

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A. RATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	48[30B]BR	KNOX	30	1
ILLINOIS		CONTRACT NO. 68D41		

INDEX OF SHEETS

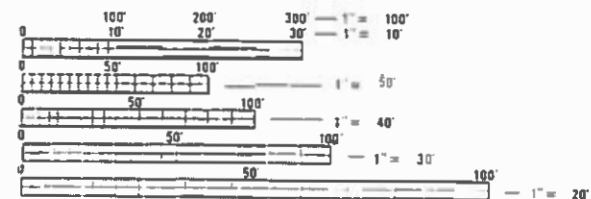
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2. GENERAL & JOB SPECIFIC NOTES
3. STATUS OF UTILITIES & HMA MIXTURE REQUIREMENTS
- 4-9. SUMMARY OF QUANTITIES
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HIGHWAY STANDARDS

001001-02	701428-01
280001-07	701901-08
420401-13	704001-08
442101-09	725001-01
515001-04	780001-05
606001-07	781001-04
630001-12	782006-01
630301-09	814001-03
631011-10	
631031-16	
642001-02	
701400-09	
701402-12	
701406-12	
701426-09	

ROUTE 116 DESIGN DESIGNATION

INTERSTATE  
CLASS I TRUCK ROUTE  
ADT=16200(2019)  
MU=25.62%  
SU=4.78%



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

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS  
1-800-892-0123  
OR 811

PROJECT ENGINEER RICH DOTSON (309-671-3455)  
PROJECT MANAGER RON NOLTE (309-671-3470)  
CATALOG NO. 033103-01D  
CONTRACT NO. 68D41

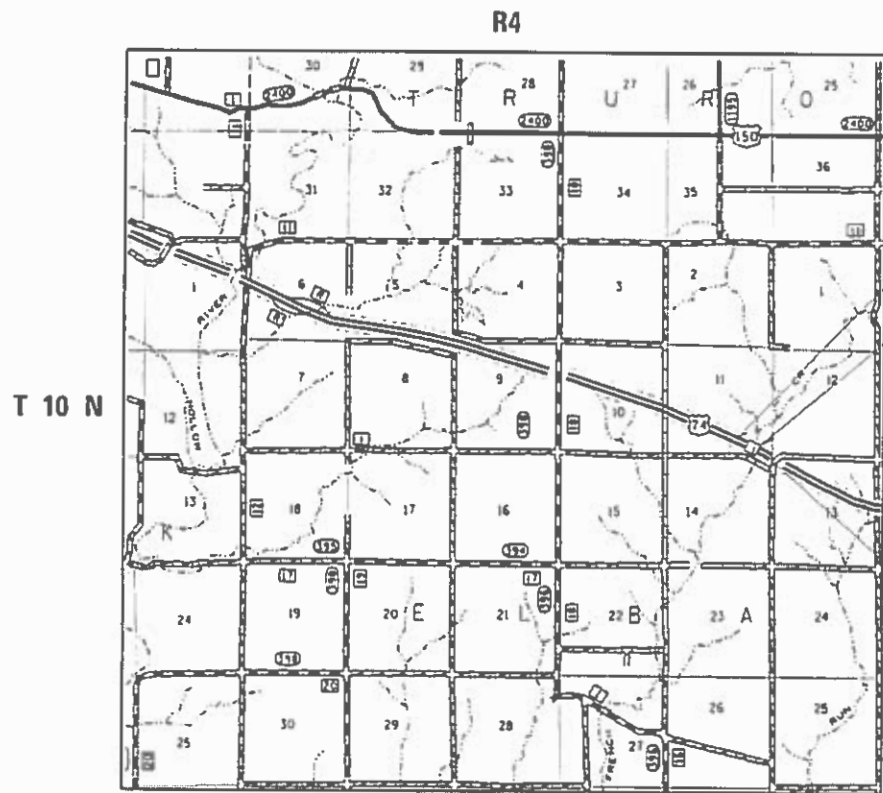
PROPOSED  
HIGHWAY PLANS

F.A.I. ROUTE 74 (INTERSTATE 74)  
SECTION 48[30B]BR  
PROJECT: NHPP-NJ6S(279)  
INTERSTATE BRIDGE REPLACEMENT  
KNOX COUNTY  
C-94-017-17

D-94-007-17



DESCRIPTION OF WORK  
This project is approximately 0.25 miles in length along Interstate 74. Improvements consist of the replacement of both structures (SN 048-0054/0055) carrying Interstate 74 over French Creek. Class B patching, variable depth milling, placement of hot-mix asphalt (HMA) binder and stone matrix asphalt (SMA) surface on milled surface, guardrail replacement, hot mix asphalt shoulders, placement of pavement markings along with raised reflective pavement markers, and other collateral work necessary to complete the project as shown in the plans and as described herein.



PROJECT BEGINS  
STA. 679+33.00 (EB)  
STA. 679+75.43 (WB)

BRIDGE REPLACEMENT  
STA. 683+83.00 (EB)  
STA. 684+08.19 (WB)

PROJECT ENDS  
STA. 692+55.57 (EB)  
STA. 692+98.00 (WB)

GROSS LENGTH = 1,322.57 FT. = 0.25 MILE (EB)  
= 1,322.57 FT. = 0.25 MILE (WB)  
NET LENGTH = 1,322.57 FT. = 0.25 MILE (EB)  
= 1,322.57 FT. = 0.25 MILE (WB)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED Jan 31 2020  
Kenzel A. Fairnall RSP  
REGIONAL ENGINEER

March 20 2020  
E.A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

March 20 2020  
Thomas J. ...  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION 13

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OF THE STATE OF ILLINOIS











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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				0010	0010	0010	0010
				ROADWAY	BRIDGE	BRIDGE	IDOT FIBER REL
				90% FEDERAL	90% FEDERAL	90% FEDERAL	90% FEDERAL
10% STATE	10% STATE	10% STATE	10% STATE				
				RURAL - KNOX	048-0106	048-0107	RURAL - KNOX
51201700	FURNISHING STEEL PILES HP 12 X 74	FOOT	560		280	280	
51202305	DRIVING PILES	FOOT	560		280	280	
51203700	TEST PILE STEEL HP 12 X 74	EACH	4		2	2	
51500100	NAME PLATES	EACH	2		1	1	
52200010	TEMPORARY SHEET PILING	SQ FT	1055		527.5	527.5	
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	424		212	212	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	206		103	103	
60600605	CONCRETE CURB, TYPE B	FOOT	60	60			
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	1366	1366			
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1			
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	5	5			
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4			
63200310	GUARDRAIL REMOVAL	FOOT	1715	1715			
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	4477	4477			

\*= SPECIALTY ITEM

USER NAME = *USER*	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 1:100	CHECKED -	REVISED -
PLOT DATE = 1/31/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	6
			CONTRACT NO. 68D41	
ILLINOIS FED. AID PROJECT				









GUARDRAIL ITEMS													
LOCATION						63000001	63100045	63100085	63100167	78200005	72501000	Z0001002	60600605
						STEEL PLATE BEAM GUARDRAIL, TY A, 6' POSTS	TRAFFIC BARRIER TERMINAL, TY 2	TRAFFIC BARRIER TERMINAL, TY 6	TRAFFIC BARRIER TERMINAL, TY 1 (SPECIAL) TANGENT	GUARDRAIL REFLECTORS, TY A	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL AGGREGATE EROSION CONTROL	CONCRETE CURB, TYPE B
						FT	EACH	EACH	EACH	EACH	EACH	TON	FT
WESTBOUND													
STA.	682+48.20	TO	STA.	683+47.59	RT	50	1	1		4.0		20.3	
STA.	684+80.58	TO	STA.	690+01.55	RT	400		1	1	6.0	1.0	102.8	15
STA.	684+69.86	TO	STA.	688+62.67	LT	271.87		1	1	5.0	1.0	75.7	15
EASTBOUND													
STA.	678+53.67	TO	STA.	683+21.39	LT	346.88		1	1	6.0	1.0	90.4	15
STA.	678+94.02	TO	STA.	683+10.63	RT	296.87		1	1	5.0	1.0	80.5	15
TOTAL						1366	1	5	4	26	4	370	60

GUARDRAIL REMOVAL - 63200310							
WESTBOUND							LENGTH
							FT
STA.	682+55.92	TO	STA.	683+44.21	RT		88.29
STA.	684+71.06	TO	STA.	688+54.91	LT		383.85
STA.	684+80.94	TO	STA.	689+66.70	RT		485.76
EASTBOUND							
STA.	679+26.28	TO	STA.	683+10.25	RT		383.97
STA.	679+47.43	TO	STA.	683+19.80	LT		372.37
TOTAL							1714

LOCATION				LENGTH	WIDTH	28000250	28000400	25100635
						TEMPORARY EROSION CONTROL SEEDING	PERIMETER EROSION BARRIER	HEAVY DUTY EROSION CONTROL BLANKET
				FT	FT	POUND	FOOT	SQ YD
EASTBOUND								
682+25.00	TO	683+25.00	LT	100.00	25	11	150	277.8
682+75.00	TO	683+25.00	RT	50.00	30	7		166.7
684+30.00	TO	684+80.00	RT	50.00	30	7	150	166.7
684+30.00	TO	685+30.00	LT	100.00	25	11		277.8
WESTBOUND								
682+50.00	TO	683+50.00	RT	100.00	25	11	150	277.8
683+00.00	TO	683+50.00	LT	50.00	30	7		166.7
684+50.00	TO	685+00.00	LT	50.00	30	7	150	166.7
684+50.00	TO	685+50.00	RT	100.00	25	11		277.8
TOTALS						73	600	1778

LOCATION					70400100	70400200	X7040125	70600251	70600370
					TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	PINNING TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW) TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW) TEST LEVEL 3
					FOOT	FOOT	EACH	EACH	EACH
WESTBOUND									
STA.	682+75.00	TO	STA.	689+98.31	725	725	108		
STA.	689+98.31	TO	STA.	693+31.02	337.5	312.5		1	1
EASTBOUND									
STA.	679+02.83	TO	STA.	681+81.19	287.5	287.5		1	1
STA.	681+81.19	TO	STA.	685+08.55	337.5	337.5	108		
TOTAL					1687.5	1662.5	216	2	2

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	DRAWN -	REVISED -
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PLOT DATE = 1/31/2020	DATE -	REVISED -

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

**SCHEDULE OF QUANTITIES**

SCALE: SHEET 2 OF 7 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	11
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

THERMOPLASTIC PAVEMENT MARKING										MODIFIED URETHANE				78100100	78300200	
LOCATION					78000200		X7830070	78000400	X7830074	78009004		X7830070	78009006	X7830074	RAISED REFLECTIVE PAVEMENT MARKERS 1-WAY CRYSTALS	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL EACH
					LINE 4"		GROOVING FOR RECESSED PAVT MARKING, 5"	LINE 6"	GROOVING FOR RECESSED PVT MKG 7"	LINE 4"		GROOVING FOR RECESSED PAVT MARKING, 5"	LINE 6"	GROOVING FOR RECESSED PVT MKG 7"		
					WHITE SOLID	YELLOW SOLID				WHITE SOLID	YELLOW SOLID					
					FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	
WESTBOUND																
STA.	680+69.46	TO	STA.	683+06.77	237.3	237.3	474.6	59.3	59.3						4	4
STA.	683+06.77	TO	STA.	685+10.98			408.4		51.1	204.2	204.2	408.4	51.1	51.1	4	4
STA.	685+10.98	TO	STA.	687+46.92	235.9	235.9	471.9	59.0	59.0						4	4
EASTBOUND																
STA.	680+44.28	TO	STA.	682+80.36	236.1	236.1	472.2	59.0	59.0						4	4
STA.	682+80.36	TO	STA.	684+84.71			408.7		51.1	204.4	204.4	408.7	51.1	51.1	4	4
STA.	684+84.71	TO	STA.	687+21.73	237.0	237.0	474.0	59.3	59.3						4	4
TOTAL					946.3	946.3	2709.8	236.6	338.7	408.6	408.6	817.1	102.1	102.1	24.0	24

LOCATION		70300100	70300150	X0327980	
		SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL - WATER BLASTING	
		4"WHITE			
		FOOT	SQ FT	SQ FT	
STAGE I					
STA.	678+99.85 TO 708+20.46	WB	5841.2	1946.9	346.3
STA.	659+70.63 TO 693+90.65	EB	6720.0	2239.8	346
STAGE II					
STA.	678+99.85 TO 708+20.46	WB	5841.2	1946.9	346.3
STA.	659+70.63 TO 693+90.65	EB	6720.0	2239.8	346
TOTAL			25122.5	8373.3	1385

LOCATION										TEMPORARY PAVEMENT MARKING TYPE I TAPE					
										70300220		70300240		X7030005	
										LINE 4"		LINE 6"		TEMPORARY PAVEMENT MRK REMOVAL	
		WHITE SOLID	YELLOW SOLID	WHITE SKIP-DASH											
		FT	FT	FT		FT									
WESTBOUND															
STA.	680+69.46	TO	STA.	683+06.77	237.3	237.3	59.3	533.9							
STA.	683+06.77	TO	STA.	685+10.98	204.2	204.2	51.1	459.5							
STA.	685+10.98	TO	STA.	687+46.92	235.9	235.9	59.0	530.9							
EASTBOUND															
STA.	680+44.28	TO	STA.	682+80.36	236.1	236.1	59.0	531.2							
STA.	682+80.36	TO	STA.	684+84.71	204.4	204.4	51.1	459.8							
STA.	684+84.71	TO	STA.	687+21.73	237.0	237.0	59.3	533.3							
TOTAL					1355	1355	339	3048.5							

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	DRAWN -	REVISED -
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PLOT DATE = 1/31/2020	DATE -	REVISED -

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

**3 SCHEDULE OF QUANTITIES**

SCALE: SHEET 3 OF 7 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	12
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				







LOCATION	LENGTH	WIDTH	AREA	AREA	4200080	44201048	X4401198	X4400196	48203100	64200116	40600295		31101000	Z0034105		
					PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	CLASS B PATCHES, TY IV, 16"	HMA SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL	HOT-MIX ASPHALT SHOULDERS	SHOULDER RUMBLE STRIPS, 16 INCH	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)		SUBBASE GRANULAR MATERIAL, TYPE B	MATERIAL TRANSFER DEVICE		
											MILLED SURFACE	FOG COAT				
FT	FT	SQ FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	TON	FOOT	POUND	POUND	TON	TON			
EASTBOUND																
STA	TO	STA														
682+22.28	TO	682+81.28	59.00	24.5	1445.50	160.61						115.6		36.0		
684+84.73	TO	688+01.93	317.20	24.5	7771.40	863.49						621.7		266.0		
681+51.25	TO	682+81.28	130.03	24.5	3185.73	353.97						139.2	115.6	39.6		
684+84.73	TO	691+23.82	639.09	24.5	15657.71	1739.75						630.9	621.7	194.9		
679+33.00	TO	682+81.28	348.28	24.5	8532.86	948.10						427.8	254.9	53.1		
684+84.73	TO	692+55.57	770.84	24.5	18885.58	2098.40						258.2	1252.6	117.5		
679+33.00	TO	682+81.28	348.28	24.5	8532.86	948.10							668.7	106.2		
684+84.73	TO	692+55.57	770.84	24.5	18885.58	2098.40							1480.0	235.0		
679+33.00	TO	680+13.00	80.00	40.0	3200.00	355.56										
682+01.28	TO	682+81.28	80.00	40.0	3200.00	355.56										
684+84.73	TO	685+64.73	80.00	40.0	3200.00	355.56										
691+75.57	TO	692+55.57	80.00	40.0	3200.00	355.56										
682+22.28	TO	682+32.28	10.00	40.0	400.00	44.44										
681+51.25	TO	681+61.25	10.00	40.0	400.00	44.44										
679+33.00	TO	679+43.00	10.00	40.0	400.00	44.44										
687+91.93	TO	688+01.93	10.00	40.0	400.00	44.44										
691+13.82	TO	691+23.82	10.00	40.0	400.00	44.44										
692+45.57	TO	692+55.57	10.00	40.0	400.00	44.44										
683+00.48	TO	683+30.48	30.00	40.0	1200.00	133.33								30.4		
684+35.53	TO	684+65.53	30.00	40.0	1200.00	133.33								30.4		
682+81.28	TO	683+00.48	19.20	40.0	768.00	85.33	85.3									
684+65.53	TO	684+84.73	19.20	40.0	768.00	85.33	85.3									
680+44.28	TO	680+56.28	12.00	40.0	480.00	53.33		53.3								
687+09.73	TO	687+21.73	12.00	40.0	480.00	53.33		53.3								
679+43.00	TO	682+81.28	338.28	40.0	13531.20	1503.47										
684+84.73	TO	692+45.57	760.84	40.0	30433.60	3381.51										
679+33.00	CL&O.S.	TO 682+81.28	CL&O.S. 348.28	0.5	174.14	19.35										
684+84.73	CL&O.S.	TO 692+55.57	CL&O.S. 770.84	0.5	385.42	42.82										
679+33.00	I.S.	TO 682+81.28	I.S. 348.28	6.0	2089.68	232.19										
679+33.00	O.S.	TO 682+81.28	O.S. 348.28	10.5	3656.94	406.33			65.0	348.3	104.8	62.4		65.0		
684+84.73	I.S.	TO 692+55.57	I.S. 770.84	6.0	4625.04	513.89			113.8	348.3	183.3	109.2		113.8		
684+84.73	O.S.	TO 692+55.57	O.S. 770.84	10.5	8093.82	899.31			143.9	770.8	217.7	152.3		143.9		
682+22.28	I.S.	TO 682+81.28	I.S. 59.00	6.0	354.00	39.33			251.8	770.8	381.1	266.4		251.8		
682+22.28	O.S.	TO 682+81.28	O.S. 59.00	10.5	619.50	68.83			8.8		28.3			8.8		
681+51.25	I.S.	TO 682+81.28	I.S. 130.03	6.0	780.18	86.69			15.4		49.6			15.4		
681+51.25	O.S.	TO 682+81.28	O.S. 130.03	10.5	1365.31	151.70			9.7		34.1	28.3		9.7		
684+84.73	I.S.	TO 688+01.93	I.S. 317.20	6.0	1903.20	211.47			17.0		59.7	49.6		17.0		
684+84.73	O.S.	TO 688+01.93	O.S. 317.20	10.5	3330.60	370.07			47.4		152.3			47.4		
684+84.73	I.S.	TO 691+23.82	I.S. 639.09	6.0	3834.54	426.06			82.9		266.4			82.9		
684+84.73	O.S.	TO 691+23.82	O.S. 639.09	10.5	6710.45	745.61			47.7		154.5	152.3		47.7		
679+33.00	TO	682+81.28	348.28	40.0	13931.20	1547.91			83.5		270.4	266.4		83.5		
684+84.73	TO	692+55.57	770.84	40.0	30833.60	3425.96										
SUB TOTALS:							170.7	106.7	4885.0	435.2	886.9	2238.2	4095.6	5480.5	60.8	1935.1

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PLOT SCALE = 1:100	DRAWN -	REVISED -
PLOT DATE = 1/31/2020	CHECKED -	REVISED -
	DATE -	REVISED -

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

<b>SCHEDULE OF QUANTITIES</b>			
SCALE:	SHEET 6	OF 7 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	15
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

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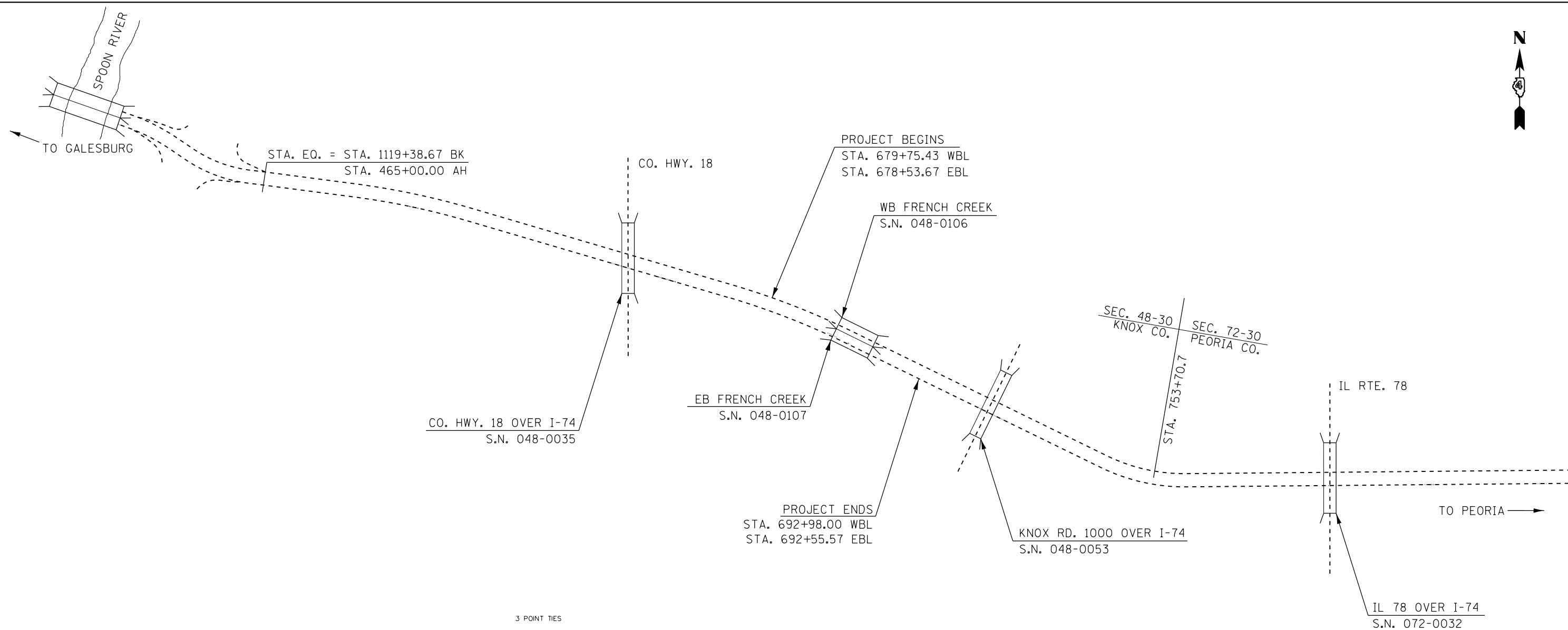
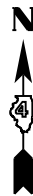
LOCATION	LENGTH	WIDTH	AREA	AREA	42000080	44201048	X4401198	X4400196	48203100	64200116	40600295		31101000	Z0034105
					PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	CLASS B PATCHES, TY IV, 16"	HMA SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE REMOVAL, SPECIAL	HOT-MIX ASPHALT SHOULDERS	SHOULDER RUMBLE STRIPS, 16 INCH	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)		SUBBASE GRANULAR MATERIAL, TYPE B	MATERIAL TRANSFER DEVICE
											MILLED SURFACE	FOG COAT		
					SQ YD	SQ YD	SQ YD	SQ YD	TON	FOOT	POUND	POUND	TON	TON
<b>WESTBOUND</b>														
682+37.36	TO	683+06.47	69.10	24.5	1693.07	188.12						135.4		42.1
685+09.92	TO	687+33.09	223.17	24.5	5467.66	607.52						437.4		187.1
681+87.70	TO	683+06.47	118.76	24.5	2909.74	323.30						97.3	135.4	36.2
685+09.92	TO	688+14.08	304.16	24.5	7451.92	827.99						158.7	437.4	92.7
679+75.43	TO	683+06.47	331.04	24.5	8110.48	901.16						416.1	232.8	50.5
685+09.92	TO	692+98.00	788.08	24.5	19307.96	2145.33						948.5	596.2	120.1
679+75.43	TO	683+06.47	331.04	24.5	8110.48	901.16							635.6	100.9
685+09.92	TO	692+98.00	788.08	24.5	19307.96	2145.33							1513.1	240.3
679+75.43	TO	680+55.43	80.00	40.0	3200.00	355.56								
682+26.47	TO	683+06.47	80.00	40.0	3200.00	355.56								
685+09.92	TO	685+89.92	80.00	40.0	3200.00	355.56								
692+18.00	TO	692+98.00	80.00	40.0	3200.00	355.56								
682+37.36	TO	682+47.36	10.00	40.0	400.00	44.44								
681+87.70	TO	681+97.70	10.00	40.0	400.00	44.44								
679+75.43	TO	679+85.43	10.00	40.0	400.00	44.44								
687+23.09	TO	687+33.09	10.00	40.0	400.00	44.44								
688+04.08	TO	688+14.08	10.00	40.0	400.00	44.44								
692+88.00	TO	692+98.00	10.00	40.0	400.00	44.44								
683+25.66	TO	683+55.66	30.00	40.0	1200.00	133.33								30.4
684+60.72	TO	684+90.72	30.00	40.0	1200.00	133.33								30.4
683+06.47	TO	683+25.66	19.20	40.0	767.80	85.31	85.3							
684+90.72	TO	685+09.92	19.20	40.0	768.00	85.33	85.3							
680+69.46	TO	680+81.46	12.00	40.0	480.00	53.33		53.3						
687+34.92	TO	687+46.92	12.00	40.0	480.00	53.33		53.3						
679+75.43	TO	683+06.47	331.04	40.0	13241.40	1471.27			1471.3					
685+09.92	TO	692+98.00	788.08	40.0	31523.20	3502.58			3502.6					
679+75.43	CL&O.S.	TO 683+06.47	CL&O.S.	331.04	0.5	165.52	18.39			128.7				
685+09.92	CL&O.S.	TO 692+98.00	CL&O.S.	788.08	0.5	394.04	43.78			306.5				
679+75.43	I.S.	TO 683+06.47	I.S.	331.04	6.0	1986.24	220.69				61.8	331.0	101.9	57.0
679+75.43	O.S.	TO 683+06.47	O.S.	331.04	10.5	3475.92	386.21				108.1	331.0	178.3	99.8
685+09.92	I.S.	TO 692+98.00	I.S.	788.08	6.0	4728.48	525.39				147.1	788.1	271.2	107.1
685+09.92	O.S.	TO 692+98.00	O.S.	788.08	10.5	8274.84	919.43				257.4	788.1	474.5	187.5
682+37.36	I.S.	TO 683+06.47	I.S.	69.11	6.0	414.66	46.07				10.3		33.2	10.3
682+37.36	O.S.	TO 683+06.47	O.S.	69.11	10.5	725.66	80.63				18.1		58.1	18.1
681+87.70	I.S.	TO 683+06.47	I.S.	118.77	6.0	712.62	79.18				8.9		23.8	33.2
681+87.70	O.S.	TO 683+06.47	O.S.	118.77	10.5	1247.09	138.57				15.5		41.7	58.1
685+09.92	I.S.	TO 687+33.09	I.S.	223.17	6.0	1339.02	148.78				33.3		107.1	33.3
685+09.92	O.S.	TO 687+33.09	O.S.	223.17	10.5	2343.28	260.36				58.3		187.5	58.3
685+09.92	I.S.	TO 688+14.08	I.S.	304.16	6.0	1824.96	202.77				22.7		38.9	107.1
685+09.92	O.S.	TO 688+14.08	O.S.	304.16	10.5	3193.68	354.85				39.7		68.0	187.5
679+75.43	TO	683+06.47	331.04	40.0	13241.60	1471.29								
685+09.92	TO	692+98.00	788.08	40.0	31523.20	3502.58								
<b>SUB TOTALS:</b>														
<b>TOTALS:</b>														
					170.6	106.7	4973.8	435.2	781.4	2238.2	3777.6	4387.7	60.8	1651.4
					341	213	9859	870	1668	4476	17741		121	3587

USER NAME = \$USERS	DESIGNED -	REVISED -
	DRAWN -	REVISED -
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PLOT DATE = 1/31/2020	DATE -	REVISED -

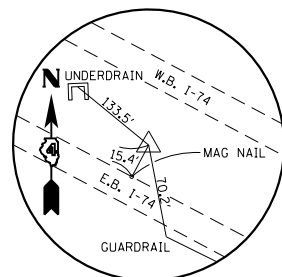
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES			
SCALE:	SHEET 7	OF 7 SHEETS	STA. TO STA.

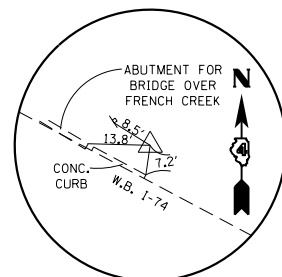
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	16
CONTRACT NO. 68D41				
		ILLINOIS	FED. AID PROJECT	



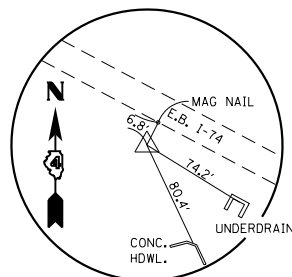
3 POINT TIES



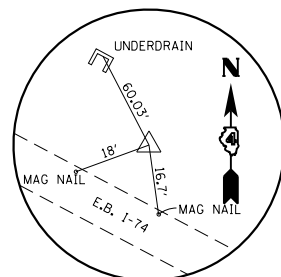
CONTROL POINT NO. 1  
SET IRON ROD W/CAP  
N: 1526623.3570  
E: 2341233.3930  
EL: 657.55



CONTROL POINT NO. 2  
SET IRON ROD W/CAP  
N: 1527075.6540  
E: 2340523.974  
EL: 636.12



CONTROL POINT NO. 3  
SET IRON ROD W/CAP  
N: 1527098.555  
E: 2340138.161  
EL: 635.64



CONTROL POINT NO. 4  
SET IRON ROD W/CAP  
N: 1527542.490  
E: 2339366.553  
EL: 654.29

1. HORIZONTAL NOTE

THE HORIZONTAL COORDINATES FOR THIS PROJECT W.O. 14-174 OVER FRENCH CREEK 048-0054 & 0055 WERE SUPPLEMENTED FROM THE FAI 74 SPOON RIVER TO IL 78 PROJECT AS PROVIDED TO EFK MOEN, INC.

POINT NUMBER	NORTHING	EASTING	DESCRIPTION	ELEVATION
9001	1530880.277	2330697.556	CHISELED "+" CROSS	714.393
9002	1526622.260	2341427.613	10" SPIKE FLUSH	664.965
9003	1526449.623	2341633.652	CHISELED "+" CROSS	670.515
9004	1524165.307	2351951.431	10" SPIKE FLUSH	697.310
9005	1524104.806	2352210.071	CHISELED "+" CROSS	696.864
58300	1530781.335	2331051.660	D.O.H. BRASS DISK	719.017

\* ORIGINAL HORIZONTAL COORDINATES ARE IN GRID. CONVERSION FACTOR TO GROUND = 0.999914

2. VERTICAL NOTE

VERTICAL CONTROL WAS PROVIDED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION TO EFK MOEN, INC.

PROJECT BENCHMARKS

BM "9003" (ELEVATION = 670.51)

FOUND "+" CROSS EAST END EAST CONC. PAD FOR CRASH BARRELS AT THE CENTERLINE OF THE BRIDGE PIER FOR KNOX COUNTY ROAD OVERPASS OVER I-74.

TBM "A" (ELEVATION = 639.37)

FOUND CUT "L" AT SOUTHEAST CORNER BARRIER WALL AT THE SOUTHEAST CORNER OF E.B. I-74 BRIDGE OVER FRENCH CREEK.

MODEL: Default  
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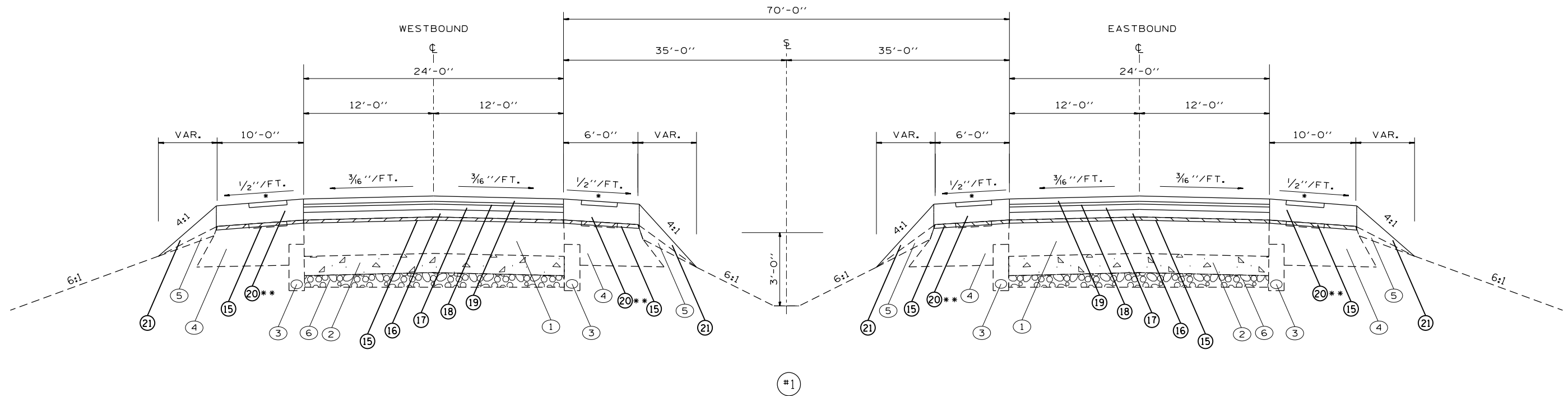
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PLOT DATE = 1/31/2020	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LINE DIAGRAM  
TIE POINTS & BENCHMARKS

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	17
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				



TYPICAL SECTION FOR W.B. AND E.B. I-74

W.B. I-74

STA. 682+37.36 TO STA. 683+06.47  
STA. 685+09.92 TO STA. 687+33.09

E.B. I-74

STA. 682+22.28 TO STA. 682+81.28  
STA. 684+84.73 TO STA. 688+01.93

\* \* NOTE: FROM END OF PCC CONNECTOR TRANSITION SHOULDER SLOPE FROM 2% TO 4% IN 50'.

LEGEND

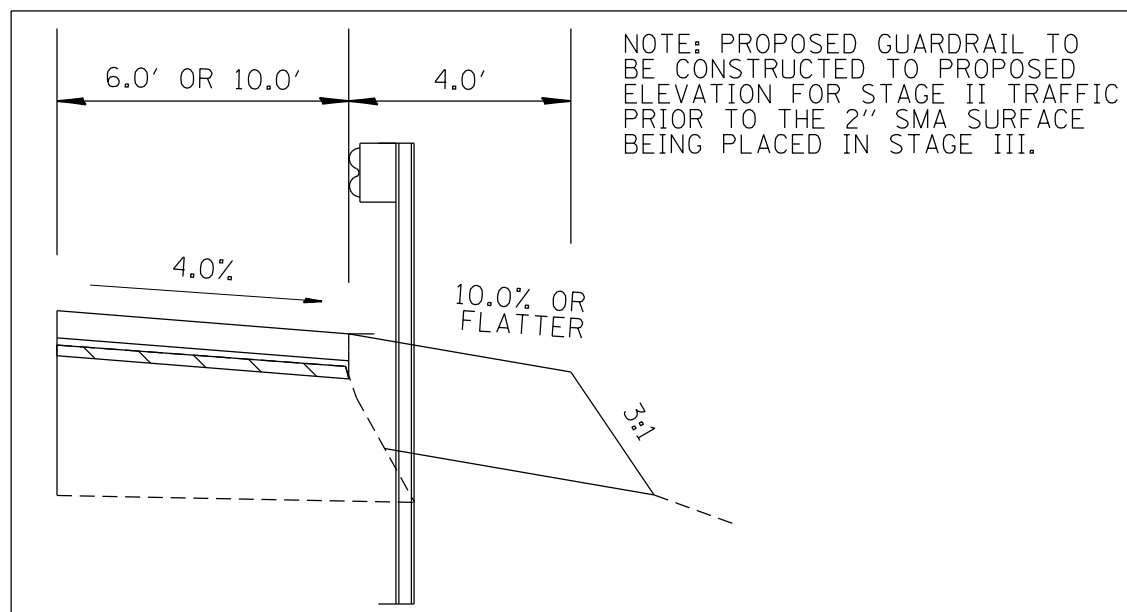
EXISTING ITEMS

- ① EXIST. BIT. OVERLAY 8 1/4 - 11 1/4"
- ② EXIST. P.C.C. PAVT. 7"
- ③ EXIST. PIPE UNDER DRAIN
- ④ EXIST. BIT. SHOULDER
- ⑤ EXIST. AGG. SHOULDER
- ⑥ EXIST. STABILIZED SUB BASE

PROPOSED ITEMS

- ⑮ HMA SURFACE REMOVAL, VAR DEPTH
- ⑯ HMA BINDER, IL-19.0, +/- 4"
- ⑰ HMA BINDER, IL-9.5, 2"
- ⑱ POLY LEVELING BINDER, IL 4.75, 1"
- ⑲ POLY HMA SURFACE, SMA, 2"
- ⑳ HMA SHOULDERS
- ㉑ AGGREGATE SHOULDER, TY B

\* RUMBLE STRIPS WILL BE INCLUDED ON ALL SHOULDERS



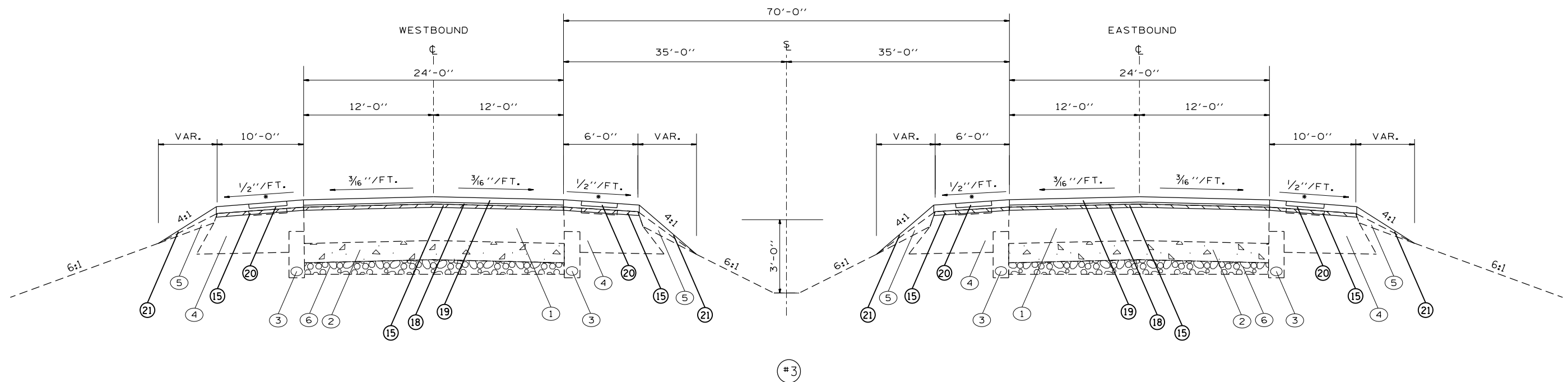
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	18
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				





TYPICAL SECTION FOR W.B. AND E.B. I-74

W.B. I-74

STA. 679+75.43 TO STA. 681+87.70  
STA. 688+14.08 TO STA. 692+98.00

E.B. I-74

STA. 679+33.00 TO STA. 681+51.25  
STA. 691+23.82 TO STA. 692+55.57

LEGEND

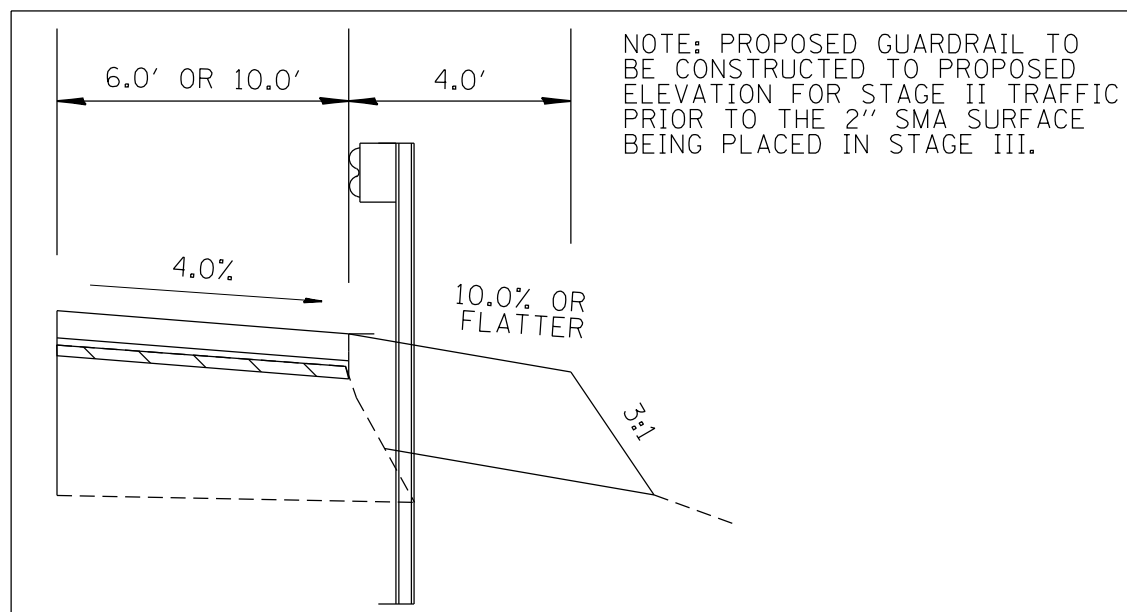
EXISTING ITEMS

- ① EXIST. BIT. OVERLAY 8 1/4 - 11 1/4"
- ② EXIST. P.C.C. PAVT. 7"
- ③ EXIST. PIPE UNDER DRAIN
- ④ EXIST. BIT. SHOULDER
- ⑤ EXIST. AGG. SHOULDER
- ⑥ EXIST. STABILIZED SUB BASE

PROPOSED ITEMS

- ⑮ HMA SURFACE REMOVAL, VAR DEPTH
- ⑯ HMA BINDER, IL-19.0, +/- 4"
- ⑰ HMA BINDER, IL-9.5, 2"
- ⑱ POLY LEVELING BINDER, IL 4.75, 1"
- ⑲ POLY HMA SURFACE, SMA, 2"
- ⑳ HMA SHOULDERS
- ㉑ AGGREGATE SHOULDER, TY B

\* RUMBLE STRIPS WILL BE INCLUDED ON ALL SHOULDERS



NOTE: PROPOSED GUARDRAIL TO BE CONSTRUCTED TO PROPOSED ELEVATION FOR STAGE II TRAFFIC PRIOR TO THE 2" SMA SURFACE BEING PLACED IN STAGE III.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION




