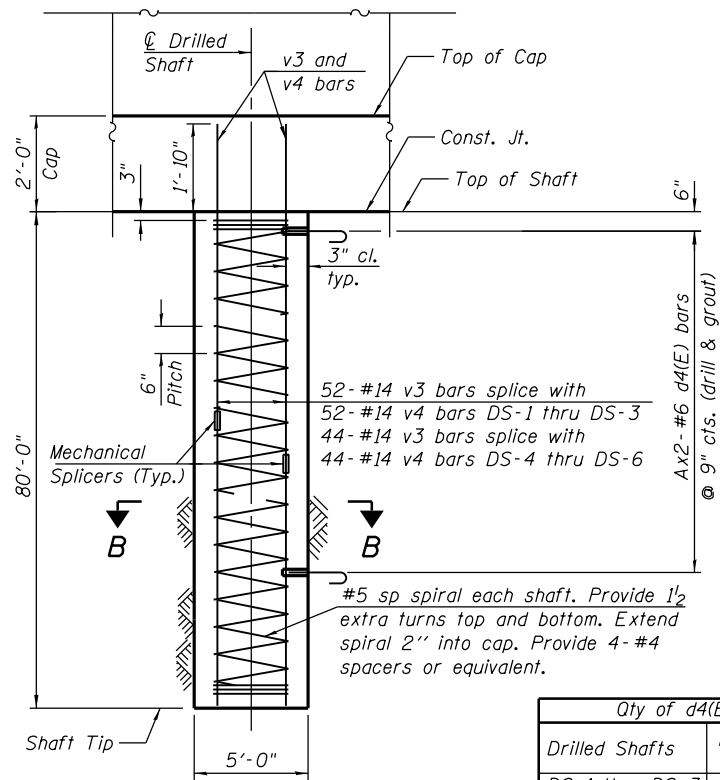
<b>HBM</b> ENGINEERING GROUP, LLC CONSULTING & DESIGN INSPECTION & RATING RESEARCH & TESTING 4415 WEST HARRISON ST. SUITE 231 HILLSIDE, IL 60162 PHONE: (708) 236-0900 FAX: (708) 236-0901	0161724-60X61-5108-Elevation II.dgn	DESIGNED - WM, ARA	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PLAN AND ELEVATION (STA. 5232 + 77.62 TO STA. 5231 + 86.94)</b> <b>RETAINING WALL 5 (STRUCTURE NO. 016-1724)</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -			ILLINOIS FED. AID PROJECT				



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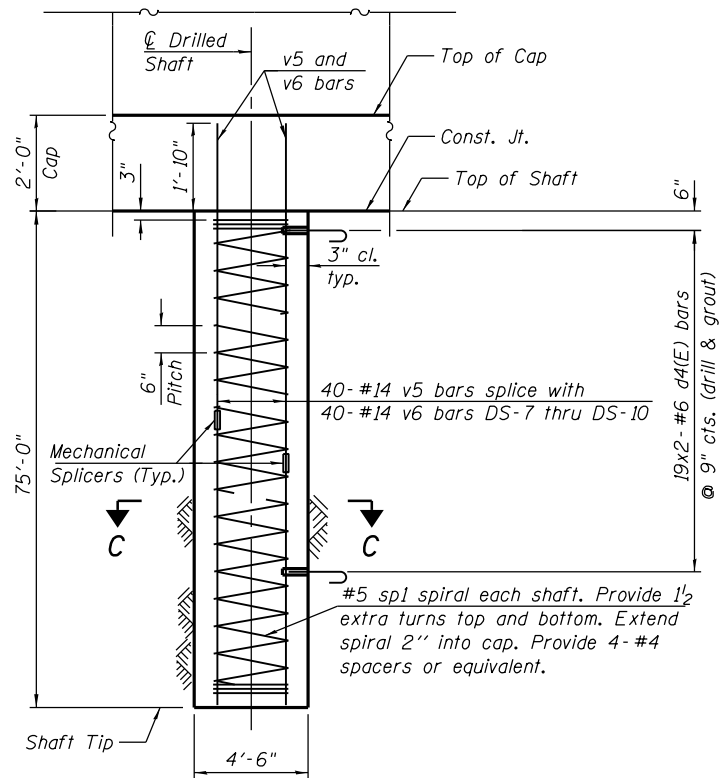


**DRILLED SHAFTS WALL CROSS SECTION**  
(DS-1 thru DS-10)

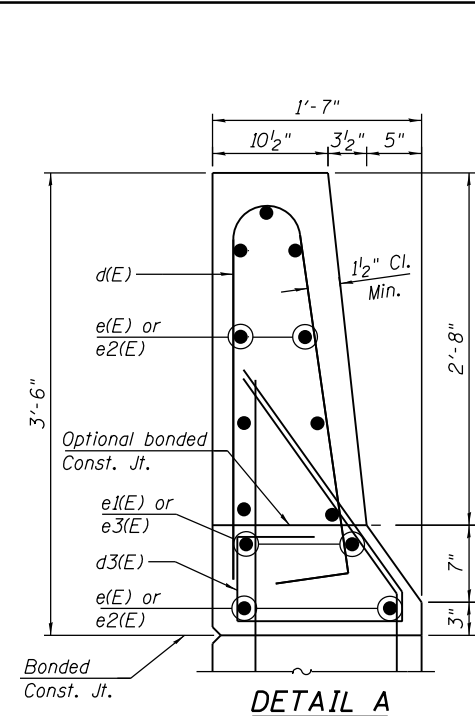


**TYPICAL SHAFT ELEVATION**  
(DS-1 thru DS-6)

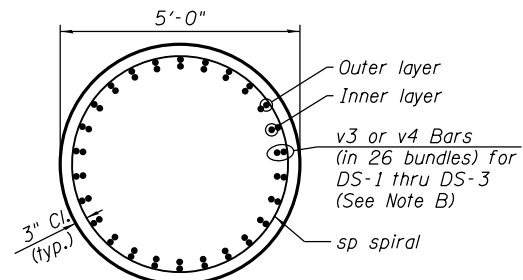
Qty of d4(E)	
Drilled Shafts	"A" Value
DS-1 thru DS-3	22
DS-4 thru DS-6	21



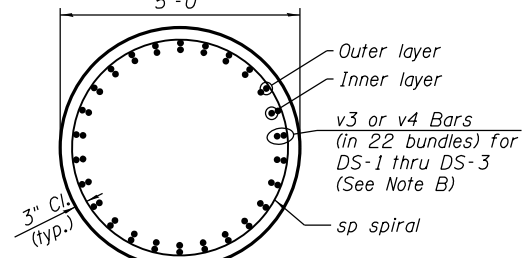
**TYPICAL SHAFT ELEVATION**  
(DS-7 thru DS-10)



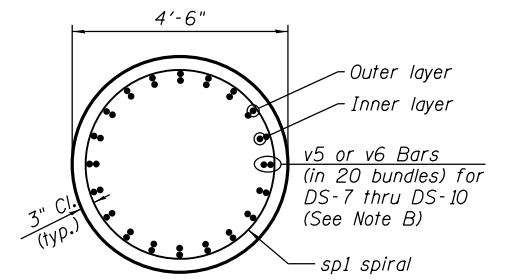
**DETAIL A**



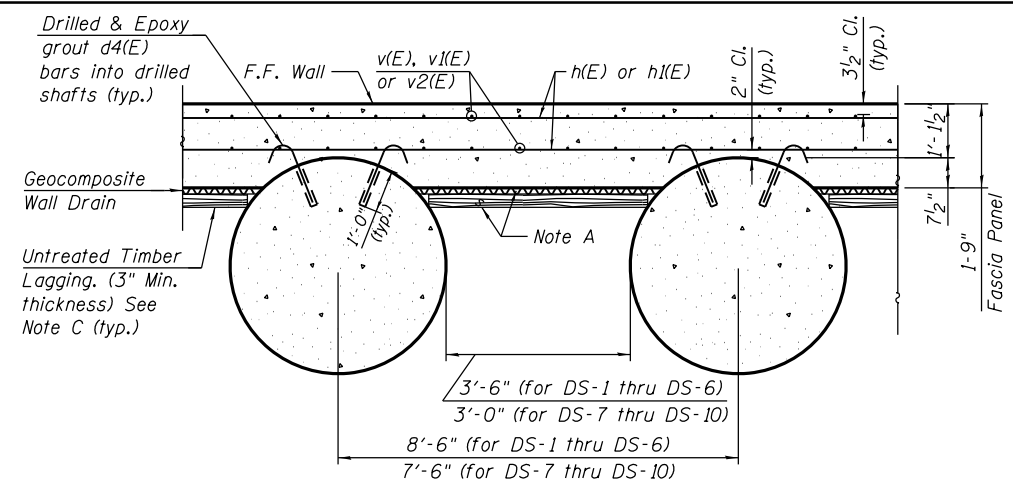
**SECTION B-B**  
(DS-1 thru DS-3)



**SECTION B-B**  
(DS-4 thru DS-6)



**SECTION C-C**  
(DS-7 thru DS-10)



**SECTION A-A**

(Shaft reinforcement not shown for clarity)

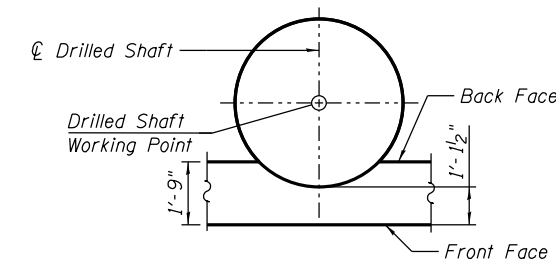
**Note A**  
Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Concrete Structures.

**Note B**  
Bundle bars in inner layer with bars in outer layer.

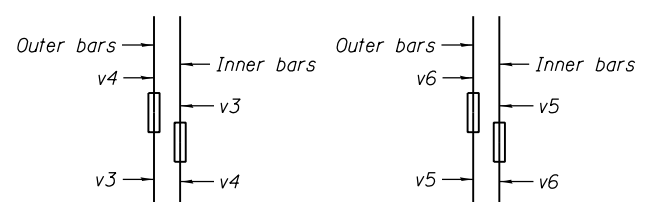
**Note C**  
The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer. Cost included with Concrete Structures.

**NOTES**

- When splicing spiral reinforcement is necessary, the spiral shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.
- For Bill of Material, see Sheet S1-11



**DRILLED SHAFTS WORKING POINT**



**BARS v3 & v4**  
(DS-1 thru DS-6)

**BARS v5 & v6**  
(DS-7 thru DS-10)

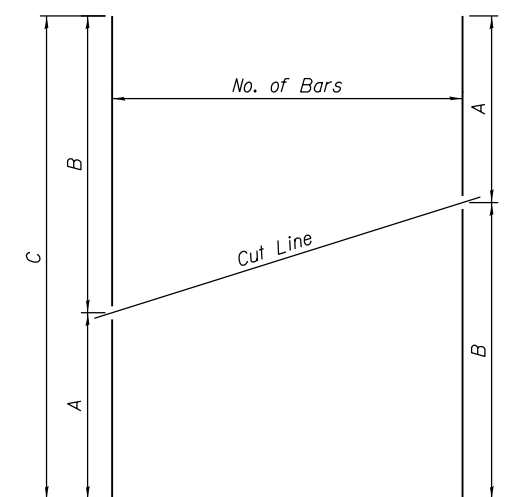
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	90	#5	6'-10"	
d1(E)	163	#6	6'-11"	
d2(E)	83	#5	6'-10"	
d3(E)	90	#5	4'-5"	
d4(E)	410	#6	2'-2"	
e(E)	22	#5	28'-1"	————
e1(E)	4	#8	31'-7"	————
e2(E)	11	#5	29'-8"	————
e3(E)	2	#8	29'-8"	————
h(E)	66	#5	28'-1"	————
h1(E)	30	#5	29'-8"	————
p(E)	30	#6	28'-8"	————
p1(E)	12	#6	6'-6"	————
p2(E)	12	#6	14'-3"	————
p3(E)	20	#6	29'-8"	————
s(E)	81	#4	15'-5"	
s1(E)	83	#4	10'-3"	
* sp	6	#5	80'-0"	
* sp1	4	#5	75'-0"	
v(E)	26	#5	34'-1"	————
v1(E)	26	#5	32'-4"	————
v2(E)	31	#5	29'-1"	————
v3	288	#14	45'-0"	————
v4	288	#14	36'-9"	————
v5	160	#14	42'-6"	————
v6	160	#14	34'-3"	————
Structure Excavation	CU YD		227	
Concrete Structures	CU YD		118	
Concrete Superstructure	CU YD		12	
Protective Coat	SQ YD		72	
Reinforcement Bars	POUND		296,520	
Reinforcement Bars, Epoxy Coated	POUND		15,720	
Mechanical Splicers	EACH		448	
Drilled Shaft in Soil	CU YD		526	
Concrete Sealer	SQ FT		1,450	
Geocomposite Wall Drain	SQ YD		76	
Crosshole Sonic Logging	EACH		3	
Untreated Timber Lagging	SQ FT		689	
Pipe Underdrain for Structures, 4"	FOOT		82	

\* Length is the height of the spiral.

**DRILLED SHAFT LAYOUT**

Shaft	Station at Working Point	Offset	Top of Parapet El.	Top of Shaft El.	Bot. of Wall El.	Diameter	Shaft Tip El.	Drilled Shaft Length
DS-1	5233+54.27	46'-8 <sup>1</sup> / <sub>8</sub> " Rt.	597.42	589.92	574.35	60"	509.92	80'-0"
DS-2	5233+45.72	47'-0 <sup>5</sup> / <sub>8</sub> " Rt.	597.26	589.76	574.43	60"	509.76	80'-0"
DS-3	5233+37.16	47'-5" Rt.	597.11	589.61	574.52	60"	509.61	80'-0"
DS-4	5233+29.11	47'-9" Rt.	596.91	589.41	574.60	60"	509.41	80'-0"
DS-5	5233+20.55	48'-1 <sup>1</sup> / <sub>8</sub> " Rt.	596.65	589.15	574.68	60"	509.15	80'-0"
DS-6	5233+11.99	48'-5" Rt.	596.39	588.89	574.77	60"	508.89	80'-0"
DS-7	5233+04.17	48'-5 <sup>1</sup> / <sub>2</sub> " Rt.	596.03	588.53	574.85	54"	513.53	75'-0"
DS-8	5232+96.62	48'-8 <sup>3</sup> / <sub>4</sub> " Rt.	595.57	588.07	574.94	54"	513.07	75'-0"
DS-9	5232+89.06	48'-11 <sup>7</sup> / <sub>8</sub> " Rt.	595.10	587.60	575.03	54"	512.60	75'-0"
DS-10	5232+81.51	49'-3" Rt.	594.64	587.14	575.12	54"	512.14	75'-0"

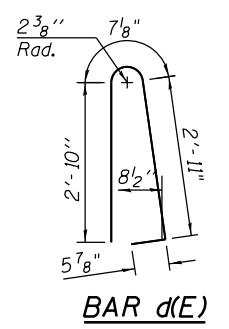


**SERIES OF BAR CUTTING DIAGRAM**

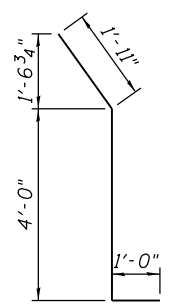
See table for dimensions. Make all cuts normal to bar axis

**BAR TABLE SCHEDULE**

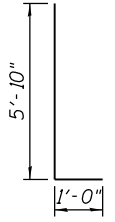
Bar	No. of Sets Req'd	Bar No.	No. of Bars Per Set	A	B	C
v(E)	1	#5	26	17'-5"	16'-8"	34'-1"
v1(E)	1	#5	26	16'-8"	15'-8"	32'-4"
v2(E)	1	#5	31	15'-8"	13'-5"	29'-1"



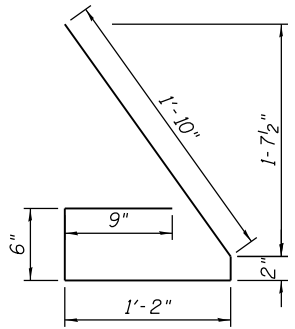
**BAR d(E)**



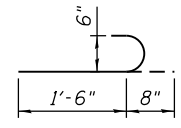
**BAR d1(E)**



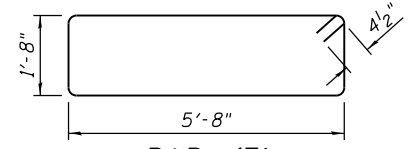
**BAR d2(E)**



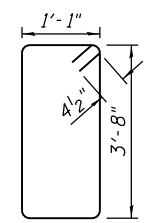
**BAR d3(E)**



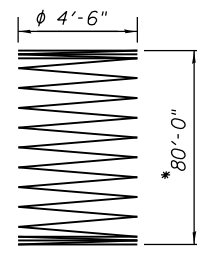
**BAR d4(E)**



**BAR s(E)**

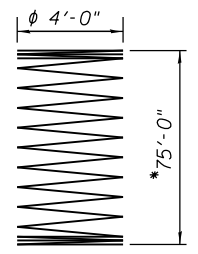


**BAR s1(E)**



**BAR sp**

(DS-1 thru DS-6)



**BAR sp1**

(DS-7 thru DS-10)

Bar	Lap
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"

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0161724-60X61-S111-DrilledShaftWallDetailsAndBOM.dgn	DESIGNED - WM, ARA	REVISED -
USER NAME = will.mardaus	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 4:0 '1' / 1"	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFT WALL DETAILS AND BILL OF MATERIAL**  
**RETAINING WALL 5 (STRUCTURE NO. 016-1724)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	142A
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

SHEETS-11 OF 51-19 SHEETS

**PILE LAYOUT**

Pile	Station at Working Point	Offset	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Auger $\phi$	Pile Tip El.	Pile Length
P-1	5232+73.88	48'-7 $\frac{1}{8}$ " Rt.	594.11	589.11	575.20	W33X241	3'-6"	524.11	65'-0"
P-2	5232+66.32	48'-8" Rt.	593.52	588.52	575.29	W33X241	3'-6"	523.52	65'-0"
P-3	5232+58.76	48'-8 $\frac{3}{8}$ " Rt.	592.93	587.93	575.38	W33X241	3'-6"	522.93	65'-0"
P-4	5232+51.20	48'-9 $\frac{3}{4}$ " Rt.	592.34	587.34	575.47	W33X241	3'-6"	522.34	65'-0"
P-5	5232+43.64	48'-7 $\frac{3}{8}$ " Rt.	591.74	586.74	575.55	W27X129	3'-0"	526.74	60'-0"
P-6	5232+36.08	48'-7 $\frac{7}{8}$ " Rt.	591.12	586.12	575.62	W27X129	3'-0"	526.12	60'-0"
P-7	5232+28.52	48'-8 $\frac{3}{8}$ " Rt.	590.51	585.51	575.70	W27X129	3'-0"	525.51	60'-0"
P-8	5232+20.96	48'-8 $\frac{5}{8}$ " Rt.	589.90	584.90	575.78	W27X129	3'-0"	524.90	60'-0"
P-9	5232+13.40	48'-8 $\frac{7}{8}$ " Rt.	589.31	584.31	575.85	W27X129	3'-0"	524.31	60'-0"
P-10	5232+05.84	48'-9" Rt.	588.76	583.76	575.93	W27X129	3'-0"	523.76	60'-0"
P-11	5231+98.28	48'-9" Rt.	588.20	583.20	576.00	W27X129	3'-0"	523.20	60'-0"
P-12	5231+90.72	48'-8 $\frac{7}{8}$ " Rt.	587.65	582.65	576.08	W27X129	3'-0"	522.65	60'-0"
P-13	5231+83.16	48'-5 $\frac{7}{8}$ " Rt.	587.12	582.12	576.15	W21X122	2'-6"	527.12	55'-0"
P-14	5231+75.61	48'-5 $\frac{1}{2}$ " Rt.	586.61	581.61	576.21	W21X122	2'-6"	526.61	55'-0"
P-15	5231+68.05	48'-5" Rt.	586.10	581.10	576.27	W21X122	2'-6"	526.10	55'-0"
P-16	5231+60.49	48'-4 $\frac{1}{2}$ " Rt.	585.60	580.60	576.33	W21X122	2'-6"	525.60	55'-0"
P-17	5231+52.93	48'-3 $\frac{7}{8}$ " Rt.	585.14	580.14	576.39	W21X122	2'-6"	525.14	55'-0"
P-18	5231+45.37	48'-3" Rt.	584.74	579.74	576.45	W21X122	2'-6"	524.74	55'-0"
P-19	5231+37.81	48'-2 $\frac{1}{8}$ " Rt.	584.34	579.34	576.51	W21X122	2'-6"	524.34	55'-0"
P-20	5231+30.25	48'-1 $\frac{1}{8}$ " Rt.	583.93	578.93	576.57	W21X122	2'-6"	523.93	55'-0"

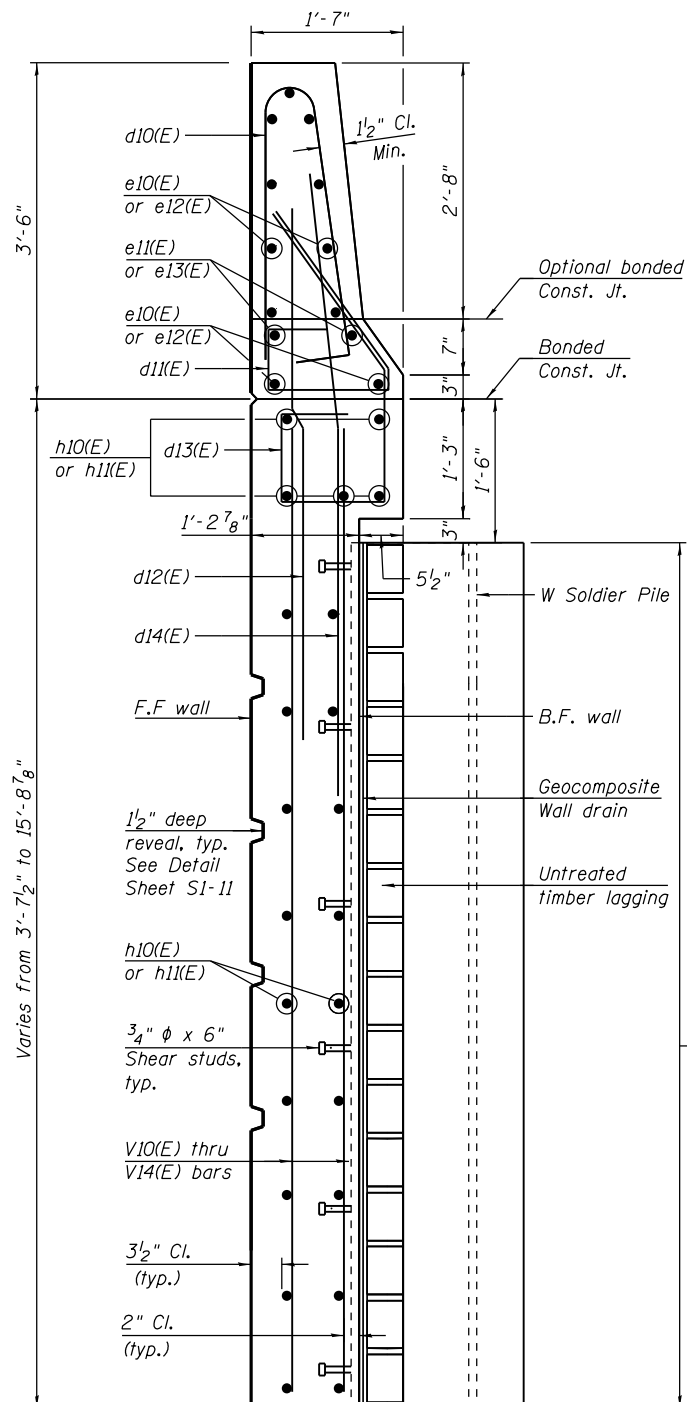
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d10(E)	170	#5	6'-10"	
d11(E)	170	#5	4'-5"	
d12(E)	155	#5	6'-6"	
d13(E)	170	#5	6'-6"	
d14(E)	305	#6	6'-9"	
e10(E)	33	#5	33'-1"	
e11(E)	6	#8	36'-7"	
e12(E)	22	#5	29'-8"	
e13(E)	4	#8	29'-8"	
h10(E)	83	#5	33'-1"	
h11(E)	36	#5	29'-8"	
v10(E)	31	#5	28'-2"	
v11(E)	31	#5	22'-9"	
v12(E)	31	#5	17'-6"	
v13(E)	31	#5	12'-8"	
v14(E)	31	#5	8'-6"	
Structure Excavation		CU YD	234	
Concrete Structures		CU YD	67	
Concrete Superstructures		CU YD	22	
Protective Coat		SQ YD	134	
Stud Shear Connectors		Each	318	
Reinforcement Bars, Epoxy Coated		POUND	16,890	
Concrete Sealer		SQ FT	1,387	
Geocomposite Wall Drain		SQ YD	83	
Drilling and Setting Soldier Piles (in Soil)		CU FT	7,168	
Untreated Timber Lagging		SQ FT	1,162	
Furnishing Soldier Piles (W Section)		FOOT	1,180	
Pipe Underdrains for Structures, 4"		FOOT	152	

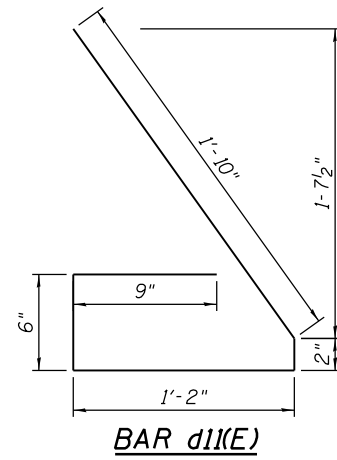
**BAR TABLE SCHEDULE**

Bar	No. of Sets Req'd	Bar No.	No. of Bars Per Set	A	B	C
v10(E)	1	#5	31	15'-5"	12'-9"	28'-2"
v11(E)	1	#5	31	12'-9"	10'-0"	22'-9"
v12(E)	1	#5	31	10'-0"	7'-6"	17'-6"
v13(E)	1	#5	31	7'-6"	5'-2"	12'-8"
v14(E)	1	#5	31	5'-2"	3'-4"	8'-6"

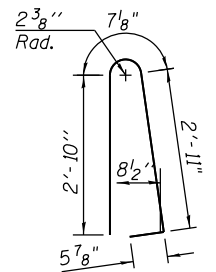
Minimum Bar Laps	
Bar	Lap
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"



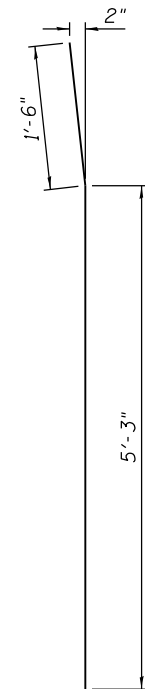
**TYPICAL SOLDIER PILE WALL CROSS SECTION**



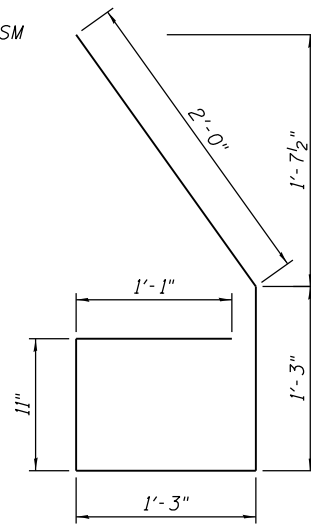
**BAR d11(E)**



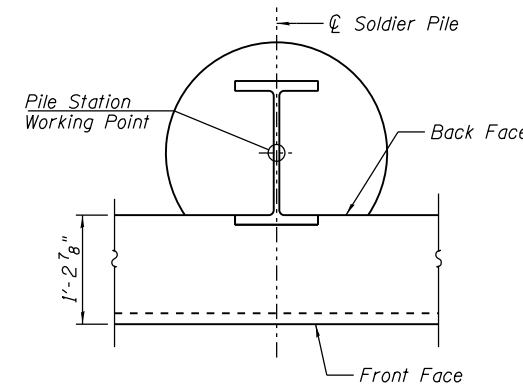
**BAR d10(E)**



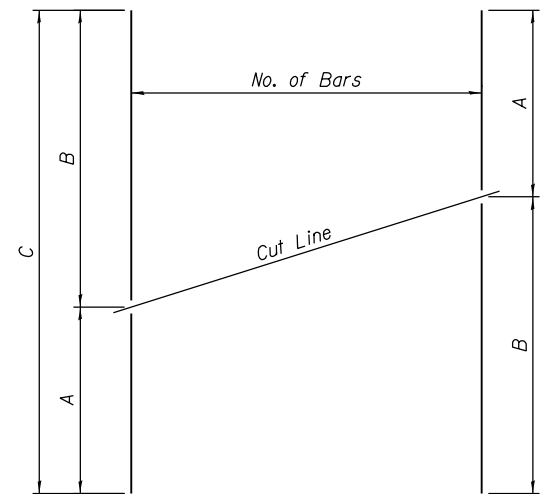
**BAR d14(E)**



**BAR d13(E)**



**SOLDIER PILE WORKING POINT**



**SERIES OF BAR CUTTING DIAGRAM**

See table for dimensions. Make all cuts normal to bar axis

FILE PATH = p:\617479-PM\INT.\ascom\line\local\HBM\CDM\_0502\_NA\Documents\01\_Americas\T-Engor\station\60269938\_Circle\Phase\_11\000\_CAD\008\_Structure\Structure\_0161724-60X61-Prj\Summary\_Plans\0161724-60X61-S112-SoldierPileWall.dgn

**HBM**  
ENGINEERING GROUP, LLC  
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DESIGNED - WM, ARA  
DRAWN - FA, MAA, WM  
CHECKED - MI, JJS  
DATE - 10/17/2014

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL SECTIONS, DETAILS AND BILL OF MATERIAL  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)

SHEET 51-12 OF 51-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	143

CONTRACT NO. 60X61  
ILLINOIS FED. AID PROJECT





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### BORING LOG 05-RWB-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 581.24 ft  
North: 1898082.68 ft  
East: 1170171.79 ft  
Station: 3644+44.36 (5230+87.43)  
Offset: 28.16 LT (36.81 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
580.9	4-inch thick, ASPHALT --PAVEMENT--												
580.1	10-inch thick, CONCRETE --PAVEMENT--												
579.4	8-inch thick, white CRUSHED STONE --BASE COURSE--		1	8 4 4	NP	13				11	0 0 1	0.25	26
	Stiff to very stiff, dark gray SILTY CLAY LOAM, trace gravel --FILL--		2	4 13 13	1.64 B	24				12	0 2 2	0.41	28
575.7	Very dense, black GRAVELLY SANDY LOAM --FILL--		3	50/5"	NP	19				13	0 3 2	0.25	27
573.7	Stiff (1.25P), gray SILTY CLAY LOAM, trace gravel		4	2 2 3	0.25 P	26				14	2 4 5	0.90	20
572.5	Very soft to medium stiff, gray CLAY to SILTY CLAY		5	0 0 1	0.25 P	23				15	5 10 22	3.28	14
			6	0 0 3	0.25 P	21				16	6 11 14	3.85	18
			7	1 2 1	0.25 P	22	539.5	Very stiff, gray SILTY CLAY LOAM, trace gravel					
			8	0 0 2	0.25 P	28							
			9	0 0 2	0.25 P	26							
			10	0 0 1	0.25 P	24							

#### GENERAL NOTES

Begin Drilling 04-14-2013 Complete Drilling 04-14-2013  
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR  
Driller R&N Logger A. Happel Checked by C. Marin  
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring  
backfilled upon completion

#### WATER LEVEL DATA

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

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



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### BORING LOG 05-RWB-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 581.24 ft  
North: 1898082.68 ft  
East: 1170171.79 ft  
Station: 3644+44.36 (5230+87.43)  
Offset: 28.16 LT (36.81 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			17	6 8 11	3.20 B	25							
524.5	Hard, gray SILTY LOAM, trace gravel and seams of fine sand --LL(%)=24, PL(%)=14-- --%Gravel=4.0-- --%Sand=26.3-- --%Silt=56.5-- --%Clay=13.2-- --A-4 (4)--		18	23 40 50/5"	4.92 B	12							
519.5	Very stiff to hard, gray SILTY CLAY LOAM, trace gravel		19	17 27 30	7.67 B	15							
			20	14 20 21	4.50 P	14							
			21	37 60/5"	2.21 S	10							
506.2	Boring terminated at 75.00 ft												

#### GENERAL NOTES

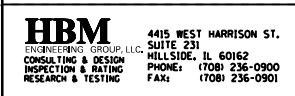
Begin Drilling 04-14-2013 Complete Drilling 04-14-2013  
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR  
Driller R&N Logger A. Happel Checked by C. Marin  
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring  
backfilled upon completion

#### WATER LEVEL DATA

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

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

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DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS I  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET 51-14 OF 51-19 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	145
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				











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### BORING LOG 06-RWB-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
 Elevation: 583.99 ft  
 North: 1898106.36 ft  
 East: 1170373.84 ft  
 Station: 5228+84.58  
 Offset: 53.62 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
583.1	11-inch thick, black SILTY CLAY LOAM, some grass --TOPSOIL--	0		1	PUSH	2.00 P	10								
581.7	Very stiff, brown and gray SILTY CLAY LOAM, little gravel --FILL--	1		2	PUSH	3.50 P	17								
	Stiff to hard, brown and gray SILTY CLAY LOAM, trace gravel	5		3	PUSH	4.25 P	18								
				4	PUSH	2.50 P	16								
	2-inch thick SAND seam			5	PUSH	1.50 P	19								
574.2	Very soft, gray CLAY to SILTY CLAY, trace gravel	10		6	PUSH	0.25 P	21								
572.0	Boring terminated at 12.00 ft														

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

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-15-2013	Complete Drilling	04-15-2013	While Drilling	☐	DRY	
Drilling Contractor	Wang Testing Services	Drill Rig	Geoprobe HA	At Completion of Drilling	☐	DRY	
Driller	F&R	Logger	R. Gortagunta	Time After Drilling	NA		
Drilling Method	1" IDA Pneumatic Geoprobe LB Sampler			Depth to Water	☐	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

FILE PATH = p:\617479-PMINT\recomon\line\local\BECM\0502\_NA\Documents\01\_Americas\T\engor\station\60269438\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1724\60X61- Preliminary\_Plans\0161724-60X61-S118-BoringLog\_V



4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

DESIGNED -	WM	REVISED -	
DRAWN -	WM	REVISED -	
CHECKED -	MI, JJS	REVISED -	
DATE -	10/17/2014	REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS V  
 RETAINING WALL 5 (STRUCTURE NO. 016-1724)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	148A
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



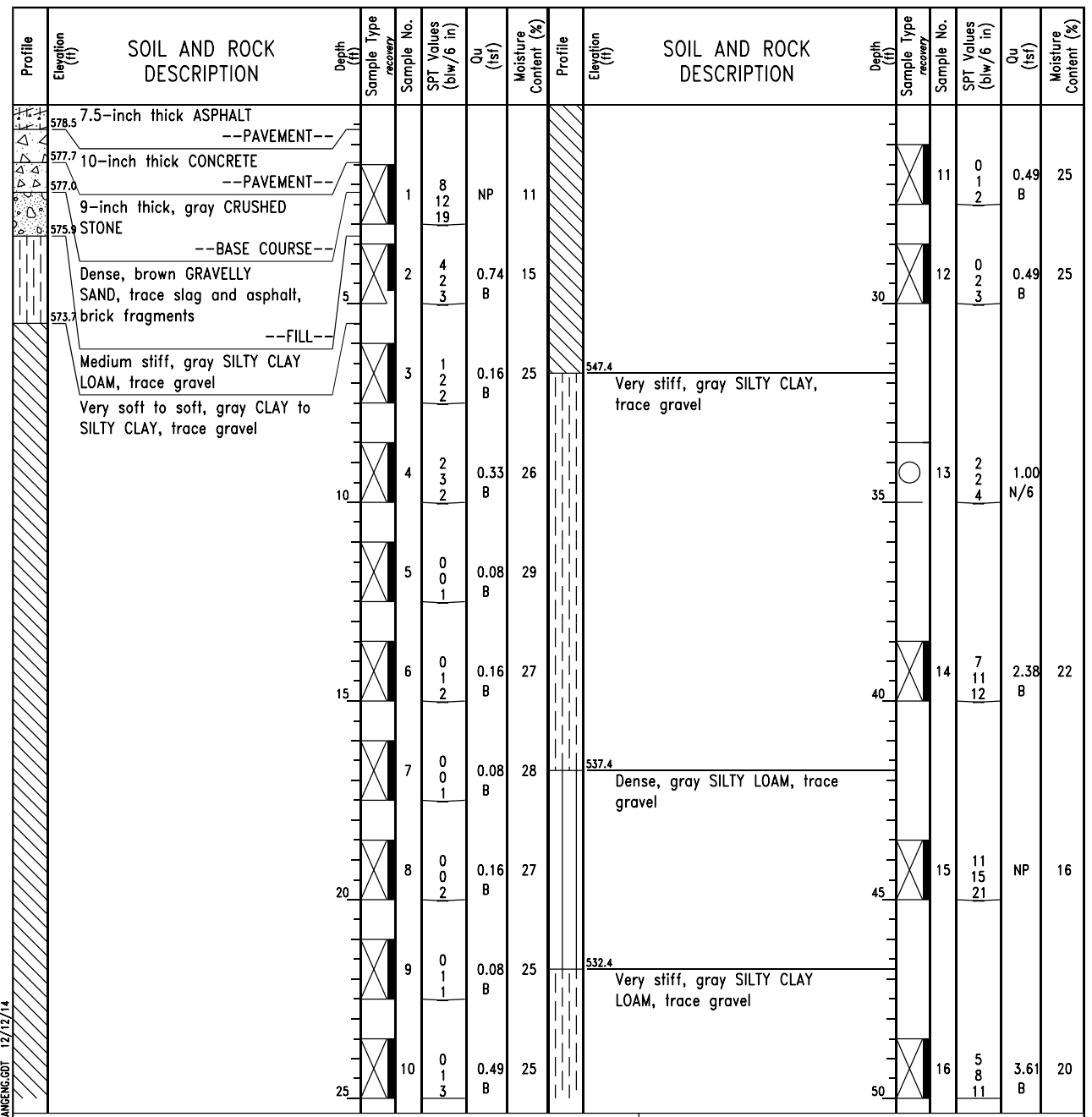
wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

### BORING LOG 06-RWB-02

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898097.14 ft  
East: 1170215.28 ft  
Station: 3644+00.68 (5230+43.49)  
Offset: 14.27 LT (49.80 RT)



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion	Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	
While Drilling	Rotary wash	At Completion of Drilling	unable to measure



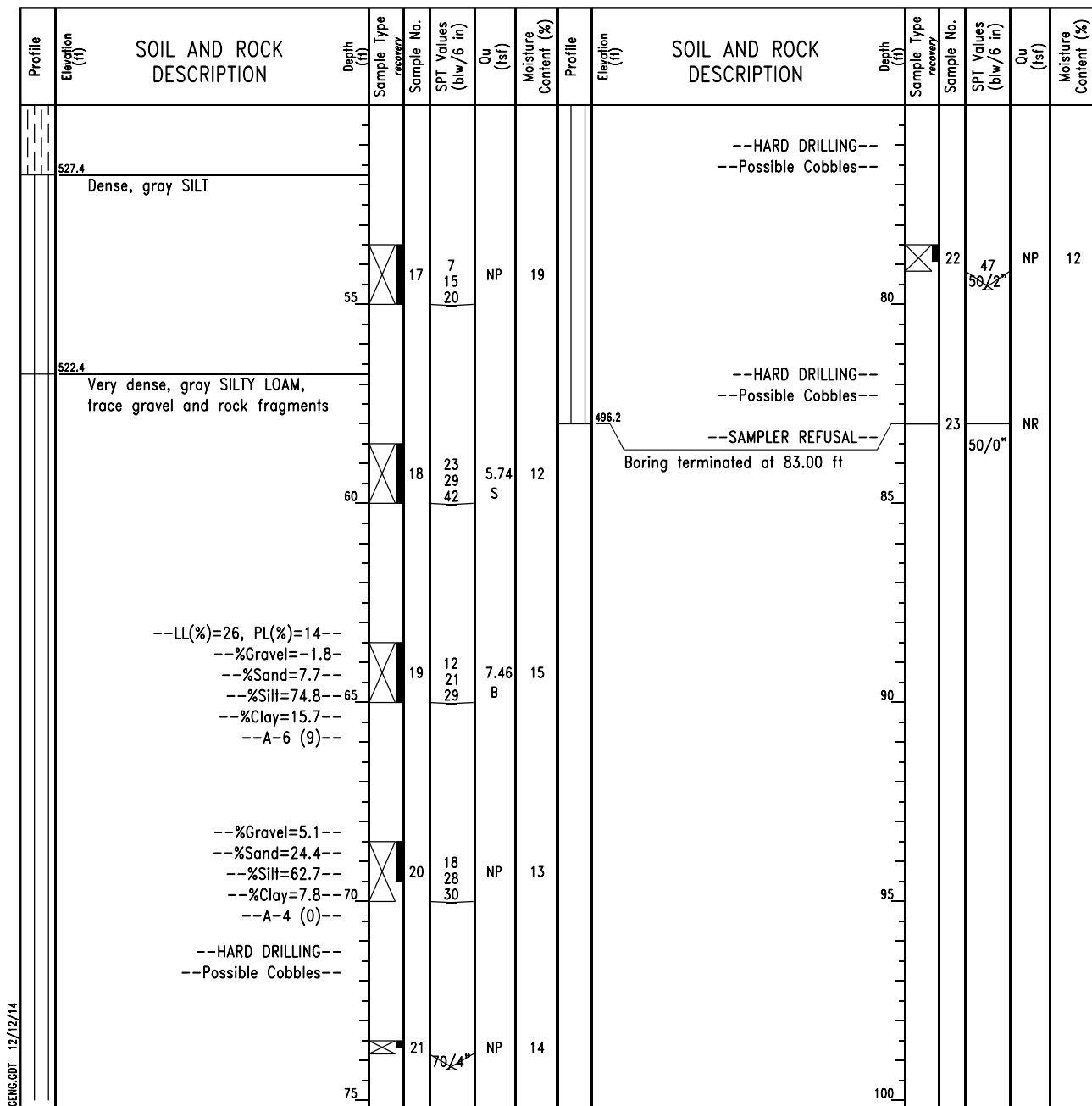
wangeng@wangeng.com  
1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

### BORING LOG 06-RWB-02

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898097.14 ft  
East: 1170215.28 ft  
Station: 3644+00.68 (5230+43.49)  
Offset: 14.27 LT (49.80 RT)



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion	Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	
While Drilling	Rotary wash	At Completion of Drilling	unable to measure

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



4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

DESIGNED	- WM	REVISED	-
DRAWN	- WM	REVISED	-
CHECKED	- MI, JJS	REVISED	-
DATE	- 10/17/2014	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS V  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	148B
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				





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

### BORING LOG 06-RWB-04

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 592.52 ft  
North: 1898100.56 ft  
East: 1169966.85 ft  
Station: 5232+93.66  
Offset: 57.76 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
592.3	3-inch thick ASPHALT --PAVEMENT--												
591.5	12-inch thick CONCRETE --PAVEMENT--												
590.8	6-inch thick, gray CRUSHED STONE --BASE COURSE--												
	Very dense, brown SANDY GRAVEL, trace slag --FILL--		1	15 50/3	NP	10				11	0 1 1	< 0.25 P	27
	Very dense, gray and blue SANDY LOAM, trace slag --FILL--		2	27 29 39	NP	36				12	0 0 1	0.08 B	26
			3	12 26 31	NP	56							
584.5	Medium stiff to stiff, gray SILTY CLAY LOAM, trace gravel		4	2 2 2		1.07 B	23			13	0 1 2	0.16 B	28
			5	2 2 3		0.82 B	14						
579.5	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel		6	0 0 1		0.08 B	20			14	0 0 0	0.08 B	28
			7	0 0 2		0.16 B	23						
			8	0 0 1		0.08 B	25			15	0 2 3	0.66 B	25
			9	0 0 2		0.08 B	27						
			10	0 1 1		0.16 B	27			16	1 3 3	0.74 B	21

--LL%=34, PL%=16--  
--%Gravel=4.2--  
--%Sand=13.2--  
--%Silt=48.8--  
--%Clay=33.8--  
--A-6 (14)--

#### GENERAL NOTES

Begin Drilling 04-15-2013 Complete Drilling 04-16-2013  
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR  
Driller R&J Logger F. Bozga Checked by C. Marin  
Drilling Method 2.25" SSA to 11', mud rotary thereafter, boring  
backfilled upon completion

#### WATER LEVEL DATA

While Drilling  Rotary wash  
At Completion of Drilling  unable to measure  
Time After Drilling NA  
Depth to Water  NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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Fax: 630 953-9938

### BORING LOG 06-RWB-04

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 592.52 ft  
North: 1898100.56 ft  
East: 1169966.85 ft  
Station: 5232+93.66  
Offset: 57.76 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
540.8	Very stiff, gray SILTY CLAY, trace gravel												
			17	1 4 9		2.05 B	23						
			18	5 6 10		2.95 B	19						
			19	10 11 10		3.50 N/6							
525.8	Hard, gray SILTY LOAM, trace gravel												
			20	11 14 18		5.17 B	13						
			21	15 25 35		7.05 B	13						

#### GENERAL NOTES

Begin Drilling 04-15-2013 Complete Drilling 04-16-2013  
Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR  
Driller R&J Logger F. Bozga Checked by C. Marin  
Drilling Method 2.25" SSA to 11', mud rotary thereafter, boring  
backfilled upon completion

#### WATER LEVEL DATA

While Drilling  Rotary wash  
At Completion of Drilling  unable to measure  
Time After Drilling NA  
Depth to Water  NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS VIII  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)

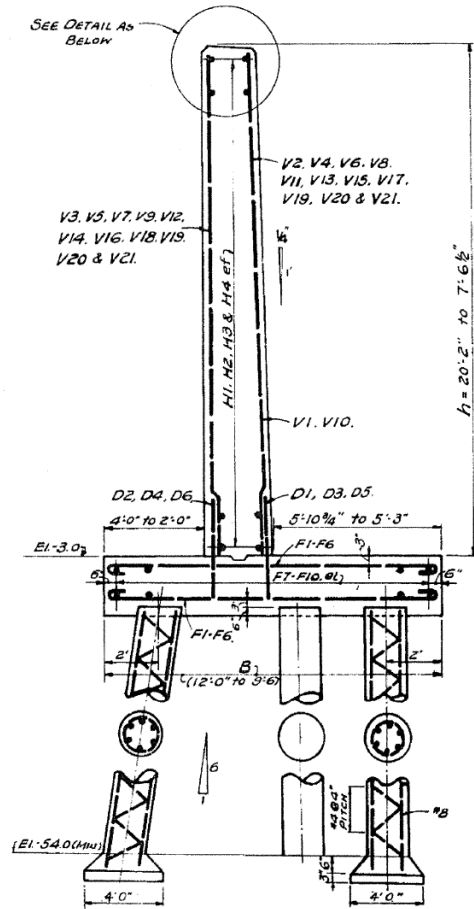
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	148D
CONTRACT NO. 60X61				



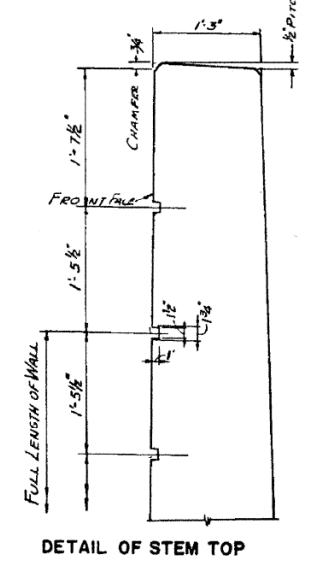








TYPICAL CROSS SECTION W/PILES



DETAIL OF STEM TOP

**BILL OF MATERIALS**  
**BAR BENDING SCHEDULE**

180° HOOK

NO.	SIZE	LENGTH	MARK	L	HOOK A OR G	J	APPROX. H	WEIGHT
126	#8	12'-8"	F1	10'-6"	1'-1"	10"	9"	4261.33
124	#8	12'-5"	F2	10'-3"	1'-1"	10"	9"	4110.92
124	#8	11'-11"	F3	9'-9"	1'-1"	10"	9"	3945.38
124	#8	11'-5"	F4	9'-3"	1'-1"	10"	9"	3779.84
124	#7	10'-5"	F5	8'-9"	10"	7"	7"	2640.17
74	#7	10'-2"	F6	8'-6"	10"	7"	7"	1537.77
<b>TOTAL</b>								<b>20,275.41*</b>

90° HOOK

NO.	SIZE	LENGTH	MARK	L	HOOK A OR G	J	WEIGHT	
138	#7	5'-0 1/2"	D1	4'-0"	1'-0 1/2"	1'-2 1/2"	2040.44	
101	#6	4'-6 1/2"	D2	3'-8"	10 1/2"	1'-0 1/2"	688.98	
196	#7	4'-6 1/2"	D3	3'-6"	1'-0 1/2"	1'-2 1/2"	1819.51	
100	#6	4'-0 1/2"	D4	3'-2"	10 1/2"	1'-0 1/2"	607.06	
167	#6	3'-10 1/2"	D5	3'-0"	10 1/2"	1'-0 1/2"	971.98	
<b>TOTAL</b>								<b>6,127.97</b>

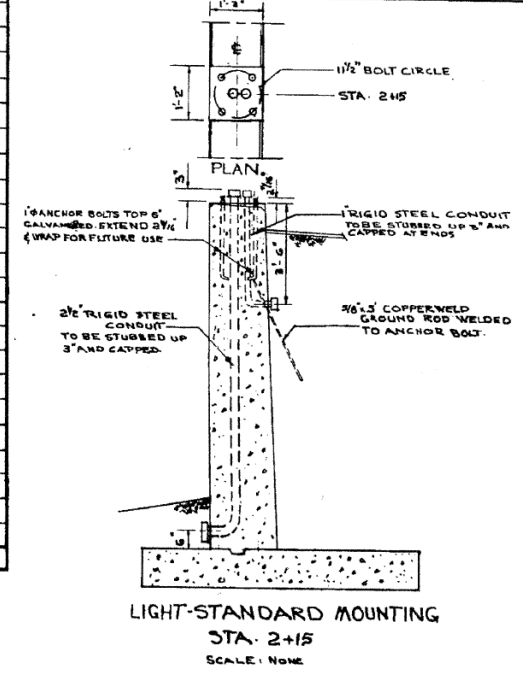
**STRAIGHT BAR**

NO.	SIZE	LENGTH	MARK	WEIGHT
24	#6	49'-6"	F7	1784.38
68	#6	49'-0"	F8	5004.66
20	#5	49'-0"	F9	1022.14
20	#5	29'-0"	F10	604.94
97	#7	10'-0"	V1	1982.68
26	#7	19'-3"	V2	1023.02
26	#6	19'-3"	V3	751.75
25	#7	18'-9"	V4	958.13
25	#6	18'-9"	V5	704.06
25	#7	18'-3"	V6	932.58
25	#6	18'-3"	V7	685.29
25	#7	17'-9"	V8	907.03
25	#6	17'-9"	V9	666.51
96	#7	8'-3"	V10	1618.85
25	#7	16'-9"	V11	855.93
25	#6	16'-9"	V12	628.96
25	#7	15'-6"	V13	792.05
25	#6	15'-6"	V14	582.03
25	#7	13'-9"	V15	702.63
25	#6	13'-9"	V16	516.31
25	#7	12'-3"	V17	625.96
25	#6	12'-3"	V18	459.99
52	#6	10'-9"	V19	839.62
52	#6	9'-0"	V20	702.94
63	#6	7'-3"	V21	686.04
118	#4	26'-0"	H1	2,049.42
158	#4	24'-9"	H2	2,612.21
16	#4	29'-6"	H3	315.30
40	#4	28'-6"	H4	761.52
<b>TOTAL</b>				<b>31,776.93</b>

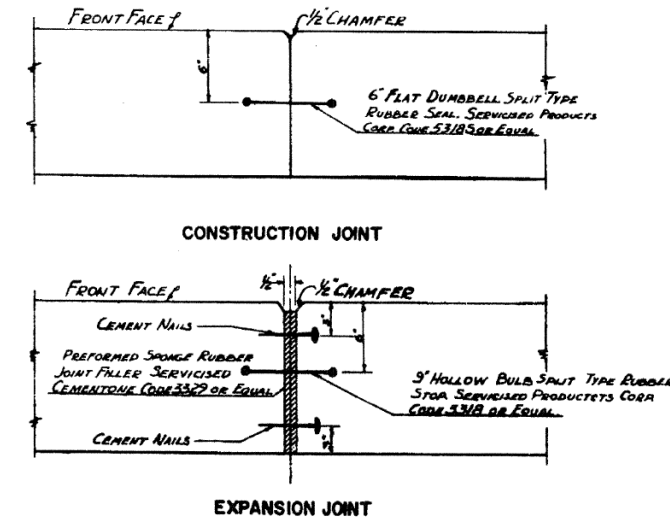
**EXIT RAMP**

**PAY ITEMS**

NO.	ITEM OF WORK	UNIT	QUANTITY
1.	CLASS "A" EXCAVATION	CU. YDS.	1603
2.	18" DRILLED & CAST IN PLACE CONC. PILE	LIN. FT.	11,721.5
3.	PILE LOADING TEST	EACH	1
4.	CLASS "X" CONCRETE	CU. YDS.	464.5
5.	REINFORCEMENT BARS	LBS.	180,432
6.	BACK FILL	CU. YDS.	240.3
7.	ALUMINUM HANDRAIL	LIN. FT.	282.54



LIGHT-STANDARD MOUNTING  
STA. 2+15  
SCALE: NONE



**REVISIONS**

NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS  
CONGRESS STREET EXPRESSWAY  
NORTH FRONTAGE ROAD  
RETAINING WALL

**DETAILS & BILL OF MATERIALS**

MORGAN ST. EXIT RAMP  
DESIGN BY L.S.M.  
DRAWN BY J.H.W.  
SCALE: MORE AS SHOWN  
DATE APRIL 30, 1958  
CHECKED BY

FILE PATH = p:\61749-PMINT\pccom\line\local\pccom\0502\MA\Documents\01\Americas\T\engor\station\60269938\Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1724-60X61-Exp1on3-Ex3-Exp1on3

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

0161724-60X61-EXS3-Exp1on3  
USER NAME = ahmad.issa  
PLOT SCALE = 0:2,000 1" = 10'  
PLOT DATE = 12/17/2014

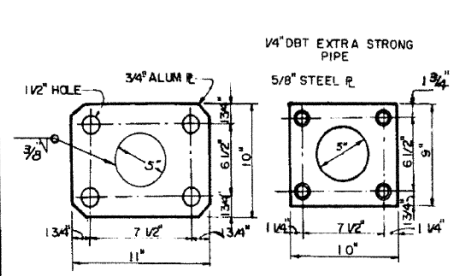
DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

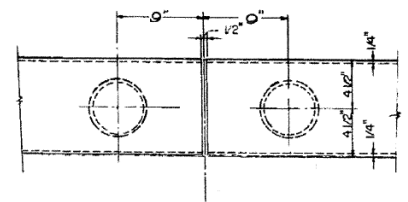
EXISTING PLANS III  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149C
CONTRACT NO. 60X61				ILLINOIS FED. AID PROJECT

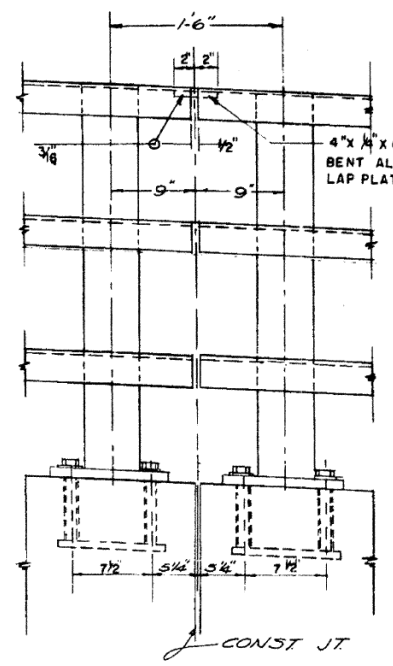
F.A.I. ROUTE NO.	REC.	EXPRESSWAYS	TOTAL SHEETS	SHEET NO.
FAT 90	2527	CONGRESS	49	27
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



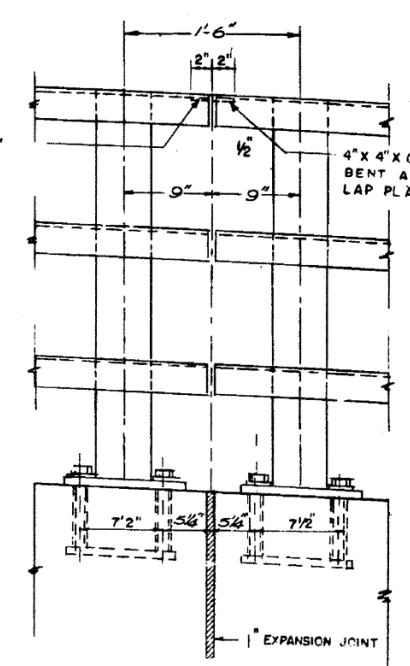
BASE PLATE SCALE 1 1/2" = 1'-0"



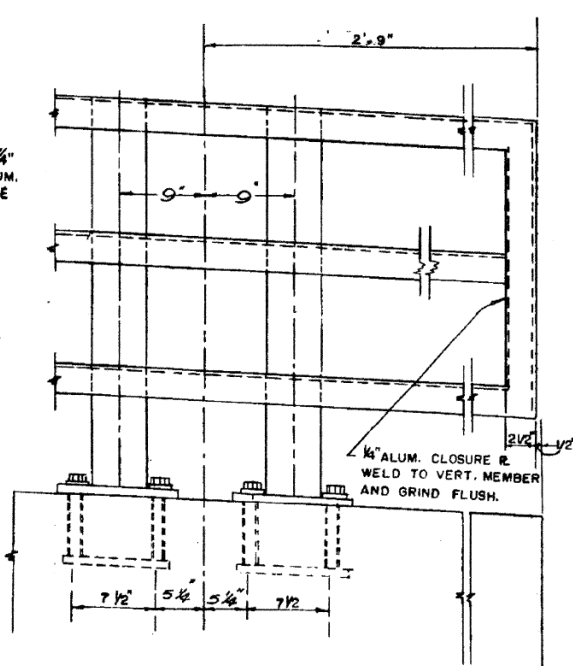
TOP VIEW OF RAIL SCALE 1 1/2" = 1'-0"



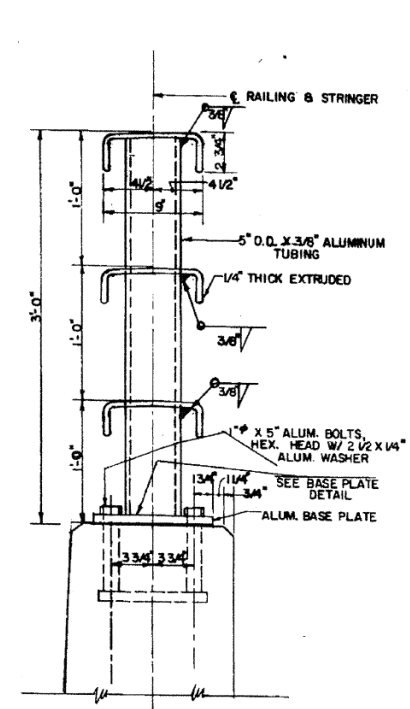
CONSTRUCTION POST "D" POST "C" SIMILAR



EXPANSION POST "C"



CLOSURE POST "E"

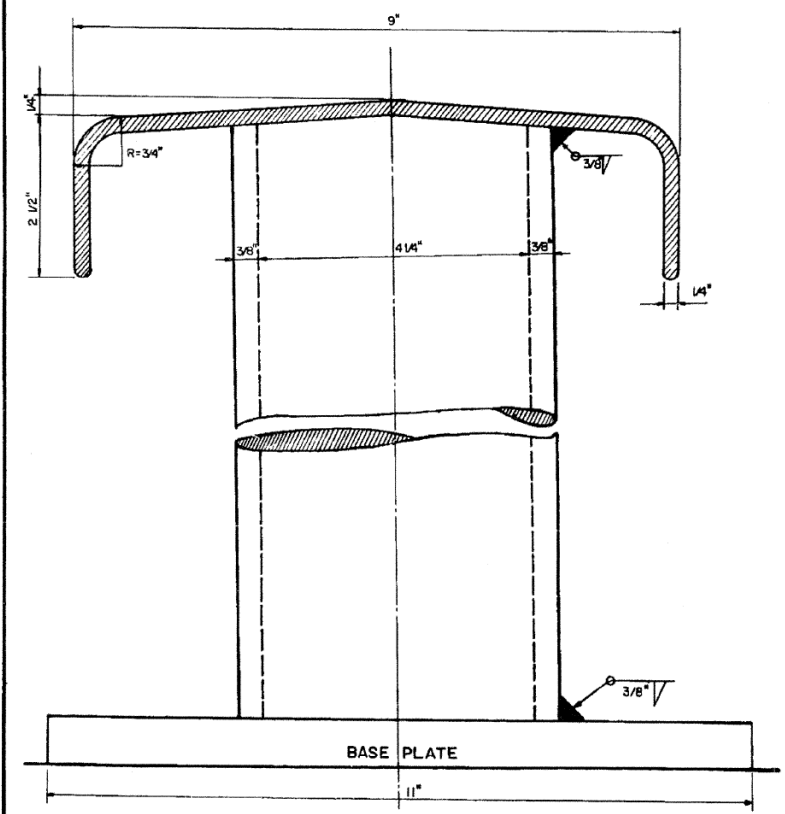


TYPICAL RAILING CROSS SECTION SCALE 1 1/2" = 1'-0"

NOTES

- RAILS SHALL BE FABRICATED AND ERECTED TO CONFORM TO HORIZONTAL CURVES OF THE RETAINING WALL.
- RAIL POST SHALL BE TRULY VERTICAL.
- ALL EDGES AT THE END OF EACH RAILING SHALL BE SLIGHTLY ROUNDED.
- COAT UNDERSIDE OF BASE PLATES WITH ALUMINUM IMPREGNATED CAULKING COMPOUND.

