

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	1
		ILLINOIS	CONTRACT NO. 74997	

D-97-074-20



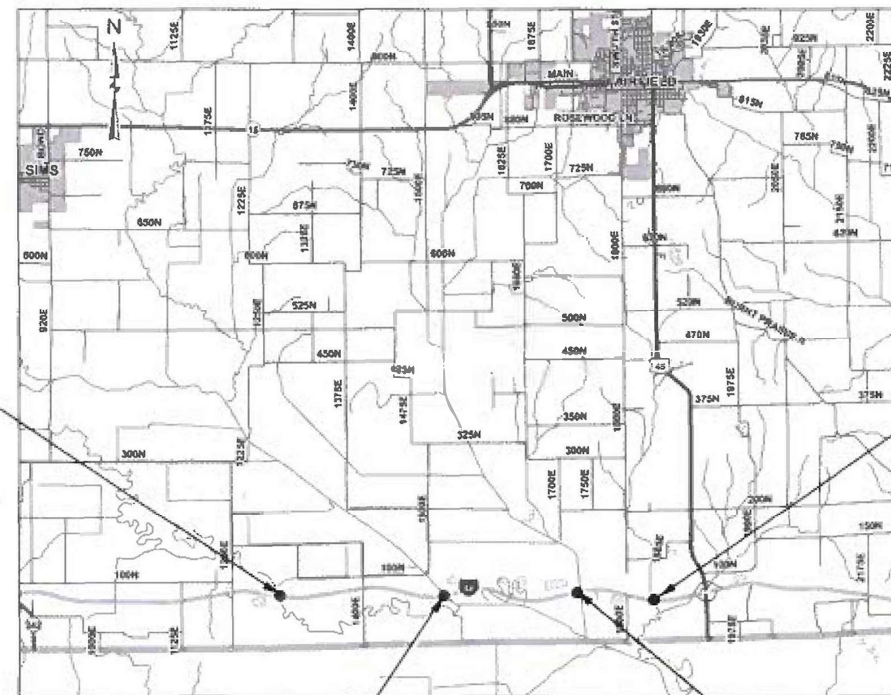
**PROPOSED  
HIGHWAY PLANS**

FAI ROUTE 64 (I-64)  
D7 BRIDGE REPAIRS 2022-3  
PROJECT NHPP-MMXX(267)  
JOINT REPAIRS, DECK OVERLAY  
WAYNE COUNTY

C-97-082-20

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT (2019) EASTBOUND = 6400  
ADT (2019) WESTBOUND = 6200

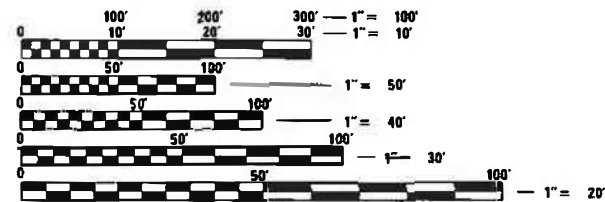


S.N. 096-0041 (EASTBOUND) &  
S.N. 096-0042 (WESTBOUND)

S.N. 096-0047 (EASTBOUND) &  
S.N. 096-0048 (WESTBOUND)

S.N. 096-0043 (EASTBOUND) &  
S.N. 096-0044 (WESTBOUND)

S.N. 096-0045 (EASTBOUND) &  
S.N. 096-0046 (WESTBOUND)



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 BRIAN LEWIS  
PROJECT MANAGER BENJAMIN DETERS

CONTRACT NO. 74997

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 19 2021  
Jeffrey P. Mynick  
REGIONAL ENGINEER  
October 1 2021  
[Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT  
October 1 2021  
Stephen M. Lewis  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
<u>1</u>	COVER SHEET
<u>2</u>	INDEX OF SHEETS AND GENERAL NOTES
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6	TYPICAL SECTIONS
7 - 10	SCHEDULE OF QUANTITIES
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146 - 147	GUARDRAIL DETAILS
148	MISCELLANEOUS DETAILS
149 - 152	PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL AND URBAN APPLICATIONS) DISTRICT 7 DETAIL NO. 78000001

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS:

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-09	PAVEMENT JOINTS
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLABS
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
483001-05	PCC SHOULDER
630001-12	STEEL PLATE BEAM GUARDRAIL
630201-07	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) TERMINALS
631032-09	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-08	TRAFFIC BARRIER TERMINAL, TYPE 6B
642001-02	SHOULDER RUMBLE STRIPS, 16 INCH
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-10	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
725001-01	OBJECT AND TERMINAL MARKERS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
780001-05	TYPICAL PAVEMENT MARKINGS

**GENERAL NOTES**

THE PROPOSED PROJECT IS LOCATED ON I-64 BETWEEN IL-242 AND US-45 IN WAYNE COUNTY.