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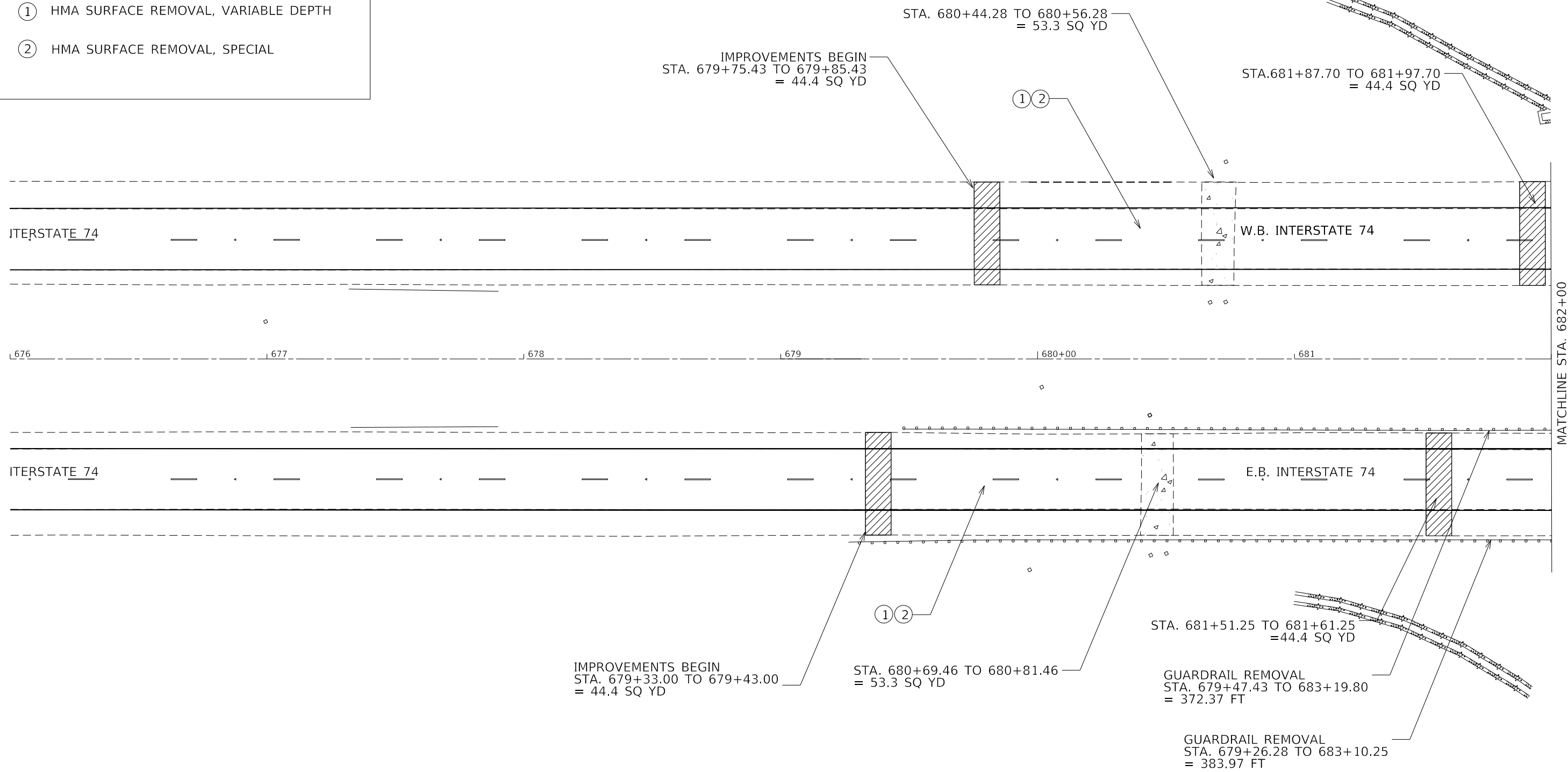
SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	20
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				



REMOVAL LEGEND

-  BUTT JOINT REMOVAL
-  APPROACH SLAB REMOVAL
-  CLASS B PATCHES, TY IV, 16"
- ① HMA SURFACE REMOVAL, VARIABLE DEPTH
- ② HMA SURFACE REMOVAL, SPECIAL



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

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

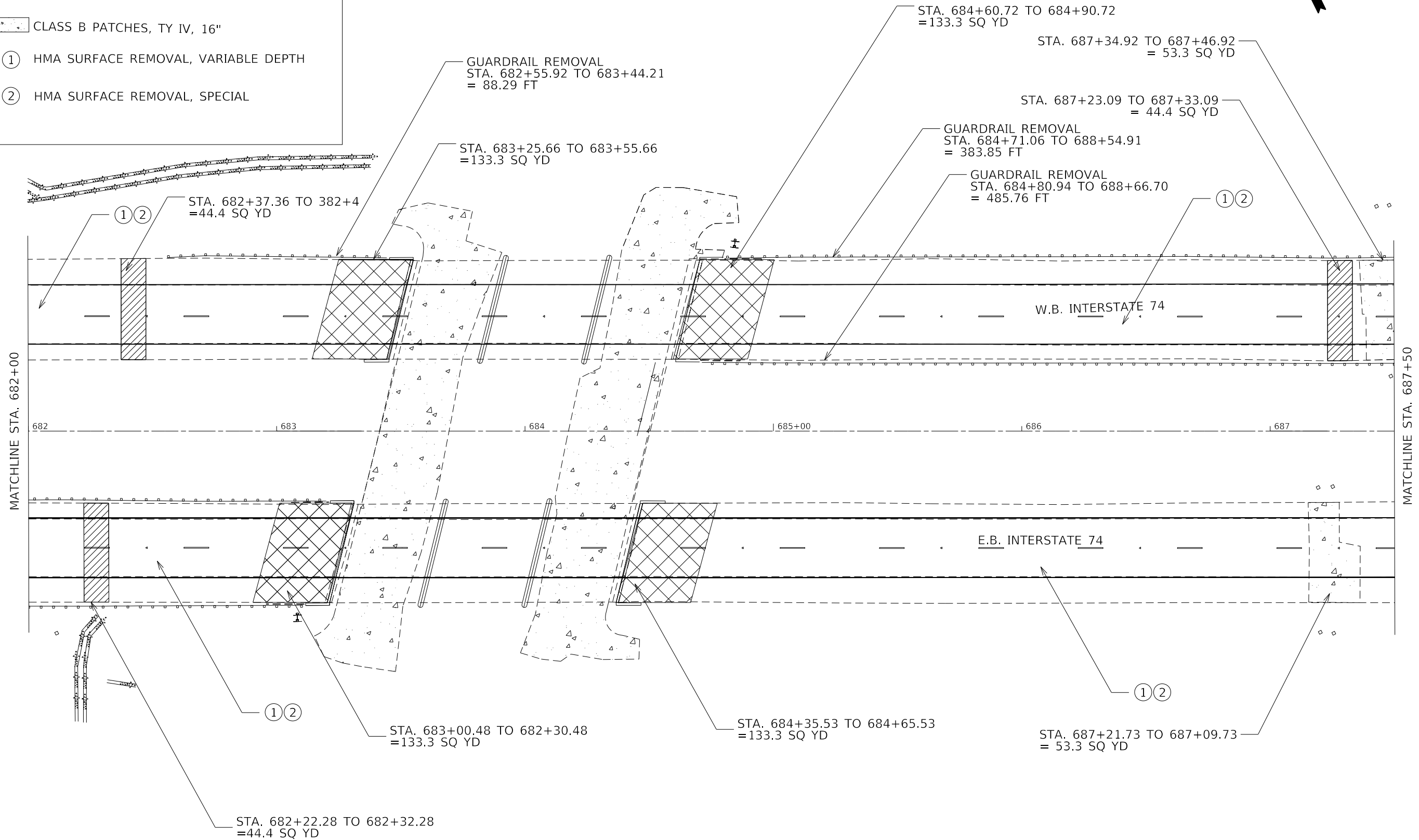
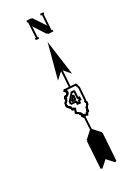
**REMOVAL PLAN SHEETS**

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29.30)BR	KNOX	80	21
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

REMOVAL LEGEND

-  BUTT JOINT REMOVAL
-  APPROACH SLAB REMOVAL
-  CLASS B PATCHES, TY IV, 16"
- ① HMA SURFACE REMOVAL, VARIABLE DEPTH
- ② HMA SURFACE REMOVAL, SPECIAL



MODEL: Default  
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
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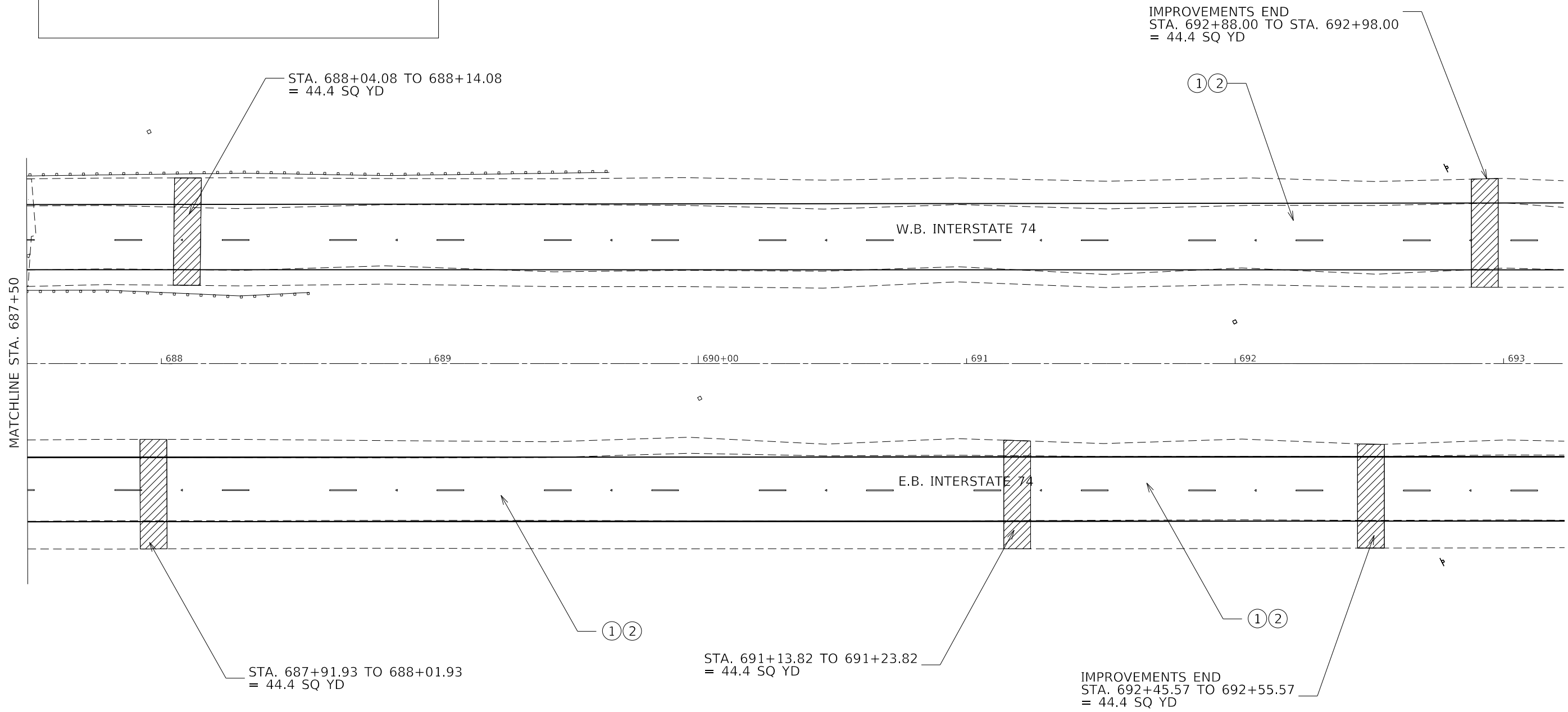
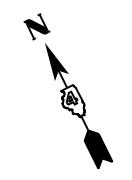
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REMOVAL PLAN SHEETS**

SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 74	SECTION 48(29.30)BR	COUNTY KNOX	TOTAL SHEETS 80	SHEET NO. 22
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

REMOVAL LEGEND	
	BUTT JOINT REMOVAL
	APPROACH SLAB REMOVAL
	CLASS B PATCHES, TY IV, 16"
①	HMA SURFACE REMOVAL, VARIABLE DEPTH
②	HMA SURFACE REMOVAL, SPECIAL



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PLOT DATE = 1/31/2020	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REMOVAL PLAN SHEETS**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29.30)BR	KNOX	80	23
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				



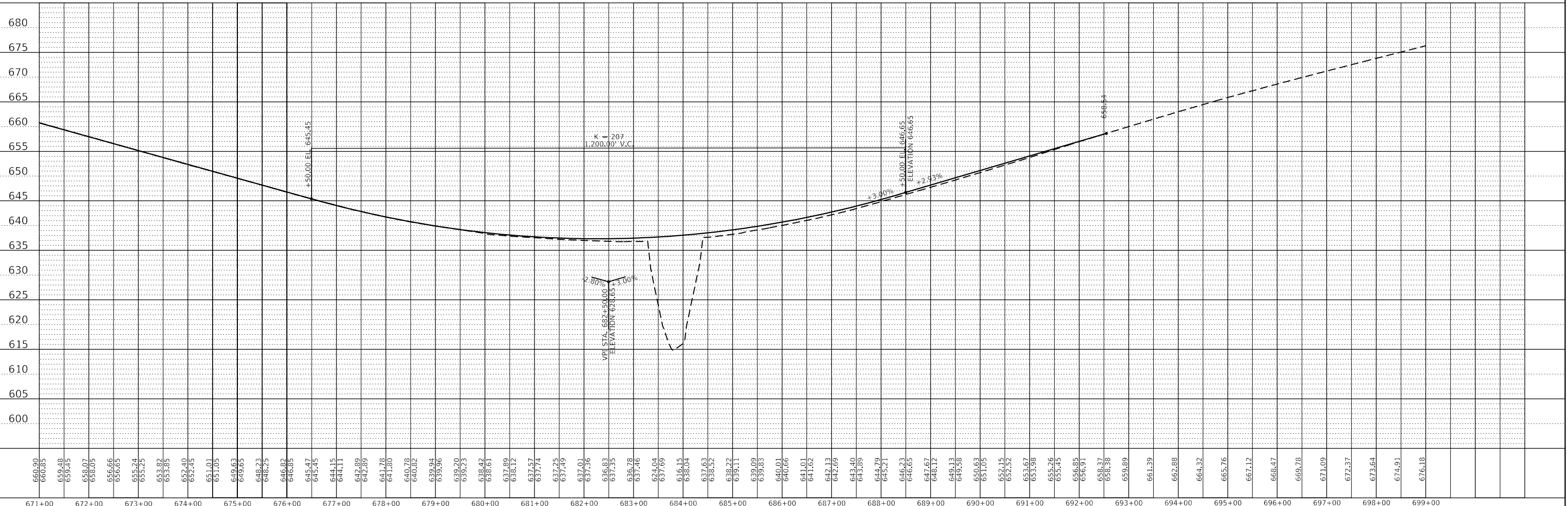
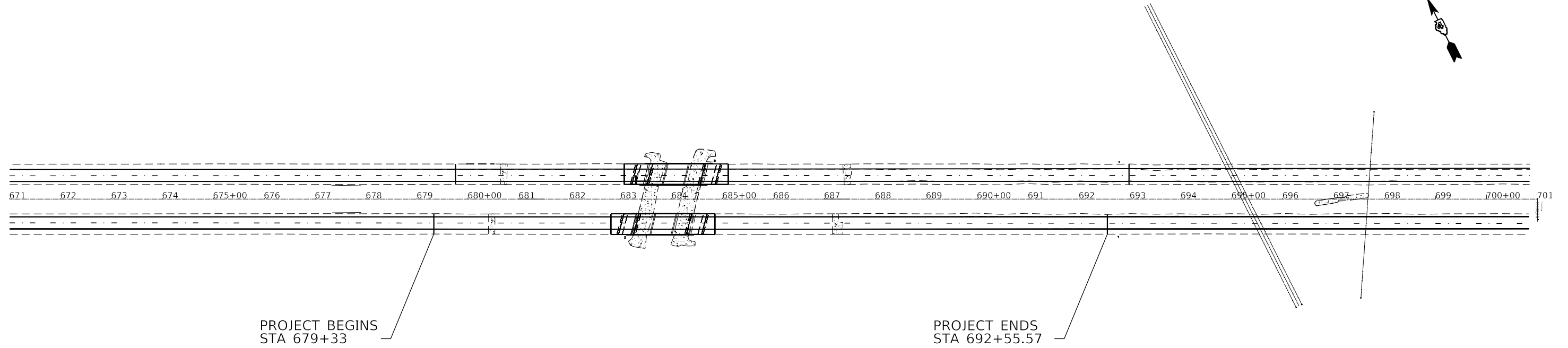




PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	ALIGNED CHECKED		
	FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	GRADES CHECKED		
	STRUCTURE NOTATION		

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE  
EASTBOUND**

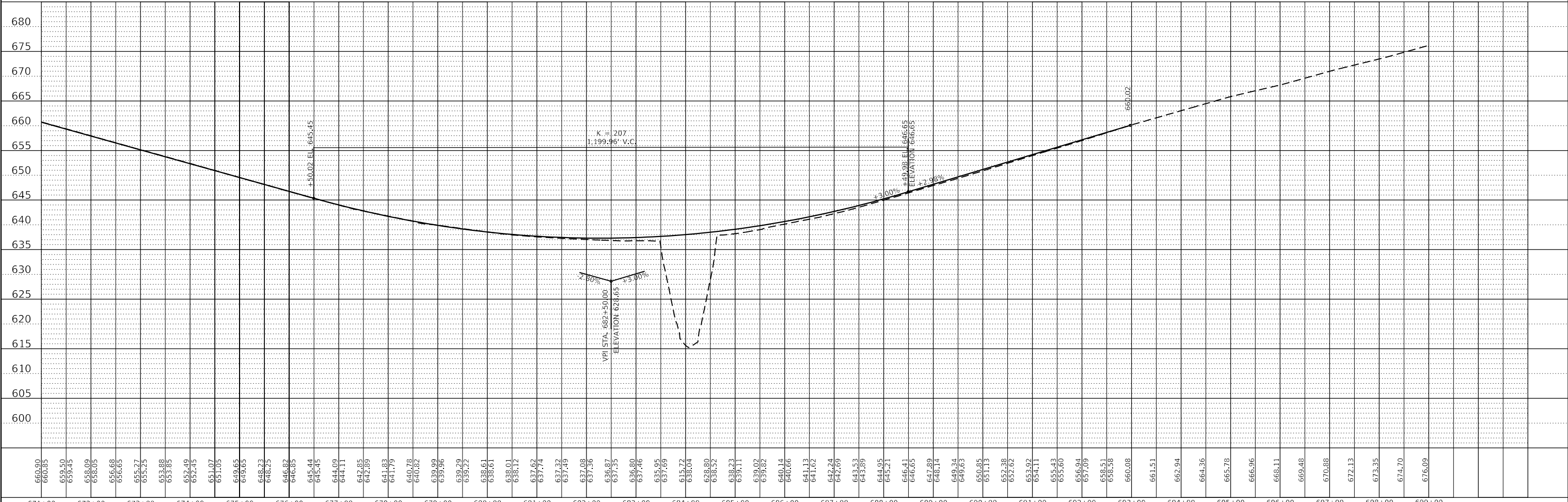
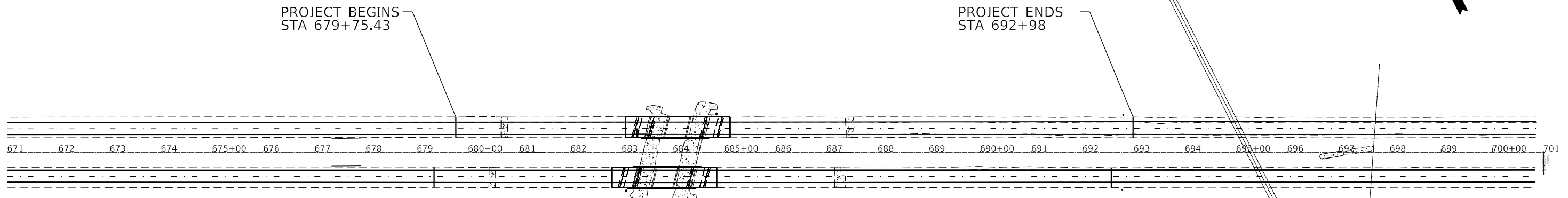
SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	27
CONTRACT NO. 68D41				
		ILLINOIS	FED. AID PROJECT	

PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	ALIGNED CHECKED		
	NO. _____		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	GRADES CHECKED		
	NO. _____		

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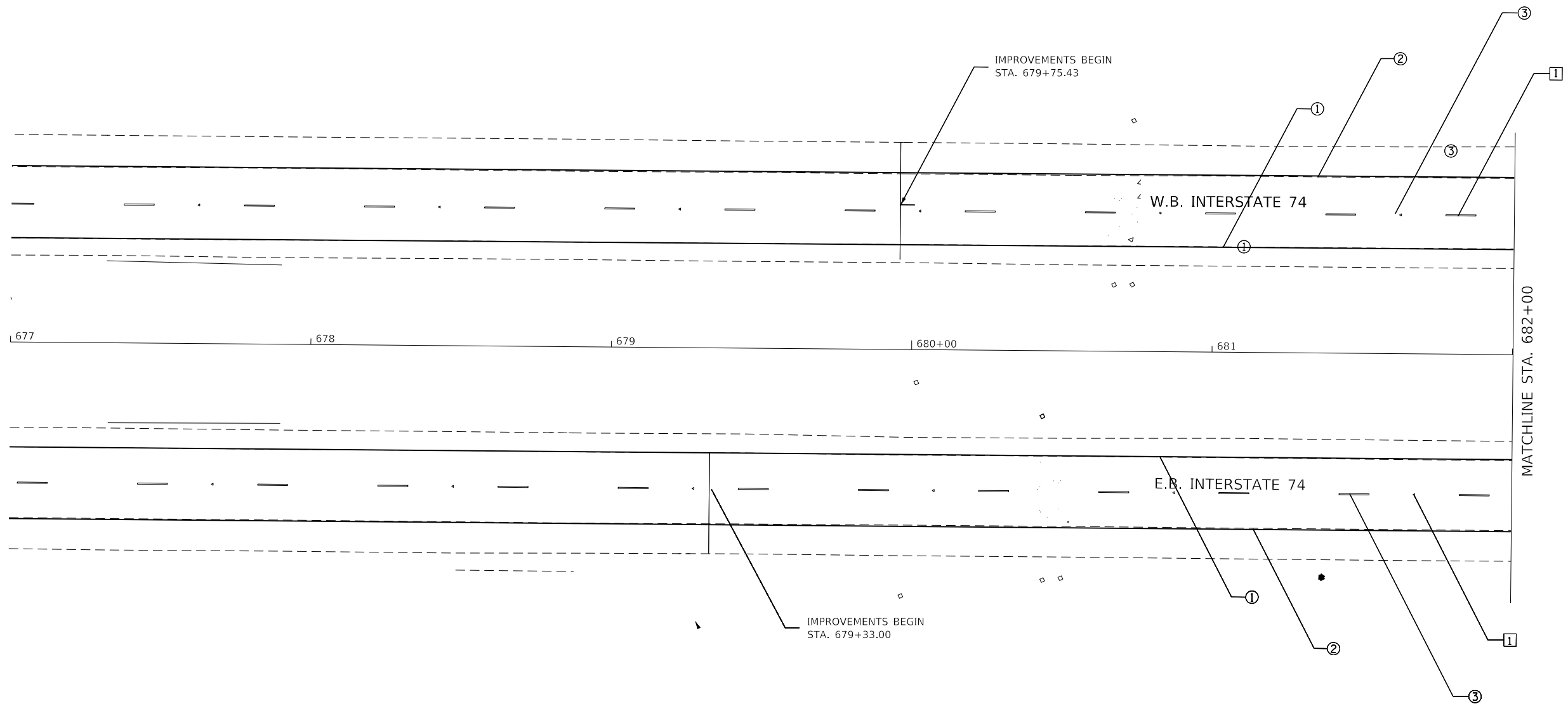
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PLOT DATE = 1/31/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>PLAN AND PROFILE WESTBOUND</b>			
SCALE:	SHEET 2	OF 2	SHEETS
	STA.		TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	28
CONTRACT NO. 68D41				
		ILLINOIS	FED. AID PROJECT	





**PAVEMENT MARKING LEGEND**

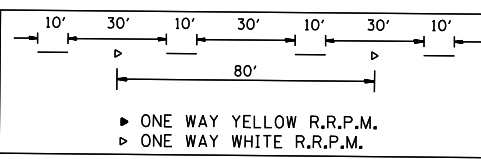
① 4" YELLOW	
② 4" WHITE	
③ 6" WHITE SKIP DASH	
④ 8" WHITE SKIP DASH	
⑤ 8" WHITE	
⑥ 12" WHITE	
⑦ 24' WHITE	
⑧ LETTERS AND SYMBOLS	
⑨ 4" WHITE SKIP DASH	

**RAISED REFLECTIVE PAVEMENT MARKERS (RRPM)**

①	◀ ONE-WAY CRYSTAL MARKER AT 80' CENTERS
②	◀ ONE-WAY CRYSTAL MARKER AT 40' CENTERS
③	◀ ONE-WAY CRYSTAL MARKER AT 20' CENTERS
④	◀ ONE-WAY AMBER MARKER AT 40' CENTERS
	◀ ONE-WAY CRYSTAL MARKER
	◀ ONE-WAY AMBER MARKER

**DELINEATORS**

■	DELINEATOR WITH TWO AMBER REFLECTORS
■	DELINEATOR WITH THREE AMBER REFLECTORS



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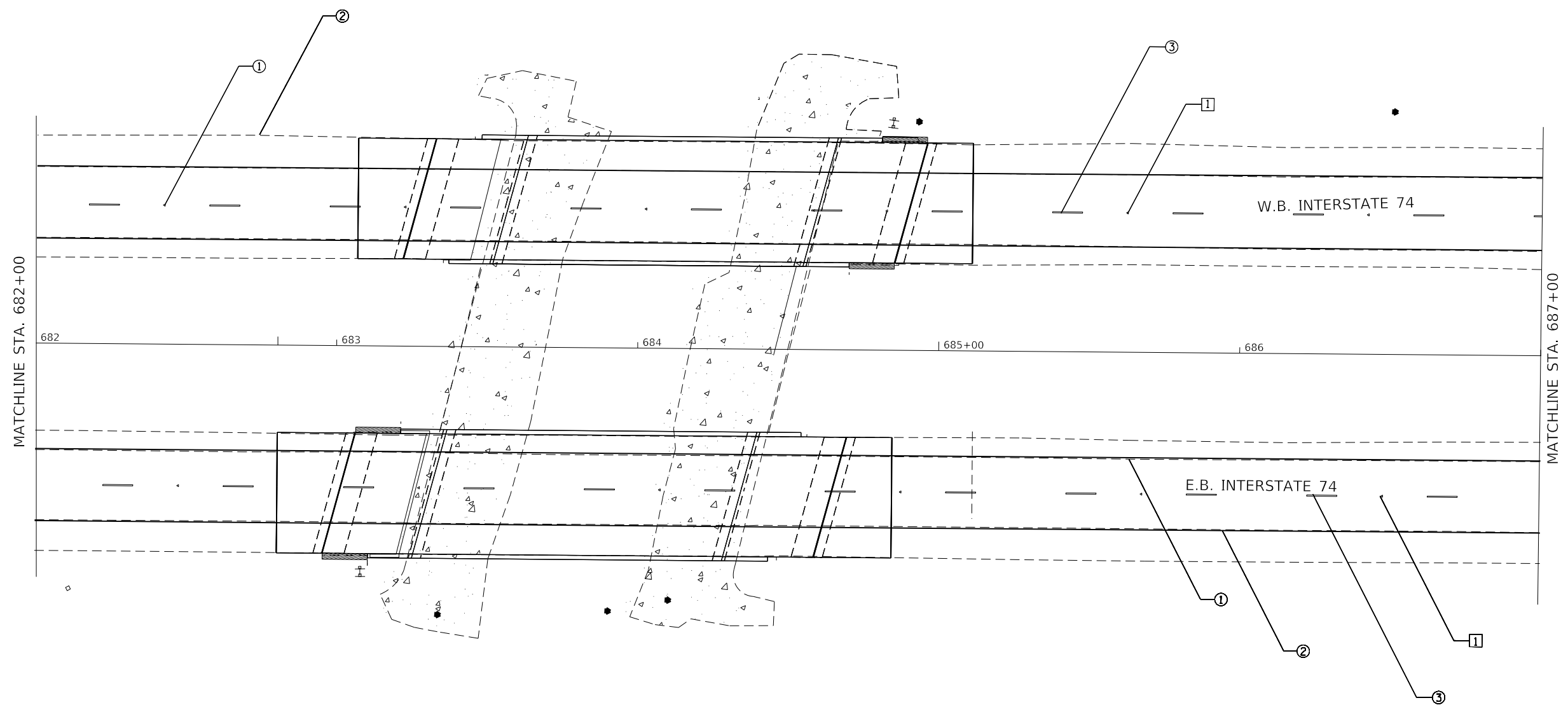
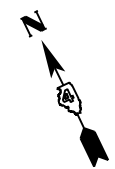
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	DRAWN - Drawn By	REVISED - Revised By2
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PLOT DATE = 1/31/2020	DATE - Checked Date	REVISED - Revised By4

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

PROPOSED PAVEMENT MARKINGS

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A.I. RTE. 74	SECTION 48(29.30)BR	COUNTY KNOX	TOTAL SHEETS 80	SHEET NO. 29
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	



**PAVEMENT MARKING LEGEND**

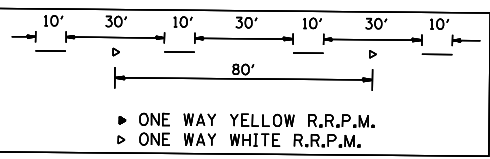
① 4" YELLOW	
② 4" WHITE	
③ 6" WHITE SKIP DASH	
④ 8" WHITE SKIP DASH	
⑤ 8" WHITE	
⑥ 12" WHITE	
⑦ 24' WHITE	
⑧ LETTERS AND SYMBOLS	
⑨ 4" WHITE SKIP DASH	

**RAISED REFLECTIVE PAVEMENT MARKERS (RRPM)**

①	◀ ONE-WAY CRYSTAL MARKER AT 80' CENTERS
②	◀ ONE-WAY CRYSTAL MARKER AT 40' CENTERS
③	◀ ONE-WAY CRYSTAL MARKER AT 20' CENTERS
④	◀ ONE-WAY AMBER MARKER AT 40' CENTERS
	◀ ONE-WAY CRYSTAL MARKER
	◀ ONE-WAY AMBER MARKER

**DELINEATORS**

■	DELINEATOR WITH TWO AMBER REFLECTORS
■	DELINEATOR WITH THREE AMBER REFLECTORS



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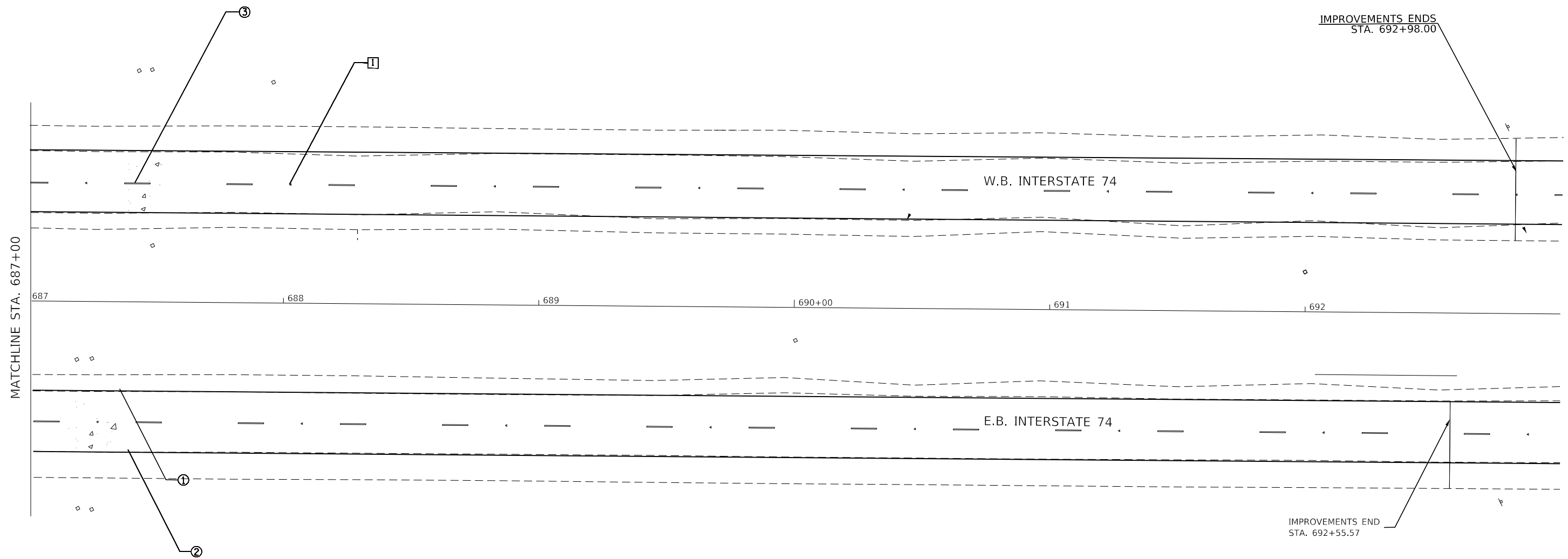
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PLOT DATE = 1/31/2020	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

PROPOSED PAVEMENT MARKINGS

SCALE:	SHEET 2 OF 3 SHEETS	STA. TO STA.
--------	---------------------	--------------

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	30
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	



**PAVEMENT MARKING LEGEND**

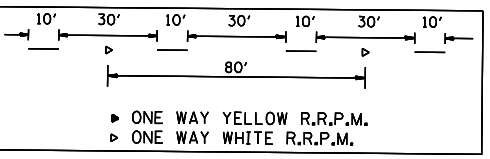
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② 4" WHITE	
③ 6" WHITE SKIP DASH	
④ 8" WHITE SKIP DASH	
⑤ 8" WHITE	
⑥ 12" WHITE	
⑦ 24' WHITE	
⑧ LETTERS AND SYMBOLS	
⑨ 4" WHITE SKIP DASH	

**RAISED REFLECTIVE PAVEMENT MARKERS (RRPM)**

①	◀ ONE-WAY CRYSTAL MARKER AT 80' CENTERS
②	◀ ONE-WAY CRYSTAL MARKER AT 40' CENTERS
③	◀ ONE-WAY CRYSTAL MARKER AT 20' CENTERS
④	◀ ONE-WAY AMBER MARKER AT 40' CENTERS
	◀ ONE-WAY CRYSTAL MARKER
	◀ ONE-WAY AMBER MARKER

**DELINEATORS**

▬	DELINEATOR WITH TWO AMBER REFLECTORS
▬	DELINEATOR WITH THREE AMBER REFLECTORS



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

PROPOSED PAVEMENT MARKINGS

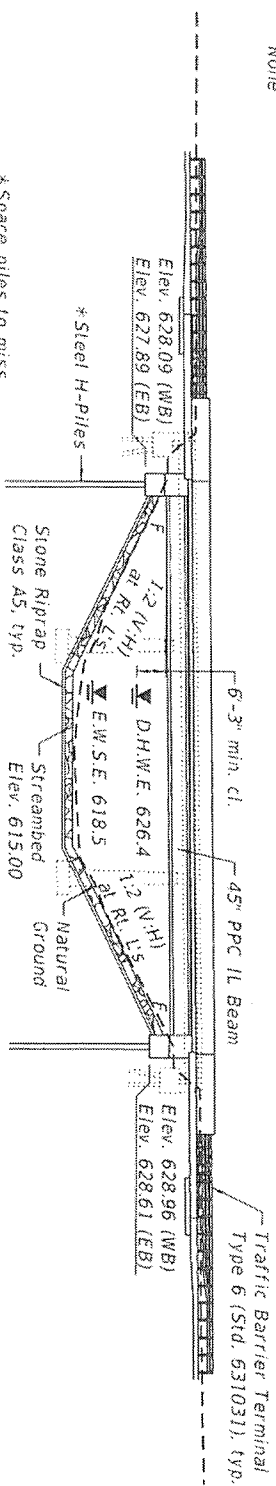
SCALE:	SHEET 3 OF 3 SHEETS	STA. TO STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	31
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

Benchmark: B.M. 9003: Chiseled "x" on east end of east concrete pad for crash barrels at the centerline of the bridge pier for Knox County Road overpass over I-74. Elevation 670.51

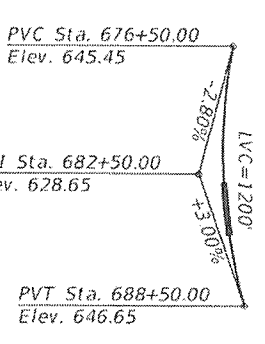
Existing Structure: S.N. 048-0054 & 0055 originally built in 1968 as Section 48-30B. The structures are 3-span continuous wide flange steel beam bridges on stub abutments founded on steel piles and solid wall piers founded on spread footings. The spans are 36'-0" - 41'-11" - 36'-0" with a 13'-45" skew. The back-to-back of abutments is approximately 118'-9" and out-to-out width is 42'-0". Traffic to be maintained using staged construction.

Salvage: None



\* Steel H-Piles  
\* Space piles to miss existing battered piles.

ELEVATION



PROFILE GRADE

LOADING HL-93  
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS  
2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$  psi  
 $f'_c = 4,000$  psi (Superstructure Concrete)  
 $f_y = 60,000$  psi (Reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 8,500$  psi  
 $f'_c = 6,500$  psi  
 $f_{pu} = 270,000$  psi (0.6"  $\phi$  Low Relaxation Strands)  
 $f_{pbt} = 202,300$  psi (0.6"  $\phi$  Low Relaxation Strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.075  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.120  
Soil Site Class = C

DESIGN SCOUR ELEVATION TABLE - WEST BOUND

Event / Limit	Design Scour Elevations (ft.)	Item	
State	W. Abut.	E. Abut.	
0100	628.09	628.96	Item 113
0200	628.09	628.96	
Design	628.09	628.96	
Check	628.09	628.96	8

DESIGN SCOUR ELEVATION TABLE - EASTBOUND

Event / Limit	Design Scour Elevations (ft.)	Item	
State	W. Abut.	E. Abut.	
0100	627.89	628.61	Item 113
0200	627.89	628.61	
Design	627.89	628.61	
Check	627.89	628.61	8

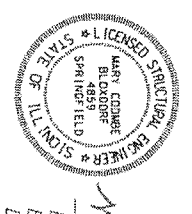
WATERWAY INFORMATION

Freq.	C.F.S.	Opening Ftz	Nat.	Head - Ft.	Headwater El.			
Yr.	Yr.	Exist.	Prop.	Exist.	Prop.			
10	2,750	427	463	624.5	0.6	625.1	624.5	
50	4,280	559	605	626.4	1.1	0.4	627.5	626.8
100	4,980	608	657	627.1	1.4	0.6	628.5	627.7
200	5,690	659	711	627.8	1.6	0.8	629.4	628.6
Max. Calc.	500	6,650	807	628.9	1.8	1.0	630.7	629.9

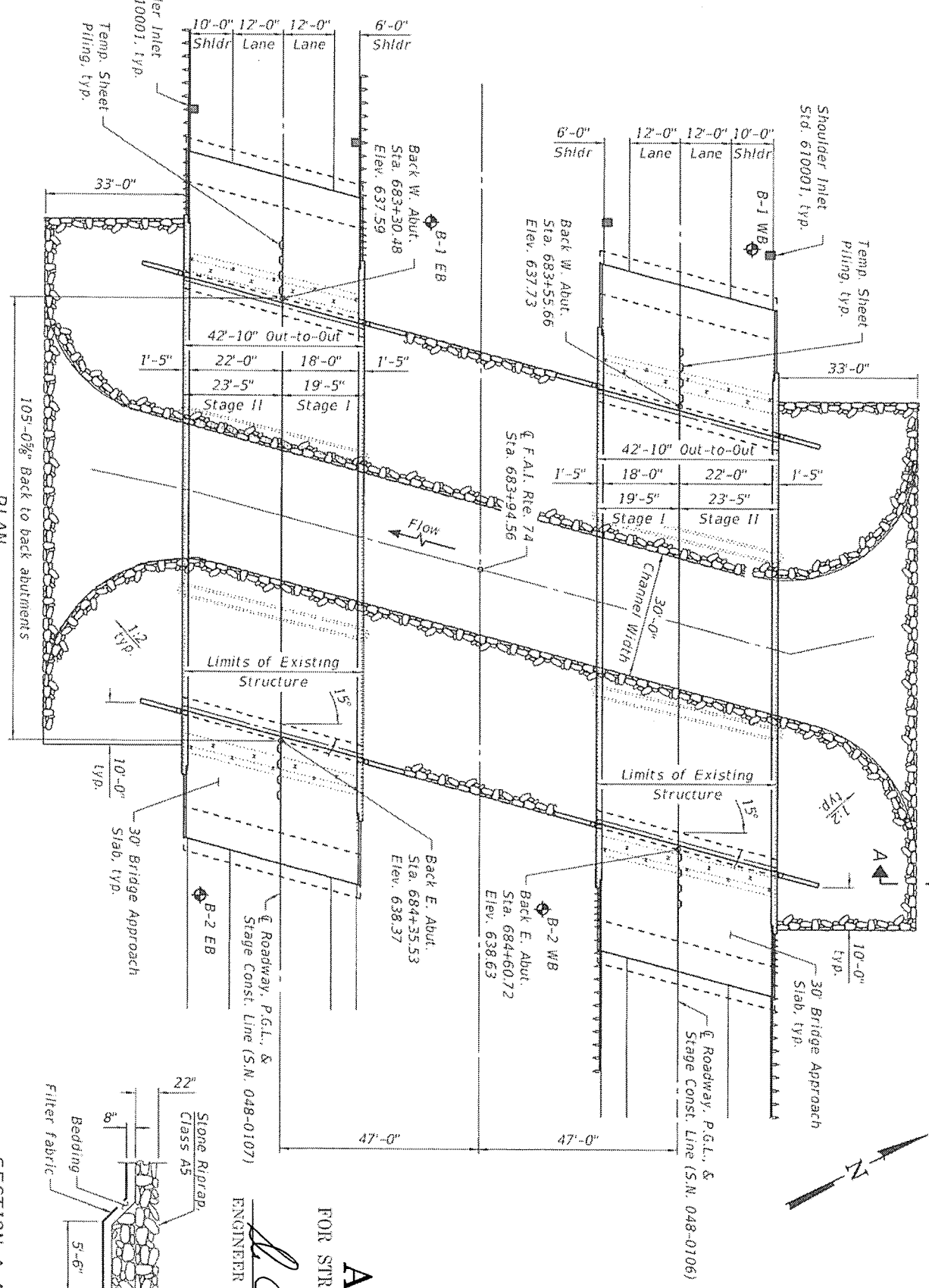
10 Year Velocity through Existing Bridge = 7.2 fps  
10 Year Velocity through Proposed Bridge = 6.2 fps

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

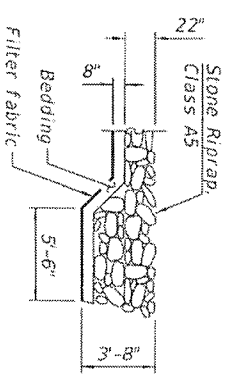
ENGINEER OF BRIDGES AND STRUCTURES



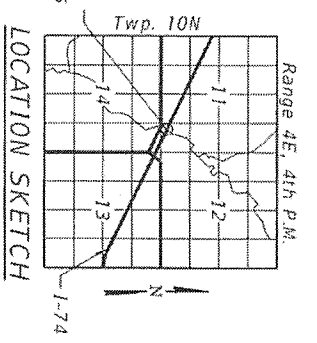
ILLINOIS STRUCTURAL NO. 4859  
EXPIRES 11/30/20  
DATE: 01/29/2020



PLAN



SECTION A-A



LOCATION SKETCH

GENERAL PLAN & ELEVATION  
I-74 OVER FRENCH CREEK  
F.A.I. RTE. 74  
SEC. 48(30B)BR  
KNOX COUNTY  
STATION 683+94.56  
STRUCTURE NO. 048-0106 (WB)  
STRUCTURE NO. 048-0107 (EB)

MODEL: Default  
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**FEHR GRAYMAN**  
ENGINEERING & ENVIRONMENTAL  
ALUMINUM DESIGN FIRM NO. BR-003555  
FIRM GRAPHIC PRODUCT NUMBER: IS-1016C

DESIGNED BY	DESIGNED	REVISION
ecconnor	RHM	
ecconnor	MCB	
ecconnor	CFC	
ecconnor	MCB	

PROJECT SCALE: 1/8" = 1'-0"  
DRAWN: CFC  
CHECKED: MCB  
DATE: 02/29/2020

REVISIONS:

NO.	DATE	DESCRIPTION
1		ISSUED FOR PERMIT
2		ISSUED FOR PERMIT
3		ISSUED FOR PERMIT
4		ISSUED FOR PERMIT
5		ISSUED FOR PERMIT
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7		ISSUED FOR PERMIT
8		ISSUED FOR PERMIT
9		ISSUED FOR PERMIT
10		ISSUED FOR PERMIT
11		ISSUED FOR PERMIT
12		ISSUED FOR PERMIT
13		ISSUED FOR PERMIT
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30		ISSUED FOR PERMIT
31		ISSUED FOR PERMIT
32		ISSUED FOR PERMIT

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 1 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
74	48(30B)BR	KNOX	80
			32

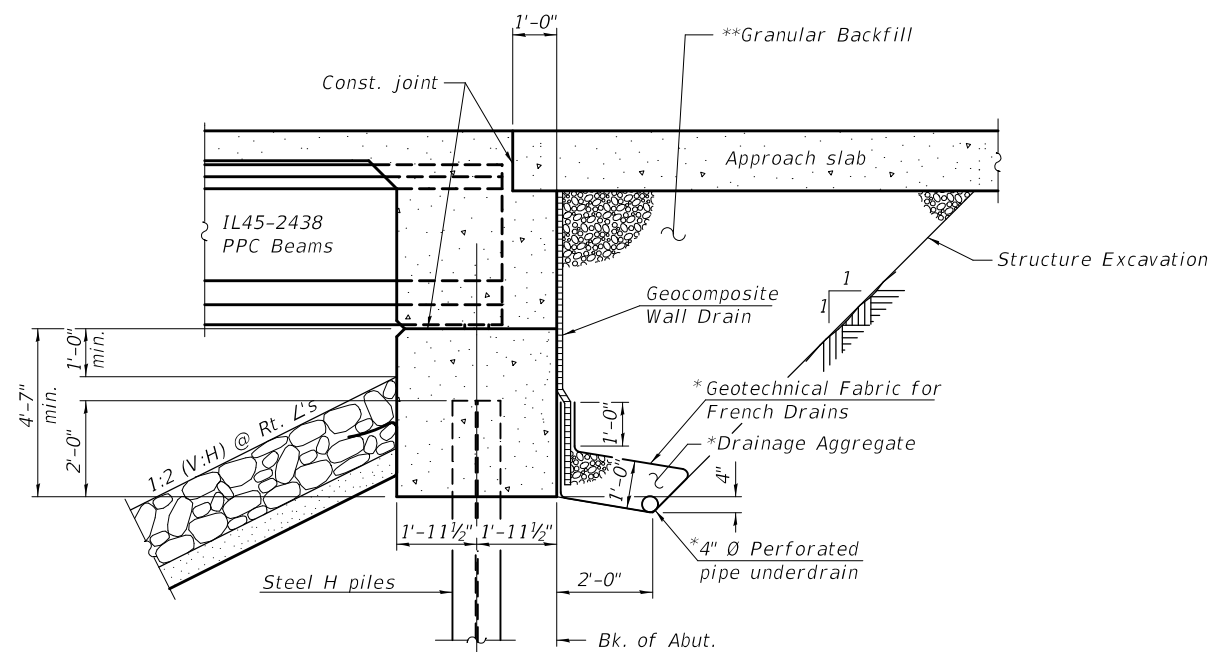
CONTRACT NO. 68D41

**GENERAL NOTES**

Slipforming of the parapets is not allowed.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 General Notes & Total Bill of Material
- 3 Substructure Layout
- 4 Staged Construction Details
- 5 Temporary Concrete Barrier
- 6-9 Top of Slab Elevations
- 10-13 Top of Approach Slab Elevations
- 14 Superstructure
- 15 Superstructure Details
- 16 Integral Abutment Diaphragm Details
- 17-19 Bridge Approach Slab Details
- 20 Framing Plan
- 21-22 PPC I Beam Details
- 23-26 Abutment Details
- 27 Steel Pile Details
- 28 Bar Splicer Details
- 29-32 Boring Logs



**SECTION THRU INTEGRAL ABUTMENT**  
 (Horiz. dim. @ Rt. L's)

\* Included in the cost of Pipe Underdrains for Structures.