SHIM PLATES FOR RAIL POSTS  
 FURNISH ALUMINUM SHIMS CONSISTING OF ONE 1/8" SHIM AND TWO 1/16" SHIMS AT 50% OF RAIL POSTS FOR VERTICAL ADJUSTMENT OF POSTS. SIZE OF SHIMS AND SIZE AND SPACING OF HOLES SHALL BE THE SAME AS FOR BASE PLATES OF POSTS.



DETAIL OF POST CONNECTIONS SCALE 3/4" = 1'-0"

REVISIONS	
NAME	DATE

ILLINOIS DIVISION OF HIGHWAYS  
 CONGRESS STREET EXPRESSWAY  
 NORTH FRONTAGE ROAD  
 RETAINING WALL  
 ALUMINUM HANDRAIL

SCALE: HORIZ. AS NOTED  
 VERT. DATE MARCH 20, 1958

DRAWN BY J. H.W.  
 CHECKED BY L. S.M.

FILE PATH = p:\61749-P\MINT.dwg; local\p\CDM\_D592\_NA\Documents\01\_Americas\T\_eng\p\station\60269938\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1724-60X61-EX54-Exp1.dwg

**HBM**  
 ENGINEERING GROUP, LLC  
 CONSULTING & DESIGN  
 INSPECTION & RATING  
 RESEARCH & TESTING

4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161724-60X61-EX54-Exp1.dwg  
 USER NAME = ahmad.issa  
 PLOT SCALE = 0:2.0000 1' = 1"  
 PLOT DATE = 12/17/2014

DESIGNED - WM  
 DRAWN - WM  
 CHECKED - JJS  
 DATE - 10/17/2014

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING PLANS IV  
 RETAINING WALL 5 (STRUCTURE NO. 016-1724)

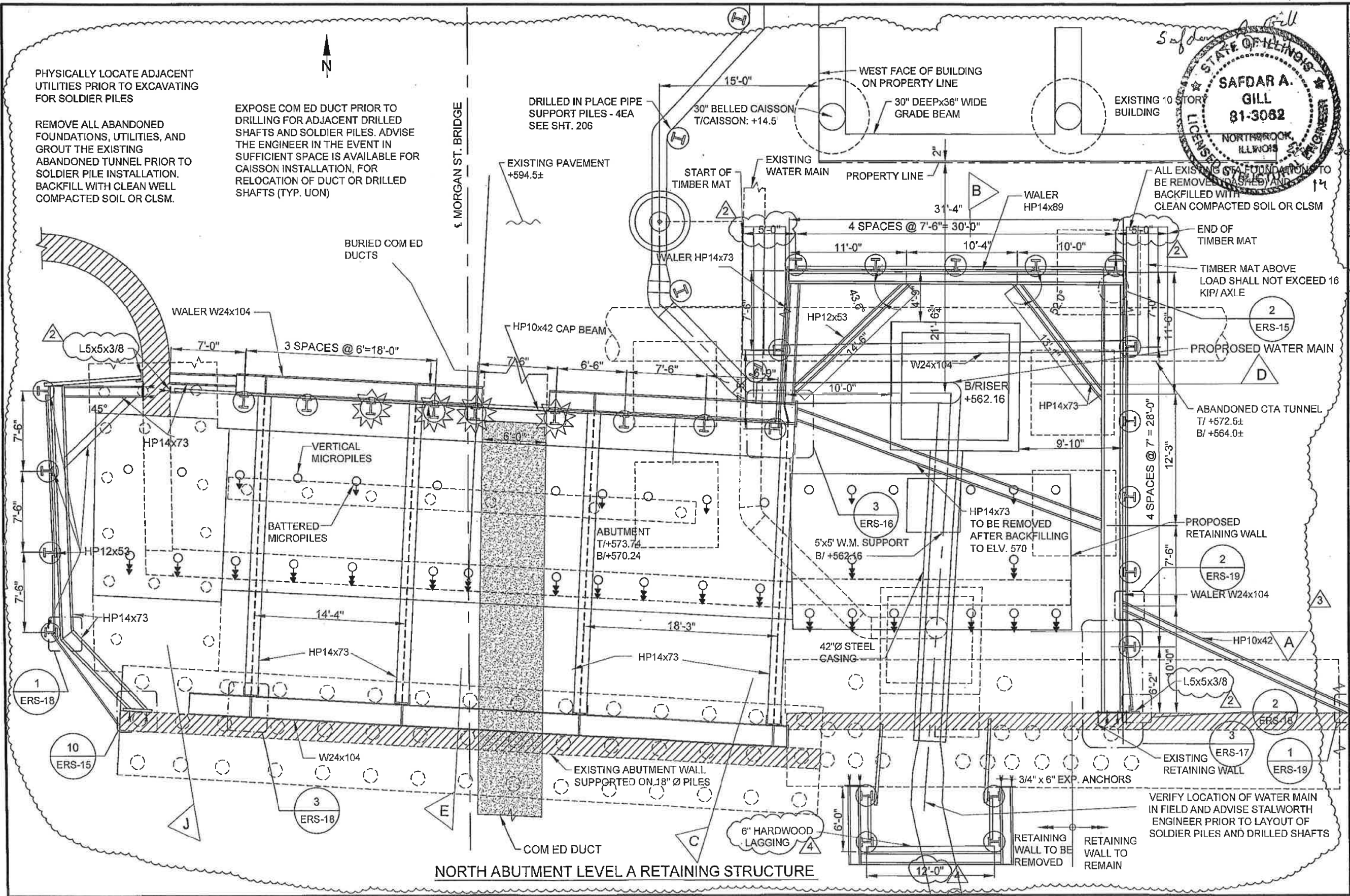
SHEET EXS1-04 OF EXS1-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149D
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

PHYSICALLY LOCATE ADJACENT UTILITIES PRIOR TO EXCAVATING FOR SOLDIER PILES

REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, AND GROUT THE EXISTING ABANDONED TUNNEL PRIOR TO SOLDIER PILE INSTALLATION. BACKFILL WITH CLEAN WELL COMPACTED SOIL OR CLSM.

EXPOSE COM ED DUCT PRIOR TO DRILLING FOR ADJACENT DRILLED SHAFTS AND SOLDIER PILES. ADVISE THE ENGINEER IN THE EVENT INSUFFICIENT SPACE IS AVAILABLE FOR CAISSON INSTALLATION, FOR RELOCATION OF DUCT OR DRILLED SHAFTS (TYP. UON)



DATE	10/09/13
REVISION	1
REVISION	2
REVISION	3
REVISION	4

MORGAN STREET BRIDGE  
N ABUT. RETENTION SYSTEM - LEVEL A  
1-250 / CONGRESS PARKWAY

Stalworth Underground, LLC  
www.stalworthunderground.com  
1111 Congress St.  
Northbrook, IL 60062  
Phone: 773.711.5400  
Fax: 773.711.5401

Drawing Size	N/A
Drawn By	MS
Approved By	
Job No.	4325
CAD Drawing No.	
Date	09/22/13
Sheet No.	ERS-4

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**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & TESTING  
RESEARCH & TESTING

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PLOT SCALE = 0:2.0000 '1' = 1"  
PLOT DATE = 12/17/2014

DESIGNED -	WM	REVISED -	
DRAWN -	WM	REVISED -	
CHECKED -	JJS	REVISED -	
DATE -	10/17/2014	REVISED -	

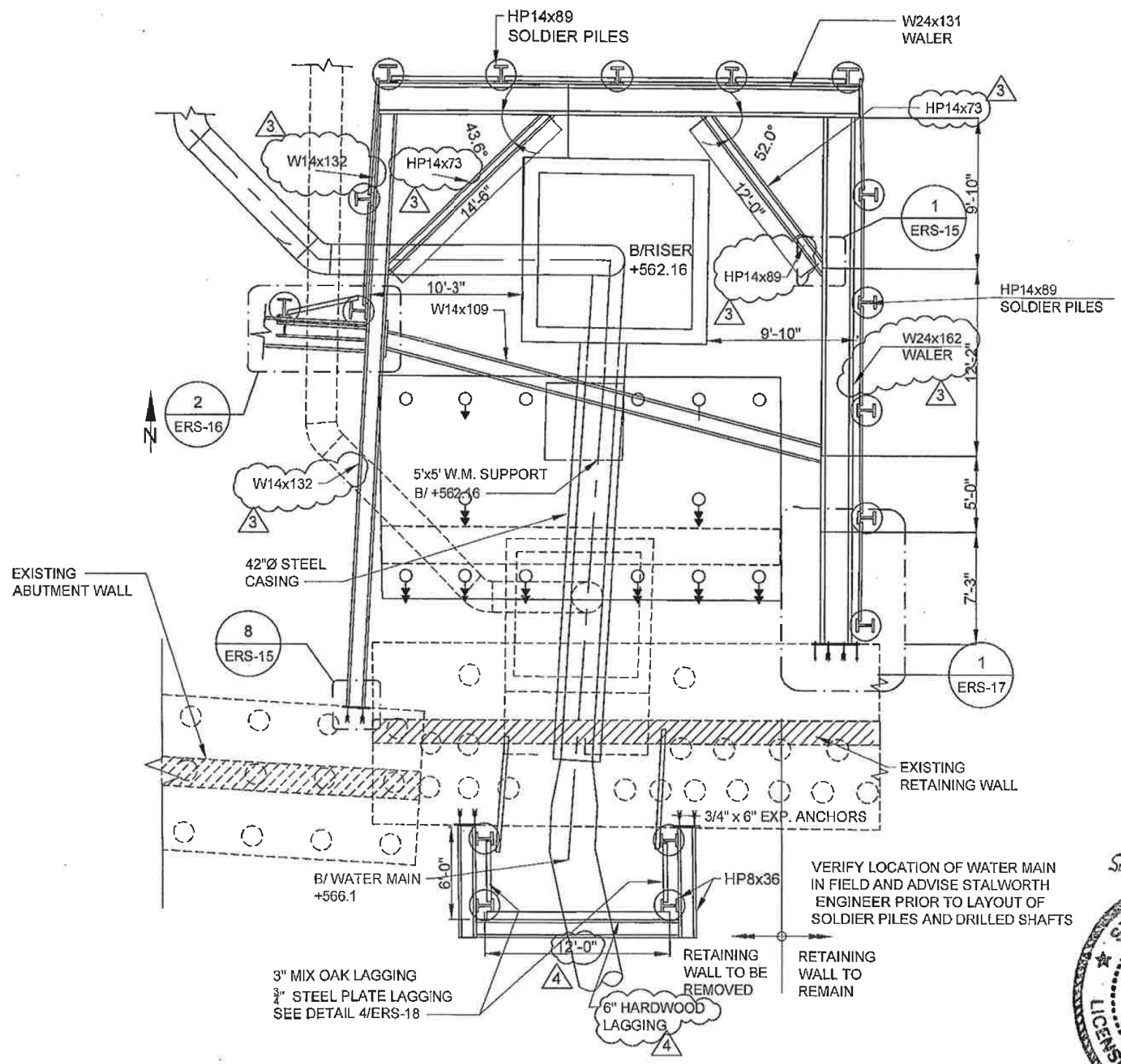
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS V  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-05 OF EXS1-11 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149E
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



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NORTH ABUTMENT - LEVEL C RETAINING STRUCTURE

*Safdar A. Gill*  
2.4.14

NO.	DESCRIPTION	DATE
1	PER DESIGN REVISION 1	10/09/13
2	PER DESIGN REVISION 2	11/05/13
3	PER DESIGN REVISION 3	12/19/13
4	PER DESIGN REVISION 4	02/04/14

MORGAN STREET BRIDGE  
N ABUT. RETENTION SYSTEM - LEVEL C  
1-290 / CONGRESS PARKWAY

Stalworth Underground, LLC  
www.stalworthunderground.com  
1011 Gregory St.  
Northbrook, IL 60062  
Phone: 773.774.5400  
Fax: 773.774.5401

STATE OF ILLINOIS  
SAFDAR A. GILL  
81-3082  
NORTHBROOK, ILLINOIS  
LICENSED STRUCTURAL ENGINEER

Drawing Size: N/A  
Drawn By: CR  
Approved By: JS  
Job No.: 4325  
CAD Drawing No.:  
Date: 09/22/13  
Sheet No.: ERS-5

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

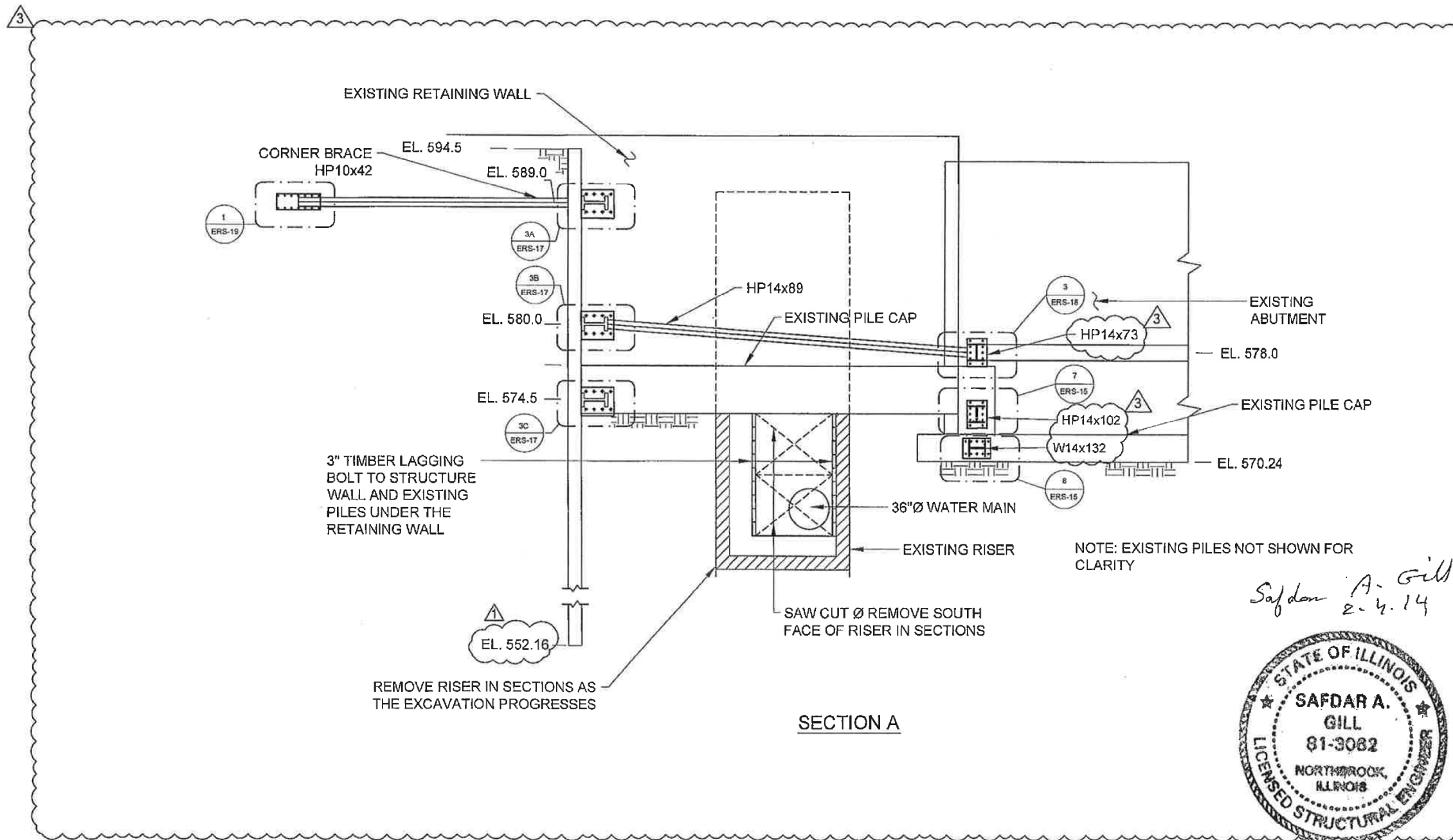
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PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS VII  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-07 OF EXS1-11 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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Safdar A. Gill  
2-4-14

Exp. 11.30.14

NO.	DESCRIPTION	DATE
1	PER DESIGN REVISION 1	10/09/13
2	PER DESIGN REVISION 2	11/05/13
3	PER DESIGN REVISION 3	12/19/13
4	NO CHANGE	02/04/14

MORGAN STREET BRIDGE  
NORTH ABUTMENT- SECTION A  
I-290 / CONGRESS PARKWAY

Stalworth Underground, LLC  
www.stalworthunderground.com  
4411 Chicago Rd.  
Chicago, IL 60630  
Phone: 773.765.8400  
Fax: 773.765.8100

STALWORTH UNDERGROUND

Drawing Size: N/A  
Drawn By: CR  
Approved By: JS  
Job No.: 4325  
CAD Drawing No.:  
Date: 09/22/13  
Sheet No.: ERS-7

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

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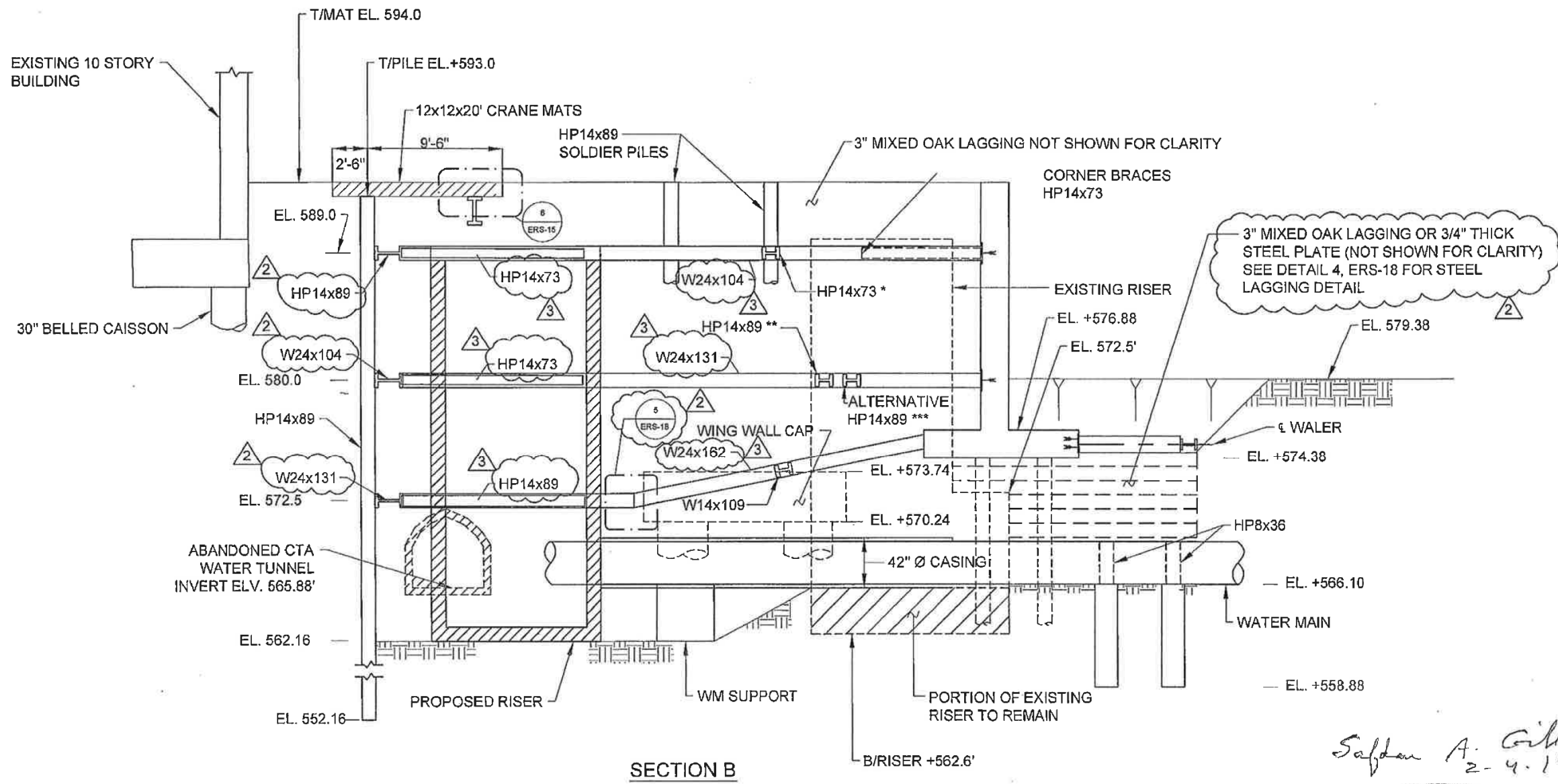
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS VIII  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-08 OF EXS1-11 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149H
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



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- NOTES**
- \* HP14x73 WILL BE REMOVED AFTER BACKFILLING TO ELV. 570.0
  - \*\* HP14x89 TO BE INSTALLED PRIOR TO REMOVING EXISTING RISER SHAFT AND TO BE REMOVED AFTER INSTALLING ALTERNATIVE HP14x89
  - \*\*\* ALTERNATIVE HP14x89 TO BE INSTALLED AFTER INSTALLING HP14x89\*\*

*Safdar A. Gill*  
2-4-14



*Exp. 11. 30. 14*

REV. NO.	DATE	DESCRIPTION
1	10/09/13	PER DESIGN REVISION 1
2	11/05/13	PER DESIGN REVISION 2
3	12/19/13	PER DESIGN REVISION 3
4	02/04/14	NO CHANGE

MORGAN STREET BRIDGE  
NORTH ABUTMENT - SECTION B  
1-250 / CONGRESS PARKWAY

Stalworth Underground, LLC  
www.stalworthunderground.com  
8111 Gregory St.  
Northbrook, IL 60062  
Phone: 773.774.5000  
Fax: 773.774.5001

Drawing Size	N/A
Drawn By	CR
Approved By	JS
Job No.	4325
CAD Drawing No.	
Date	09/22/13
Sheet No.	ERS-8

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

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DESIGNED - WM	REVISED -
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CHECKED - JJS	REVISED -
DATE - 10/17/2014	REVISED -

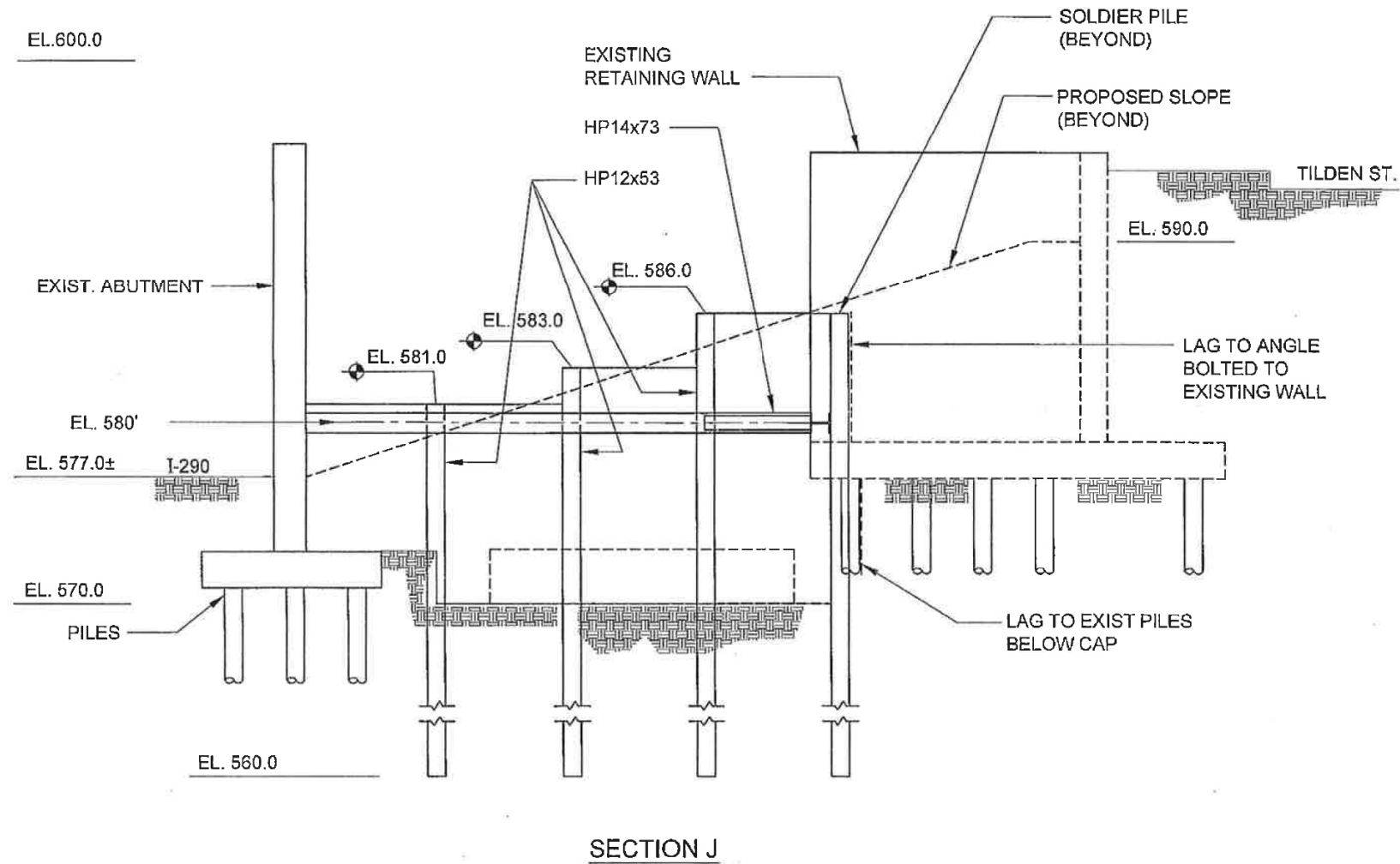
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS IX  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-09 OF EXS1-11 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT				



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*Safdar A. Gill*  
2.4.14

*Exp. 11-30-14*



NO.	DESCRIPTION	DATE
1	PER DESIGN REVISION 1	10/09/13
2	PER DESIGN REVISION 2	11/05/13
3	NO CHANGE	12/19/13
4	NO CHANGE	02/04/14

MORGAN STREET BRIDGE  
NORTH ABUTMENT - SECTION J  
1-290 / CONGRESS PARKWAY

Stalworth Underground, LLC  
www.stalworthunderground.com  
6411 Dempsey St.  
Northbrook, IL 60062  
Phone: 708.774.6400  
Fax: 708.774.6401

Opening Size	N/A
Drawn By	CR
Approved By	JS
Job No.	4325
CAD Drawn/Scale No.	
Date	08/22/13
Sheet No.	ERS-14

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

4415 WEST HARRISON ST.  
SUITE 231  
MILLSIDE, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

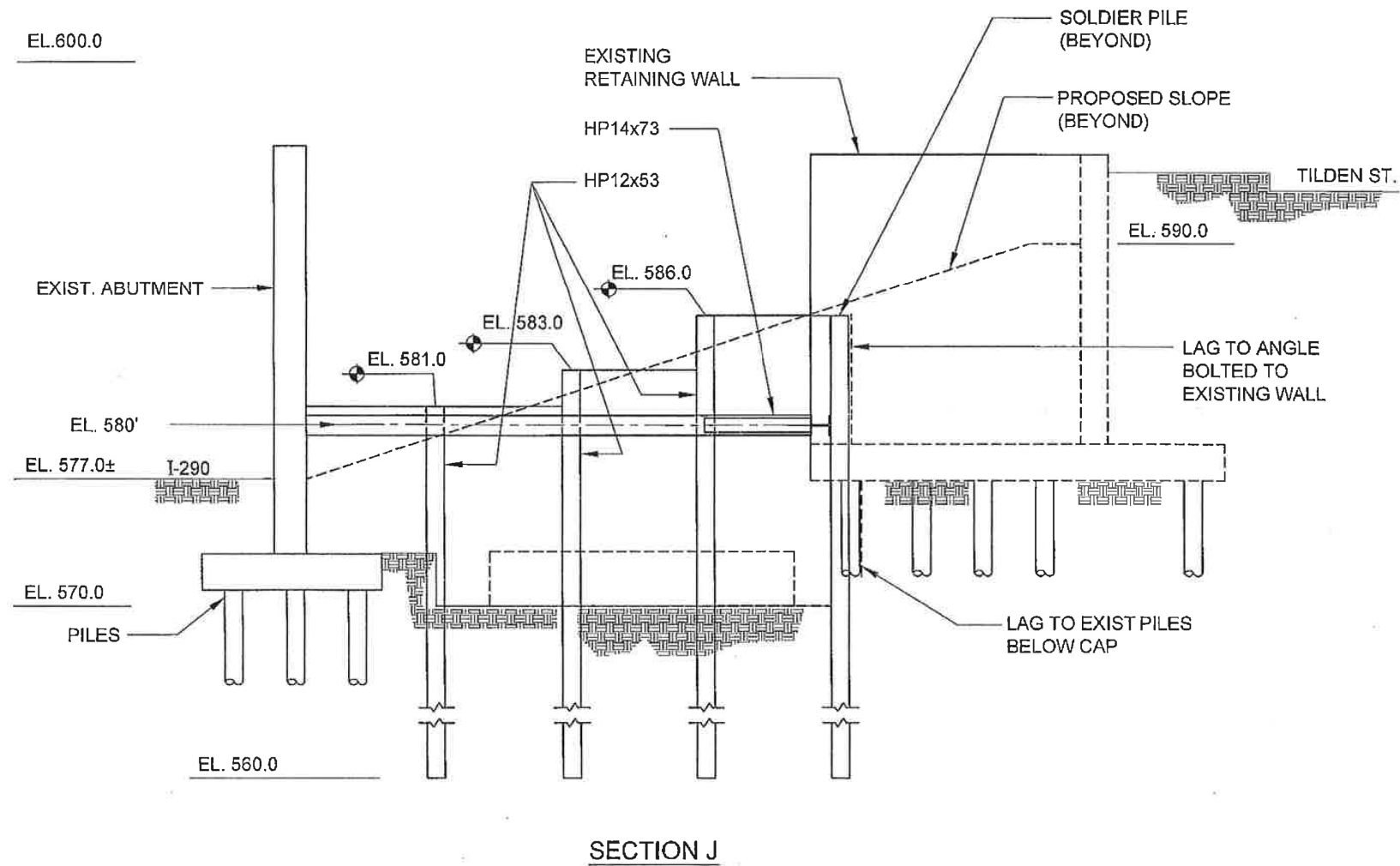
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PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS XI  
RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-11 OF EXS1-11 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149K
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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*Safdar A. Gill*  
2.4.14



*Exp. 11-30-14*

NO.	DESCRIPTION	DATE
1	PER DESIGN REVISION 1	10/09/13
2	PER DESIGN REVISION 2	11/05/13
3	NO CHANGE	12/19/13
4	NO CHANGE	02/04/14

MORGAN STREET BRIDGE  
NORTH ABUTMENT - SECTION J  
1-290 / CONGRESS PARKWAY

Professional Engineer Seal Text

Stalworth Underground, LLC  
www.stalworthunderground.com  
6811 Congress St.  
Northbrook, IL 60062  
Phone: 773.774.5400  
Fax: 773.774.5401



Drawing Size	N/A
Drawn By	CR
Approved By	JS
Job No.	4325
CAD Drawing No.	
Date	09/22/13
Sheet No.	ERS-14

**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & RATING  
RESEARCH & TESTING

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

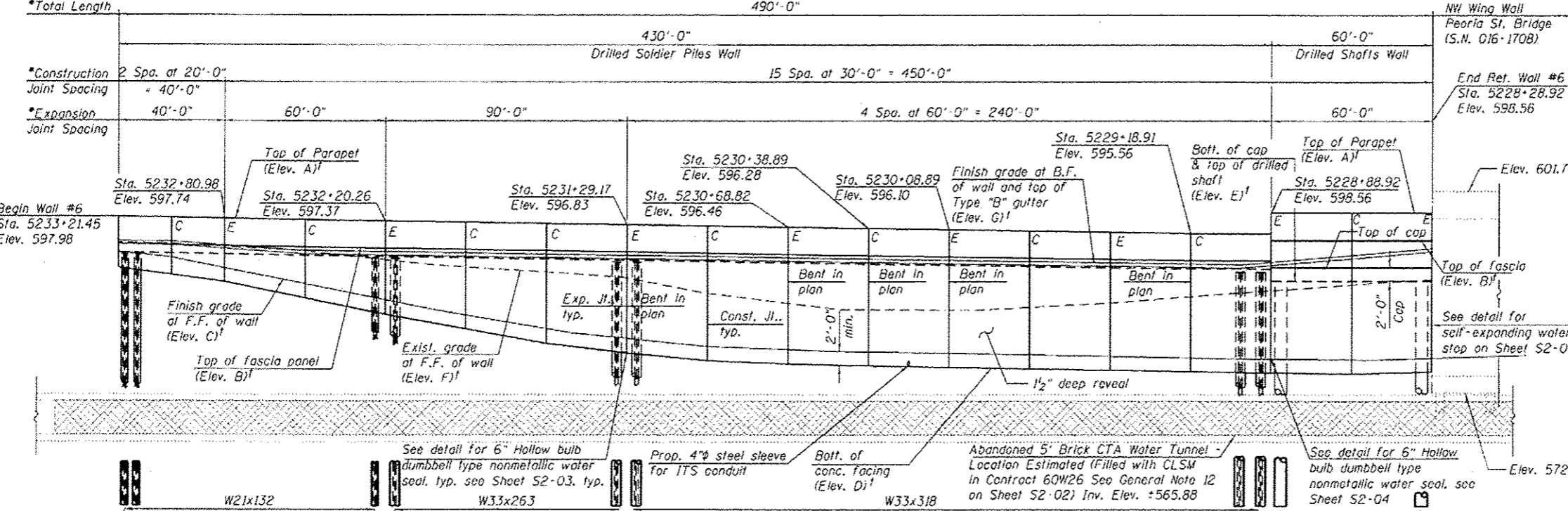
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RETAINING WALL 5 (STRUCTURE NO. 016-1724)  
SHEET EXS1-11 OF EXS1-11SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	149L
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

Benchmark: Cut square on northwest corner of sign foundation at north side of Harrison Street, approximately 80' west of west line of Morgan Street. Elevation 593.07.  
 Traffic Control: Morgan Street Exit Ramp will be closed during construction.  
 Existing Structure: None

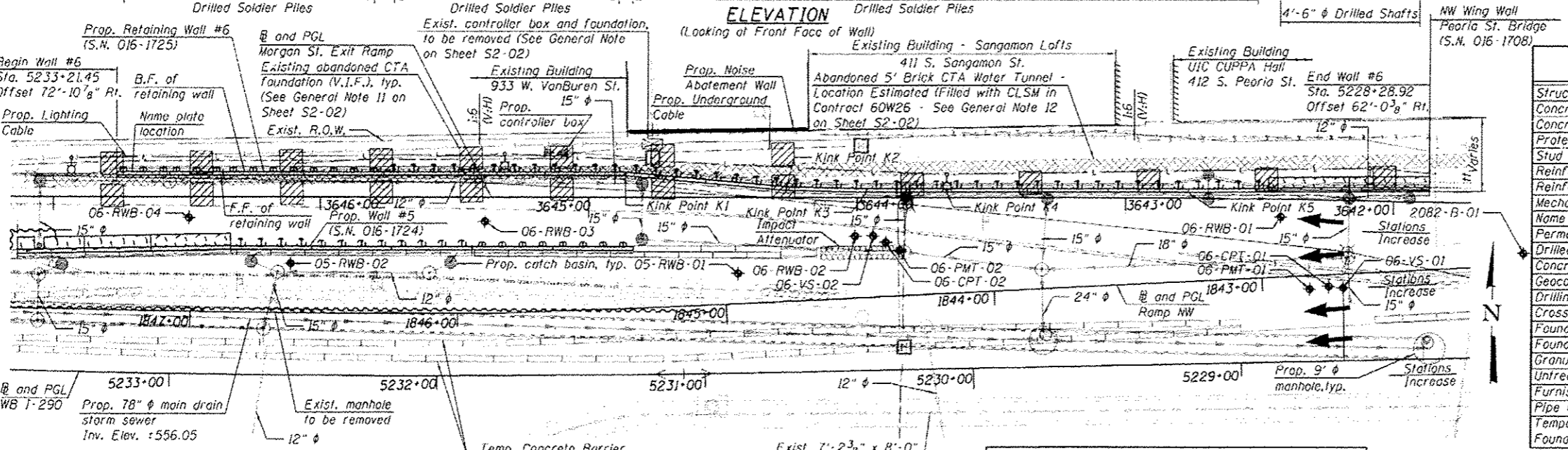
**LEGEND:**

Front Face	F.F.
Back Face	B.F.
Combined Sewer	--- ---
Boring Log/Soil Test	⊕
Fire Hydrant	⊙
Light Pole	⊗
Exist. Electric Cable	—E—
Prop. Lighting Cable	—L—
Exist. Fence	—x—x—
Fiber Optic	—F—
Exist. Storm Sewer	—S—
Prop. Storm Sewer	—P—
Temp. Soil Retention System	~
Water Line	—W—
Prop. catchbasin	⊙
Foundation Removal	▨
Existing Abandoned CTA Water Tunnel (Filled with CLSM in Contract 60W26)	▩



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL QUANTITY
Structure Excavation	CU YD	609
Concrete Structures	CU YD	344.7
Concrete Superstructure	CU YD	118.8
Protective Coat	SQ YD	567
Stud Shear Connectors	EACH	1,167
Reinforcement Bars	POUND	265,590
Reinforcement Bars, Epoxy Coated	POUND	48,631
Mechanical Splicers	EACH	312
Name Plates	EACH	1
Permanent Casing	FOOT	1,412
Drilled Shaft in Soil	CU YD	377
Concrete Sealer	SQ FT	6,551
Geocomposite Wall Drain	SQ YD	397
Drilling and Setting Soldier Piles (in Soil)	CU FT	29,798
Crosshole Sonic Logging	EACH	2
Foundation Construction of Existing Obstructions	EACH	40
Foundation Removal	CU YD	189
Granular Backfill for Structures	CU YD	196
Untreated Timber Lagging	SQ FT	5,423
Furnishing Soldier Piles (W Section)	FOOT	3,642
Pipe Underdrains For Structures 4"	FOOT	494
Temporary Soil Retention System for Foundation Removal	EACH	8



- NOTES:**
- Stations and offsets for the wall are given from the @ WB 1-290 to the front face of wall.
  - Wall to be built along straight chords between construction joints.
  - See Civil Plans for Drainage Structure to Pipe Underdrain connections details.
  - For stations and offsets at kink points, see Offset Sketch on Sheet S2-02.
  - For Suggested Construction Sequence, see Sheet S2-11.

**DESIGN SPECIFICATIONS**  
 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition

**DESIGN STRESSES**  
 FIELD UNITS  
 $f_c = 7,000$  psi (Drilled Shafts - Panels 16 and 17)  
 $f_c = 3,500$  psi (All other concrete)  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_r = 50,000$  psi (M270 Grade 50 - Soldier Piles)

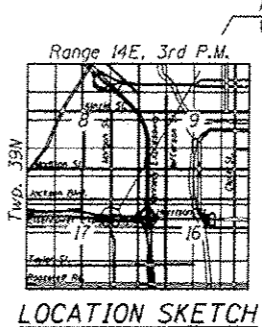
**APPROVED**  
 For Structural Adaptation Only  
 Moussa A. Issa  
 Engineer of Bridges & Structures

STATE OF ILLINOIS  
 MOUSSA A. ISSA  
 081-005738  
 CHICAGO, ILLINOIS  
 LICENSED PROFESSIONAL ENGINEER

\* Measured along front face of wall.  
 1 See Elevation Table on Sheet S2-02  
 11 R.O.W to F.F. of wall dimension varies from 11'-4 3/4" at Sta. 5233+21.45 to 27'-5 3/8" at Sta. 5228+28.92

Signed Moussa A. Issa  
 Moussa A. Issa, HBM II. Lic. No. 081-005738  
 Expires 11-30-2016

Date 12/17/2014 For Sheets S1-01 Thru S1-22 (Total of 23 Sheets)



**GENERAL PLAN AND ELEVATION**  
**RETAINING WALL 6**  
**MORGAN STREET EXIT RAMP**  
**F.A.I. RTE. 290**  
**(EISENHOWER EXPRESSWAY)**  
**F.A.I. RTE. 290 - SECTION 2013-077R**  
**COOK COUNTY**  
**STATION 5233+21.45 TO 5228+28.92**  
**STRUCTURE NO. 016-1725**

**HBM**  
 4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSDALE, IL 60142  
 PHONE: (708) 238-0900  
 FAX: (708) 238-0900

0161725-08X61-9201-GPE  
 USER NAME: amed.issaa  
 PLOT SCALE: 4/8" = 1' = 1/8"  
 PLOT DATE: 12/17/2014

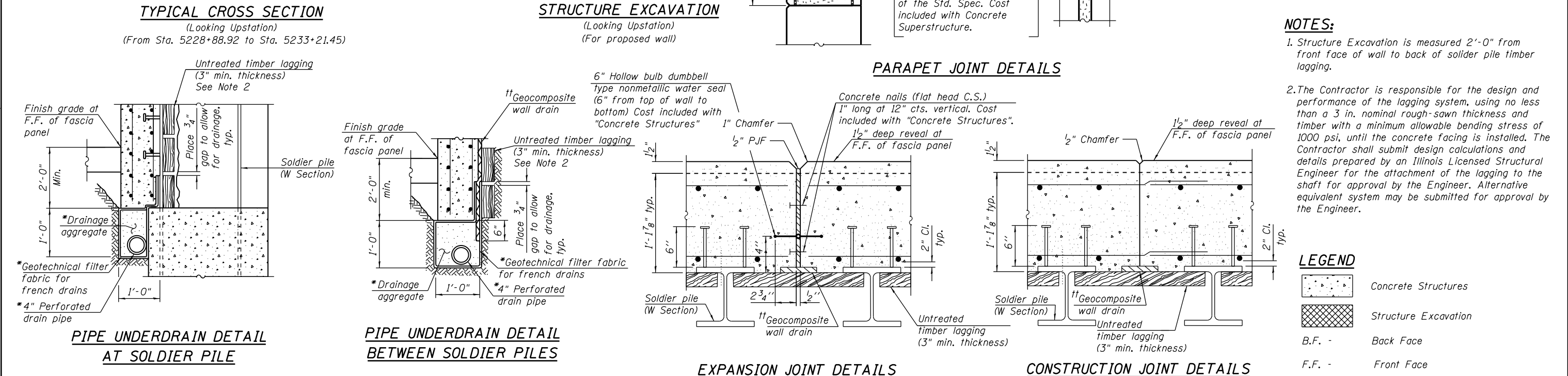
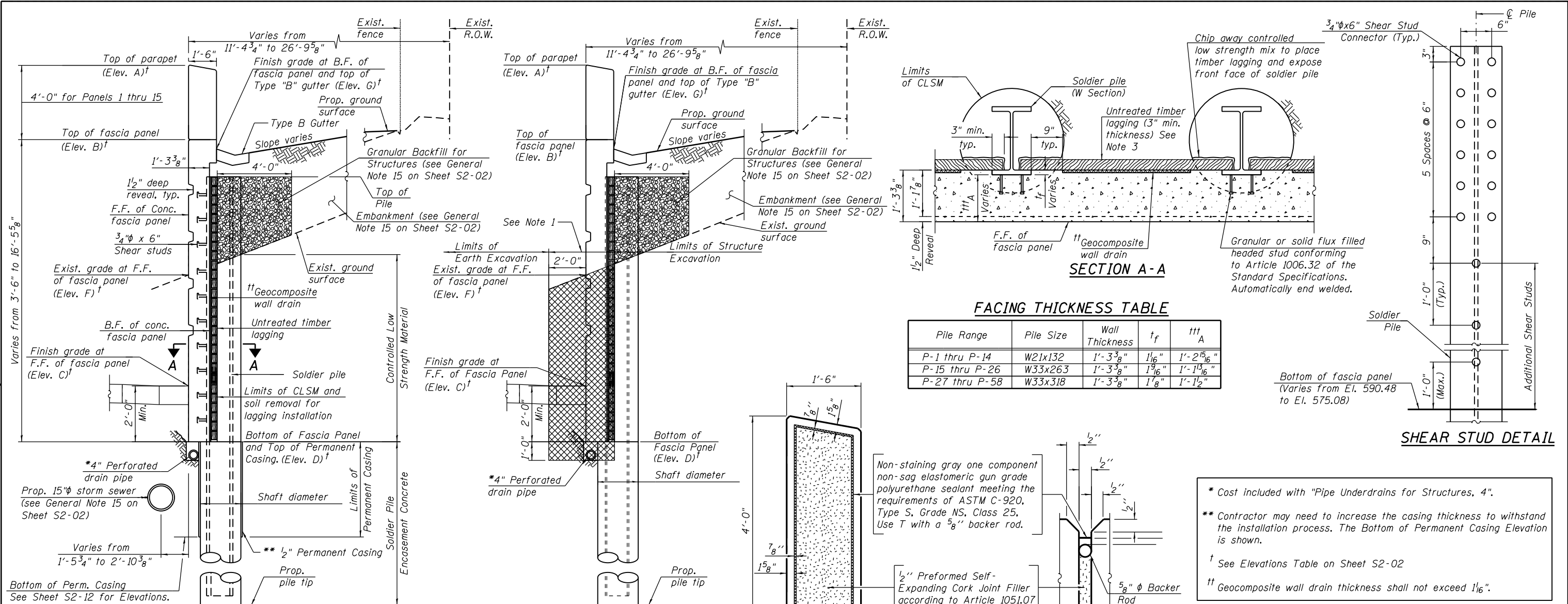
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CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET S2-01 OF S2-22 SHEETS

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 150
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT	





\* Cost included with "Pipe Underdrains for Structures, 4".

\*\* Contractor may need to increase the casing thickness to withstand the installation process. The Bottom of Permanent Casing Elevation is shown.

† See Elevations Table on Sheet S2-02

‡ Geocomposite wall drain thickness shall not exceed 1 1/6".

**NOTES:**

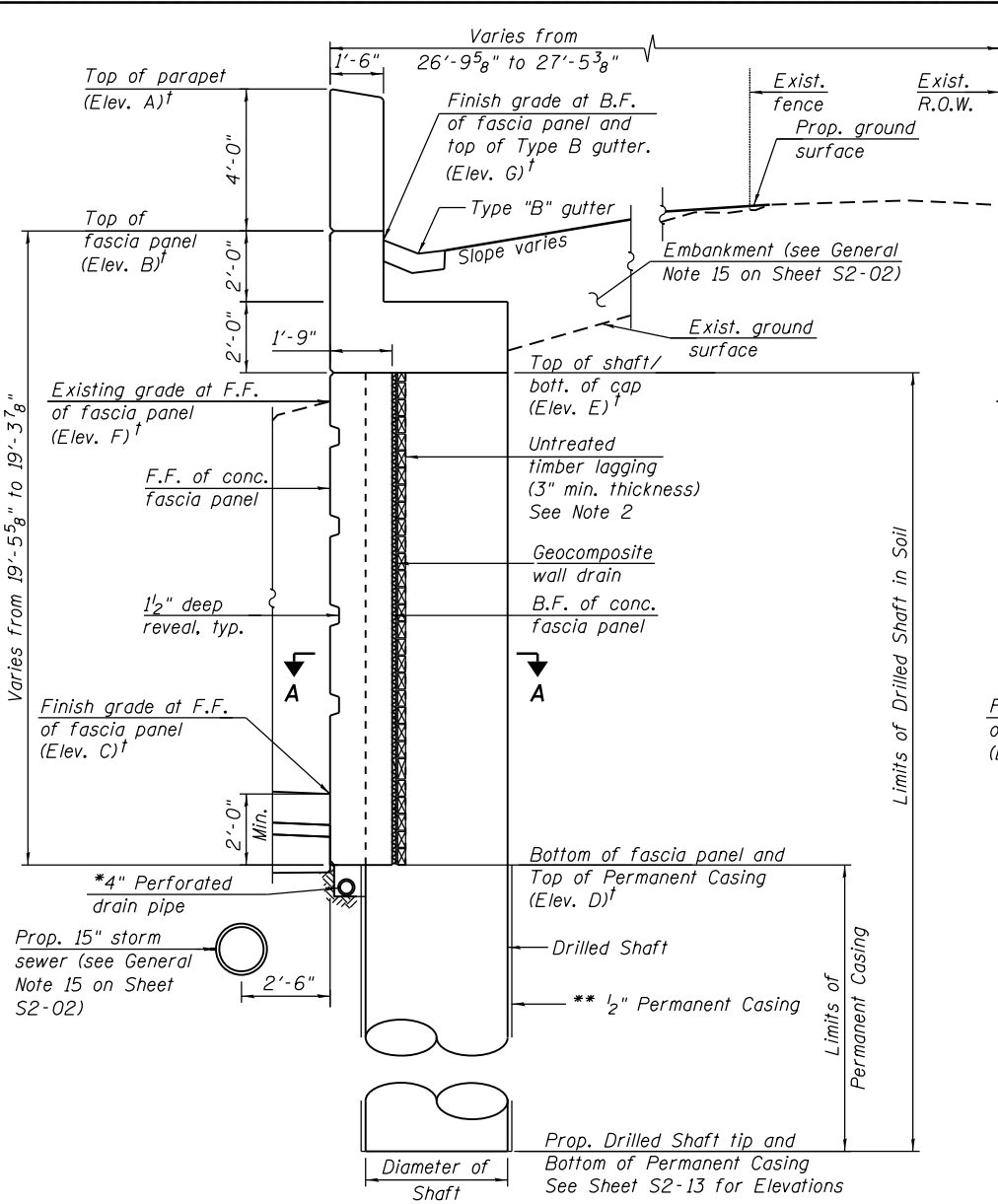
1. Structure Excavation is measured 2'-0" from front face of wall to back of soldier pile timber lagging.