THE WORK IN THIS SECTION CONSISTS OF BRIDGE DECK SCARIFICATION, BRIDGE DECK CONCRETE OVERLAY, DECK REPAIR, EXPANSION JOINTS, NEW APPROACH PAVEMENTS AND PAVEMENT CONNECTORS, GUARDRAIL, PAVEMENT MARKING, AND ANY OTHER WORK NEEDED TO COMPLETE THIS SECTION.

PAVEMENT MARKING TAPE SHALL BE USED FOR SHORT TERM PAVEMENT MARKINGS ON HMA SURFACES.

FINAL PAVEMENT MARKINGS ON PAVEMENT SURFACES SHALL BE AS FOLLOWS:

EDGE LINE AND CENTERLINE MARKINGS ON HOT-MIX ASPHALT SURFACE: THERMOPLASTIC PAVEMENT MARKING, LINE 6"

MARKINGS ON PCC APPROACH PAVEMENTS AND BRIDGE DECK OVERLAY: PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 6"

THE FOLLOWING APPLICATION RATES WERE USED IN CALCULATING PLAN QUANTITIES AND HAVE BEEN INCLUDED FOR REFERENCE:

SUBBASE GRANULAR MATERIAL, TYPE B                                    2.05 TON/CU YD

THE CONTRACTOR SHALL HAVE THE OPTION OF MIX DESIGNS TO BE PLACED FOR THE GUARDRAIL STABILIZATION AT THE PROPOSED GUARDRAIL. THE MIX DESIGN OPTIONS ARE LISTED BELOW:

APPLICATION	AC/PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE	QUALITY MANAGEMENT
HMA GUARDRAIL STABILIZATION (OPTION 1)	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C	QC/QA
HMA GUARDRAIL STABILIZATION (OPTION 2)	PG 64-22	4.0% @ N=70	IL - 9.5FG	N/A	QC/QA

REV. - MS

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USER NAME = steffemk PLOT SCALE = 100.0000" / in. PLOT DATE = 8/19/2021	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, STANDARDS, INDEX OF SHEETS</b>			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -					64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	2
	CHECKED -	REVISED -					CONTRACT NO. 74997		ILLINOIS FED. AID PROJECT		
	DATE -	REVISED -	SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.		

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		
20900110	POROUS GRANULAR BACKFILL	CU YD	311.7	311.7		
31101000	SUBBASE GRANULAR MATERIAL, TYPE B	TON	890	890		
42000060	WELDED WIRE REINFORCEMENT	SQ YD	12496	12496		
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	1630	1630		
44000100	PAVEMENT REMOVAL	SQ YD	1981	1981		
44004250	PAVED SHOULDER REMOVAL	SQ YD	14246	14246		
48203021	HOT-MIX ASPHALT SHOULDERS, 6"	SQ YD	568	568		
48300500	PORTLAND CEMENT CONCRETE SHOULDERS 10"	SQ YD	12496	12496		
50102400	CONCRETE REMOVAL	CU YD	191.4	191.4		
50104000	BRIDGE RAIL REMOVAL	FOOT	446	446		
50200100	STRUCTURE EXCAVATION	CU YD	311.7	311.7		
50300100	FLOOR DRAINS	EACH	168	168		
50300225	CONCRETE STRUCTURES	CU YD	334.8	334.8		

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	107.3	107.3		
50300300	PROTECTIVE COAT	SQ YD	12093	12093		
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	904.2	904.2		
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2006	2006		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	407704	407704		
50800515	BAR SPLICERS	EACH	2612	2612		
* 50900200	STEEL RAILING, TYPE 2399	FOOT	516	516		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	564.6	564.6		
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	279.7	279.7		
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	1013	1013		
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4		
* 63100089	TRAFFIC BARRIER TERMINAL, TYPE 6B	EACH	4	4		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	5	5		

\* SPECIALTY ITEM

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

REV. - MS  
REV-SEP

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		
63200310	GUARDRAIL REMOVAL	FOOT	794	794		
63301990	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1	EACH	1	1		
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	12519	12519		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	9	9		
67100100	MOBILIZATION	L SUM	1	1		
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	6	6		
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	6	6	*	
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	23663	23663		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	1378	1378		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	15430	15430		