All drainage system components shall extend 2'-0" from the end of each wingwall except the outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101.

\*\* Granular backfill shall be placed in 6" lifts and compacted with a vibrating plate compactor. Compacting with a backhoe bucket will not be acceptable.

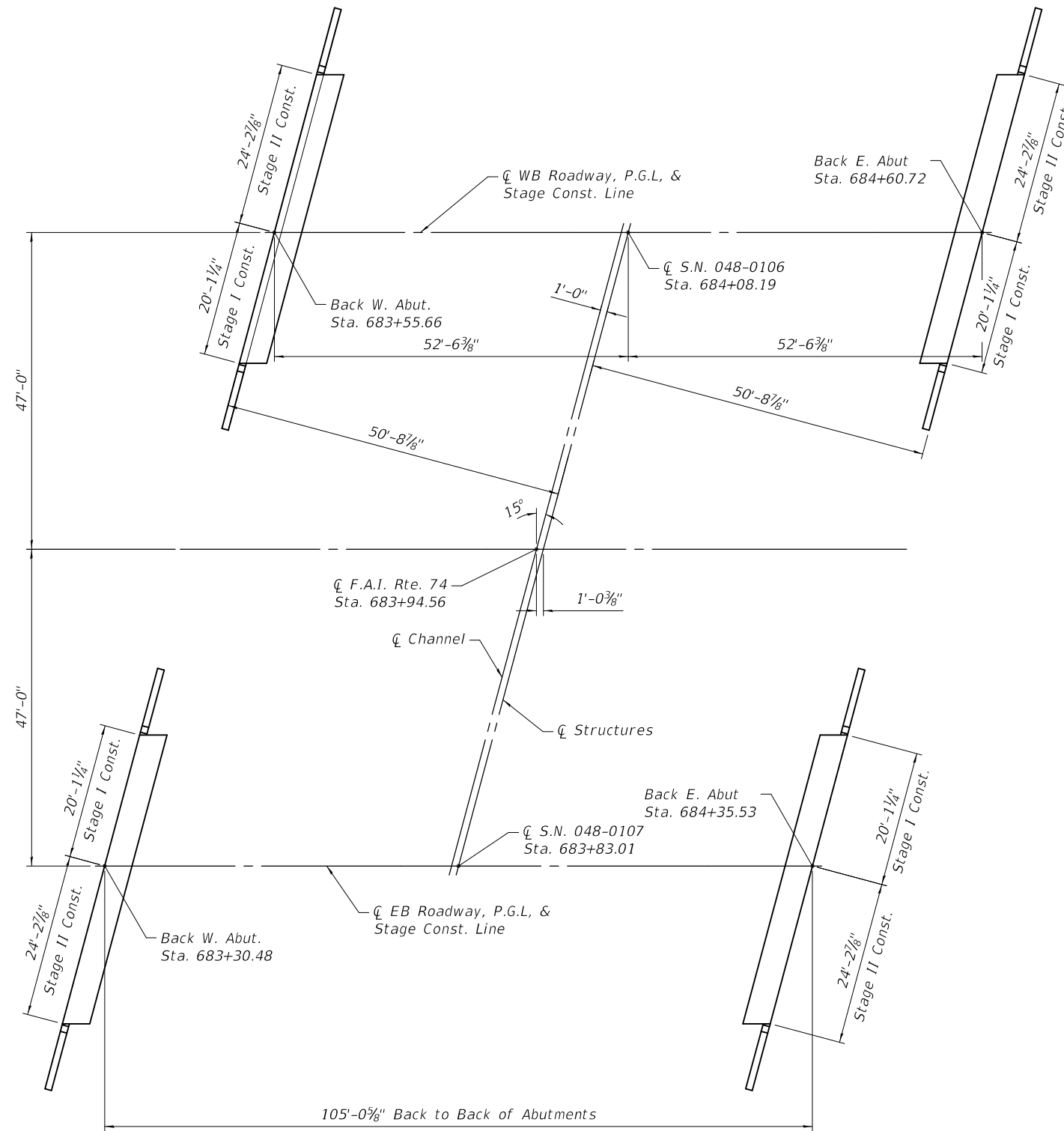
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structure No. 1	Each			1
Removal of Existing Structure No. 2	Each			1
Structure Excavation	Cu. Yd.		248	248
Concrete Superstructure	Cu. Yd.	390.1		390.1
Protective Coat	Sq. Yd.	1702	77	1778
Concrete Structures	Cu. Yd.		195.4	195.4
Reinforcement Bars, Epoxy Coated	Lb.	169,800	34,750	204,550
Furnishing Steel Piles, HP 12x74	Ft.		560	560
Driving Piles	Ft.		560	560
Test Pile Steel, HP 12x74	Each		4	4
Name Plates	Each		2	2
Granular Backfill For Structures	Cu. Yd.		424	424
Furnishing and Erecting Precast Prestressed Concrete Beams, IL45N	Ft.	1227		1227
Bridge Deck Grooving	Sq. Yd.	1394		1394
Stone Rip Rap Class A5	Sq. Yd.		2673	2673
Filter Fabric	Sq. Yd.		2673	2673
Pipe Underdrains for Structures 4"	Ft.		340	340
Geocomposite Wall Drain	Sq. Yd.		206	206
Concrete Superstructure (Approach Slab)	Cu. Yd.	232.8		232.8
Bar Splicers	Each	1148	200	1348
Temporary Sheet Piling	Sq. Ft.		1055	1055

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 FEHR GRAHAM PROJECT NUMBER: 15-1016J

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	33
			CONTRACT NO. 68D41	
ILLINOIS FED. AID PROJECT				



FOOTING LAYOUT

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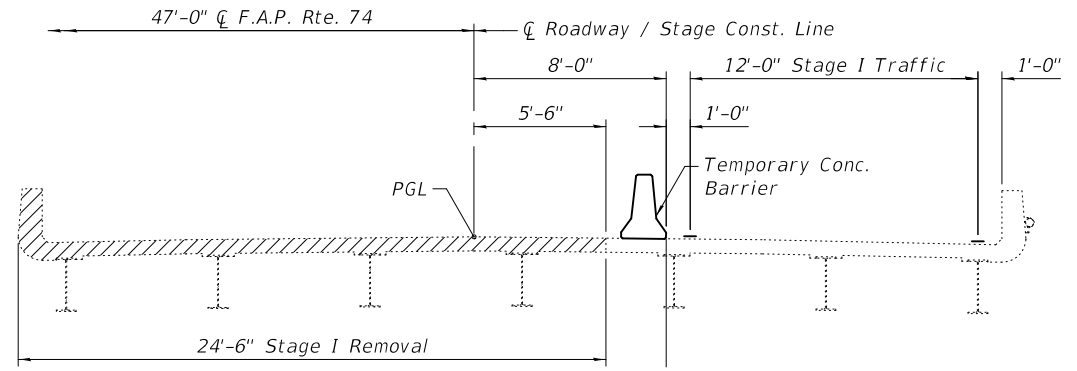
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE LAYOUT  
 STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

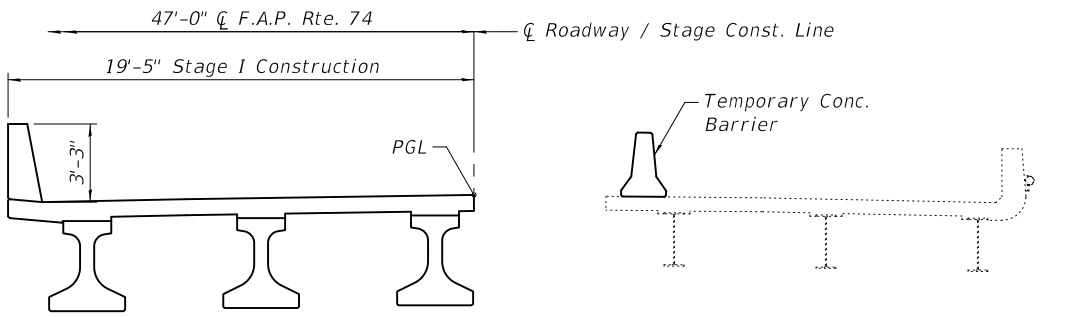
SHEET 3 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	34
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

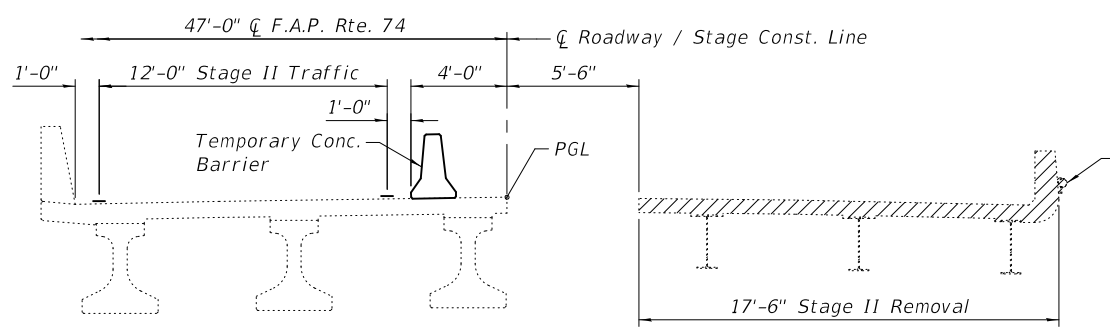
FEHR GRAHAM PROJECT NUMBER: 15-1016J



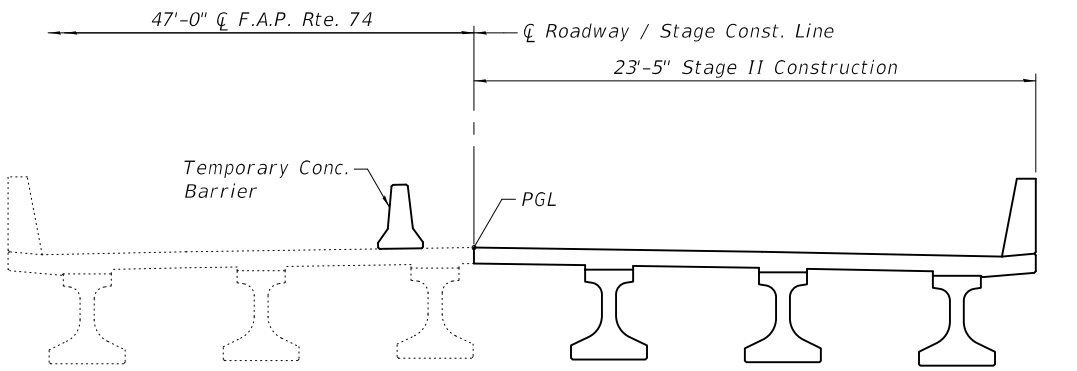
**STAGE I REMOVAL**  
(Looking West at S.N. 048-0106,  
Looking East at S.N. 048-0107 Similar)



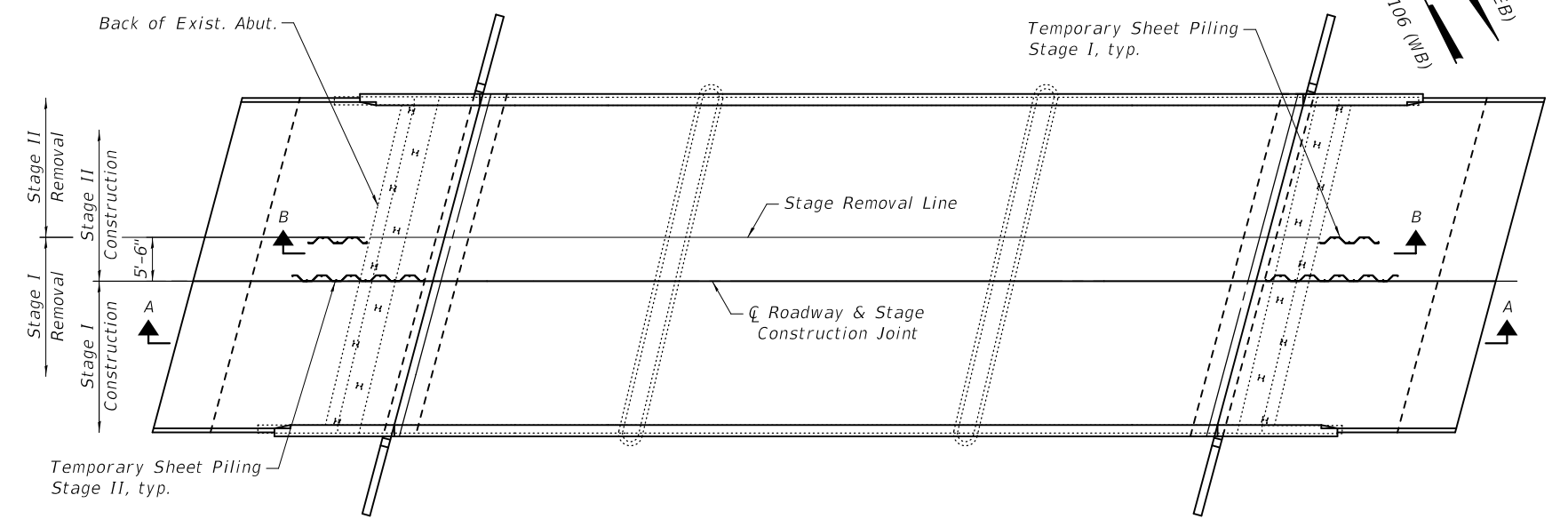
**STAGE I CONSTRUCTION**  
(Looking West at S.N. 048-0106,  
Looking East at S.N. 048-0107)



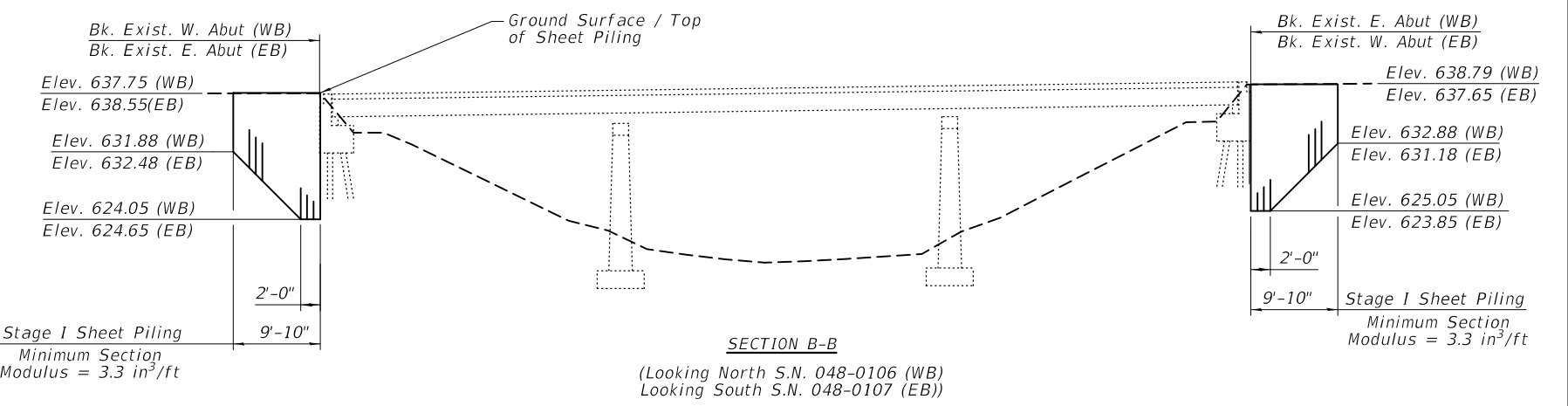
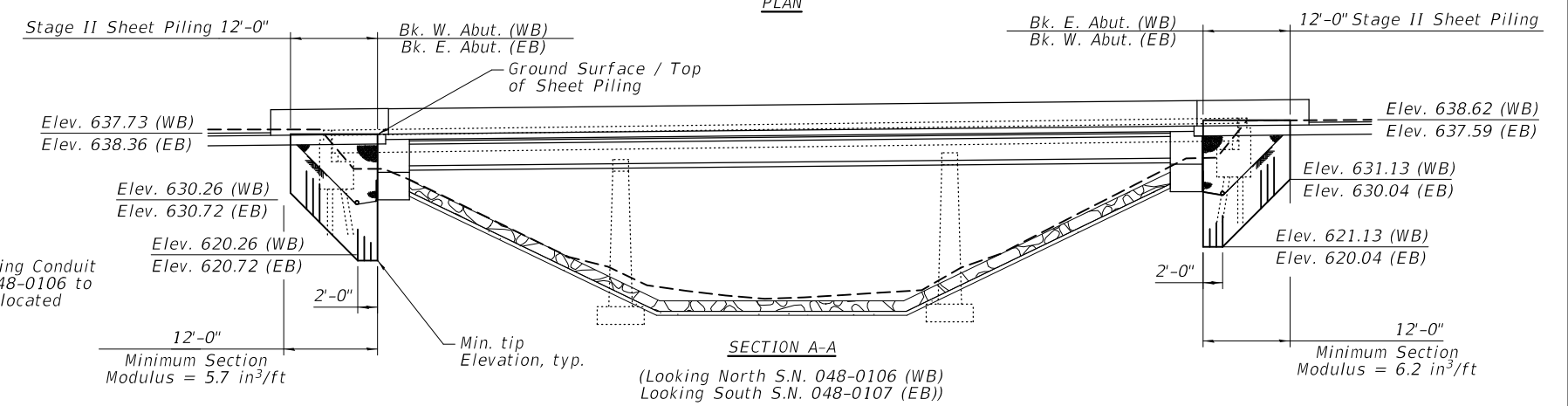
**STAGE II REMOVAL**  
(Looking West at S.N. 048-0106,  
Looking East at S.N. 048-0107 Similar)



**STAGE II CONSTRUCTION**  
(Looking West at S.N. 048-0106,  
Looking East at S.N. 048-0107 Similar)



**PLAN**



**NOTES:**

If the Contractor chooses to alter the temporary cantilever sheet piling design requirements shown on the plans, a design submittal including plate details and calculations will be required for review and acceptance by the Engineer.  
Hatched areas indicate Removal of Existing Structures No. 1 or No. 2  
For quantity of Temporary Concrete Barrier see roadway plans.

MODEL: Default  
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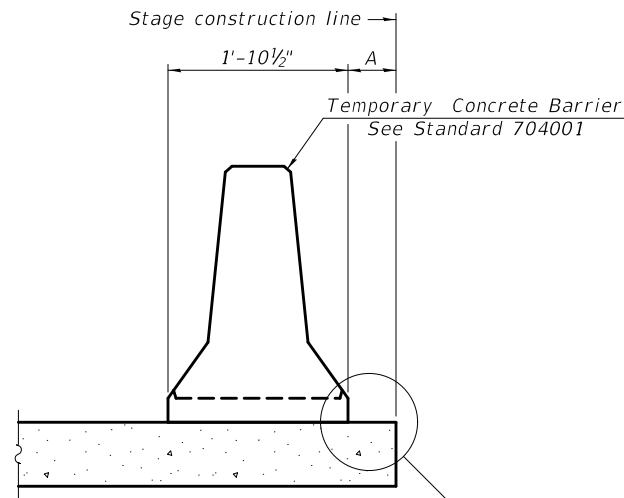
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGED CONSTRUCTION DETAILS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)**

SHEET 4 OF 32 SHEETS

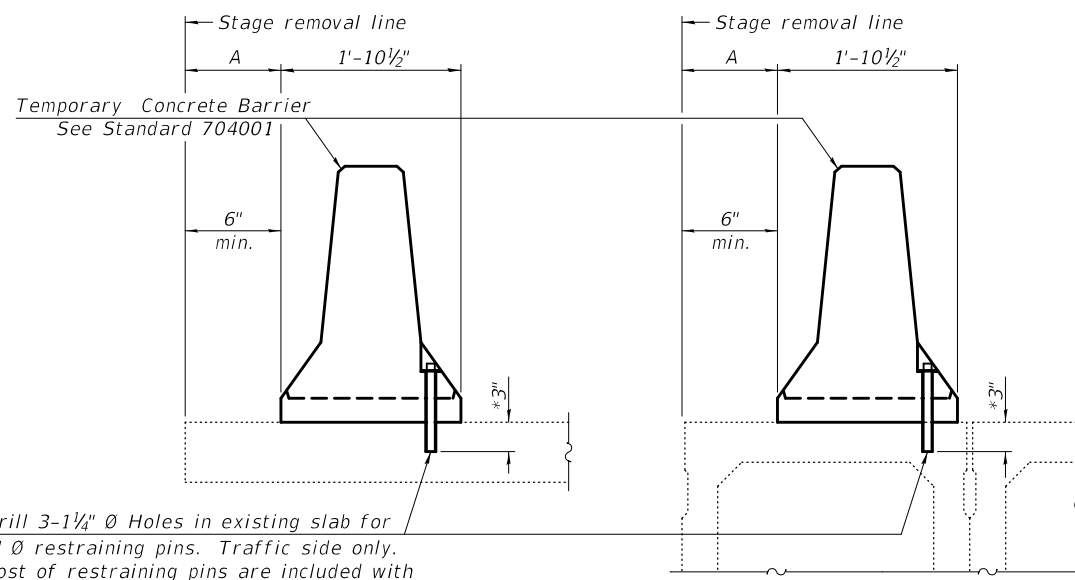
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74	48(30B)BR	KNOX	80	35
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

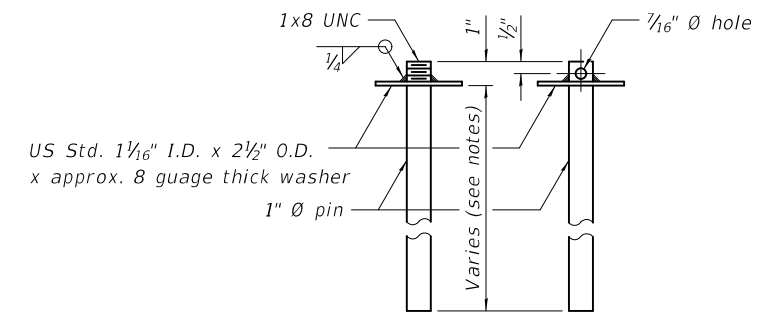


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

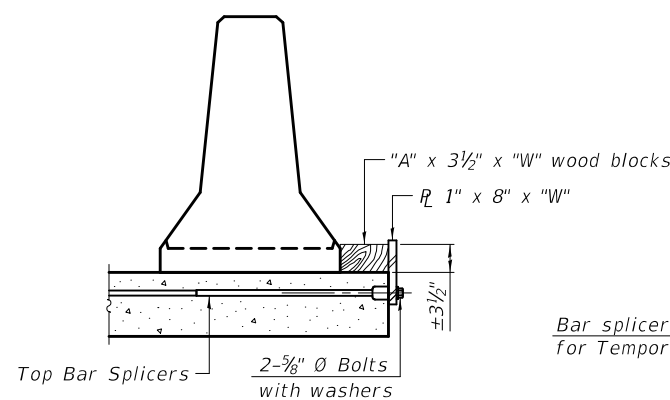
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM



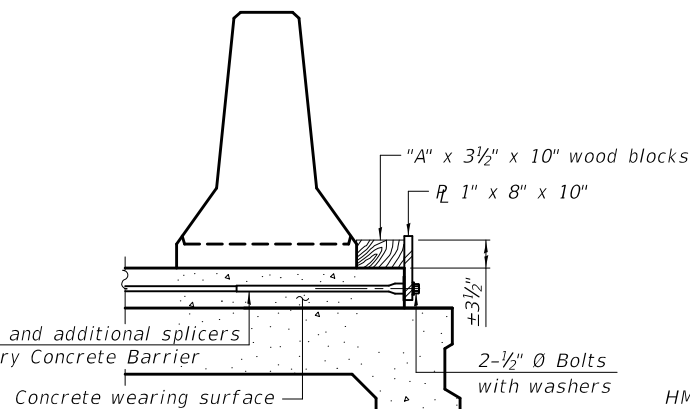
RESTRAINING PIN

SECTIONS THRU SLAB OR DECK BEAM

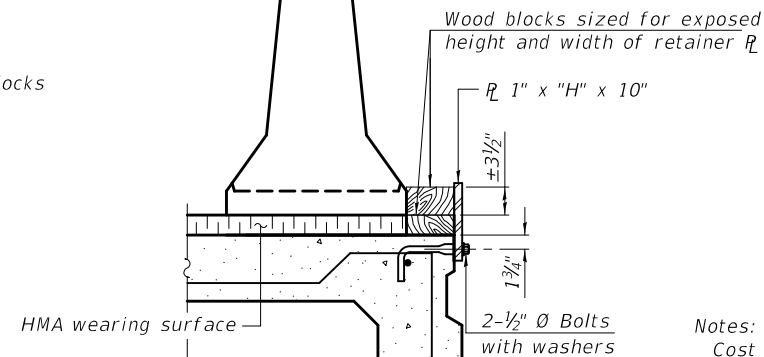


DETAIL I

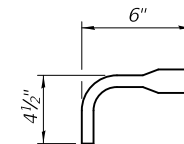
Bar splicers and additional splicers for Temporary Concrete Barrier



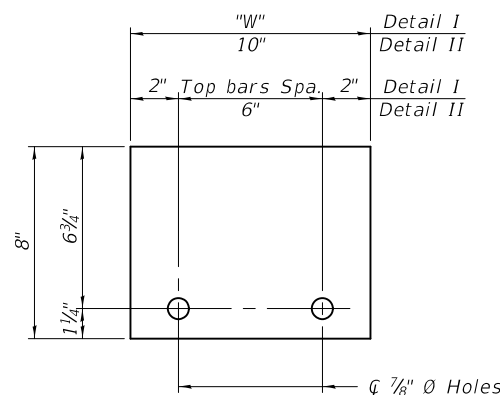
DETAIL II



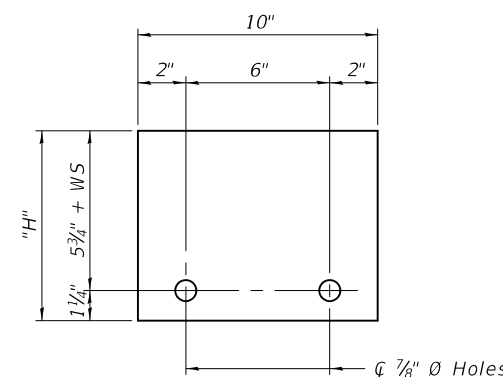
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

Notes:

- Cost of retainer assembly is included with Temporary Concrete Barrier.
- A retainer assembly shall be located at the approximate center of each temporary concrete barrier.
- The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
- When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate.
- For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

- Detail I - Installation for a new bridge deck or bridge slab.
- Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
- Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

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R-27 2-17-2017

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. IB4-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 0:2.000000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

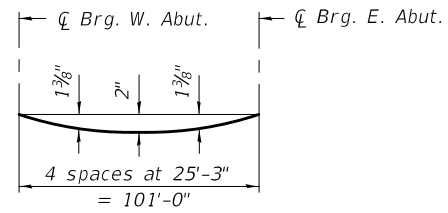
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 5 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	36
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

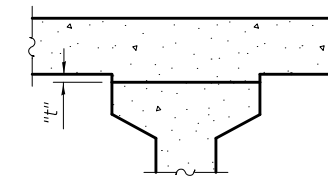




**DEAD LOAD DEFLECTION DIAGRAM**

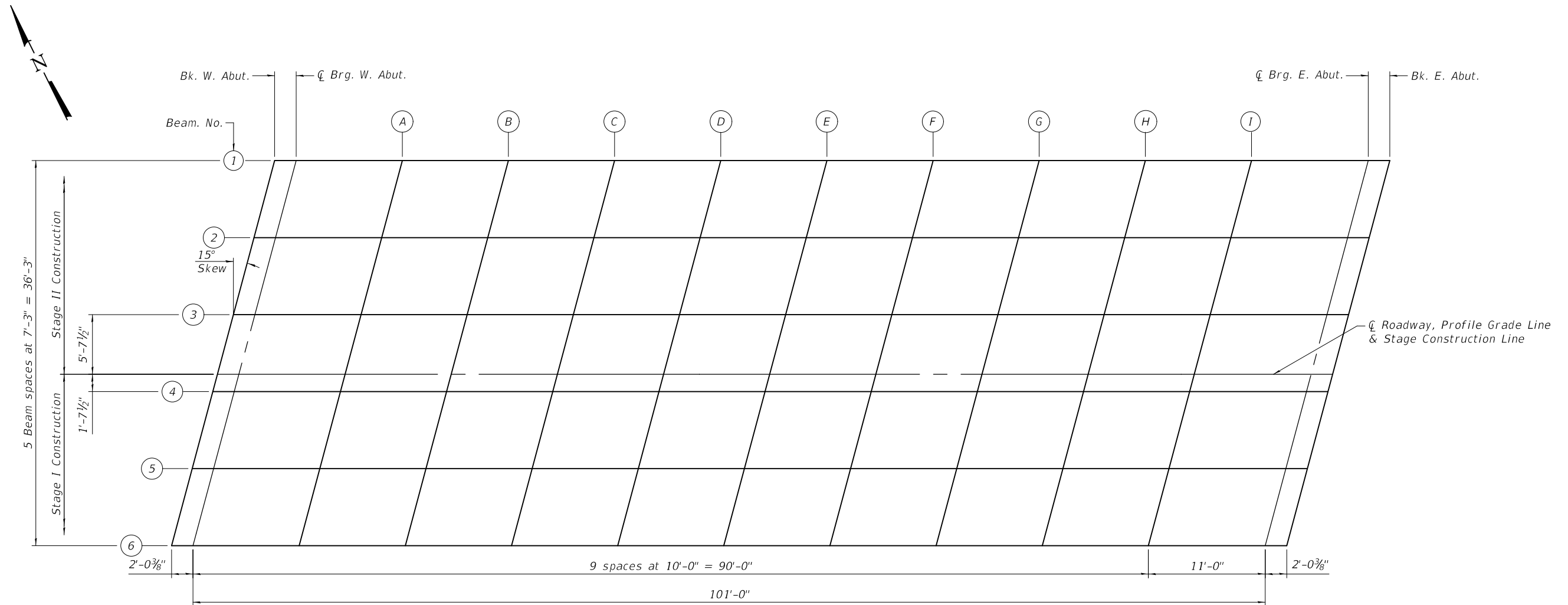
(Includes weight of concrete only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 7 of 32 sheets.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheet 7 of 32, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

MODEL: Default  
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E-S 2-17-2017

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
	CHECKED - MCB	REVISED -
PLOT SCALE = 10:8.0000 " / in.	DRAWN - CFC	REVISED -
PLOT DATE = 1/29/2020	CHECKED - MCB	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 048-0106 (WB)**

SHEET 6 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	37
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

FEHR GRAHAM PROJECT NUMBER: 15-1016J

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68361.05	-20.12	637.42	637.42
Q Brg. W. Abut.	68363.08	-20.12	637.43	637.43
A	68373.08	-20.12	637.50	637.55
B	68383.08	-20.12	637.57	637.66
C	68393.08	-20.12	637.65	637.78
D	68403.08	-20.12	637.73	637.88
E	68413.08	-20.12	637.81	637.98
F	68423.08	-20.12	637.90	638.06
G	68433.08	-20.12	638.00	638.13
H	68443.08	-20.12	638.10	638.20
I	68453.08	-20.12	638.21	638.26
Q Brg. E. Abut.	68464.09	-20.12	638.33	638.33
Bk. E. Abut.	68466.11	-20.12	638.35	638.35

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68359.11	-12.87	637.55	637.55
Q Brg. W. Abut.	68361.14	-12.87	637.56	637.56
A	68371.14	-12.87	637.63	637.68
B	68381.14	-12.87	637.70	637.79
C	68391.14	-12.87	637.77	637.90
D	68401.14	-12.87	637.86	638.01
E	68411.14	-12.87	637.94	638.10
F	68421.14	-12.87	638.03	638.19
G	68431.14	-12.87	638.13	638.26
H	68441.14	-12.87	638.23	638.32
I	68451.14	-12.87	638.33	638.38
Q Brg. E. Abut.	68462.14	-12.87	638.45	638.45
Bk. E. Abut.	68464.17	-12.87	638.48	638.48

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68357.17	-5.63	637.65	637.65
Q Brg. W. Abut.	68359.20	-5.63	637.66	637.66
A	68369.20	-5.63	637.73	637.78
B	68379.20	-5.63	637.80	637.89
C	68389.20	-5.63	637.87	638.00
D	68399.20	-5.63	637.95	638.11
E	68409.20	-5.63	638.04	638.20
F	68419.20	-5.63	638.13	638.28
G	68429.20	-5.63	638.22	638.35
H	68439.20	-5.63	638.32	638.42
I	68449.20	-5.63	638.42	638.48
Q Brg. E. Abut.	68460.20	-5.63	638.54	638.54
Bk. E. Abut.	68462.23	-5.63	638.57	638.57

**Q ROADWAY, PGL & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68355.66	0.00	637.73	637.73
Q Brg. W. Abut.	68357.69	0.00	637.74	637.74
A	68367.69	0.00	637.80	637.85
B	68377.69	0.00	637.87	637.97
C	68387.69	0.00	637.95	638.08
D	68397.69	0.00	638.02	638.18
E	68407.69	0.00	638.11	638.27
F	68417.69	0.00	638.20	638.35
G	68427.69	0.00	638.29	638.42
H	68437.69	0.00	638.39	638.49
I	68447.69	0.00	638.49	638.55
Q Brg. E. Abut.	68458.69	0.00	638.61	638.61
Bk. E. Abut.	68460.72	0.00	638.63	638.63

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68355.22	1.63	637.7	637.7
Q Brg. W. Abut.	68357.25	1.63	637.71	637.71
A	68367.25	1.63	637.78	637.82
B	68377.25	1.63	637.84	637.94
C	68387.25	1.63	637.92	638.05
D	68397.25	1.63	638.00	638.15
E	68407.25	1.63	638.08	638.24
F	68417.25	1.63	638.17	638.32
G	68427.25	1.63	638.26	638.40
H	68437.25	1.63	638.36	638.46
I	68447.25	1.63	638.46	638.52
Q Brg. E. Abut.	68458.26	1.63	638.58	638.58
Bk. E. Abut.	68460.28	1.63	638.60	638.60

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68353.28	8.87	637.58	637.58
Q Brg. W. Abut.	68355.31	8.87	637.59	637.59
A	68365.31	8.87	637.65	637.70
B	68375.31	8.87	637.72	637.82
C	68385.31	8.87	637.79	637.92
D	68395.31	8.87	637.87	638.03
E	68405.31	8.87	637.96	638.12
F	68415.31	8.87	638.04	638.20
G	68425.31	8.87	638.13	638.27
H	68435.31	8.87	638.23	638.33
I	68445.31	8.87	638.33	638.39
Q Brg. E. Abut.	68456.32	8.87	638.45	638.45
Bk. E. Abut.	68459.09	8.87	638.47	638.47

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68351.34	16.12	637.44	637.44
Q Brg. W. Abut.	68353.37	16.12	637.45	637.45
A	68363.37	16.12	637.51	637.56
B	68373.37	16.12	637.58	637.67
C	68383.37	16.12	637.65	637.78
D	68393.37	16.12	637.73	637.88
E	68403.37	16.12	637.81	637.97
F	68413.37	16.12	637.90	638.05
G	68423.37	16.12	637.99	638.12
H	68433.37	16.12	638.08	638.18
I	68443.37	16.12	638.18	638.24
Q Brg. E. Abut.	68454.37	16.12	638.30	638.30
Bk. E. Abut.	68456.40	16.12	638.32	638.32

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USER NAME = cconnor	DESIGNED - RJM	REVISED -
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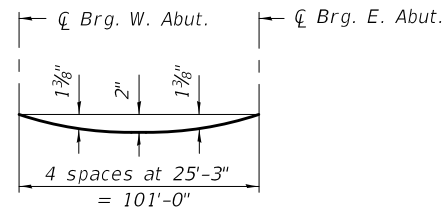
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 048-0106 (WB)**

SHEET 7 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	38
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

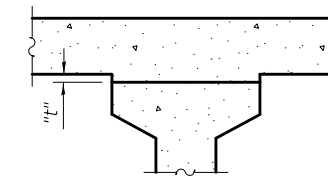


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

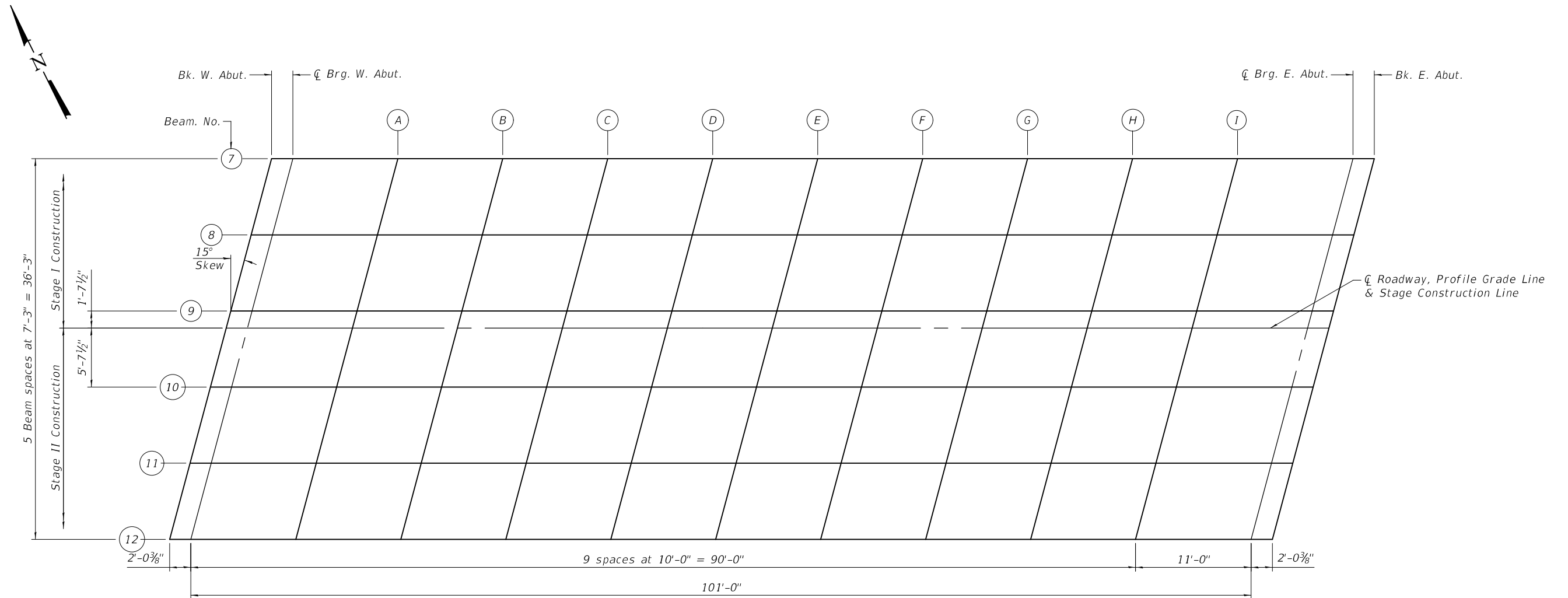
Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 9 of 32 sheets.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheet 9 of 32, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