2. The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent system may be submitted for approval by the Engineer.

**LEGEND**

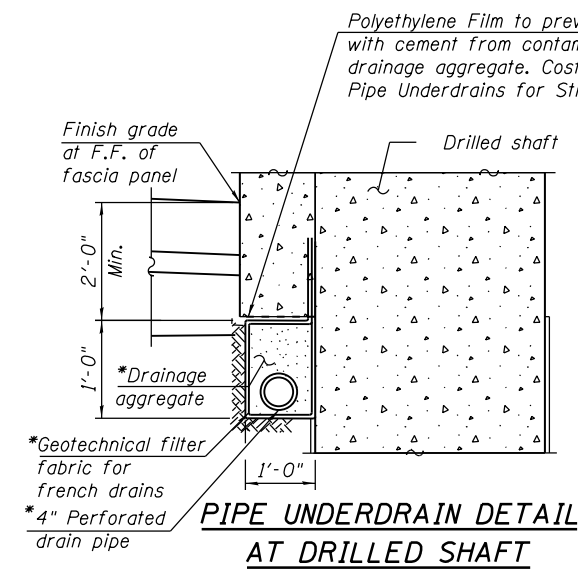
- Concrete Structures
- Structure Excavation
- B.F. - Back Face
- F.F. - Front Face

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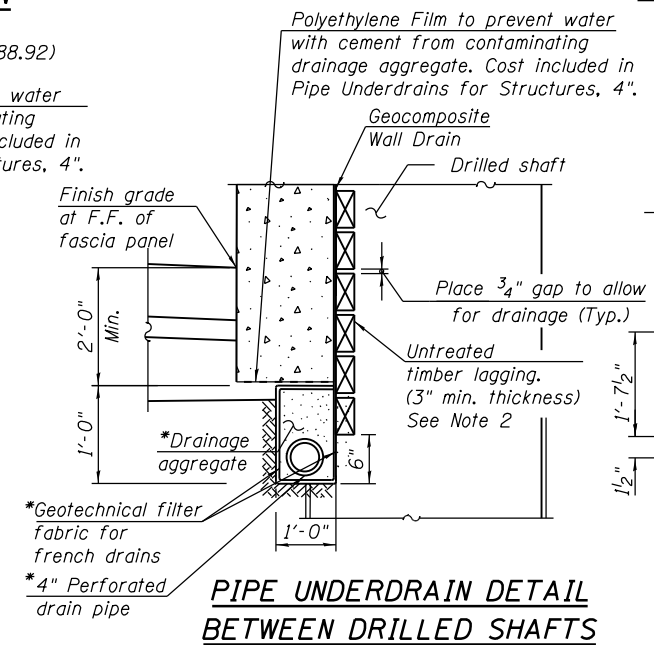


**TYPICAL CROSS SECTION**

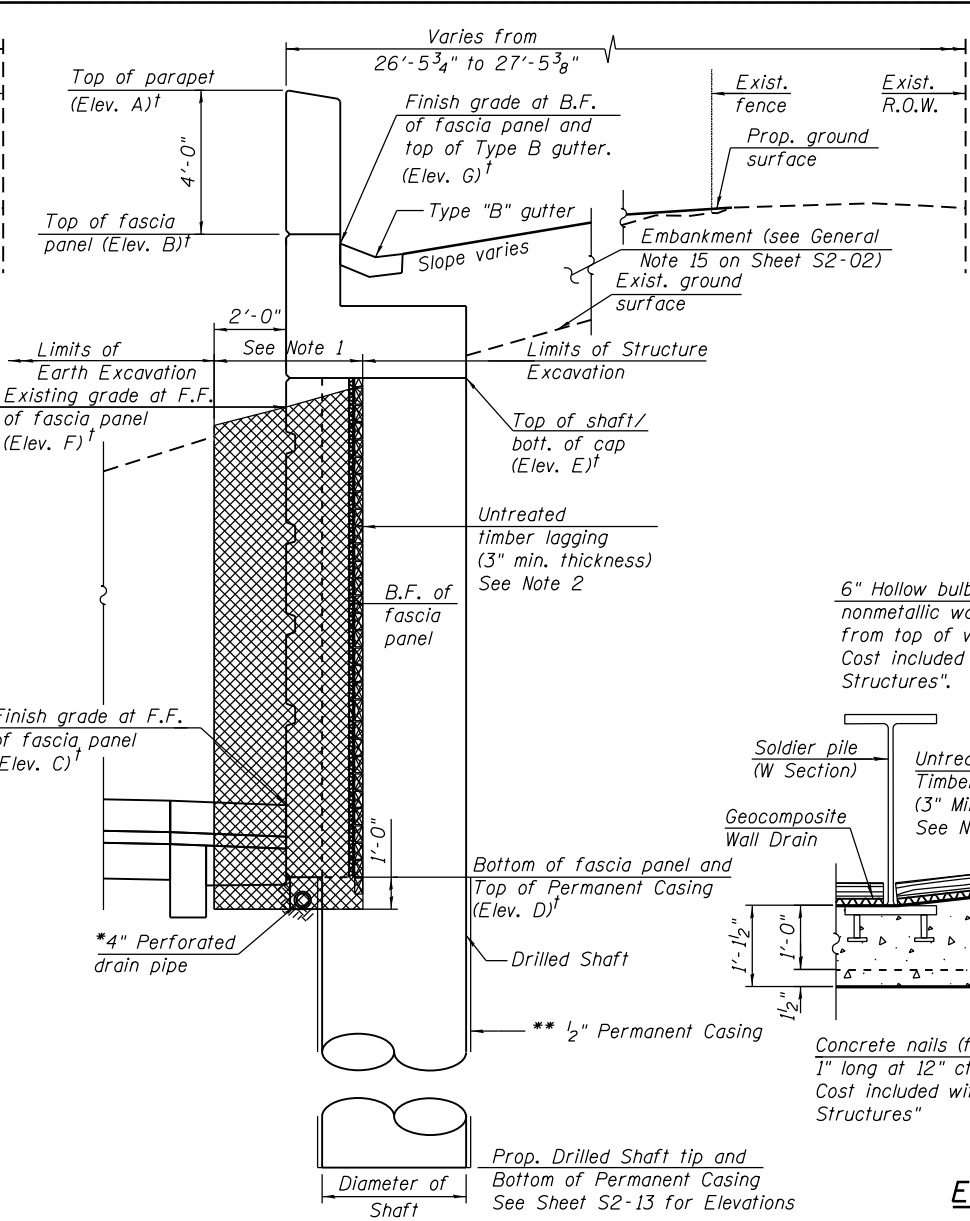
(Looking Upstation)  
 (From Sta. 5228+28.92 to Sta. 5228+88.92)



**PIPE UNDERDRAIN DETAIL AT DRILLED SHAFT**

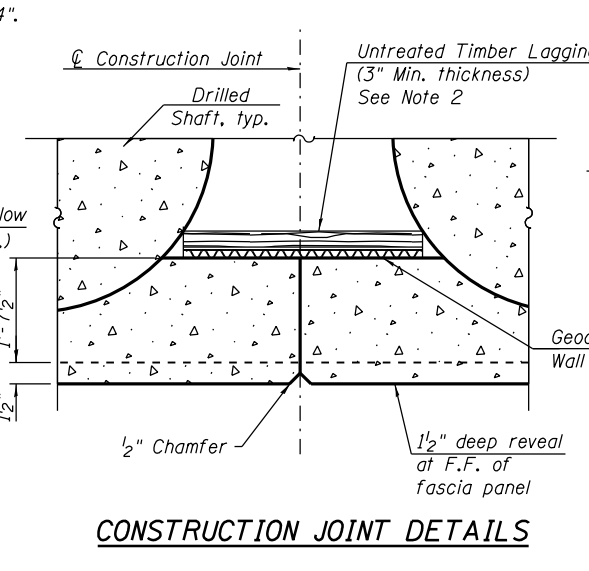


**PIPE UNDERDRAIN DETAIL BETWEEN DRILLED SHAFTS**

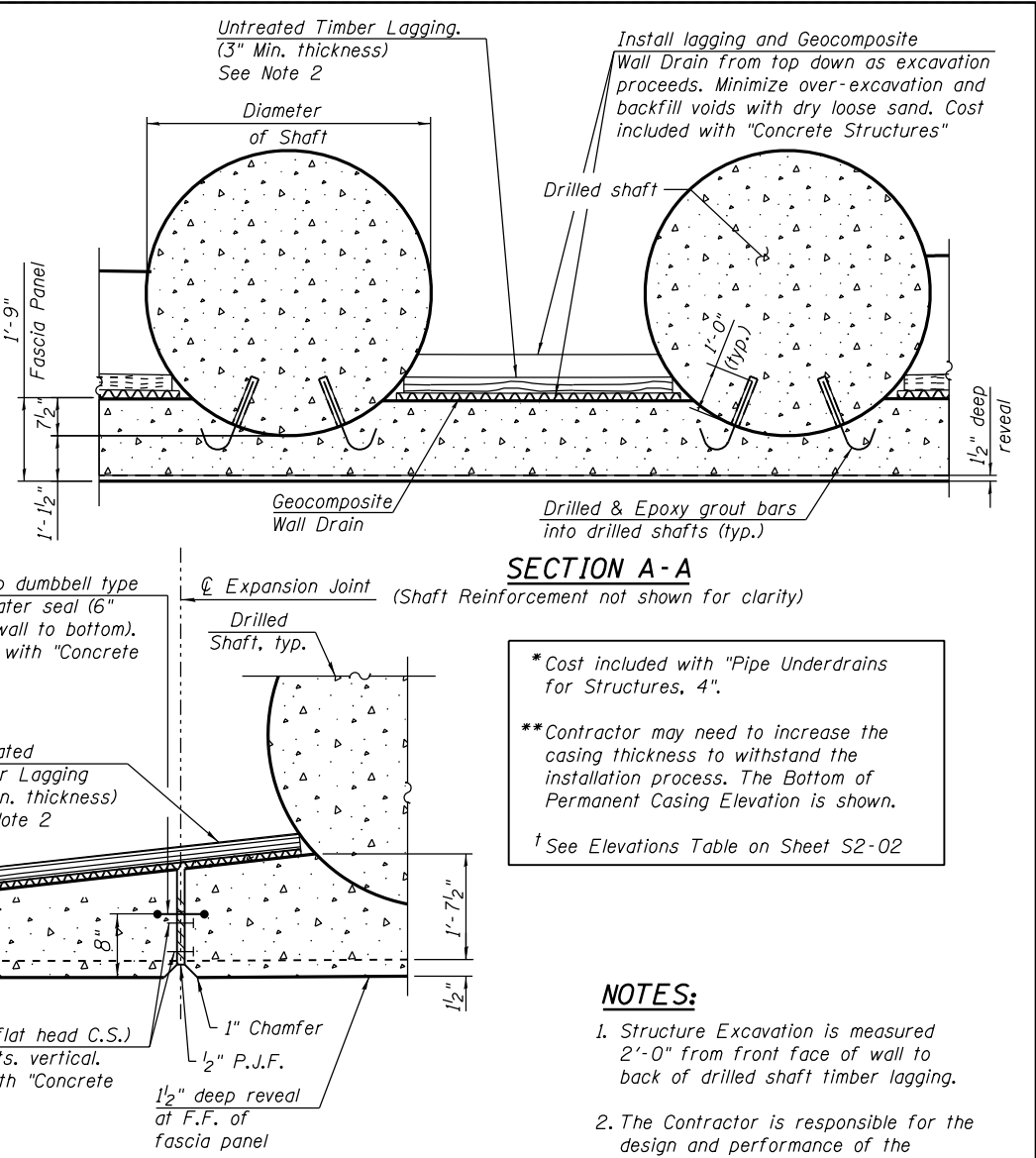


**STRUCTURE EXCAVATION**

(Looking Upstation)  
 (For proposed wall)

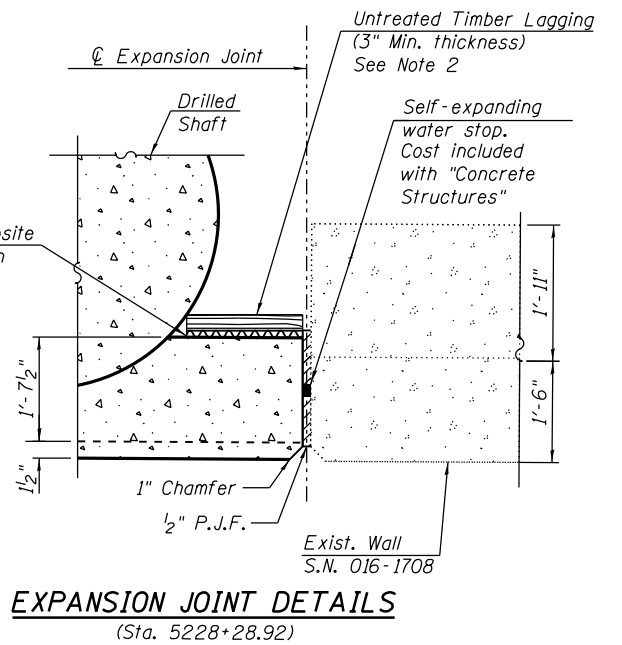


**CONSTRUCTION JOINT DETAILS**



**EXPANSION JOINT DETAIL**

(Sta. 5229+88.92)



**EXPANSION JOINT DETAILS**

\* Cost included with "Pipe Underdrains for Structures, 4".  
 \*\* Contractor may need to increase the casing thickness to withstand the installation process. The Bottom of Permanent Casing Elevation is shown.  
 † See Elevations Table on Sheet S2-02

**NOTES:**

1. Structure Excavation is measured 2'-0" from front face of wall to back of drilled shaft timber lagging.
2. The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer.
3. For expansion joint details in parapet, see detail in Sheet S2-03.

**LEGEND**

- Concrete Structures
- Structure Excavation
- B.F. - Back Face
- F.F. - Front Face

**HBM**  
 ENGINEERING GROUP, LLC  
 CONSULTING & DESIGN  
 INSPECTION & TESTING  
 RESEARCH & TESTING

0161725-60X61-S204-D-11-detailedWallXSC	DESIGNED - WM, ARA	REVISED -
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PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

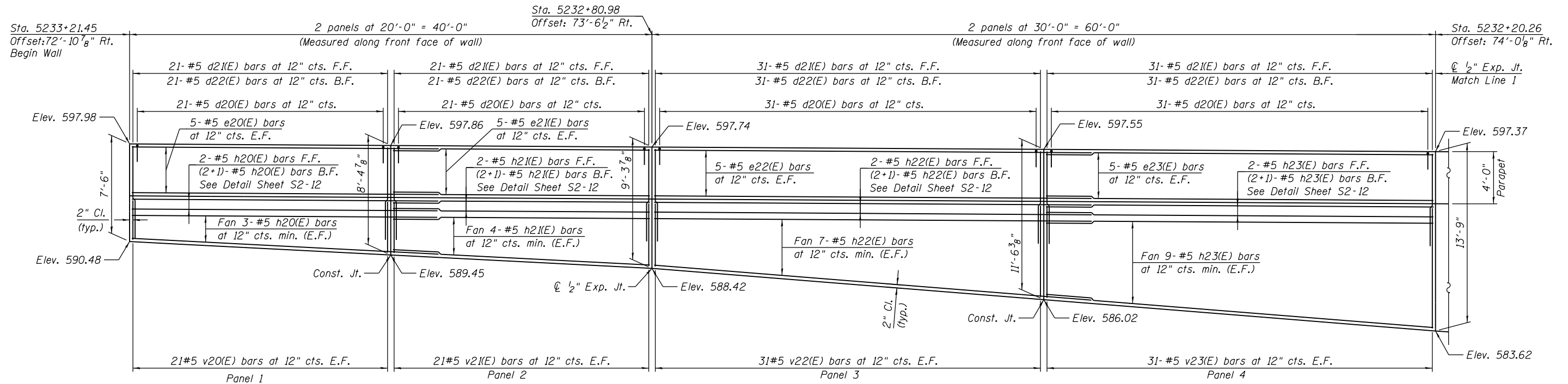
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DRAWN - FA, MAA, WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFTS WALL TYPICAL CROSS SECTIONS AND DETAILS**  
**RETAINING WALL 6 (STRUCTURE NO. 016-1725)**

F.A.I. RE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	153
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

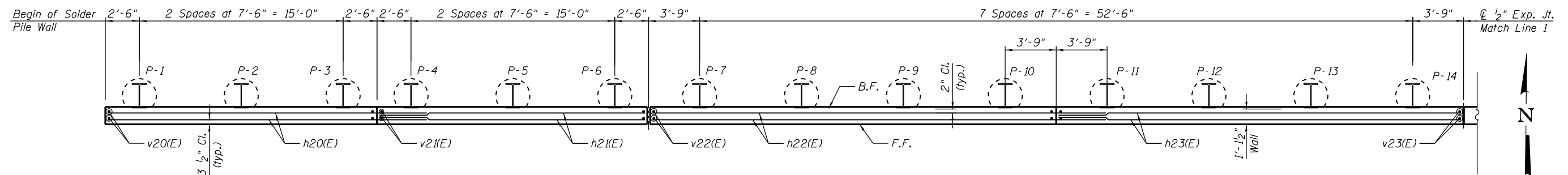




**ELEVATION**

**NOTES:**

1. For soldier pile wall cross sections and details, see Sheet S2-03.
2. Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.



**PLAN**

(Parapet not shown for clarity)

**LEGEND:**

- B.F. - Back Face.
- E.F. - Each Face.
- F.F. - Front Face.

FILE PATH = p:\61749-PMINT\pccom\line\local\h205-2205-Elevation 1.dwg  
 America's Top Engineers Location: 60269338 Circle Phase 11 000 CAD 008 Structural\Structure\_016-1725-60X61 Preliminary Plans\0161725-60X61-S205-Elevation 1

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 4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 236-0900  
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0161725-60X61-S205-Elevation 1	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmed.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1"	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

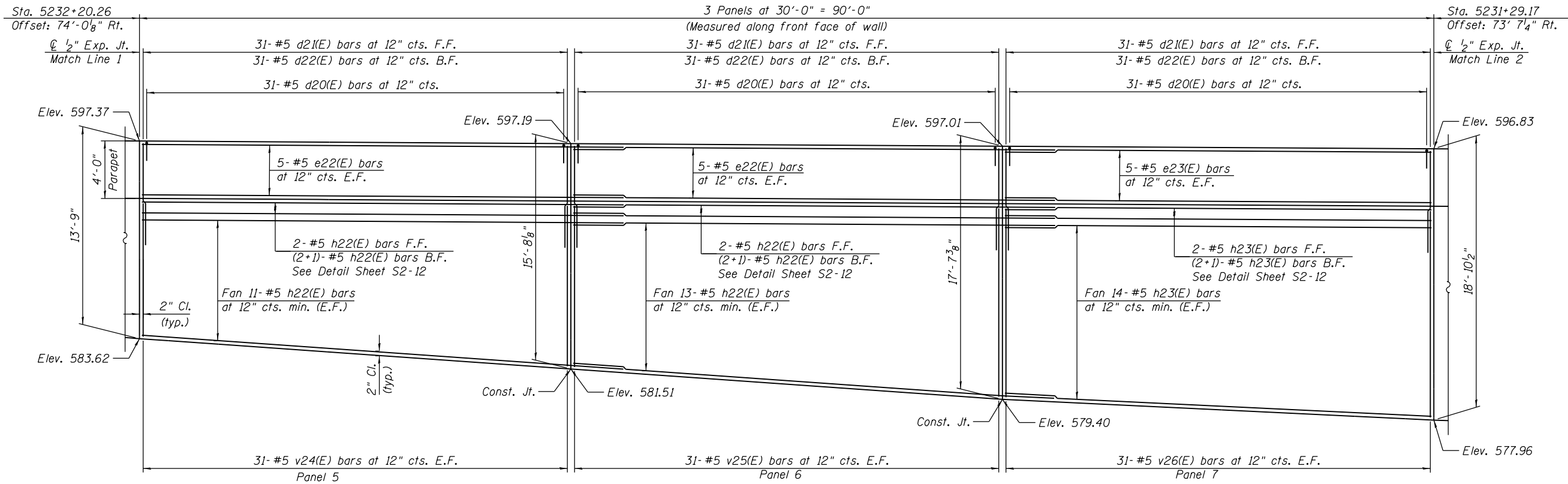
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION (STA. 5233+21.45 TO STA. 5232+20.26)  
 RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-05 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	154
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

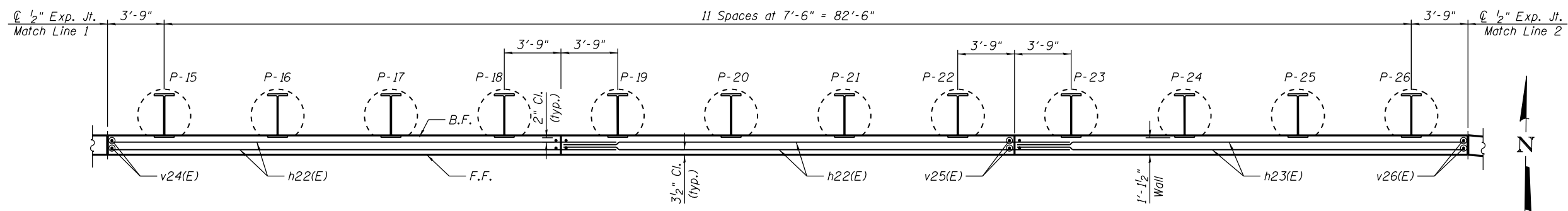
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**ELEVATION**

**NOTES:**

1. For soldier pile wall cross sections and details, see Sheet S2-03.
2. Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.



**PLAN**

(Parapet not shown for clarity)

**LEGEND:**

B.F. - Back Face.  
 E.F. - Each Face.  
 F.F. - Front Face.

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 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161725-60X61-S206-Elevation II	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmad.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1"	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

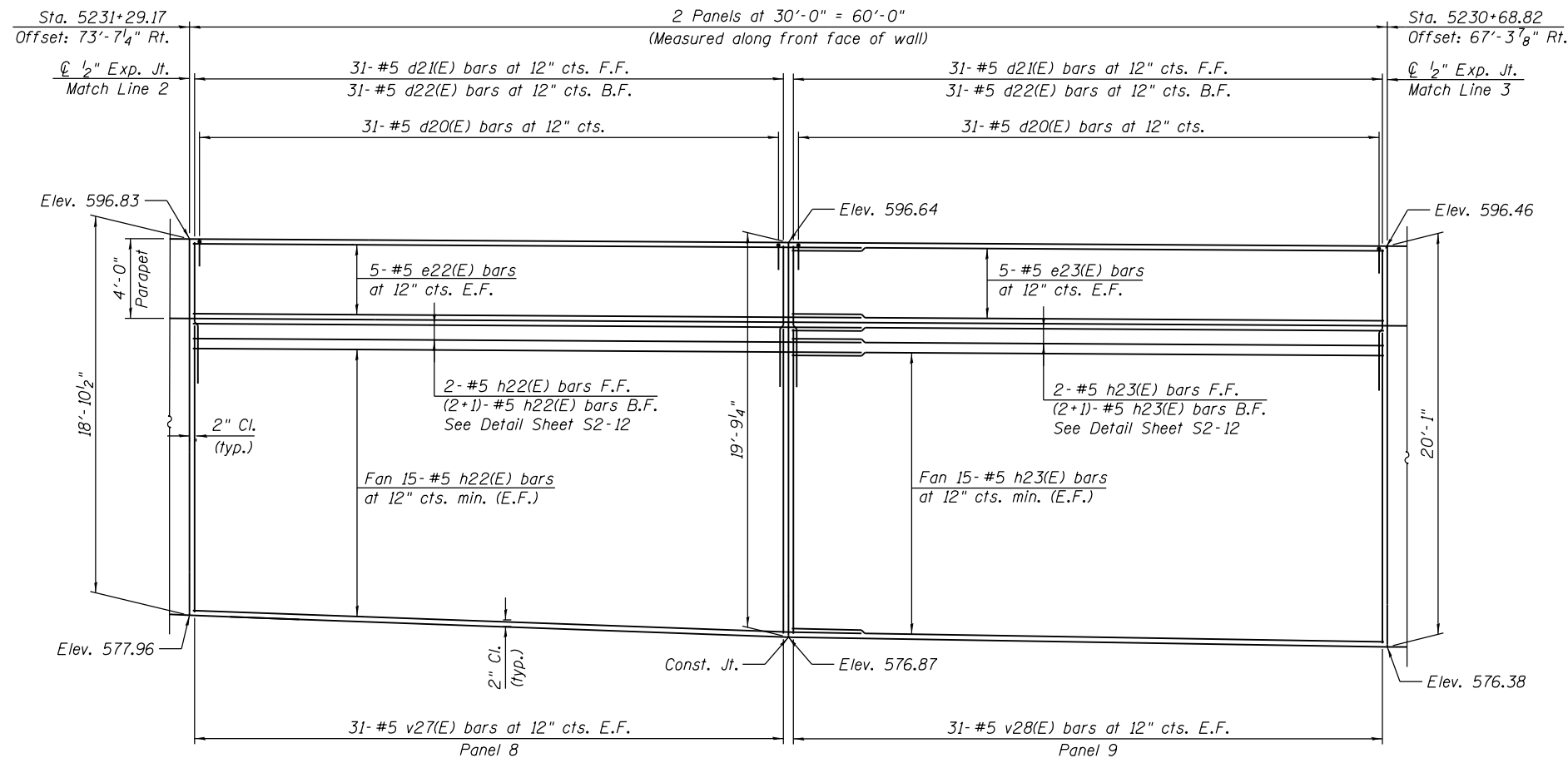
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION (STA. 5232 + 20.26 TO STA. 5231 + 29.17)  
 RETAINING WALL 6 (STRUCTURE NO. 016-1725)

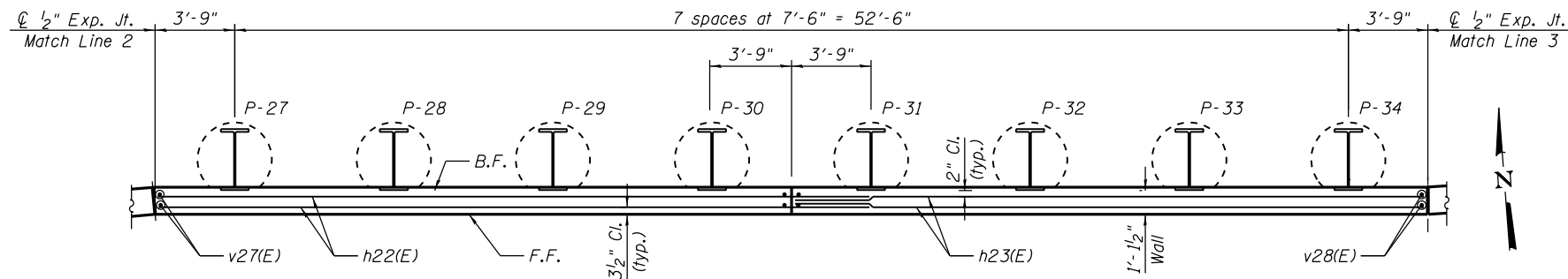
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	155
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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**ELEVATION**



**PLAN**

(Parapet not shown for clarity)

**NOTES:**

1. For soldier pile wall cross sections and details, see Sheet S2-03.
2. Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.

**LEGEND:**

B.F. - Back Face.  
 E.F. - Each Face.  
 F.F. - Front Face.

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 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161725-60X61-S207-Elevation III	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmad.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1" =	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

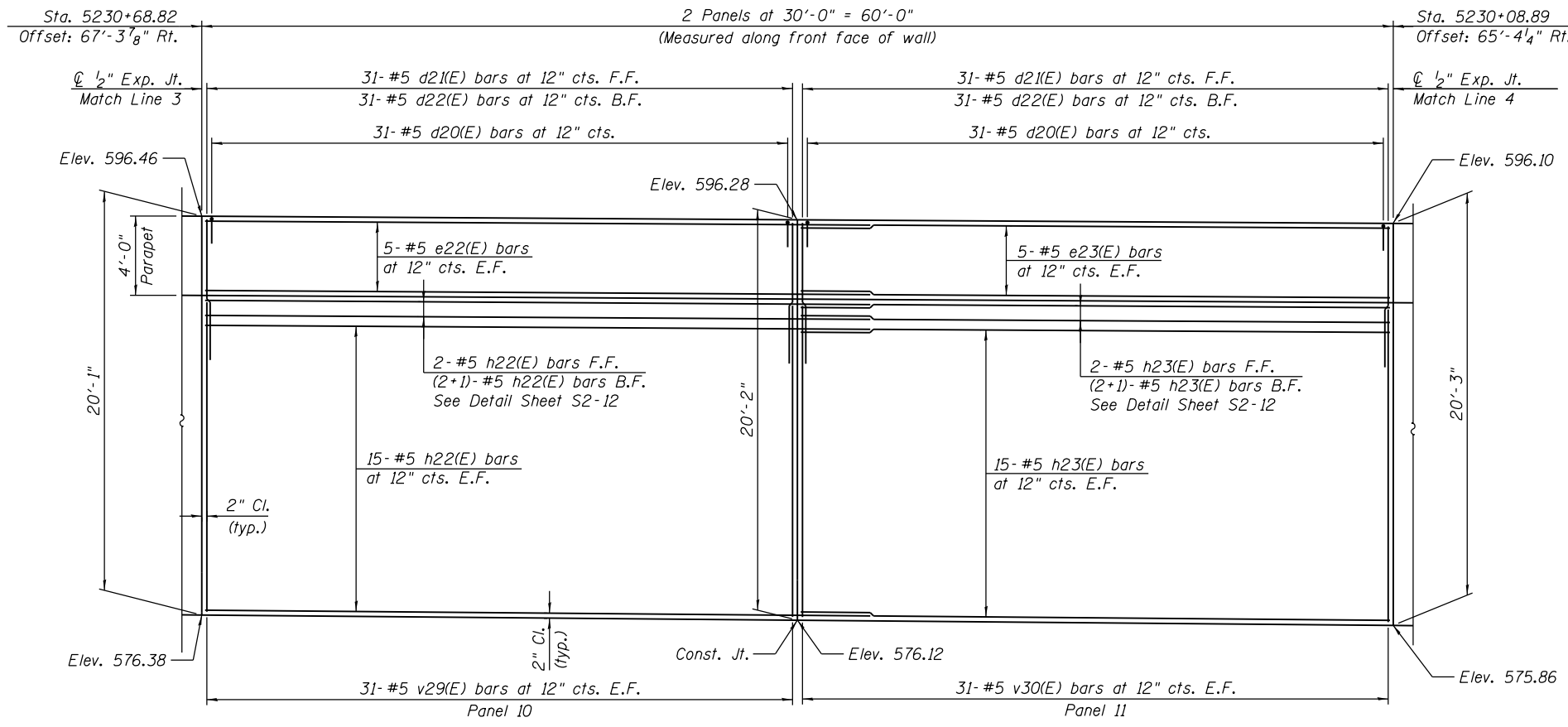
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION (STA. 5231 + 29.17 TO STA. 5230 + 68.82)  
 RETAINING WALL 6 (STRUCTURE NO. 016-1725)

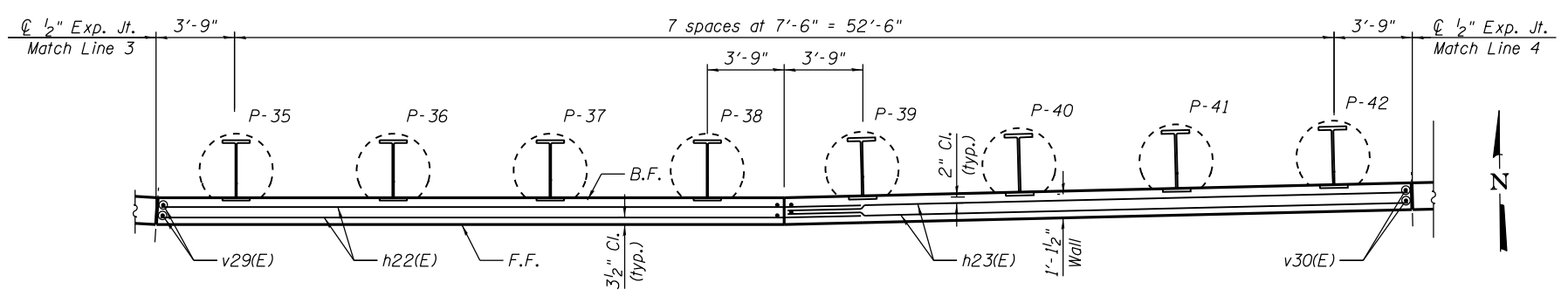
SHEET S2-07 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	156
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

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**ELEVATION**



**PLAN**

(Parapet not shown for clarity)

**NOTES:**

- For soldier pile wall cross sections and details, see Sheet S2-03.
- Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.

**LEGEND:**

- B.F. - Back Face.
- E.F. - Each Face.
- F.F. - Front Face.

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 FAX: (708) 236-0901

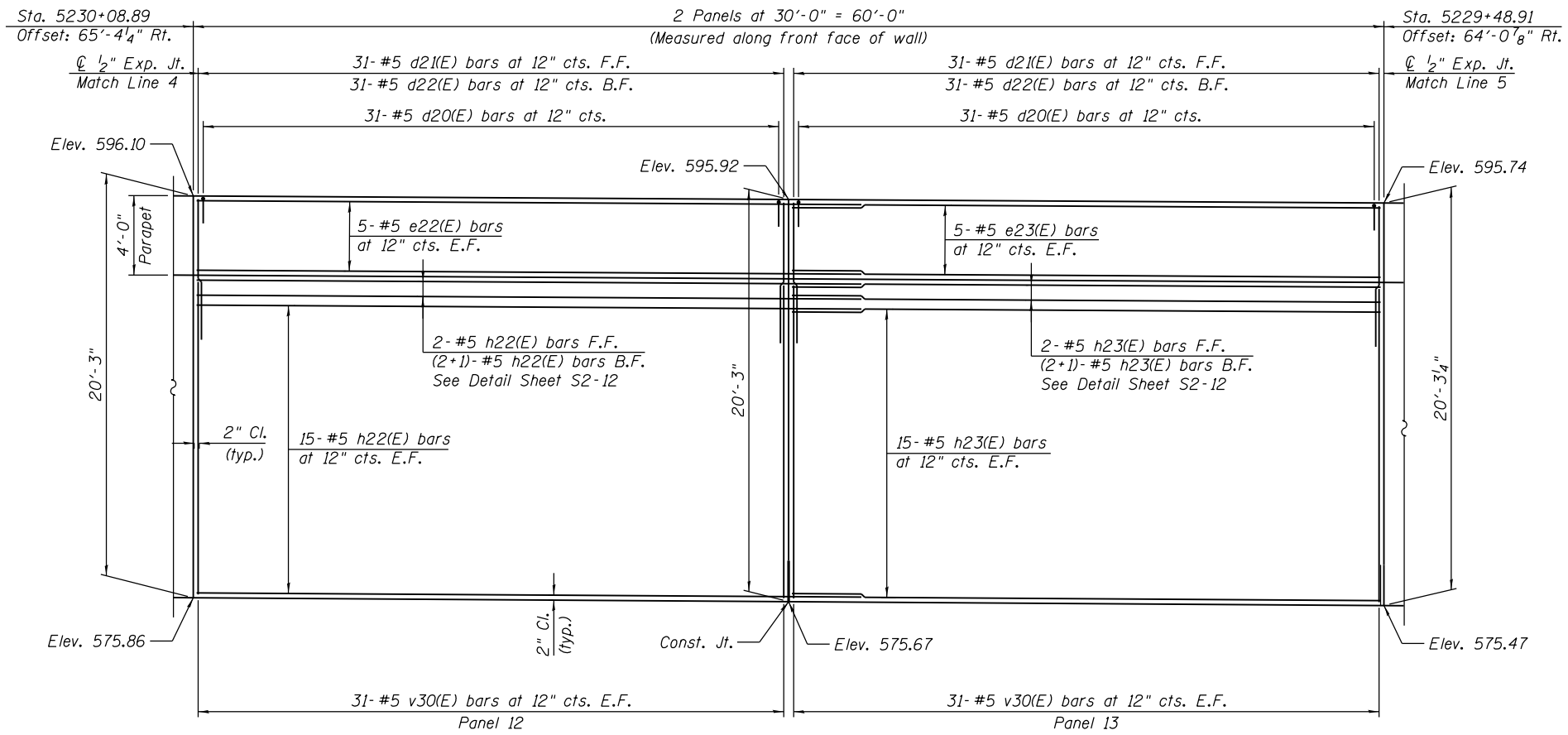
0161725-60X61-S208-Elevation IV	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmed.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1" =	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION (STA.5230+68.82 TO STA.5230+08.89)  
 RETAINING WALL 6 (STRUCTURE NO.016-1725)**

SHEET S2-08 OF S2-22 SHEETS

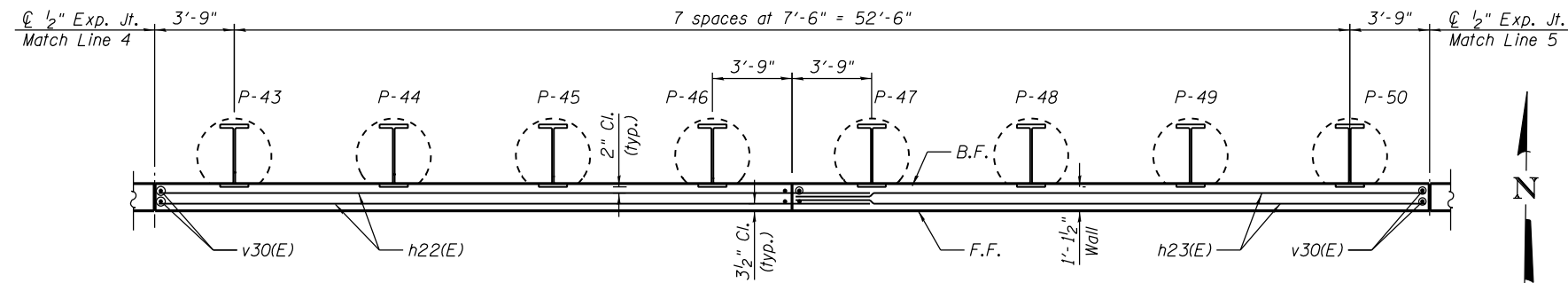
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	157
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



**ELEVATION**

**NOTES:**

1. For soldier pile wall cross sections and details, see Sheet S2-03.
2. Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.



**PLAN**

(Parapet not shown for clarity)

**LEGEND:**

- B.F. - Back Face.
- E.F. - Each Face.
- F.F. - Front Face.

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 SUITE 231  
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 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161725-60X61-S209-Elevation V	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmad.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1" =	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

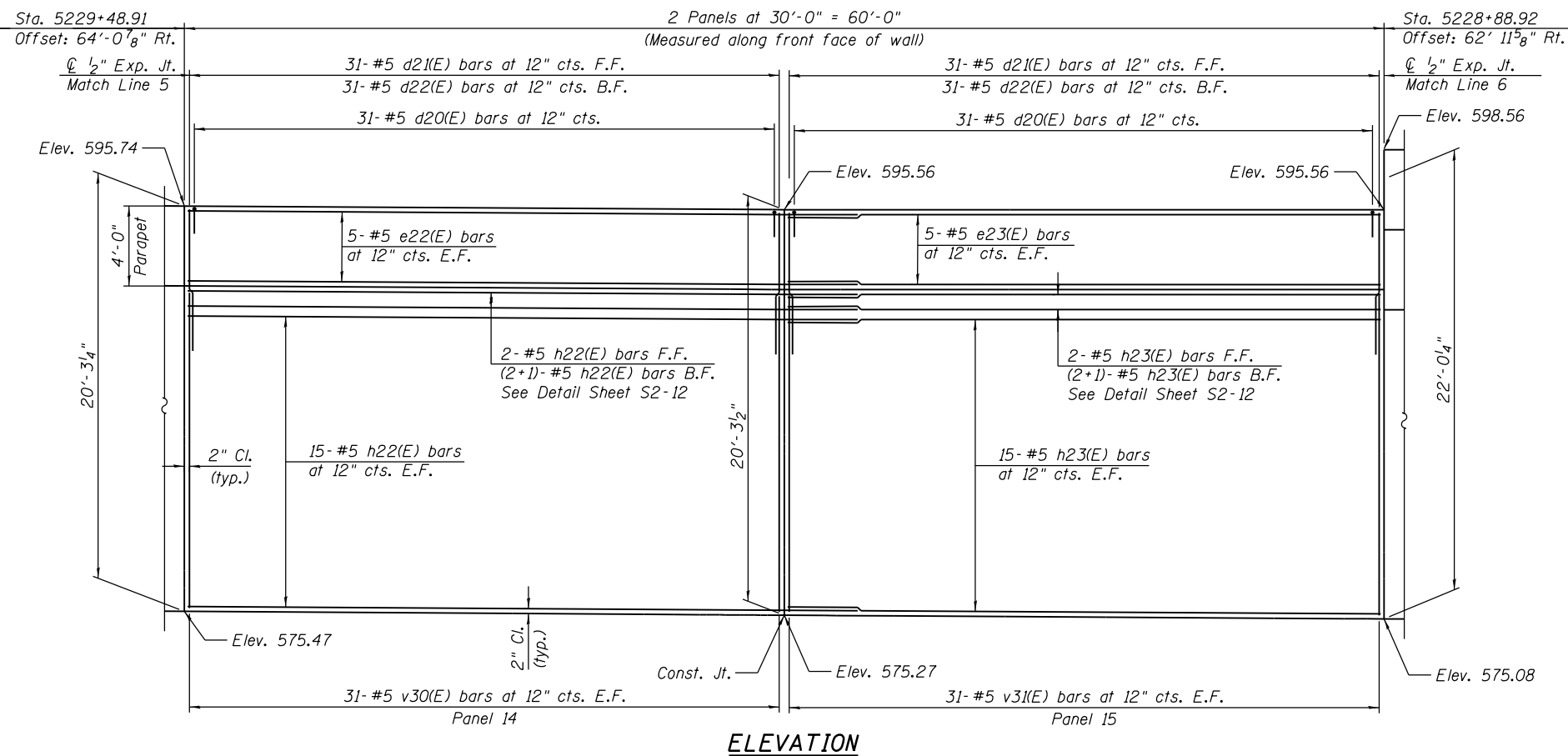
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION (STA. 5230 + 08.89 TO STA. 5229 + 48.91)  
 RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-09 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	158
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

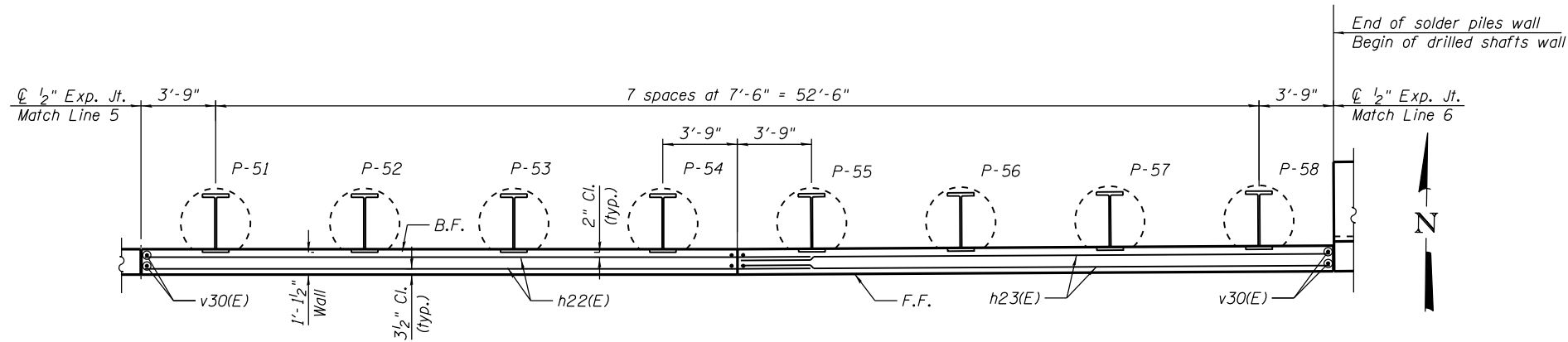
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**ELEVATION**

**NOTES:**

1. For soldier pile wall cross sections and details, see Sheet S2-03.
2. Soldier pile layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-12.



**PLAN**

Parapet not shown for clarity

**LEGEND:**

- B.F. - Back Face.
- E.F. - Each Face.
- F.F. - Front Face.

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PHONE: (708) 236-0900  
FAX: (708) 236-0901

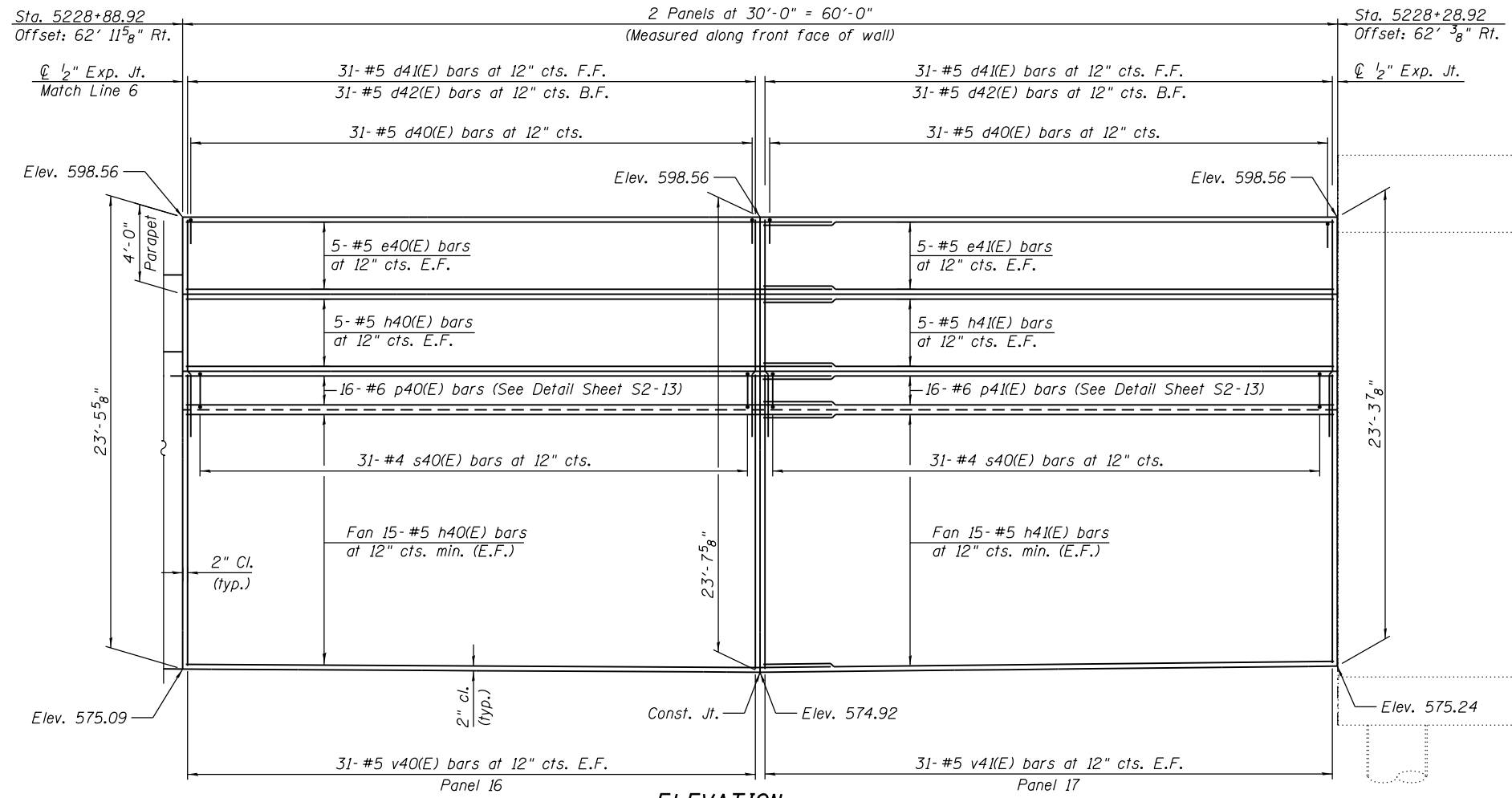
0161725-60X61-S210-Elevation VI	DESIGNED - WM, ARA	REVISED -
USER NAME = ahmad.issa	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / 1" =	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND ELEVATION (STA. 5229 + 48.91 TO STA. 5228 + 88.92)  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)**

SHEET S2-10 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	159
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



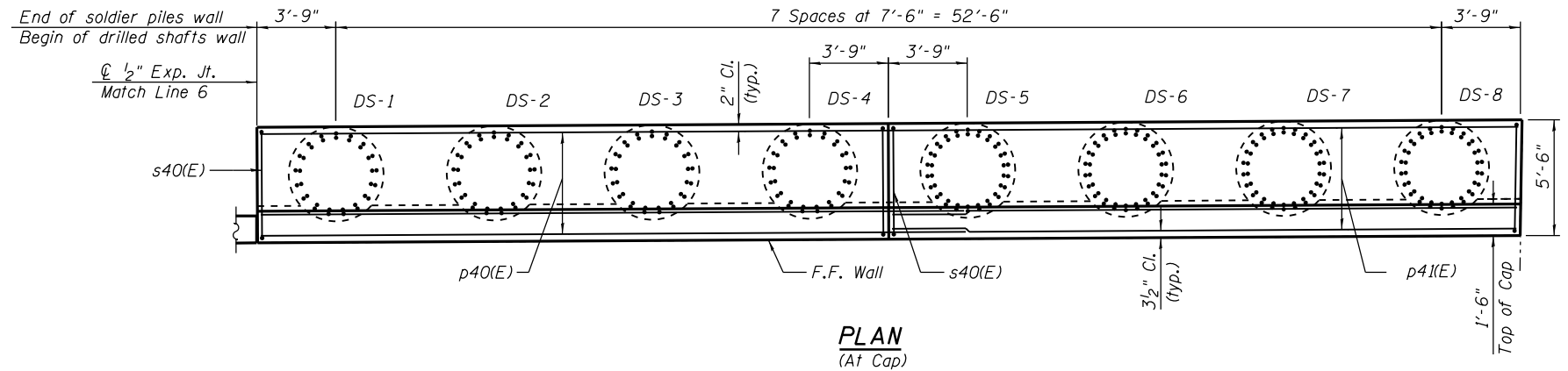
**ELEVATION**

**SUGGESTED CONSTRUCTION SEQUENCE**

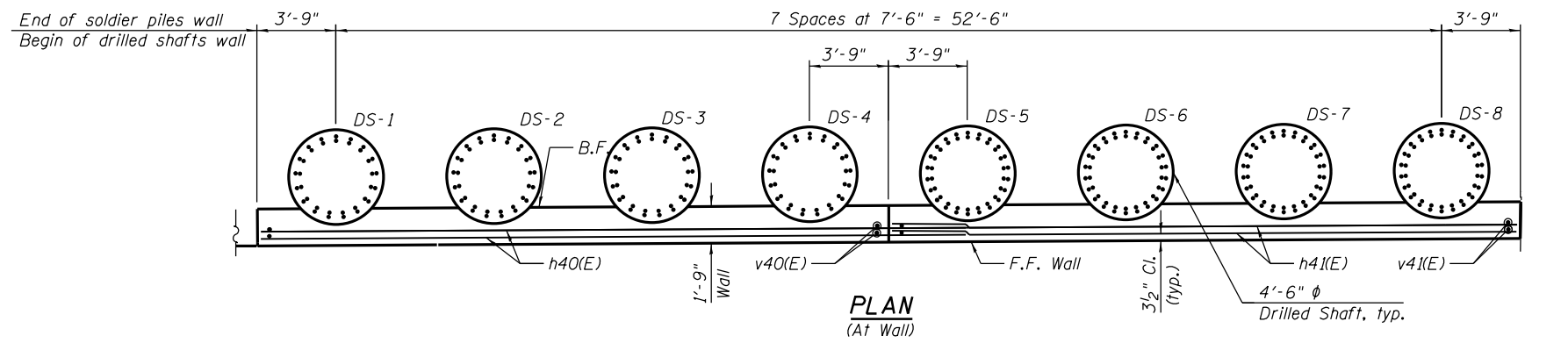
1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to, or removals of, existing utilities with utility owner.
2. Install Drilled Soldier Piles and Drilled Shafts.
3. Excavate for Retaining Wall 6. Install temporary lagging between Drilled Shafts and Drilled Soldier Piles from top down as excavation proceeds.
4. Install concrete facing on Drilled Shaft and Drilled Soldier Piles for Retaining Wall 6.
5. After completion of the concrete facing for Retaining Wall 6 (SN 016-1725), Excavate to proposed subgrade depth of the Morgan Street Exit Ramp between Retaining Walls 5 and 6 in accordance with the Civil Plans and Typical Sections. Construction loading behind the wall shall be restricted if possible until installation of storm sewers in front of the Retaining Wall 6 has been completed and backfilled with CLSM (see Note 6).
6. Install 12"  $\phi$  storm sewer and drainage structures and backfill trench with Controlled Low Strength Material (CLSM) as shown in the Civil Plans.
7. After installation of the storm sewer and drainage structures located in front of Wall 6, install the roadway (subgrade, subbase and pavement) for Morgan Street Exit Ramp.
8. Upon completion of the Morgan Street Exit Ramp roadway backfill behind Retaining Wall 6 to final proposed grade

**NOTES:**

1. For drilled shafts wall cross sections and details, see Sheet S2-04.
2. Drilled shafts layout, min bar laps, sections, details, and Bill of Material, see Sheet S2-13.



**PLAN (At Cap)**



**PLAN (At Wall)**

**LEGEND:**

- B.F. - Back Face.
- E.F. - Each Face.
- F.F. - Front Face.