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	34852	34852		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	6450	6450		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	6000	6000		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	8	8		
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	8	8		
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	5	5		
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	18334	18334		
78003130	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 6"	FOOT	6370	6370	*	
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	13	13		
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	21406	21406		
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	5253	5253		
X7830074	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	19042	19042		

\* SPECIALTY ITEM

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

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REV-SEP

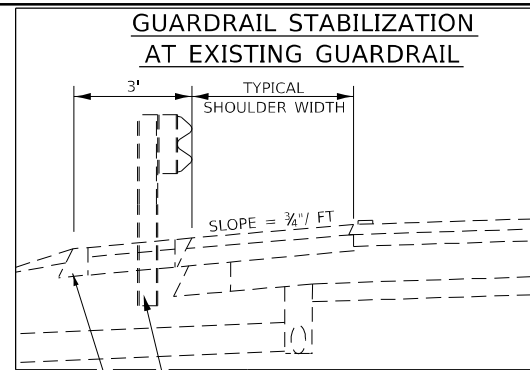
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SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	2006	2006		
Z0004552	APPROACH SLAB REMOVAL	SQ YD	853	853		
Z0012111	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 1/2"	SQ YD	8389	8389		
Z0012144	BRIDGE DECK SCARIFICATION 2 1/2"	SQ YD	8389	8389		
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	95.1	95.1		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	29.1	29.1		
Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	10665	10665		

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047 90% FED 10% STATE		

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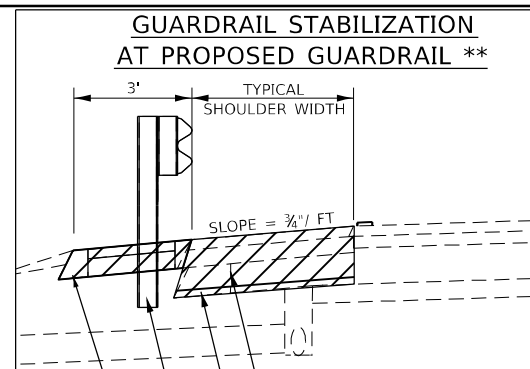
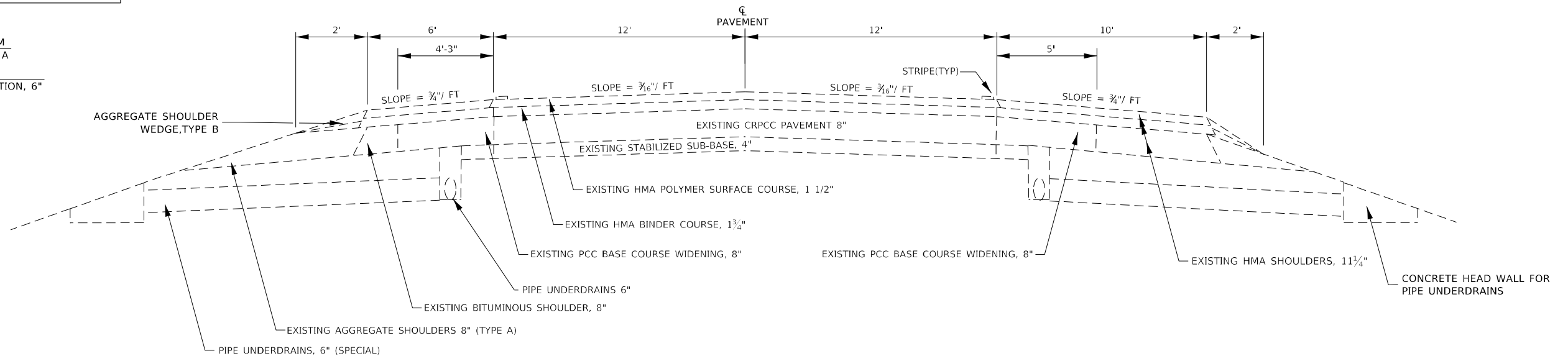


**GUARDRAIL STABILIZATION AT EXISTING GUARDRAIL**

STEEL PLATE BEAM GUARDRAIL, TYPE A  
HOT-MIX ASPHALT GUARDRAIL STABILIZATION, 6"