MODEL: Default  
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2-17-2017

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
	CHECKED - MCB	REVISED -
PLOT SCALE = 10:8.0000 " / in.	DRAWN - CFC	REVISED -
PLOT DATE = 1/29/2020	CHECKED - MCB	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 048-0107 (EB)**

SHEET 8 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	39
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

**BEAM 7**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68334.80	-16.12	637.35	637.35
Q Brg. W. Abut.	68336.83	-16.12	637.36	637.36
A	68346.83	-16.12	637.41	637.46
B	68356.83	-16.12	637.47	637.56
C	68366.83	-16.12	637.53	637.66
D	68376.83	-16.12	637.60	637.76
E	68386.83	-16.12	637.68	637.84
F	68396.83	-16.12	637.76	637.91
G	68406.83	-16.12	637.84	637.97
H	68416.83	-16.12	637.93	638.02
I	68426.83	-16.12	638.02	638.07
Q Brg. E. Abut.	68437.82	-16.12	638.13	638.13
Bk. E. Abut.	68439.85	-16.12	638.15	638.15

**BEAM 8**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68332.86	-8.87	637.47	637.47
Q Brg. W. Abut.	68334.89	-8.87	637.48	637.48
A	68344.89	-8.87	637.53	637.58
B	68354.89	-8.87	637.59	637.68
C	68364.89	-8.87	637.65	637.78
D	68374.89	-8.87	637.72	637.87
E	68384.89	-8.87	637.79	637.95
F	68394.89	-8.87	637.87	638.02
G	68404.89	-8.87	637.95	638.08
H	68414.89	-8.87	638.04	638.14
I	68424.89	-8.87	638.13	638.18
Q Brg. E. Abut.	68435.88	-8.87	638.24	638.24
Bk. E. Abut.	68437.91	-8.87	638.26	638.26

**BEAM 9**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68330.92	-1.63	637.56	637.56
Q Brg. W. Abut.	68332.94	-1.63	637.57	637.57
A	68342.94	-1.63	637.63	637.68
B	68352.94	-1.63	637.68	637.78
C	68362.94	-1.63	637.75	637.88
D	68372.94	-1.63	637.81	637.97
E	68382.94	-1.63	637.89	638.05
F	68392.94	-1.63	637.96	638.12
G	68402.94	-1.63	638.04	638.18
H	68412.94	-1.63	638.13	638.23
I	68422.94	-1.63	638.22	638.27
Q Brg. E. Abut.	68433.94	-1.63	638.33	638.33
Bk. E. Abut.	68435.97	-1.63	638.35	638.35

**Q ROADWAY, PGL & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68330.48	0.00	637.59	637.59
Q Brg. W. Abut.	68332.51	0.00	637.60	637.60
A	68342.51	0.00	637.65	637.70
B	68352.51	0.00	637.71	637.80
C	68362.51	0.00	637.77	637.90
D	68372.51	0.00	637.84	637.99
E	68382.51	0.00	637.91	638.07
F	68392.51	0.00	637.98	638.14
G	68402.51	0.00	638.06	638.20
H	68412.51	0.00	638.15	638.25
I	68422.51	0.00	638.24	638.29
Q Brg. E. Abut.	68433.50	0.00	638.35	638.35
Bk. E. Abut.	68435.53	0.00	638.37	638.37

**BEAM 10**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68328.97	5.62	637.50	637.50
Q Brg. W. Abut.	68331.00	5.62	637.51	637.51
A	68341.00	5.62	637.56	637.61
B	68351.00	5.62	637.61	637.71
C	68361.00	5.62	637.67	637.80
D	68371.00	5.62	637.74	637.89
E	68381.00	5.62	637.81	637.97
F	68391.00	5.62	637.89	638.04
G	68401.00	5.62	637.97	638.10
H	68411.00	5.62	638.05	638.15
I	68421.00	5.62	638.14	638.20
Q Brg. E. Abut.	68431.99	5.62	638.25	638.25
Bk. E. Abut.	68434.02	5.62	638.27	638.27

**BEAM 11**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68327.03	12.87	637.37	637.37
Q Brg. W. Abut.	68329.06	12.87	637.38	637.38
A	68339.06	12.87	637.43	637.48
B	68349.06	12.87	637.49	637.58
C	68359.06	12.87	637.55	637.68
D	68369.06	12.87	637.61	637.77
E	68379.06	12.87	637.68	637.85
F	68389.06	12.87	637.76	637.91
G	68399.06	12.87	637.84	637.97
H	68409.06	12.87	637.92	638.02
I	68419.06	12.87	638.01	638.07
Q Brg. E. Abut.	68430.05	12.87	638.12	638.12
Bk. E. Abut.	68432.08	12.87	638.14	638.14

**BEAM 12**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	68325.09	20.12	637.22	637.22
Q Brg. W. Abut.	68327.12	20.12	637.23	637.23
A	68337.12	20.12	637.28	637.33
B	68347.12	20.12	637.33	637.43
C	68357.12	20.12	637.39	637.52
D	68367.12	20.12	637.46	637.61
E	68377.12	20.12	637.53	637.69
F	68387.12	20.12	637.60	637.75
G	68397.12	20.12	637.68	637.81
H	68407.12	20.12	637.76	637.86
I	68417.12	20.12	637.85	637.90
Q Brg. E. Abut.	68428.11	20.12	637.95	637.95
Bk. E. Abut.	68430.14	20.12	637.97	637.97

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PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 048-0107 (EB)**

SHEET 9 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	40
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

NORTH EDGE OF SHOULDER

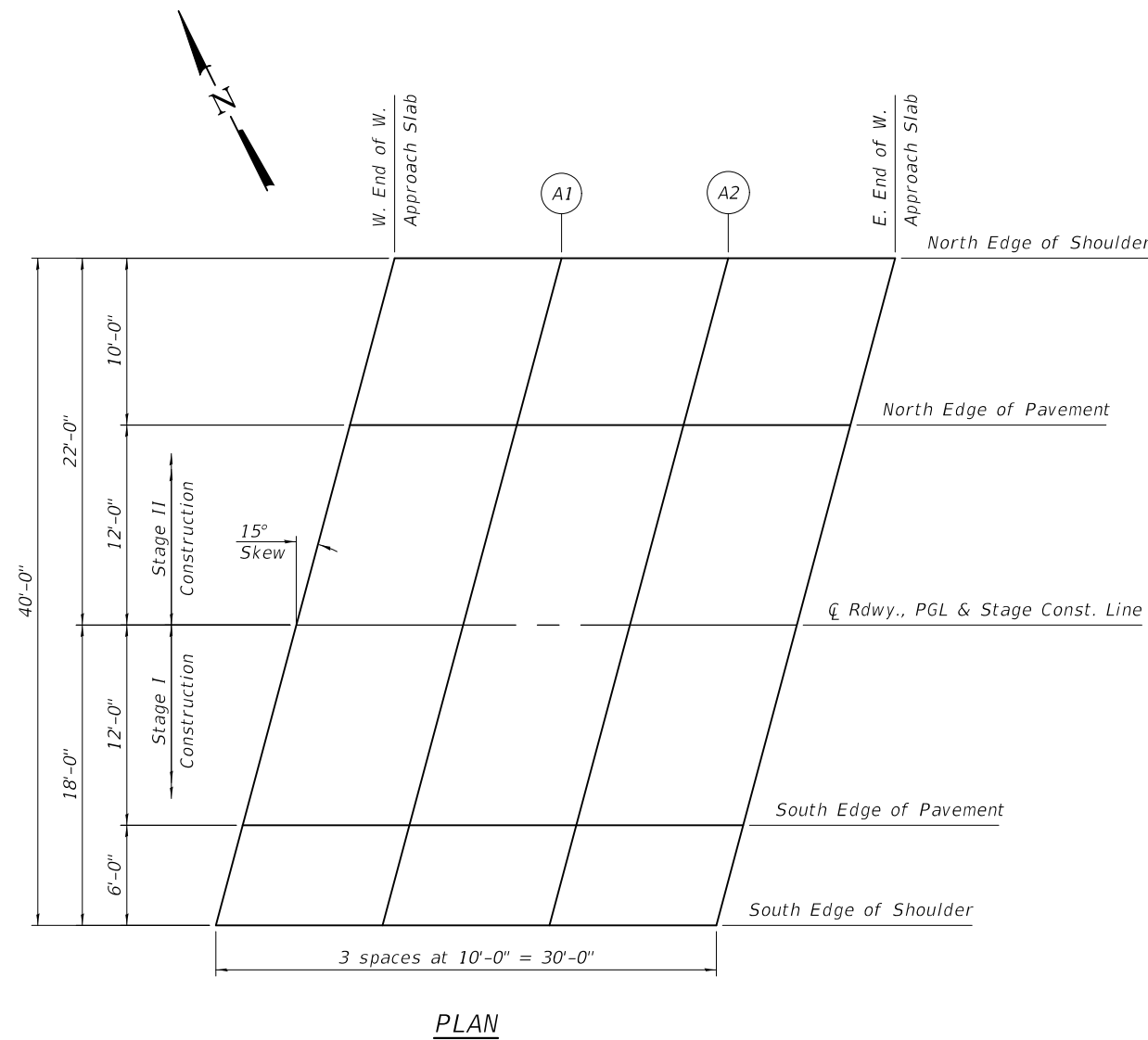
Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68332.59	-22.00	637.22
A1	68342.59	-22.00	637.27
A2	68352.59	-22.00	637.33
E. End of W. Approach Slab	68362.59	-22.00	637.39

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68329.91	-12.00	637.40
A1	68339.91	-12.00	637.46
A2	68349.91	-12.00	637.51
E. End of W. Approach Slab	68359.91	-12.00	637.57

CL ROADWAY, PGL & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68326.70	0.00	637.57
A1	68336.70	0.00	637.62
A2	68346.70	0.00	637.67
E. End of W. Approach Slab	68356.70	0.00	637.73



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SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68323.48	12.00	637.37
A1	68333.48	12.00	637.42
A2	68343.48	12.00	637.47
E. End of W. Approach Slab	68353.48	12.00	637.53

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68321.87	18.00	637.25
A1	68331.87	18.00	637.29
A2	68341.87	18.00	637.35
E. End of W. Approach Slab	68351.87	18.00	637.40

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MODEL: Default  
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**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
	CHECKED - MCB	REVISED -
PLOT SCALE = 10:8.0000 " = 1" / in.	DRAWN - CFC	REVISED -
PLOT DATE = 1/29/2020	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 048-0106 (WB)

SHEET 10 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	41
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

NORTH EDGE OF SHOULDER

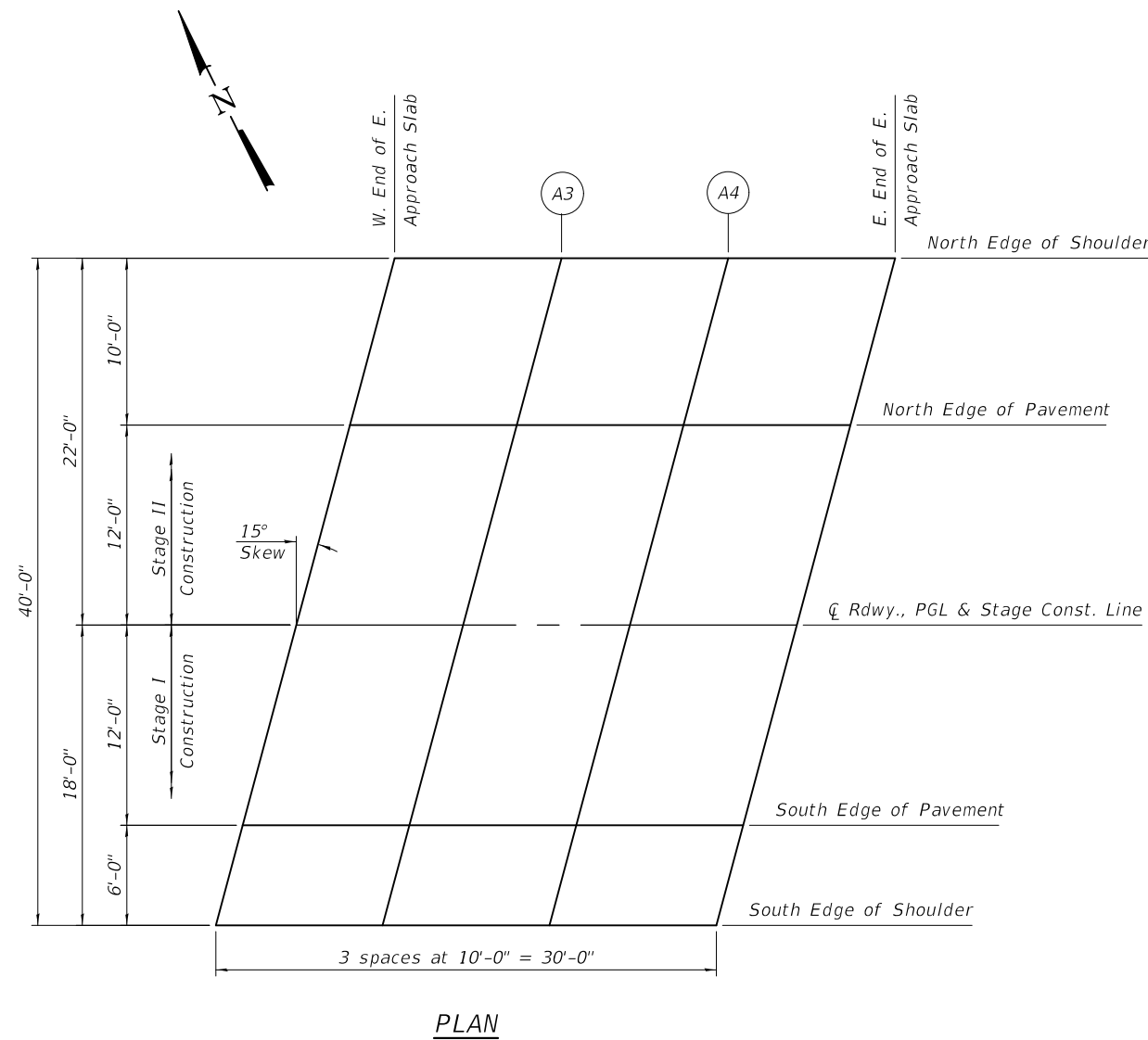
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68465.58	-22.00	638.31
A3	68475.58	-22.00	638.43
A4	68485.58	-22.00	638.55
E. End of E. Approach Slab	68495.58	-22.00	638.67

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68462.90	-12.00	638.48
A3	68472.90	-12.00	638.59
A4	68482.90	-12.00	638.71
E. End of E. Approach Slab	68492.90	-12.00	638.84

CL ROADWAY, PGL & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68459.68	0.00	638.62
A3	68469.68	0.00	638.74
A4	68479.68	0.00	638.85
E. End of E. Approach Slab	68489.68	0.00	638.98



SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68456.47	12.00	638.41
A3	68466.47	12.00	638.52
A4	68476.47	12.00	638.64
E. End of E. Approach Slab	68486.47	12.00	638.76

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68454.86	18.00	638.27
A3	68464.86	18.00	638.38
A4	68474.86	18.00	638.50
E. End of E. Approach Slab	68484.86	18.00	638.62

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E-AS 2-17-2017



USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 10:8.0000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 048-0106 (WB)

SHEET 11 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	42
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

NORTH EDGE OF SHOULDER

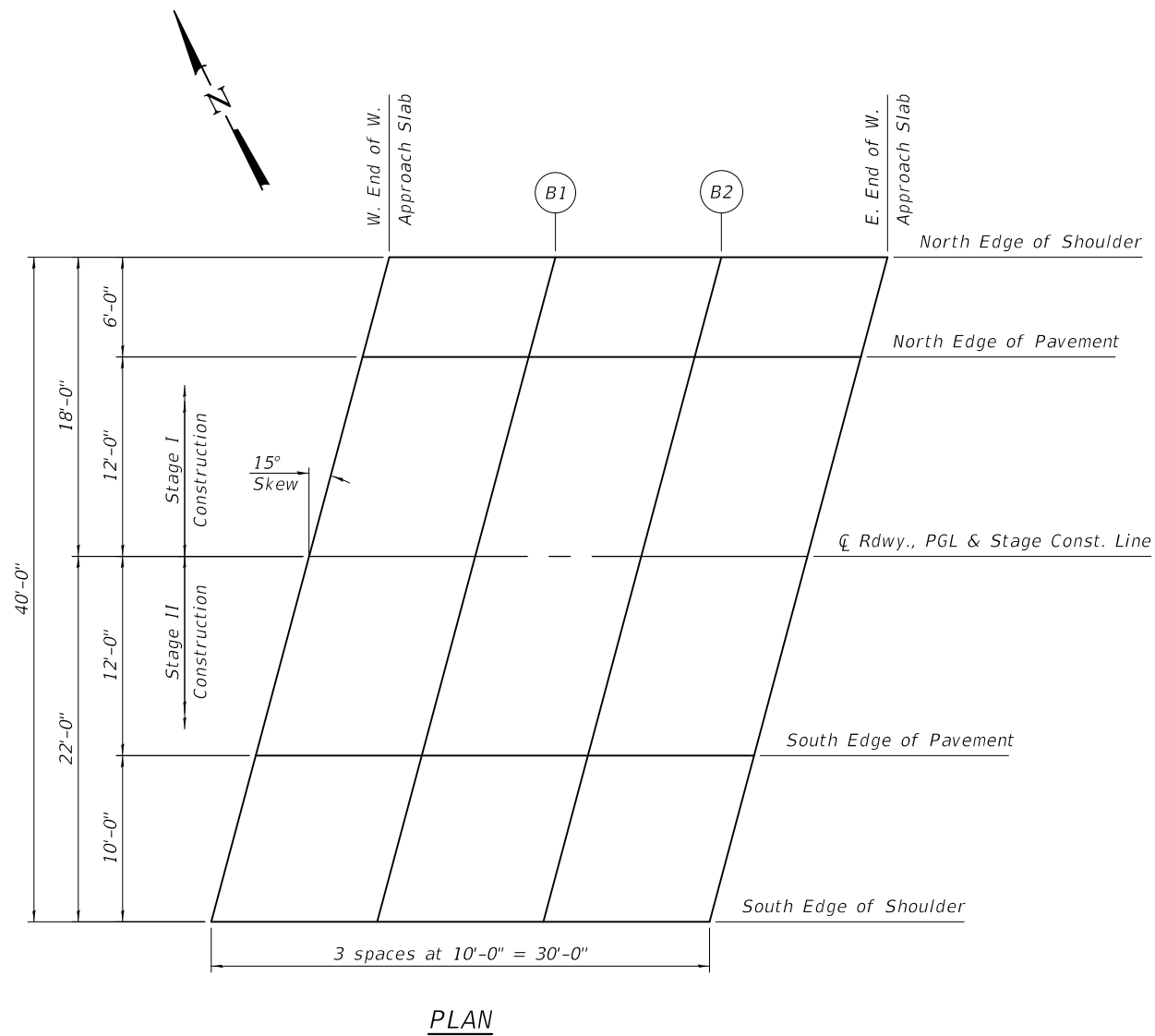
Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68306.34	-18.00	637.18
B1	68316.34	-18.00	637.22
B2	68326.34	-18.00	637.27
E. End of W. Approach Slab	68336.34	-18.00	637.32

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68304.73	-12.00	637.30
B1	68314.73	-12.00	637.34
B2	68324.73	-12.00	637.38
E. End of W. Approach Slab	68334.73	-12.00	637.43

CL ROADWAY, PGL & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68301.51	0.00	637.47
B1	68311.51	0.00	637.50
B2	68321.51	0.00	637.55
E. End of W. Approach Slab	68331.51	0.00	637.59



SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68298.30	12.00	637.27
B1	68308.30	12.00	637.31
B2	68318.30	12.00	637.35
E. End of W. Approach Slab	68328.30	12.00	637.40

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	68295.62	22.00	637.07
B1	68305.62	22.00	637.10
B2	68315.62	22.00	637.14
E. End of W. Approach Slab	68325.62	22.00	637.18

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E-AS 2-17-2017



USER NAME = cconnor	DESIGNED - RJM	REVISED -
	CHECKED - MCB	REVISED -
PLOT SCALE = 10:8.0000 " = 1" / in.	DRAWN - CFC	REVISED -
PLOT DATE = 1/29/2020	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 048-0107 (EB)

SHEET 12 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	43
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

NORTH EDGE OF SHOULDER

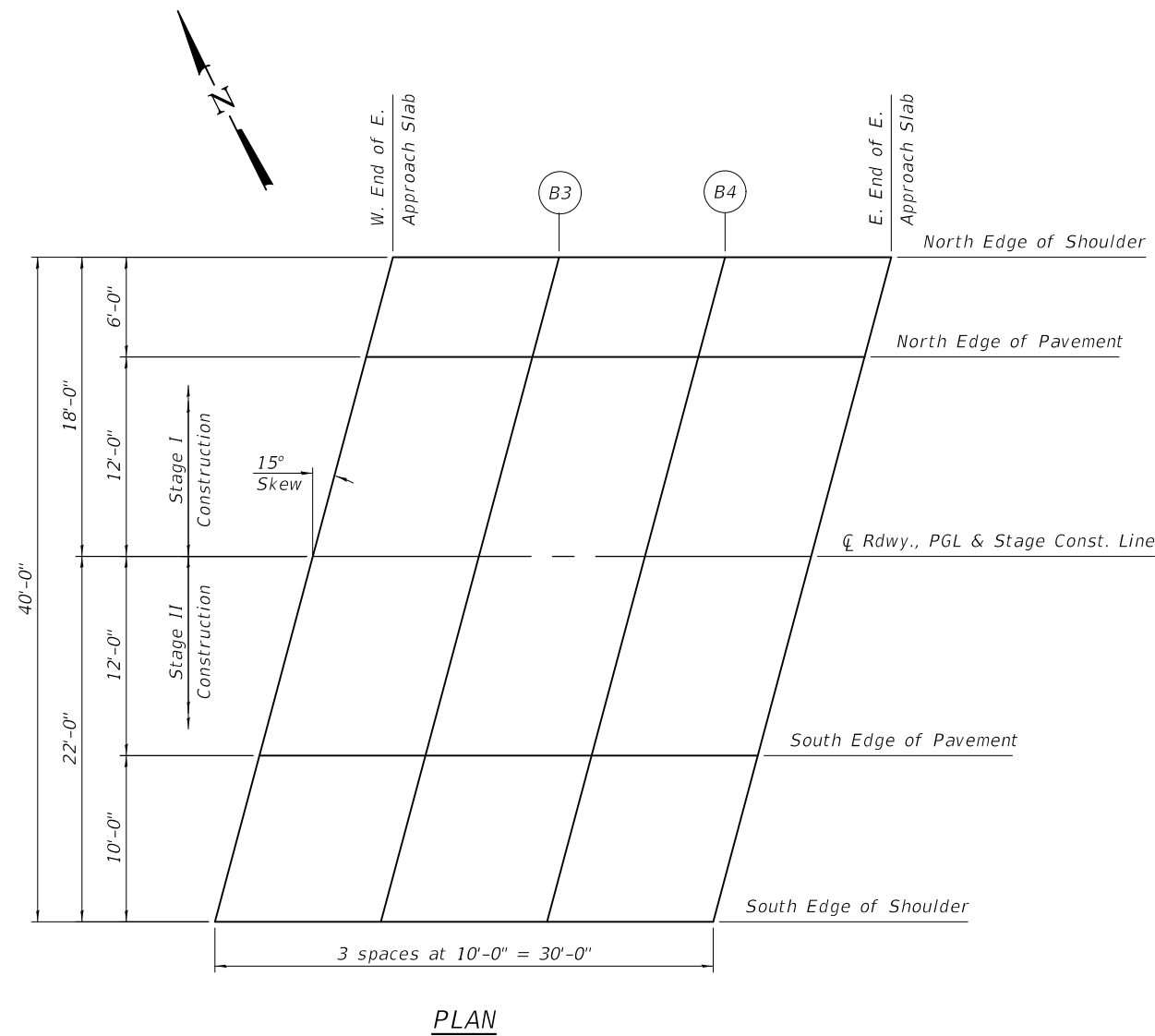
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68439.32	-18.00	638.11
B3	68449.32	-18.00	638.21
B4	68459.32	-18.00	638.32
E. End of E. Approach Slab	68469.32	-18.00	638.43

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68437.71	-12.00	638.21
B3	68447.71	-12.00	638.31
B4	68457.71	-12.00	638.42
E. End of E. Approach Slab	68467.71	-12.00	638.53

CL ROADWAY, PGL & STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68434.49	0.00	638.36
B3	68444.49	0.00	638.46
B4	68454.49	0.00	638.57
E. End of E. Approach Slab	68464.49	0.00	638.68



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68431.28	12.00	638.15
B3	68441.28	12.00	638.25
B4	68451.28	12.00	638.35
E. End of E. Approach Slab	68461.28	12.00	638.46

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	68428.60	22.00	637.92
B3	68438.60	22.00	638.02
B4	68448.60	22.00	638.12
E. End of E. Approach Slab	68458.60	22.00	638.23

E-AS

2-17-2017

MODEL: Default  
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**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 10:8.0000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

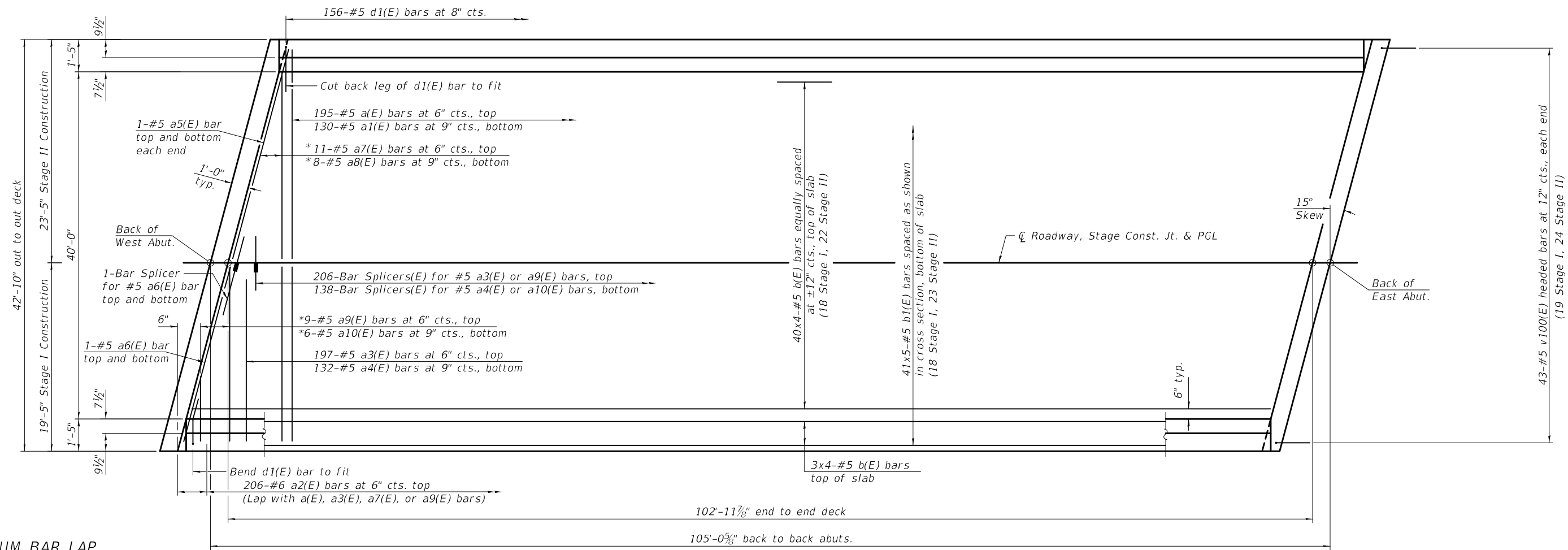
TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 048-0107 (EB)

SHEET 13 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	44
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J





**MINIMUM BAR LAP**

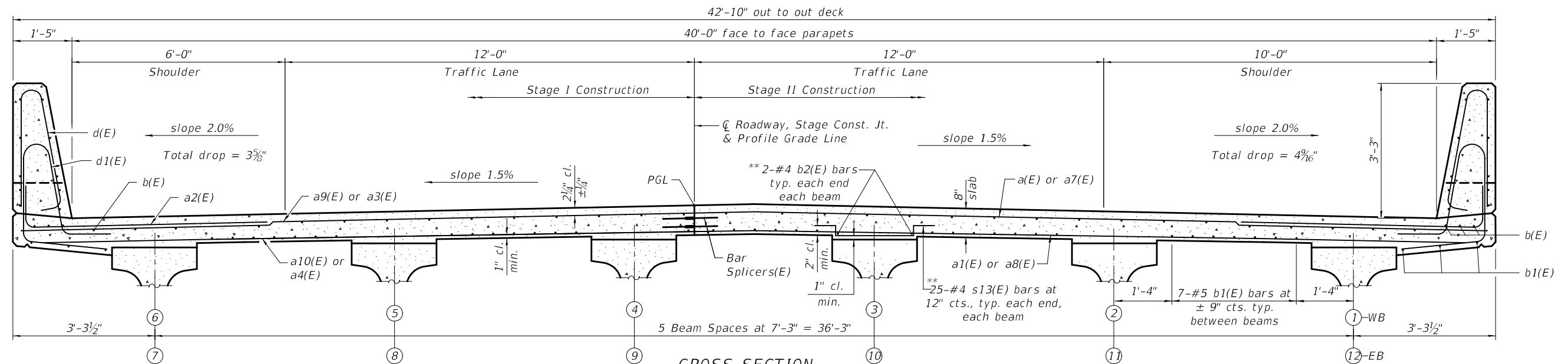
#5 bar = 3'-6"

\* See Field Cutting Diagram on sheet 15 of 32.

**PLAN**

S.N. 048-0106 shown  
S.N. 048-0107 Similar

Notes:  
See sheet 15 of 32 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



**CROSS SECTION**

(Looking West @ S.N. 048-0106  
Looking East @ S.N. 048-0107)

\*\* b2(E) and s13(E) bars required where fillet exceeds 2 1/2\"/>

SI-IL2772N-1-L(≤30°) 6-15-2019

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USER NAME = cconnor	DESIGNED - RJM	REVISED -
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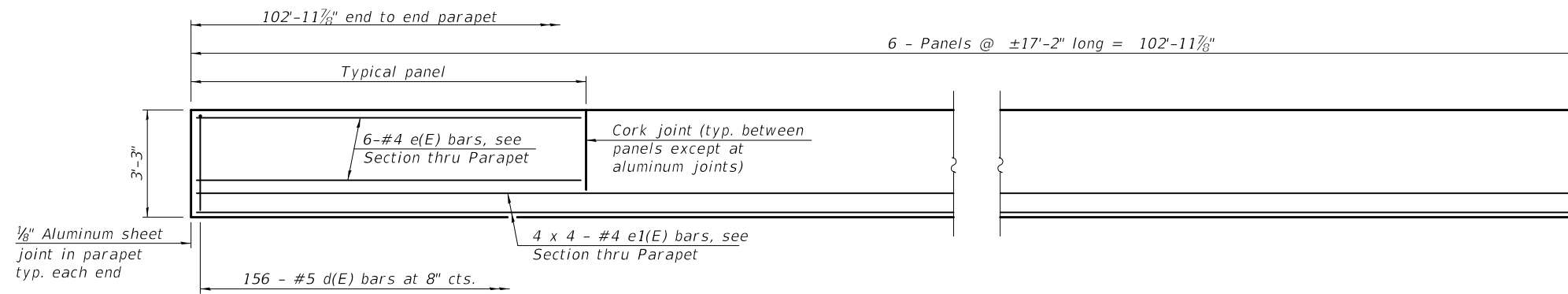
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)**

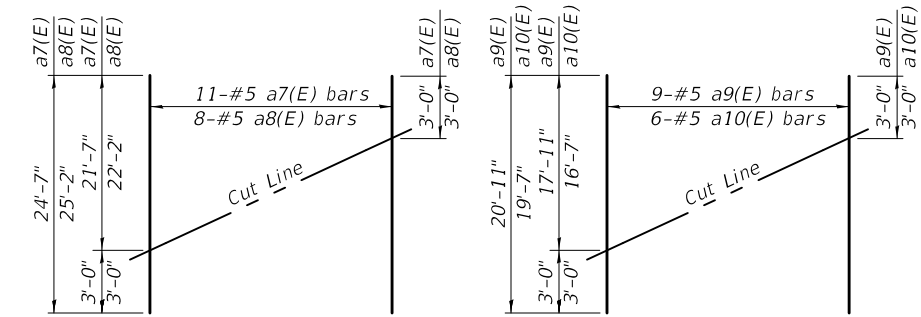
SHEET 14 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	45
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

FEHR GRAHAM PROJECT NUMBER: 15-1016J

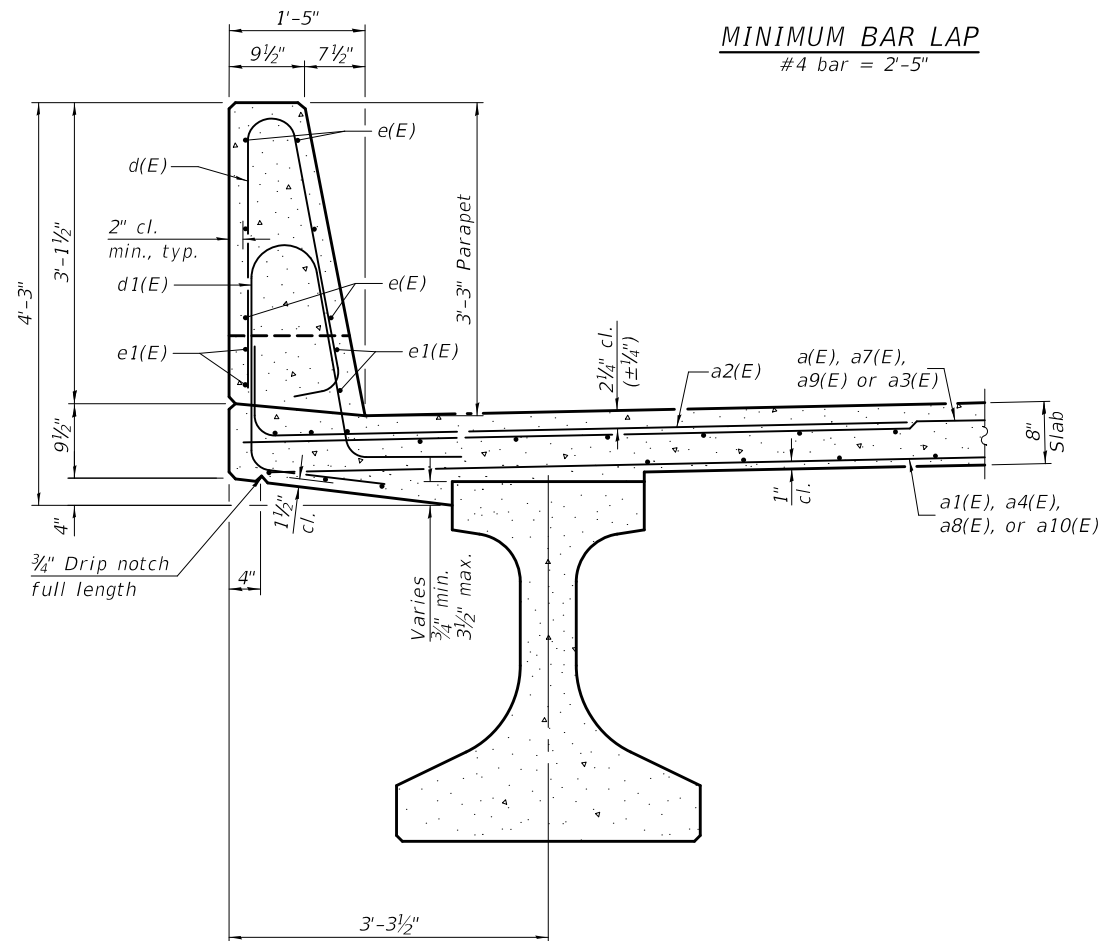


**INSIDE ELEVATION OF PARAPET**



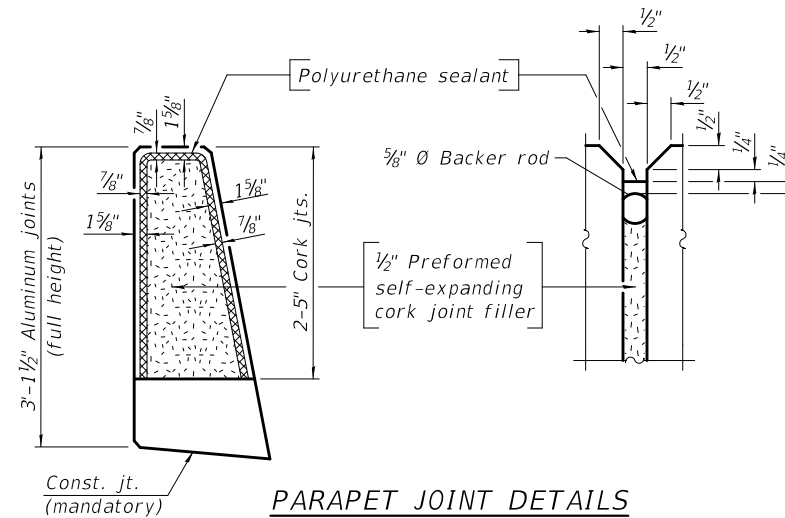
**FIELD CUTTING DIAGRAM**

Order a7(E), a8(E), a9(E) and a10(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.