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 PHONE: (708) 236-0900  
 FAX: (708) 236-0901

0161725-60X61-S211-Elevation VII	DESIGNED - WM, ARA	REVISED -
USER NAME = will.mardaus	DRAWN - FA, MAA, WM	REVISED -
PLOT SCALE = 8.000' / in.	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

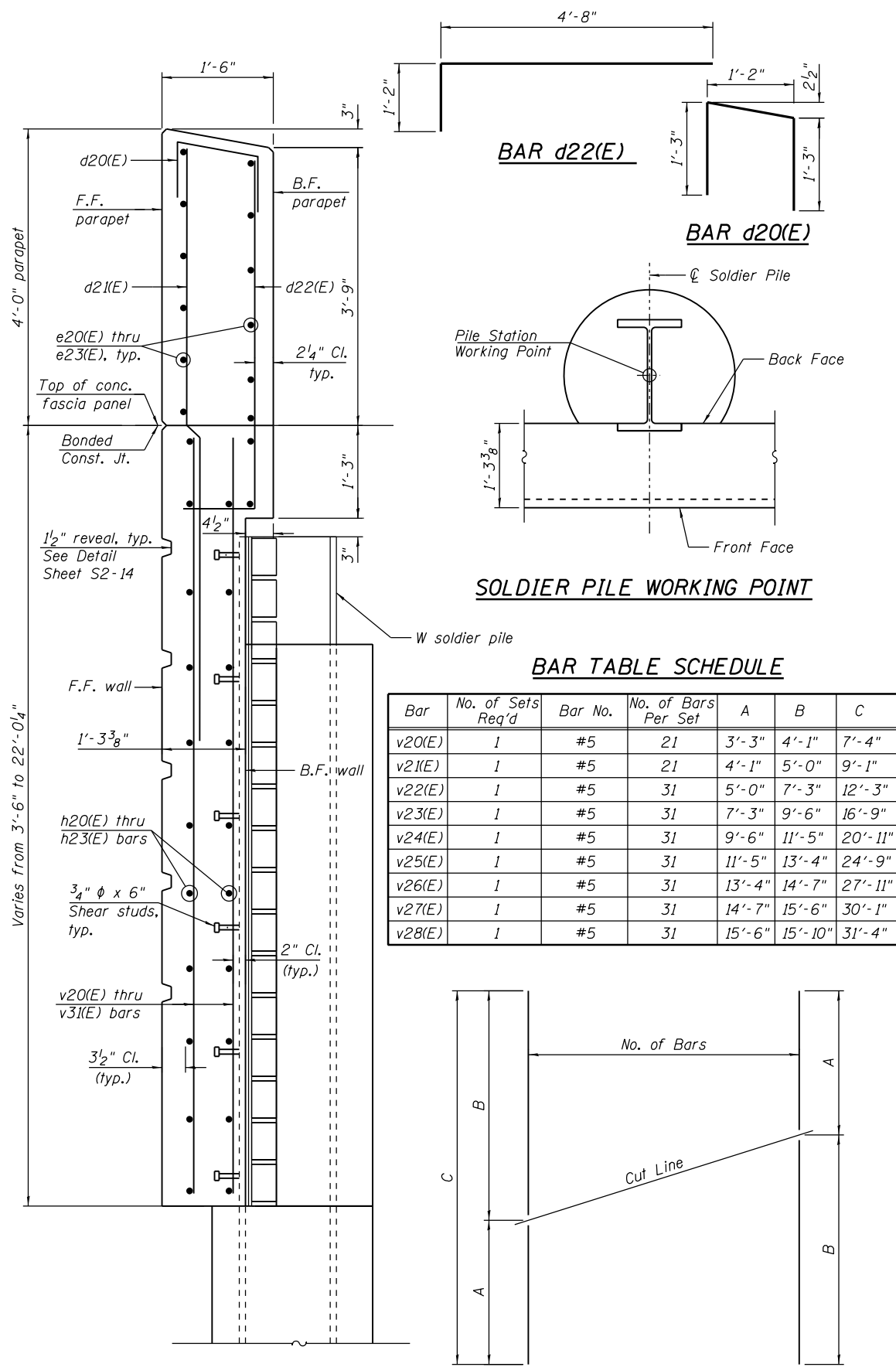
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION (STA. 5228 + 88.92 TO STA. 5228 + 28.92)
RETAINING WALL 6 (STRUCTURE NO. 016-1725)
SHEET S2-11 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	160
CONTRACT NO. 60X61				

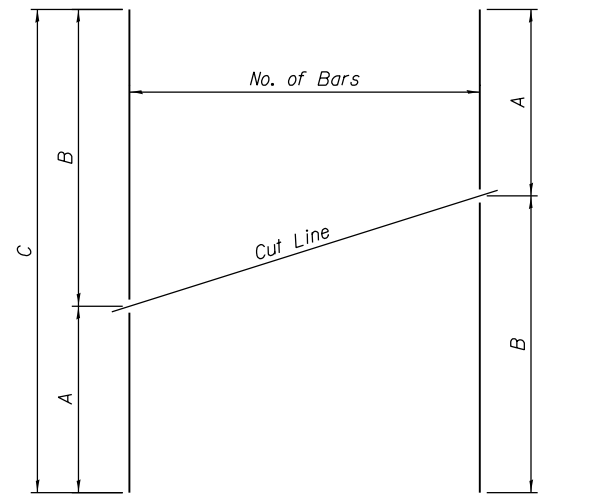
ILLINOIS FED. AID PROJECT				
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**BAR TABLE SCHEDULE**

Bar	No. of Sets Req'd	Bar No.	No. of Bars Per Set	A	B	C
v20(E)	1	#5	21	3'-3"	4'-1"	7'-4"
v21(E)	1	#5	21	4'-1"	5'-0"	9'-1"
v22(E)	1	#5	31	5'-0"	7'-3"	12'-3"
v23(E)	1	#5	31	7'-3"	9'-6"	16'-9"
v24(E)	1	#5	31	9'-6"	11'-5"	20'-11"
v25(E)	1	#5	31	11'-5"	13'-4"	24'-9"
v26(E)	1	#5	31	13'-4"	14'-7"	27'-11"
v27(E)	1	#5	31	14'-7"	15'-6"	30'-1"
v28(E)	1	#5	31	15'-6"	15'-10"	31'-4"



**TYPICAL SOLDIER PILE SERIES OF BAR CUTTING DIAGRAM**  
**WALL CROSS SECTION** See table for dimensions. Make all cuts normal to bar axis

**PILE LAYOUT**

Pile	Station at Working Point	Offset	Top of Parapet El.	Top of Pile El.	*Bot. of Wall El.	Section	Auger $\phi$	Pile Tip El.	Pile Length	Perm. Casing Bot. El.	Perm. Casing Length
P-1	5233+18.96	75'-0 5/8" Rt.	597.97	592.47	590.35	W21x132	2'-6"	537.47	55'-0"	-	-
P-2	5233+11.37	75'-2 1/4" Rt.	597.92	592.42	589.96	W21x132	2'-6"	537.42	55'-0"	-	-
P-3	5233+03.78	75'-3 3/4" Rt.	597.88	592.38	589.58	W21x132	2'-6"	537.38	55'-0"	-	-
P-4	5232+98.72	75'-4 3/4" Rt.	597.85	592.35	589.32	W21x132	2'-6"	537.35	55'-0"	-	-
P-5	5232+91.13	75'-6 1/8" Rt.	597.80	592.30	588.94	W21x132	2'-6"	537.30	55'-0"	-	-
P-6	5232+83.53	75'-7 3/8" Rt.	597.76	592.26	588.55	W21x132	2'-6"	537.26	55'-0"	-	-
P-7	5232+77.21	75'-8 1/4" Rt.	597.72	592.22	588.12	W21x132	2'-6"	537.22	55'-0"	-	-
P-8	5232+69.62	75'-9 3/8" Rt.	597.67	592.17	587.52	W21x132	2'-6"	537.17	55'-0"	-	-
P-9	5232+62.02	75'-10 1/4" Rt.	597.62	592.12	586.92	W21x132	2'-6"	537.12	55'-0"	-	-
P-10	5232+54.43	75'-11" Rt.	597.57	592.07	586.32	W21x132	2'-6"	537.07	55'-0"	-	-
P-11	5232+46.84	75'-11 3/4" Rt.	597.53	592.03	585.72	W21x132	2'-6"	537.03	55'-0"	-	-
P-12	5232+39.25	76'-0 3/8" Rt.	597.48	591.98	585.12	W21x132	2'-6"	536.98	55'-0"	-	-
P-13	5232+31.65	76'-0 7/8" Rt.	597.44	591.94	584.52	W21x132	2'-6"	536.94	55'-0"	-	-
P-14	5232+24.06	76'-1 1/4" Rt.	597.39	591.89	583.92	W21x132	2'-6"	536.89	55'-0"	-	-
P-15	5232+16.47	76'-1 7/4" Rt.	597.35	591.85	583.36	W33x263	3'-6"	531.85	60'-0"	-	-
P-16	5232+08.87	76'-1 7/8" Rt.	597.30	591.80	582.83	W33x263	3'-6"	531.80	60'-0"	-	-
P-17	5232+01.28	76'-1 7/2" Rt.	597.26	591.76	582.30	W33x263	3'-6"	531.76	60'-0"	-	-
P-18	5231+93.69	76'-1 7/8" Rt.	597.21	591.71	581.77	W33x263	3'-6"	531.71	60'-0"	-	-
P-19	5231+86.09	76'-1 7/4" Rt.	597.17	591.67	581.25	W33x263	3'-6"	531.67	60'-0"	-	-
P-20	5231+78.50	76'-1 6/8" Rt.	597.12	591.62	580.72	W33x263	3'-6"	531.62	60'-0"	-	-
P-21	5231+70.91	76'-1 6/2" Rt.	597.08	591.58	580.19	W33x263	3'-6"	531.58	60'-0"	-	-
P-22	5231+63.31	76'-1 6" Rt.	597.03	591.53	579.66	W33x263	3'-6"	531.53	60'-0"	-	-
P-23	5231+55.72	76'-1 5 3/8" Rt.	596.99	591.49	579.22	W33x263	3'-6"	531.49	60'-0"	-	-
P-24	5231+48.13	76'-1 4 5/8" Rt.	596.94	591.44	578.86	W33x263	3'-6"	531.44	60'-0"	-	-
P-25	5231+40.53	76'-1 3 3/4" Rt.	596.90	591.40	578.50	W33x263	3'-6"	531.40	60'-0"	-	-
P-26	5231+32.94	76'-1 2 7/8" Rt.	596.85	591.35	578.14	W33x263	3'-6"	531.35	60'-0"	-	-
P-27	5231+25.13	75'-9 3/4" Rt.	596.81	591.31	577.82	W33x318	3'-6"	526.31	65'-0"	-	-
P-28	5231+17.58	75'-9 5/8" Rt.	596.76	591.26	577.55	W33x318	3'-6"	526.26	65'-0"	-	-
P-29	5231+10.03	74'-3 3/8" Rt.	596.71	591.21	577.28	W33x318	3'-6"	526.21	65'-0"	-	-
P-30	5231+02.48	73'-5 1/8" Rt.	596.66	591.16	577.00	W33x318	3'-6"	526.16	65'-0"	-	-
P-31	5230+94.93	72'-8 5/8" Rt.	596.62	591.12	576.81	W33x318	3'-6"	526.12	65'-0"	537.81'	39'-0"
P-32	5230+87.39	71'-11 1/8" Rt.	596.57	591.07	576.68	W33x318	3'-6"	526.07	65'-0"	537.68'	39'-0"
P-33	5230+79.84	71'-1 1/2" Rt.	596.53	591.03	576.56	W33x318	3'-6"	526.03	65'-0"	537.56'	39'-0"
P-34	5230+72.30	70'-3 3/4" Rt.	596.48	590.98	576.44	W33x318	3'-6"	525.98	65'-0"	537.44'	39'-0"
P-35	5230+64.92	69'-8 7/8" Rt.	596.44	590.94	576.35	W33x318	3'-6"	522.94	68'-0"	541.35'	35'-0"
P-36	5230+57.43	69'-4 7/8" Rt.	596.39	590.89	576.28	W33x318	3'-6"	522.89	68'-0"	541.28'	35'-0"
P-37	5230+49.93	69'-0 7/8" Rt.	596.35	590.85	576.22	W33x318	3'-6"	522.85	68'-0"	541.22'	35'-0"
P-38	5230+42.44	68'-8 7/8" Rt.	596.30	590.80	576.15	W33x318	3'-6"	522.80	68'-0"	541.15'	35'-0"
P-39	5230+35.06	68'-5 7/8" Rt.	596.26	590.76	576.09	W33x318	3'-6"	522.76	68'-0"	546.09'	30'-0"
P-40	5230+27.56	68'-4" Rt.	596.21	590.71	576.02	W33x318	3'-6"	522.71	68'-0"	546.02'	30'-0"
P-41	5230+20.06	68'-2 1/8" Rt.	596.17	590.67	575.96	W33x318	3'-6"	522.67	68'-0"	545.96'	30'-0"
P-42	5230+12.56	68'-0 1/4" Rt.	596.12	590.62	575.89	W33x318	3'-6"	522.62	68'-0"	545.89'	30'-0"
P-43	5230+05.09	67'-10 3/8" Rt.	596.08	590.58	575.84	W33x318	3'-6"	522.58	68'-0"	545.84'	30'-0"
P-44	5229+97.59	67'-8 1/2" Rt.	596.03	590.53	575.79	W33x318	3'-6"	522.53	68'-0"	545.79'	30'-0"
P-45	5229+90.09	67'-6 1/2" Rt.	595.99	590.49	575.74	W33x318	3'-6"	522.49	68'-0"	545.74'	30'-0"
P-46	5229+82.59	67'-4 5/8" Rt.	595.94	590.44	575.69	W33x318	3'-6"	522.44	68'-0"	545.69'	30'-0"
P-47	5229+75.10	67'-2 3/4" Rt.	595.90	590.40	575.64	W33x318	3'-6"	522.40	68'-0"	545.64'	30'-0"
P-48	5229+67.60	67'-0 3/4" Rt.	595.85	590.35	575.59	W33x318	3'-6"	522.35	68'-0"	545.59'	30'-0"
P-49	5229+60.10	66'-10 7/8" Rt.	595.81	590.31	575.54	W33x318	3'-6"	522.31	68'-0"	545.54'	30'-0"
P-50	5229+52.60	66'-9" Rt.	595.76	590.26	575.49	W33x318	3'-6"	522.26	68'-0"	545.49'	30'-0"
P-51	5229+45.10	66'-7" Rt.	595.72	590.22	575.44	W33x318	3'-6"	522.22	68'-0"	547.44'	28'-0"
P-52	5229+37.60	66'-5 1/8" Rt.	595.67	590.17	575.40	W33x318	3'-6"	522.17	68'-0"	547.40'	28'-0"
P-53	5229+30.11	66'-3 1/8" Rt.	595.63	590.13	575.35	W33x318	3'-6"	522.13	68'-0"	547.35'	28'-0"
P-54	5229+22.61	66'-1 1/4" Rt.	595.59	590.09	575.30	W33x318	3'-6"	522.09	68'-0"	547.30'	28'-0"
P-55	5229+15.12	65'-11 5/8" Rt.	595.56	590.06	575.25	W33x318	3'-6"	522.06	68'-0"	547.25'	28'-0"
P-56	5229+07.62	65'-10 1/4" Rt.	595.56	590.06	575.21	W33x318	3'-6"	522.06	68'-0"	547.21'	28'-0"
P-57	5229+00.12	65'-8 3/4" Rt.	595.56	590.06	575.16	W33x318	3'-6"	522.06	68'-0"	547.16'	28'-0"
P-58	5228+92.63	65'-7 3/8" Rt.	595.56	590.06	575.11	W33x318	3'-6"	522.06	68'-0"	547.11'	28'-0"

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d20(E)	445	#5	3'-8"	□
d21(E)	445	#5	7'-0"	—
d22(E)	445	#5	5'-10"	—
e20(E)	10	#5	23'-1"	—
e21(E)	10	#5	19'-8"	—
e22(E)	70	#5	33'-1"	—
e23(E)	60	#5	29'-8"	—
h20(E)	11	#5	23'-1"	—
h21(E)	13	#5	19'-8"	—
h22(E)	217	#5	33'-1"	—
h23(E)	196	#5	29'-8"	—
v20(E)	21	#5	7'-4"	—
v21(E)	21	#5	9'-1"	—
v22(E)	31	#5	12'-3"	—
v23(E)	31	#5	16'-9"	—
v24(E)	31	#5	20'-11"	—
v25(E)	31	#5	24'-9"	—
v26(E)	31	#5	27'-11"	—
v27(E)	31	#5	30'-1"	—
v28(E)	31	#5	31'-4"	—
v29(E)	62	#5	15'-10"	—
v30(E)	248	#5	15'-11"	—
v31(E)	62	#5	16'-1"	—
Structure Excavation		CU YD	493	
Concrete Structures		CU YD	274.1	
Concrete Superstructure		CU YD	92.6	
Protective Coat		SQ YD	463	
Stud Shear Connectors		EACH	1,167	
Reinforcement Bars,		POUND	38,303	
Epoxy Coated				
Concrete Sealer		SQ FT	5,619	
Permanent Casing		FOOT	880	
Geocomposite Wall Drain		SQ YD	347	
Drilling and Setting		CU FT	29,798	
Soldier Piles (in Soil)				
Granular Backfill		CU YD	196	
for Structures				
Untreated Timber Lagging		SQ FT	4,974	
Furnishing Soldier Piles		FOOT	3,642	
(W Section)				
Pipe Underdrains for		FOOT	432	
Structures, 4"				

**Minimum Bar Laps**

Bar	Lap
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"

\* The top of the permanent casing is located at the Bottom of the wall facing.

**HBM**  
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 FAX: (708) 236-0901

0161725-60X61-S212-SoldierPileWall
USER NAME = ahmed.issa
PLOT SCALE = 20.0000' 1" = 1"
PLOT DATE = 12/17/2014

DESIGNED - WM, ARA	REVISED -
DRAWN - FA, MAA, WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SOLDIER PILE WALL SECTIONS, DETAILS AND BILL OF MATERIAL**  
**RETAINING WALL 6 (STRUCTURE NO. 016-1725)**

SHEET S2-12 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	161
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



**DRILLED SHAFT LAYOUT**

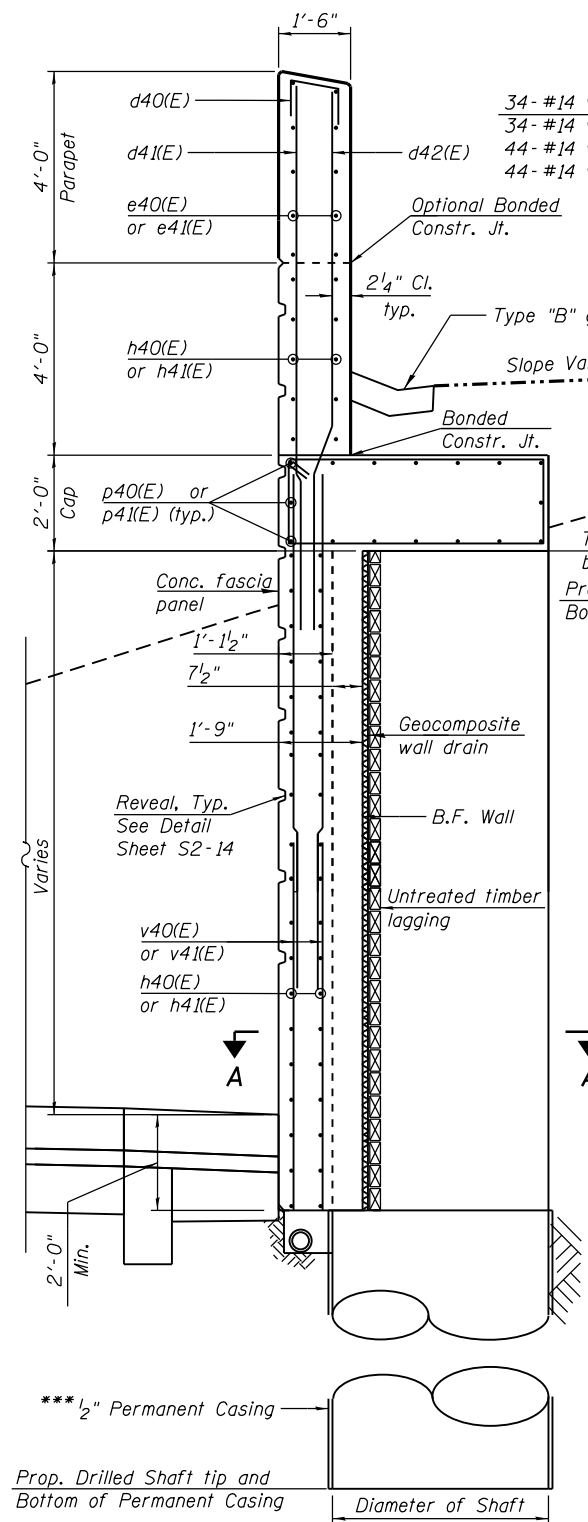
Shaft	Station at Working Point	Offset	Top of Parapet El.	Top of Shaft El.	*Bott. of Wall El.	Diameter	Shaft Tip El.	Shaft Length	Perm. Casing Bott. El.	Perm. Casing Length
DS-1	5228+85.10	66'-1 7/8"	598.56	588.56	575.07	54"	508.56	80'-0"	548.07'	66'-5"
DS-2	5228+77.60	66'-0 1/2"	598.56	588.56	575.03	54"	508.56	80'-0"	548.03'	66'-5"
DS-3	5228+70.10	65'-11 1/8"	598.56	588.56	574.99	54"	508.56	80'-0"	547.99'	66'-5"
DS-4	5228+62.60	65'-9 3/4"	598.56	588.56	574.94	54"	508.56	80'-0"	547.94'	66'-5"
DS-5	5228+55.10	65'-8 3/8"	598.56	588.56	574.96	54"	508.56	80'-0"	547.96'	66'-5"
DS-6	5228+47.60	65'-6 7/8"	598.56	588.56	575.04	54"	508.56	80'-0"	548.04'	66'-5"
DS-7	5228+40.10	65'-5 1/2"	598.56	588.56	575.12	54"	508.56	80'-0"	548.12'	66'-5"
DS-8	5228+32.60	65'-4 1/8"	598.56	588.56	575.20	54"	508.56	80'-0"	548.20'	66'-5"

\* The top of the permanent casing is located at the Bottom of the Wall facing.

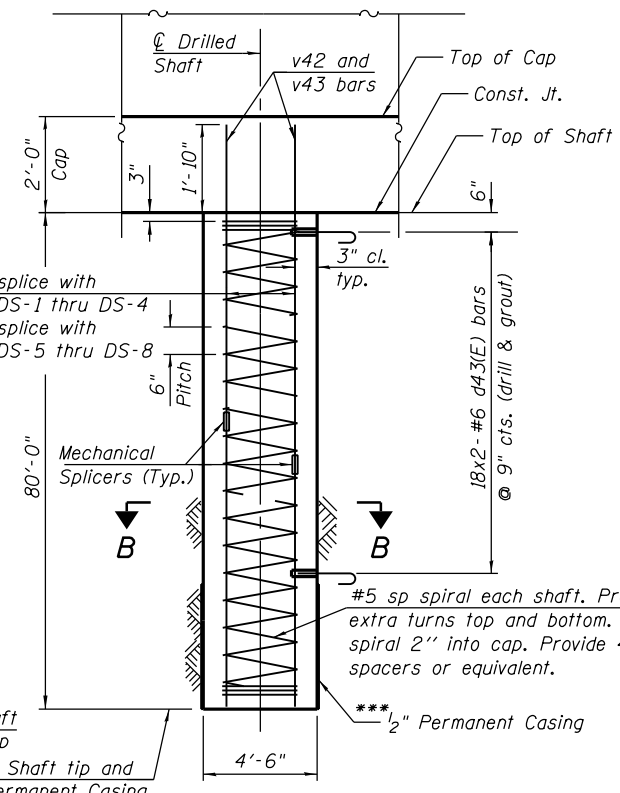
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d40(E)	62	#5	3'-8"	└
d41(E)	62	#5	11'-3"	
d42(E)	62	#5	11'-4"	
d43(E)	288	#6	2'-2"	└
e40(E)	10	#5	33'-1"	
e41(E)	10	#5	29'-8"	
h40(E)	40	#5	33'-1"	
h41(E)	40	#5	29'-8"	
p40(E)	16	#6	33'-8"	
p41(E)	16	#6	29'-8"	
s40(E)	62	#5	14'-5"	□
sp40	8	#5	80'-0"	
v40(E)	31	#5	30'-6"	
v41(E)	31	#5	30'-4"	
v42	312	#14	36'-9"	
v43	312	#14	45'-0"	
Structure Excavation	CU YD		116	
Concrete Structures	CU YD		70.6	
Concrete Superstructure	CU YD		26.3	
Protective Coat	SQ YD		104	
Reinforcement Bars	POUND		265,590	
Reinforcement Bars, Epoxy Coated	POUND		10,328	
Mechanical Splicers	EACH		312	
Permanent Casing	FOOT		532	
Drilled Shaft in Soil	CU YD		377	
Concrete Sealer	SQ FT		932	
Geocomposite Wall Drain	SQ YD		50	
Crosshole Sonic Logging	EACH		2	
Untreated Timber Lagging	SQ FT		449	
Pipe Underdrain for Structures, 4"	FOOT		62	

\*\* Length is the height of the spiral.

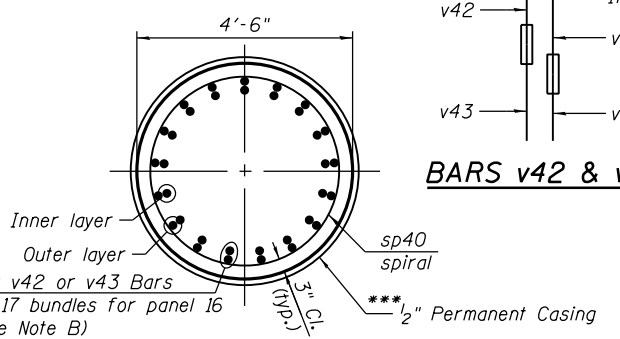


**TYPICAL DRILLED SHAFTS WALL CROSS SECTION**  
(Looking Upstation)  
(From Sta. 5228+28.92 to Sta. 5228+88.92)

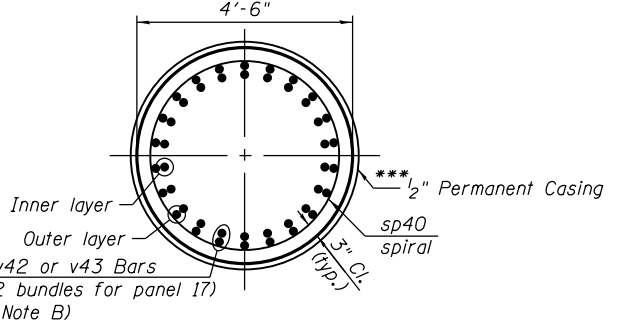


**TYPICAL SHAFT ELEVATION**  
(DS-1 thru DS-8)

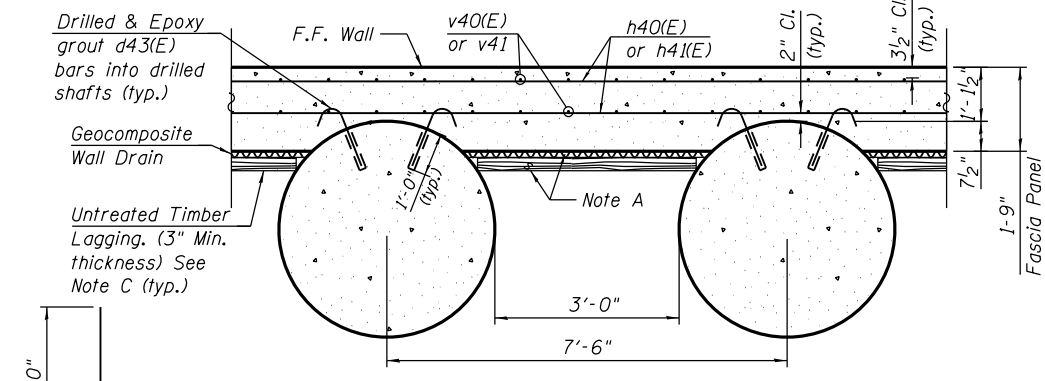
\*\*\* Contractor may need to increase the casing thickness to withstand the installation process. The Bottom of Permanent Casing Elevation is shown.



**SECTION B-B**  
(DS-1 thru DS-4)



**SECTION B-B**  
(DS-5 thru DS-8)



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

**BAR d42(E)**

**BAR d43(E)**

**BAR s40(E)**

**BAR d40(E)**

**BAR TABLE SCHEDULE**

Bar	No. of Sets Req'd	Bar No.	No. of Bars Per Set	A	B	C
v40(E)	1	#5	31	15'-2"	15'-4"	30'-6"
v41(E)	1	#5	31	15'-4"	15'-0"	30'-4"

Minimum Bar Laps	
Bar	Lap
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"

Note A  
Install lagging and Geocomposite Wall Drain from top down as excavation proceeds. Minimize over-excavation and backfill voids with dry loose sand. Cost included with Concrete Structures.

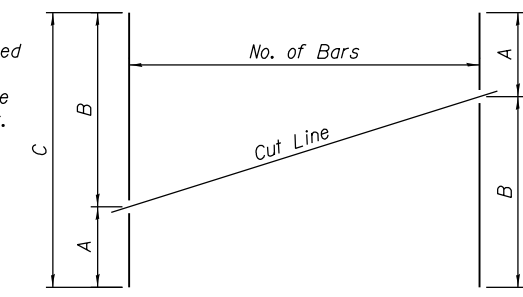
Note B  
Bundle bars in inner layer with bars in outer layer.

Note C  
The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, until the concrete facing is installed. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the shaft for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer. Cost included with Concrete Structures.

**NOTES**

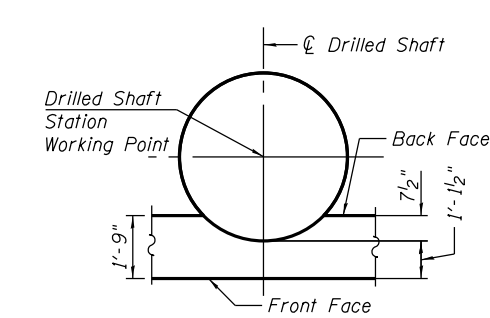
1. When splicing spiral reinforcement is necessary, the spiral shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.

2. Work this sheet with Sheets S2-04 and S2-11.



**SERIES OF BAR CUTTING DIAGRAM**

See table for dimensions. Make all cuts normal to bar axis



**DRILLED SHAFTS WORKING POINT**

FILE PATH = p:\617479-PM\INT.\p\com\line\loc\h\p\CDM\_D902\_MIA\Documents\01\_Americas\1T\_eng\p\station\016269938\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1725-60X61\_Preliminary\_Plane\0161725-60X61-S213-DrilledShaftWall

**HBM**  
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MILLSIDE, IL 60162  
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FAX: (708) 236-0901

DESIGNED	WM, ARA	REVISED	-
DRAWN	FA, MAA, WM	REVISED	-
CHECKED	MI, JJS	REVISED	-
DATE	10/17/2014	REVISED	-

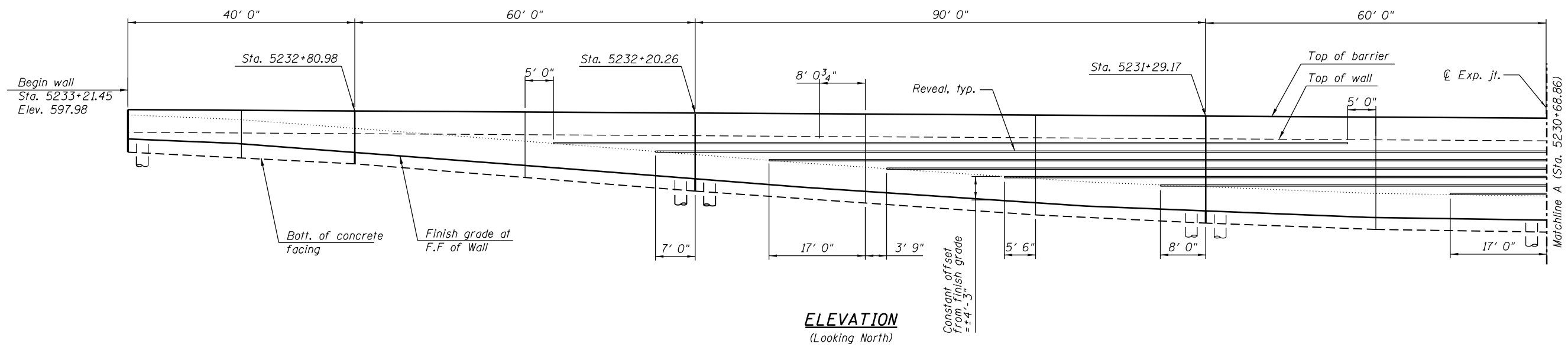
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DRILLED SHAFT WALL SECTIONS, DETAILS AND BILL OF MATERIAL**  
**RETAINING WALL 6 (STRUCTURE NO. 016-1725)**

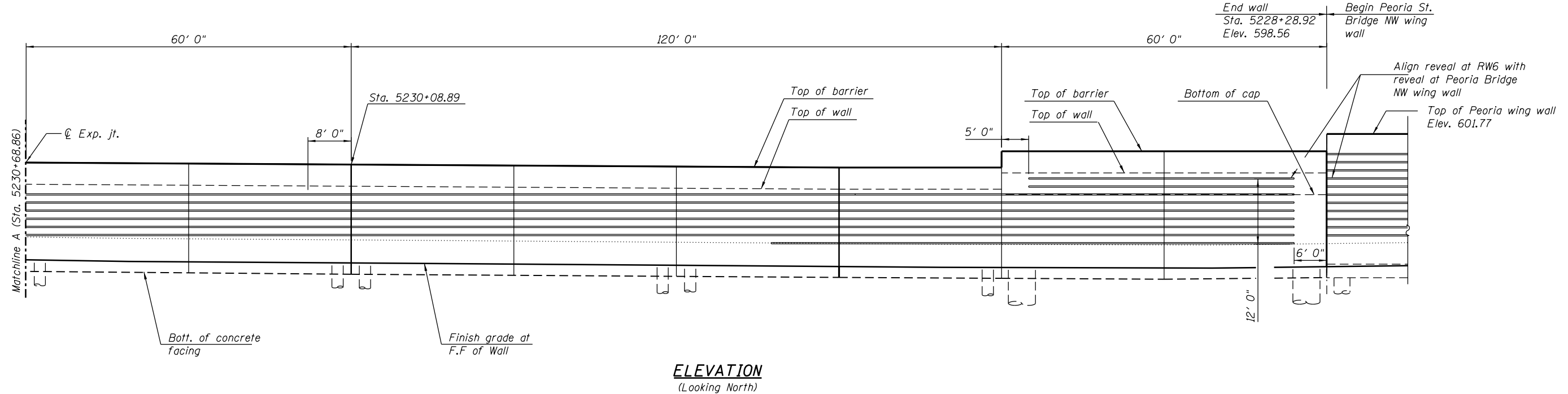
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	162

CONTRACT NO. 60X61  
ILLINOIS FED. AID PROJECT

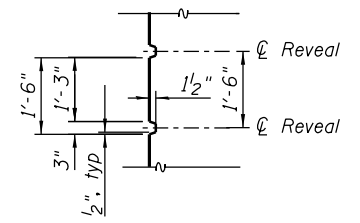
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**ELEVATION**  
(Looking North)



**ELEVATION**  
(Looking North)



**TYPICAL REVEAL DETAIL**

- NOTES:**
1. Reveals in Concrete Facing of Soldier Pile and Lagging Wall will not be paid separately and will be included in the cost of the pay item "Concrete Structures".
  2. Verify / coordinate all wall dimensions with structural drawings (SN 016-1725).

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0161725-60X61-S214-ArchDetails	DESIGNED - MR	REVISED -
USER NAME = ahmod.issa	DRAWN - MR, WM	REVISED -
PLOT SCALE = 20:0.0000 1" = 10'	CHECKED - MI, JJS	REVISED -
PLOT DATE = 12/17/2014	DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS  
 RETAINING WALL 6 (STRUCTURE NO. 016-1725)  
 SHEET S2-14 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	163
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



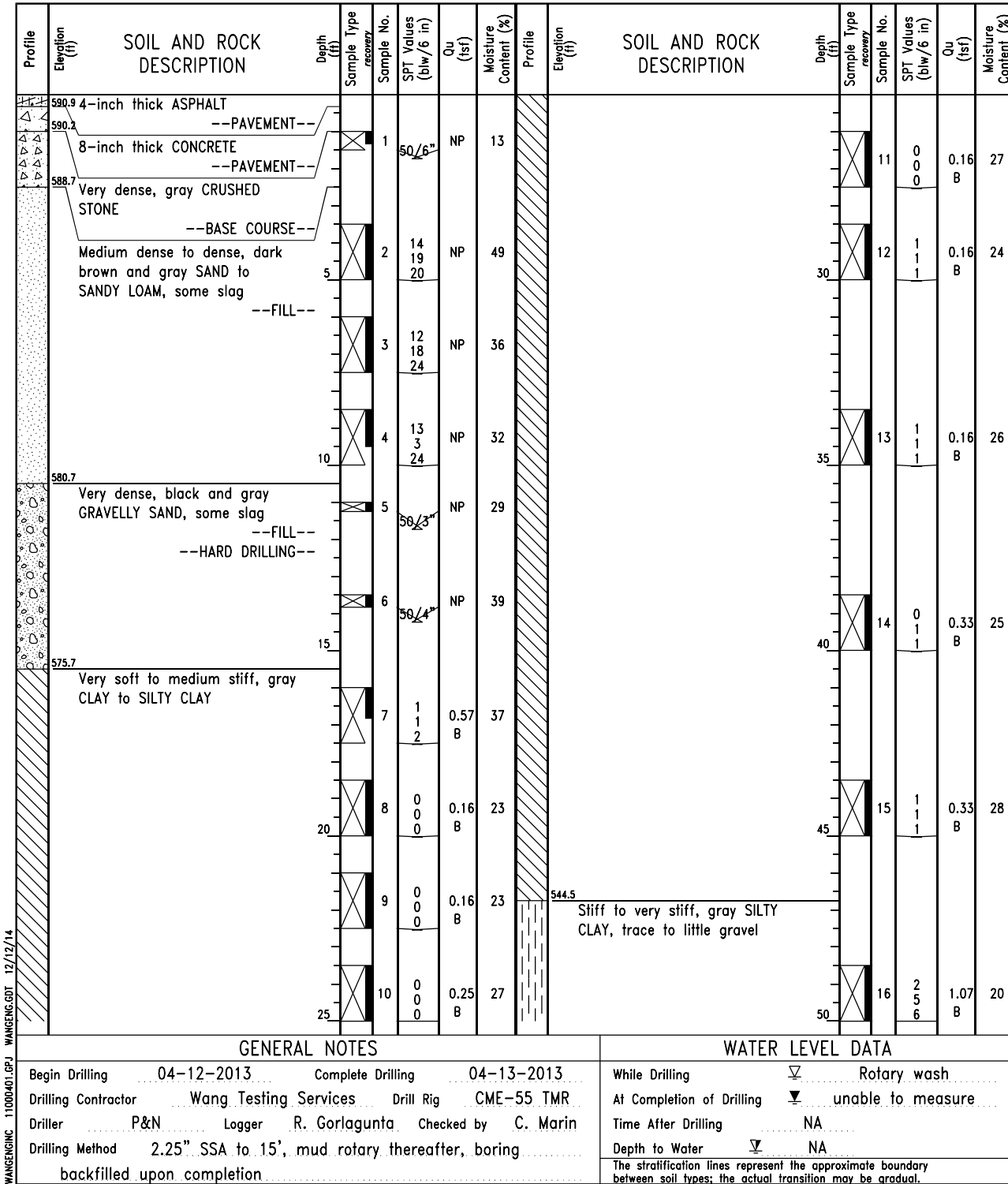


**BORING LOG 05-RWB-02**

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: 591.20 ft  
 North: 1898084.11 ft  
 East: 1170005.07 ft  
 Station: 5232+55.15  
 Offset: 41.26 RT



**GENERAL NOTES**

Begin Drilling: 04-12-2013, Complete Drilling: 04-13-2013  
 Drilling Contractor: Wang Testing Services, Drill Rig: CME-55 TMR  
 Driller: P&N, Logger: R. Gorgagunta, Checked by: C. Marin  
 Drilling Method: 2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion

**WATER LEVEL DATA**

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

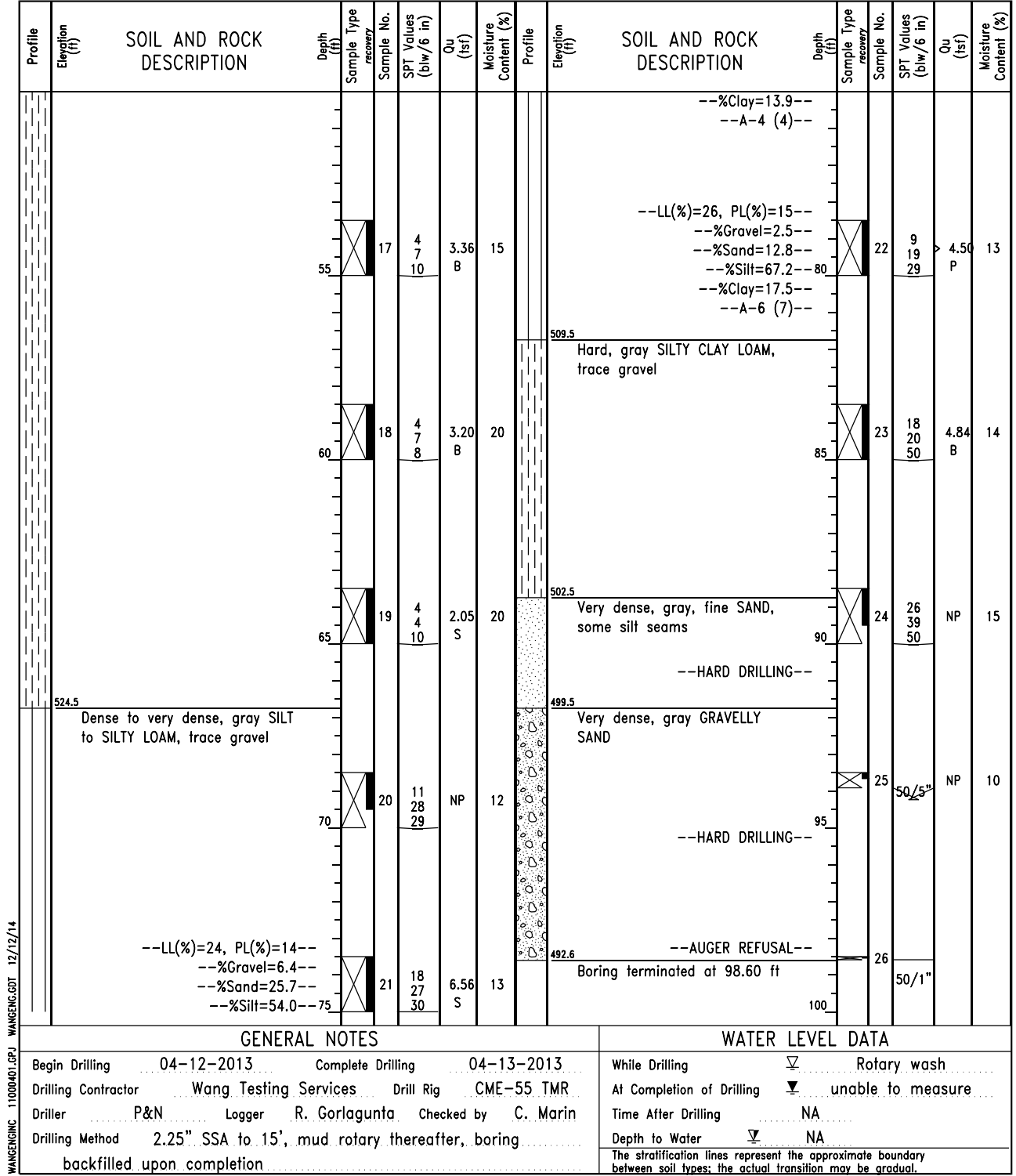


**BORING LOG 05-RWB-02**

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: 591.20 ft  
 North: 1898084.11 ft  
 East: 1170005.07 ft  
 Station: 5232+55.15  
 Offset: 41.26 RT



**GENERAL NOTES**

Begin Drilling: 04-12-2013, Complete Drilling: 04-13-2013  
 Drilling Contractor: Wang Testing Services, Drill Rig: CME-55 TMR  
 Driller: P&N, Logger: R. Gorgagunta, Checked by: C. Marin  
 Drilling Method: 2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion

**WATER LEVEL DATA**

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

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 WANGENG 11000401.GPJ WANGENG.DOT 12/12/14



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 FAX: (708) 236-0901

DESIGNED - WM	REVISÉD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
DRAWN - WM	REVISÉD -	
CHECKED - MI, JJS	REVISÉD -	
DATE - 10/17/2014	REVISÉD -	

BORING LOGS II		
RETAINING WALL 6 (STRUCTURE NO. 016-1725)		
F.A.I. R.E.	SECTION	COUNTY
90/94/290	2013-077R	COOK
TOTAL SHEETS: 317   SHEET NO. 165		
CONTRACT NO. 60X61		
SHEET S2-16 OF S2-22 SHEETS		

ILLINOIS	FED. AID PROJECT
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1145 N Main Street  
Lombard, IL 60148  
Telephone: 630 953-9928  
Fax: 630 953-9938

### BORING LOG 2082-B-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 595.02 ft  
North: 1898094.24 ft  
East: 1170474.14 ft  
Station: 3705+04.48 (5228+94.39)  
Offset: 8.9443 LT (38.29 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
594.7	4-inch thick ASPHALT --PAVEMENT--												
593.7	12-inch thick CONCRETE --PAVEMENT--												
593.2	6-inch thick CRUSHED STONE --BASE COURSE--												
	Loose to dense, brown, black and gray medium to coarse SAND, trace to little gravel, slag, brick fragments --FILL--												
		1	11	18	15	NP	17			11	0	0.25	28
		2	9	17	14	NP	18			12	0	0.25	29
		3	4	3	3	NP	27						
		4	17	6	6	NP	47			13	0	0.33	27
		5	3	3	5	NP	48						
		6	4	3	4	NP	63			14	0	0.33	26
		7	7	2	2	NP	76						
577.0	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel							553.0	Medium stiff to stiff, gray SILTY CLAY, trace gravel				
		8	2	1	2	0.49 B	17			15	1	0.82	24
		9	0	0	2	0.41 B	28						
		10	0	0	0	0.33 B	28			16	2	1.17	N/6

#### GENERAL NOTES

Begin Drilling 03-14-2013 Complete Drilling 03-14-2013  
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR  
Driller R&N Logger A. Happel Checked by C. Marin  
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

#### WATER LEVEL DATA

While Drilling  Rotary wash  
At Completion of Drilling  unable to measure  
Time After Drilling NA  
Depth to Water  NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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### BORING LOG 2082-B-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 595.02 ft  
North: 1898094.24 ft  
East: 1170474.14 ft  
Station: 3705+04.48 (5228+94.39)  
Offset: 8.9443 LT (38.29 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
		17	2	4	6	1.56 B	18			22	14	5.90	16
538.0	Hard, gray SILTY LOAM, trace gravel									23	50/4	4.50	21
		18	9	20	25	7.13 B	14						
533.0	Medium stiff to very stiff, gray SILTY CLAY LOAM, trace to little gravel									24	33	4.92	11
		19	6	9	15	3.28 B	19						
		20	5	9	19	0.90 B	28			25	50/5	NP	18
523.0	Hard, gray SILTY LOAM, trace to little gravel							503.0	Dense, gray GRAVELLY SILTY LOAM				
		21	31	40	42	5.74 B	13						
	--LL%=25, PL%=14-- --%Gravel=4.5-- --%Sand=25.4--75							496.5	--AUGER REFUSAL-- Boring terminated at 98.50 ft				

#### GENERAL NOTES

Begin Drilling 03-14-2013 Complete Drilling 03-14-2013  
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR  
Driller R&N Logger A. Happel Checked by C. Marin  
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

#### WATER LEVEL DATA

While Drilling  Rotary wash  
At Completion of Drilling  unable to measure  
Time After Drilling NA  
Depth to Water  NA  
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENG 11000401.OPJ WANGENG.DOT 12/12/14

FILE PATH = p:\617479-PM\INT\rescom\line\local\AECOM\_D592\_NA\Documents\01\_Americas\T\engor\station\60269938\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1725-60X61\_Preliminary\_Plans\0161725-60X61-S217-BoringLog III



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DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS III  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-17 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	166
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



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### BORING LOG 2113-B-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 594.97 ft  
North: 1898089.14 ft  
East: 1169854.00 ft  
Station: 3605+74.46 (5234+07.32)  
Offset: 8.013 RT (45.12 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
594.8	2.75-inch thick ASPHALT --PAVEMENT--												
593.8	11.25-inch thick CONCRETE --PAVEMENT--												
	Loose to very dense, brown SANDY LOAM to SAND, trace gravel --FILL--	1	14	26	33	NP	31		11	0	1	0.25	28
		2	12	10	9	NP	18		12	1	1	0.08	28
		3	9	9	7	NP	25		13	0	2	0.18	28
		4	4	6	6	NP	28		14	0	2	0.33	26
		5	8	6	7	NP	36		15	0	1	0.16	25
		6	3	4	4	NP	43		16	1	2	0.57	26
579.5	Very soft to medium stiff, gray CLAY to SILTY CLAY	7	0	1	1	0.33	23		17	3	5	1.97	16
		8	0	0	1	0.16	25		18	6	9	5.82	13
		9	0	0	0	0.08	26		19	6	8	2.13	22
		10	0	1	1	0.08	26		20	7	13	NP	20
									21	19	32	4.50	12

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-18-2013	Complete Drilling	02-24-2013	While Drilling	▽	13.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR	At Completion of Drilling	▽	unable to measure	
Driller	R&J	Logger	F.Bozga	Time After Drilling	NA		
Drilling Method	2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



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### BORING LOG 2113-B-01

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 594.97 ft  
North: 1898089.14 ft  
East: 1169854.00 ft  
Station: 3605+74.46 (5234+07.32)  
Offset: 8.013 RT (45.12 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
543.0	Stiff to hard, gray SILTY CLAY LOAM, trace gravel --LL%=28, PL%=15-- --%Gravel=2.2-- --%Sand=16.9-- --%Silt=54.8-- --%Clay=26.1-- --A-6 (8)--	17	3	5	7	1.97	16		22	14	25	37	4.50
		18	6	9	14	5.82	13		23	17	26	47	4.50
		19	6	8	14	2.13	22		24	40	50	4	NP
		20	7	13	15	NP	20		25	56	3	NP	14
528.2	Medium dense, gray SILTY LOAM, trace clay lenses												
508.0	Very dense, gray SANDY LOAM												
503.0	Very dense, gray GRAVELLY SAND, some dolostone fragments --AUGER REFUSAL--												
499.0	Boring terminated at 96.00 ft												

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-18-2013	Complete Drilling	02-24-2013	While Drilling	▽	13.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	B-57 TMR	At Completion of Drilling	▽	unable to measure	
Driller	R&J	Logger	F.Bozga	Time After Drilling	NA		
Drilling Method	2.25" SSA to 15', mud rotary thereafter, boring backfilled upon completion			Depth to Water	▽	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

FILE PATH = p:\617479-PMINT\rescom\line\local\BECM\_0502\_NA\Documents\01\_Americas\T\engor\station\60269938\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1725-60X61\_Preliminary\_Plane\0161725-60X61-S218-BoringLog\_IV



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DRAWN -	WM	REVISED -	
CHECKED -	MI, JJS	REVISED -	
DATE -	10/17/2014	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS IV  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-18 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	167
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



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**BORING LOG 06-RWB-01**

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 583.99 ft  
North: 1898106.36 ft  
East: 1170373.84 ft  
Station: 5228+84.58  
Offset: 53.62 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
583.1	11-inch thick, black SILTY CLAY LOAM, some grass	0		1	PUSH	2.00 P	10								
	--TOPSOIL--														
581.7	Very stiff, brown and gray SILTY CLAY LOAM, little gravel	1		2	PUSH	3.50 P	17								
	--FILL--														
	Stiff to hard, brown and gray SILTY CLAY LOAM, trace gravel	5		3	PUSH	4.25 P	18								
		10		4	PUSH	2.50 P	16								
	2-inch thick SAND seam	10		5	PUSH	1.50 P	19								
574.2	Very soft, gray CLAY to SILTY CLAY, trace gravel	10		6	PUSH	0.25 P	21								
572.0	Boring terminated at 12.00 ft	12													

WANGENG 11000401.GPJ WANGENG.GDT 12/19/14

**GENERAL NOTES**

Begin Drilling 04-15-2013 Complete Drilling 04-15-2013  
Drilling Contractor Wang Testing Services Drill Rig Geoprobe HA  
Driller F&R Logger R. Gorlagunta Checked by C. Marin  
Drilling Method 1" IDA Pneumatic Geoprobe LB Sampler

**WATER LEVEL DATA**

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

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

FILE PATH = p:\617479-PM\INT\pccom\line\local\HRCM\0502\_NA\Documents\01\_Americas\T\_engg\station\60269438\_Circle\Phase\_11\000\_CAD\008\_Structural\Structure\_016-1725-60X61\_Preliminary\_Plans\0161725-60X61-S219-BoringLog\_V



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DRAWN - WM  
CHECKED - MI, JJS  
DATE - 10/17/2014

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BORING LOGS V  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)**

SHEET S2-19 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	168
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				



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### BORING LOG 06-RWB-02

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898097.14 ft  
East: 1170215.28 ft  
Station: 3644+00.68 (5230+43.49)  
Offset: 14.27 LT (49.80 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
578.5	7.5-inch thick ASPHALT --PAVEMENT--												
577.7	10-inch thick CONCRETE --PAVEMENT--												
577.0	9-inch thick, gray CRUSHED STONE --BASE COURSE--		1	8 12 19	NP	11				11	0 1 2	0.49 B	25
575.9	Dense, brown GRAVELLY SAND, trace slag and asphalt, brick fragments --FILL--		2	4 2 3	0.74 B	15				12	0 2 3	0.49 B	25
573.7	Medium stiff, gray SILTY CLAY LOAM, trace gravel		3	1 2 2	0.16 B	25	547.4	Very stiff, gray SILTY CLAY, trace gravel		13	2 2 4	1.00 N/6	
	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel		4	2 3 2	0.33 B	26				14	7 11 12	2.38 B	22
			5	0 0 1	0.08 B	29				15	11 15 21	NP	16
			6	0 1 2	0.16 B	27				16	5 8 11	3.61 B	20
			7	0 0 1	0.08 B	28	537.4	Dense, gray SILTY LOAM, trace gravel		17	7 15 20	NP	19
			8	0 0 2	0.16 B	27				18	23 29 42	5.74 S	12
			9	0 1 1	0.08 B	25	532.4	Very stiff, gray SILTY CLAY LOAM, trace gravel		19	12 21 29	7.46 B	15
			10	0 1 3	0.49 B	25				20	18 28 30	NP	13

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013	While Drilling	<input checked="" type="checkbox"/>	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input checked="" type="checkbox"/>	unable to measure	
Driller	R&J	Logger	F. Bozga	Time After Drilling		NA	
Checked by	C. Marin			Depth to Water	<input checked="" type="checkbox"/>	NA	
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			



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### BORING LOG 06-RWB-02

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898097.14 ft  
East: 1170215.28 ft  
Station: 3644+00.68 (5230+43.49)  
Offset: 14.27 LT (49.80 RT)

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
527.4	Dense, gray SILT												
			17	7 15 20	NP	19				22	47 56 62	NP	12
522.4	Very dense, gray SILTY LOAM, trace gravel and rock fragments									23	50/0"	NR	
			18	23 29 42	5.74 S	12	496.2	Very stiff, gray SILTY CLAY LOAM, trace gravel		24			
			19	12 21 29	7.46 B	15				25			
			20	18 28 30	NP	13				26			
			21	70/4"	NP	14				27			

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013	While Drilling	<input checked="" type="checkbox"/>	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input checked="" type="checkbox"/>	unable to measure	
Driller	R&J	Logger	F. Bozga	Time After Drilling		NA	
Checked by	C. Marin			Depth to Water	<input checked="" type="checkbox"/>	NA	
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

FILE PATH = p:\617479-PM\INT-PROJECTS\01-AMERICAN\T-ENG\LOCATION\60269438 Circle\Phase 1\1000\_CAD\008\_Structure\Structure\_016-1725-60X61\_Preliminary Plans\0161725-60X61-S220-BoringLog\_VI



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DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS VI  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-20 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	168A
CONTRACT NO. 60X61				

ILLINOIS FED. AID PROJECT







# BORING LOG 06-RWB-04

Page 1 of 2

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

Datum: NAVD 88  
Elevation: 592.52 ft  
North: 1898100.56 ft  
East: 1169966.85 ft  
Station: 5232+93.66  
Offset: 57.76 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
592.3	3-inch thick ASPHALT --PAVEMENT--												
591.3	12-inch thick CONCRETE --PAVEMENT--												
590.8	6-inch thick, gray CRUSHED STONE --BASE COURSE--		1	15	NP	10				11	0	0.23	27
589.8	Very dense, brown SANDY GRAVEL, trace slag --FILL--		2	27 29 39	NP	36				12	0	0.08	26
	Very dense, gray and blue SANDY LOAM, trace slag --FILL--		3	12 26 31	NP	56							
584.5	Medium stiff to stiff, gray SILTY CLAY LOAM, trace gravel		4	2 2 2	1.07 B	23				13	0	0.16	28
			5	2 2 3	0.82 B	14							
579.5	Very soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel		6	0 0 1	0.08 B	20				14	0	0.08	28
			7	0 0 2	0.16 B	23							
			8	0 0 1	0.08 B	25				15	0	0.66	25
			9	0 0 2	0.08 B	27							
			10	0 1 1	0.16 B	27				16	1	0.74	21

Soil Analysis: --LL(%)=34, PL(%)=16--  
--%Gravel=4.2--  
--%Sand=13.2--  
--%Silt=48.8--  
--%Clay=33.8--  
--A-6 (14)--

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-15-2013	Complete Drilling	04-16-2013	While Drilling	<input checked="" type="checkbox"/>	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input type="checkbox"/>	unable to measure	
Driller	R&J	Logger	F. Bozga	Time After Drilling		NA	
Drilling Method	2.25" SSA to 11', mud rotary thereafter, boring backfilled upon completion	Checked by	C. Marin	Depth to Water	<input checked="" type="checkbox"/>	NA	
				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			



# BORING LOG 06-RWB-04

Page 2 of 2

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

Datum: NAVD 88  
Elevation: 592.52 ft  
North: 1898100.56 ft  
East: 1169966.85 ft  
Station: 5232+93.66  
Offset: 57.76 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
540.8	Very stiff, gray SILTY CLAY, trace gravel												
			17	1 4 9	2.05 B	23							
			18	5 6 10	2.95 B	19							
			19	10 11 10	3.50 N/6								
525.8	Hard, gray SILTY LOAM, trace gravel												
			20	11 14 18	5.17 B	13							
			21	15 25 35	7.05 B	13							

Boring terminated at 75.00 ft

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-15-2013	Complete Drilling	04-16-2013	While Drilling	<input checked="" type="checkbox"/>	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	<input type="checkbox"/>	unable to measure	
Driller	R&J	Logger	F. Bozga	Time After Drilling		NA	
Drilling Method	2.25" SSA to 11', mud rotary thereafter, boring backfilled upon completion	Checked by	C. Marin	Depth to Water	<input checked="" type="checkbox"/>	NA	
				The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			

FILE PATH = ... 12/12/14



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DESIGNED	- WM	REVISED	-
DRAWN	- WM	REVISED	-
CHECKED	- MI, JJS	REVISED	-
DATE	- 10/17/2014	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS VIII  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	168C
CONTRACT NO. 60X61				

ILLINOIS FED. AID PROJECT



### BORING LOG 06-VST-01

Page 1 of 1

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WEI Job No.: 1100-04-01  
Client: AECOM  
Project: Circle Interchange Reconstruction  
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD  
Elevation: 577.16 ft  
North: 1898079.60 ft  
East: 1170397.33 ft  
Station: 5228+61.74  
Offset: 26.95 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
576.7	6-inch thick ASPHALT --PAVEMENT--								--In-Situ Vane Shear, 25.5 feet-- --Su undis = 1165.5 psf-- --Su remold = 595.7 psf-- --Sensitivity = 1.96--			4	VS		
575.8	10-inch thick CONCRETE Very dense, grayish brown SANDY GRAVEL, trace brick fragments			1	6 42 50	NP	8								
573.7	--FILL-- Stiff, gray SILTY CLAY, trace gravel			2	9 5 3 2	1.50 P	19		--In-Situ Vane Shear, 30.5 feet-- --Su undis = 1113.7 psf-- --Su remold = 518 psf-- --Sensitivity = 2.15--			5	VS		
572.7	--FILL-- Very soft, gray CLAY to SILTY CLAY, trace gravel			3	0 1 2 2	0.16 B	23								
				4	1 1 1	0.08 B	26								
		10		1				543.9	--In-Situ Vane Shear, 10.5 feet-- --Su undis = 984.2 psf-- --Su remold = 699.3 psf-- --Sensitivity = 1.41--			6	VS		
				2					--In-Situ Vane Shear, 35.5 feet-- --Su undis = 1554 psf-- --Su remold = 1424.5 psf-- --Sensitivity = 1.1--			7	VS		
		15		2				538.2	Very stiff, gray SILTY CLAY, trace gravel			8	VS		
				3				537.2	Medium dense, gray SILTY LOAM, trace gravel			16	VS	3.28	19
		20		3					Boring terminated at 40.00 ft						

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

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	08-18-2014	Complete Drilling	08-18-2014	While Drilling	☑	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	☐	unable to measure	
Driller	R&J	Logger	S. Woods	Time After Drilling	NA		
Drilling Method	3.25" HSA, boring backfilled upon completion			Depth to Water	☑	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							



### BORING LOG 06-VST-02

Page 1 of 1

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  
Elevation: 578.62 ft  
North: 1898096.47 ft  
East: 1170221.79 ft  
Station: 5230+36.61  
Offset: 49.78 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	11-inch thick ASPHALT --PAVEMENT--														
577.7	7-inch thick CONCRETE Very dense, gray SANDY GRAVEL			1	8 36 30	NP	7		--In-Situ Vane Shear, 28.5 feet-- --Su undis = 1372.7 psf-- --Su remold = 777 psf-- --Sensitivity = 1.77--			5	VS		
573.9	--FILL-- Soft to medium stiff, gray CLAY to SILTY CLAY, trace gravel			2	1 2 2	0.33 B	25								
				1					--In-Situ Vane Shear, 8.5 feet-- --Su undis = 647.5 psf-- --Su remold = 492.1 psf-- --Sensitivity = 1.32--			3	VS		
		10		1					--In-Situ Vane Shear, 13.5 feet-- --Su undis = 932.4 psf-- --Su remold = 492.1 psf-- --Sensitivity = 1.89--			2	VS		
				2					--In-Situ Vane Shear, 18.5 feet-- --Su undis = 1010.1 psf-- --Su remold = 440.3 psf-- --Sensitivity = 2.29--			3	VS		
		15		2					--In-Situ Vane Shear, 23.5 feet-- --Su undis = 1320.9 psf-- --Su remold = 751.1 psf-- --Sensitivity = 1.76--			4	VS		
		20		3											
		25		4											
		35		3				542.1	Boring terminated at 36.50 ft			5	VS	0.74	20
		40													
		45													
		50													

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

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	08-17-2014	Complete Drilling	08-17-2014	While Drilling	☑	Rotary wash	
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	☐	unable to measure	
Driller	R&J	Logger	S. Woods	Time After Drilling	NA		
Drilling Method	3.25" HSA, boring backfilled upon completion			Depth to Water	☑	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

FILE PATH = p:\61749-PM\INT\asconline\local\BCE\CDM\_D902\_NA\Documents\01\_Americas\11\_000\_CAD\008\_Structure\Structure\_016\_1725\_60X61\_Preliminary\_Plane\0161725-60X61-S222-BoringLog1X



4415 WEST HARRISON ST.  
SUITE 231  
MILLSBROOK, IL 60162  
PHONE: (708) 236-0900  
FAX: (708) 236-0901

DESIGNED - WM	REVISED -
DRAWN - WM	REVISED -
CHECKED - MI, JJS	REVISED -
DATE - 10/17/2014	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS IX  
RETAINING WALL 6 (STRUCTURE NO. 016-1725)

SHEET S2-22 OF S2-22 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-077R	COOK	317	169
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT				

Benchmark: Cut square on northwest corner of sign foundation at north side of Harrison Street, approximately 80' west of west line of Morgan Street. Elevation 593.07.  
 Cut square on east wall of Morgan Street at approximately centerline of I-290, near north entrance to CTA. Elevation 600.63.