**EXISTING TYPICAL SECTION F.A.I. ROUTE 64 EASTBOUND AND WESTBOUND LANES**

STATION	TO	STATION	
3979+71.90		3991+49.60	EB - S.N. 096-0041
978+71.80		990+45.30	WB - S.N. 096-0042
4116+98.70		4131+02.50	EB - S.N. 096-0043
1114+36.60		1128+68.00	WB - S.N. 096-0044
4224+63.10		4238+17.70	EB - S.N. 096-0045
4224+81.10		4238+32.10	WB - S.N. 096-0046
4285+73.50		4297+18.90	EB & WB - S.N. 096-0047 & 096-0048

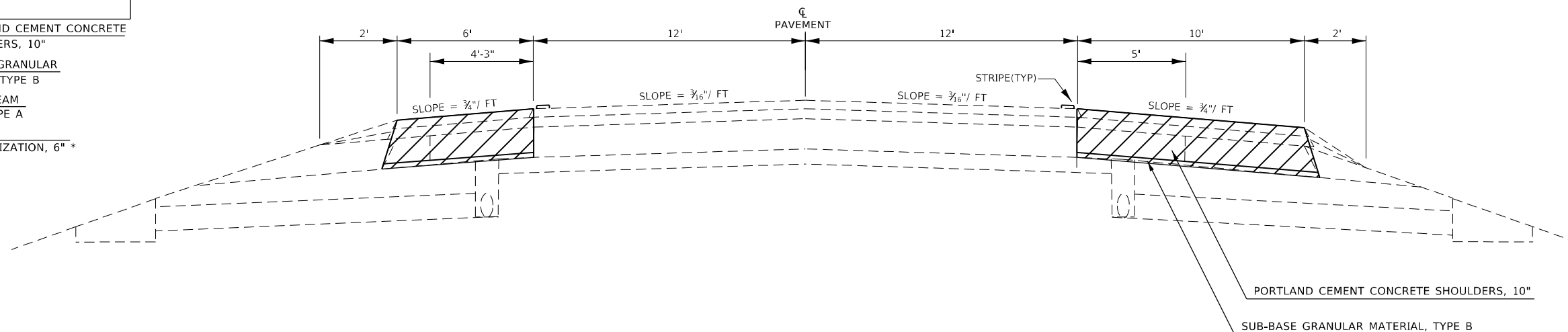


**GUARDRAIL STABILIZATION AT PROPOSED GUARDRAIL \*\***

PORTLAND CEMENT CONCRETE SHOULDERS, 10"  
SUB-BASE GRANULAR MATERIAL, TYPE B  
STEEL PLATE BEAM GUARDRAIL, TYPE A  
HOT-MIX ASPHALT GRAURDRAIL STABILIZATION, 6" \*

**PROPOSED TYPICAL SECTION F.A.I. ROUTE 64 EASTBOUND AND WESTBOUND LANES**

STATION	TO	STATION	
3979+71.90		3991+49.60	EB - S.N. 096-0041
978+71.80		990+45.30	WB - S.N. 096-0042
4116+98.70		4131+02.50	EB - S.N. 096-0043
1114+36.60		1128+68.00	WB - S.N. 096-0044
4224+63.10		4238+17.70	EB - S.N. 096-0045
4224+81.10		4238+32.10	WB - S.N. 096-0046
4285+73.50		4297+18.90	EB & WB - S.N. 096-0047 & 096-0048



\* TO BE PAID FOR AS HOT-MIX ASPHALT SHOULDERS, 6"

\*\* IN LOCATIONS WHERE EXISTING GUARDRAIL IS TO REMAIN IN PLACE, ONLY THE TYPICAL PAVED SHOULDER WIDTH SHALL BE REPLACED.

PAVED SHOULDER REMOVAL

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TYPICALS</b>	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	6
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