**SECTION THRU PARAPET**

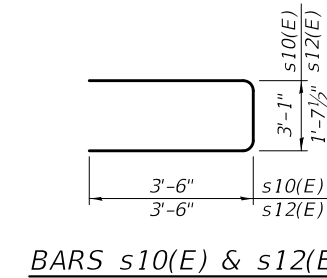
**MINIMUM BAR LAP**  
#4 bar = 2'-5"



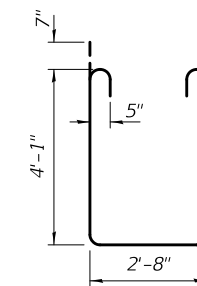
**PARAPET JOINT DETAILS**

**Notes:**

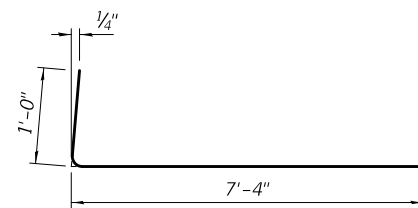
The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



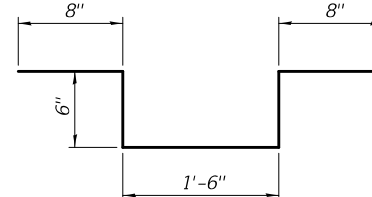
**BARS s10(E) & s12(E)**



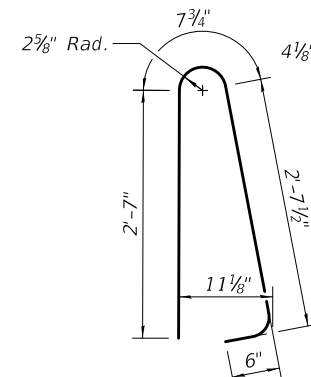
**BAR s11(E)**



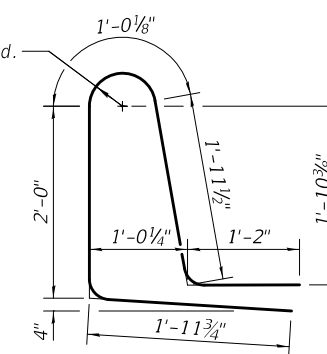
**BAR a2(E)**



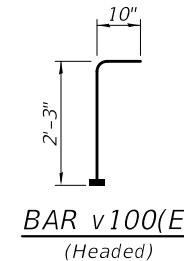
**BAR s13(E)**



**BAR d(E)**



**BAR d1(E)**



**BAR v100(E)**  
(Headed)

**TWO SUPERSTRUCTURES**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	390	#5	23'-2"	—
a1(E)	260	#5	22'-9"	—
a2(E)	824	#6	8'-4"	└
a3(E)	394	#5	19'-2"	—
a4(E)	264	#5	18'-9"	—
a5(E)	8	#5	23'-11"	—
a6(E)	8	#5	19'-9"	—
a7(E)	22	#5	24'-7"	—
a8(E)	16	#5	25'-2"	—
a9(E)	18	#5	20'-11"	—
a10(E)	12	#5	19'-7"	—
b(E)	368	#5	28'-4"	—
b1(E)	410	#5	23'-4"	—
b2(E)	48	#4	25'-0"	—
d(E)	624	#5	6'-5"	└
d1(E)	624	#5	8'-1"	└
e(E)	144	#4	16'-10"	—
e1(E)	64	#4	27'-6"	—
m10(E)	24	#6	23'-11"	—
m11(E)	64	#6	5'-10"	—
m12(E)	32	#6	2'-8"	—
m13(E)	16	#6	3'-10"	—
m14(E)	8	#5	1'-6"	—
m15(E)	48	#5	4'-0"	—
m16(E)	24	#6	19'-9"	—
m17(E)	16	#6	5'-2"	—
m18(E)	4	#6	3'-10"	—
s10(E)	124	#5	10'-1"	└
s11(E)	104	#5	12'-0"	└
s12(E)	96	#5	8'-8"	└
s13(E)	600	#4	3'-10"	└
v100(E)	172	#5	3'-1"	└
Reinforcement Bars, Epoxy Coated		Lbs.		83,100
Concrete Superstructure		Cu. Yds.		374.1

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

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SDI-IL4554-1

6-15-2019

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

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PLOT SCALE = 0:2.0000 " = 1"	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
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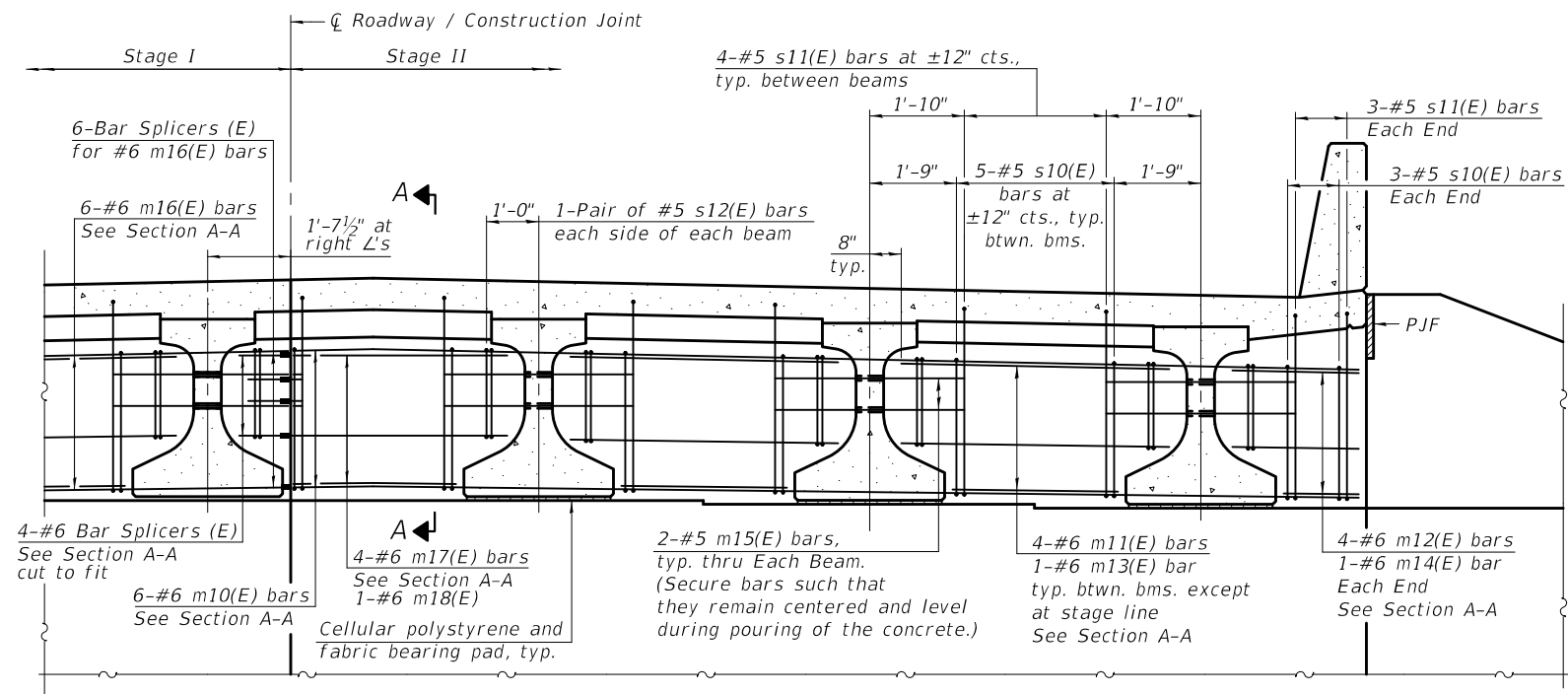
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

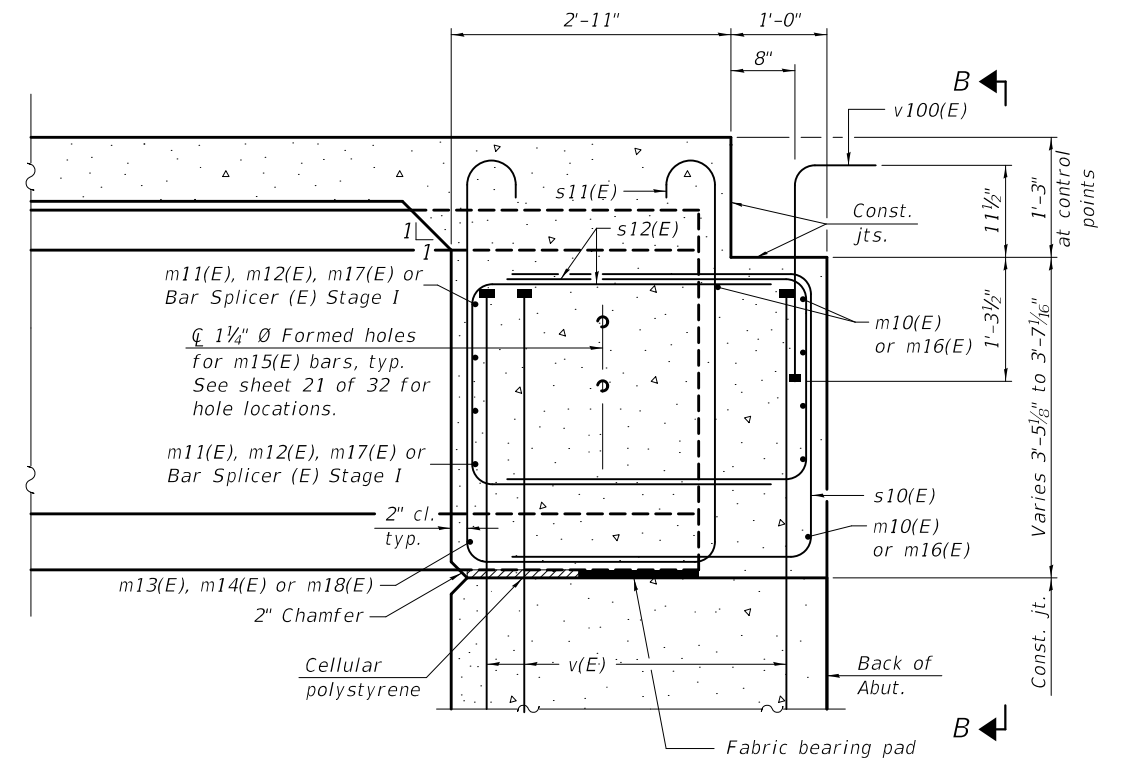
SHEET 15 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	46
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

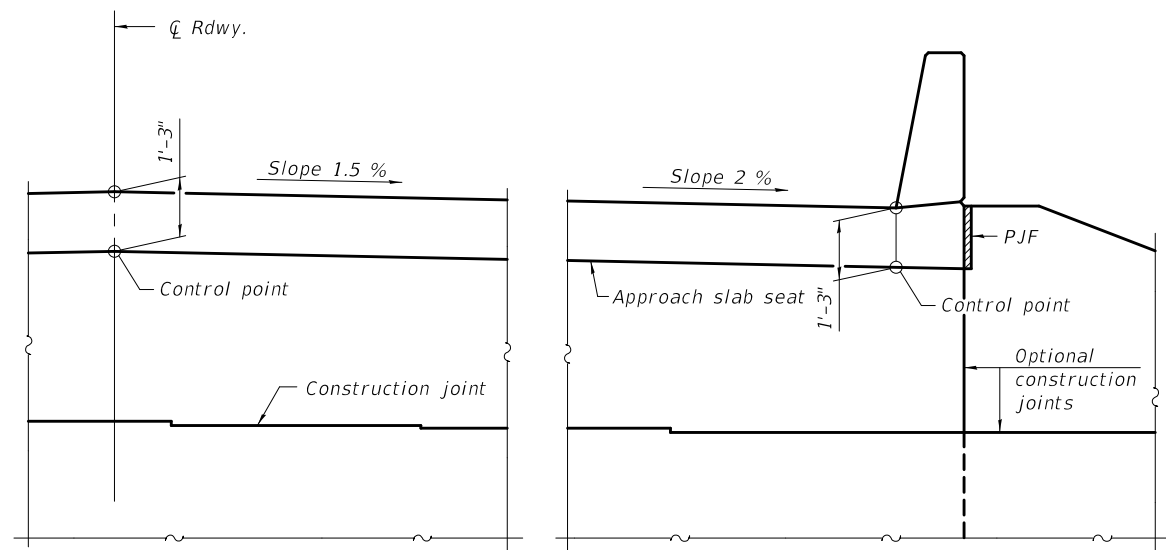
FEHR GRAHAM PROJECT NUMBER: 15-1016J



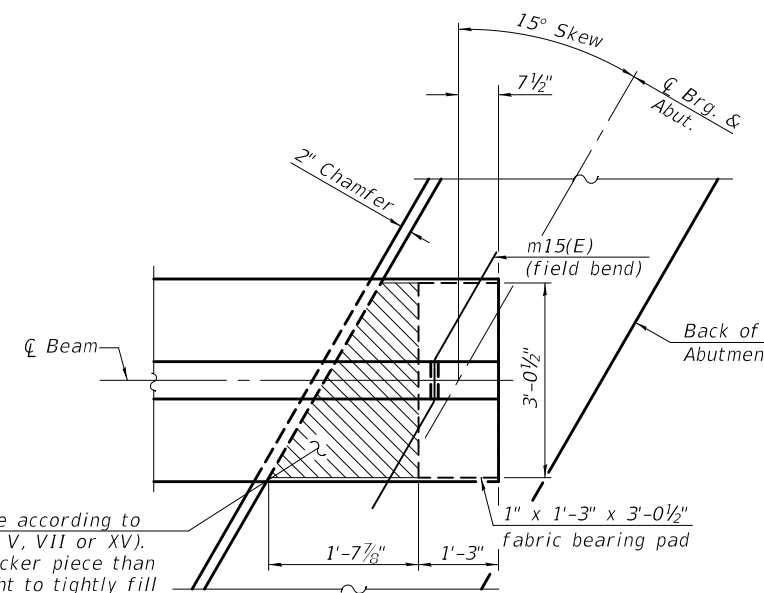
**DIAPHRAGM AT ABUTMENT**  
 (West Abutment looking West - SN 048-0106  
 East Abutment looking East - SN 048-0107 similar)



**SECTION A-A**  
 (at Rt. L's)



**VIEW B-B**



**PLAN AT ABUTMENT**  
 (Showing bottom flange of beam)

Notes:  
 See sheet 15 of 32 for superstructure details and Bill of Material.  
 See sheet 17 of 32 for P.J.F. details.  
 The s10(E), s11(E) and s12(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
 The approach slab seat shall have a constant slope determined from the control points shown.  
 Cost of cellular polystyrene is included with Concrete Superstructure.

Cellular polystyrene according to ASTM C 578 (Types V, VII or XV). Provide slightly thicker piece than measured gap height to tightly fill the hatched area shown between abutment cap and bottom of beam.

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DIA-IL4554-L

6-15-2019

**FEHR GRAHAM**  
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 ILLINOIS DESIGN FIRM NO. 184-003525

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

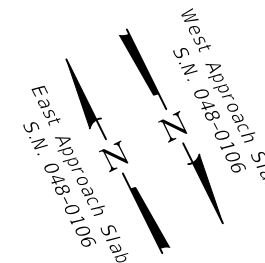
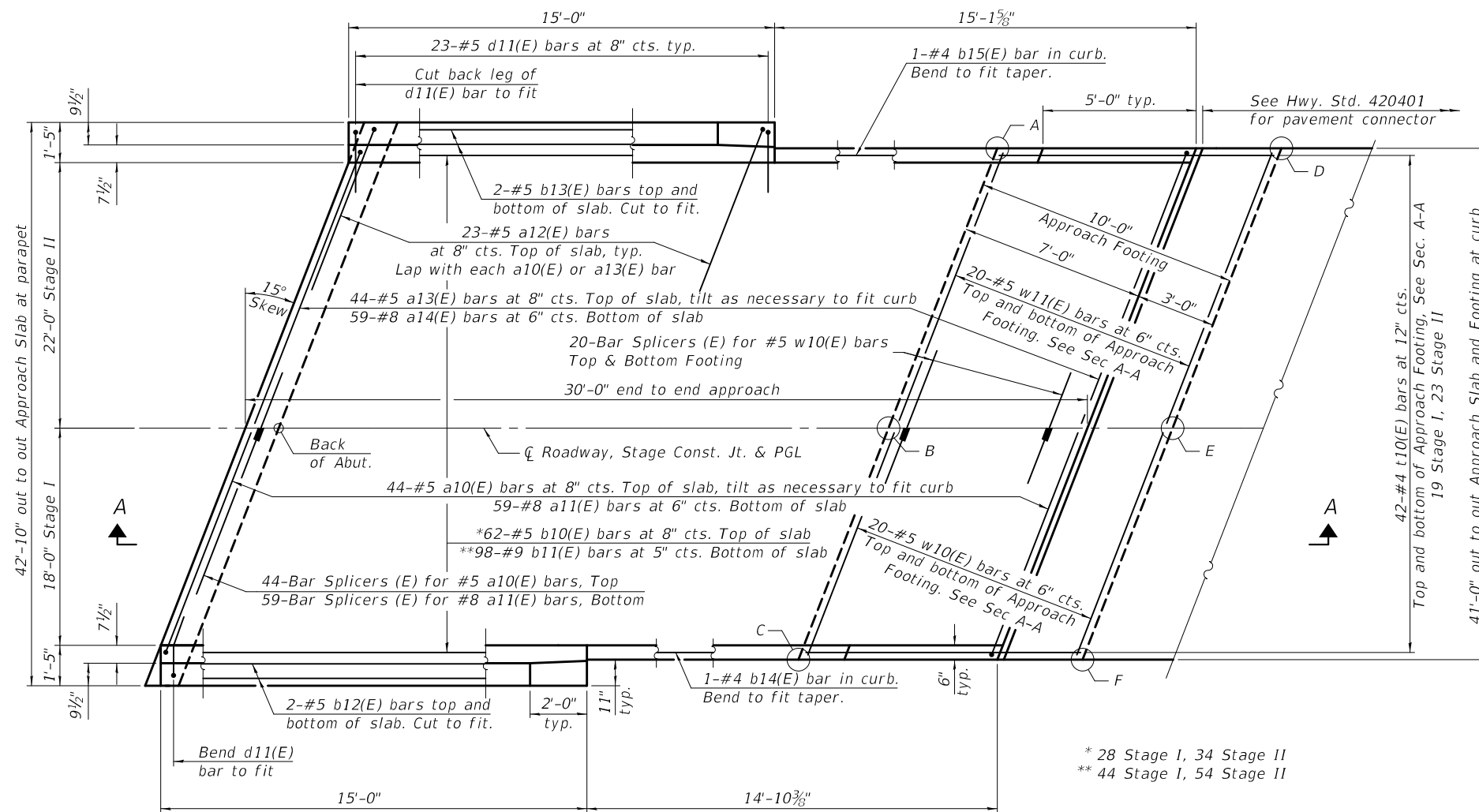
INTEGRAL ABUTMENT DIAPHRAGM DETAILS  
 STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 16 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	47
CONTRACT NO. 68D41				

ILLINOIS FED. AID PROJECT

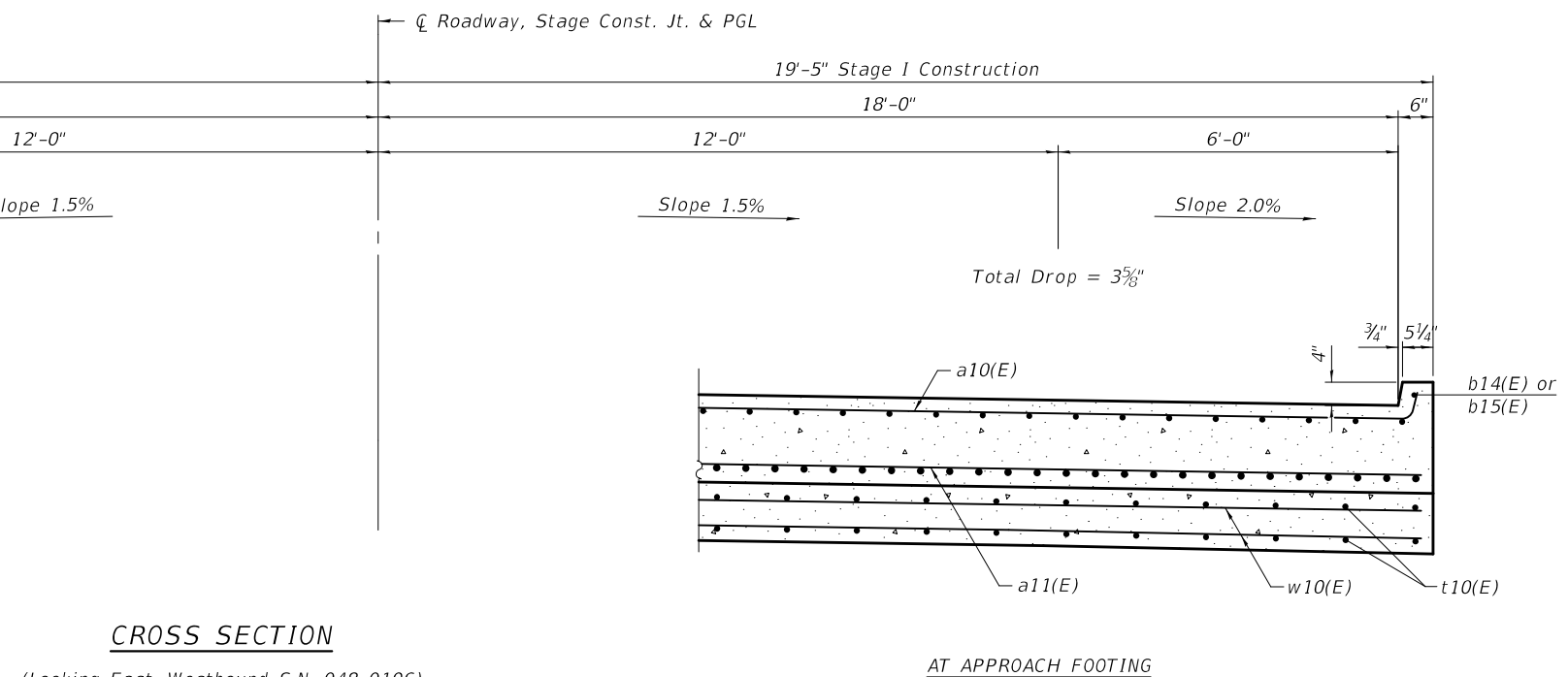
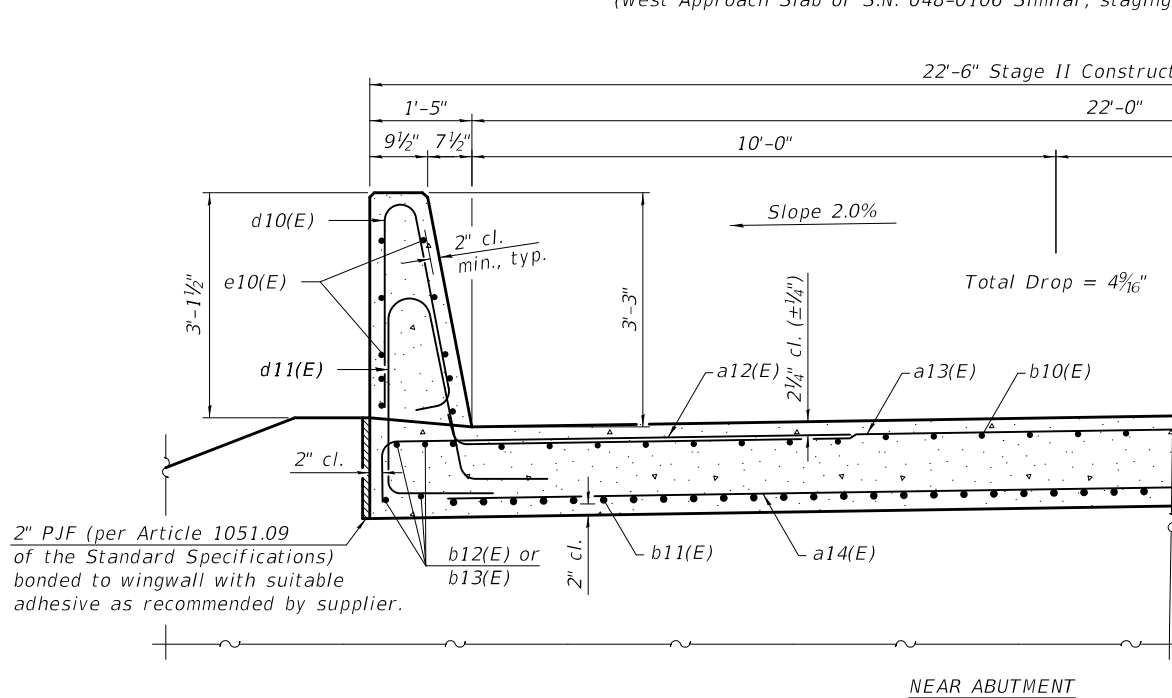
FEHR GRAHAM PROJECT NUMBER: 15-1016J



TOP AND BOTTOM ELEVATIONS FOR  
APPROACH FOOTING (WEST BOUND SN 048-0106)

Point	West Approach		East Approach	
	Top	Bottom	Top	Bottom
A	636.02	635.19	637.32	636.49
B	636.35	635.52	637.64	636.81
C	636.00	635.17	637.27	636.44
D	635.97	635.14	637.45	636.62
E	636.30	635.47	637.77	636.94
F	635.94	635.11	637.39	636.56

PLAN  
Showing East Approach Slab, S.N. 048-0106  
(West Approach Slab of S.N. 048-0106 Similar, staging opposite)



CROSS SECTION  
(Looking East, Westbound S.N. 048-0106)

BAIA-CIP-39CS-L(≤30°) 6-15-2019

(Sheet 1 of 3)

MODEL: Default  
FILE NAME: g:\sv81\_ssa\1510116\bridge\0480106\_0107-68D41-017-appro-slab-details.dgn

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 0:2.0000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

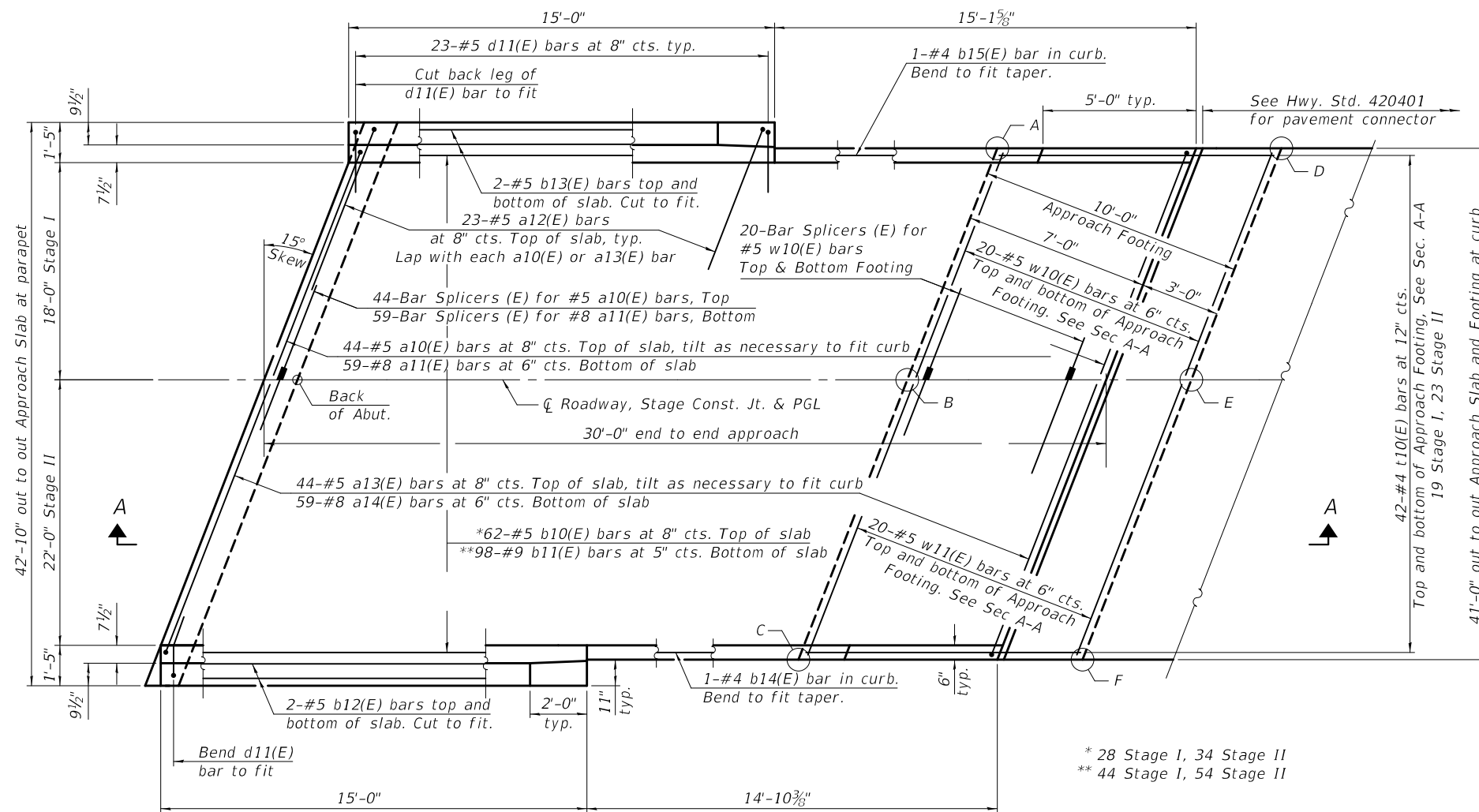
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 048-0106 (WB)

SHEET 17 OF 32 SHEETS

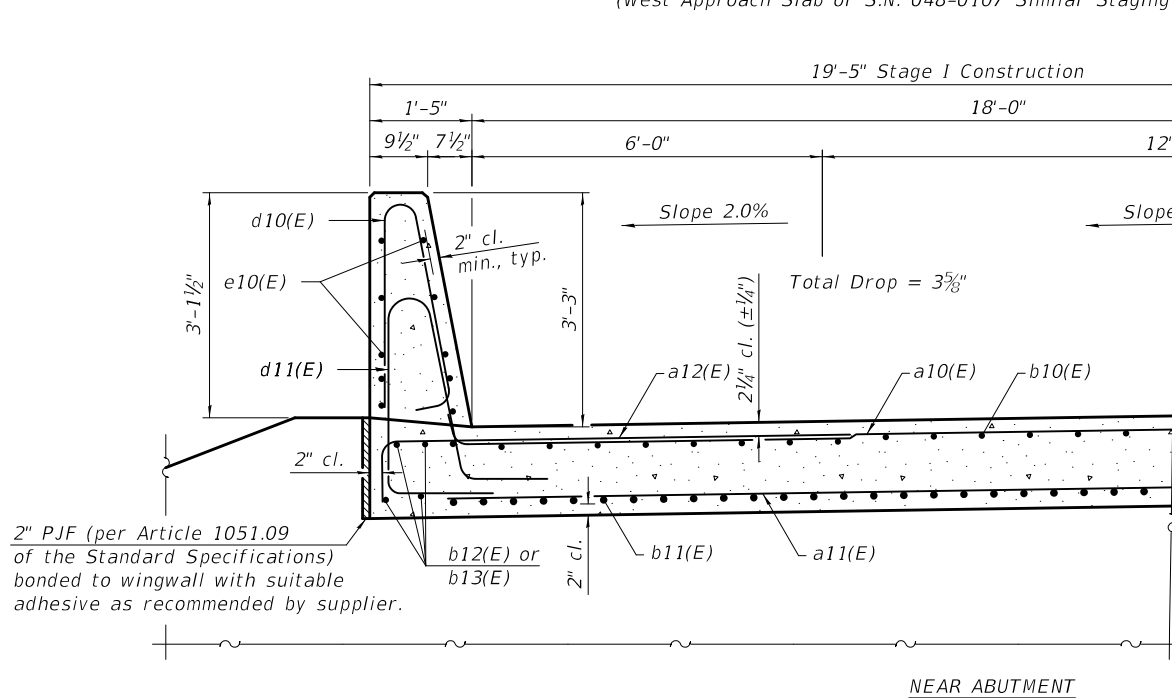
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	48
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J

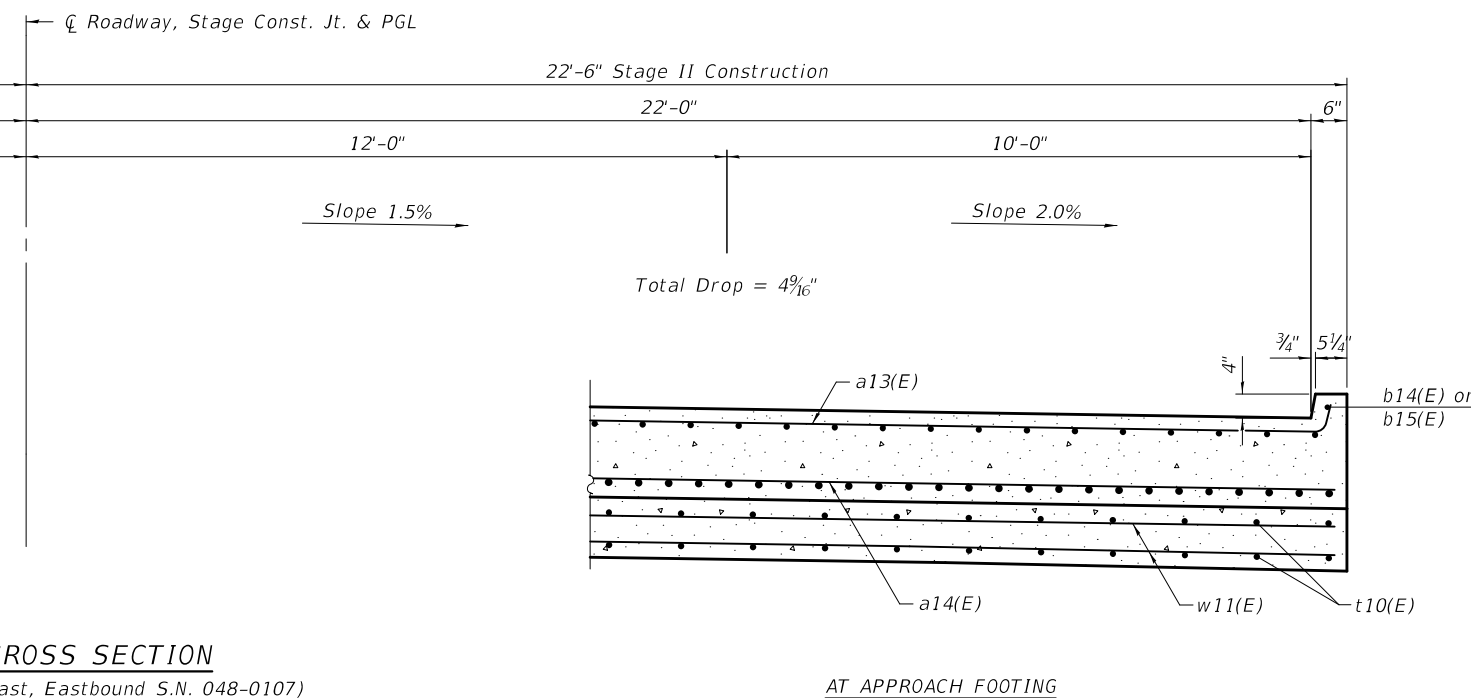


**PLAN**

Showing East Approach Slab, S.N. 048-0107  
(West Approach Slab of S.N. 048-0107 Similar Staging opposite)



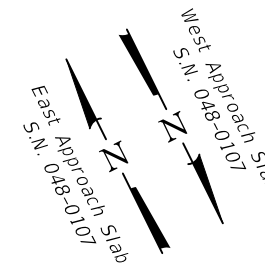
**NEAR ABUTMENT**



**CROSS SECTION**

(Looking East, Eastbound S.N. 048-0107)

**AT APPROACH FOOTING**



**TOP AND BOTTOM ELEVATIONS FOR  
APPROACH FOOTING (EAST BOUND SN 048-0107)**

Point	West Approach		East Approach	
	Top	Bottom	Top	Bottom
A	635.83	635.00	637.09	636.26
B	636.24	635.41	637.35	636.52
C	635.95	635.12	636.89	636.06
D	635.80	634.97	637.21	636.38
E	636.20	635.37	637.46	636.63
F	635.91	635.08	637.00	636.17

\* 28 Stage I, 34 Stage II  
\*\* 44 Stage I, 54 Stage II

MODEL: Default  
FILE NAME: g:\svb1\_ssa4\1510116\bridge\0480106\_0107-68D41-018-appro-slab-details.dgn

BAIA-CIP-39CS-L(≤30°) 6-15-2019

(Sheet 2 of 3)

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 0:2.0000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

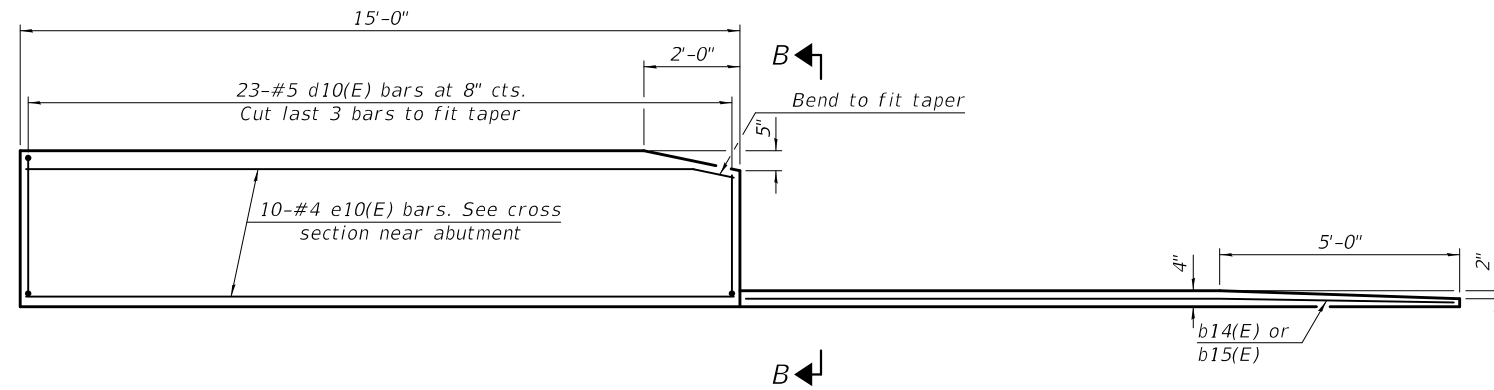
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 048-0107 (EB)**

SHEET 18 OF 32 SHEETS

F.A.I. RTE. 74	SECTION 48(30B)BR	COUNTY KNOX	TOTAL SHEETS 80	SHEET NO. 49
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J



INSIDE ELEVATION OF PARAPET AND CURB

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

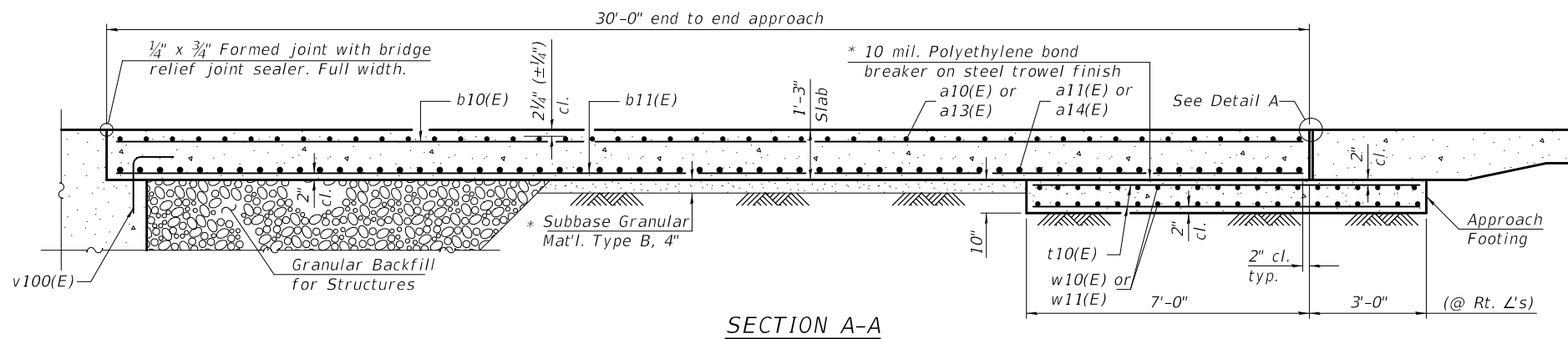
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

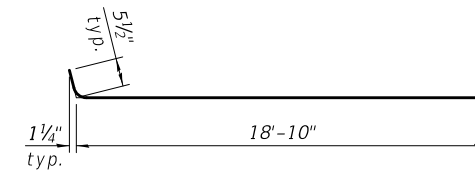
The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

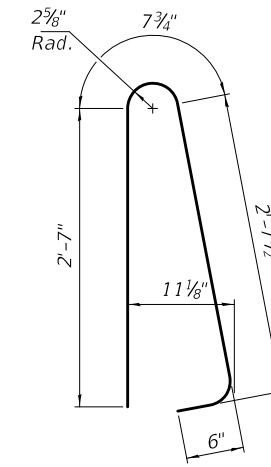
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 32.



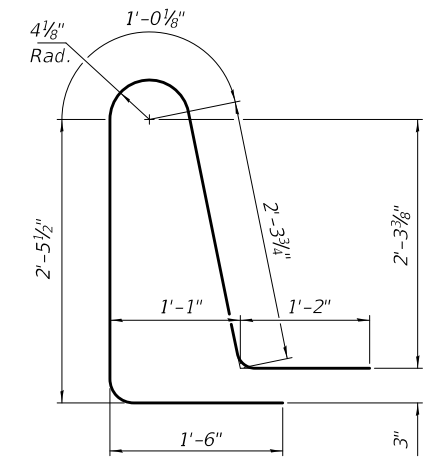
SECTION A-A



BAR a10(E)



BAR d10(E)

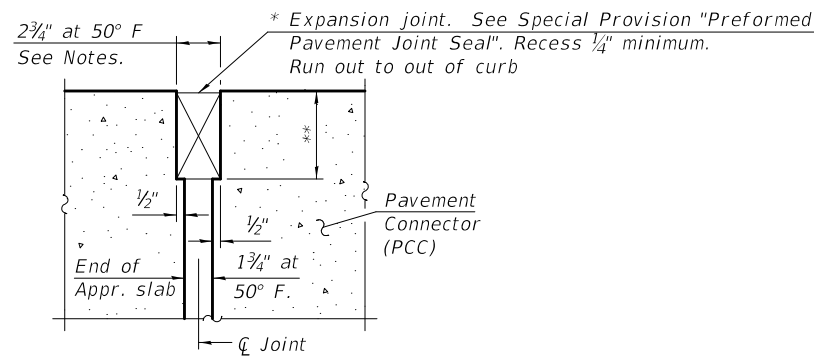


BAR d11(E)

FOUR APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	176	#5	19'-4"	┌───┐
a11(E)	236	#8	18'-10"	┌───┐
a12(E)	184	#5	7'-4"	┌───┐
a13(E)	176	#5	23'-6"	┌───┐
a14(E)	236	#8	23'-0"	┌───┐
b10(E)	236	#5	29'-8"	┌───┐
b11(E)	392	#9	29'-8"	┌───┐
b12(E)	16	#5	15'-1"	┌───┐
b13(E)	16	#5	14'-9"	┌───┐
b14(E)	4	#4	14'-7"	┌───┐
b15(E)	4	#4	14'-9"	┌───┐
d10(E)	184	#5	6'-5"	┌───┐
d11(E)	184	#5	8'-6"	┌───┐
e10(E)	80	#4	14'-8"	┌───┐
t10(E)	336	#4	10'-0"	┌───┐
w10(E)	160	#5	19'-0"	┌───┐
w11(E)	160	#5	23'-1"	┌───┐
Concrete Superstructure		Cu. Yd.	16.0	
Concrete Superstructure (Approach Slab)		Cu. Yd.	232.8	
Concrete Structures		Cu. Yd.	50.6	
*** Reinforcement Bars, Epoxy Coated		Pound	95970	

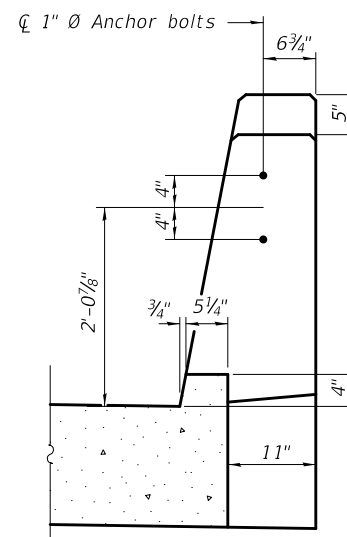
\*\*\* Superstructure = 86,700  
Substructure = 9270



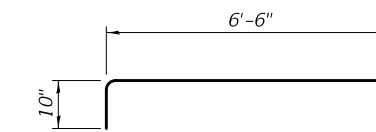
DETAIL A  
(@ Rt. L's)

\* Cost included with Concrete Superstructure (Approach Slab).