Existing Structure: NONE

Traffic Control: Traffic to be maintained on WB I-290 during construction.

Salvage: NONE

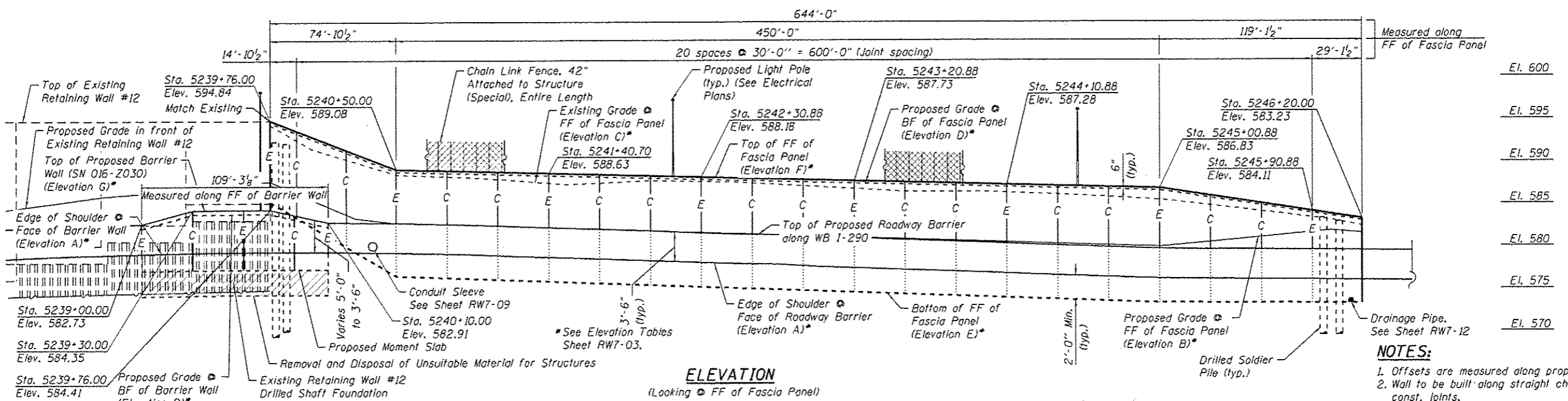
**APPROVED**  
 For Structural Adequacy Only  
*De Carl King*  
 Engineer of Bridges & Structures

**DESIGN SPECIFICATIONS**  
 2012 AASHTO LRFD Bridge Design Specifications  
 6th Edition with 2013 Interim Revisions

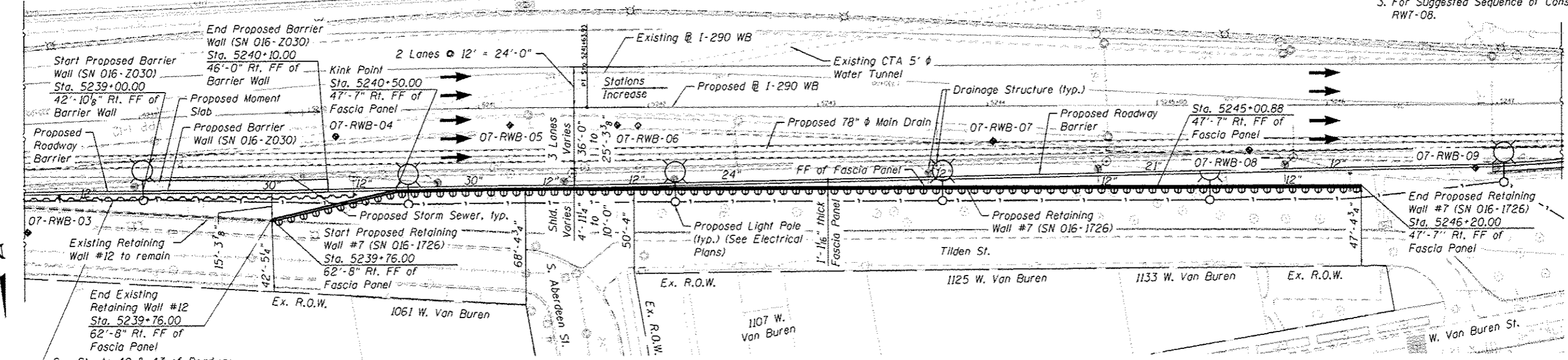
**DESIGN STRESSES**

FIELD UNITS  
 $f'_c = 3,500$  psi (Cast-in-Place)  
 $f_y = 60,000$  psi (Reinforcement)

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



**NOTES:**  
 1. Offsets are measured along proposed @ I-290 WB.  
 2. Wall to be built along straight chords between const. joints.  
 3. For Suggested Sequence of Construction See Sheet RW7-08.



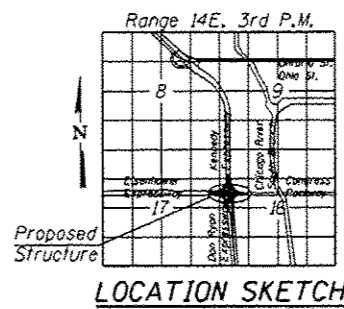
**PLAN**

**LEGEND:**

Combined Sewer	Fire Hydrant	C = Construction Joint	Temporary Soil Retention System
Electric	Light Pole	E = Expansion Joint	
Existing Storm Sewer	Soil Boring Location	FF = Front Face	
Proposed Storm Sewer	Existing Fence	BF = Back Face	
	Direct Burial Cable	Limit of Removal and Disposal of Unsuitable Material for Structures	



*Brad M. Paly* 12/16/2014  
 BRAD M. PALY  
 LICENSE EXPIRES 11/30/2016



**GENERAL PLAN & ELEVATION**  
**RETAINING WALL 7**  
 F.A.I. RTE. 290 - SECTION 2013-077R  
 COOK COUNTY  
 STATION 5239+76.00 TO 5246+20.00  
 STRUCTURE NO. 016-1726  
 STATION 5239+00.00 TO 5240+10.00  
 STRUCTURE NO. 016-2030

**GENERAL NOTES:**

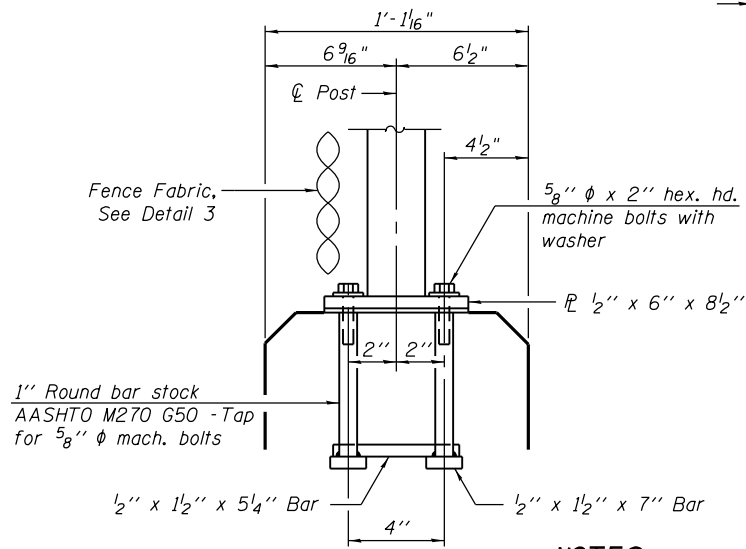
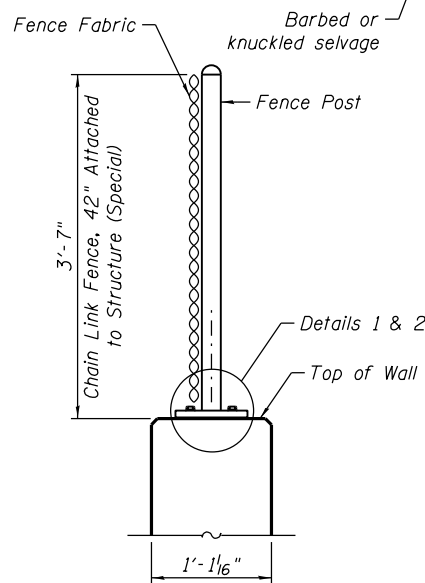
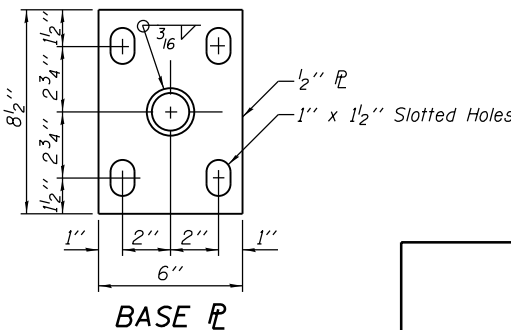
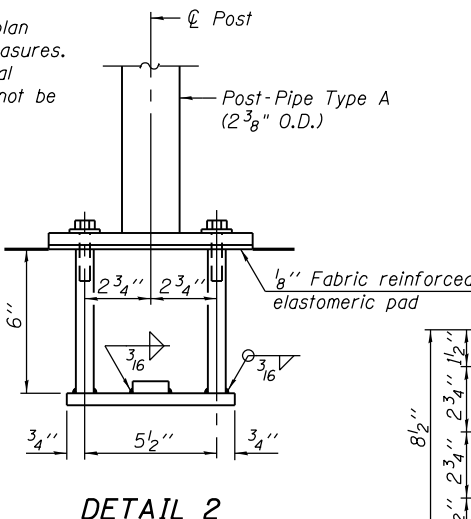
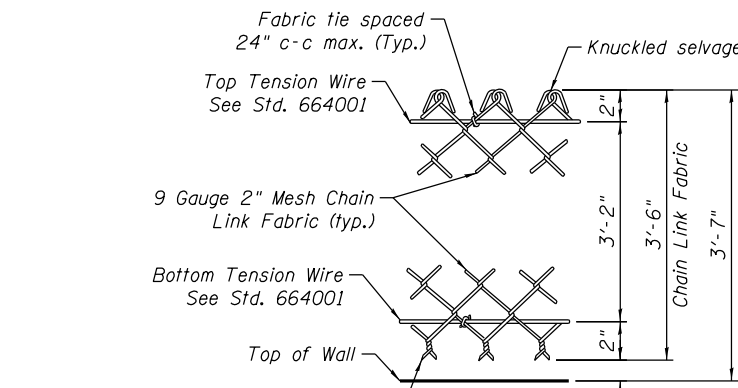
- All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.
- Reinforcement bars designated "E" shall be epoxy coated.
- Dimensions and details relative to adjacent existing features 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 work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Limited groundwater elevation data is available in the boring logs. In addition, groundwater may also be present in deeper granular layers. The groundwater may rise in the shafts to an elevation above the top of granular layers. The Contractor shall consider this information when choosing construction methods. The Contractor will not be compensated for issues related to the groundwater elevations.
- Piezometer installed at Sta. 5228+89.34, Offset 223'-0" Lt.; the groundwater is measured at Elevation 551.51.
- The Contractor shall provide a method to assure the soldier piles achieve at least the plan tip elevations. Piles ending in soft clay layer or extending below it may need special measures. The soldier pile locations and elevations shall meet the tolerances provided in the Special Provisions. Any additional measures required to satisfy the construction tolerances will not be paid for separately but shall be included in Drilling and Setting Soldier Piles (in Soil).

**TOTAL BILL OF MATERIAL:**

DESCRIPTION	UNIT	SN 016-1726	SN 016-2030	TOTAL
STRUCTURE EXCAVATION	CU YD	956	131	1,087
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD		146	146
GRANULAR EMBANKMENT, SPECIAL	CU YD		146	146
CONCRETE STRUCTURES	CU YD	326	62	388
CONCRETE SUPERSTRUCTURE	CU YD		20	20
PROTECTIVE COAT	SQ YD		47	47
STUD SHEAR CONNECTORS	EACH	1,271		1,271
REINFORCEMENT BARS, EPOXY COATED	POUND	61,060	10,500	71,560
NAME PLATES	EACH	1	1	2
CONCRETE SEALER	SQ FT	8,729		8,729
GEOCOMPOSITE WALL DRAIN	SQ YD	220		220
DRILLING AND SETTING SOLDIER PILES (IN SOIL)	CU FT	45,245		45,245
UNTREATED TIMBER LAGGING	SQ FT	6,794		6,794
FURNISHING SOLDIER PILES (W SECTION)	FOOT	4,646		4,646
TEMPORARY SOIL RETENTION SYSTEM	SQ FT		2,710	2,710
PIPE UNDERDRAIN FOR STRUCTURES 4"	FOOT	659		659
CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)	FOOT	644		644

**INDEX OF SHEETS:**

- RW7-01 General Plan and Elevation
- RW7-02 Total Bill of Materials, Index of Sheets & General Notes
- RW7-03 Typical Sections
- RW7-04 Soldier Pile Plan & Elevation I - SN 016-1726
- RW7-05 Soldier Pile Plan & Elevation II - SN 016-1726
- RW7-06 Soldier Pile Plan & Elevation III - SN 016-1726
- RW7-07 Soldier Pile Plan & Elevation IV - SN 016-1726
- RW7-08 Soldier Pile Plan & Elevation V - SN 016-1726
- RW7-09 Fascia Panel I - SN 016-1726
- RW7-10 Fascia Panel II - SN 016-1726
- RW7-11 Fascia Panel III - SN 016-1726
- RW7-12 Fascia Panel IV - SN 016-1726
- RW7-13 Fascia Panel Details - SN 016-1726
- RW7-14 Barrier Wall Plan & Elevation - SN 016-2030
- RW7-15 Barrier Wall Details - SN 016-2030
- RW7-16 Architectural Details - SN 016-1726
- RW7-17 Boring Logs I
- RW7-18 Boring Logs II
- RW7-19 Boring Logs III
- RW7-20 Boring Logs IV
- RW7-21 Boring Logs V
- RW7-22 Boring Logs VI



- NOTES:**
- For additional chain link fence details, see Standard 664001.
  - Base plate and anchor bolts shall be included with Chain Link Fence, 42" Attached to Structure (Special) pay item.

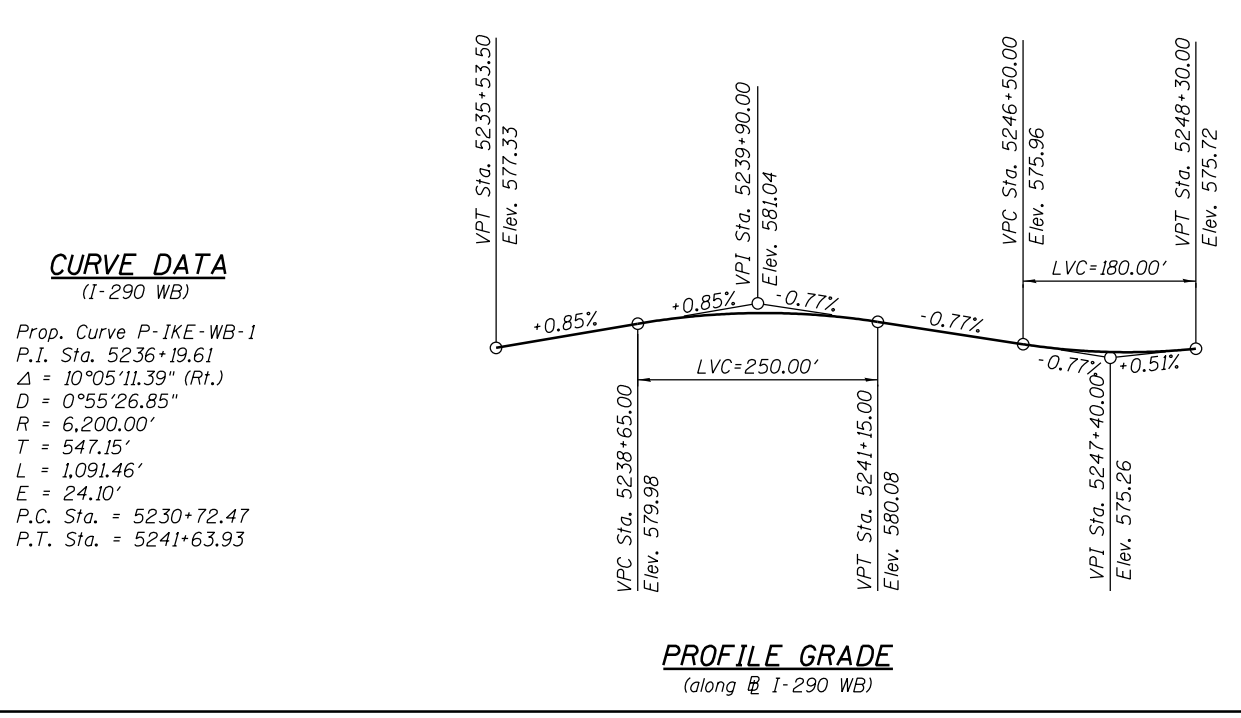
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 BUILT BY  
 STATE OF ILLINOIS  
 F.A.I. RTE. 290-SEC. 2013-077R  
 LOADING HL-93  
 STRUCTURE NO. 016-1726

**NAME PLATE - SN 016-1726**  
 See Std. 515001

STATION 5239+00.00 TO 5240+10.00  
 BUILT BY  
 STATE OF ILLINOIS  
 F.A.I. RTE. 290-SEC. 2013-077R  
 LOADING HL-93  
 STRUCTURE NO. 016-2030

**NAME PLATE - SN 016-2030**  
 See Std. 515001

For Information Only.  
 Part of Future Contract



**CURVE DATA**  
 (I-290 WB)  
 Prop. Curve P-IKE-WB-1  
 P.I. Sta. 5236+19.61  
 $\Delta = 10^{\circ}05'11.39''$  (Rt.)  
 $D = 0^{\circ}55'26.85''$   
 $R = 6,200.00'$   
 $T = 547.15'$   
 $L = 1,091.46'$   
 $E = 24.10'$   
 P.C. Sta. = 5230+72.47  
 P.T. Sta. = 5241+63.93

**TYPICAL CHAIN LINK FENCE SECTION**

**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" phi anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

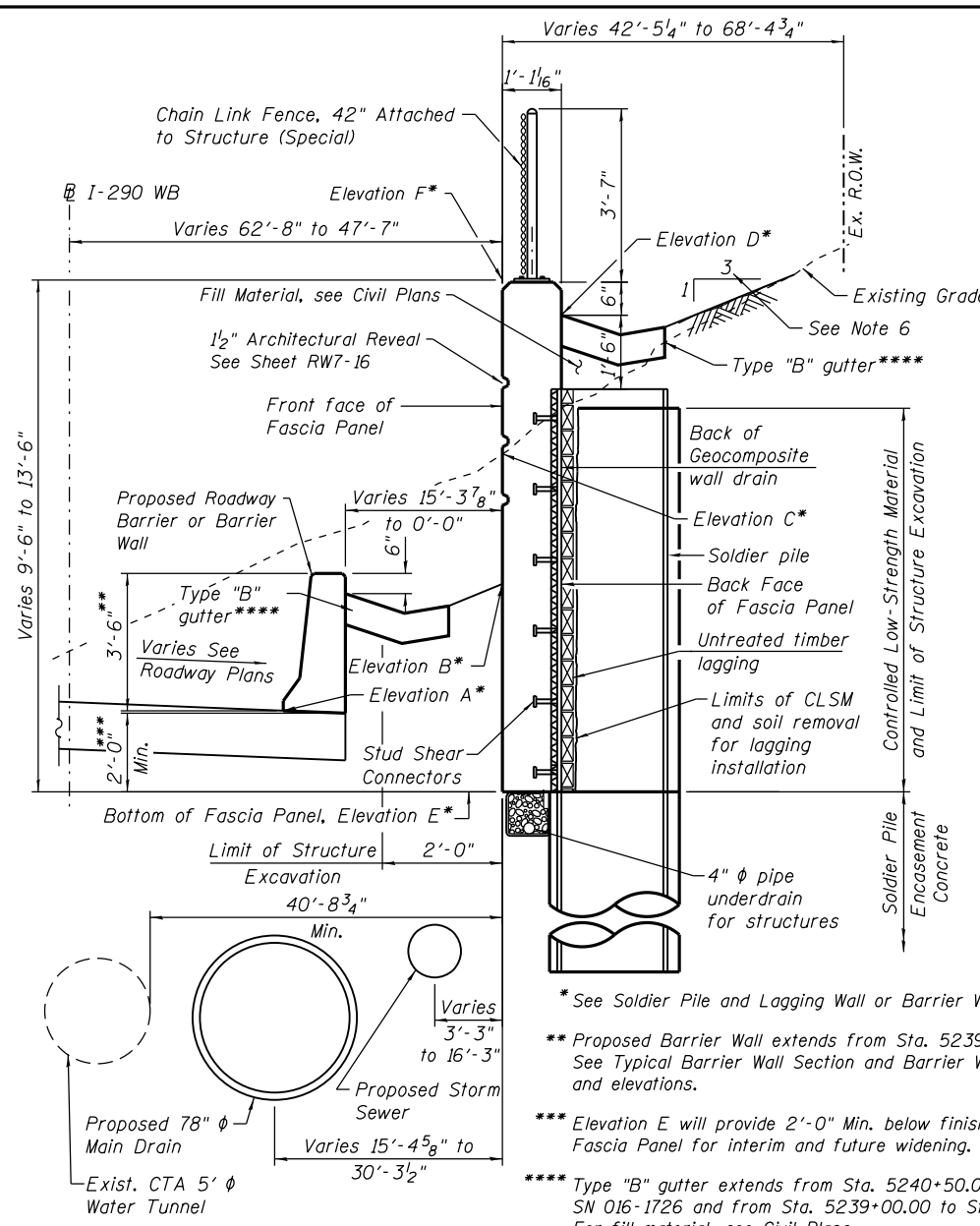
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TOTAL BILL OF MATERIALS, INDEX OF SHEETS & GENERAL NOTES

SHEET NO. RW7-020FRW7-22 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 171
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	

0161726-60X61-502-GenNote



**TYPICAL SECTION**  
(Looking West)

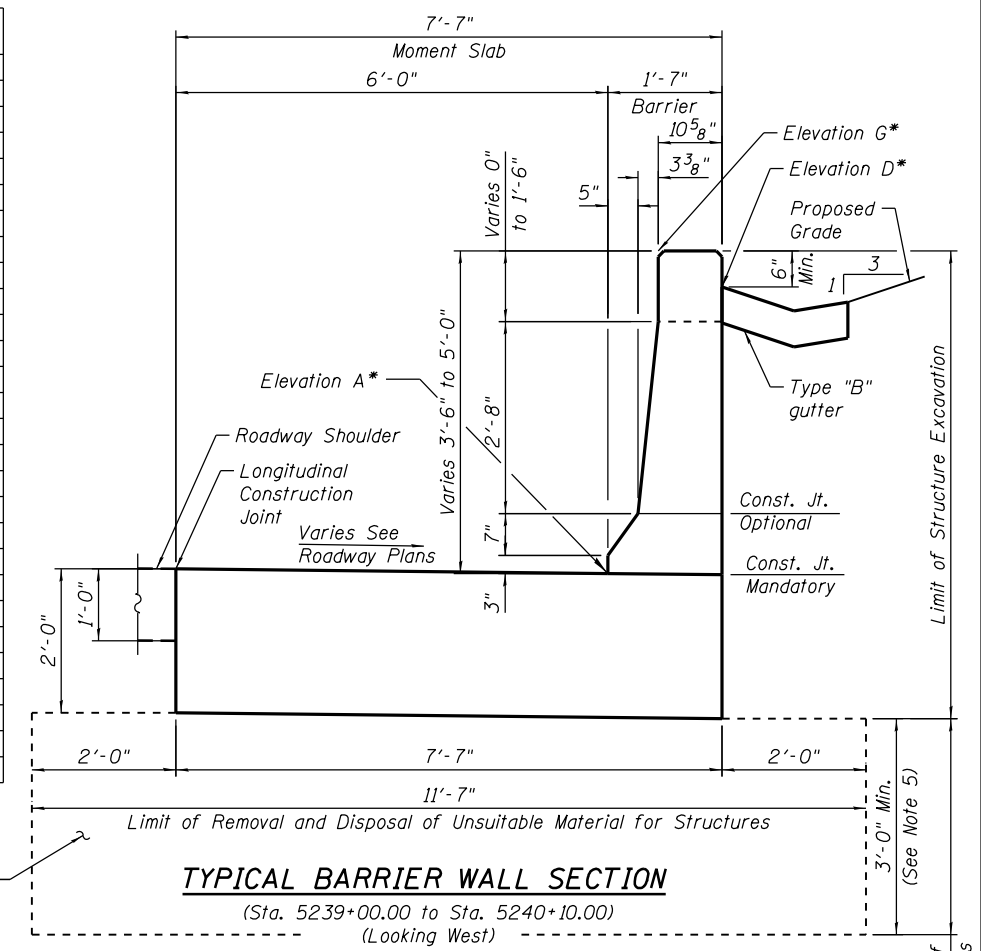
- \* See Soldier Pile and Lagging Wall or Barrier Wall Elevation Table.
- \*\* Proposed Barrier Wall extends from Sta. 5239+00.00 to Sta. 5240+10.00. See Typical Barrier Wall Section and Barrier Wall Elevation Table for heights and elevations.
- \*\*\* Elevation E will provide 2'-0" Min. below finished grade at front face of Fascia Panel for interim and future widening.
- \*\*\*\* Type "B" gutter extends from Sta. 5240+50.00 to Sta. 5246+20.00 for SN 016-1726 and from Sta. 5239+00.00 to Sta. 5240+10.00 for SN 016-2030. For fill material, see Civil Plans.

SOLDIER PILE AND LAGGING WALL ELEVATION TABLE							
Station	Offset to FF	Elevation A	Elevation B	Elevation C	Elevation D	Elevation E	Elevation F
5239+76.00	62'-8" Rt.	579.41	587.76	593.75	594.34	585.34	594.84
5240+01.00	57'-7 1/2" Rt.	579.41	585.57	590.91	592.39	582.38	592.89
5240+26.00	52'-6 1/8" Rt.	579.38	583.38	589.32	590.45	579.42	590.95
5240+50.00	47'-7" Rt.	579.32	582.82	587.80	588.58	576.58	589.08
5240+75.00	47'-7" Rt.	579.21	582.69	587.70	588.46	576.40	588.96
5241+00.00	47'-7" Rt.	579.07	582.57	587.61	588.33	576.22	588.83
5241+25.00	47'-7" Rt.	578.89	582.39	587.25	588.21	576.04	588.71
5241+50.00	47'-7" Rt.	578.73	582.22	586.90	588.08	575.86	588.58
5241+75.00	47'-7" Rt.	578.56	582.06	587.05	587.96	575.68	588.46
5242+00.00	47'-7" Rt.	578.38	581.91	587.20	587.83	575.50	588.33
5242+25.00	47'-7" Rt.	578.19	581.74	587.11	587.71	575.32	588.21
5242+50.00	47'-7" Rt.	578.01	581.58	587.02	587.58	575.14	588.08
5242+75.00	47'-7" Rt.	577.83	581.42	586.78	587.46	574.96	587.96
5243+00.00	47'-7" Rt.	577.65	581.26	586.54	587.33	574.77	587.83
5243+25.00	47'-7" Rt.	577.46	581.09	586.23	587.21	574.59	587.71
5243+50.00	47'-7" Rt.	577.28	580.93	585.92	587.08	574.41	587.58
5243+75.00	47'-7" Rt.	577.10	580.77	585.77	586.96	574.23	587.46
5244+00.00	47'-7" Rt.	576.92	580.61	585.63	586.83	574.05	587.33
5244+25.00	47'-7" Rt.	576.73	580.44	585.49	586.71	573.87	587.21
5244+50.00	47'-7" Rt.	576.55	580.28	585.36	586.58	573.69	587.08
5244+75.00	47'-7" Rt.	576.37	580.12	585.02	586.46	573.51	586.96
5245+00.00	47'-7" Rt.	576.20	579.97	584.69	586.33	573.33	586.83
5245+25.00	47'-7" Rt.	576.13	579.91	584.10	585.58	573.31	586.08
5245+50.00	47'-7" Rt.	576.09	579.85	583.52	584.83	573.29	585.33
5245+75.00	47'-7" Rt.	576.05	579.81	582.82	584.08	573.27	584.58
5246+00.00	47'-7" Rt.	576.00	579.78	582.11	583.33	573.25	583.83
5246+20.00	47'-7" Rt.	575.96	579.74	581.60	582.73	573.23	583.23

Elevation A - Edge of Shoulder at Face of Roadway Barrier  
 Elevation B - Proposed Grade at Front Face of Fascia Panel  
 Elevation C - Existing Grade at Front Face of Fascia Panel  
 Elevation D - Proposed Grade at Back Face of Fascia Panel  
 Elevation E - Bottom of Front Face of Fascia Panel / Top of Encasement Concrete  
 Elevation F - Top of Front Face of Fascia Panel

**NOTES:**

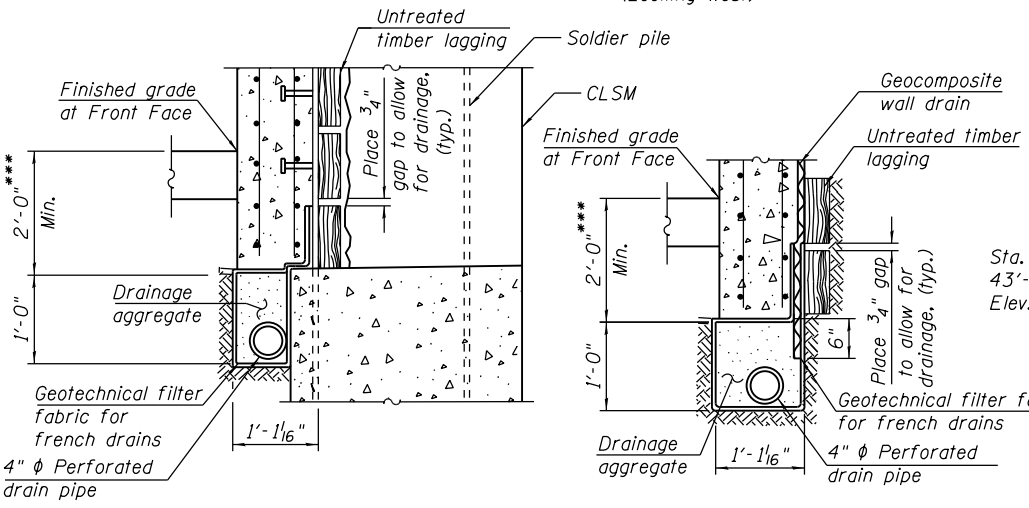
1. Cost of Controlled Low-Strength Material (CLSM) is included in Drilling and Setting Soldier Piles (in Soil) pay item.
2. When structure excavation is necessary to place a concrete fascia panel, it shall be made and paid for according to Section 502 except that the horizontal limits for the structure excavation shall be from the face of the soldier pile to a vertical plane 2 ft. from the finished face of the wall. The depth shall be from the top of the original ground surface to the bottom of the concrete facing.
3. When structure excavation is necessary to place concrete barrier wall, it shall be made according to Section 502. The depth shall be from the top of the barrier wall to the bottom of the moment slab. An additional 3 ft. min. below the bottom of the moment slab shall be excavated and is included in the Removal and Disposal of Unsuitable Material for Structures pay item. Material will be replaced with Granular Embankment, Special, according to Section 206.
4. Drainage aggregate, Geotechnical filter fabric for french drains and 4" diameter Perforated drain pipe are included in cost of Pipe Underdrains for Structures 4".
5. Contractor shall field verify the location of existing drilled shafts for existing retaining wall 12 prior to installation of Temp. Soil Ret. Sys. Contractor to take precaution not to damage existing retaining wall drilled shafts during installation of Temp. Soil Ret. Sys. Any damage to existing retaining wall shall be responsibility of the Contractor and shall be repaired by the Contractor at no additional cost.
6. Backslope shall be 3:1 (H:V) from Sta. 5239+76.00 to Sta. 5246+00.00. Backslope shall transition from 3:1 to 2:1 to meet existing grade from Sta. 5246+00.00 to Sta. 5246+20.00.



**TYPICAL BARRIER WALL SECTION**  
(Sta. 5239+00.00 to Sta. 5240+10.00)  
(Looking West)

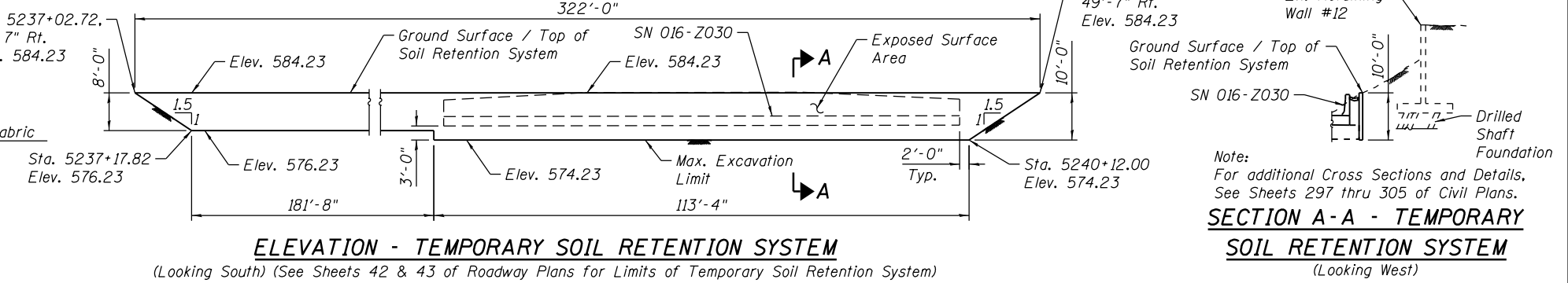
BARRIER WALL ELEVATION TABLE					
Station	Offset	Elevation A	Elevation D	Elevation G	
5239+00.00	42'-10 1/8" Rt.	579.23	582.23	582.73	
5239+10.00	43'-2 3/4" Rt.	579.28	582.77	583.27	
5239+20.00	43'-7 3/8" Rt.	579.32	583.31	583.81	
5239+30.00	43'-11 7/8" Rt.	579.35	583.85	584.35	
5239+40.00	44'-4 1/2" Rt.	579.38	583.88	584.38	
5239+50.00	44'-9 1/8" Rt.	579.39	583.89	584.39	
5239+60.00	45'-1 5/8" Rt.	579.41	583.91	584.41	
5239+70.00	45'-6 1/4" Rt.	579.41	583.91	584.41	
5239+76.00	45'-9" Rt.	579.41	583.91	584.41	
5239+80.00	45'-10 7/8" Rt.	579.41	583.73	584.23	
5239+90.00	46'-0" Rt.	579.41	583.29	583.79	
5240+00.00	46'-0" Rt.	579.42	582.85	583.35	
5240+10.00	46'-0" Rt.	579.41	582.41	582.91	

Elevation A - Edge of Shoulder at Face of Barrier Wall  
 Elevation D - Proposed Grade at Back Face of Barrier Wall  
 Elevation G - Top of Barrier Wall



**PIPE UNDERDRAIN DETAIL AT SOLDIER PILE**

**PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES**



**ELEVATION - TEMPORARY SOIL RETENTION SYSTEM**  
(Looking South) (See Sheets 42 & 43 of Roadway Plans for Limits of Temporary Soil Retention System)



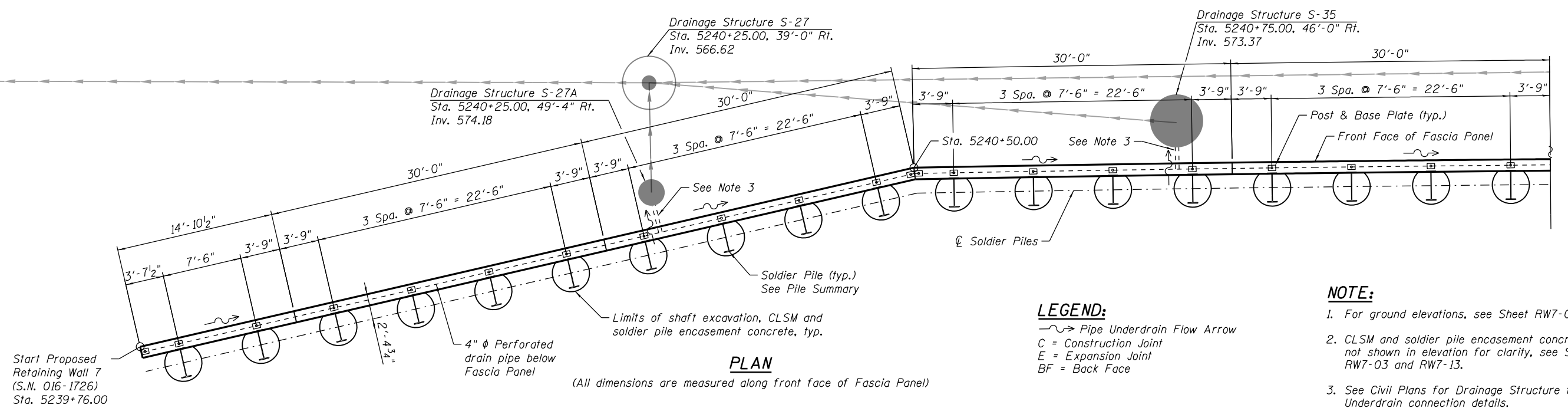
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PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SHEET NO. RW7-030FRW7-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	172
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	



**PLAN**

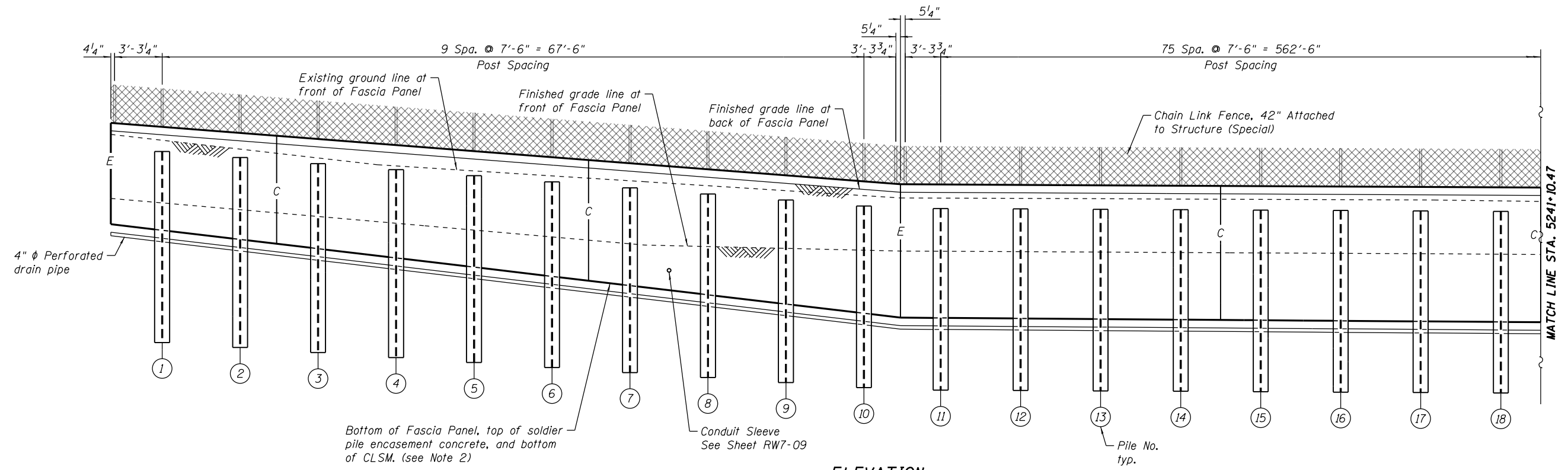
(All dimensions are measured along front face of Fascia Panel)

**LEGEND:**

- Pipe Underdrain Flow Arrow
- C = Construction Joint
- E = Expansion Joint
- BF = Back Face

**NOTE:**

1. For ground elevations, see Sheet RW7-03.
2. CLSM and soldier pile encasement concrete not shown in elevation for clarity, see Sheet RW7-03 and RW7-13.
3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.



**ELEVATION**

(Looking at BF of Fascia Panel)

**PILE SUMMARY**

PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
1	W33x130	5239+79.59	64'-4 1/4" Rt.	51.00'	541.56	592.56	8	W33x130	5240+31.50	53'-10" Rt.	51.00'	537.52	588.52	15	W33x130	5240+84.01	49'-11 3/4" Rt.	51.00'	535.91	586.91
2	W33x130	5239+87.02	62'-10 1/2" Rt.	51.00'	540.98	591.98	9	W33x130	5240+38.91	52'-3 5/8" Rt.	51.00'	536.95	587.95	16	W33x130	5240+91.56	49'-11 3/4" Rt.	51.00'	535.87	586.87
3	W33x130	5239+94.44	61'-4 3/4" Rt.	51.00'	540.41	591.41	10	W33x130	5240+46.30	50'-9 1/8" Rt.	51.00'	536.37	587.37	17	W33x130	5240+99.12	49'-11 3/4" Rt.	51.00'	535.83	586.83
4	W33x130	5240+01.86	59'-10 3/4" Rt.	51.00'	539.83	590.83	11	W33x130	5240+53.78	49'-11 3/4" Rt.	51.00'	536.06	587.06	18	W33x130	5241+06.69	49'-11 3/4" Rt.	51.00'	535.80	586.80
5	W33x130	5240+09.28	58'-4 3/4" Rt.	51.00'	539.25	590.25	12	W33x130	5240+61.33	49'-11 3/4" Rt.	51.00'	536.02	587.02							
6	W33x130	5240+16.69	56'-10 5/8" Rt.	51.00'	538.68	589.68	13	W33x130	5240+68.88	49'-11 3/4" Rt.	51.00'	535.98	586.98							
7	W33x130	5240+24.10	55'-4 3/8" Rt.	51.00'	538.10	589.10	14	W33x130	5240+76.46	49'-11 3/4" Rt.	51.00'	535.95	586.95							

0161726-60X61-S04-Pile P&E-I



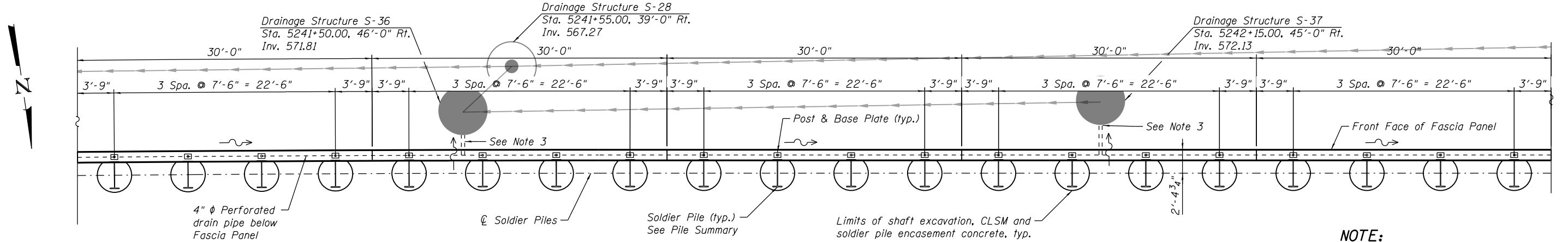
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	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOLDIER PILE PLAN & ELEVATION I  
STRUCTURE NO. 016-1726**

SHEET NO. RW7-040FRW7-22 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 173
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	



**PLAN**

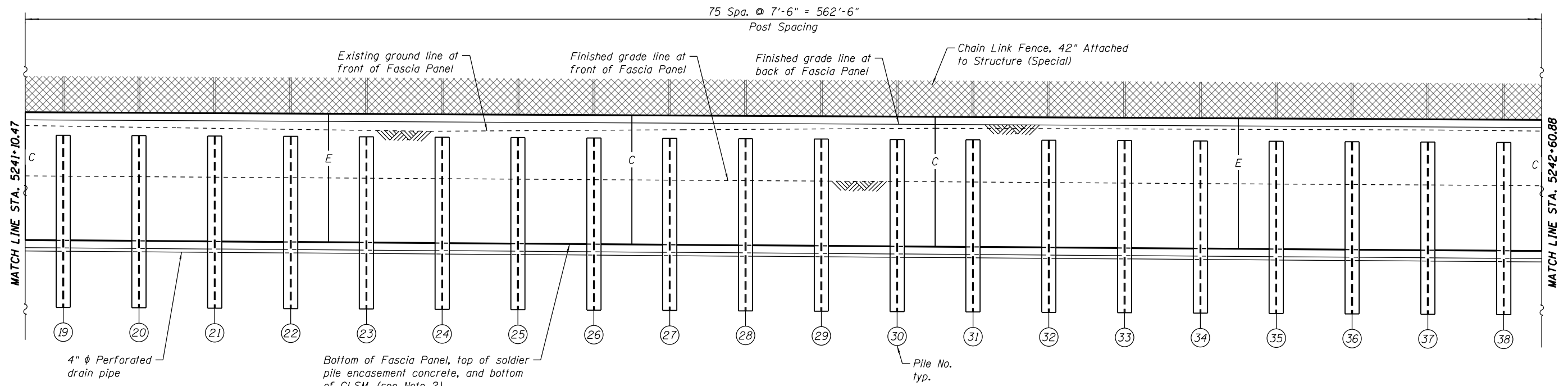
(All dimensions are measured along front face of Fascia Panel)

**LEGEND:**

- Pipe Underdrain Flow Arrow
- C = Construction Joint
- E = Expansion Joint
- BF = Back Face

**NOTE:**

1. For ground elevations, see Sheet RW7-03.
2. CLSM and soldier pile encasement concrete not shown in elevation for clarity, see Sheet RW7-03 and RW7-13.
3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.



**ELEVATION**

(Looking at BF of Fascia Panel)

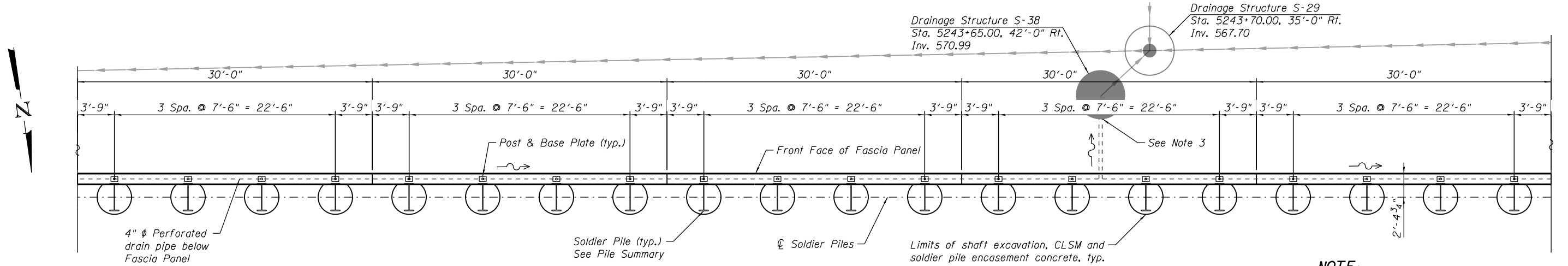
**PILE SUMMARY**

PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
19	W33x130	5241+14.24	49'-11 3/4" Rt.	51.00'	535.76	586.76	26	W33x152	5241+67.13	49'-11 3/4" Rt.	56.00'	530.50	586.50	33	W33x152	5242+19.63	49'-11 3/4" Rt.	56.00'	530.23	586.23
20	W33x130	5241+21.80	49'-11 3/4" Rt.	51.00'	535.72	586.72	27	W33x152	5241+74.63	49'-11 3/4" Rt.	56.00'	530.46	586.46	34	W33x152	5242+27.13	49'-11 3/4" Rt.	56.00'	530.20	586.20
21	W33x130	5241+29.35	49'-11 3/4" Rt.	51.00'	535.68	586.68	28	W33x152	5241+82.13	49'-11 3/4" Rt.	56.00'	530.42	586.42	35	W33x152	5242+34.63	49'-11 3/4" Rt.	56.00'	530.16	586.16
22	W33x130	5241+36.92	49'-11 3/4" Rt.	51.00'	535.65	586.65	29	W33x152	5241+89.63	49'-11 3/4" Rt.	56.00'	530.38	586.38	36	W33x152	5242+42.13	49'-11 3/4" Rt.	56.00'	530.12	586.12
23	W33x152	5241+44.48	49'-11 3/4" Rt.	56.00'	530.61	586.61	30	W33x152	5241+97.13	49'-11 3/4" Rt.	56.00'	530.35	586.35	37	W33x152	5242+49.63	49'-11 3/4" Rt.	56.00'	530.08	586.08
24	W33x152	5241+52.03	49'-11 3/4" Rt.	56.00'	530.57	586.57	31	W33x152	5242+04.63	49'-11 3/4" Rt.	56.00'	530.31	586.31	38	W33x152	5242+57.13	49'-11 3/4" Rt.	56.00'	530.05	586.05
25	W33x152	5241+59.58	49'-11 3/4" Rt.	56.00'	530.53	586.53	32	W33x152	5242+12.13	49'-11 3/4" Rt.	56.00'	530.27	586.27							

<b>AECOM</b>	USER NAME = dunkerleyb	DESIGNED - JSK	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SOLDIER PILE PLAN &amp; ELEVATION II STRUCTURE NO. 016-1726</b>	F.A.I. RTE. = 290	SECTION = 2013-077R	COUNTY = COOK	TOTAL SHEETS = 317	SHEET NO. = 174
	PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED			CONTRACT NO. 60X61				
	PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED			SHEET NO. RW7-050FRW7-22 SHEETS				
						ILLINOIS FED. AID PROJECT -NUMBER-				

0161726-60X61-S05-Pile P&E-II





**PLAN**

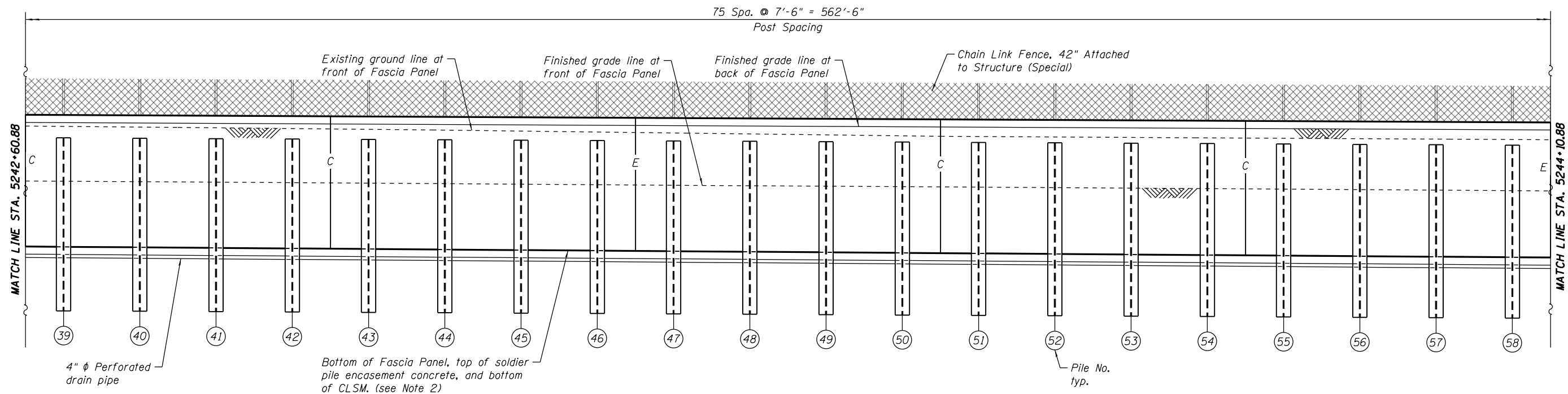
(All dimensions are measured along front face of Fascia Panel)

**LEGEND:**

- Pipe Underdrain Flow Arrow
- C = Construction Joint
- E = Expansion Joint
- BF = Back Face

**NOTE:**

1. For ground elevations, see Sheet RW7-03.
2. CLSM and soldier pile encasement concrete not shown in elevation for clarity, see Sheet RW7-03 and RW7-13.
3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.