TRAFFIC CONTROL								
BRIDGE NO.	TANGENT LENGTH (FOOT)	TAPER LENGTH (FOOT)	TANGENT SECTIONS (EACH)	TAPER SECTION (EACH)	TEMPORARY CONCRETE BARRIER (FOOT)	RELOCATE TEMPORARY CONCRETE BARRIER (FOOT)	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 (EACH)	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 (EACH)
STAGE I								
096-0041	453.5	252.3	37	21	725.0		1	
096-0042	453.5	253.1	37	21	725.0		1	
096-0043	676.3	252.3	55	21	950.0		1	
096-0044	678.4	252.2	55	21	950.0		1	
096-0045	614.3	252.2	50	21	887.5		1	
096-0046	612.7	252.2	50	21	887.5		1	
096-0047	388.8	253.2	32	21	662.5		1	
096-0048	389.4	253.2	32	21	662.5		1	
STAGE II								
096-0041	453.75	200.00	37	16		662.5		1
096-0042	453.47	200.40	37	17		675.0		1
096-0043	685.90	197.94	55	16		887.5		1
096-0044	690.39	197.47	56	16		900.0		1
096-0045	614.34	197.36	50	16		825.0		1
096-0046	612.86	197.40	50	16		825.0		1
096-0047	390.55	200.36	32	17		612.5		1
096-0048	389.29	200.38	32	17		612.5		1
0041 & 0042 TOTAL					1,450.0	1,337.5	2	2
0043 & 0044 TOTAL					1,900.0	1,787.5	2	2
0045 & 0046 TOTAL					1,775.0	1,650.0	2	2
0047 & 0048 TOTAL					1,325.0	1,225.0	2	2
TOTAL					6,450.0	6,000.0	8	8

GUARDRAIL												
BRIDGE NO.	SIDE	STATION	STATION	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT (EACH)	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS (FOOT)	TRAFFIC BARRIER TERMINAL, TYPE 6B (EACH)	TRAFFIC BARRIER TERMINAL, TYPE 6A (EACH)	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 1 (EACH)	TERMINAL MARKER-DIRECT APPLIED (EACH)	GUARDRAIL REMOVAL (FOOT)	HOT-MIX ASPHALT SHOULDERS, 6" (SQ YD)	GUARDRAIL REFLECTORS, TYPE A (EACH)
096-0041	PL	3981+63	3982+13	1					1	141	109.3	2
	PL	3982+13	3984+38		225.0							
	PL	3984+38	3984+88			1						
	DL	3983+69	3984+19					1				
	DL	3984+19	3984+57		38.0					76	48.3	1
096-0042	PL	985+32	985+82			1				141	109.0	2
	PL	985+82	988+07		225.0							
	PL	988+07	988+57	1					1			
	DI	985+13	985+63			1						
	DL	985+63	987+38		175.0					127	92.0	2
096-0047	PL	4290+73	4291+10				1			37	12.3	1
	DL	4288+59	4289+09	1					1			
	DL	4289+09	4290+84		175.0					116	92.3	2
	DL	4290+84	4291+21				1					
096-0048	PL	4291+94	4292+31				1			37	12.3	1
	DL	4291+84	4292+21		175.0							
	DL	4292+21	4293+96							119	92.3	2
	DL	4293+96	4294+46	1					1			
0041 & 0042 TOTAL				3	663.0	4		1	3	485	359	7
0047 & 0048 TOTAL				2	350.0		4		2	309	209	6
TOTAL				5	1,013.0	4	4	1	5	794	568	13

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**STATE OF ILLINOIS  
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**SCHEDULES OF QUANTITIES**

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	8
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



PAVEMENT MARKING									
BRIDGE NO.	DL/PL	STATION	STATION	THERMOPLASTIC PAVEMENT MARKING - LINE 6" (FOOT)		PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 6" (FOOT)		TEMPORARY PAVEMENT MARKING - LINE 6" (FOOT)	
				YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE
096-0041	DL	3979+72	3984+31		459				459
	DL	3984+31	3987+15				284		284
	DL	3987+15	3991+50		435				435
	CL	3973+96	3984+31		259				259
	CL	3984+31	3987+15				71		71
	CL	3987+15	3991+25		103				103
	PL	3980+98	3984+31	333					333
	PL	3984+31	3987+15			284			284
PL	3987+15	3990+23	308					308	
096-0042	DL	979+72	983+07		335				335
	DL	983+07	985+90				283		283
	DL	985+90	990+45		455				455
	CL	978+97	983+07		103				103
	CL	983+07	985+90				71		71
	CL	985+90	996+20		258				258
	PL	979+94	983+07	313					313
	PL	983+07	985+90			283			283
PL	985+90	989+23	333					333	
096-0043	DL	4116+99	4121+58		459				459
	DL	4121+58	4126+60				502		502
	DL	4126+60	4131+03		443				443
	CL	4102+23	4121+58		484				484
	CL	4121+58	4126+60				126		126
	CL	4126+60	4130+77		104				104
	PL	4118+28	4121+58	330					330
PL	4121+58	4126+60			502			502	
PL	4126+60	4129+71	311					311	
096-0044	DL	1114+37	1118+87		450				450
	DL	1118+87	1124+10				523		523
	DL	1124+10	1128+68		458				458
	CL	1114+62	1118+87		106				106
	CL	1118+87	1124+10				131		131
	CL	1124+10	1143+43		483				483
	PL	1115+73	1118+87	314					314
	PL	1118+87	1124+10			523			523
PL	1124+10	1127+49	339					339	