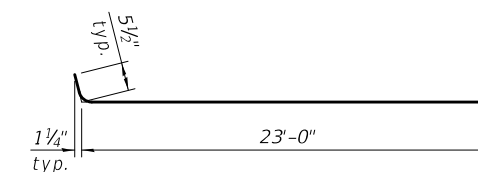
\*\* Per manufacturer recommendations



VIEW B-B



BAR a12(E)



BAR a13(E)

(Sheet 3 of 3)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 19 OF 32 SHEETS

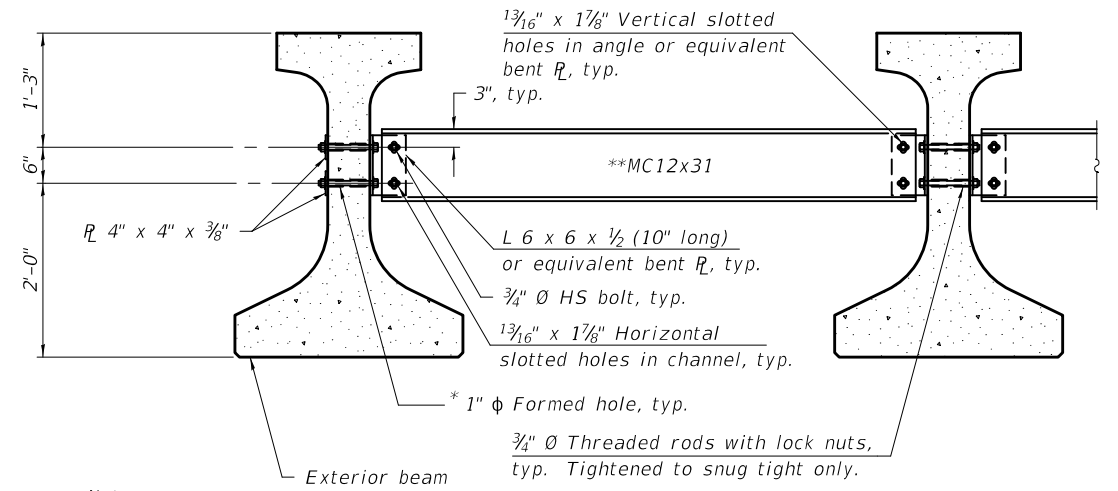
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	50
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

USER NAME	DESIGNED	REVISIONS
cconnor	RJM	-
	MCB	-
	CFC	-
	MCB	-

INTERIOR BEAM MOMENT TABLE		
		0.5 Span
$I$	(in <sup>4</sup> )	182,623
$I'$	(in <sup>4</sup> )	480,904
$S_b$	(in <sup>3</sup> )	10,045.2
$S_b'$	(in <sup>3</sup> )	16,414
$S_t$	(in <sup>3</sup> )	6,809.2
$S_t'$	(in <sup>3</sup> )	31,746
$DC1$	(k/')	1.6
$M_{dc1}$	(k)	2040
$DC2$	(k/')	0.18
$M_{dc2}$	(k)	230
$DW$	(k/')	0.333
$M_{dw}$	(k)	425
$LLDF$		0.627
$M_L + IM$	(k)	1798

INTERIOR BEAM REACTION TABLE		
		Abut.
$LLDF$		0.761
$OCF$		1.05
$R_{dc1}$	(k)	80.8
$R_{dc2}$	(k)	9.1
$R_{dw}$	(k)	16.8
$R_L + IM$	(k)	91.4
$R_{Total}$	(k)	198.1

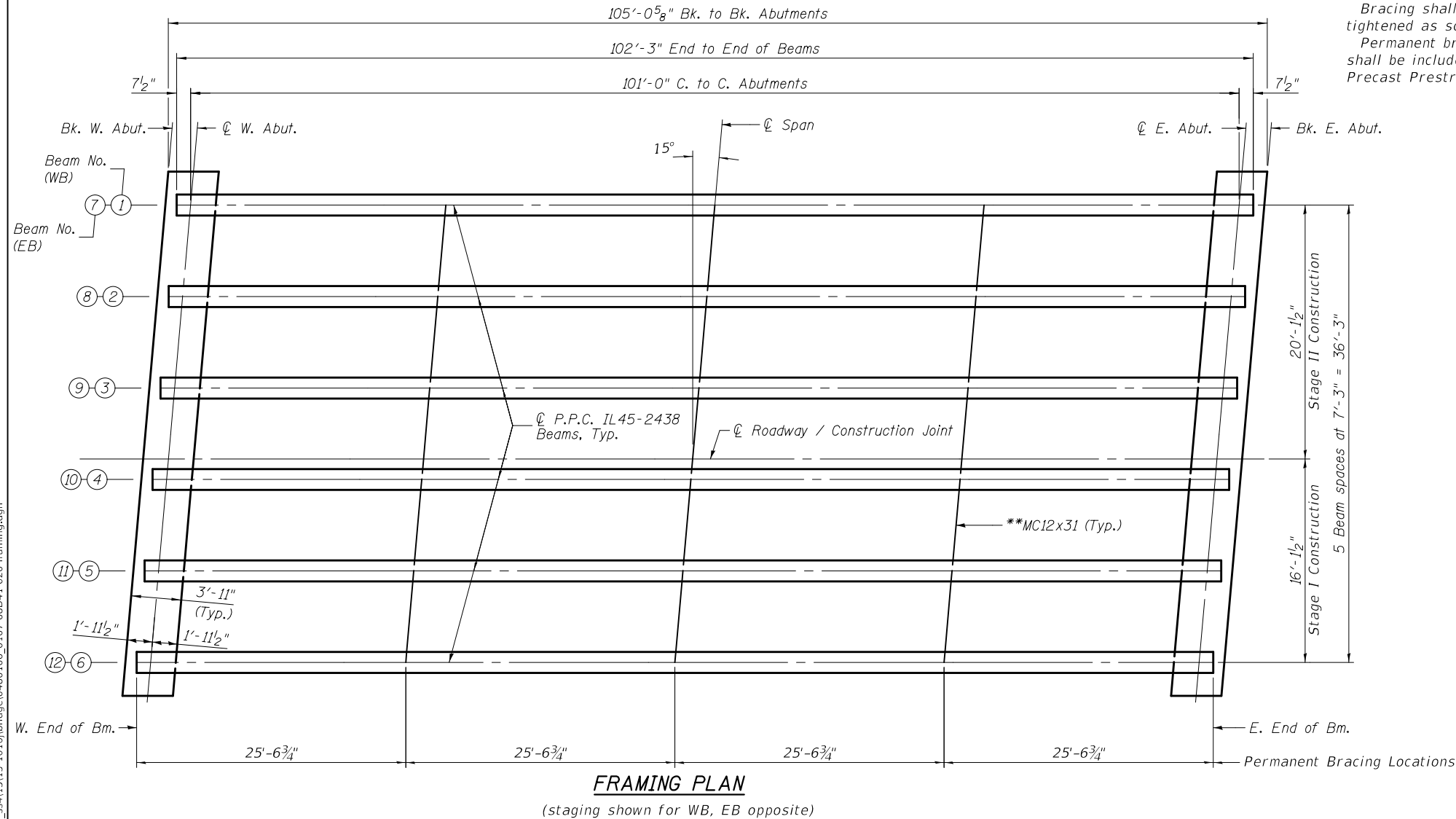
$I$ : Non-composite moment of inertia of beam section (in<sup>4</sup>).  
 $I'$ : Composite moment of inertia of beam section (in<sup>4</sup>).  
 $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 $S_t'$ : Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).  
 $DC1$ : Un-factored non-composite dead load (kips/ft.).  
 $M_{dc1}$ : Un-factored moment due to non-composite dead load (kip-ft.).  
 $DC2$ : Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 $M_{dc2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 $DW$ : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 $M_{dw}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 $M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).  
 $LLDF$ : Live Load Distribution Factor  
 $OCF$ : Obtuse Correction Factor



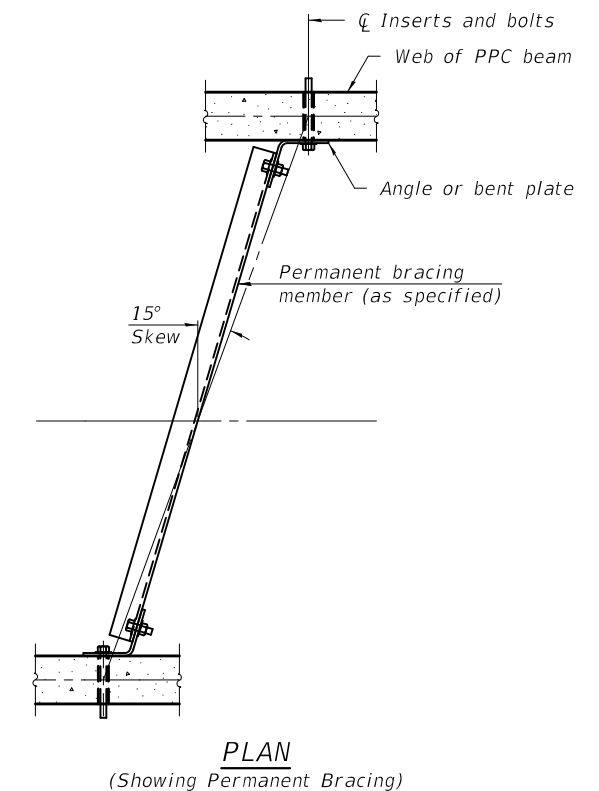
**Notes:**

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted. Two hardened washers are required for each set of oversized holes. All holes shall be 15/16 inch diameter unless otherwise noted. 5/16 inch x 3 inch x 3 inch plate washers are required over all slotted holes. All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232. Threaded rods shall be ASTM F 1554 Grade 55. Bracing shall be installed as beams are erected and tightened as soon as possible during erection. Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

\* Fabricator shall locate to miss strands within permissible tolerances.  
 \*\* Alternate MC12x35 channels are permitted to facilitate material acquisition.



**PERMANENT BRACING DETAILS**



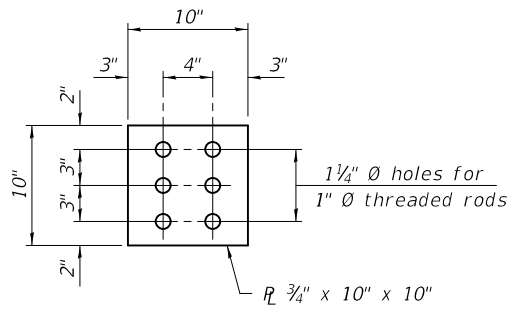
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PLOT SCALE = 0:2.0000 " = 1" / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
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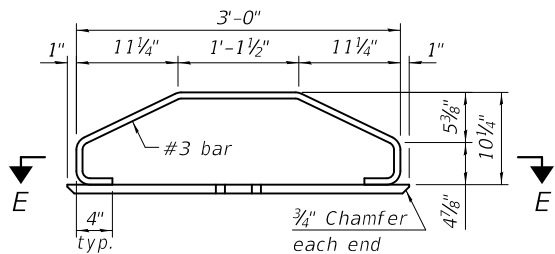
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	51
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				



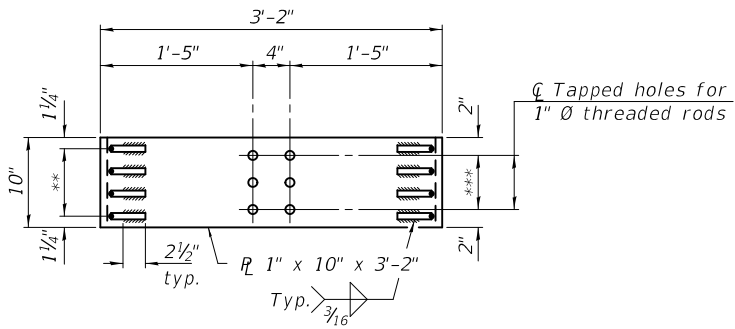




PLAN - TOP PLATE

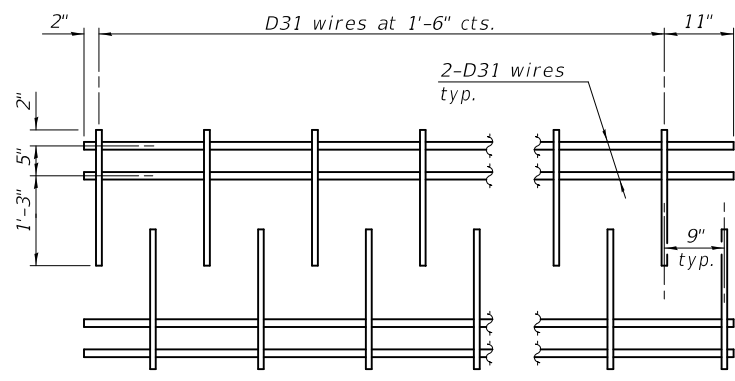


ELEVATION - BOTTOM PLATE ASSEMBLY



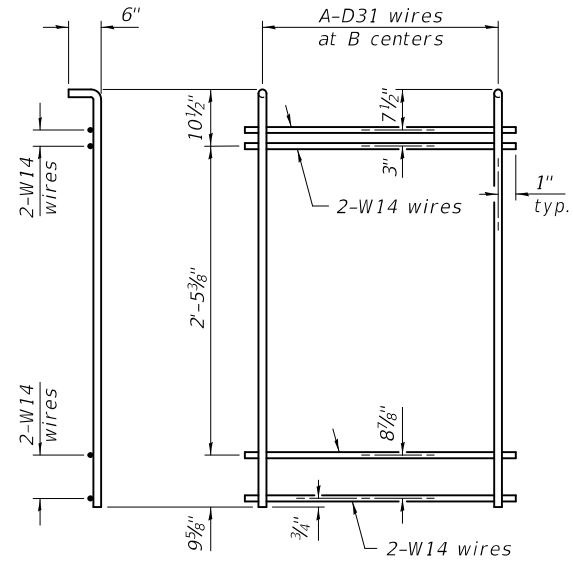
SECTION E-E

\*\* 3 Spaces at 2 1/2" = 7 1/2"  
 \*\*\* 2 Spaces at 3" = 6"



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").

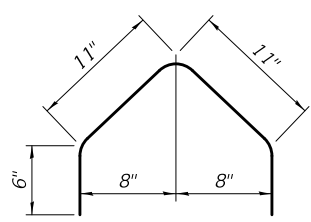


M5 THRU M8 WWR DETAIL

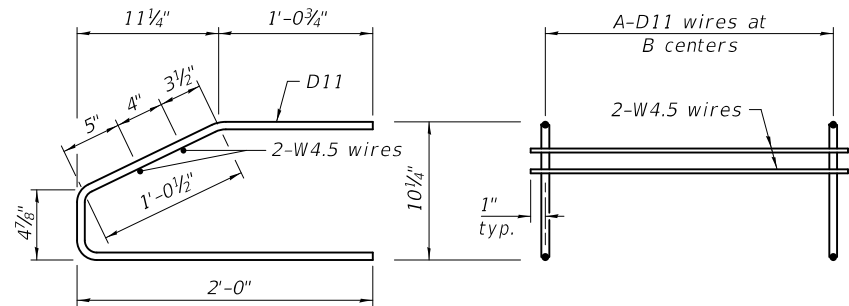
(See Table of Dimensions)

TABLE OF DIMENSIONS  
 (WWR tables are based on Grade 60)

SPAN 1		
WWR	A	B
M2	9	3"
M3	9	6"
M4	29	1'-6"
M5	12	3"
M6	32	6"
M7	15	1'-0"
M8	9	2'-0"



BAR G1(E)

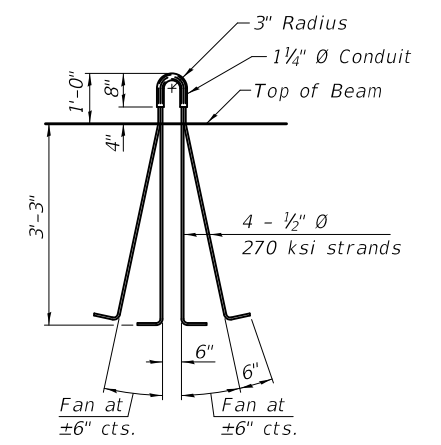


M2 THRU M4 WWR DETAIL

(See Table of Dimensions)

NOTES

Inserts for 3/4" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter for beam strands shall be 0.6" and the nominal cross-sectional area shall be 0.217 sq. in. The nominal diameter for lifting loops shall be 1/2" and the nominal cross sectional area shall be 0.153 sq. in. The beams shall have a final concrete compressive strength, f'c, of 8500 psi and a release concrete compressive strength, f'ci, of 6500 psi. A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling. Bend the extended strands inward on the fascia beams to maintain 1 1/2" clearance inside the pier diaphragm. The top and bottom plates shall be AASHTO M270 Grade 50. The top plates and bottom plate assemblies shall be galvanized according to AASHTO M111. The threaded rods, nuts and washers shall be galvanized according to AASHTO M232. Threaded rods shall be ASTM F 1554 Grade 55. Welded Wire Reinforcement (WWR) shall conform to ASTM A884 with a Class A, Type 1 epoxy coating or ASTM A1060, Table 3 galvanized coating.



LIFTING LOOP DETAIL

TWO STRUCTURES  
 BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL45N	Ft.	1227

Estimated Total Weight (One Beam) = 84,360 lbs.

MODEL: Default  
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IL45-2438D

2-25-2019

**FEHR GRAHAM**  
 ENGINEERING & ENVIRONMENTAL  
 ILLINOIS DESIGN FIRM NO. 184-003525

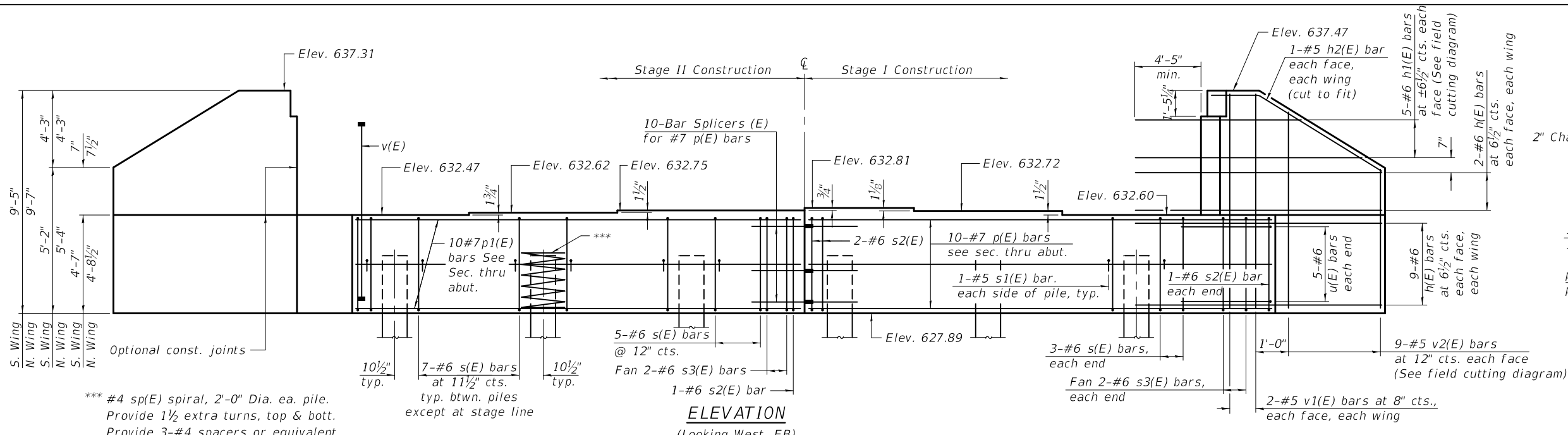
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PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

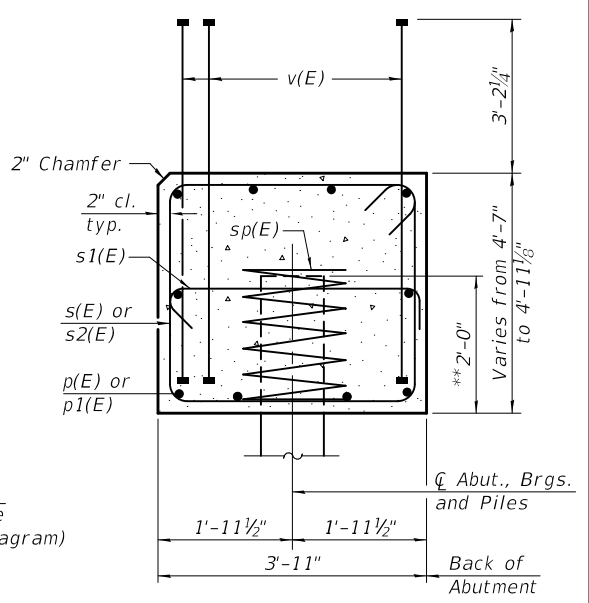
PPC I BEAM DETAILS  
 STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 22 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	53
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				



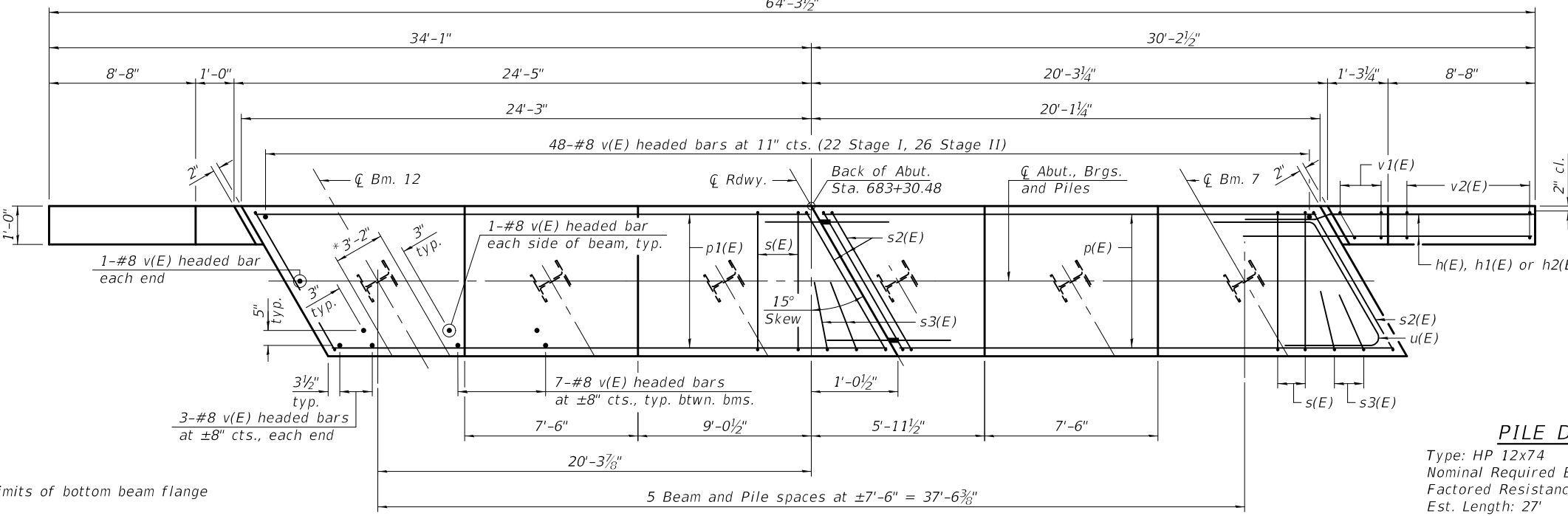
**ELEVATION**  
(Looking West, EB)  
64'-3 1/2"



**SEC. THRU ABUT.**

Dimensions at right angles to abutment.  
\*\* Pile Embedment

\*\*\* #4 sp(E) spiral, 2'-0" Dia. ea. pile.  
Provide 1 1/2 extra turns, top & bott.  
Provide 3-#4 spacers or equivalent.



**PLAN**

\* Limits of bottom beam flange

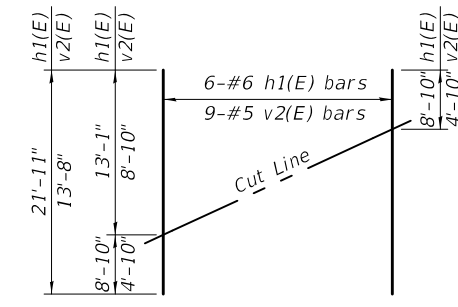
**PILE DATA**  
Type: HP 12x74  
Nominal Required Bearing: 589 kips  
Factored Resistance Available: 324 kips  
Est. Length: 27'  
No. Production Piles: 5  
No. Test Piles: 1

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	44	#6	14'-3"	—
h1(E)	10	#6	21'-11"	—
h2(E)	4	#5	10'-7"	—
p(E)	10	#7	19'-11"	—
p1(E)	10	#7	23'-11"	—
s(E)	39	#6	17'-0"	□
s1(E)	12	#5	4'-7"	□
s2(E)	5	#6	17'-3"	□
s3(E)	6	#6	7'-7"	□
sp(E)	6	#4	2'-0"	⊘
u(E)	10	#6	15'-3"	⊏
v(E)	103	#8	7'-7"	⊏
v1(E)	8	#5	9'-2"	⊏
v2(E)	18	#5	13'-8"	⊏
Structure Excavation			Cu. Yd.	62
Concrete Structures			Cu. Yd.	36.2
Reinforcement Bars, Epoxy Coated			Pound	6370
Furnishing Steel Piles, HP 12x74			Foot	135
Driving Piles			Foot	135
Test Steel Pile, HP 12x74			Each	1

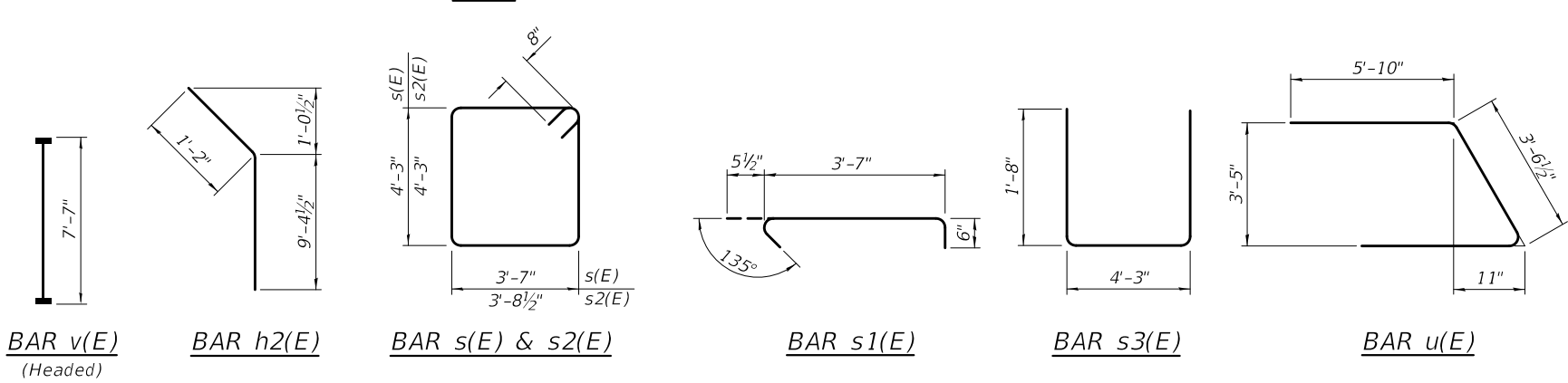
\*\*\*\* Length is height of spiral.

Notes:  
Pour steps monolithically with cap.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
For details of piles see sheet 27 of 32.



**FIELD CUTTING DIAGRAM**

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



MODEL: Default  
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AI-CBS-L

6-15-2019

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. IB4-003525  
FEHR GRAHAM PROJECT NUMBER: 15-1016J

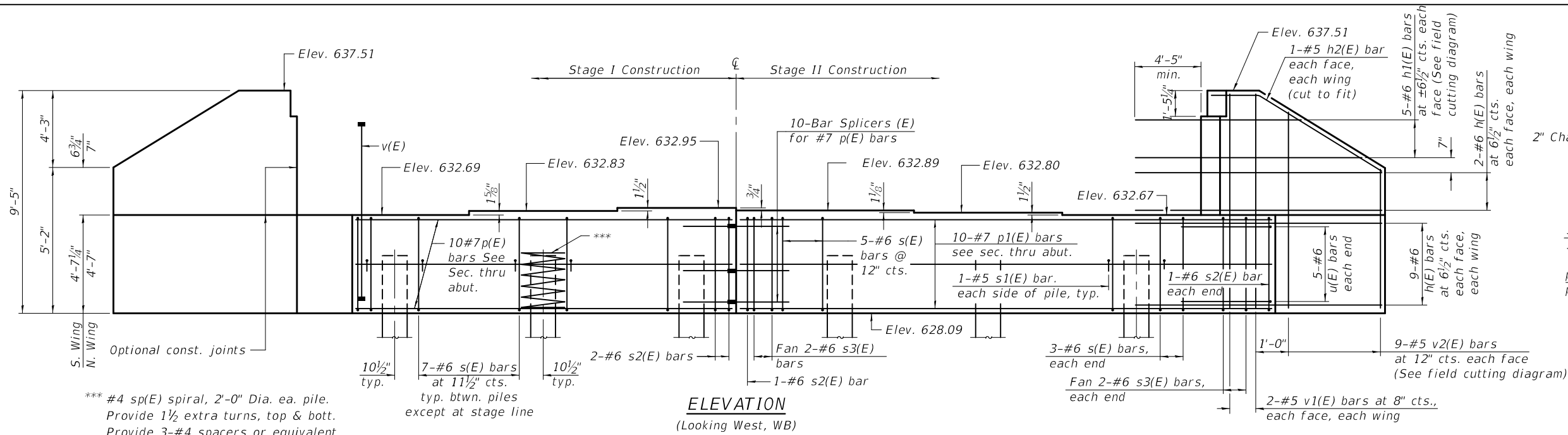
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PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

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

**WEST ABUTMENT (EB)**  
**STRUCTURE NO. 048-0107 (EB)**

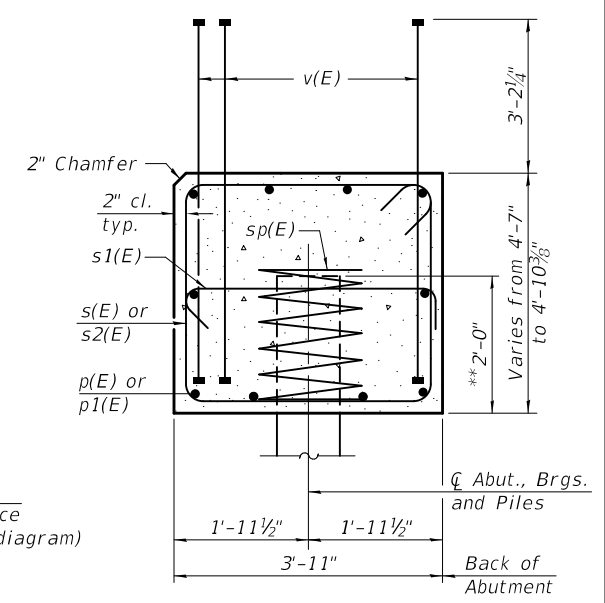
SHEET 23 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	54
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	



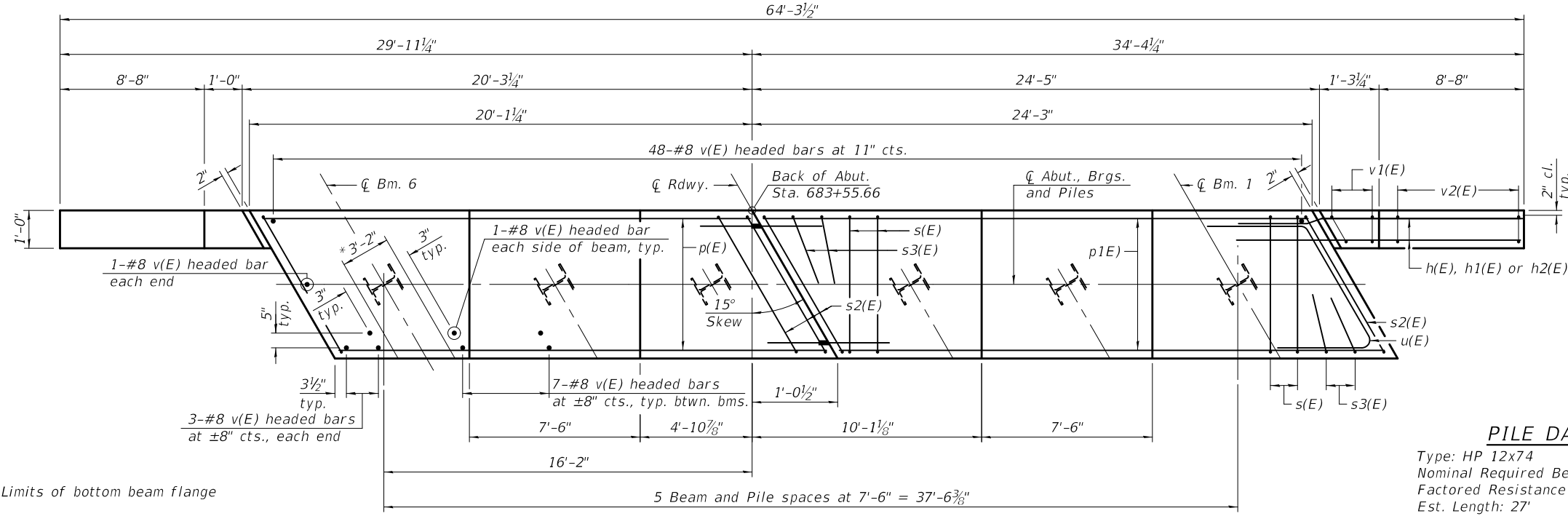
\*\*\* #4 sp(E) spiral, 2'-0" Dia. ea. pile.  
Provide 1/2 extra turns, top & bott.  
Provide 3-#4 spacers or equivalent.

**ELEVATION**  
(Looking West, WB)



**SEC. THRU ABUT.**

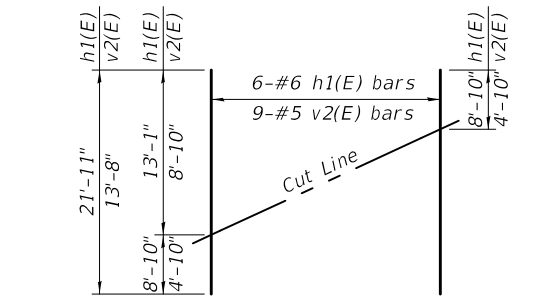
Dimensions at right angles to abutment.  
\*\* Pile Embedment



**PLAN**

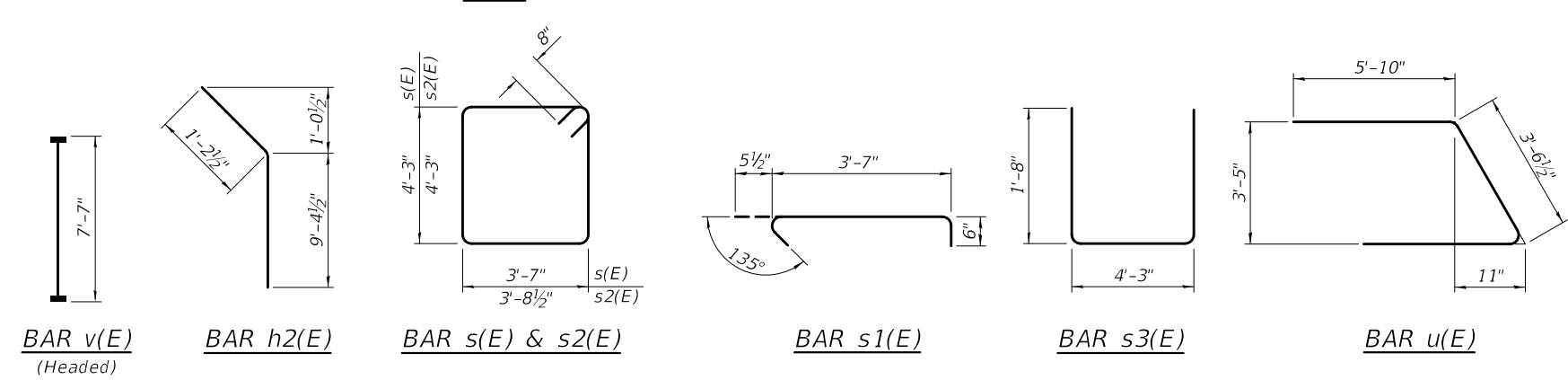
\* Limits of bottom beam flange

**PILE DATA**  
Type: HP 12x74  
Nominal Required Bearing: 589 kips  
Factored Resistance Available: 324 kips  
Est. Length: 27'  
No. Production Piles: 5  
No. Test Piles: 1



**FIELD CUTTING DIAGRAM**

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	44	#6	14'-3"	—
h1(E)	10	#6	21'-11"	—
h2(E)	4	#5	10'-7"	—
p(E)	10	#7	19'-11"	—
p1(E)	10	#7	23'-11"	—
s(E)	39	#6	17'-0"	□
s1(E)	12	#5	4'-7"	□
s2(E)	5	#6	17'-3"	□
s3(E)	6	#6	7'-7"	□
sp(E)	6	#4	2'-0"	⊘
u(E)	10	#6	15'-3"	⊏
v(E)	103	#8	7'-7"	⊏
v1(E)	8	#5	9'-2"	⊏
v2(E)	18	#5	13'-8"	⊏

Structure Excavation	Cu. Yd.	62
Concrete Structures	Cu. Yd.	36.2
Reinforcement Bars, Epoxy Coated	Pound	6370
Furnishing Steel Piles, HP 12x74	Foot	135
Driving Piles	Foot	135
Test Steel Pile, HP 12x74	Each	1

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

Notes:  
Pour steps monolithically with cap.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
For details of piles see sheet 27 of 32.

MODEL: Default  
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AI-CBS-L

6-15-2019

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. IB4-003525  
FEHR GRAHAM PROJECT NUMBER: 15-1016J

USER NAME	DESIGNED	REVISIONS
cconnor	RJM	
	MCB	
	CFC	
	MCB	

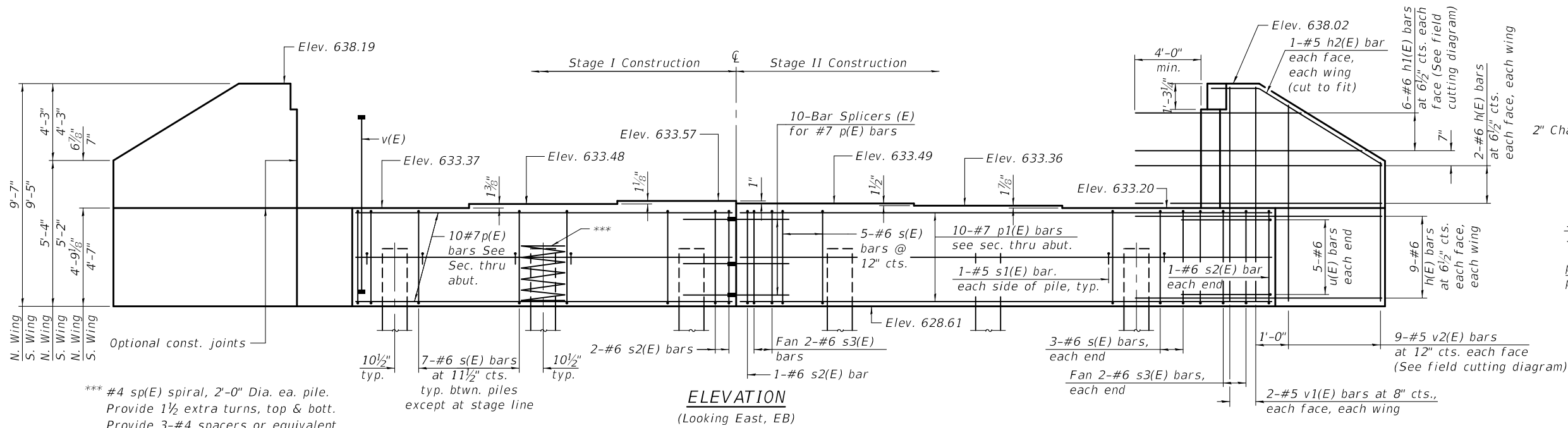
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT (WB)**  
**STRUCTURE NO. 048-0106 (WB)**

SHEET 24 OF 32 SHEETS

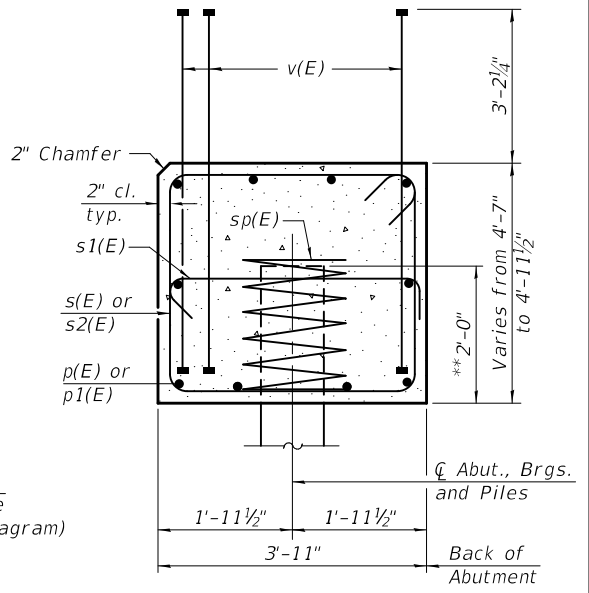
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	55

CONTRACT NO. 68D41  
ILLINOIS FED. AID PROJECT



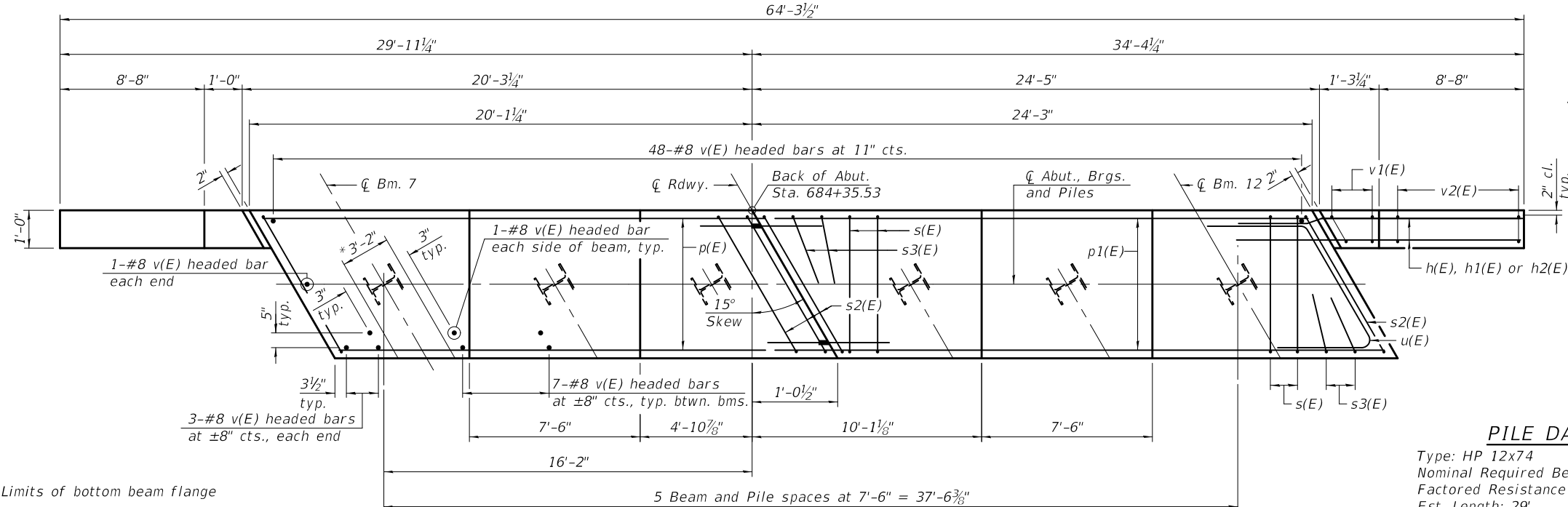
**ELEVATION**  
(Looking East, EB)

\*\*\* #4 sp(E) spiral, 2'-0" Dia. ea. pile.  
Provide 1 1/2 extra turns, top & bott.  
Provide 3-#4 spacers or equivalent.



**SEC. THRU ABUT.**

Dimensions at right angles to abutment.  
\*\* Pile Embedment



**PLAN**

\* Limits of bottom beam flange

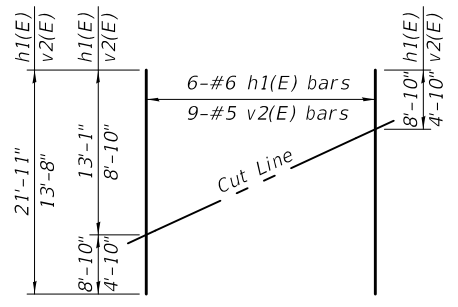
**PILE DATA**  
Type: HP 12x74  
Nominal Required Bearing: 589 kips  
Factored Resistance Available: 324 kips  
Est. Length: 29'  
No. Production Piles: 5  
No. Test Piles: 1

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	44	#6	14'-3"	—
h1(E)	10	#6	21'-11"	—
h2(E)	4	#5	10'-7"	—
p(E)	10	#7	19'-11"	—
p1(E)	10	#7	23'-11"	—
s(E)	39	#6	17'-0"	□
s1(E)	12	#5	4'-7"	□
s2(E)	5	#6	17'-3"	□
s3(E)	6	#6	7'-7"	□
sp(E)	6	#4	2'-0"	⊘
u(E)	10	#6	15'-3"	⊏
v(E)	103	#8	7'-7"	⊏
v1(E)	8	#5	9'-2"	⊏
v2(E)	18	#5	13'-8"	⊏
Structure Excavation	Cu. Yd.	62		
Concrete Structures	Cu. Yd.	36.2		
Reinforcement Bars, Epoxy Coated	Pound	6370		
Furnishing Steel Piles, HP 12x74	Foot	145		
Driving Piles	Foot	145		
Test Steel Pile, HP 12x74	Each	1		

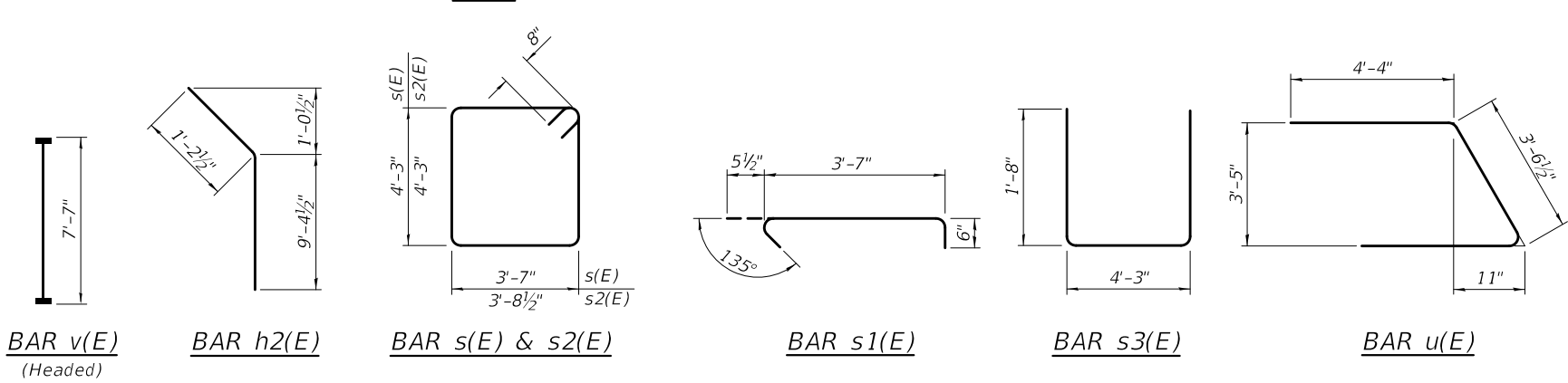
\*\*\*\* Length is height of spiral.

Notes:  
Pour steps monolithically with cap.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
For details of piles see sheet 27 of 32.