**ELEVATION**

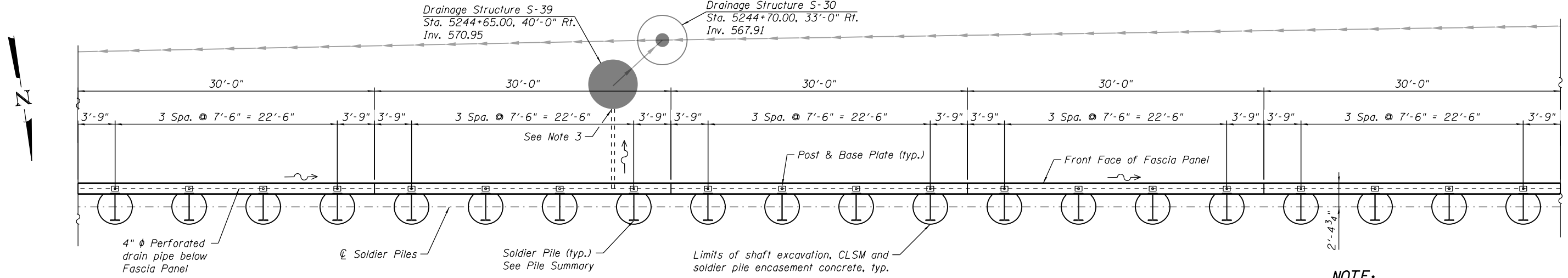
(Looking at BF of Fascia Panel)

**PILE SUMMARY**

PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
39	W33x152	5242+64.63	49'-11 3/4" Rt.	56.00'	530.01	586.01	46	W33x152	5243+17.13	49'-11 3/4" Rt.	56.00'	529.74	585.74	53	W33x152	5243+69.63	49'-11 3/4" Rt.	56.00'	529.48	585.48
40	W33x152	5242+72.13	49'-11 3/4" Rt.	56.00'	529.97	585.97	47	W33x152	5243+24.63	49'-11 3/4" Rt.	56.00'	529.71	585.71	54	W33x152	5243+77.13	49'-11 3/4" Rt.	56.00'	529.44	585.44
41	W33x152	5242+79.63	49'-11 3/4" Rt.	56.00'	529.93	585.93	48	W33x152	5243+32.13	49'-11 3/4" Rt.	56.00'	529.67	585.67	55	W33x152	5243+84.63	49'-11 3/4" Rt.	56.00'	529.41	585.41
42	W33x152	5242+87.13	49'-11 3/4" Rt.	56.00'	529.89	585.89	49	W33x152	5243+39.63	49'-11 3/4" Rt.	56.00'	529.63	585.63	56	W33x152	5243+92.13	49'-11 3/4" Rt.	56.00'	529.37	585.37
43	W33x152	5242+94.63	49'-11 3/4" Rt.	56.00'	529.86	585.86	50	W33x152	5243+47.13	49'-11 3/4" Rt.	56.00'	529.59	585.59	57	W33x152	5243+99.63	49'-11 3/4" Rt.	56.00'	529.33	585.33
44	W33x152	5243+02.13	49'-11 3/4" Rt.	56.00'	529.82	585.82	51	W33x152	5243+54.63	49'-11 3/4" Rt.	56.00'	529.56	585.56	58	W33x152	5244+07.13	49'-11 3/4" Rt.	56.00'	529.29	585.29
45	W33x152	5243+09.63	49'-11 3/4" Rt.	56.00'	529.78	585.78	52	W33x152	5243+62.13	49'-11 3/4" Rt.	56.00'	529.52	585.52							

<b>AECOM</b>	USER NAME = dunkerleyb	DESIGNED - JSK	REVISED	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SOLDIER PILE PLAN &amp; ELEVATION III STRUCTURE NO. 016-1726</b>	F.A.I. RTE. = 290	SECTION = 2013-077R	COUNTY = COOK	TOTAL SHEETS = 317	SHEET NO. = 175
	PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED			CONTRACT NO. 60X61				
	PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED			SHEET NO. RW7-060FRW7-22 SHEETS				
		CHECKED - EJO	REVISED			ILLINOIS FED. AID PROJECT - NUMBER -				

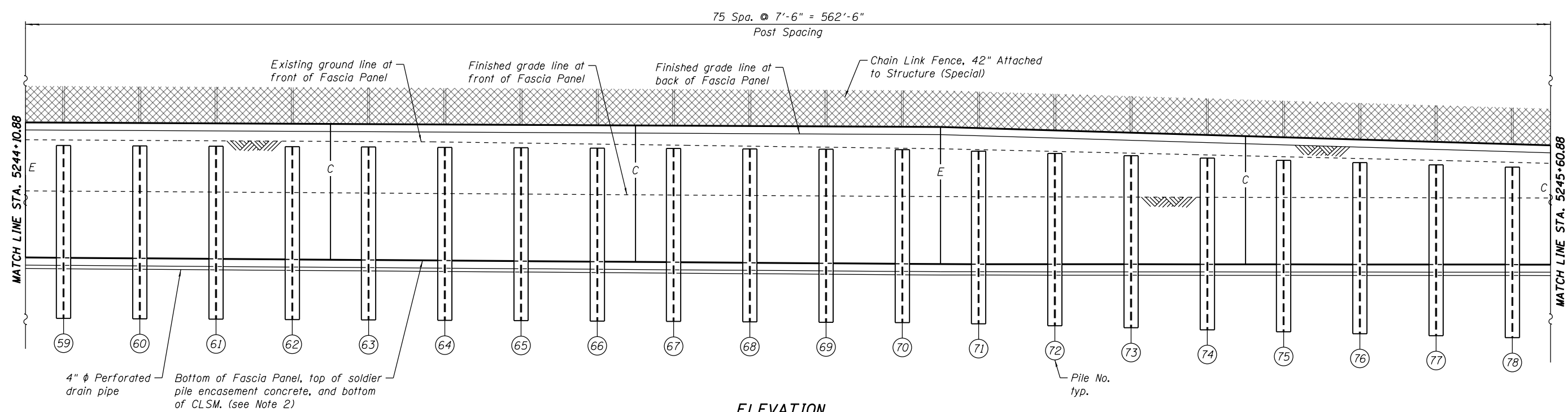
0161726-60X61-S06-Pile P&E-III



**PLAN**  
(All dimensions are measured along front face of Fascia Panel)

**LEGEND:**  
 ~> Pipe Underdrain Flow Arrow  
 C = Construction Joint  
 E = Expansion Joint  
 BF = Back Face

**NOTE:**  
 1. For ground elevations, see Sheet RW7-03.  
 2. CLSM and soldier pile encasement concrete not shown in elevation for clarity, see Sheet RW7-03 and RW7-13.  
 3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.



**ELEVATION**  
(Looking at BF of Fascia Panel)

**PILE SUMMARY**

PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
59	W33x152	5244+14.63	49'-11 3/4" Rt.	56.00'	529.26	585.26	66	W33x152	5244+67.13	49'-11 3/4" Rt.	56.00'	528.99	584.99	73	W33x152	5245+19.63	49'-11 3/4" Rt.	56.00'	528.24	584.24
60	W33x152	5244+22.13	49'-11 3/4" Rt.	56.00'	529.22	585.22	67	W33x152	5244+74.63	49'-11 3/4" Rt.	56.00'	528.96	584.96	74	W33x152	5245+27.13	49'-11 3/4" Rt.	56.00'	528.02	584.02
61	W33x152	5244+29.63	49'-11 3/4" Rt.	56.00'	529.18	585.18	68	W33x152	5244+82.13	49'-11 3/4" Rt.	56.00'	528.92	584.92	75	W33x130	5245+34.63	49'-11 3/4" Rt.	51.00'	532.79	583.79
62	W33x152	5244+37.13	49'-11 3/4" Rt.	56.00'	529.14	585.14	69	W33x152	5244+89.63	49'-11 3/4" Rt.	56.00'	528.88	584.88	76	W33x130	5245+42.13	49'-11 3/4" Rt.	51.00'	532.57	583.57
63	W33x152	5244+44.63	49'-11 3/4" Rt.	56.00'	529.11	585.11	70	W33x152	5244+97.13	49'-11 3/4" Rt.	56.00'	528.84	584.84	77	W33x130	5245+49.63	49'-11 3/4" Rt.	51.00'	532.34	583.34
64	W33x152	5244+52.13	49'-11 3/4" Rt.	56.00'	529.07	585.07	71	W33x152	5245+04.63	49'-11 3/4" Rt.	56.00'	528.69	584.69	78	W33x130	5245+57.13	49'-11 3/4" Rt.	51.00'	532.12	583.12
65	W33x152	5244+59.63	49'-11 3/4" Rt.	56.00'	529.03	585.03	72	W33x152	5245+12.13	49'-11 3/4" Rt.	56.00'	528.47	584.47							

0161726-60X61-S07-Pile P&E-IV



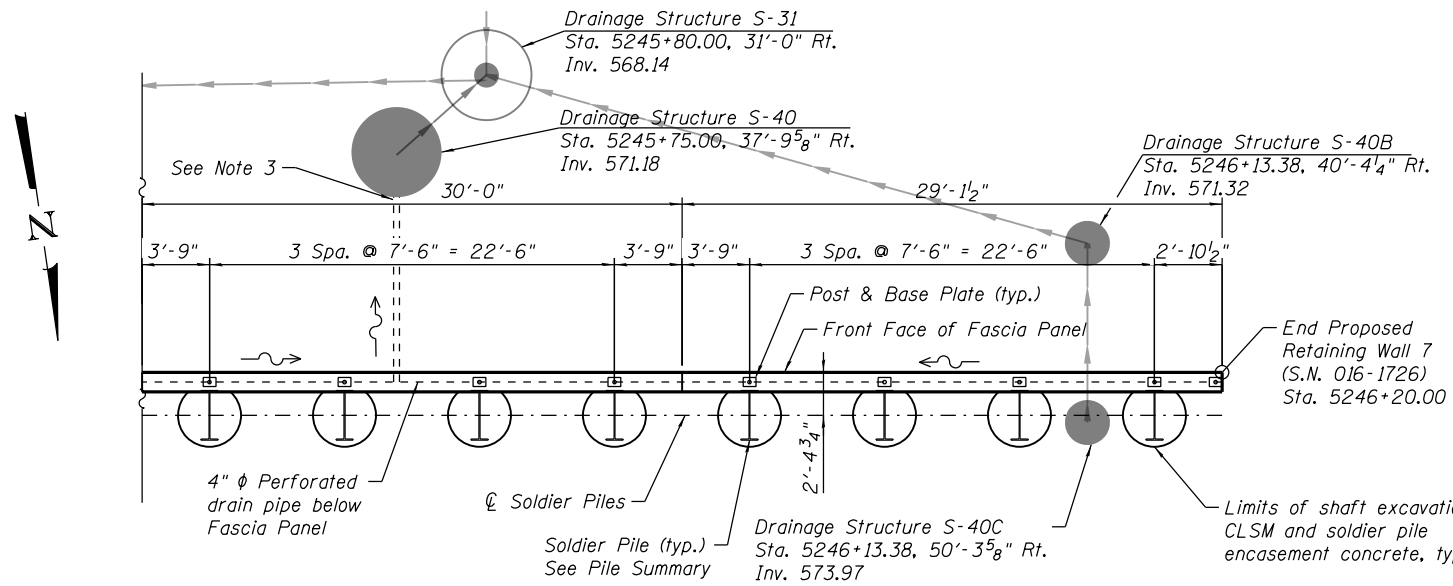
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	CHECKED - ATB	REVISED
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PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SOLDIER PILE PLAN & ELEVATION IV**  
**STRUCTURE NO. 016-1726**

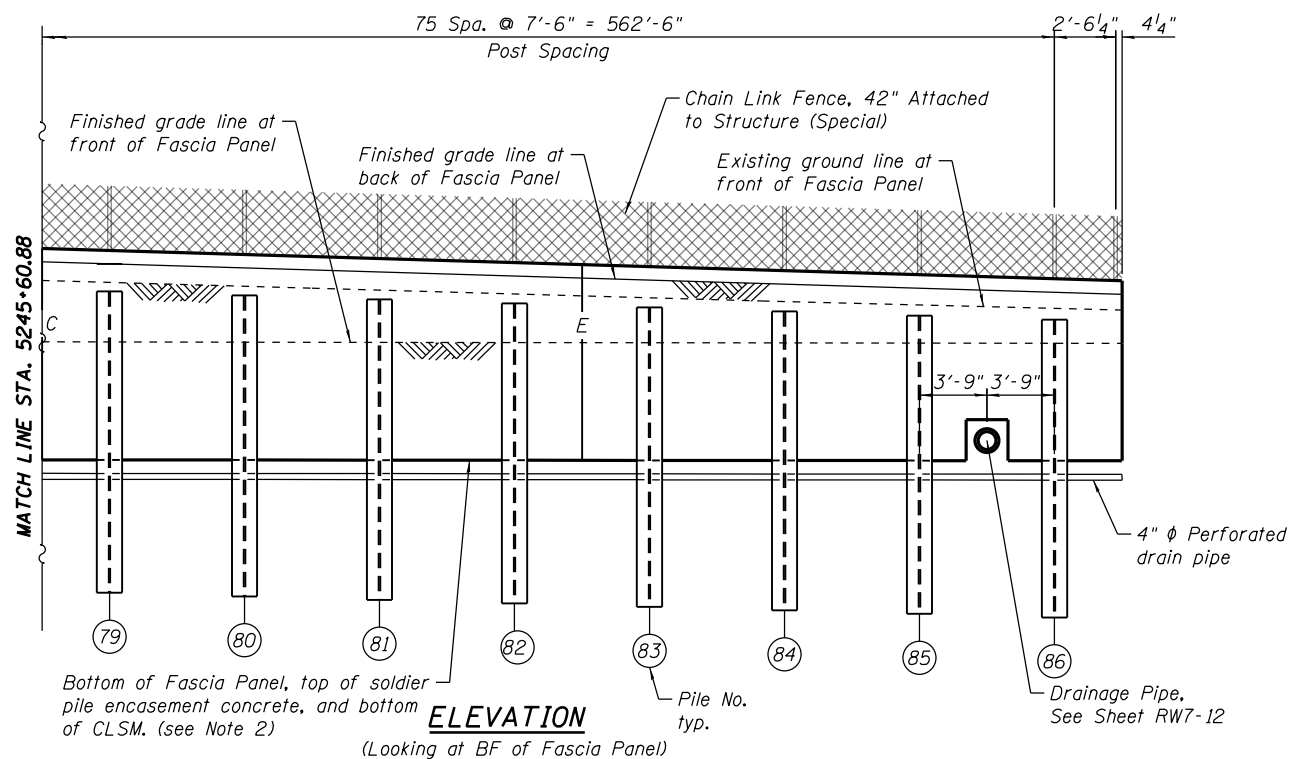
SHEET NO. RW7-070FRW7-22 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 176
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT NUMBER	



**PLAN**

(All dimensions are measured along front face of Fascia Panel)



**ELEVATION**

(Looking at BF of Fascia Panel)

**SUGGESTED SEQUENCE OF CONSTRUCTION**

1. Locate existing utilities that are to remain. Contractor to coordinate any required improvements to or removals of existing utilities with utility owner.
2. Prior to the start of retaining wall installation, all sewer pipe and sewer structures associated with the 78" main drain, collector sewers and lateral sewers west of Morgan Street shall be installed and backfilled to an elevation equal to or higher than the proposed roadway subgrade. See special provisions for backfill compaction requirements.
3. Install drilled soldier pile for Retaining Wall 7 (SN 016-1726) soldier pile wall.
4. Excavate for retaining wall 7. Install temporary lagging between soldier piles from top down as excavation proceeds.
5. Install Concrete facing on soldier piles of retaining wall 7. Backfill north side of wall.
6. Install Temporary Soil Retention System for Barrier wall (SN 016-Z030).
7. Excavate for barrier wall construction.
8. Construct barrier wall. Backfill as necessary.

**LEGEND:**

- Pipe Underdrain Flow Arrow
- C = Construction Joint
- E = Expansion Joint
- BF = Back Face

**NOTE:**

1. For ground elevations, see Sheet RW7-03.
2. CLSM and soldier pile encasement concrete not shown in elevation for clarity, see Sheet RW7-03 and RW7-13.
3. See Civil Plans for Drainage Structure to Pipe Underdrain connection details.

**PILE SUMMARY**

PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION	PILE NO.	PILE SIZE	STATION AT SHAFT C	OFFSET TO SHAFT C	LENGTH	BOTTOM ELEVATION	TOP ELEVATION
79	W33x130	5245+64.63	49'-11 3/4" Rt.	51.00'	531.89	582.89	86	W33x130	5246+17.13	49'-11 3/4" Rt.	51.00'	530.32	581.32
80	W33x130	5245+72.13	49'-11 3/4" Rt.	51.00'	531.67	582.67							
81	W33x130	5245+79.63	49'-11 3/4" Rt.	51.00'	531.44	582.44							
82	W33x130	5245+87.13	49'-11 3/4" Rt.	51.00'	531.22	582.22							
83	W33x130	5245+94.63	49'-11 3/4" Rt.	51.00'	530.99	581.99							
84	W33x130	5246+02.13	49'-11 3/4" Rt.	51.00'	530.77	581.77							
85	W33x130	5246+09.63	49'-11 3/4" Rt.	51.00'	530.54	581.54							



USER NAME = dabe2lcd	DESIGNED - JSK	REVISED
PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

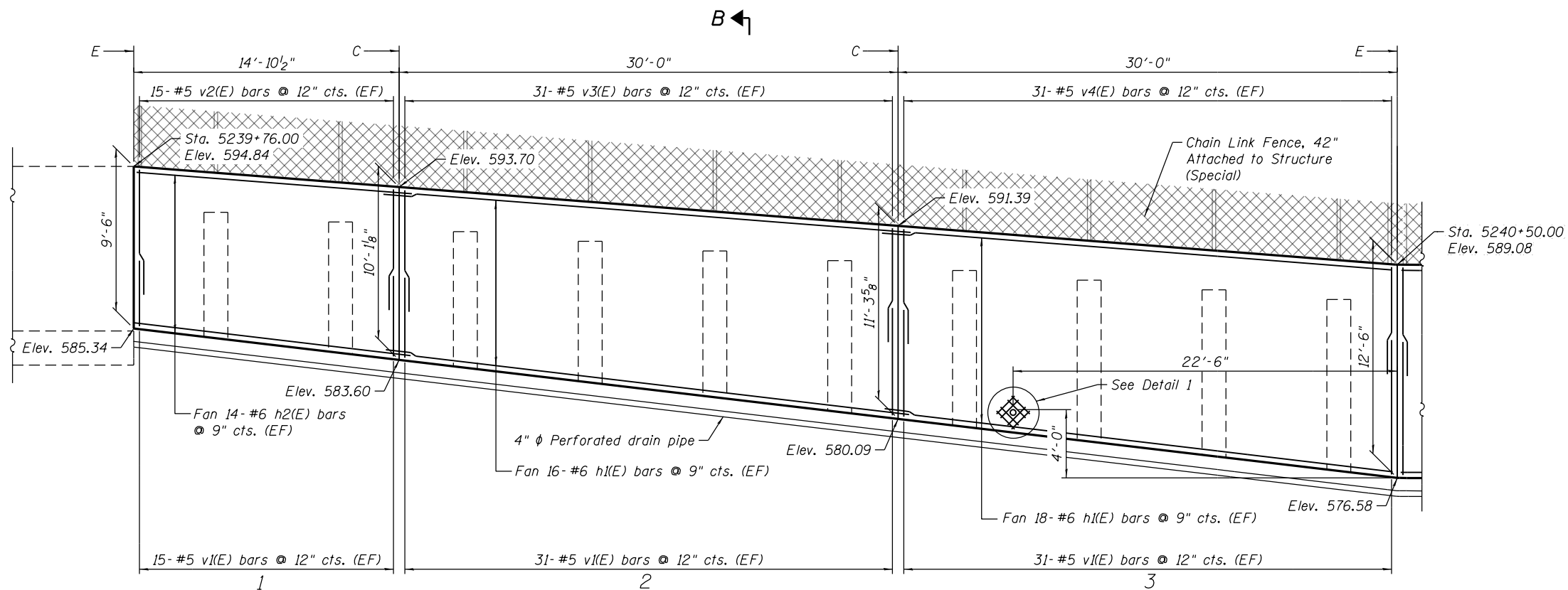
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE PLAN & ELEVATION V  
STRUCTURE NO. 016-1726

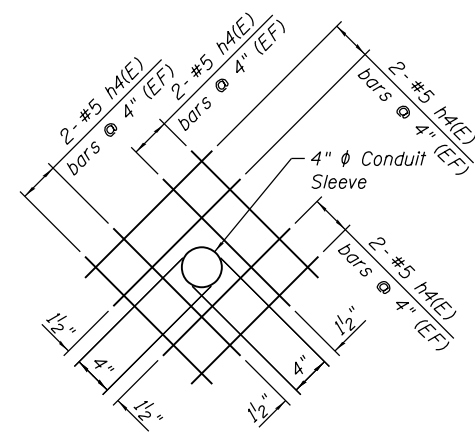
SHEET NO. RW7-080FRW7-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	177
CONTRACT NO. 60X61				

ILLINOIS FED. AID PROJECT -NUMBER-



**ELEVATION**  
Concrete Fascia Panels 1-3

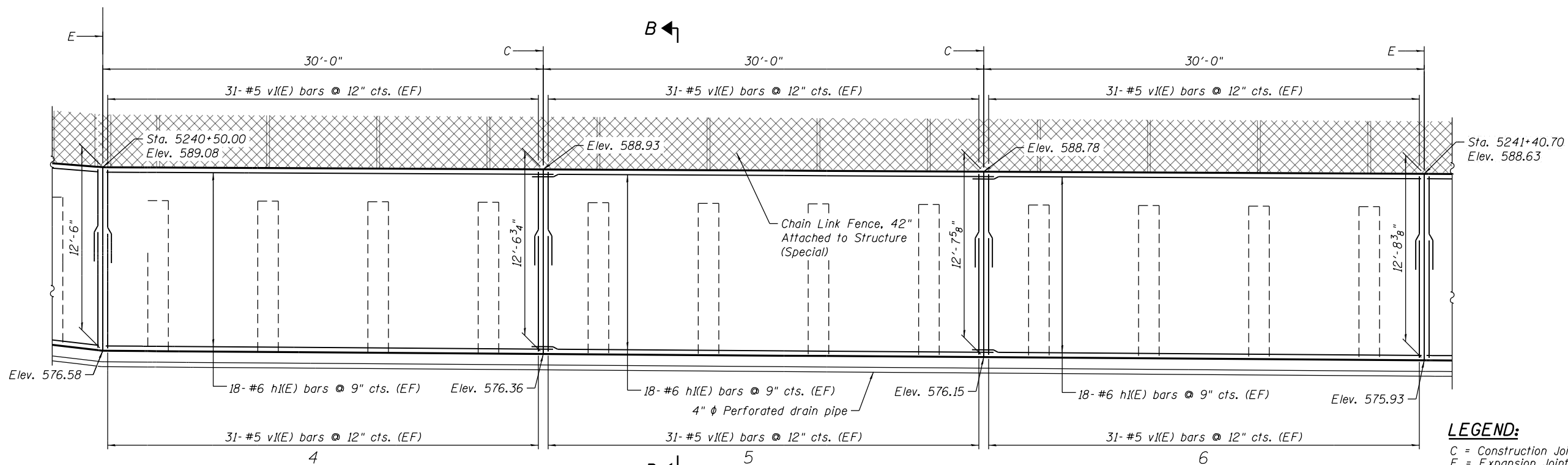


**DETAIL 1**

Notes:  
Cost of Conduit Sleeve included in Concrete Structures. (See Electrical Plans)

**MIN. BAR LAPS**

- #5 bars - 3'-3"
- #6 bars - 3'-10"



**ELEVATION**  
Concrete Fascia Panels 4-6

**LEGEND:**

- C = Construction Joint
- E = Expansion Joint
- EF = Each Face

**NOTES:**

1. For Section B-B See Sheet RW7-13.

0161726-60X61-S09-Conc Face-1



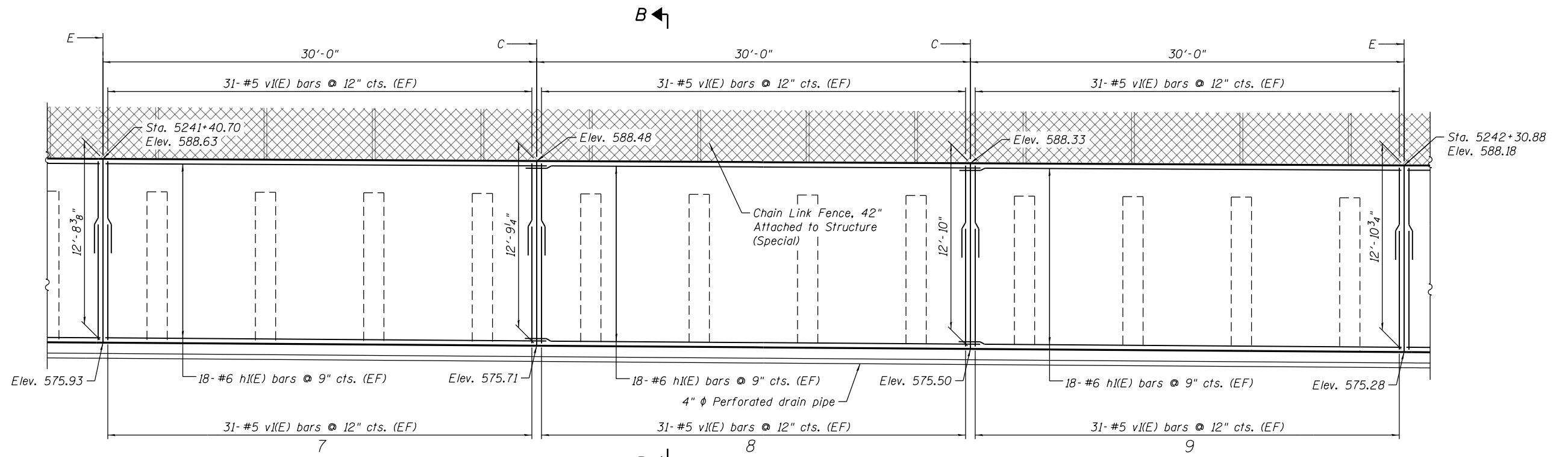
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PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**FASCIA PANEL I**  
**STRUCTURE NO. 016-1726**

SHEET NO. RW7-090FRW7-22 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	178
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				

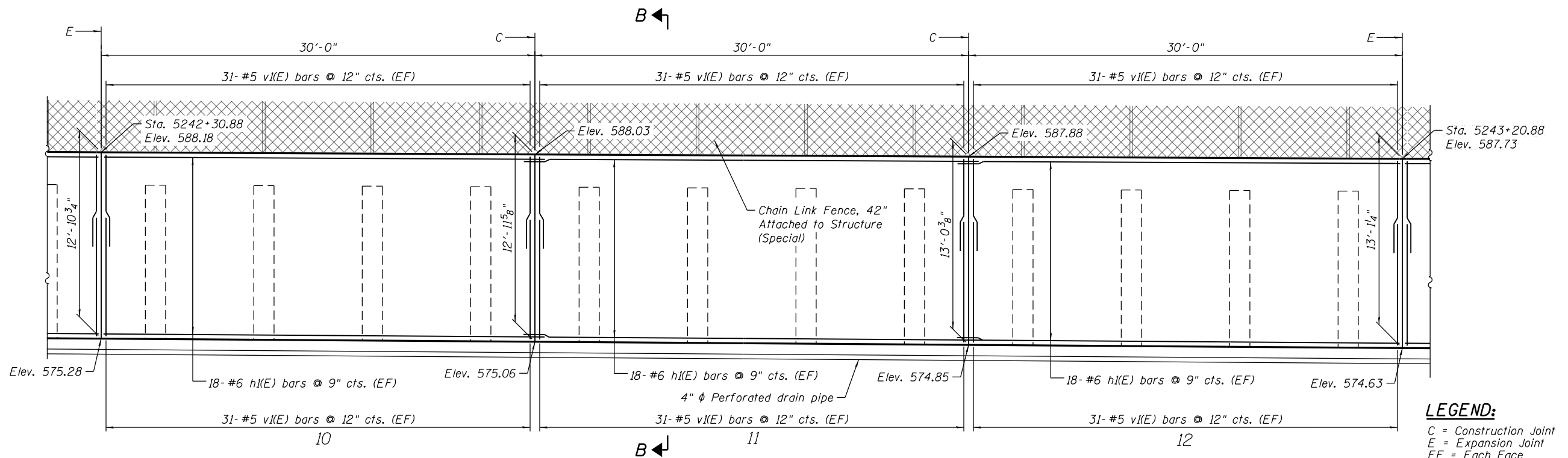


**ELEVATION**

Concrete Fascia Panels 7-9

**MIN. BAR LAPS**

#5 bars - 3'-3"  
#6 bars - 3'-10"



**ELEVATION**

Concrete Fascia Panels 10-12

**LEGEND:**

C = Construction Joint  
E = Expansion Joint  
EF = Each Face

**NOTES:**

1. For Section B-B See Sheet RW7-13.

0161726-60X61-S10-Conc Face-II



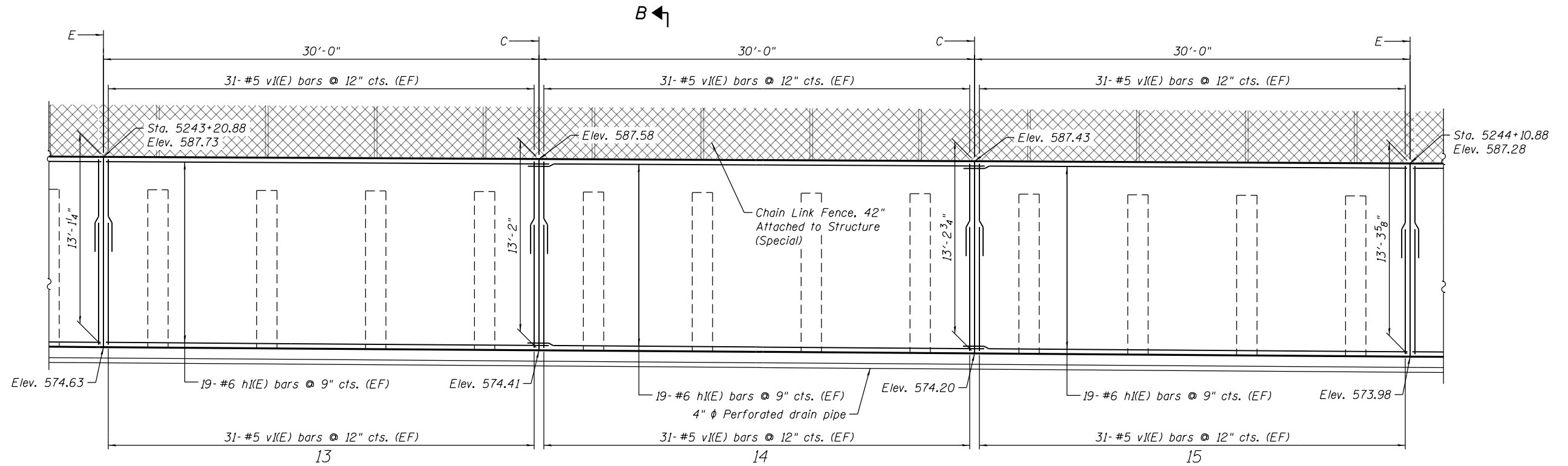
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	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FASCIA PANEL II  
STRUCTURE NO. 016-1726

SHEET NO. RW7-100FRW7-22 SHEETS

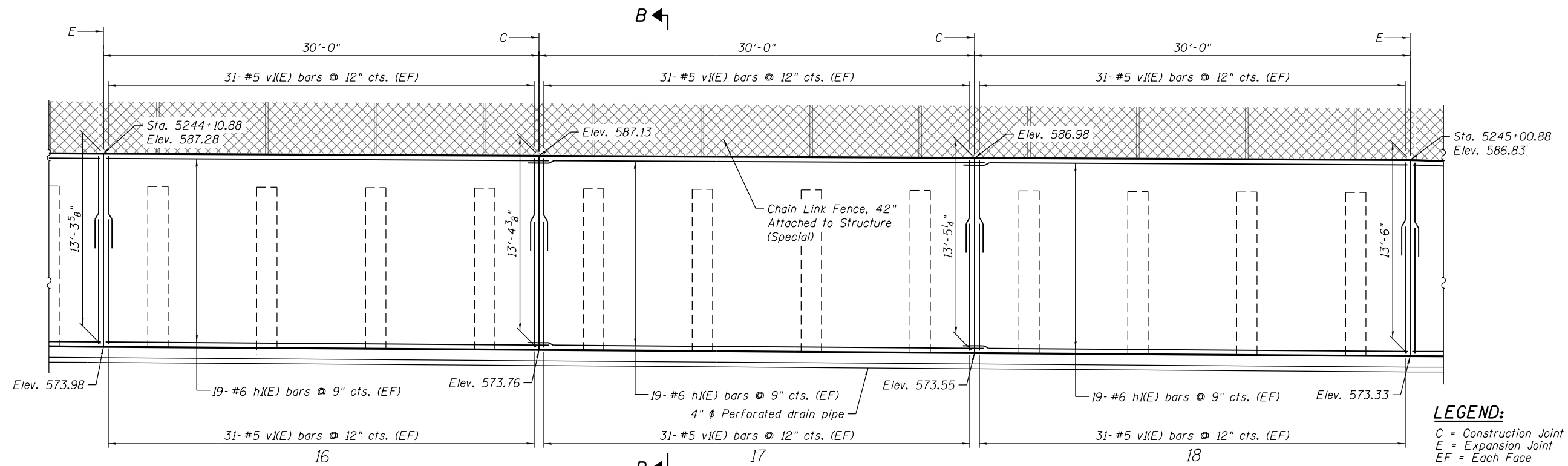
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	179
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				



**ELEVATION**  
Concrete Fascia Panels 13-15

**MIN. BAR LAPS**

- #5 bars - 3'-3"
- #6 bars - 3'-10"



**ELEVATION**  
Concrete Fascia Panels 16-18

**LEGEND:**

- C = Construction Joint
- E = Expansion Joint
- EF = Each Face

**NOTES:**

1. For Section B-B See Sheet RW7-13.

0161726-60X61-S11-Conc Face-III



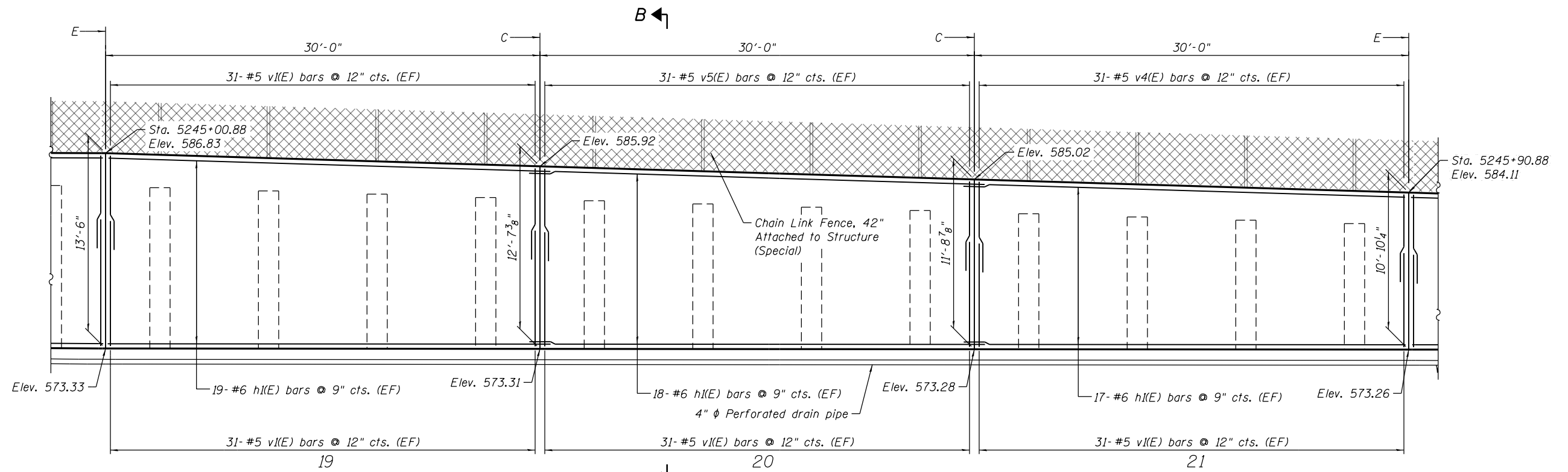
USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**FASCIA PANEL III  
STRUCTURE NO. 016-1726**

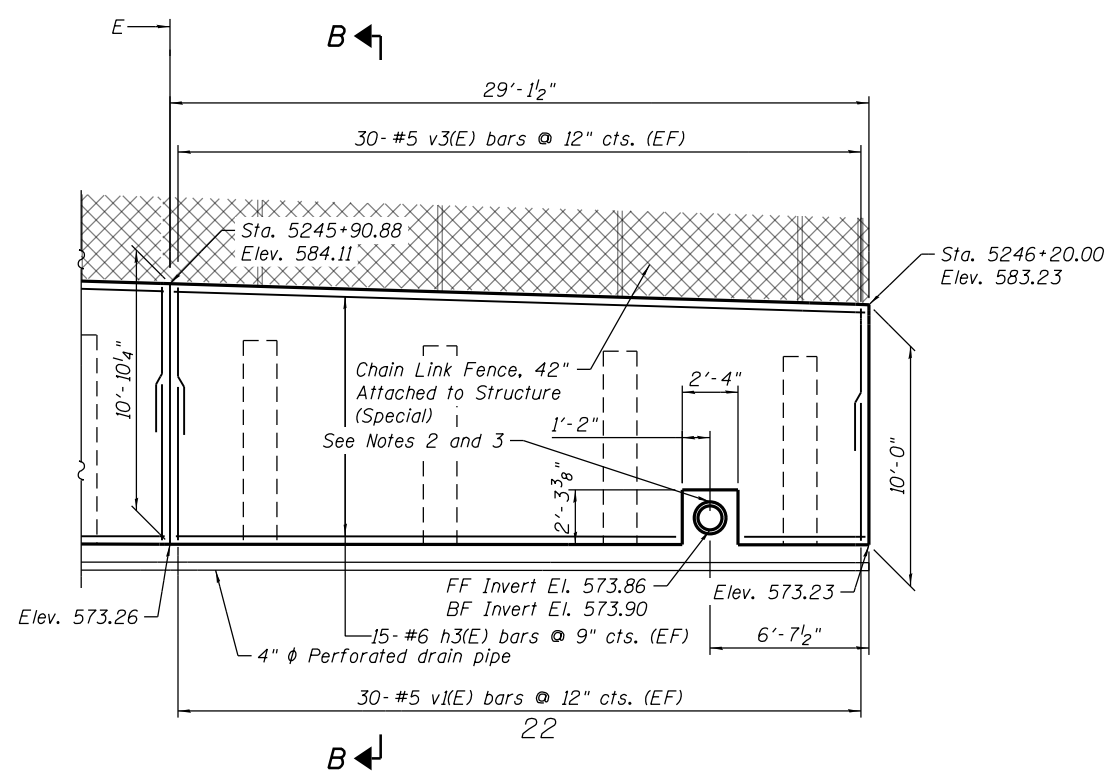
SHEET NO. RW7-11 OF RW7-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	180
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				



**ELEVATION**  
Concrete Fascia Panels 19-21

**MIN. BAR LAPS**  
#5 bars - 3'-3"  
#6 bars - 3'-10"



**ELEVATION**  
Concrete Fascia Panel 22

**LEGEND:**  
C = Construction Joint  
E = Expansion Joint  
EF = Each Face

**NOTES:**  
1. For Section B-B See Sheet RW7-13.  
2. Field Cut v(E), v3(E) and h3(E) bars to fit around proposed drainage pipe.  
3. Contractor to verify final location of drainage pipe and provide 6" min. clearance on all sides of pipe.

0161726-60X61-S12-Conc Face-IV



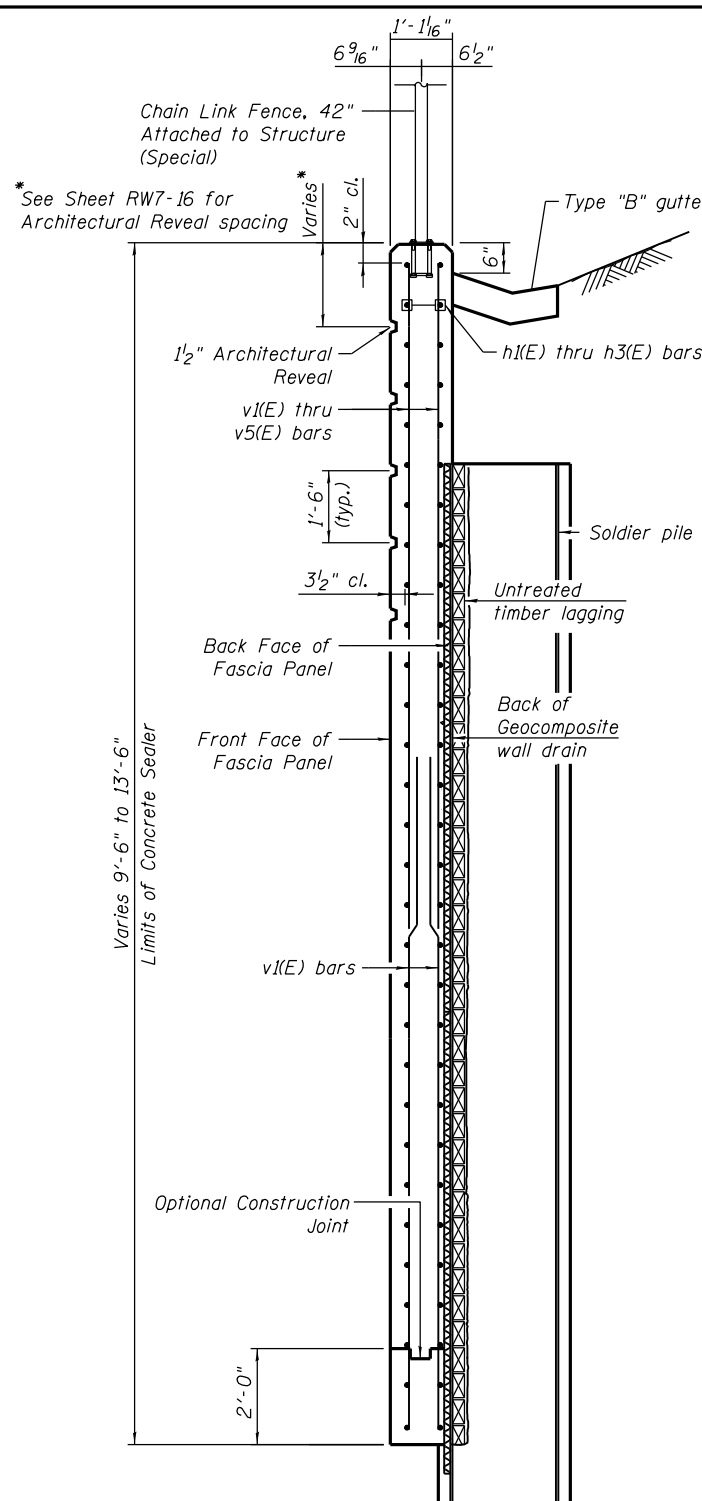
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	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

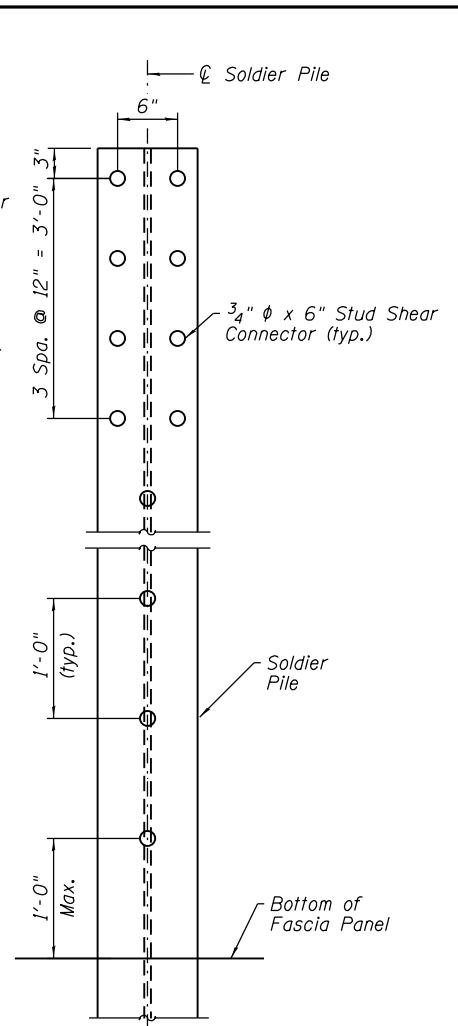
**FASCIA PANEL IV**  
**STRUCTURE NO. 016-1726**

SHEET NO. RW7-12 OF RW7-22 SHEETS

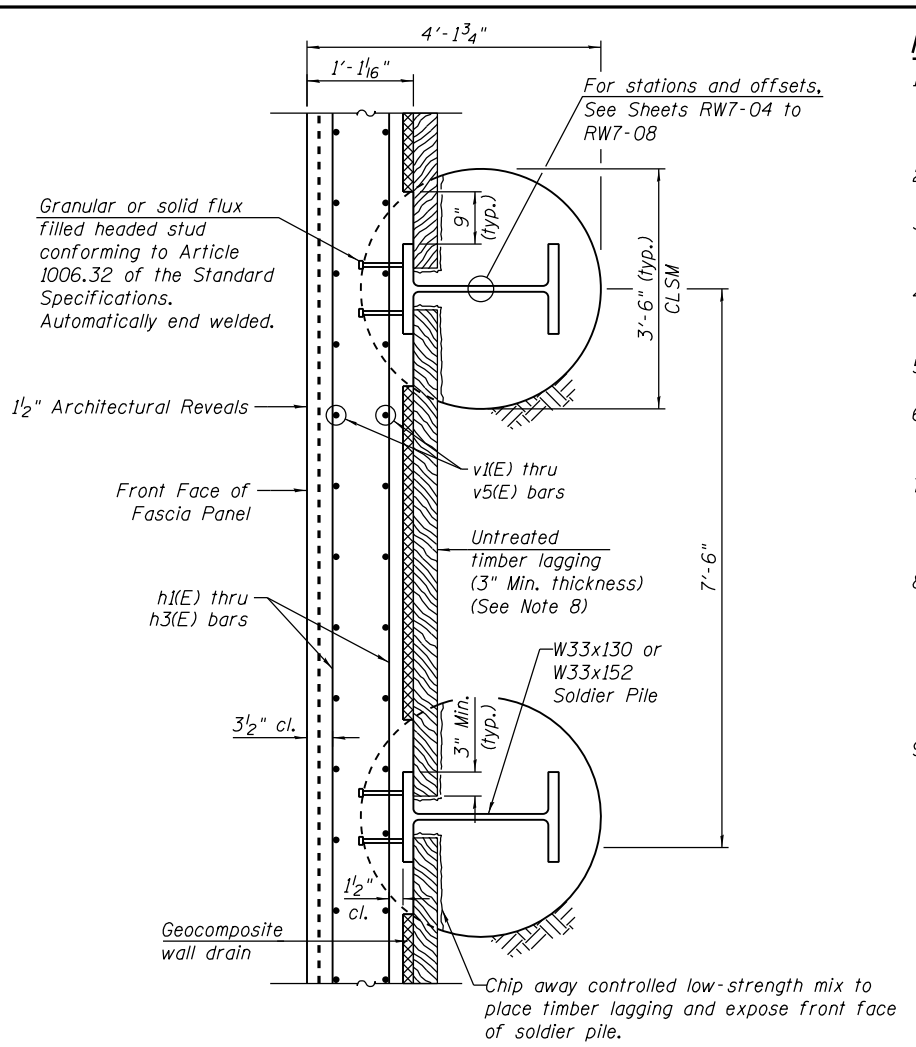
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	181
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT -NUMBER-				



**SECTION B-B**



**STUD SHEAR CONNECTOR DETAIL**



**SECTION THRU DRILLED SOLDIER PILE WALL**

\*See Sheet RW7-16 for Architectural Reveal spacing

For stations and offsets, See Sheets RW7-04 to RW7-08

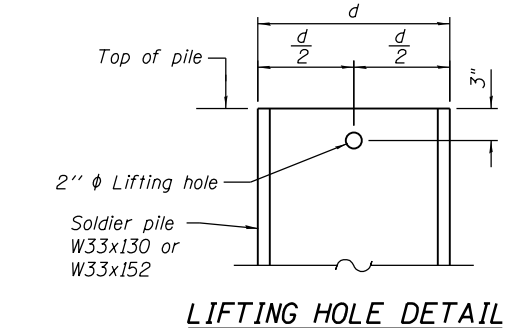
**NOTES:**

1. CLSM extends from bottom of fascia panel (Elevation E) to existing grade at back face of fascia panel. Soldier pile encasement concrete extends from bottom of fascia panel (Elevation E) to bottom of pile.
2. The thickness of geocomposite wall drain shall not exceed 7/8".
3. The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
4. Stud shear connectors shall be 3/4" x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.
5. See sheet RW7-03 for Pipe Underdrain details.
6. See sheet RW7-16 for Architectural Reveals pattern and details. Reveals are not paid for separately and are included in the cost of pay item Concrete Structures.
7. 1/2" Preformed Flexible Foam Expansion Joint Filler shall be applied per Section 1051.09 of the Standard Specifications. Cost of joint treatments included in Concrete Structures pay item.
8. The Contractor is responsible for the design and performance of the lagging system, using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi. The Contractor shall submit design calculations and details prepared by an Illinois Licensed Structural Engineer for the attachment of the lagging to the concrete encasement for approval by the Engineer. Alternative equivalent systems may be submitted for approval by the Engineer.
9. For Elevations, see Soldier Pile and Lagging Wall Elevation Table on sheet RW7-03.

Varies 9'-6" to 13'-6" Limits of Concrete Sealer

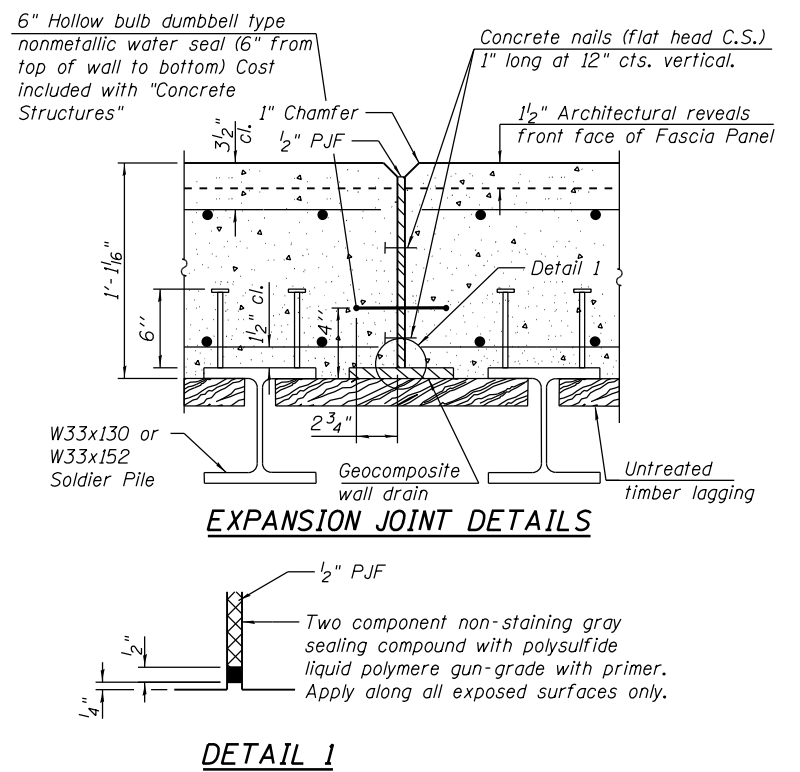
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
v1(E)	2322	#5	8'-6"	—
v2(E)	30	#5	5'-0"	—
v3(E)	122	#5	6'-0"	—
v4(E)	124	#5	7'-0"	—
v5(E)	62	#5	7'-6"	—
h1(E)	728	#6	33'-0"	—
h2(E)	28	#6	18'-0"	—
h3(E)	30	#6	28'-9"	—
h4(E)	16	#5	1'-6"	—
Structure Excavation			Cu. Yd.	956
Concrete Structures			Cu. Yd.	326
Reinforcement Bars Epoxy Coated			Pound	61,060
Stud Shear Connectors			Each	1,271
Concrete Sealer			Sq. Ft.	8,729
Geocomposite Wall Drain			Sq. Yd.	220
Drilling and Setting Soldier Piles (in Soil)			Cu. Ft.	45,245
Furnishing Soldier Piles (W Section)			Foot	4,646
Pipe Underdrains for Structures 4"			Foot	659
Untreated Timber Lagging			Sq. Ft.	6,794
Chain Link Fence, 42" Attached to Structure (Special)			Foot	644

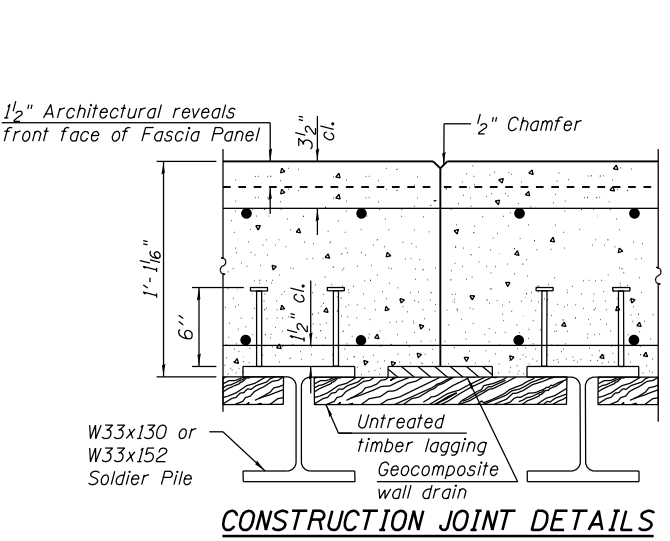


**LIFTING HOLE DETAIL**

SOLDIER PILE	d	d/2
W33x130	2'-9 1/8"	1'-4 9/16"
W33x152	2'-9 1/2"	1'-4 3/4"



**EXPANSION JOINT DETAILS**



**CONSTRUCTION JOINT DETAILS**

**DETAIL 1**



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

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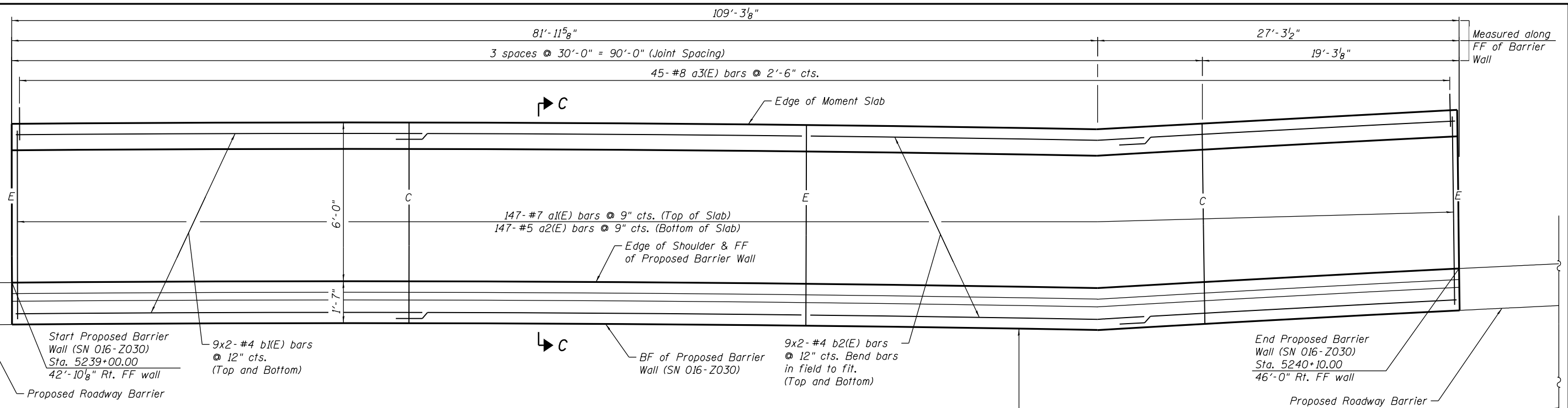
FASCIA PANEL DETAILS  
STRUCTURE NO. 016-1726

SHEET NO. RW7-130FRW7-22SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	182
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				

0161726-60X61-S13-Typ Conc Face





**NOTES:**

1. All dimensions are measured along front face of Proposed Barrier Wall.
2. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
3. For Section C-C See Sheet RW7-15.