PAVEMENT MARKING									
BRIDGE NO.	DL/PL	STATION	STATION	THERMOPLASTIC PAVEMENT MARKING - LINE 6" (FOOT)		PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 6" (FOOT)		TEMPORARY PAVEMENT MARKING - LINE 6" (FOOT)	
				YELLOW	WHITE	YELLOW	WHITE	YELLOW	WHITE
096-0045	DL	4224+63	4229+41		478				478
	DL	4229+41	4233+62				421		421
	DL	4233+62	4238+18		456				456
	CL	4209+88	4229+41		488				488
	CL	4229+41	4233+62				105		105
	CL	4233+62	4286+34		1318				1,318
	PL	4225+96	4229+41	345					345
	PL	4229+41	4233+62			421			421
	PL	4233+62	4236+85	323					323
096-0046	DL	4224+81	4229+37		456				456
	DL	4229+37	4233+53				416		416
	DL	4233+53	4238+32		479				479
	CL	4226+44	4229+37		73				73
	CL	4229+37	4233+53				104		104
	CL	4233+53	4236+71		80				80
	PL	4226+19	4229+37	318					318
	PL	4229+37	4233+53			416			416
	PL	4233+53	4236+96	343					343
096-0047	DL	4285+88	4290+66		478				478
	DL	4290+66	4292+65				199		199
	DL	4292+65	4297+14		449				449
	CL	4287+34	4290+66		83				83
	CL	4290+66	4292+65				50		50
	CL	4292+65	4295+67		76				76
	PL	4287+09	4290+66	357					357
	PL	4290+66	4292+65			199			199
	PL	4292+65	4295+92	327					327
ADDITIONAL TEMPORARY STRIPING CONNECTING SETUPS FOR S.N. 096-0045 & S.N. 096-0047:									5,074
096-0048	DL	4285+74	4290+38		464				464
	DL	4290+38	4292+41				203		203
	DL	4292+41	4297+19		478				478
	CL	4236+71	4290+38		1342				1,342
	CL	4290+38	4292+41				51		51
	CL	4292+41	4310+70		457				457
	PL	4286+99	4290+38	339					339
	PL	4290+38	4292+41			203			203
	PL	4292+41	4295+95	354					354
ADDITIONAL TEMPORARY STRIPING CONNECTING SETUPS FOR S.N. 096-0045 & S.N. 096-0048:									5,074
0041-0042 TOTAL				1,287	2,405	567	709	1,854	3,114
0043-0044 TOTAL				1,294	2,988	1,025	1,281	2,319	4,269
0045-0046 TOTAL				1,329	3,828	837	1,046	2,166	4,874
0047-0048 TOTAL				1,377	3,827	402	503	1,779	14,477
TOTAL				5,287	13,047	2,831	3,539	8,118	26,734
GRAND TOTAL				18,334		6,370		34,852	

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SCHEDULES OF QUANTITIES</b>			
SCALE:	SHEET 3	OF 4 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	9
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

BLACKOUT TAPE				
BRIDGE NO.	STAGE	CL LENGTH (FOOT)	EL LENGTH (FOOT)	PAVEMENT MARKING BLACKOUT TAPE, 7 INCH (FOOT)
096-0041	I	2,220	1128	1,683.0
	II	35	875	883.8
096-0042	I	2,095	1124	1,647.8
	II	42	880	890.5
096-0043	I	2,133	1368	1,901.3
	II	30	1101	1,108.5
096-0044	I	2,090	1365	1,887.5
	II	65	1117	1,133.3
096-0045	I	6,795	1303	3,001.8
	II	33	1038	1,046.3
096-0046	I	640	1311	1,471.0
	II	21	1032	1,037.3
096-0047	I	653	1088	1,251.3
	II		840	840.0
096-0048	I	6,916	1084	2,813.0
	II	904	841	1,067.0
0041 & 0042 TOTAL				5,105
0043 & 0044 TOTAL				6,031
0045 & 0046 TOTAL				6,556
0047 & 0048 TOTAL				5,971
TOTAL				23,663