**FIELD CUTTING DIAGRAM**

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



MODEL: Default  
FILE NAME: g:\sv81\_ss4\151016\bridge\0480106\_0107-68D41-025-0107-e-abut-details.dgn

AI-CBS-L

6-15-2019

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. IB4-003525

USER NAME	DESIGNED	REVISIONS
cconnor	RJM	
	MCB	
	CFC	
	MCB	

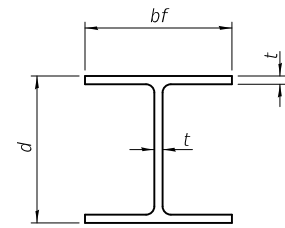
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT (EB)**  
**STRUCTURE NO. 048-0107 (EB)**

SHEET 25 OF 32 SHEETS

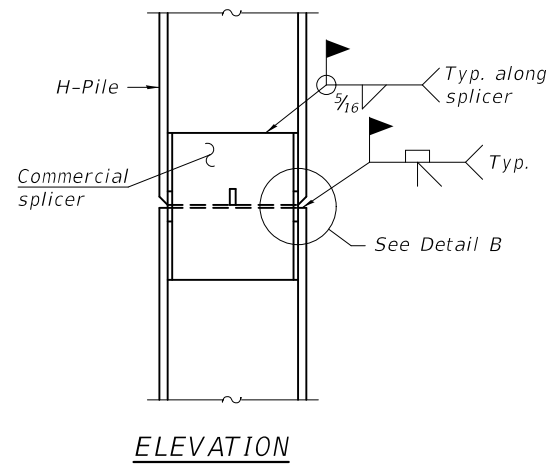
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	56
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	



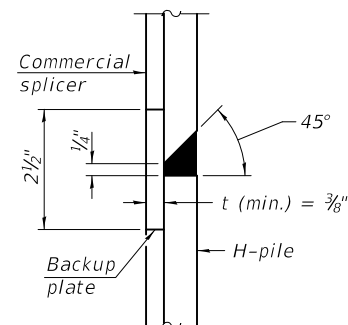


**STEEL PILE TABLE**

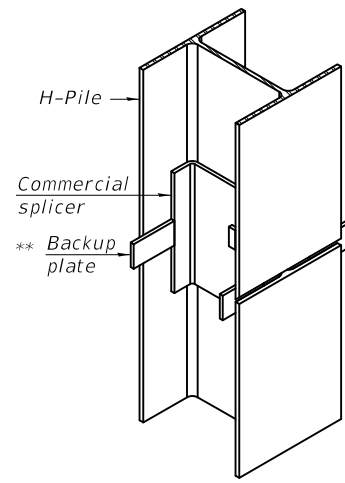
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

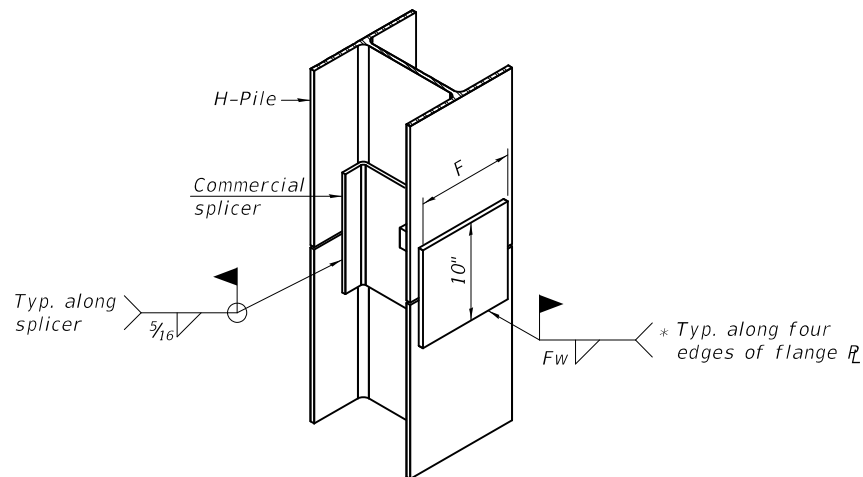


**DETAIL "B"**



**ISOMETRIC VIEW**

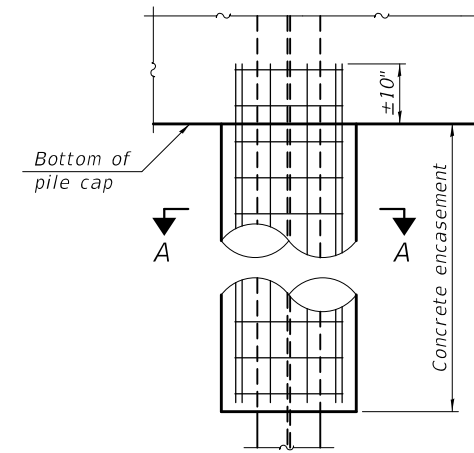
**WELDED COMMERCIAL SPLICE**



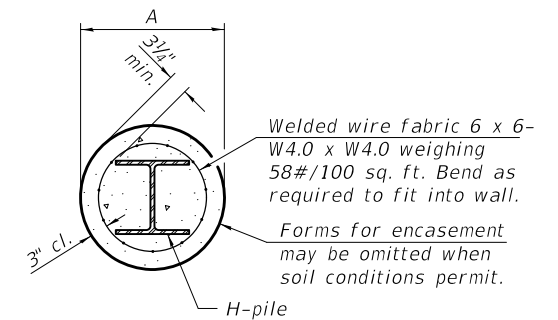
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

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

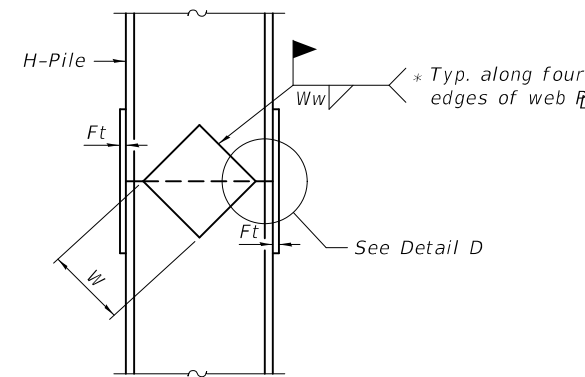


**ELEVATION**

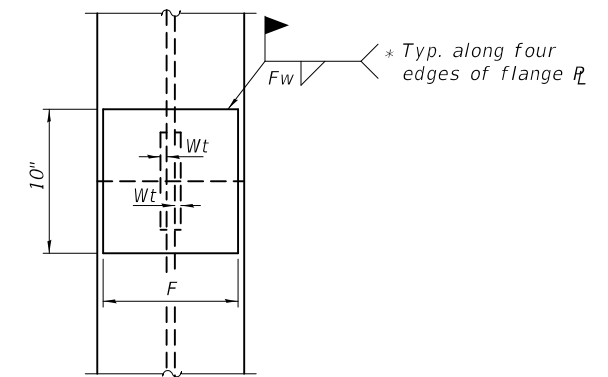


**SECTION A-A**

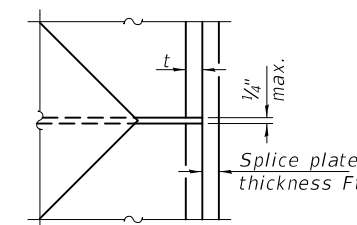
**INDIVIDUAL PILE CONCRETE ENCASUREMENT**  
(when specified)



**ELEVATION**



**END VIEW**

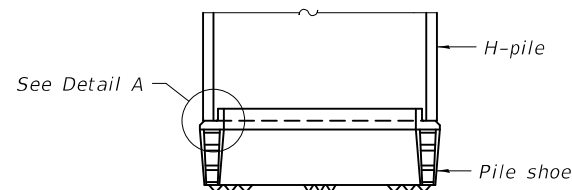


**DETAIL D**

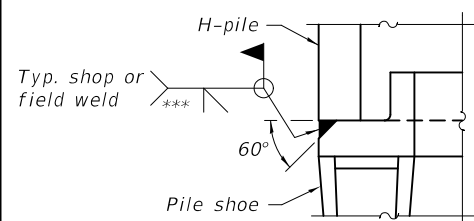
**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

**ELEVATION**



**SHOE ATTACHMENT**



**DETAIL A**

**SHOE ATTACHMENT**

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-1-2020

MODEL: Default  
FILE NAME: g:\sv81\_ssa\151011016\bridge\0480106\_0107-68D41-027-pile-details.dgn

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REvised -
PLOT SCALE = 0:2.0000 " = 1"	CHECKED - MCB	REvised -
PLOT DATE = 1/29/2020	DRAWN - CFC	REvised -
	CHECKED - MCB	REvised -

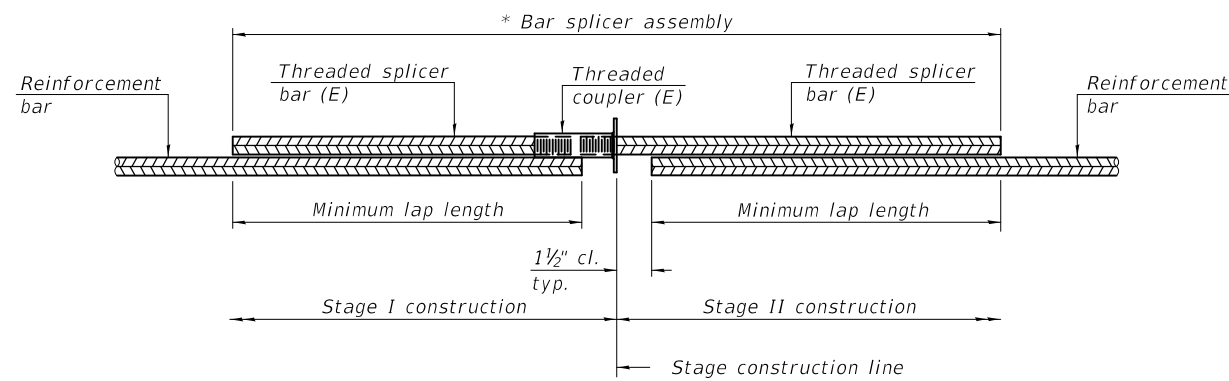
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 27 OF 32 SHEETS

F.A.I. RTE. 74	SECTION 48(30B)BR	COUNTY KNOX	TOTAL SHEETS 80	SHEET NO. 58
CONTRACT NO. 68D41			ILLINOIS FED. AID PROJECT	

FEHR GRAHAM PROJECT NUMBER: 15-1016J



**STANDARD BAR SPLICER ASSEMBLY PLAN**  
(All components shall be provided from one supplier)

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

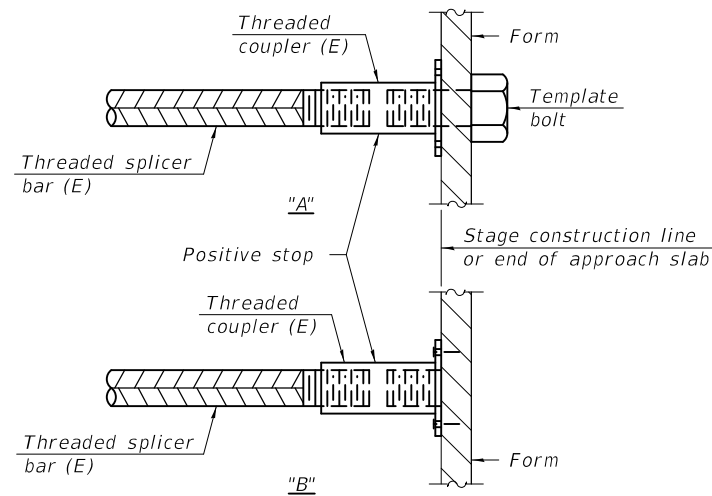
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Minimum Lap Lengths (f'c=4.0 ksi)				
Bar size to be Spliced	Table 1	Table 2	Table 3	Table 4
4	1'-7"	2'-1"	2'-5"	2'-8"
5	2'-1"	2'-8"	3'-1"	3'-6"
6	3'-0"	3'-10"	4'-5"	5'-0"
7	3'-5"	4'-6"	5'-2"	5'-10"
8	4'-6"	5'-10"	6'-9"	7'-7"
9	5'-9"	7'-5"	8'-7"	9'-8"

Minimum Lap Lengths (f'c=3.5 ksi)				
Bar size to be Spliced	Table 1	Table 2	Table 3	Table 4
4	1'-9"	2'-3"	2'-7"	2'-11"
5	2'-3"	2'-0"	3'-4"	3'-9"
6	3'-2"	4'-1"	4'-9"	5'-4"
7	3'-8"	4'-9"	5'-6"	6'-3"
8	4'-10"	6'-3"	7'-2"	8'-2"
9	6'-1"	7'-11"	9'-2"	10'-4"

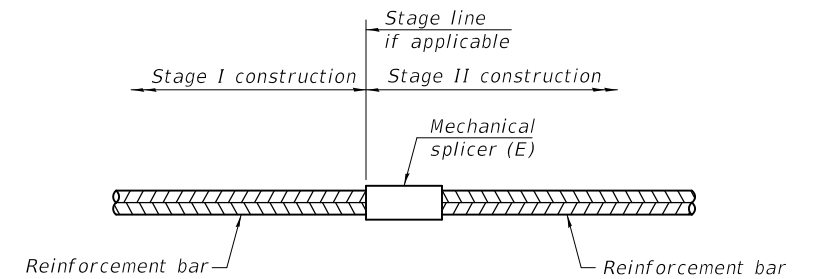
Location	Bar size	No. assemblies required	Minimum lap length
Slab	#5	696	3
Diaphragms	#6	40	4
Approach Slabs	#5	176	4
Approach Slabs	#8	236	3
Approach Footings	#5	160	3
Abutments	#7	40	4

Table 1: Black bar, Class C  
Table 2: Black bar, top lap, Class C  
Table 3: Epoxy bar, Class C  
Table 4: Epoxy bar, top lap, Class C



**INSTALLATION AND SETTING METHODS**

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



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required

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

BSD-1

1-1-2020

MODEL: Default  
FILE NAME: g:\w81\_s54\15-1016\bridge\0480106\_0107-68D41-028-bar-splicer.dgn

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

USER NAME = cconnor	DESIGNED - RJM	REVISD -
PLOT SCALE = 0:2.000000 " = 1"	CHECKED - MCB	REVISD -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISD -
	CHECKED - MCB	REVISD -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 28 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	59
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J



**Illinois Department of Transportation**  
Division of Highways  
Millennia Professional Services of Illinois, Ltd.

### SOIL BORING LOG

Page 1 of 2

Date 3/28/19

ROUTE FAI RTE 74 DESCRIPTION WO 14 I-74 Over French Creek LOGGED BY L. Williams

SECTION SEC 48(30B)BR LOCATION West Abutment, SEC., TWP., RNG., Latitude, Longitude

COUNTY Peoria DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO.	Station	DEPTH (ft)	BLOW COUNT (6")	UCS (tsf)	MOISTURE (%)	Surface Water Elev. ft	Stream Bed Elev. ft	DEPTH (ft)	BLOW COUNT (6")	UCS (tsf)	MOISTURE (%)
048-0055	B-1 EB										
	683+12										
	12.0 ft Right										
	635.86										
Brown Silty Clay Loam, Trace Gravel (Fill)						Brown Clayey Gravel, with Sand (continued)					
		2									
		2	1.5	17							
		2	B								
		6									
		5	3.3	16		611.86					
		6	B								
Gray Silty Clay, Trace Organics						Gray Shale					
		3									
		4	3.1	17							
		7	B								
		2									
		4	2.1	12							
		6	B								
		10									
		3									
		4	1.8	20							
		5	B								
		3									
		4	1.0	27							
		3	B								
		15									
		0									
		1	1.0	23							
		3	B								
		4									
		5									
		4									
		20									

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 8-99)



**Illinois Department of Transportation**  
Division of Highways  
Millennia Professional Services of Illinois, Ltd.

### ROCK CORE LOG

Page 2 of 2

Date 3/28/19

ROUTE FAI RTE 74 DESCRIPTION WO 14 I-74 Over French Creek LOGGED BY L. Williams

SECTION SEC 48(30B)BR LOCATION West Abutment, SEC., TWP., RNG., Latitude, Longitude

COUNTY Peoria CORING METHOD

STRUCT. NO.	Station	DEPTH (ft)	CORING METHOD	CORING BARREL TYPE & SIZE	DEPTH (ft)	RECOVERY (%)	RECOVERY (min/ft)	CORE DIAMETER (in)	STRENGTH (tsf)
048-0055	B-1 EB								
	683+12								
	12.0 ft Right								
	635.86								
Brown Clayey Gravel, with Sand (continued)		600.86	1	95	88				
Gray to Dark Gray (Soft) Very Fine Grained SHALE									
		2	100	93					
		580.86							

End of Boring  
Color pictures of the cores \_\_\_\_\_  
Cores will be stored for examination until \_\_\_\_\_  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)  
BBS, form 138 (Rev. 8-99)

MODEL: Default  
FILE NAME: g:\w81\_ss4\1515-1016\bridge\0480106\_0107-68041-029-borings-001.dgn



USER NAME = cconnor	DESIGNED - RJM	REVISED -
PLOT SCALE = 0:2,0000 " / in.	CHECKED - MCB	REVISED -
PLOT DATE = 1/29/2020	DRAWN - CFC	REVISED -
	CHECKED - MCB	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BORING LOGS  
STRUCTURE NO. 048-0106 (WB) & 048-0107 (EB)

SHEET 29 OF 32 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(30B)BR	KNOX	80	60
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

FEHR GRAHAM PROJECT NUMBER: 15-1016J









**CONSTRUCTION NOTES**

1. EXISTING UTILITY LOCATION INFORMATION IS NOT SHOWN ON THE PLAN SHEETS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES AND PRIVATELY OWNED FACILITIES PRIOR TO THE INSTALLATION OF ANY COMPONENTS. THE CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND TERRAIN PRIOR TO COMMENCING WORK ON THE PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING IDOT ELECTRICAL FACILITIES AT HIS/HER OWN EXPENSE IF REQUIRED. THE CONTRACTOR SHALL ALSO BE LIABLE FOR ANY DAMAGE TO IDOT FACILITIES RESULTING FROM INACCURATE LOCATING.
3. ELECTRICAL WORK SHALL CONFORM WITH NATIONAL, STATE, AND LOCAL CODES.
4. ALL SURPLUS MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATION.
5. THE COMMUNICATION VAULT SHALL BE CONSTRUCTED SO THAT THE TOP OF THE FRAME WILL BE FLUSH WITH THE SURFACE OF THE MEDIAN, SIDEWALK, OR GROUND LINE.
6. THE CONTRACTOR SHALL SUBMIT A FIBER SPLICING PLAN TO THE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO INSTALLING COMMUNICATIONS DUCT AND FIBER.
7. PROPOSED FIBER OPTIC CABLE SHALL BE SPLICED TO EXISTING FIBER OPTIC CABLE (96 FIBER SINGLE MODE) TO RESTORE CONTINUITY. ALL FIBERS WITHIN THE CABLE SHALL BE FUSION SPLICED AND ALL SPLICES SHALL BE PROTECTED BY A WEATHERPROOF SPLICE ENCLOSURE. SPLICES SHALL BE MADE ONLY IN COMMUNICATION VAULTS.
8. THE CONTRACTOR SHALL INSTALL A #12 (XLP-TYPE USE OR THHN) TRACER WIRE ALONG WITH THE FIBER OPTIC CABLE FOR LOCATING PURPOSES. THE TRACER WIRE SHALL BE CONTINUOUS AND BE ACCESSIBLE FROM THE COMMUNICATION VAULTS. THE COST OF FURNISHING AND INSTALLING THE TRACER WIRE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE PAY ITEM "FIBER OPTIC CABLE 96 FIBERS, SINGLE MODE". AT THE CONTRACTOR'S OPTION, THE CONTRATOR MAY ELECT TO UTILIZE COMMUNICATION DUCT THAT CONTAINS AN INTEGRATED WIRE THAT CAN BE USED FOR UNDERGROUND LOCATING PURPOSES.
9. ALL COMMUNICATIONS DUCT SHALL BE INSTALLED IN AND WILL BE PAID FOR IN ACCORDANCE WITH SECTION 810 "UNDERGROUND RACEWAYS" OF THE STANDARD SPECIFICATIONS.
10. THE LOCATION OF THE PROPOSED CONDUIT AS SHOWN ON THE PLAN SHEETS IS APPROXIMATE AND NOT DRAWN TO SCALE. CONDUIT SHALL BE INSTALLED AT A 36" MINIMUM DEPTH EXCEPT WHEN CROSSING WATERWAYS AND DRAINAGE FLOW LINES WHERE IT SHALL BE INSTALLED AT A 60" MINIMUM DEPTH.
11. THE COST OF ROCK EXCAVATION, ROCK DISPOSAL, AND THE COST OF INSTALLING CONDUIT THROUGH ROCKY TERRAIN (TRENCHING, BORING, SAW-CUTTING, AND OTHER INSTALLATION METHODS AS REQUIRED) SHALL BE INCLUDED IN THE PAY ITEM "UNDERGROUND CONDUIT, MULTI-DUCT, 7-16MM MICRODUCTS". THERE WILL BE NO ADDITIONAL COMPENSATION FOR THIS WORK.
12. POTHOLING TO LOCATE EXISTING UNDERGROUND UTILITIES SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR THE PROPOSED CONDUIT.
13. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN THE REQUIRED MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.
14. THE CONTRACTOR IS RESPONSIBLE FOR THE COST OF UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY. THIS COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE COMMUNICATIONS DUCT.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING FIELD TILE, UNDERDRAIN, AND DRAINAGE STRUCTURE LOCATIONS. THE CONTRACTOR SHALL MAKE AN EFFORT TO MINIMIZE DAMAGE TO THESE FACILITIES DURING THE INSTALLATION OF CONDUIT AND COMMUNICATION VAULTS. IN THE EVENT THAT THESE FACILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING REPAIRS TO THESE ITEMS TO RESTORE FUCTIONALITY TO THE SATISFACTION OF THE ENGINEER.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MOWING, BRUSH AND SHRUB REMOVAL, AND SMALL TREE (10" DIAMETER OR LESS) REMOVAL REQUIRED TO INSTALL THE PROPOSED CONDUIT AND COMMUNICATION VAULTS. THE CONTRACTOR SHALL DISPOSE OF ALL REMOVED ITEMS OFF OF THE JOB SITE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE BID PRICES FOR THE PROPOSED CONDUIT.
17. THE CONTRACTOR MAY ELECT TO INSTALL COMMUNICATIONS DUCTS BY DIRECTIONALLY BORING CONDUIT UNDER BRIDGES AND WATERWAYS IN LEIU OF ATTACHING CONDUIT TO STRUCTURES. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER FOR APPROVAL PRIOR TO COMMENCING DUCT INSTALLATION.
18. THE CONTRACTOR SHALL INSTALL NEW UNDERGROUND CONDUIT (MULTI-DUCT WITH SEVEN 16MM MICRODUCTS) AT THE LOCATIONS SHOWN ON THE PLAN SHEETS. THE PROPOSED CONDUIT SHALL BE DIRECTIONALLY BORED UNDER FRENCH CREEK AND LOCATED OUTSIDE THE LIMITS OF CONSTRUCTION.
19. THE CONTRACTOR SHALL INTERCEPT THE EXISTING MULT-DUCT AND INSTALL THE PROPOSED COMMUNICATIONS VAULT OVER THE EXISTING CONDUIT AT THE LOCATIONS SHOWN ON THE PLAN SHEETS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE COMMUNICATIONS DUCT.
20. THE CONTRACTOR SHALL INSTALL NEW 96 FIBER SINGLE MODE CABLE INISDE THE PROPOSED COMMUNICATIONS DUCT AND LEAVE A 150 FT. SLACK COIL INSIDE EACH HANDHOLE. THE FIBER SHALL BE INSTALLED INSIDE THE SAME COLOR OF MICRODUCT AS THE EXISTING FIBER.
21. THE CONTRACTOR SHALL COLLECT SLACK CABLE FROM EXISTING COMMUNICATIONS VAULTS AND PULL THIS SLACK CABLE INTO THE PROPOSED COMMUNICATIONS VAULTS TO FACILITATE SPLICING. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE FIBER OPTIC CABLE.
22. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT ALL FUSION SPLICING WITHIN THE MAINTENANCE WINDOW OF 12:00 AM TO 5:00 AM. THE CONTRACTOR SHALL SPLICE ALL LIVE FIBER STRANDS FIRST TO RESTORE CONNECTIVITY AND REDUCE OUTAGE TIME, FOLLOWED BY ALL UNUSED FIBER STRANDS. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT A MINIMUM OF FOURTEEN DAYS PRIOR TO SPLICING. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE FIBER OPTIC CABLE.
23. THE CONTRACTOR SHALL SPLICE ALL UNUSED MICRODUCTS CONTINUOUS INSIDE THE PROPOSED COMMUNICATIONS VAULTS. THE CONTRACTOR SHALL FIELD TEST ALL MICRODUCTS FOR CONTINUITY AND PRESSURIZATION IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED CONDUIT.
24. ALL FIBER RELOCATION WORK SHALL BE COMPLETED BY OCTOBER 15TH.

MODEL: Default  
 FILE: \\p:\pub\baronm.dta\illinois.gov\PWIDOT\Documents\IDOT\_Offices\Director\_4\Projects\DU\_68D41\24\_road\desig\files\68D41\_1-74\_French\_Creek\_Fiber\_Relocation\_Final\_1-30-2020.dgn

	USER NAME = \$USERS	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	PROPOSED FIBER RELOCATION CONSTRUCTION NOTES I-74 OVER FRENCH CREEK			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE = 1:38	DRAWN -	REVISED -					74	48(29,30)BR	KNOX	80	64	
	PLOT DATE = 1/31/2020	CHECKED -	REVISED -			SCALE:	SHEET 1	OF 2	SHEETS	STA.	TO STA.	CONTRACT NO. 68D41	
		DATE -	REVISED -									ILLINOIS FED. AID PROJECT	



**BILL OF MATERIALS  
I-74 @ FRENCH CREEK FIBER RELOCATION**

ITEM DESCRIPTION	UNIT	TOTAL QTY.
FIBER OPTIC CABLE, MICRO, 96 FIBERS, SINGLE MODE	FOOT	1300.0
UNDERGROUND CONDUIT, MULTI-DUCT, 7-16MM MICRODUCTS	FOOT	1000.0
COMMUNICATIONS VAULT	EACH	2.0

THE CONTRACTOR SHALL VERIFY THE PROPOSED CONDUIT ROUTING WITH THE RESIDENT ENGINEER TO ENSURE THAT IT WILL NOT CONFLICT WITH PROPOSED CONSTRUCTION OR PROJECT STAGING. EXISTING CONDUIT AND JUNCTION BOXES SHALL BE REMOVED BY THE GENERAL CONTRACTOR DURING BRIDGE CONSTRUCTION. THE COST OF THIS WORK WILL BE INCLUDED IN THE COST OF THE STRUCTURE.

MODEL: Default  
 FILE: \\blm\c:\pub\baron\m.d\all\ink\spc\PROJECTS\DOT Documents\DOT Office\Director 4\Projects\I74\_68D41\_174\_French\_Creek\_Fiber\_Relocation.dgn  
 I-74 French Creek Fiber Relocation (Final) 1-30-20.dgn

USER NAME = susers	DESIGNED -	REVISED -
PLOT SCALE = 1:38	DRAWN -	REVISED -
PLOT DATE = 1/31/2020	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

PROPOSED FIBER RELOCATION  
 I-74 OVER FRENCH CREEK  
 SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	65
CONTRACT NO. 68D41				
ILLINOIS FED. AID PROJECT				





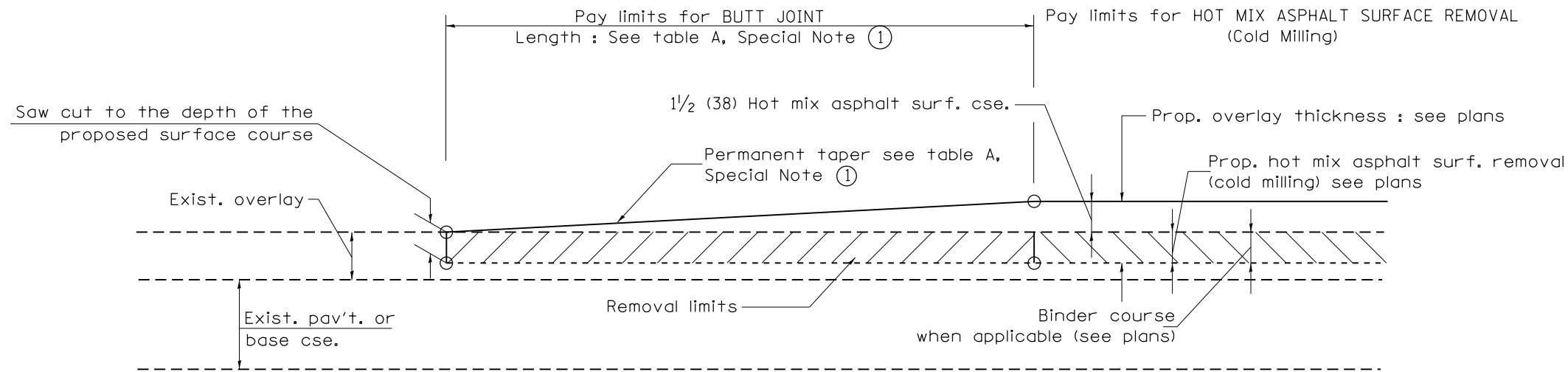












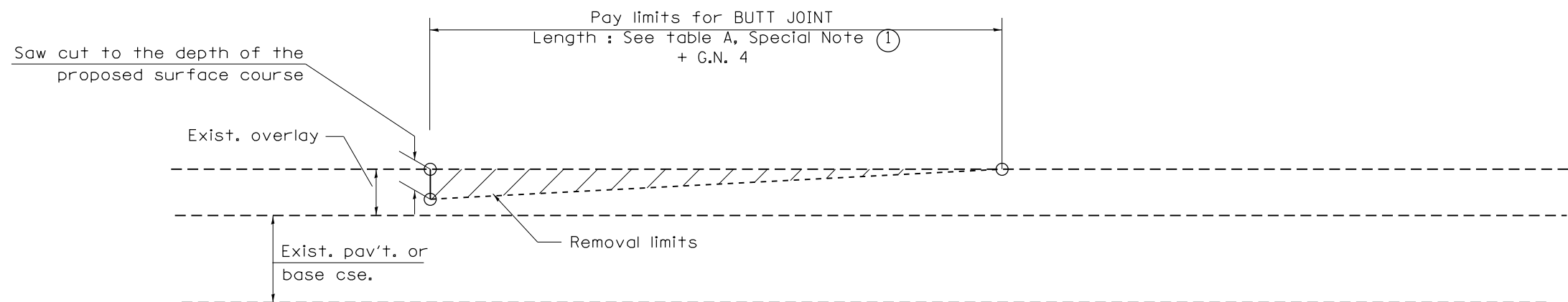
**CASE 1 : WITH HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)**

**TABLE A  
TAPER RATES**

SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	BUTT JOINT TAPER RATE	1:480	1:240
②	TEMPORARY RAMP TAPER RATE	1:80	1:40

**GENERAL NOTES**

1. The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
2. The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
3. The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.
4. The length of butt joint is based on the taper rate times change in cold milling depth within the butt joint pay limits, unless otherwise indicated.
5. Temporary ramps are paid for separately and not included in the cost of the butt joints.



**CASE 2 : NO HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)**

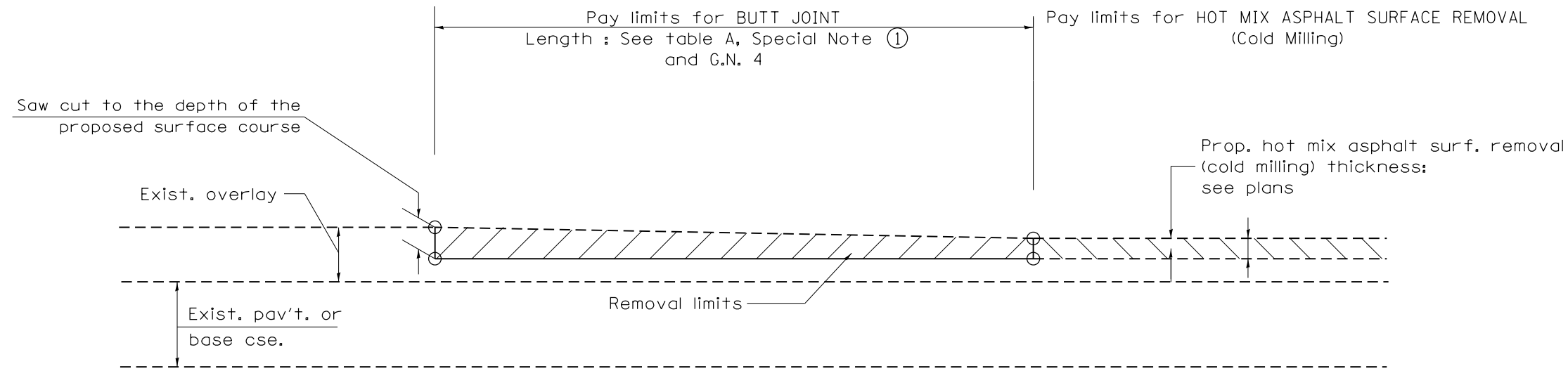
All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-23.01, NEW REVISION BOX	T.P.	08-21-13	MAJOR MODIFICATIONS	R.D.	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BUTT JOINTS</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
04-01-97	CORRECTION TO DEPTH	J.A.	04-12-16	MINOR CORRECTIONS	R.D.			74	48(29,30)BR	KNOX	80	71
09-15-05	REVISED DESIGNER NOTE	M.M.A.	02-14-17	ADDED NOTE 5	R.D.			SHT. 1 OF 3		CONTRACT NO. 68D41		
10-16-06	REVISED TO 2007 SPEC.	M.A.	07-16-19	Wording and Spelling corrections	R.D.			CADD STD. 406101-D4		ILLINOIS FED. AID PROJECT		

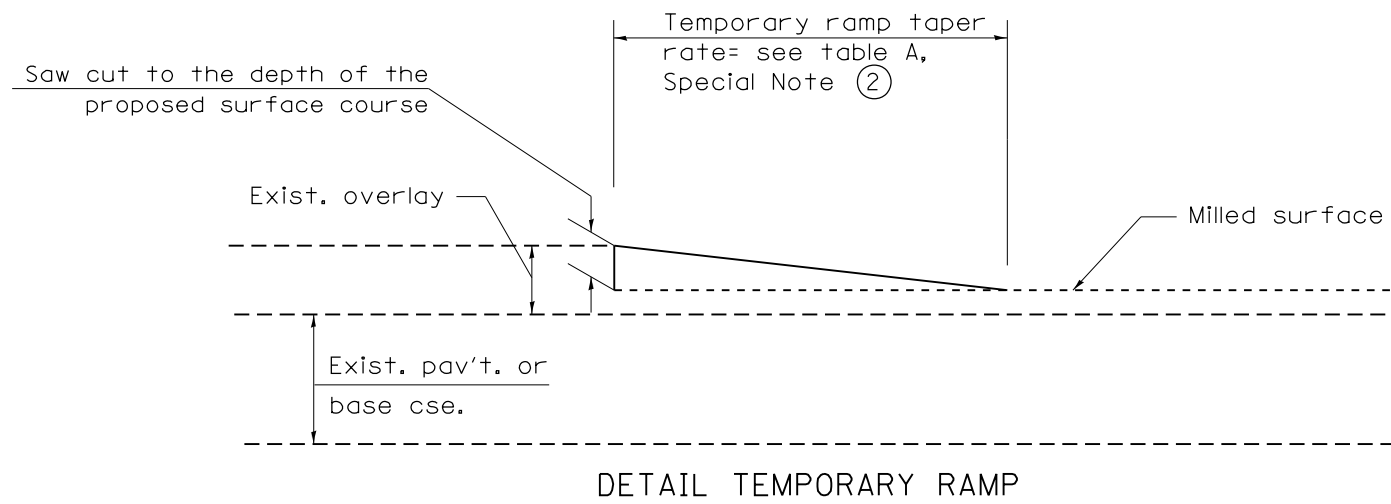
NOT TO SCALE

10

SHT. 1 OF 3  
CADD STD. 406101-D4

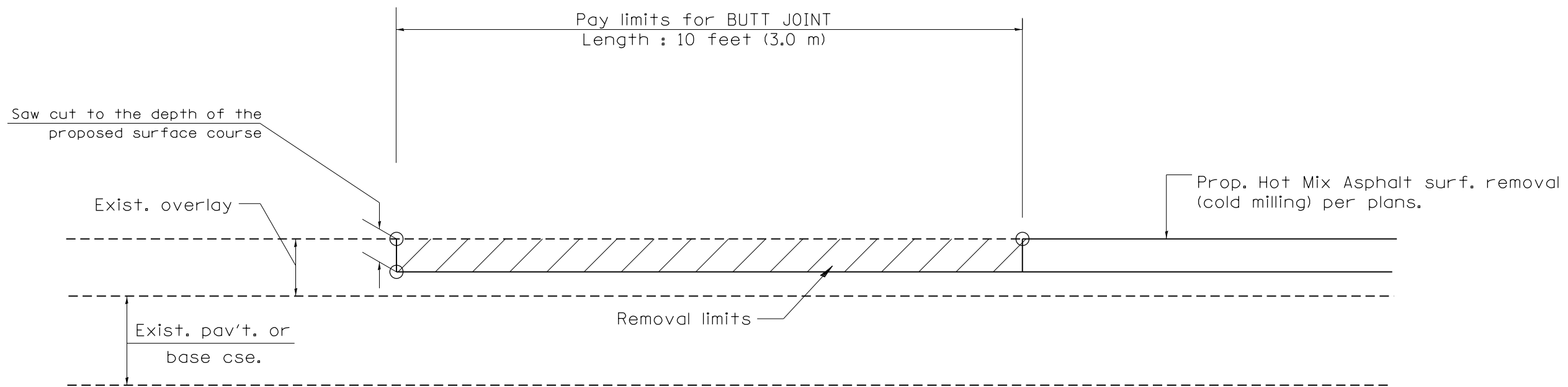


CASE 3 : HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)  
TIE-IN TO EXISTING BITUMINOUS TAPER



All dimensions are in inches (millimeters) unless otherwise noted.

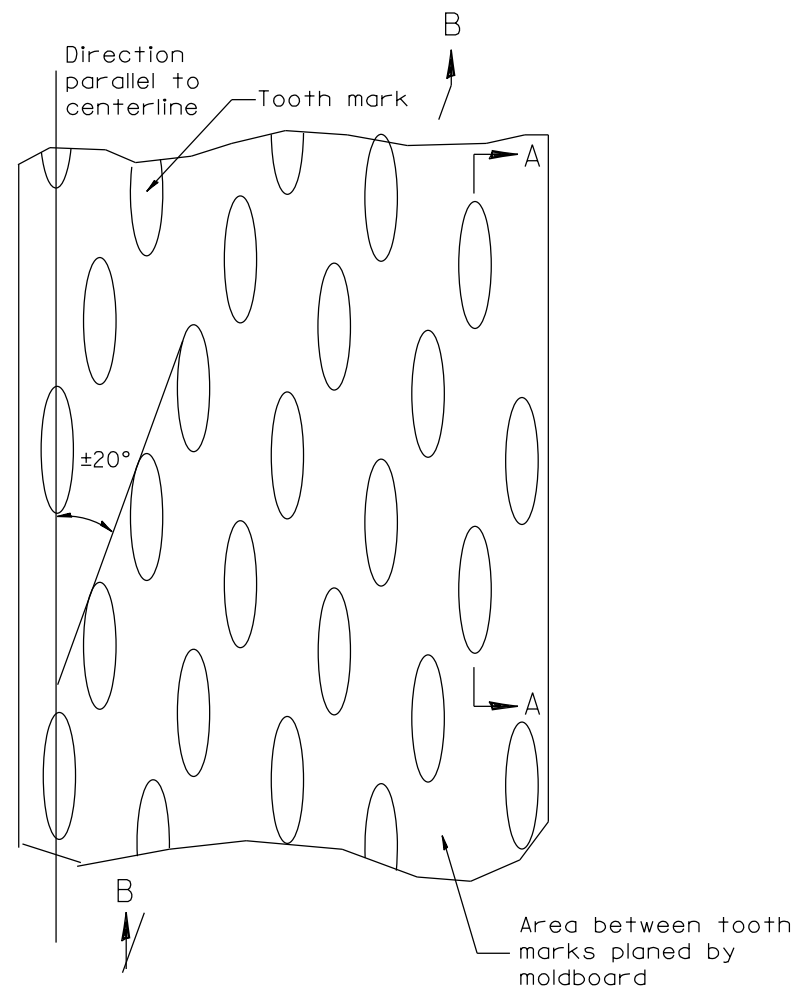
				<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>BUTT JOINTS</b>		SHT. 2 OF 3 CADD STD. 406101-D4	
				NOT TO SCALE		10		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.					
74	48(29,30)BR	KNOX	80	72	CONTRACT NO. 68D41				



CASE 4 : SINGLE LIFT OVERLAY WITH EQUIVALENT DEPTH  
HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)  
TIE-IN TO EXISTING BITUMINOUS TAPER

All dimensions are in inches (millimeters) unless otherwise noted.

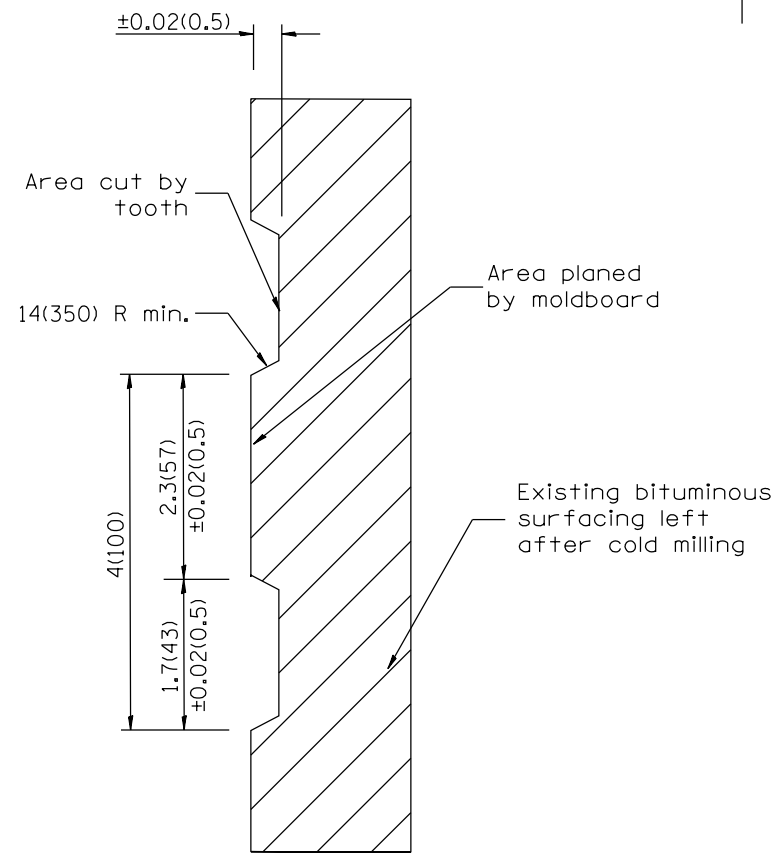
				<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>		<b>BUTT JOINTS</b>		SHT. 3 OF 3 CADD STD. 406101-D4		<table border="1"> <tr> <th>F.A.I. RTE.</th> <th>SECTION</th> <th>COUNTY</th> <th>TOTAL SHEETS</th> <th>SHEET NO.</th> </tr> <tr> <td>74</td> <td>48(29,30)BR</td> <td>KNOX</td> <td>80</td> <td>73</td> </tr> </table>		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	74	48(29,30)BR	KNOX	80	73
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.																	
74	48(29,30)BR	KNOX	80	73																	
				NOT TO SCALE		10		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT											
				CONTRACT NO. 68D41																	



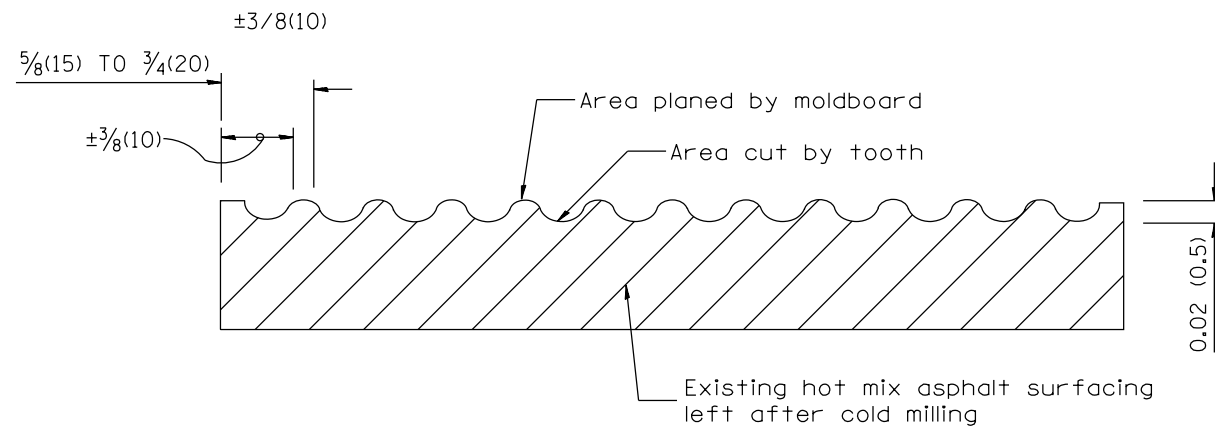
PLAN

General notes:

1. Coldmilling shall consist of two processes: Cutting with carbide teeth mounted on a rotating drum, and planing with a moldboard mounted immediately behind the cutting drum.
2. Other similar patterns will be acceptable if they consist of a smooth, flat, planed surface interspersed with a pattern of discontinuous longitudinal striations.