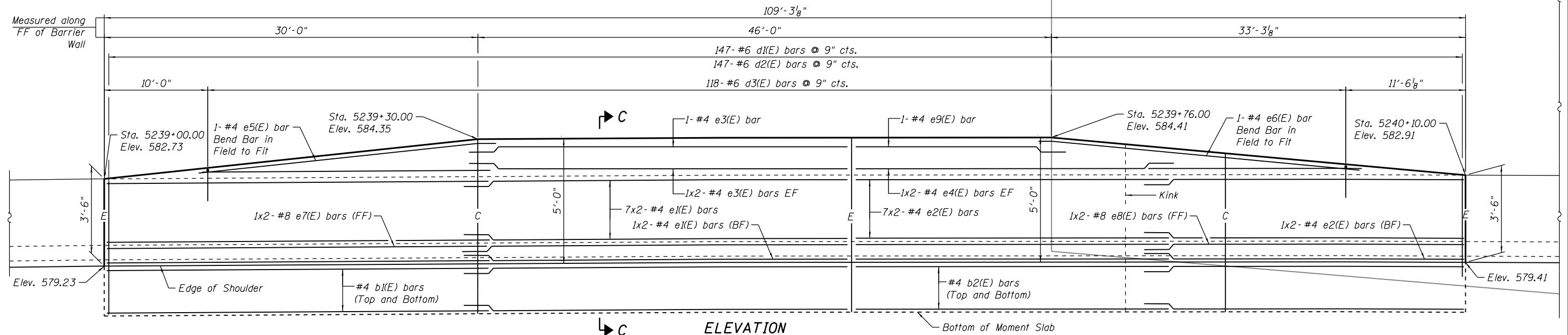
**LEGEND:**

C = Construction Joint  
 E = Expansion Joint  
 FF = Front Face  
 EF = Each Face  
 BF = Back Face

**MIN. BAR LAP**

#4 bars - 2'-7"  
 #8 bars - 6'-9"

**PLAN**



**ELEVATION**

(Looking @ BF Barrier Wall)



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED

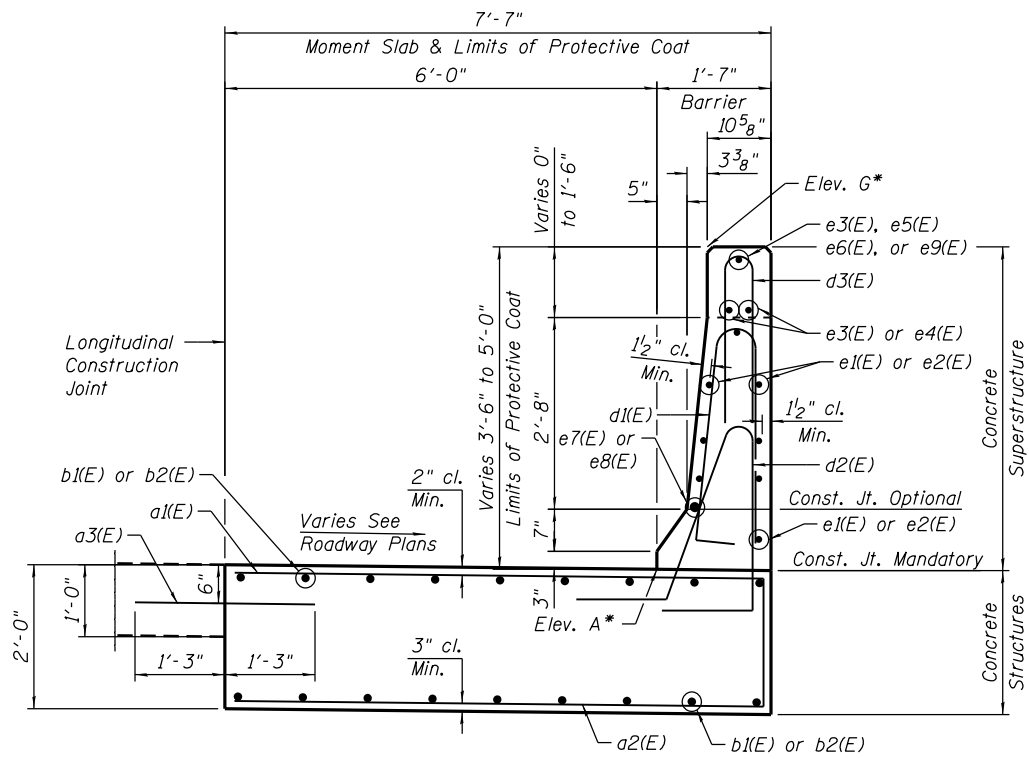
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BARRIER WALL PLAN & ELEVATION  
 STRUCTURE NO. 016-2030

SHEET NO. RW7-14 OF RW7-22 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 183
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	

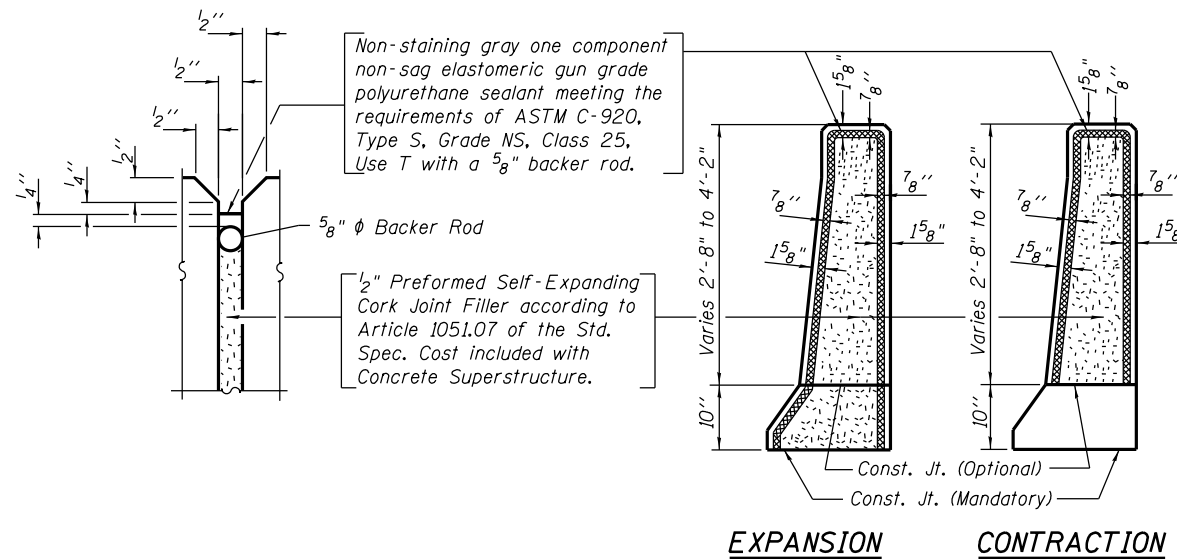
0161726-60X61-S14-Barrier P&E



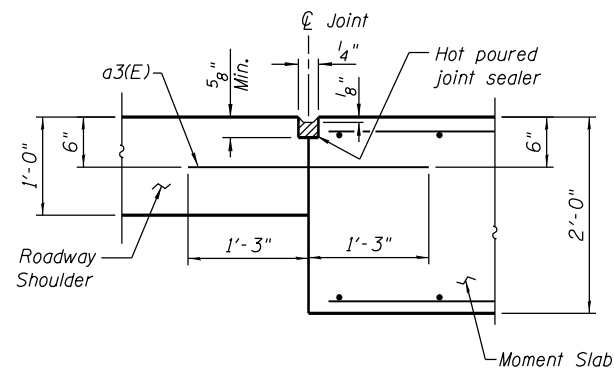
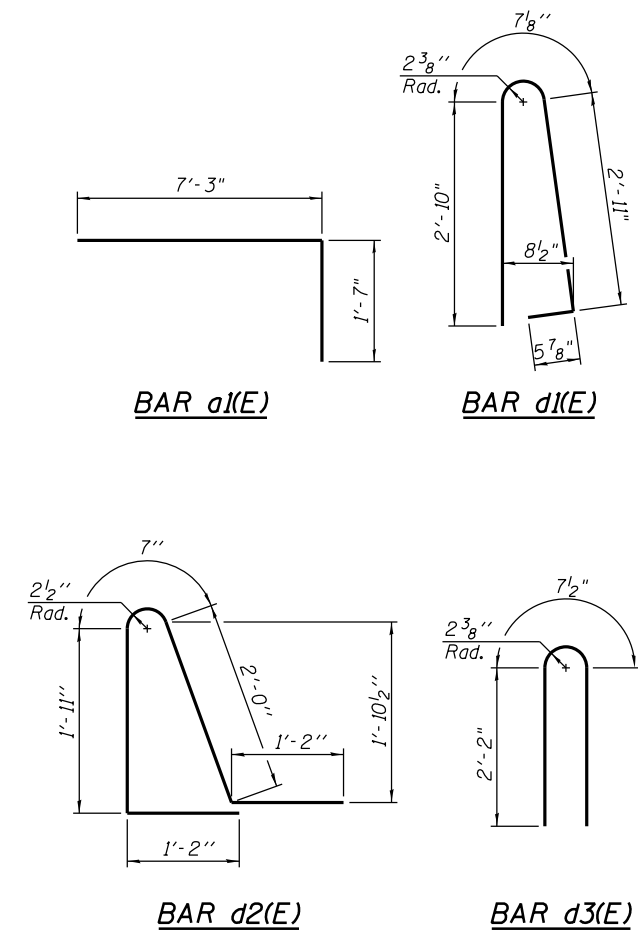
**SECTION C-C**

(Sta. 5239+00.00 to Sta. 5240+10.00)  
(Facing West)

\* See Barrier Wall Elevation  
Table Sheet RW7-03

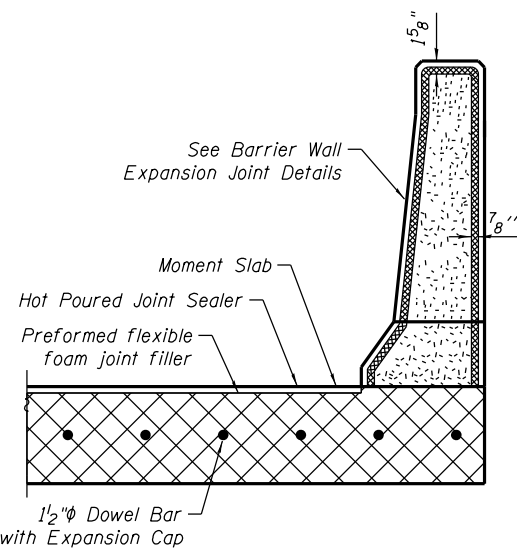


**BARRIER WALL JOINT DETAILS**

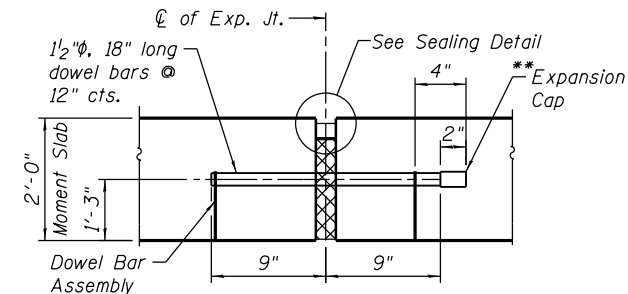


**LONGITUDINAL CONSTRUCTION JOINT**

See Article 420.05 & 420.12 of the Standard Specifications



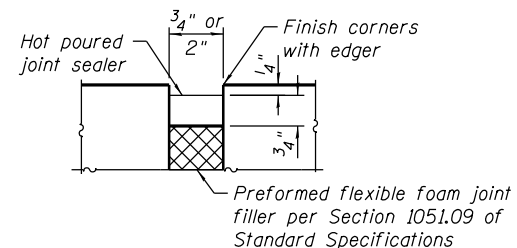
**TRANSVERSE EXPANSION JOINT SECTION**



**MOMENT SLAB TO MOMENT SLAB TRANSVERSE EXPANSION JOINT**

(Expansion joint filler, sealer and Dowel Bars included in cost of Concrete Structures.)

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



**SEALING DETAIL**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1(E)	147	#7	8'-10"	—
a2(E)	147	#5	7'-3"	—
a3(E)	45	#8	2'-6"	—
b1(E)	36	#4	31'-3"	—
b2(E)	36	#4	25'-10"	—
d1(E)	147	#6	6'-10"	⌋
d2(E)	147	#6	6'-10"	⌋
d3(E)	118	#6	4'-11 1/2"	⌋
e1(E)	16	#4	31'-3"	—
e2(E)	16	#4	25'-10"	—
e3(E)	5	#4	31'-1"	—
e4(E)	4	#4	25'-8"	—
e5(E)	1	#4	31'-1"	—
e6(E)	1	#4	34'-4"	—
e7(E)	2	#8	33'-3"	—
e8(E)	2	#8	27'-10"	—
e9(E)	1	#4	17'-1"	—
Structure Excavation			Cu. Yd.	131
Removal and Disposal of Unsuitable Material for Structures			Cu. Yd.	146
Granular Embankment, Special			Cu. Yd.	146
Concrete Structures			Cu. Yd.	62
Concrete Superstructure			Cu. Yd.	20
Reinforcement Bars Epoxy Coated			Pound	10,500
Protective Coat			Sq. Yd.	47

0161726-60X61-S15-Barrier-D11



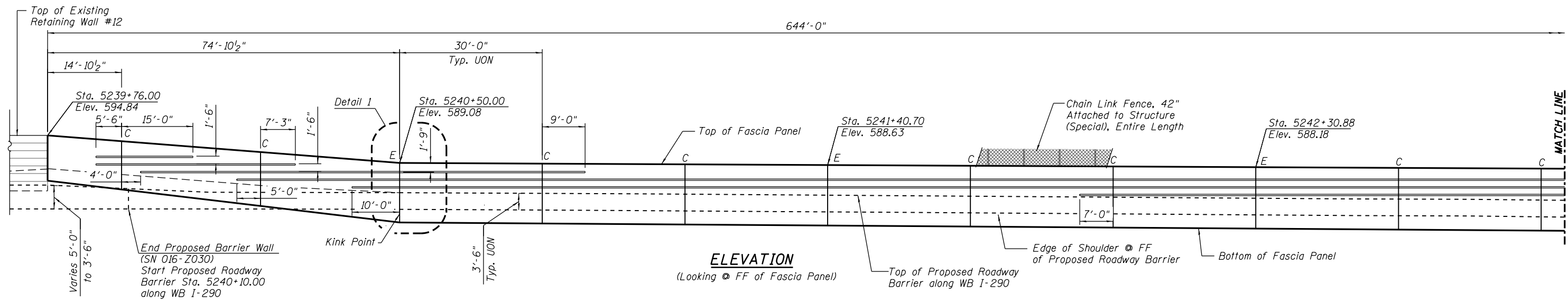
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PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BARRIER WALL DETAILS  
STRUCTURE NO. 016-2030**

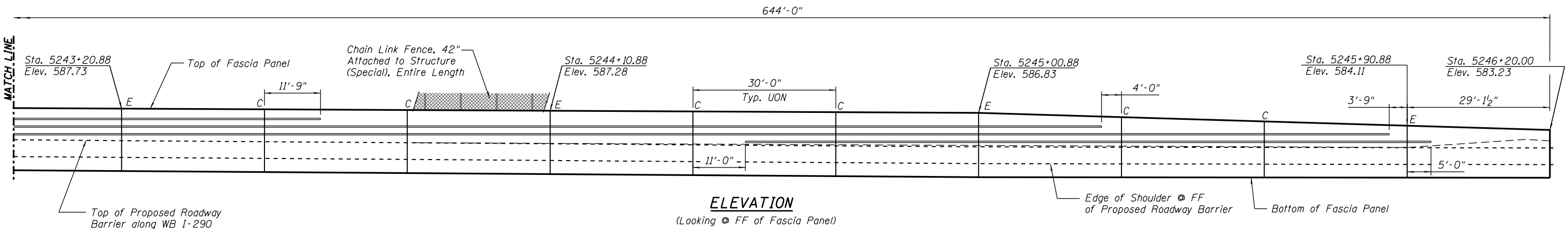
SHEET NO. RW7-15 OF RW7-22 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	184
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				



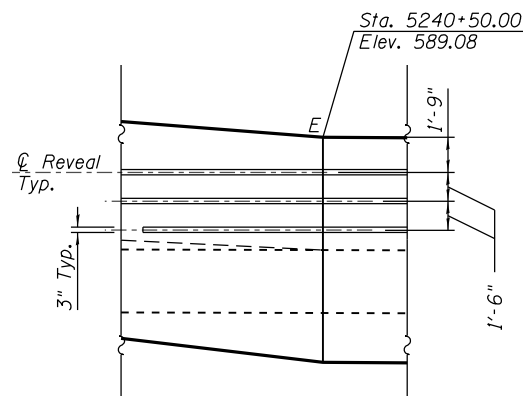
**ELEVATION**

(Looking @ FF of Fascia Panel)

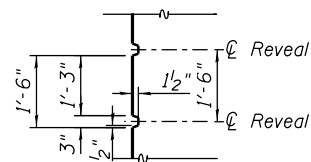


**ELEVATION**

(Looking @ FF of Fascia Panel)



**DETAIL 1**



**TYPICAL REVEAL DETAIL**

**LEGENDS:**  
 C = Construction Joint  
 E = Expansion Joint  
 FF = Front Face  
 UON = Unless Otherwise Noted

**NOTES:**  
 1. Reveals in Fascia Panel of Soldier Pile and Lagging Wall will not be paid separately and will be included in the cost of the pay item "Concrete Structures".  
 2. All lengths are measured along the FF of Fascia Panel.

0161726-60X61-S16-Arch.D11



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ARCHITECTURAL DETAILS  
STRUCTURE NO. 016-1726

SHEET NO. RW7-160FRW7-22SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	185
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				

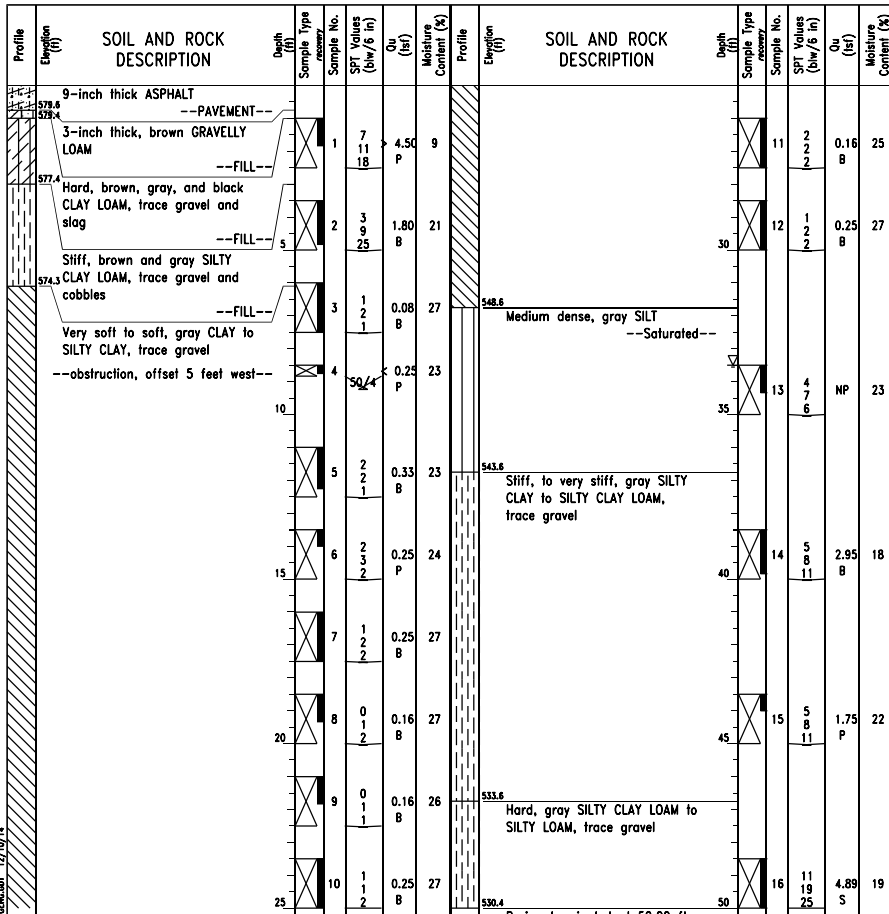


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**BORING LOG 07-RWB-04**  
 WEI Job No.: 1100-04-01  
 Client: AECOM  
 Project: Circle Interchange Reconstruction  
 Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88  
 Elevation: 580.38 ft  
 North: 1898100.44 ft  
 East: 1169248.54 ft  
 Station: 5240+15.44  
 Offset: 14.7200' RT

Page 1 of 1



**GENERAL NOTES**

Begin Drilling 10-29-2013 Complete Drilling 10-29-2013  
 Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR  
 Driller R&J Logger A. Tomaras Checked by C. Marin  
 Drilling Method 3.25" HSA to 12.5', mud rotary thereafter, boring backfilled upon completion

**WATER LEVEL DATA**

White Drilling  33.50 ft  
 At Completion of Drilling  unable to measure  
 Time After Drilling NA  
 Depth to Water  NA

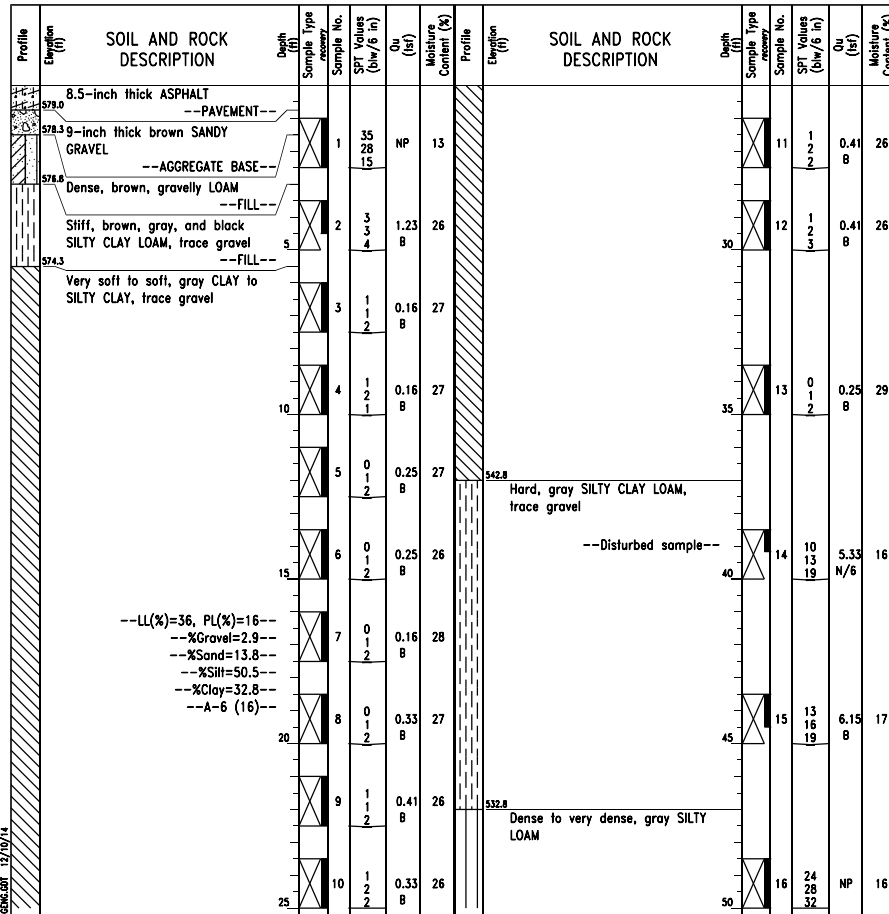
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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 1145 N Main Street  
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**BORING LOG 07-RWB-05**  
 WEI Job No.: 1100-04-01  
 Client: AECOM  
 Project: Circle Interchange Reconstruction  
 Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88  
 Elevation: 579.76 ft  
 North: 1898108.89 ft  
 East: 1169145.86 ft  
 Station: 5241+18.42  
 Offset: 10.0403' RT

Page 1 of 2



**GENERAL NOTES**

Begin Drilling 03-06-2014 Complete Drilling 03-06-2014  
 Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR  
 Driller R&N Logger F. Bozga Checked by C. Marin  
 Drilling Method 3.25" HSA to 12.5', mud rotary thereafter, boring backfilled upon completion

**WATER LEVEL DATA**

White Drilling  Rotary wash  
 At Completion of Drilling  unable to measure  
 Time After Drilling NA  
 Depth to Water  NA

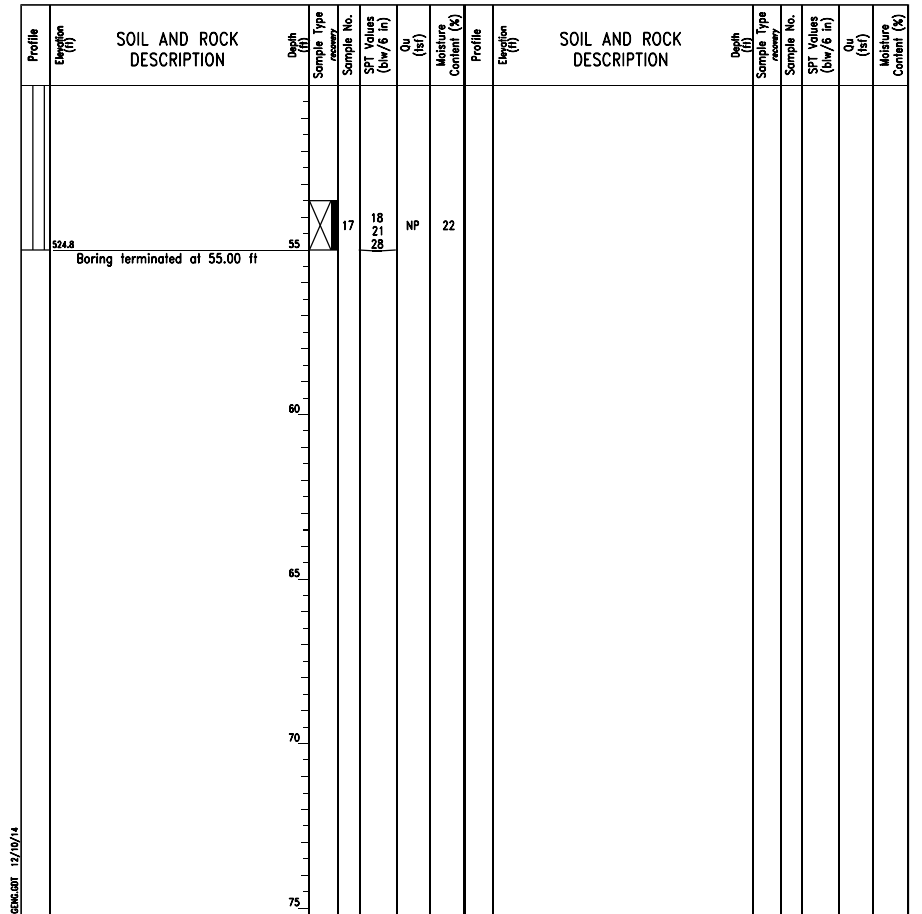
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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

**BORING LOG 07-RWB-05**  
 WEI Job No.: 1100-04-01  
 Client: AECOM  
 Project: Circle Interchange Reconstruction  
 Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88  
 Elevation: 579.76 ft  
 North: 1898108.89 ft  
 East: 1169145.86 ft  
 Station: 5241+18.42  
 Offset: 10.0403' RT

Page 2 of 2



**GENERAL NOTES**

Begin Drilling 03-06-2014 Complete Drilling 03-06-2014  
 Drilling Contractor Wang Testing Services Drill Rig CME-55 TMR  
 Driller R&N Logger F. Bozga Checked by C. Marin  
 Drilling Method 3.25" HSA to 12.5', mud rotary thereafter, boring backfilled upon completion

**WATER LEVEL DATA**

White Drilling  Rotary wash  
 At Completion of Drilling  unable to measure  
 Time After Drilling NA  
 Depth to Water  NA

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

0161726-60X61-S18-Bor-Ing-11



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS II

SHEET NO. RW7-18 OF RW7-22 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 187
CONTRACT NO. 60X61				ILLINOIS FED. AID PROJECT -NUMBER-

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

**BORING LOG 07-RWB-06**  
WEI Job No.: 1100-04-01  
Client: AECOM  
Project: Circle Interchange Reconstruction  
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898120.16 ft  
East: 1169071.26 ft  
Station: 5241+93.94  
Offset: 10.8031' RT

Page 1 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
578.4	8.5-inch thick ASPHALT --PAVEMENT--												
578.4	Medium dense, brown SANDY GRAVEL --AGGREGATE BASE--	1	18	13	NP	13			11	0	2	0.41	26
574.4	Shif, brown and black SILTY CLAY LOAM, trace gravel --FILL--	2	3	3		21			12	0	2	0.25	28
574.4	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel	3	1	2		0.16			13	2	3	0.25	26
		4	1	2		0.25			14	7	10	4.84	18
		5	0	1		0.16	542.2	Hard, gray SILTY CLAY LOAM, trace gravel	15	11	18	5.08	13
		6	1	1		0.16			16	12	19	NP	13
		7	0	0		0.16			17	11	18	5.08	13
		8	0	0		0.16			18	11	18	5.08	13
		9	0	0		0.25	532.2	Dense, gray SILT	19	11	18	5.08	13
		10	0	0		0.25			20	11	18	5.08	13

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	03-06-2014	Complete Drilling	03-07-2014
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&N	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA to 12.5', mud rotary thereafter, boring backfilled upon completion	Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

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

**BORING LOG 07-RWB-06**  
WEI Job No.: 1100-04-01  
Client: AECOM  
Project: Circle Interchange Reconstruction  
Location: Section 17, T39N, R14E of 3rd PM

Datum: NAVD 88  
Elevation: 579.17 ft  
North: 1898120.16 ft  
East: 1169071.26 ft  
Station: 5241+93.94  
Offset: 10.8031' RT

Page 2 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
	--% Gravel = 1.4%-- --% Sand = 6.5%-- --% Silt = 88.8%-- --% Clay = 3.2%-- --A-4 (0)--												
524.2	Boring terminated at 55.00 ft	17	19	24	NP	23							

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	03-06-2014	Complete Drilling	03-07-2014
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&N	Logger	F. Bozga
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA to 12.5', mud rotary thereafter, boring backfilled upon completion	Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

0161726-60X61-S19-Bor-ing-III



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS III

SHEET NO. RW7-19 OF RW7-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	188
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				

Page 1 of 1

<b>Wang Engineering</b> wangeng@wangeng.com 1145 N Main Street Lombard, IL 60148 Telephone: 630 953-9928 Fax: 630 953-9938	<b>BORING LOG 07-RWB-07</b> WEI Job No.: 1100-04-01 Client: <b>AECOM</b> Project: <b>Circle Interchange Reconstruction</b> Location: <b>Section 17, T39N, R14E of 3rd PM</b>	Datum: NAVD 88 Elevation: 577.64 ft North: 1898159.64 ft East: 1168865.89 ft Station: 5244+02.98 Offset: 21.4193' RT
---	--	---

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Cu (tsf)	Moisture Content (%)
576.6	12-inch thick ASPHALT --PAVEMENT--							--In-Situ Vane Shear, 25.5 feet-- --Su undis = 777 psf-- --Su remold = 492 psf-- --Sensitivity = 1.6--					
574.6	Medium dense, brown and gray LOAM, little gravel --FILL--	1	8 7 5							11	1 2 2	0.33 B	27
572.1	Stiff, brown, gray, and black CLAY LOAM, trace gravel --FILL--	2	3 4 5	2.64						12	2 1 4	0.25 B	21
	Very soft to soft, gray CLAY to SILTY CLAY, trace gravel	3	1 2 1	0.25				Hard, gray SILTY CLAY, trace gravel --In-Situ Vane Shear, 31.5 feet-- --Torque >600 lbs--		5			
		4	1 1 1	0.25						13	3 8 10	4.92 B	18
	--In-Situ Vane Shear, 10.5 feet-- --Su undis = 622 psf-- --Su remold = 337 psf-- --Sensitivity = 1.9--	5	0 1 1	0.25									
		6	0 1 2	0.33						14	6 18 20	6.33 H/6	
	--In-Situ Vane Shear, 15.5 feet-- --Su undis = 570 psf-- --Su remold = 337 psf-- --Sensitivity = 1.7--	7	0 2 1	0.33									
		8	0 1 1	0.25				Gray, medium SAND					
	--In-Situ Vane Shear, 20.5 feet-- --Su undis = 648 psf-- --Su remold = 363 psf-- --Sensitivity = 1.8--	9	0 2 1	0.41				Dense to very dense, gray SILT with fine SAND lamination --Saturated--		15	23 25 43	NP	19
		10	0 2 2	0.49						16	5 15 23	NP	29

<b>GENERAL NOTES</b>		<b>WATER LEVEL DATA</b>	
Begin Drilling	11-03-2013	Complete Drilling	11-03-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	A. Tomaras
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" HSA, boring backfilled upon completion		
While Drilling	▽	43.50 ft	
At Completion of Drilling	▽	45.00 ft	
Depth to Water	▽	NA	

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

0161726-60X61-S20-Bor-Ing-1V



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - BRD	REVISED	
PLOT DATE = 12/16/2014	CHECKED - EJO	REVISED	

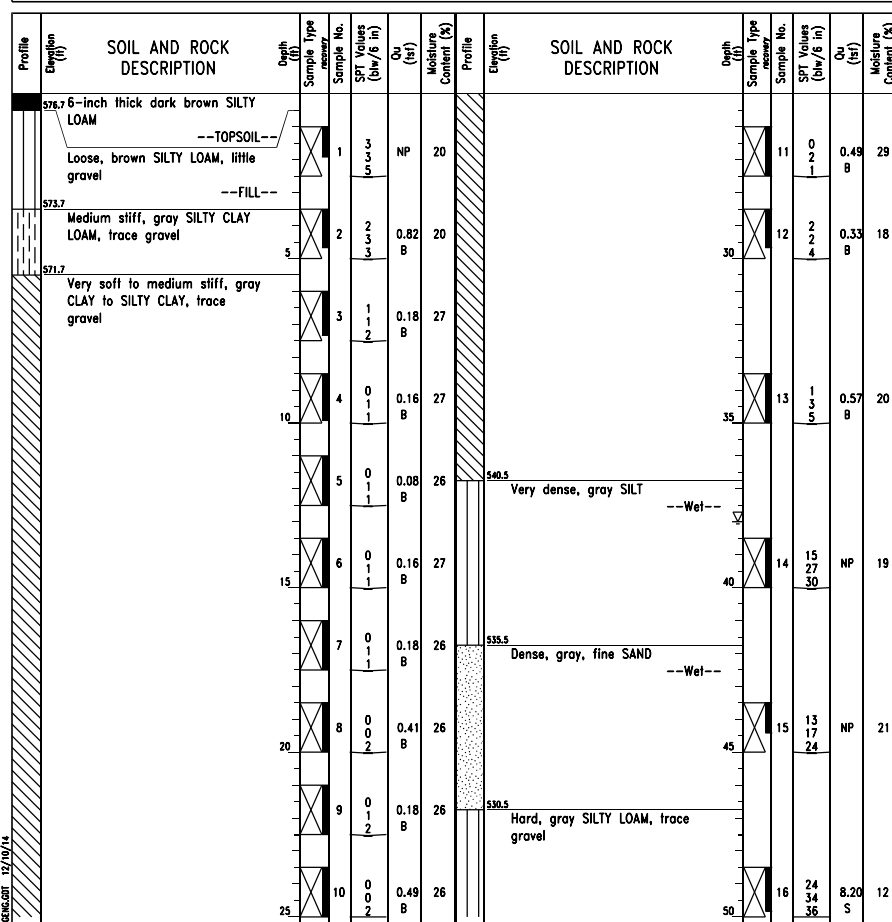
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**
**BORING LOGS IV**

SHEET NO. RW7-200FRW7-22SHEETS

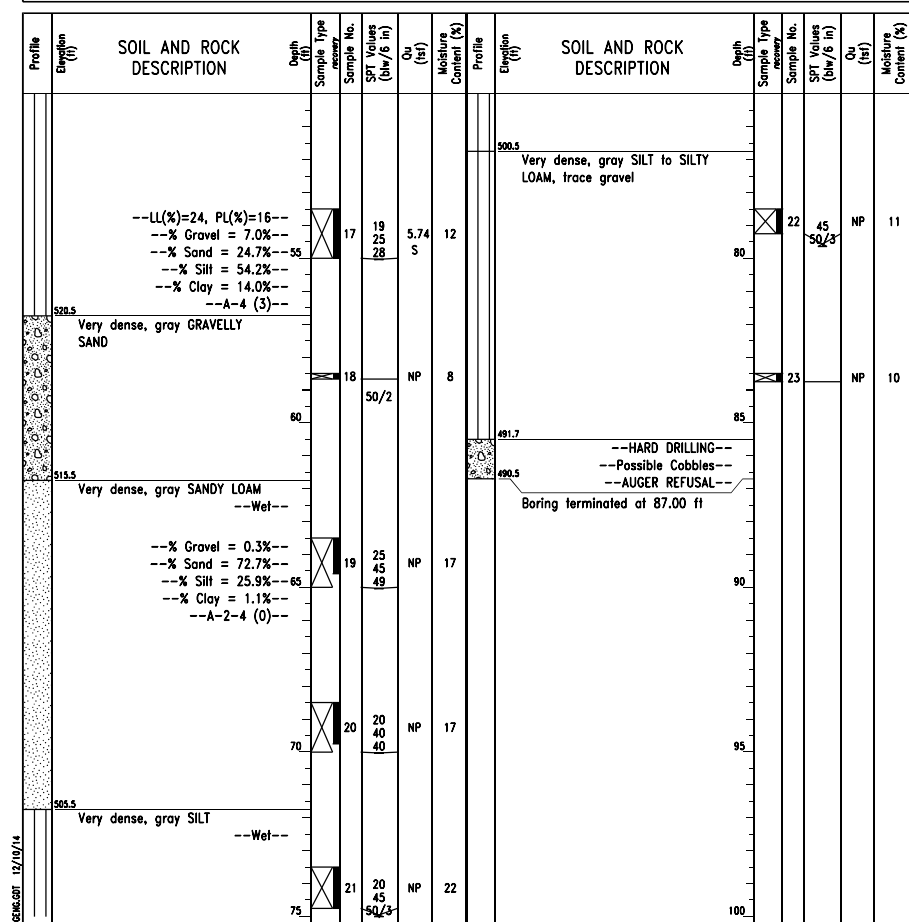
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	189
CONTRACT NO.				60X61
ILLINOIS FED. AID PROJECT -NUMBER-				







GENERAL NOTES			WATER LEVEL DATA		
Begin Drilling	03-25-2014	Complete Drilling	03-25-2014	While Drilling	38.00 ft
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	unable to measure
Driller	R&N	Logger	M de los Reyes	Time After Drilling	NA
Drilling Method	2.25" SSA to 12.5', mud rotary thereafter, boring backfilled upon completion			Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					



GENERAL NOTES			WATER LEVEL DATA		
Begin Drilling	03-25-2014	Complete Drilling	03-25-2014	While Drilling	38.00 ft
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR	At Completion of Drilling	unable to measure
Driller	R&N	Logger	M de los Reyes	Time After Drilling	NA
Drilling Method	2.25" SSA to 12.5', mud rotary thereafter, boring backfilled upon completion			Depth to Water	NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

0161726-60X61-S22-Bor-Ing-VI



USER NAME = dunkerleyb	DESIGNED - JSK	REVISED
PLOT SCALE = N.T.S.	CHECKED - ATB	REVISED
PLOT DATE = 12/16/2014	DRAWN - BRD	REVISED
	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS VI

SHEET NO.RW7-220FRW7-22SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	191
CONTRACT NO.			60X61	
ILLINOIS FED. AID PROJECT -NUMBER-				

Benchmark: Cut square on northwest corner of sign foundation at north side of Harrison Street, approximately 80' west of west line of Morgan Street. Elevation 593.07.  
 Cut square on east wall of Morgan Street at approximately centerline of I-290, near north entrance to CTA. Elevation 600.63.

Existing Structure: None

Traffic Control: Traffic to be maintained on WB I-290 during construction.

**NOTES:**

1. Stations and offsets are measured from Morgan St. Exit Ramp Baseline to front face of Noise Abatement Wall.
2. Contractor shall Verify location of existing building foundation and shall take all necessary precautions to perform work in such a manner as to not damage existing foundations.
3. See ITS and Electrical sheets for removal of existing cables and Controller Box and proposed locations of new cables and Controller Box.

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interim Revisions

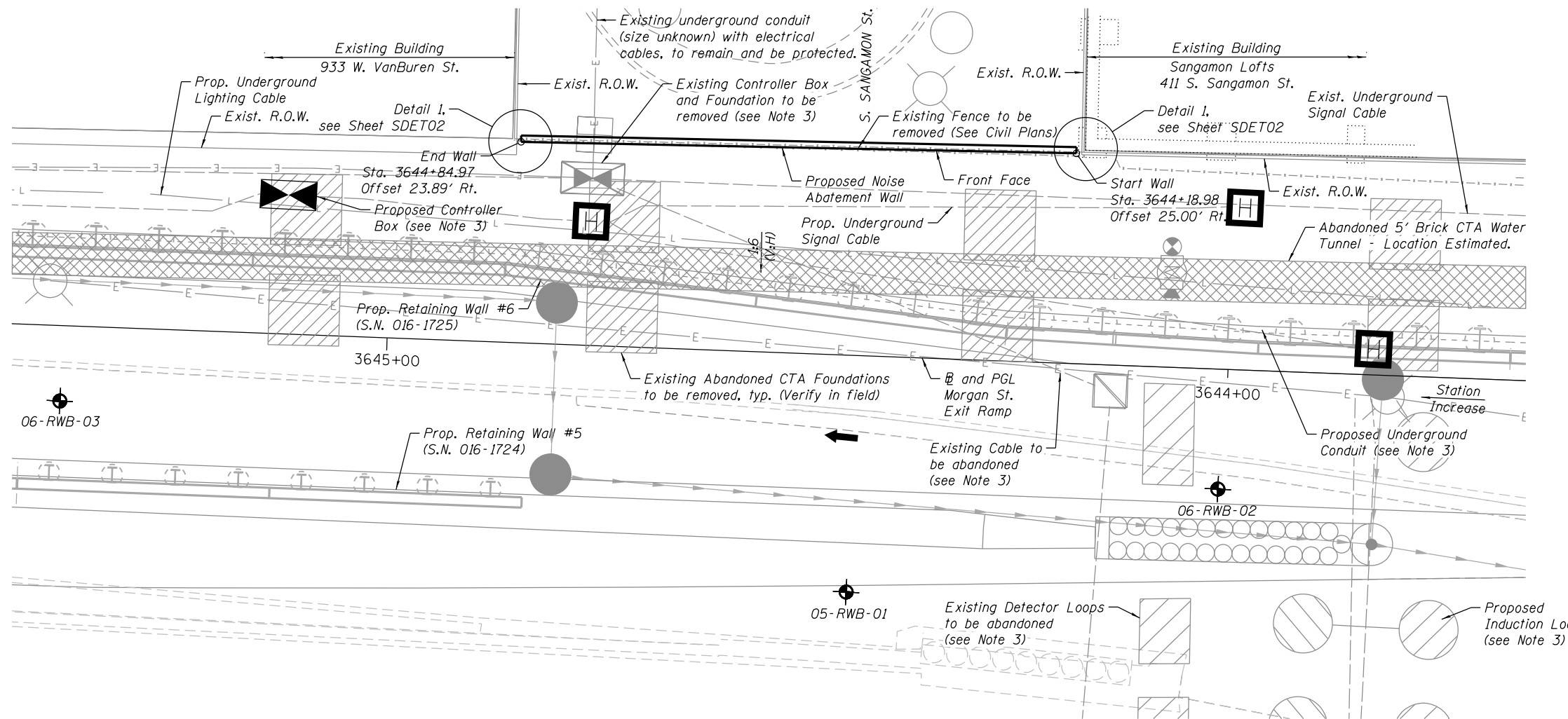
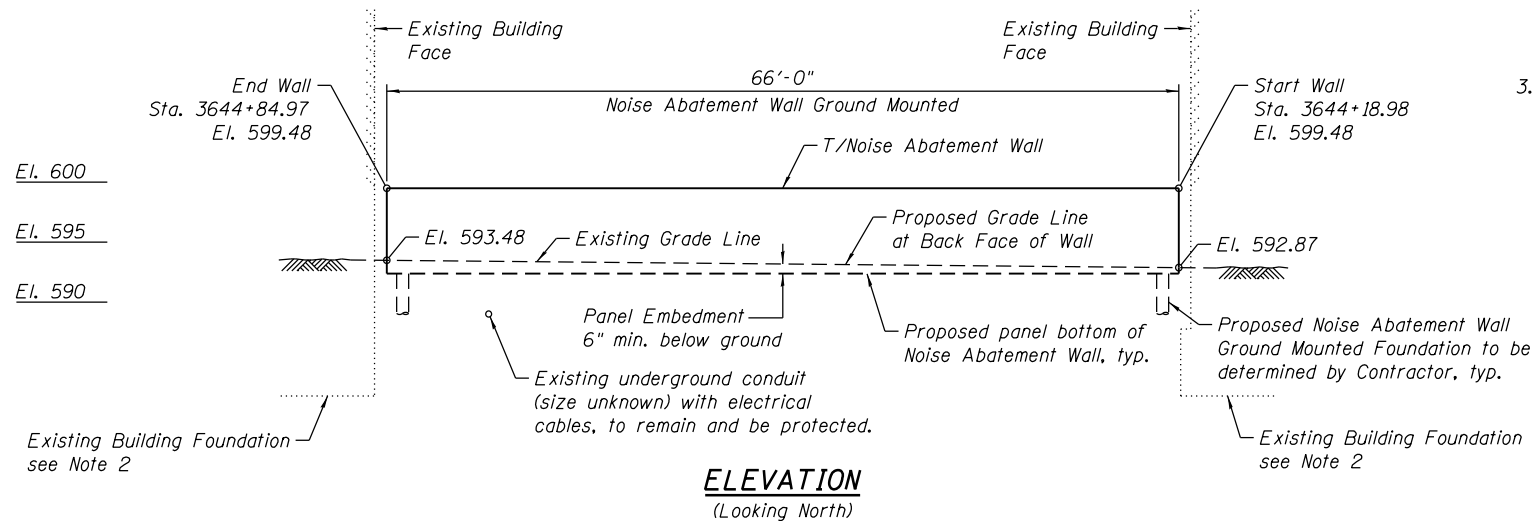
2002 Guide Specifications for Structural Design of Sound Barriers

**NOISE WALL WIND LOADING**

25 psf (Ground Mounted)

**LEGEND:**

- Front Face F.F.
- Back Face B.F.
- Combined Sewer
- Boring Log
- Fire Hydrant
- Light Pole
- Electric
- Fiber Optic
- Storm Sewer
- Temp. Soil Retention System
- Water Line
- Foundation Removal, see RW 6 (S.N. 016-1725) for details
- Existing Abandoned CTA Tunnel filled by others (Contract 60W26)



**PLAN**

**GENERAL PLAN AND ELEVATION  
 NOISE ABATEMENT WALL  
 F.A.I. RTE. 290  
 (EISENHOWER EXPRESSWAY)  
 SECTION 2013-077R  
 COOK COUNTY  
 STATION 3644+18.98 TO 3644+84.97**



USER NAME = krltzm	DESIGNED - EJO	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 12/1/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET NO. SDET01 OF SDET06 SHEETS

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 192
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	

0161725-60X61-S01-NW-GPE

**GENERAL NOTES**

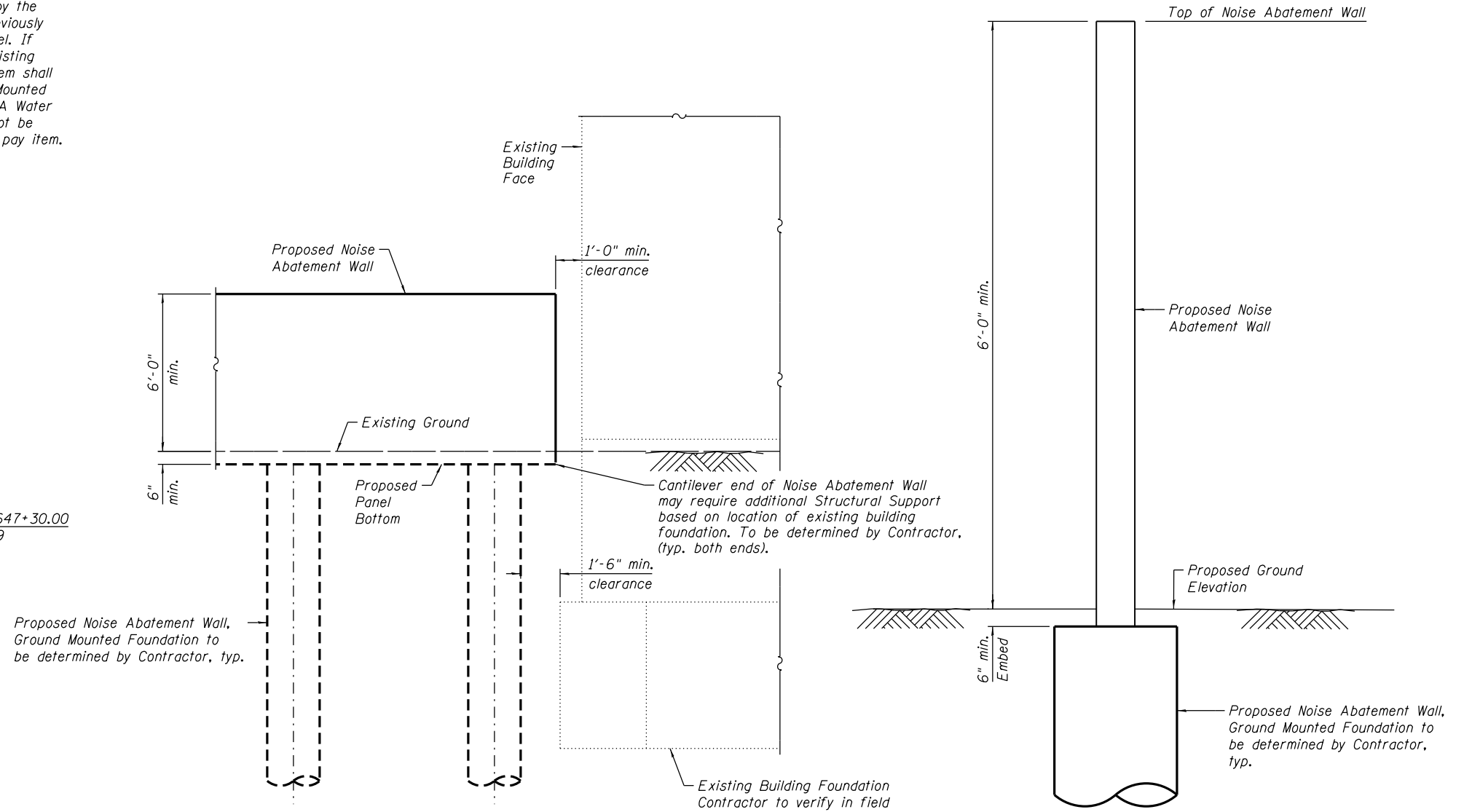
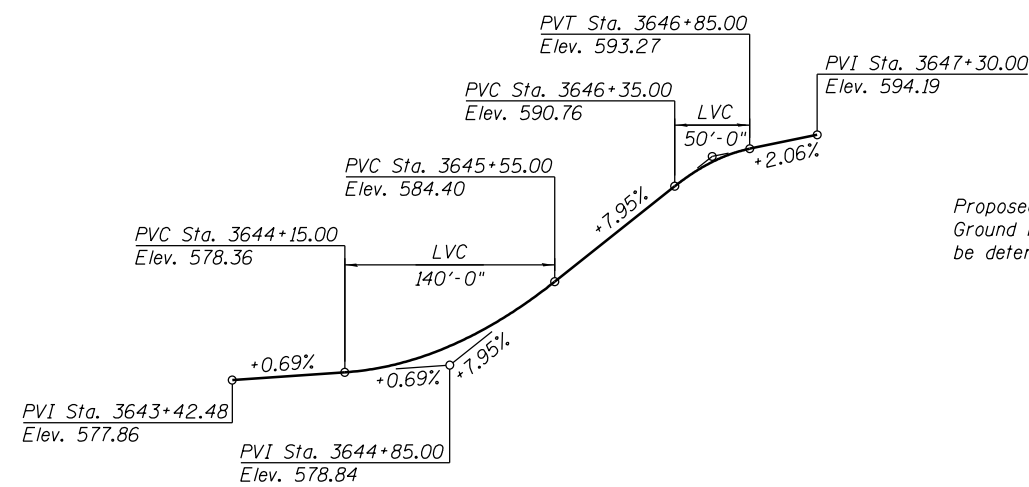
1. The Contractor shall exercise extreme caution during construction to make certain that construction activities and other loads applied to the structures will not have detrimental effects on the adjacent buildings and retaining wall foundations. See special provision for Construction Vibration Monitoring.
2. The Contractor shall verify location of all existing utilities and structures and shall take all necessary precautions to perform the work in such a manner as to not damage existing utilities or structures, located near or beneath the noise abatement walls. Any damage to existing utilities or structures shall be repaired at no cost to IDOT.
3. Construction of Noise Abatement Wall and foundations shall be coordinated with construction of Retaining Wall 6 (S.N. 016-1725).
4. Contractor shall follow requirements of Special Provision "Performance Based Noise Abatement Wall, Precast Concrete" for material, design, fabrication, construction and erection requirements of the proposed Noise Abatement Wall.
5. See Utilities and Drainage sheets for information related to removals of existing structures and location of proposed drainage and utilities.
6. The proposed Noise Abatement Wall, Ground Mounted foundations are to be determined by the Contractor. Contractor shall verify location of existing abandoned CTA Water Tunnel previously filled with CLSM and design the Noise Abatement Foundations to avoid the existing tunnel. If the Contractor elects to use drilled shaft foundations that are to be drilled thru the existing abandoned CTA Water Tunnel, equipment, labor and material required to drill thru the item shall not be measured separately and shall be included in the Noise Abatement Wall, Ground Mounted pay item. In addition, if the shafts are to be drilled through the existing abandoned CTA Water Tunnel, permanent casing may be required for the entire length of the shaft and will not be measured separately and shall be included in the Noise Abatement Wall, Ground Mounted pay item. See Special Provision for Noise Abatement Wall, Ground Mounted.