SHORT TERM PAVEMENT MARKING					
BRIDGE NO.	DL/PL	STATION	STATION	LENGTH (FOOT)	SHORT TERM PAVEMENT MARKING (FOOT)
096-0041	DL	3979+72	3991+50	1,178	48
	CL	3973+96	3991+25	432	44
	PL	3980+98	3990+23	925	37
096-0042	DL	979+72	990+45	1,073	43
	CL	978+97	996+20	431	44
	PL	979+94	989+23	929	38
096-0043	DL	4116+99	4131+03	1,404	57
	CL	4102+23	4130+77	714	72
096-0044	PL	4118+28	4129+71	1,143	46
	DL	1114+37	1128+68	1,431	58
096-0044	CL	1114+62	1143+43	720	73
	PL	1115+73	1127+49	1,176	48
096-0045	DL	4224+63	4229+41	478	20
	DL	4233+62	4286+34	5,272	211
	PL	4225+96	4236+85	1,089	44
096-0046	DL	4224+81	4238+32	1,351	55
	CL	4226+44	4236+71	257	26
096-0046	PL	4226+19	4236+96	1,077	44
	DL	4285+88	4297+14	1,126	46
096-0047	CL	4287+34	4295+67	208	21
	PL	4287+09	4295+92	883	36
096-0048	DL	4285+74	4297+19	1,145	46
	CL	4236+71	4310+70	1,850	185
	PL	4286+99	4295+95	896	36
0041-0042 TOTAL					254
0043-0044 TOTAL					354
0045-0046 TOTAL					400
0047-0048 TOTAL					370
TOTAL					1,378

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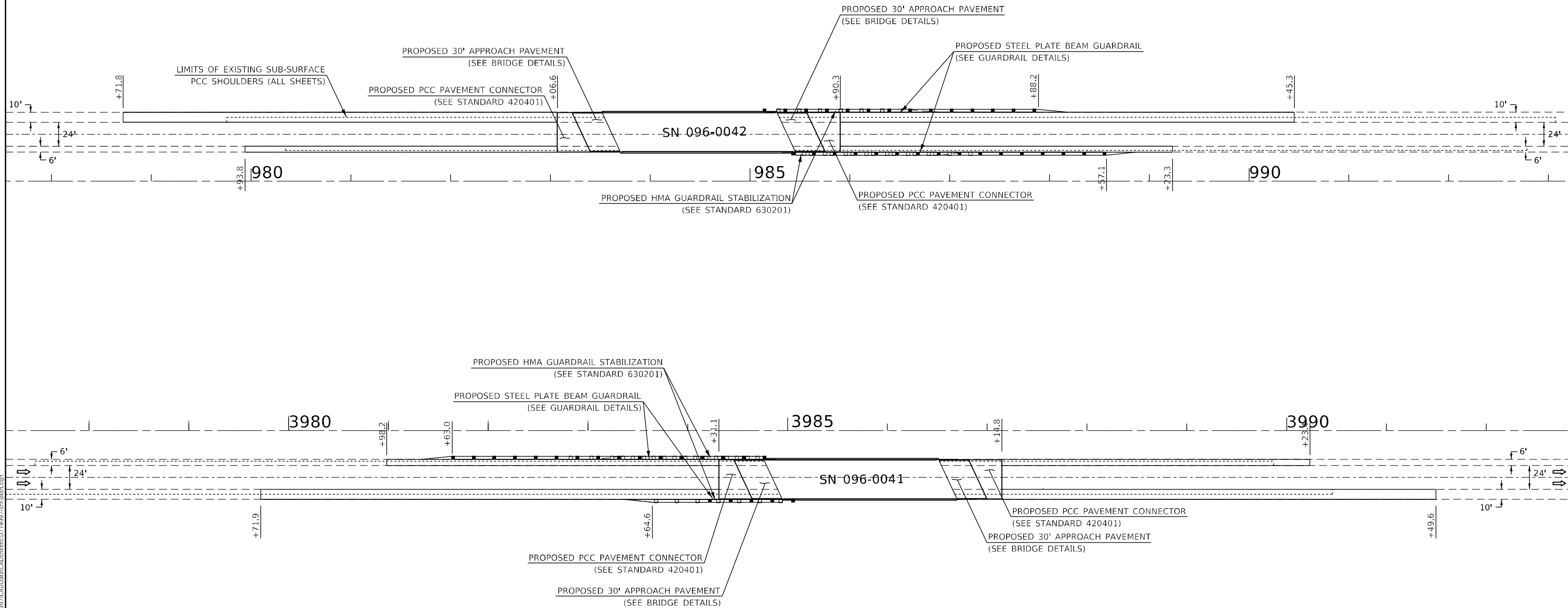
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCHEDULES OF QUANTITIES			
SCALE:	SHEET	OF	SHEETS
	4	4	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	10
				CONTRACT NO. 74997
		ILLINOIS	FED. AID PROJECT	