SECTION A-A



SECTION B-B PROJECTED PERPENDICULAR TO CENTERLINE

DESIGNER NOTES:  
1. INCLUDE DISTRICT SPECIAL PROVISION, IF APPLICABLE.

All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-104.01, NEW REVISION BOX	T.P.
04-20-98	REMOVED MILLING DETAIL FROM STANDARD	J.A.
09-08-98	CORRECT NOTE LEADER PLACEMENT	R.W.
10-16-06	REVISED TO 2007 SPEC.	M.A.

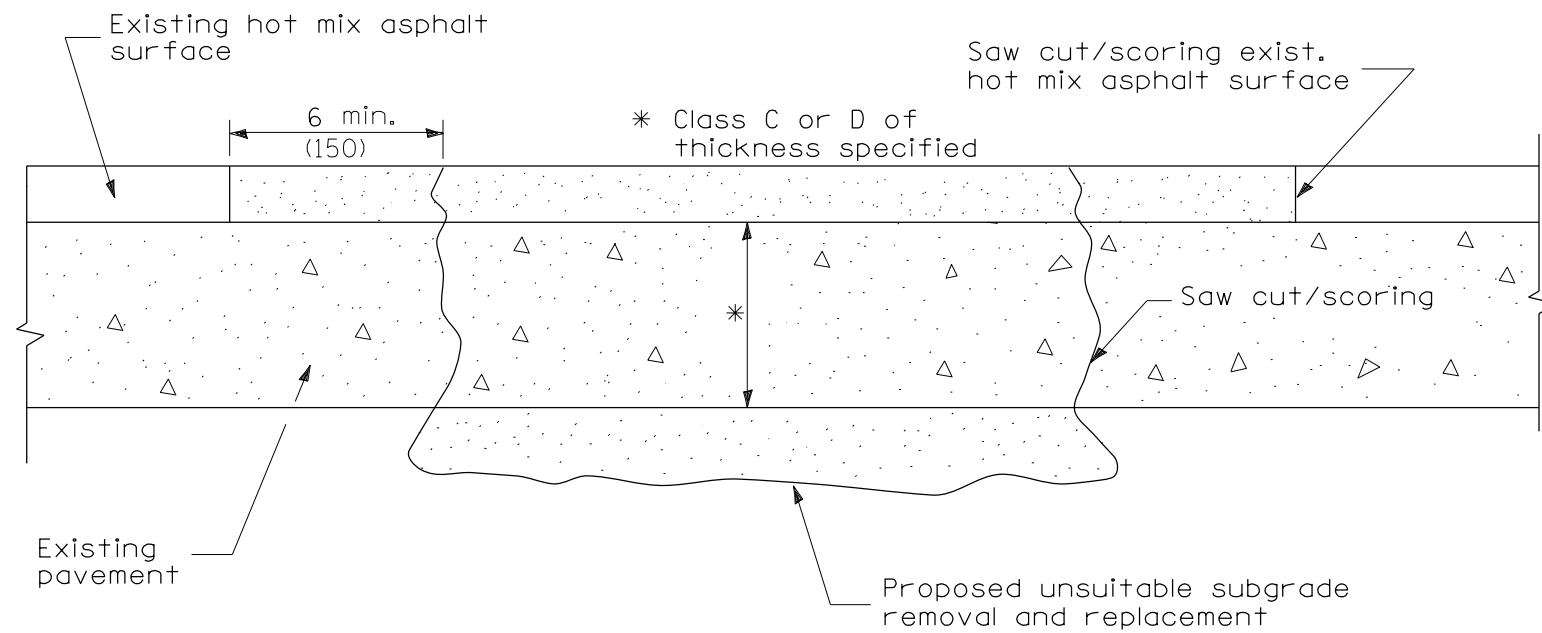
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT SURFACE REMOVAL (COLD MILLING)

NOT TO SCALE

CADD STD. 440001-D4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	74
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 68D41	



SEQUENCE OF CONSTRUCTION

1. Remove the existing hot mix asphalt surface.
2. Remove and replace full depth patches.
3. Replace hot mix asphalt surface.

PAVEMENT PATCHING FOR  
HOT MIX ASPHALT SURFACED PAVEMENT

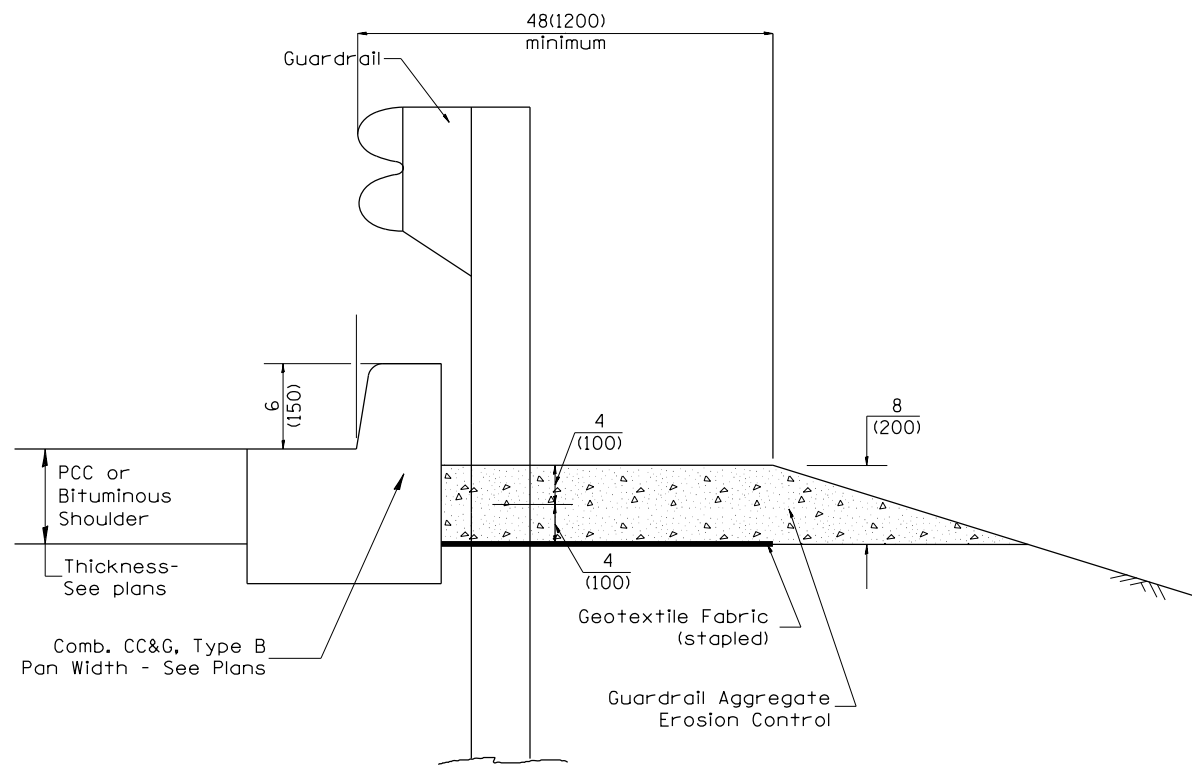
GENERAL NOTES

1. The width of the full depth patch over a trench shall be 12 (300) wider on each side of the trench.

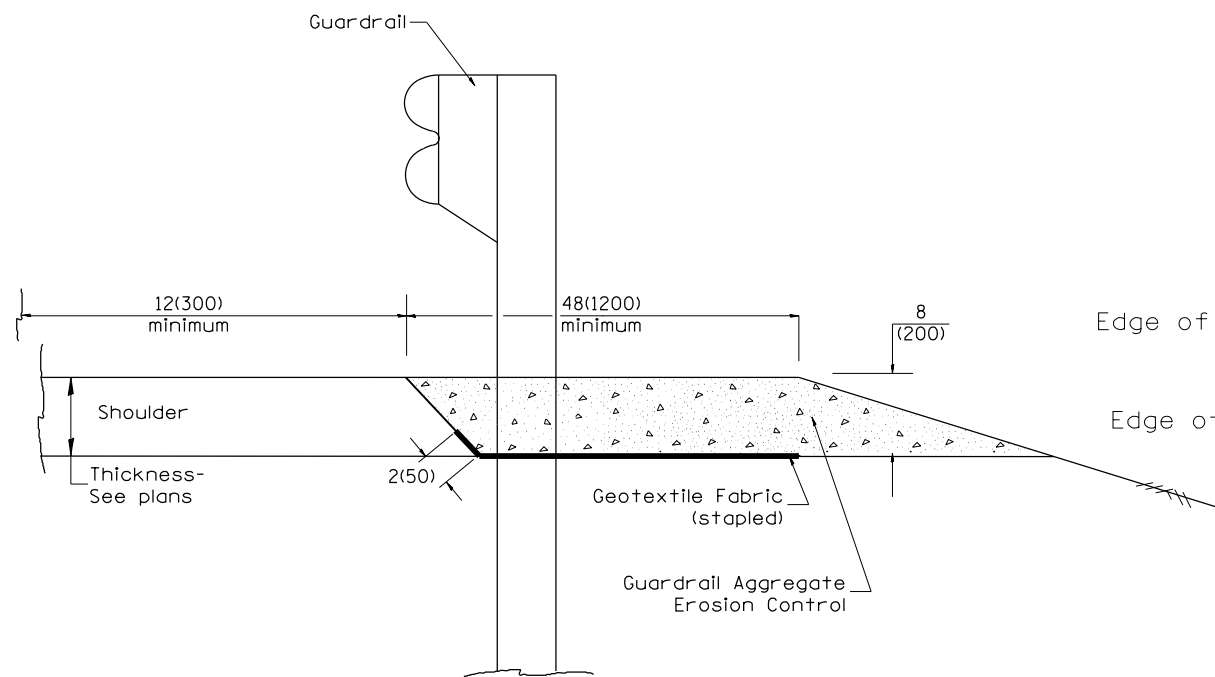
All dimensions are in inches (millimeters) unless otherwise noted.

01-01-97	RENUM. C-104.03, NEW REVISION BOX, REVISED NOTES	T.P.			<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>HOT MIX ASPHALT SURFACE REMOVAL OVER PATCHES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
09-15-05	REVISED DESIGNER NOTE	M.M.A.					74	48(29,30)BR	KNOX	80	75
10-16-06	REVISED TO 2007 SPEC.	M.A.					CONTRACT NO. 68D41				
						NOT TO SCALE	CADD STD. 440101-D4				
						FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

CONSIDER USING A "B" CURB PAY ITEM AT GUARDRAIL INSTALLATIONS WHERE GRADES ARE EQUAL TO OR GREATER THAN 1% AND AT INLETS. (INCLUDE DISTRICT SPECIAL PROVISION 1.1.1.1)  
 USE "GUARDRAIL AGGREGATE EROSION CONTROL" AT GUARDRAIL INSTALLATIONS WHERE GRADES ARE LESS THAN 1% (INCLUDE DISTRICT SPECIAL PROVISION 1.1.1.2)  
 INCLUDE THE FOLLOWING DISTRICT CADD STANDARDS AS NEEDED: SLOPE DRAINS FOR EXPOSED PIPES; SLOPE DRAINS FOR BURIED PIPES; SEE PAGE COLLARS FOR BURIED PIPES  
 SEE PAGE COLLARS FOR EXPOSED PIPES; CONCRETE THRUST BLOCKS AND PIPE ELBOWS  
 INCLUDE DISTRICT SPECIAL PROVISION - "AGGREGATE QUALITY" FOR PROJECTS LOCATED IN THE WESTERN AREA OF THE DISTRICT - APPROX. DIVIDING LINE IS IL 97.  
 DELETE DESIGNER NOTES WHEN INSERTING INTO PLAN FILES.  
 OPERATIONS PREFERS USE OF PIPE OUTLETTING ONTO FORESLOPE WITH RIPRAP. USE NON-METALLIC PIPE WHEN POSSIBLE BECAUSE OF FUTURE CORROSION ISSUES.  
 IF NO OTHER SEEDING IS PAID FOR ON THE CONTRACT, USE DISTRICT SPECIAL PROVISION FOR SEEDING, MINOR AREAS



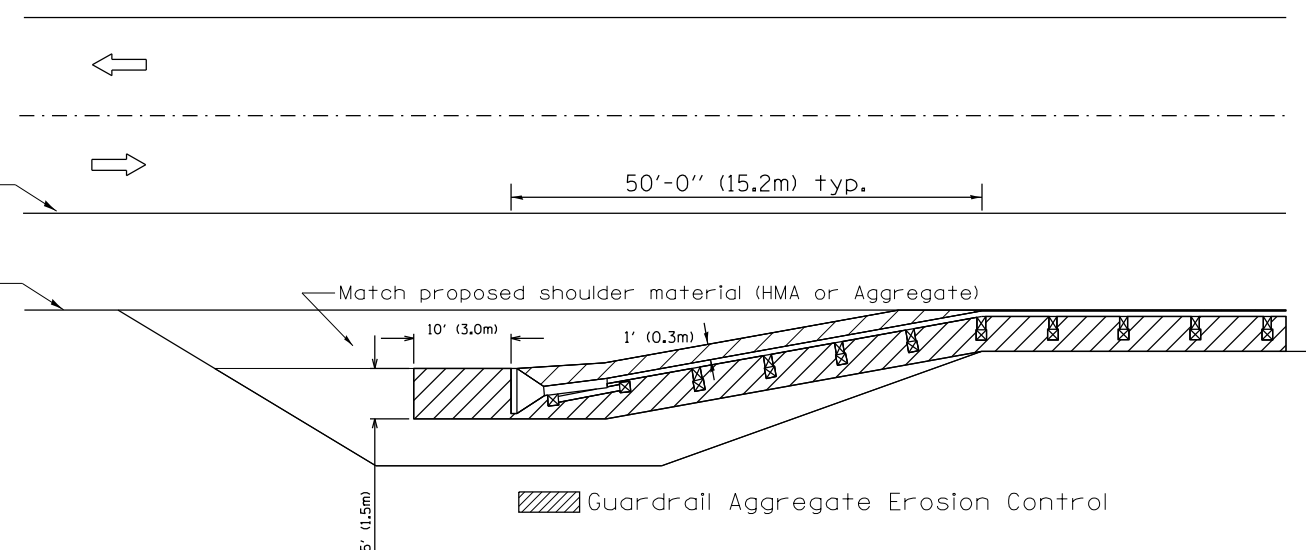
TYPICAL SECTION WITH COMBINATION CONCRETE CURB & GUTTER



TYPICAL SECTION WITHOUT EROSION CONTROL CURB

GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL

1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 12(300) minimum overlap. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet the following requirements:
  - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
  - B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.



All dimensions are in inches (millimeters) unless otherwise noted.

DESIGNER NOTES:

03-07-11	ADDED DETAIL SHOWING PLAN VIEW	R.D.	5-30-18	CHANGE B CURB TO CC&G	R.D.
08-10-12	REVISED CURB "B" AND AGGREGATE	R.D.	07-16-19	SPELLING CORRECTIONS	R.D.
07-15-15	ADDRESSED SHOULDER INLET CURB	R.D.			
01-26-17	REVISED	R.D.			

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

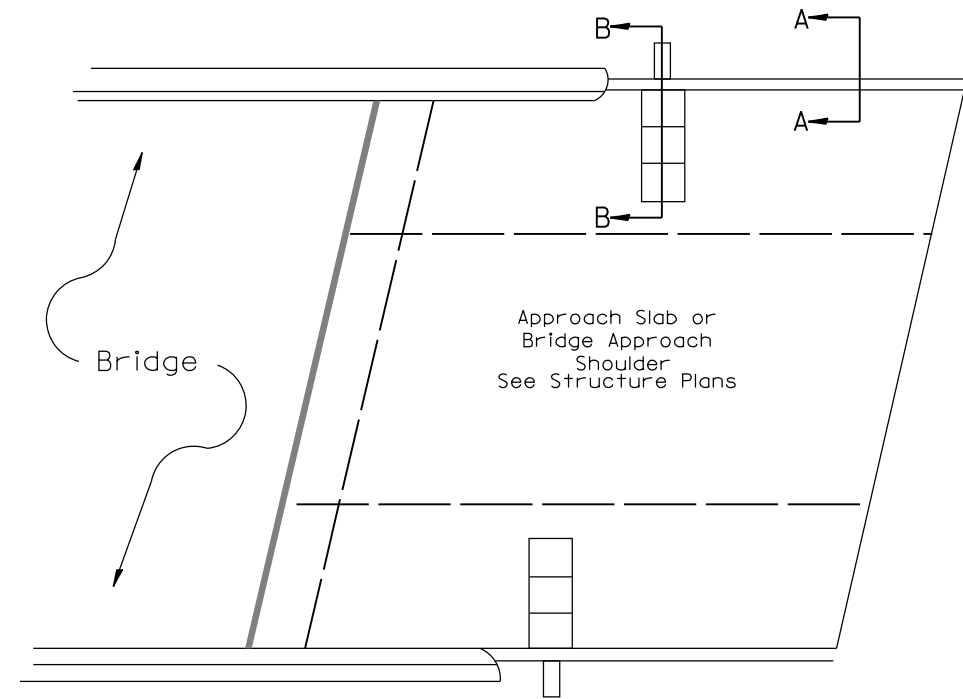
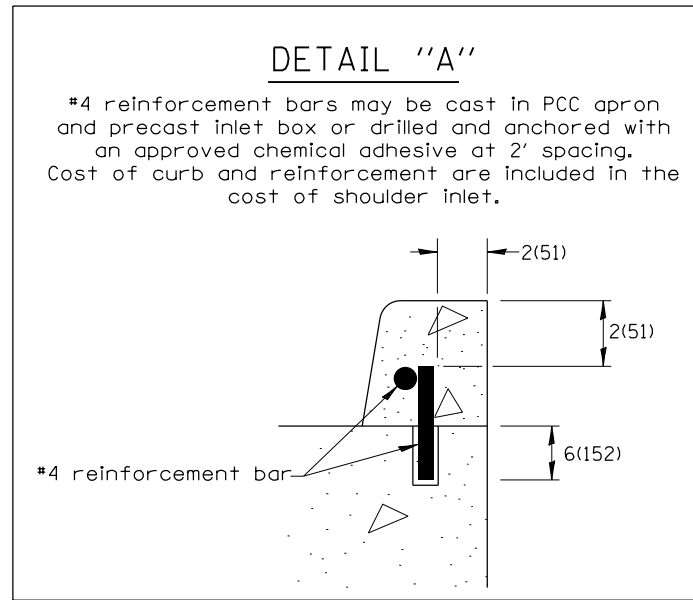
GUARDRAIL EROSION CONTROL TREATMENTS

NOT TO SCALE

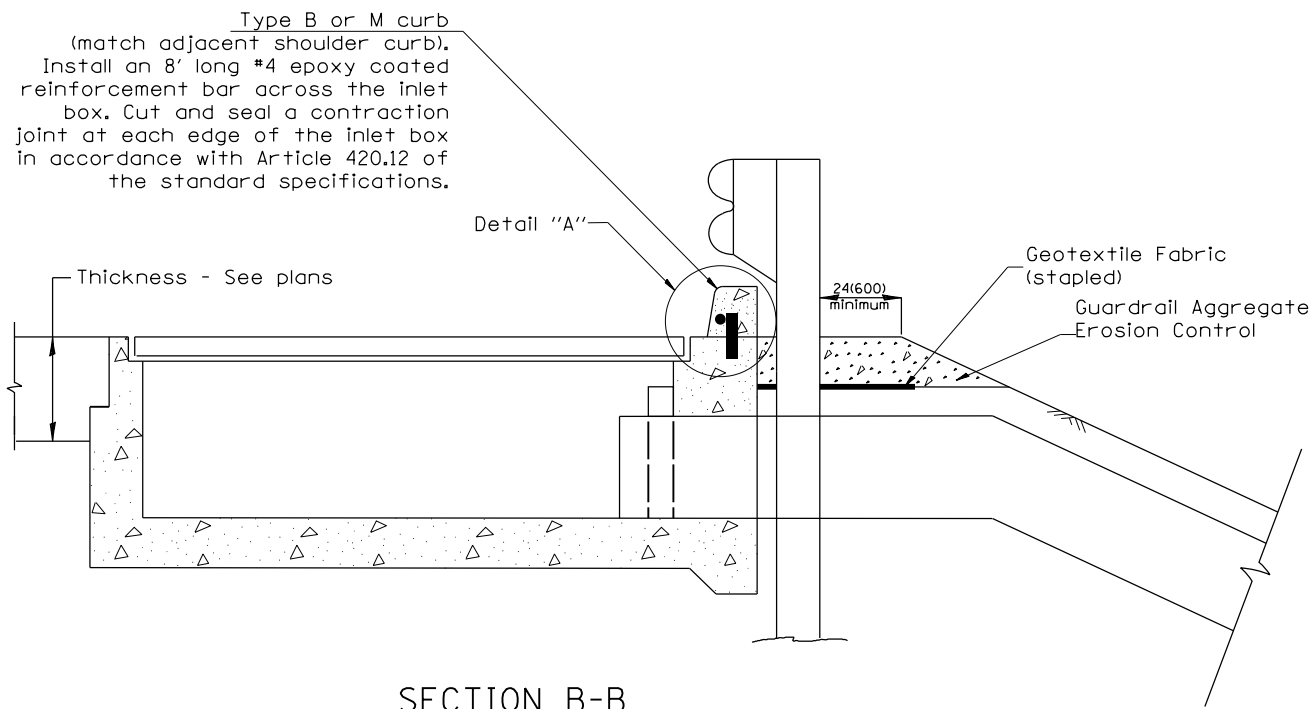
SHT. 1 OF 2  
CADD STD. 630101-D4

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

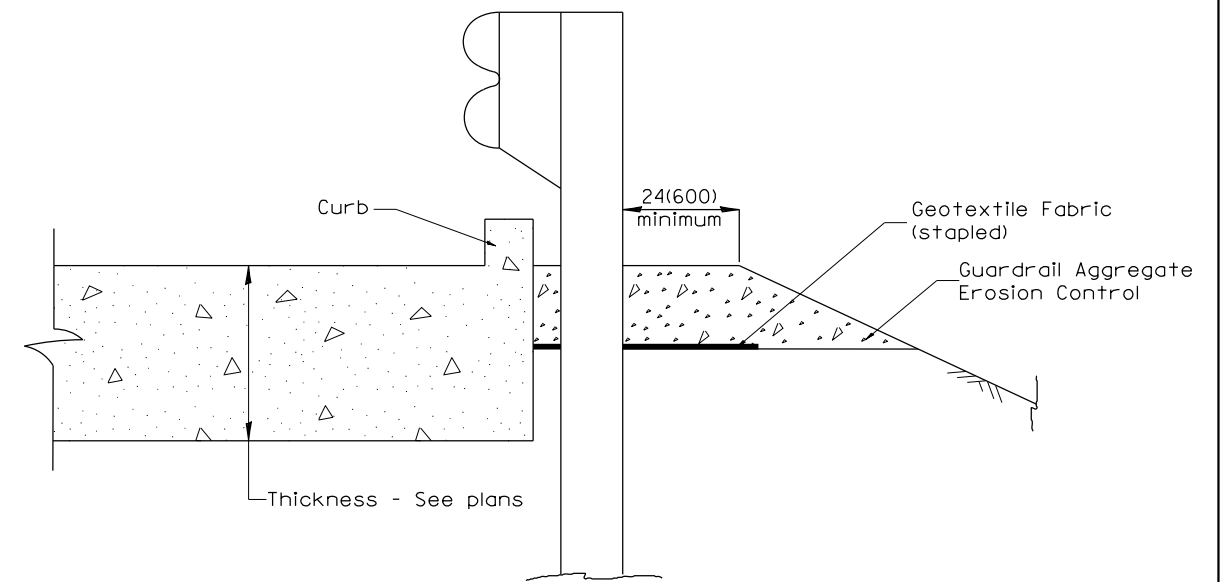




**PLAN VIEW**  
**APPROACH SLAB OR SHOULDER PLACEMENT**



**SECTION B-B**  
**TYPICAL SECTION AT INLETS**  
**TYPE E, F & G (HIGHWAY STANDARD 610001)**



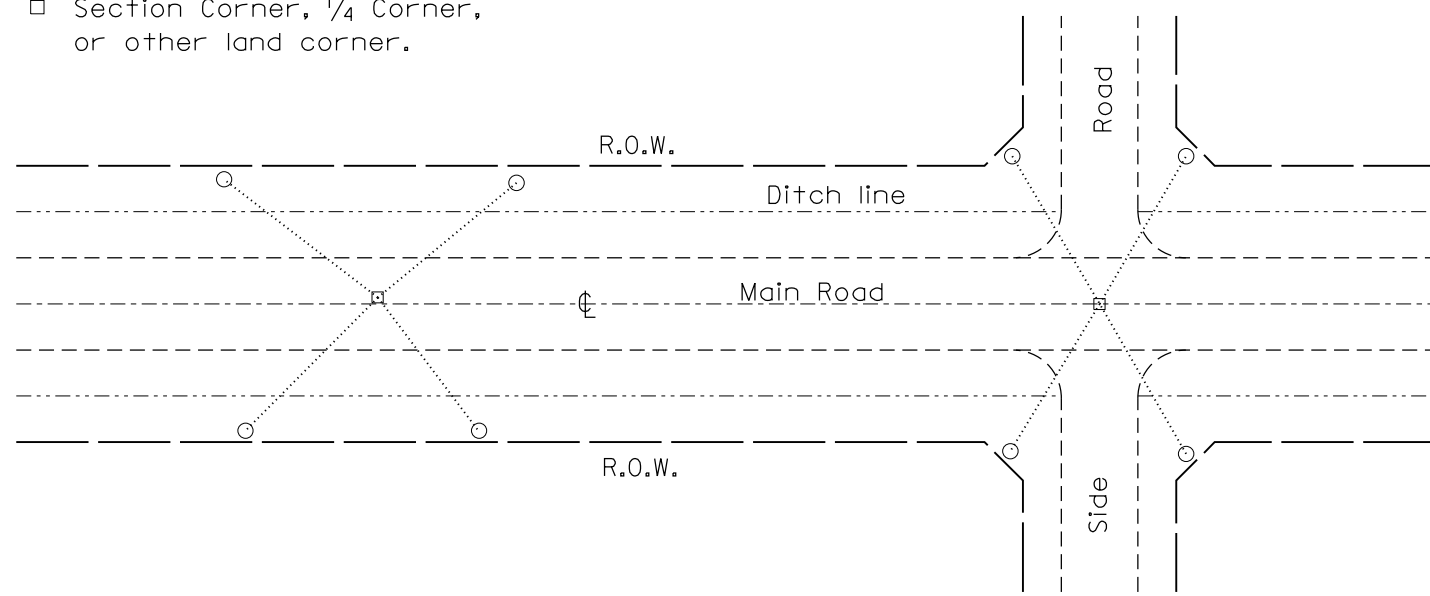
**SECTION A-A**  
**TYPICAL SECTION WITH BRIDGE APPROACH CURB**

All dimensions are in inches (millimeters) unless otherwise noted.

<b>STATE OF ILLINOIS</b>				<b>GUARDRAIL EROSION CONTROL TREATMENTS</b>				F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
<b>DEPARTMENT OF TRANSPORTATION</b>				NOT TO SCALE				SHT. 2 OF 2		CONTRACT NO.		
				CADD STD. 630101-D4				FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

**PERMANENT SURVEY TIES**

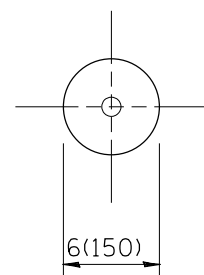
- Permanent Survey Tie
- Section Corner, 1/4 Corner, or other land corner.



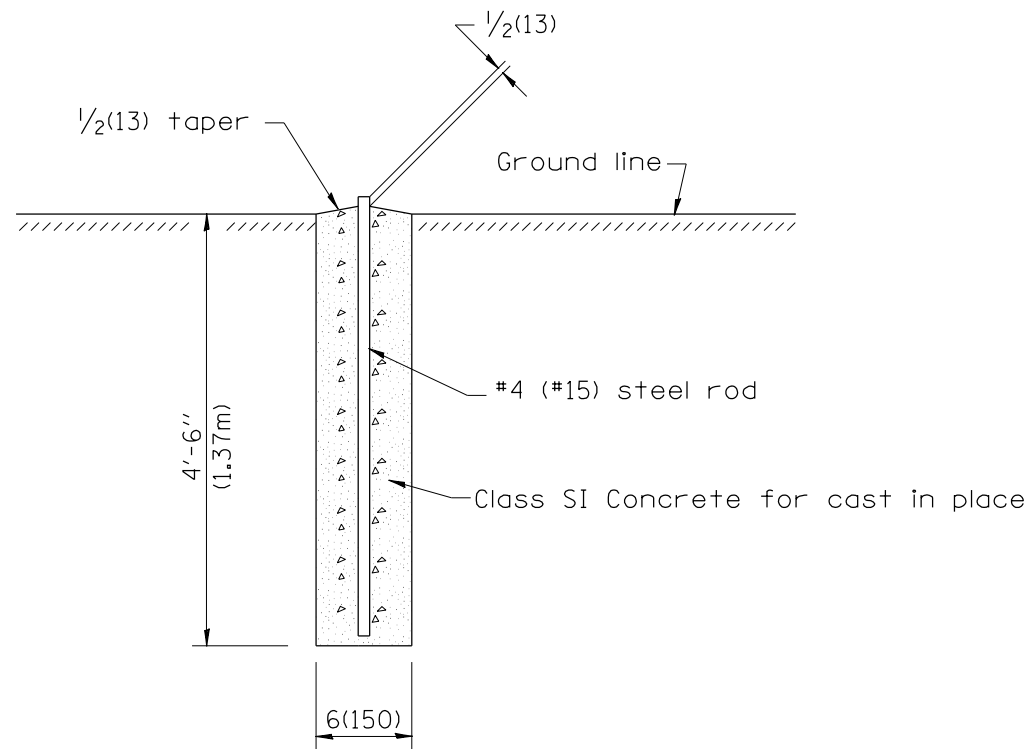
**TYPICAL APPLICATION**

**GENERAL NOTES**

1. The marker shall be cast in place of Class SI Concrete.
2. Tie marker shall be installed after the final seeding has been completed unless otherwise specified by the Engineer.
3. The tie distances to the section corner shall be measured and recorded by the surveyor setting the PSM. All ties shall be turned over to the IDOT Chief of Surveys or Chief of Plats for recordation.
4. All documentation shall be performed by a PLS

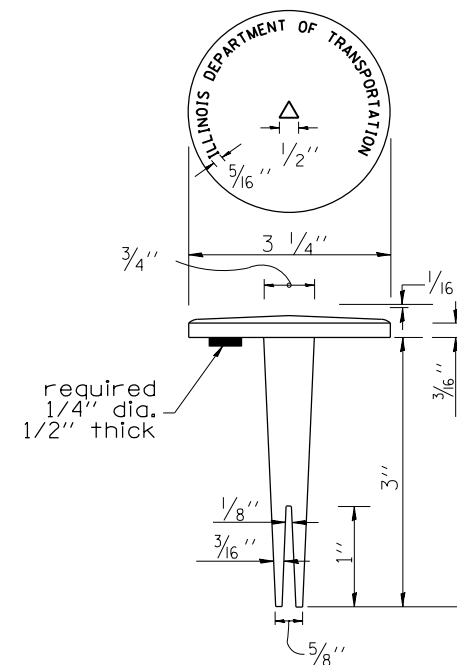


**PLAN**

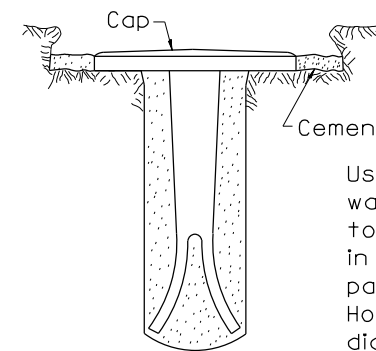


**SECTION**

**PERMANENT SURVEY MARKERS**

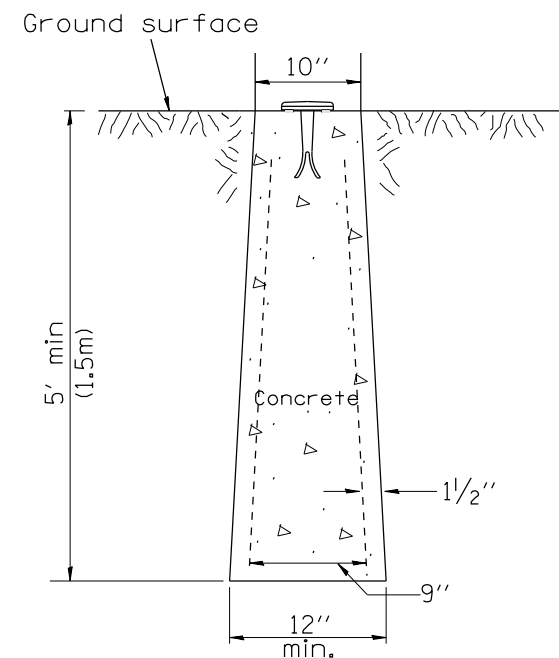


**BRASS TABLET**



Tablet constructed in rock ledge or concrete.

**TYPE I**



**TYPE II  
CAST-IN-PLACE MARKER**

**GENERAL NOTES**

1. All type II markers shall be cast in place, and precast markers will not be allowed.
2. Two permanent magnets, each having a diameter of 3/4 (19) and a thickness of 1/4 (6), or equivalent, shall be attached to the underside of the tablet with an approved epoxy bonding agent.
3. The location of the markers shall be in accordance with the plans in general, the markers will be placed at the P.T.'s, P.C.'s, and P.I.'s located within the R.O.W. of horizontal curves and spaces along the tangents in a way that a minimum of two markers are always inter-visible, and not to exceed 1000' (300m).
4. The markers shall be placed under the direction of the Engineer and shall be installed in a workmanlike manner in order that there will be no further settlement or horizontal shifting. The monuments shall be placed in a way that the survey point will fall within the portion of the plaque provided for that purpose.
5. The project designation, the centerline station, the survey point, and the elevation shall be permanently marked by the use of metal dies after marker has been installed.

All dimensions are in inches (millimeters) unless otherwise noted.

DESIGNER NOTES:  
 1. ADD DISTRICT SPECIAL PROVISION IF PLACING A TYPE I MARKER ON A STRUCTURE.  
 2. MODIFIES STATE STD 667101. DON'T USE STATE STD IF USING CADD STANDARD  
 3. PERMANENT SURVEY MARKERS SHALL BE PLACED TO PERPETUATE THE SURVEY LINES OF DIVIDED HIGHWAYS AND THE CENTERLINE OF ALL OTHERS WHERE THESE LINES HAVE BEEN ESTABLISHED BY SURVEY.  
 4. PERMANENT SURVEY MARKERS SHALL BE PLACED AT ALL LAND SECTION CORNERS WITHIN THE STATE R.O.W. WHERE THE MONUMENTS HAVE BEEN FOUND OR RELOCATED BY SURVEY.

01-01-97	RENUM. D-3.01, NEW REVISION BOX, REVISED	T.P.	10-16-06	REVISED TO 2007 SPEC.	M.A.
	TITLE BOX, ADD DESIGNER NOTE		01-04-11	REVISED FOR CORRECTIONS	R.D.
07-07-98	ADD DESIGNER NOTE	J.A.	08-21-13	CHANGED MIN. DIAMETER	R.D.
05-24-06	REMOVED GEN. NOTE UNDER TIES	M.A.	08-25-15	REVISED MATERIAL	R.D.

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PERMANENT SURVEY TIE &  
PERMANENT SURVEY MARKERS TY.I - TY.II**

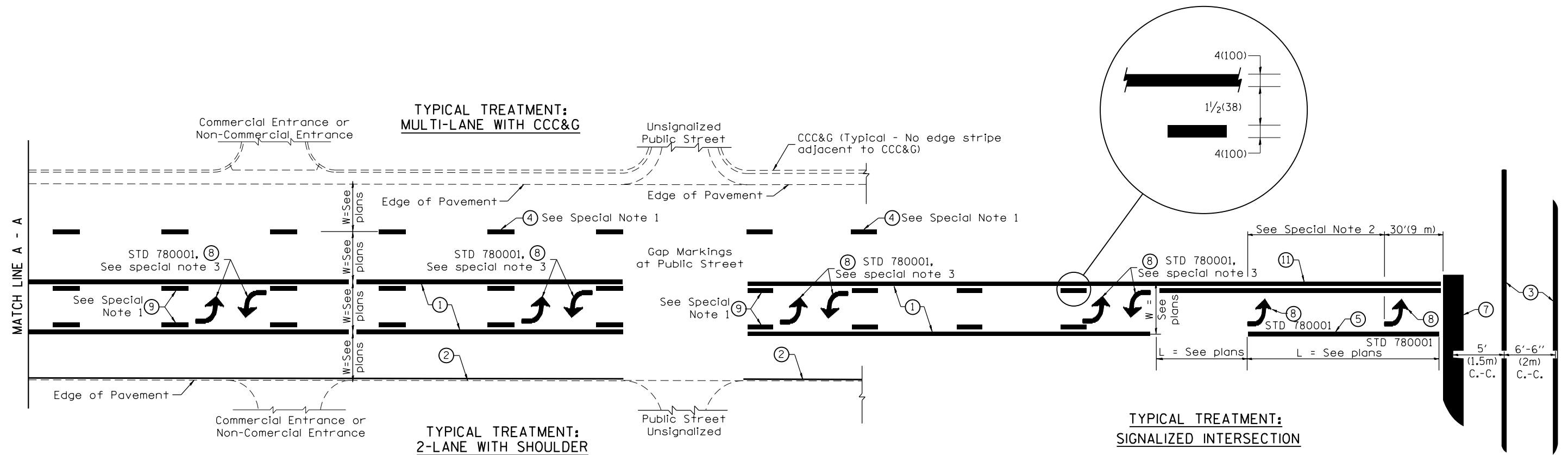
NOT TO SCALE

CADD STD. 667101-D4

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	48(29,30)BR	KNOX	80	78
CONTRACT NO. 68D41				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DESIGNER NOTES:  
1. Include State Standard 780001 (Typical Pavement Markings)



**FLUSH PAVED MEDIAN: TWO-WAY LEFT TURN LANE WITH ONE-WAY LEFT TURN LANE AT SIGNALIZED INTERSECTION**

**TYPICAL PAVEMENT MARKING LEGEND**

(Note: This is a District Standard Legend. Some elements may not apply to specific project.)

- ① 4(100) Solid (Yellow)
- ② 4(100) Solid (White)
- ③ 2-6(150) Crosswalk @ 6'-6" (2m)min C.-C. (White)  
2-8(200) Crosswalk @ 6'-6" (2m)min C.-C. (White) (When traffic signals are present.)
- ④ 6(150) Skip-Dash (White) (See Special Note 1)
- ⑤ 8(200) Solid (White)
- ⑥ 12(300) Diagonal (White) (Item ⑥ is shown on Std. 780001)
- ⑦ 24(600) Stop Bar (White)
- ⑧ Letters & Arrows (See Std. 780001 and Special Notes 2 & 3)
- ⑨ 4(100) Skip-Dash (Yellow) (See Special Note 1)
- ⑩ 12(300) Diagonal (Yellow) (See Table A) 45°
- ⑪ 4(100) Double Solid (Yellow) 11(280) C.-C. See Table A

**SPECIAL NOTES**

1. Skip-Dash markings will be centered between both ends of city blocks and shall be placed in alignment transversely across the pavement.
2. The following shall apply to arrows located in one-way left turn lanes:
  - A. A minimum of two (2) arrows is required.
  - B. The maximum spacing between arrows is 80' (24 m).
  - C. Arrows shall be evenly spaced if three (3) or more are required.
3. The following shall apply to arrow pairs located in two-way left turn lanes:
  - A. A minimum of two (2) arrow pairs is required.
  - B. The maximum spacing between arrow pairs is 200' (61 m).
  - C. Arrow pairs shall be evenly spaced if three (3) or more are required.
  - D. The spacing between Bi Directional Left Turn Arrows is 33' (10 m).

**GENERAL NOTES**

1. Refer to State Standard 780001 for additional Pavement Markings including letters & arrows.
2. See Plans for Pavement Markings adjacent to curbed islands and medians, and through lane reductions.
3. Refer to Article 780.13 for letter, number and symbol areas (sq. ft.)
4. Areas are grooved 1" beyond each edge for the following symbols:
  - Through Arrow= 14.8 sq. ft.
  - Large Left or Right Arrow= 21.9 sq. ft.
  - 2 Arrow Combination Left (or Right) and Through= 34.9 sq. ft.
  - Wrong Way Arrow= 29.5 sq. ft.
  - Railroad Crossing Symbol= 69.8 sq. ft.
 (For further information, refer to BDE Special Provision: Grooving for Recessed Pavement Markings)

01-01-97	RENUM. F-8.03, NEW REVISION BOX	T.P.	10-16-06	REVISED TO 2007 SPEC.	
02-07-97	ADD BI DIRECTIONAL DIMENSION	J.A.	2/29/16	ADDED GROOVING AREAS	R.D.
10-97	CORRECT BI DIRECTIONAL DIMENSION	J.A.	07-16-19	SPELLING CORRECTIONS	R.D.
08-02	ADD CROSSWALK DMNS. WITH T.S.	M.A.			

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

NOT TO SCALE

**TYPICAL PAVEMENT MARKINGS**

SHT. 1 OF 2  
CADD STD. 780001-D4

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				