**TOTAL BILL OF MATERIAL**

DESCRIPTION	UNIT	TOTAL
NOISE ABATEMENT WALL, GROUND MOUNTED	SQ.FT.	470

**INDEX OF SHEETS:**

SDET01	General Plan and Elevation
SDET02	Total Bill of Material, Index of Sheets & General Notes
SDET03	Architectural Details
SDET04	Boring Logs - I
SDET05	Boring Logs - II
SDET06	Boring Logs - III



0161725-60X61-S02-NW-GenNote



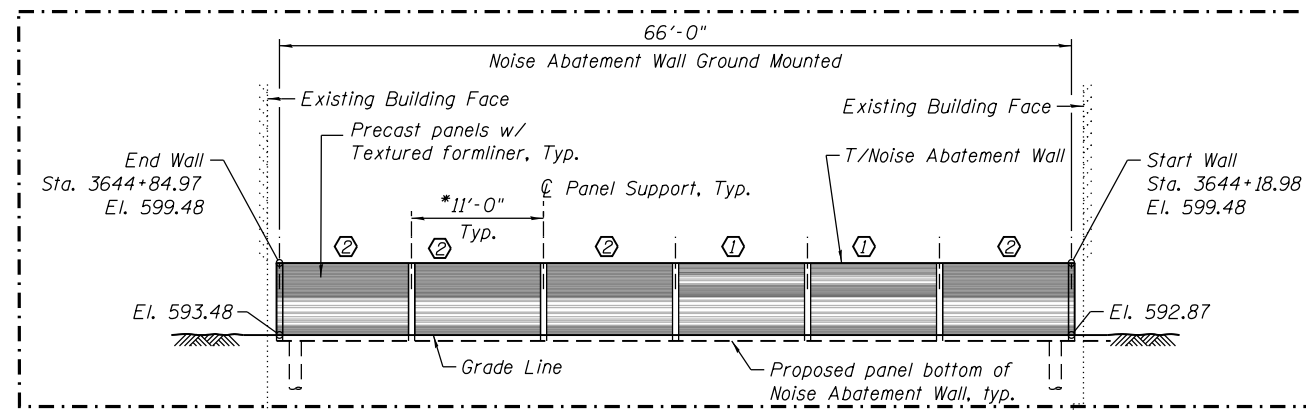
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		CHECKED -	ATB	REVISED
PLOT SCALE =	N.T.S.	DRAWN -	MRK	REVISED
PLOT DATE =	12/1/2014	CHECKED -	EJO	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOTAL BILL OF MATERIAL, INDEX OF SHEETS & GENERAL NOTES  
NOISE ABATEMENT WALL**

SHEET NO. SDET02 OF SDET06 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	193
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT -NUMBER-				



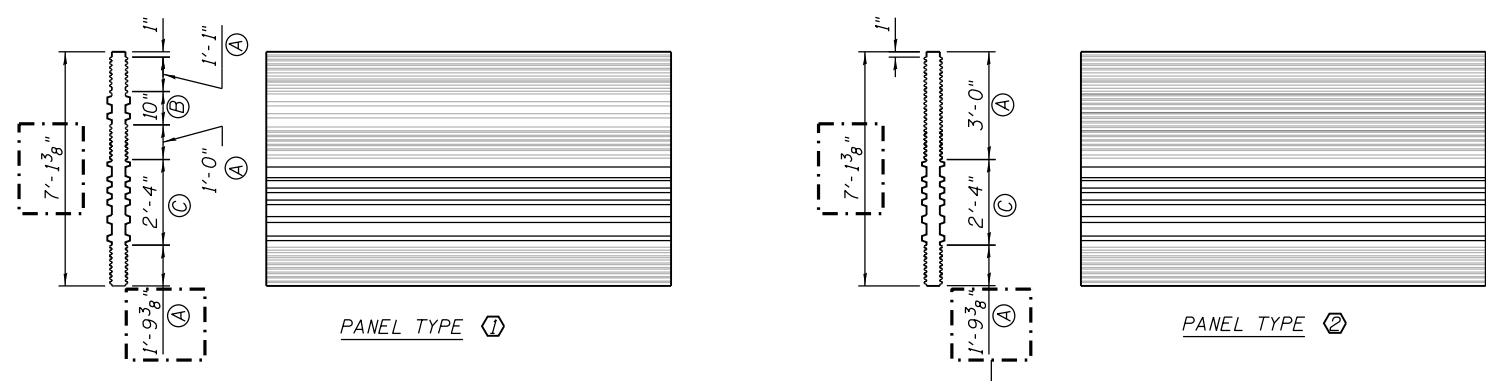
**ELEVATION**

(Looking North)  
(Looking South - Similar - Opp. Hand)

\* Suggested post spacing.  
Noise Abatement Wall manufacturer to determine final post spacing.

**NOTES:**

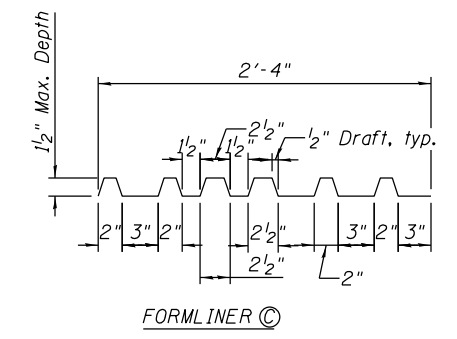
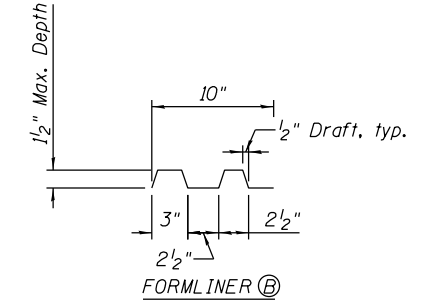
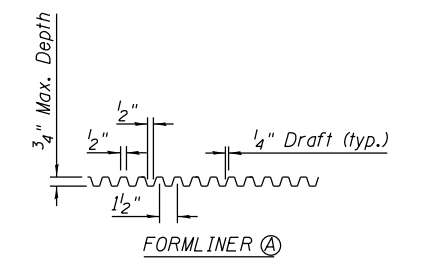
1. Textured formliner for precast panels will not be paid separately and will be included in the cost of the pay item "Noise Abatement Wall, Ground Mounted"
2. Verify all dimensions with structural drawings.



**PRECAST PANEL TYPE DETAILS**

**LEGEND:**

- ① ② Precast Panel Type Designation Based on Formliner Layout
- Ⓐ Ⓑ Ⓒ Formliner Type Designation



**FORMLINER DETAILS**

0161725-60X61-S03-NW-ARCH



USER NAME = kritzm	DESIGNED - EJO	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 12/1/2014	CHECKED - EJO	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ARCHITECTURAL DETAILS  
NOISE ABATEMENT WALL**

F.A.I. RTE. 290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 194
CONTRACT NO. 60X61			ILLINOIS FED. AID PROJECT -NUMBER-	

SHEET NO. SDET03 OF SDET06 SHEETS





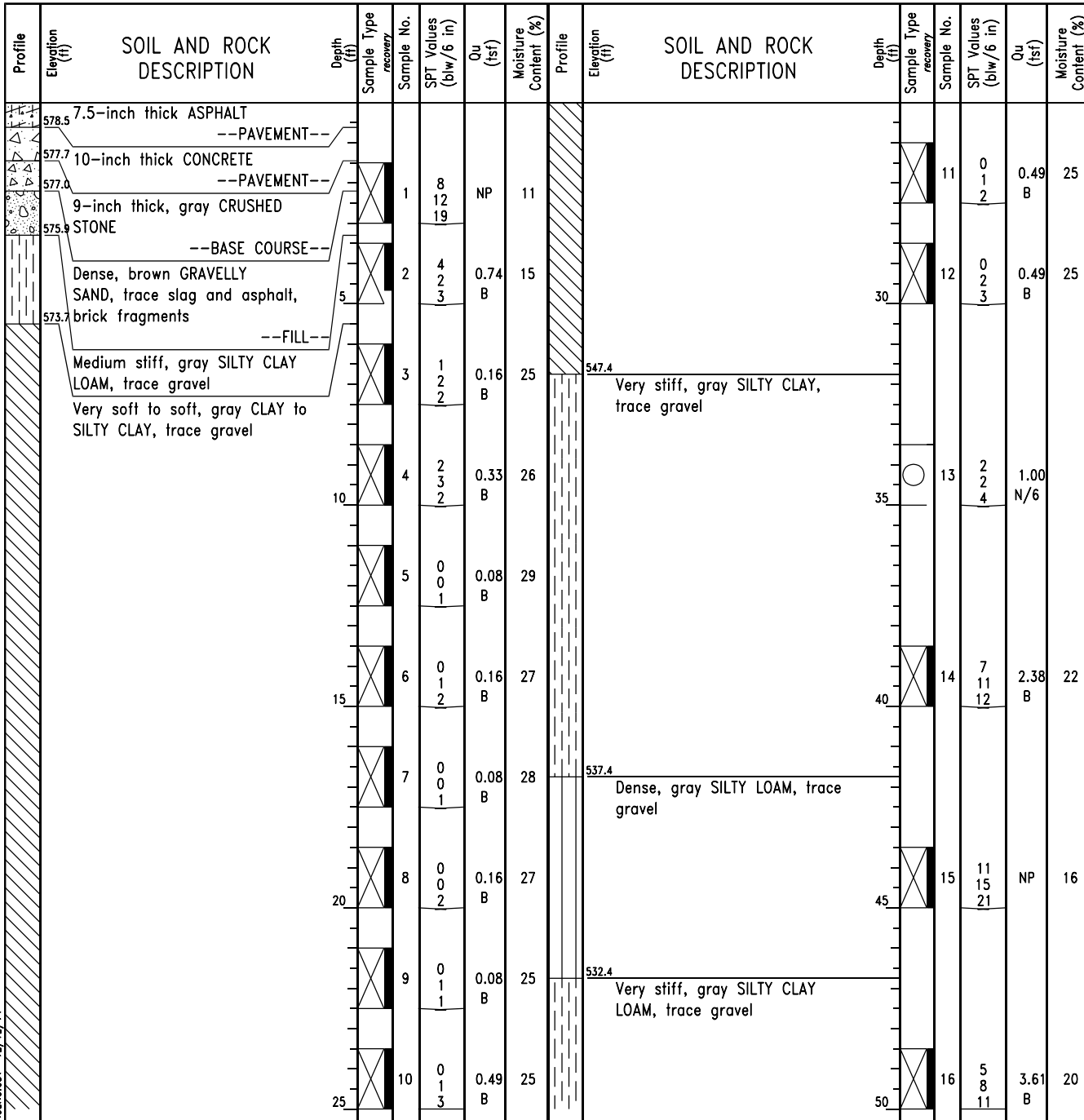
wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG 06-RWB-02**

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
 Elevation: 579.17 ft  
 North: 1898097.14 ft  
 East: 1170215.28 ft  
 Station: 3644+00.68  
 Offset: 14.27 LT



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	F. Bozga
Checked by	C. Marin	Depth to Water	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion		
While Drilling	Rotary wash	At Completion of Drilling	unable to measure
Time After Drilling	NA		



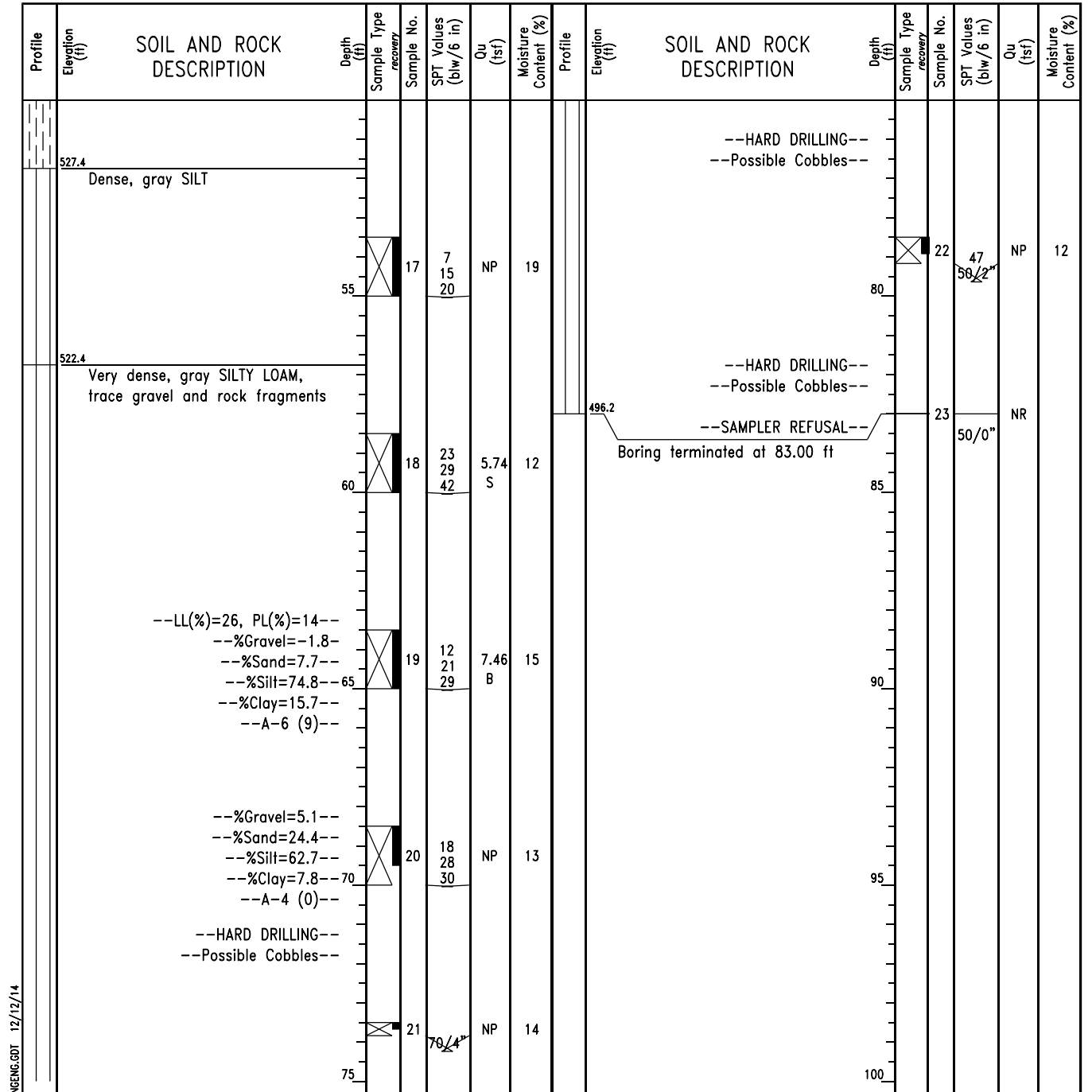
wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG 06-RWB-02**

WEI Job No.: 1100-04-01

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

Datum: NAVD 88  
 Elevation: 579.17 ft  
 North: 1898097.14 ft  
 East: 1170215.28 ft  
 Station: 3644+00.68  
 Offset: 14.27 LT



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	04-14-2013	Complete Drilling	04-15-2013
Drilling Contractor	Wang Testing Services	Drill Rig	CME-55 TMR
Driller	R&J	Logger	F. Bozga
Checked by	C. Marin	Depth to Water	NA
Drilling Method	2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion		
While Drilling	Rotary wash	At Completion of Drilling	unable to measure
Time After Drilling	NA		

0161725-60X61-S05-NW-Bor-Log-2



USER NAME =	kr1tzm	DESIGNED -	EJO	REVISED
		CHECKED -	ATB	REVISED
PLOT SCALE =	N.T.S.	DRAWN -	MRK	REVISED
PLOT DATE =	12/1/2014	CHECKED -	EJO	REVISED

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS II  
 NOISE ABATEMENT WALL**

SHEET NO. SDET05 OF SDET06 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
290	2013-077R	COOK	317	196
CONTRACT NO. 60X61				
ILLINOIS FED. AID PROJECT -NUMBER-				



BORING LOG 06-RWB-03

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: 586.59 ft
North: 1898100.64 ft
East: 1170077.33 ft
Station: 3645+38.58
Offset: 8.968 LT

Table with columns: Profile Elevation (ft), SOIL AND ROCK DESCRIPTION, Depth (ft), Sample Type, Sample No., SPT Values (blw/6 in), Qu (tsf), Moisture Content (%), Profile Elevation (ft), SOIL AND ROCK DESCRIPTION, Depth (ft), Sample Type, Sample No., SPT Values (blw/6 in), Qu (tsf), Moisture Content (%). Includes soil descriptions like ASPHALT, CONCRETE, CRUSHED STONE, SILTY LOAM, and SILTY CLAY.

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling 04-15-2013 Complete Drilling 04-16-2013
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR
Driller R&N Logger A. Happel Checked by C. Marin
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

While Drilling Rotary wash
At Completion of Drilling unable to measure
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 06-RWB-03

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: 586.59 ft
North: 1898100.64 ft
East: 1170077.33 ft
Station: 3645+38.58
Offset: 8.968 LT

Table with columns: Profile Elevation (ft), SOIL AND ROCK DESCRIPTION, Depth (ft), Sample Type, Sample No., SPT Values (blw/6 in), Qu (tsf), Moisture Content (%), Profile Elevation (ft), SOIL AND ROCK DESCRIPTION, Depth (ft), Sample Type, Sample No., SPT Values (blw/6 in), Qu (tsf), Moisture Content (%). Includes soil descriptions like SILTY LOAM and SILTY CLAY LOAM.

GENERAL NOTES

WATER LEVEL DATA

Begin Drilling 04-15-2013 Complete Drilling 04-16-2013
Drilling Contractor Wang Testing Services Drill Rig D-50 TMR
Driller R&N Logger A. Happel Checked by C. Marin
Drilling Method 2.25" SSA to 10', mud rotary thereafter, boring backfilled upon completion

While Drilling Rotary wash
At Completion of Drilling unable to measure
Time After Drilling NA
Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

0161725-60X61-S06-NW-Boring-3



Table with columns: USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISED, DRAWN, CHECKED.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BORING LOGS III NOISE ABATEMENT WALL

SHEET NO. SD206 OF SD206 SHEETS

Table with columns: F.A.I. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO. 60X61, ILLINOIS FED. AID PROJECT NUMBER.




**TOTAL BILL OF MATERIAL**

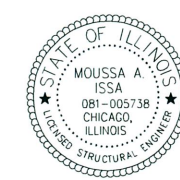
ITEM	UNIT	TOTAL
Removal of Existing Structures No. 2	EACH	1
Temporary Soil Retention System	SO FT	381

**NOTES:**

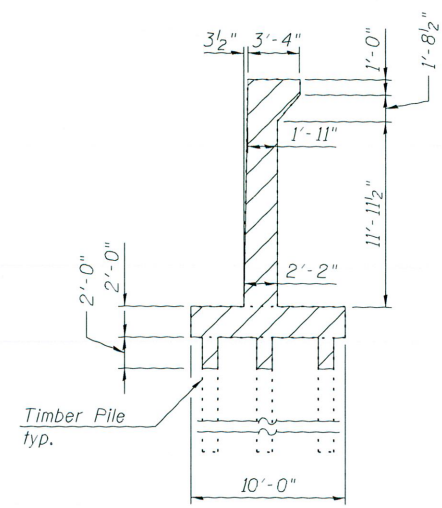
- Dimensions shown have been taken from historical design drawings and may not represent "as built" conditions. The Contractor must verify all dimensions in the field. Variation in the field dimensions shall not warrant additional compensation for Removal of Existing Structures No. 2.
- The Contractor 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 the time of design.
- Any portions of original existing abutment piers interfering with new construction shall be removed to a minimum depth of 1' below proposed structural/roadway/drainage items. Cost shall be included with Removal of Existing Structures No. 2.
- The Contractor shall exercise extreme caution during existing abutment removal to make certain that removal activities and loads will not have detrimental effects on the existing 24"φ water main near Sta. 5233+71.66 and other utilities. See Special Provision for Construction Vibration Monitoring.
- The Contractor shall provide vibration and displacement monitoring at the locations specified in the Special Provision for Construction Vibration Monitoring, to ensure that removal activities in the vicinity of the structures do not have detrimental effects on building foundations. No additional compensation shall be provided to the Contractor for alternative means and methods, or additional precautionary measures, required during removal activities to satisfy these requirements. See Contract Special Provisions for details.
- The Contractor shall exercise extreme caution during removal of original existing Morgan Street Bridge (SN 016-2113) North Abutment and portions of Contract 60W25 Braced Excavation elements to ensure that removal activities do not have detrimental effects on the Morgan Street Bridge (SN 016-1709) (Superstructure, Pier 2, North Abutment, etc.) and the partial section of Retaining Wall #5 (SN 016-1724) previously built. Details of the Morgan Street Bridge structure, including superstructure elements that may inhibit working space for removal activities, may be obtained by the Contractor through written request to the Illinois Department of Transportation (IDOT) District 1 Office. Any damage to the Morgan Street Bridge (SN 016-1709) or the partial section of Retaining Wall #5 (SN 016-1724) caused by the Contractor in the performance of work shall be repaired to the satisfaction of the Engineer at no cost to the Department.
- See Section J on Sheet EXS1-11 for additional details.

**LEGEND**

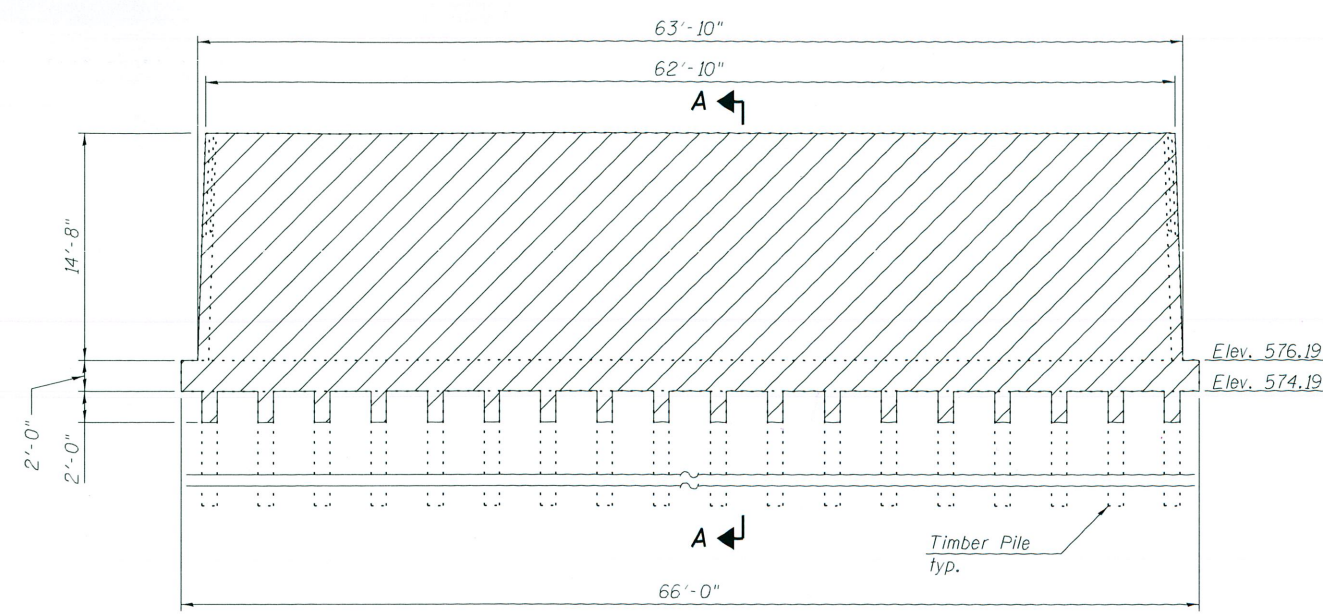
-  Removal of Existing Structures No. 2
-  Temporary Soil Retention System
-  Removal of Existing steel piles and lagging. Cost included with Removal of Existing Structures No. 2.



Signed Moussa A. Issa  
 Moussa A. Issa, HBM II. Lic. No. 081-005738  
 Expires 11-30-2016  
 Date 12/01/2014



**SECTION A-A - NORTH ABUTMENT**



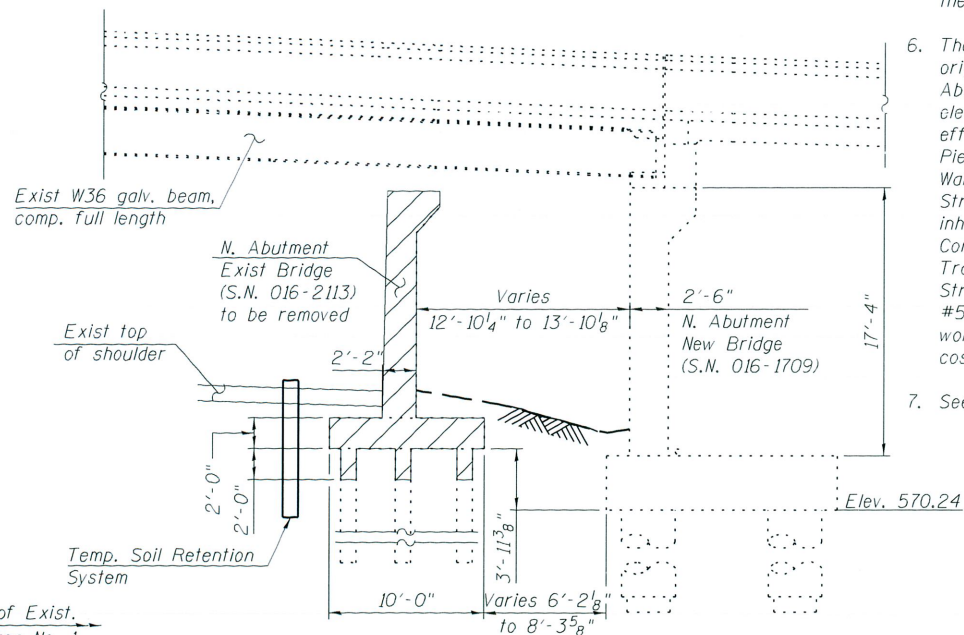
**ELEVATION - NORTH ABUTMENT REMOVAL**

(Looking North)

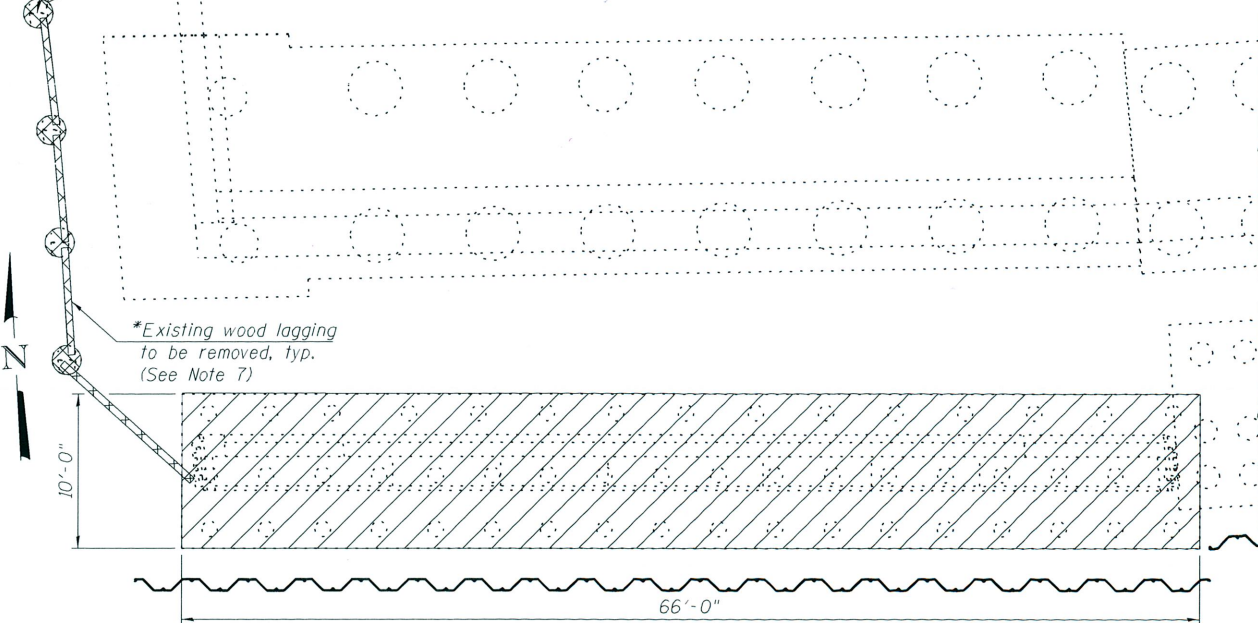
\*Existing top portion of Braced Excavation constructed in contract 60W25 interfering with new construction shall be removed to a depth of 2' below new construction, final grade, or bottom of subbase layer below mainline pavement. Cost included with Removal of Existing Structures No. 2.

\*Existing steel pile to be removed, typ. (See Note 7)

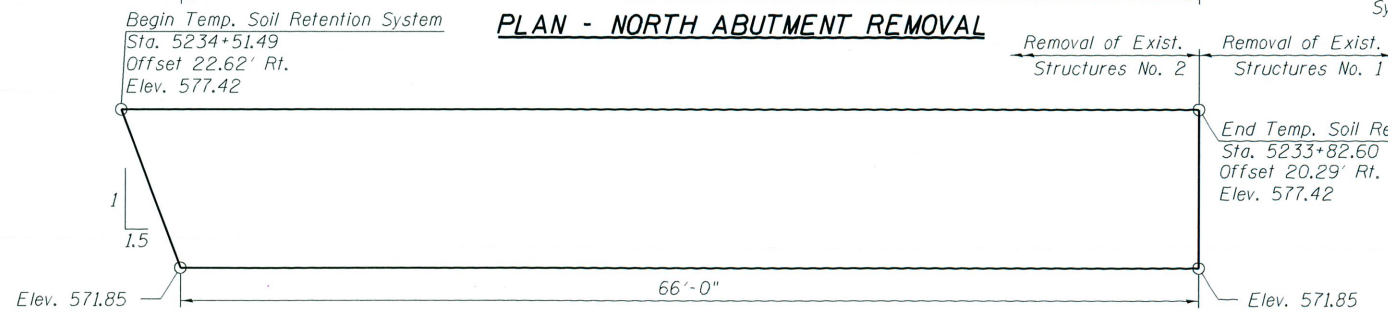
\*Existing wood lagging to be removed, typ. (See Note 7)



**END ELEVATION - NORTH ABUTMENT REMOVAL**



**PLAN - NORTH ABUTMENT REMOVAL**



**TEMPORARY SOIL RETENTION SYSTEM**

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**HBM**  
 ENGINEERING GROUP, LLC  
 CONSULTING & DESIGN  
 INSPECTION & TESTING  
 RESEARCH & TESTING

4415 WEST HARRISON ST.  
 SUITE 231  
 HILLSIDE, IL 60162  
 PHONE: (708) 236-0900  
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DESIGNED - KJD	REVISED -
DRAWN - KJD	REVISED -
CHECKED - MI. JJS	REVISED -
DATE - 10/17/2014	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING MORGAN ST. BRIDGE (S.N. 016-2113) N. ABUTMENT REMOVAL  
 EXISTING MORGAN ST. BRIDGE (STRUCTURE NO. 016-2113)**

F.A.I. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 198
SHEET S3-1 OF S3-1 SHEETS			CONTRACT NO. 60X61	
ILLINOIS FED. AID PROJECT				

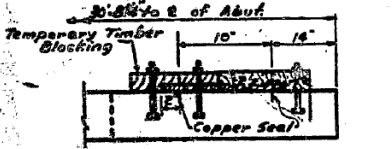
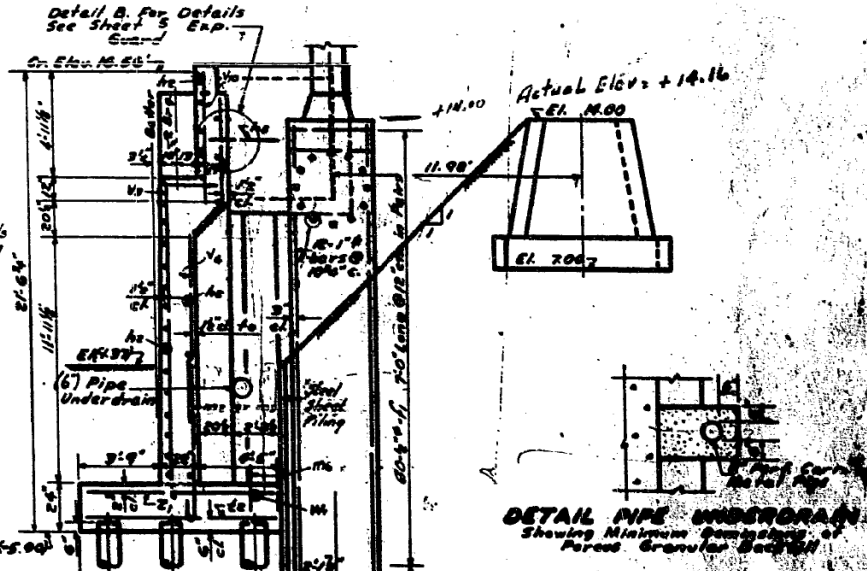
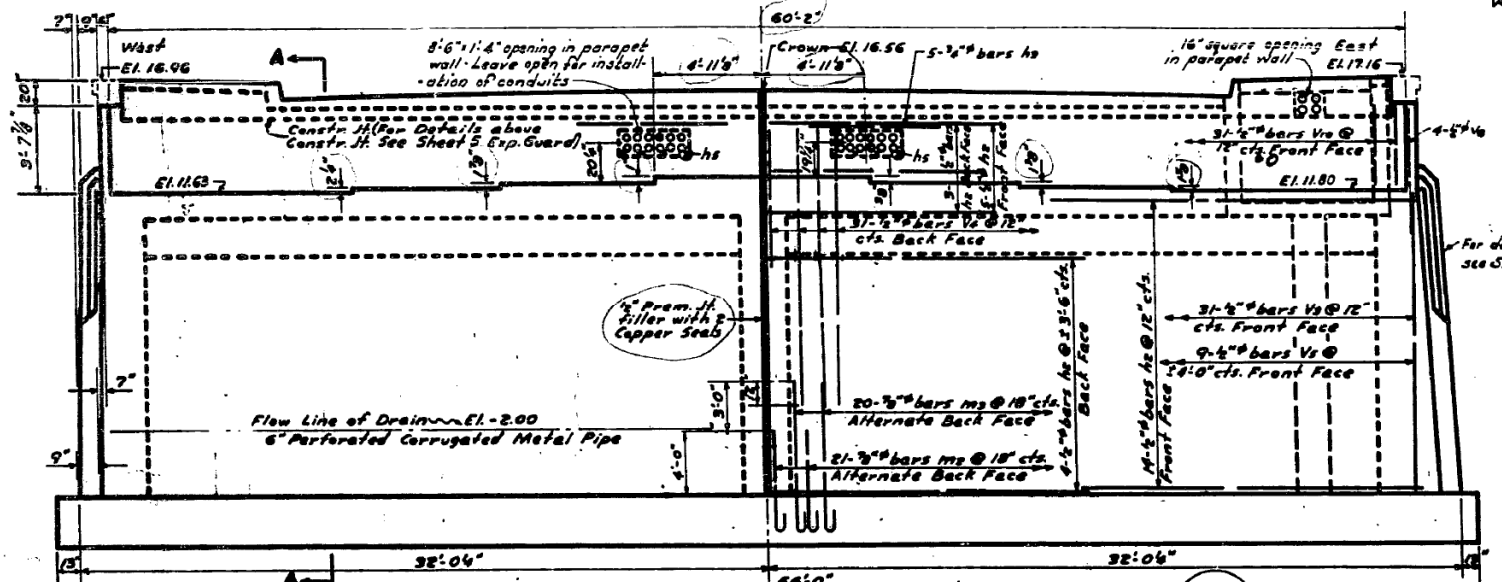
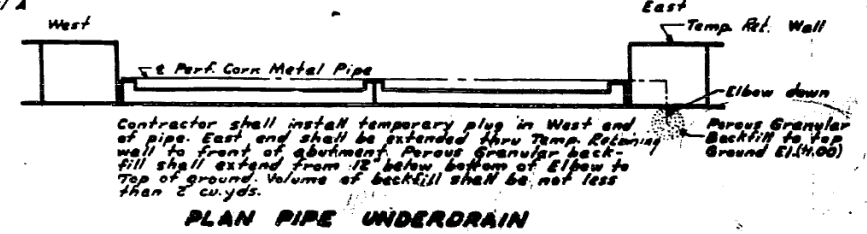
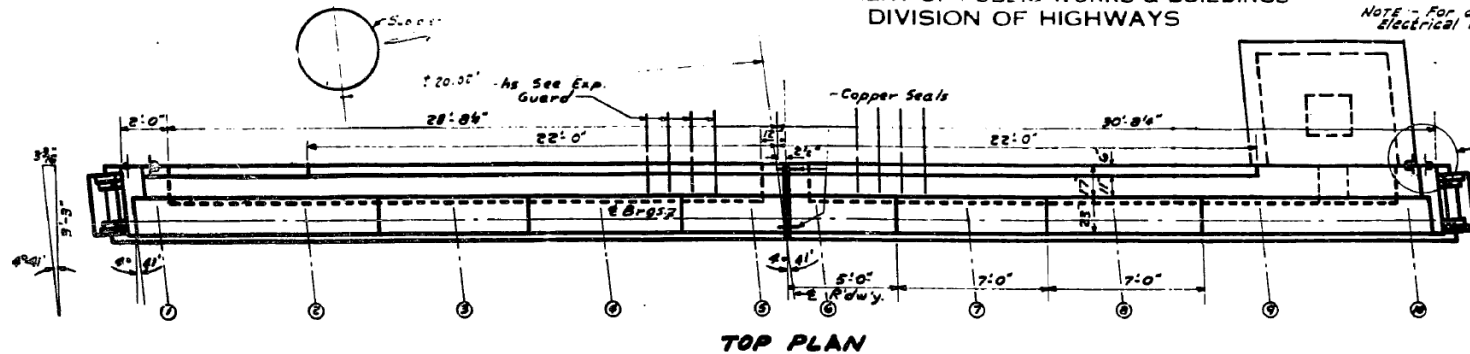




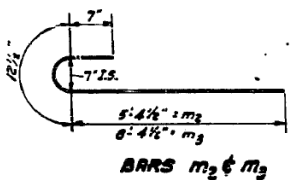
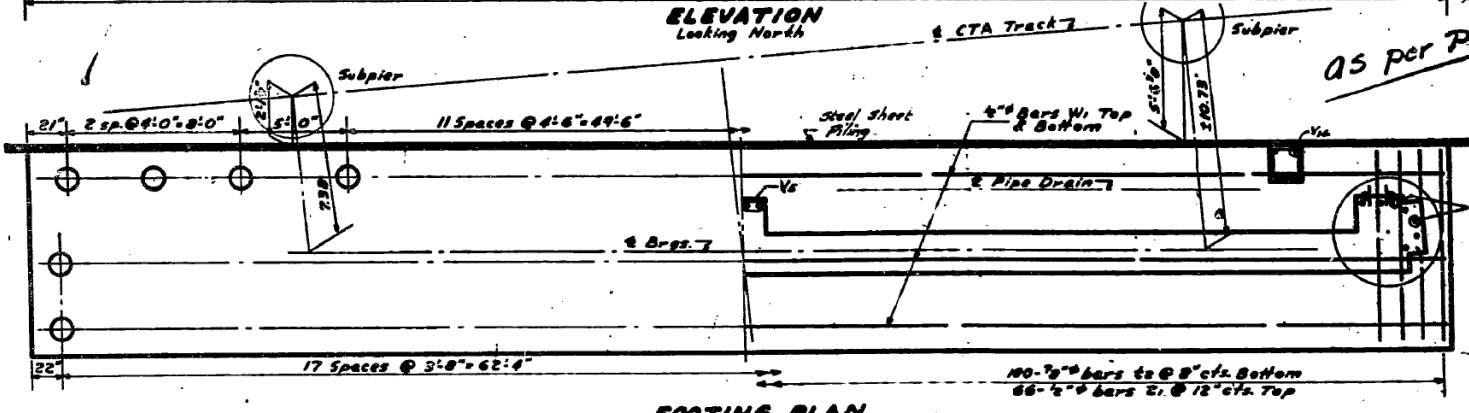
STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

FA	131	COOK	17	9	14 SHEETS
SHEET NO. 9					14 SHEETS

NOTE - For details & reinforcing of Electrical Manholes see sheets 13-14



NOTE: Temporary Timber blocking shall be sound timber of any size that will completely cover Copper Seal as shown. Built to Concrete. Cost to be included in unit price for Glass & Concrete. Copper Seal shall be placed vertically from top of footing to 12" below side walk elevation. See Sht. 9 for details of copper seal.



**PILING DATA**  
Treated Timber piles, Est. Length 40', 51 Required, Capacity 20 Tons. Note the piles in the back row may be battered where the CTA structure interferes with driving. When the piles in the back row are battered, the opposite piles in the front row shall be battered a corresponding amount in the opposite direction.



**BILL OF MATERIAL - 2 SUBPIERS**

Bar No.	Size	Length	Shape
F	1"Ø	8'-0"	○
G	1/2"Ø	7'-0"	○
Sub Pier	Cu. Ft.	1550	
Reinf.	Lbs.	4690	

**NORTH ABUTMENT BILL OF MATERIAL**

Bar No.	Size	Length	Shape
101	1/2"Ø	11'-0"	○
102	1/2"Ø	11'-0"	○
103	1/2"Ø	11'-0"	○
104	1/2"Ø	11'-0"	○
105	1/2"Ø	11'-0"	○
106	1/2"Ø	11'-0"	○
107	1/2"Ø	11'-0"	○
108	1/2"Ø	11'-0"	○
109	1/2"Ø	11'-0"	○
110	1/2"Ø	11'-0"	○
111	1/2"Ø	11'-0"	○
112	1/2"Ø	11'-0"	○
113	1/2"Ø	11'-0"	○
114	1/2"Ø	11'-0"	○
115	1/2"Ø	11'-0"	○
116	1/2"Ø	11'-0"	○
117	1/2"Ø	11'-0"	○
118	1/2"Ø	11'-0"	○
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124	1/2"Ø	11'-0"	○
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198	1/2"Ø	11'-0"	○
199	1/2"Ø	11'-0"	○
200	1/2"Ø	11'-0"	○

**NORTH ABUTMENT MORGAN STREET BRIDGE WEST ROUTE EXPRESSWAY PROJECT UZ 861(4) K.A. ROUTE 151 SEC. 1-821-R2 COOK COUNTY**

DESIGNED: *[Signature]*  
CHECKED: *[Signature]*  
DRAWN: *[Signature]*  
CHECKED: *[Signature]*

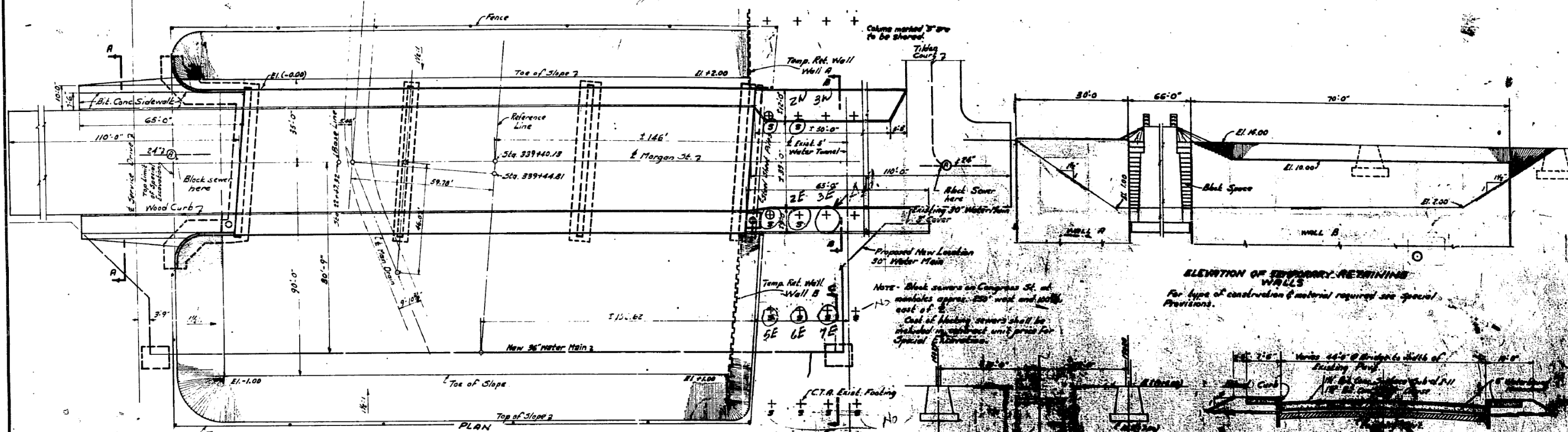
EXAMINED: \_\_\_\_\_  
PASSED: \_\_\_\_\_  
APPROVED: \_\_\_\_\_

For Details Above Const. Jt. & Detail B See Sheet 5 Exp. Guard and Sheet 2 X Section. For Details around conduits See Sheet 5 Exp. Guard

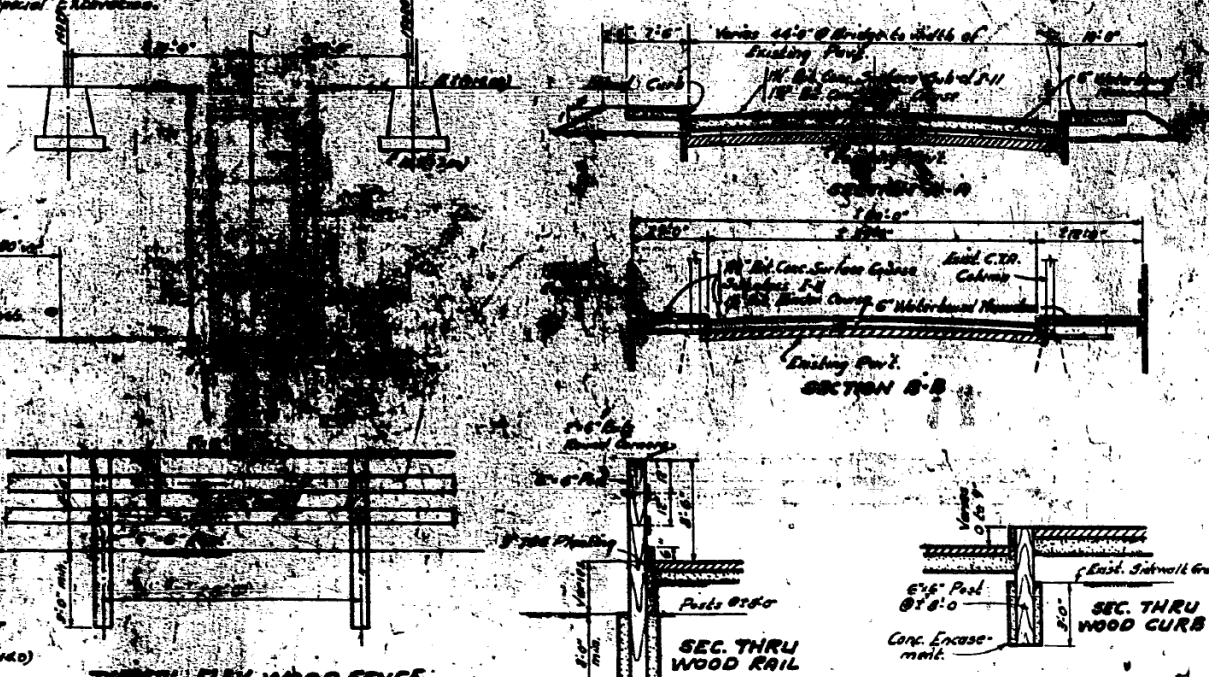
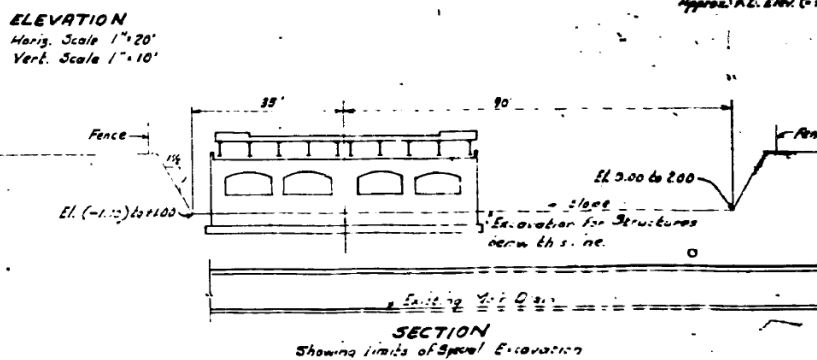
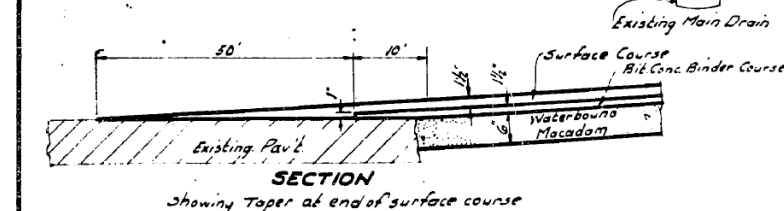
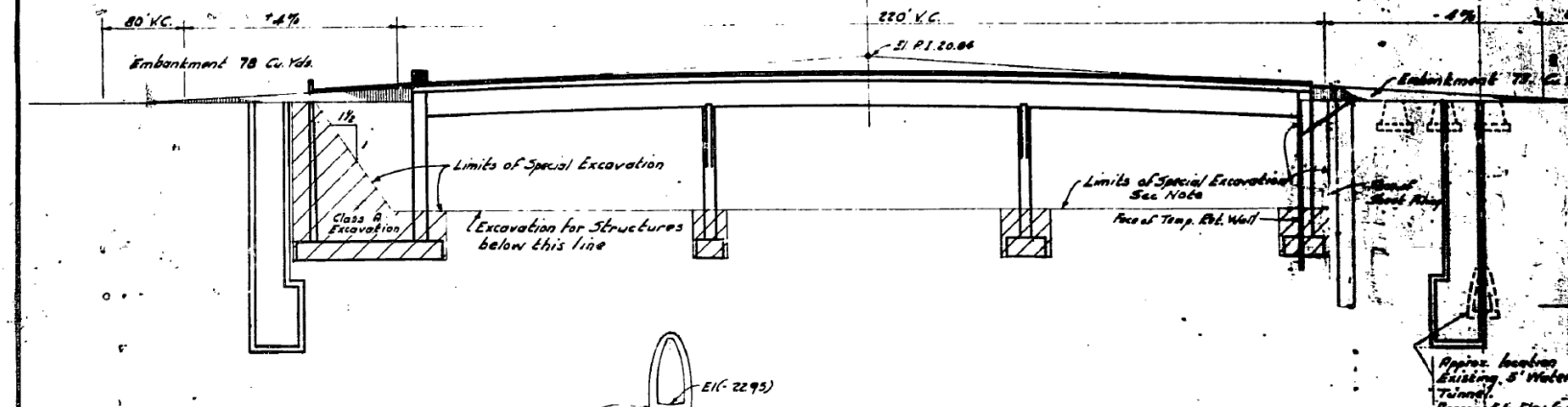
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STATE OF ILLINOIS  
DEPARTMENT OF PUBLIC WORKS & BUILDINGS  
DIVISION OF HIGHWAYS

SHEET NO. 11		TOTAL SHEETS 14	
DATE	SECTION	COUNTY	SHEET NO.
1-31-2	1-2-2	COOK	17
1-31-2	1-2-2		18



ELEVATION OF TEMPORARY RETAINING WALLS  
For type of construction & material required see special provisions.



BILL OF MATERIAL	MISC. QUANTITIES
Special Excavation	Cu.Yds. 17000
Temporary Retaining Walls	Lump Sum
Bit. Concrete Surface Course Sub Class F-11	Tons 113
Bit. Concrete Binder Course	Tons 113
Bit. Materials Applied	Gals. 335
Waterbound Macadam Base Course	Sq.Yds. 702
Manholes to be Adjusted	Each 2
Misc. Timber	R.S.M. 1000'

APPROACH RAMP, TEMPORARY RETAINING WALLS & SPECIAL EXCAVATION MORGAN ST. BRIDGE WEST ROUTE EXPRESSWAY PROJECT UT 261(41) F.A.R.T.E. 131 SEC. 1-22 1-22 COOK CO.

DESIGNED: *[Signature]*  
CHECKED: *[Signature]*  
DRAWN: *[Signature]*  
CHECKED: *[Signature]*

EXAMINED: *[Signature]*  
PASSED: *[Signature]*  
APPROVED: *[Signature]*

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**HBM**  
ENGINEERING GROUP, LLC  
CONSULTING & DESIGN  
INSPECTION & TESTING  
RESEARCH & TESTING

0161724-60X61-5302B-ExistPlan3  
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PLOT DATE = 12/17/2014

DESIGNED - KJD  
DRAWN - KJD  
CHECKED - JJS  
DATE - 10/17/2014

REVISED -  
REVISED -  
REVISED -  
REVISED -

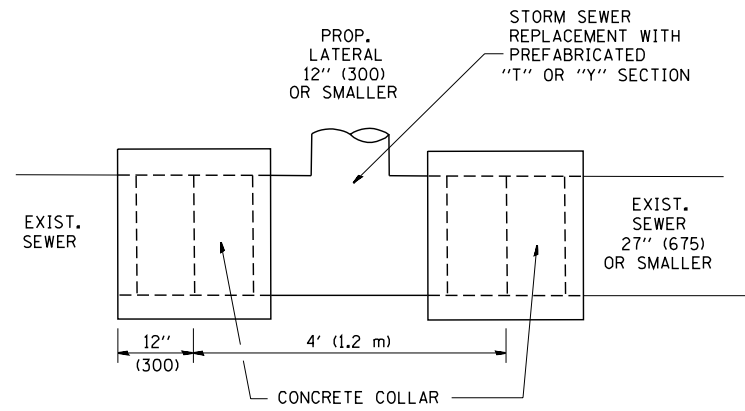
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS III  
EXISTING MORGAN ST. BRIDGE (STRUCTURE NO. 016-2113)

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-07TR	COOK	317	199
CONTRACT NO. 60X61				

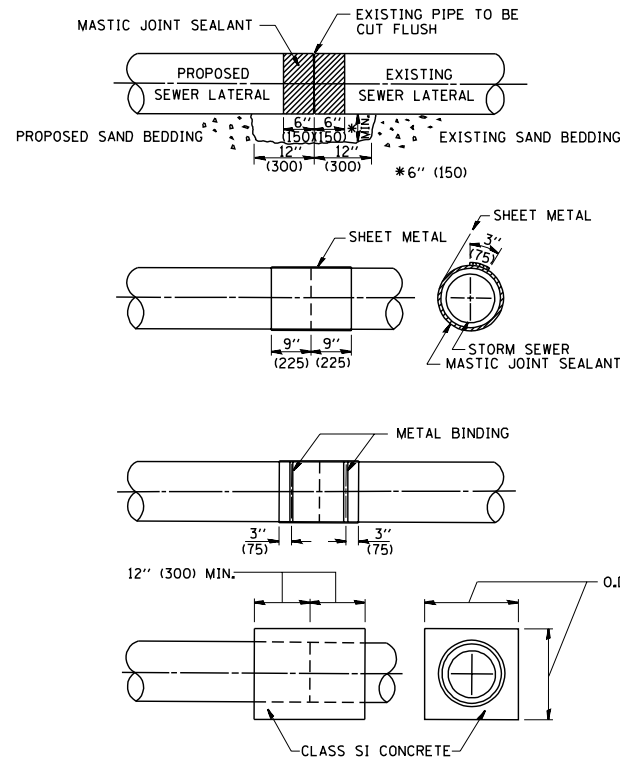
SHEET EXS1-3 OF EXS1-3SHEETS

ILLINOIS FED. AID PROJECT



**DETAIL "A"**

LATERAL CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER

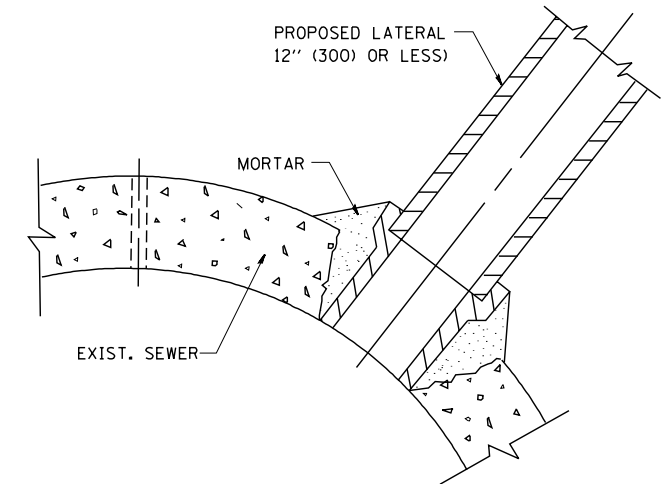


**DETAIL "B"**

CLASS SI CONCRETE COLLAR

**CONSTRUCTION SEQUENCE**

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12" x 6" (300 x 150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" (75) LONG.
5. WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
9. PLACE CLASS SI CONCRETE AROUND THE JOINT.



**DETAIL "C"**

PROPOSED LATERAL CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER

**NOTES**

**MATERIAL**

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

**CONSTRUCTION METHODS**

- THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS:
  - PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
  - PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

**GENERAL**

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

**BASIS OF PAYMENT**

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS. THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REQUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED STORM SEWER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\bd07.dgn	USER NAME = gaglanobt	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
		DRAWN -	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 50.000' / IN.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 1/4/2008	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DETAIL OF STORM SEWER  
CONNECTION TO EXISTING SEWER**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A. RTE. 90/94/290	SECTION 2013-077R	COUNTY COOK	TOTAL SHEETS 317	SHEET NO. 200
BD500-01 (BD-7)			CONTRACT NO. 60X61	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				