S.N. 096-0041 & 096-0042



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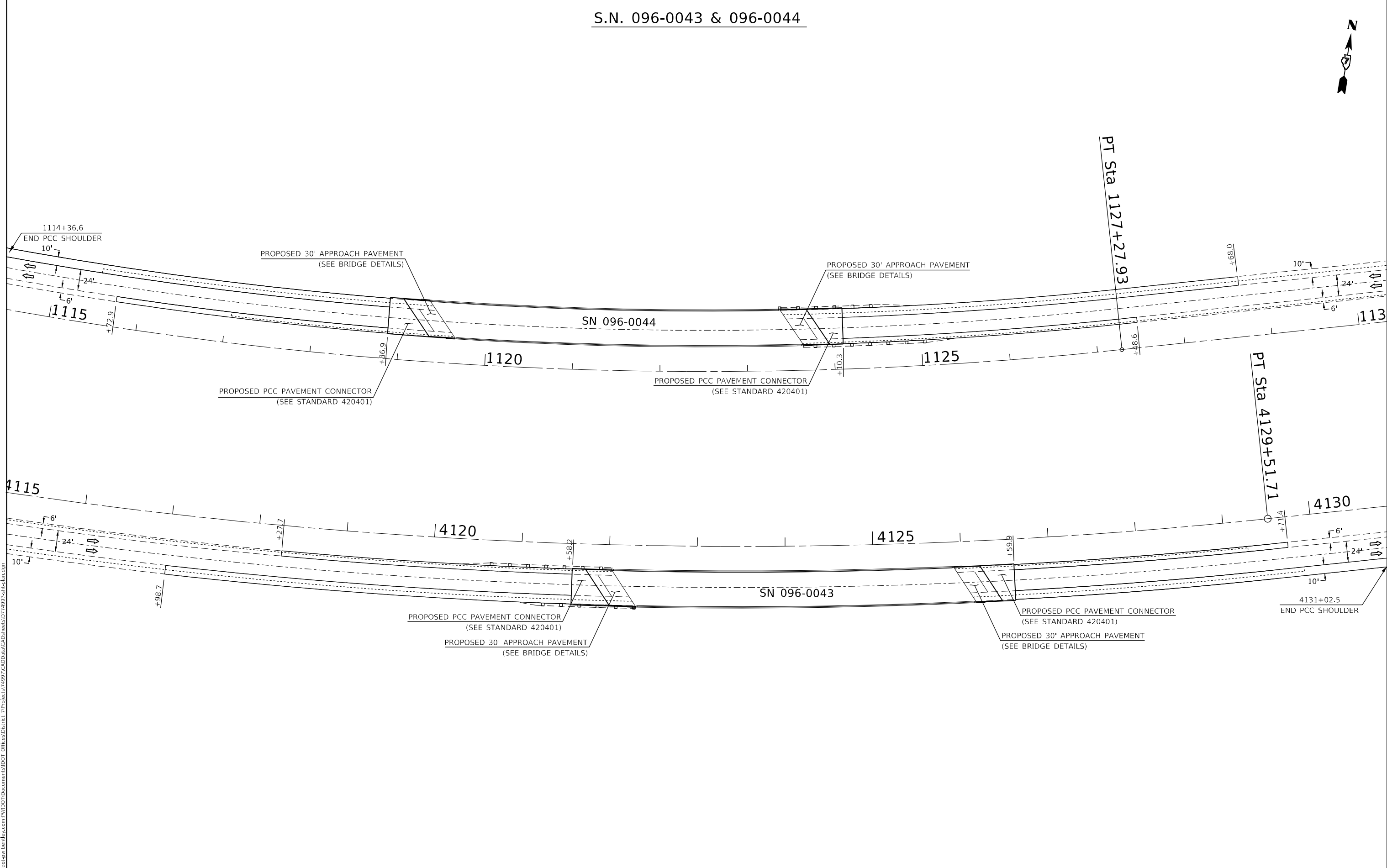
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN - S.N. 096-0041 & 096-0042**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	11
				CONTRACT NO. 74997
ILLINOIS FED. AID PROJECT				

S.N. 096-0043 & 096-0044



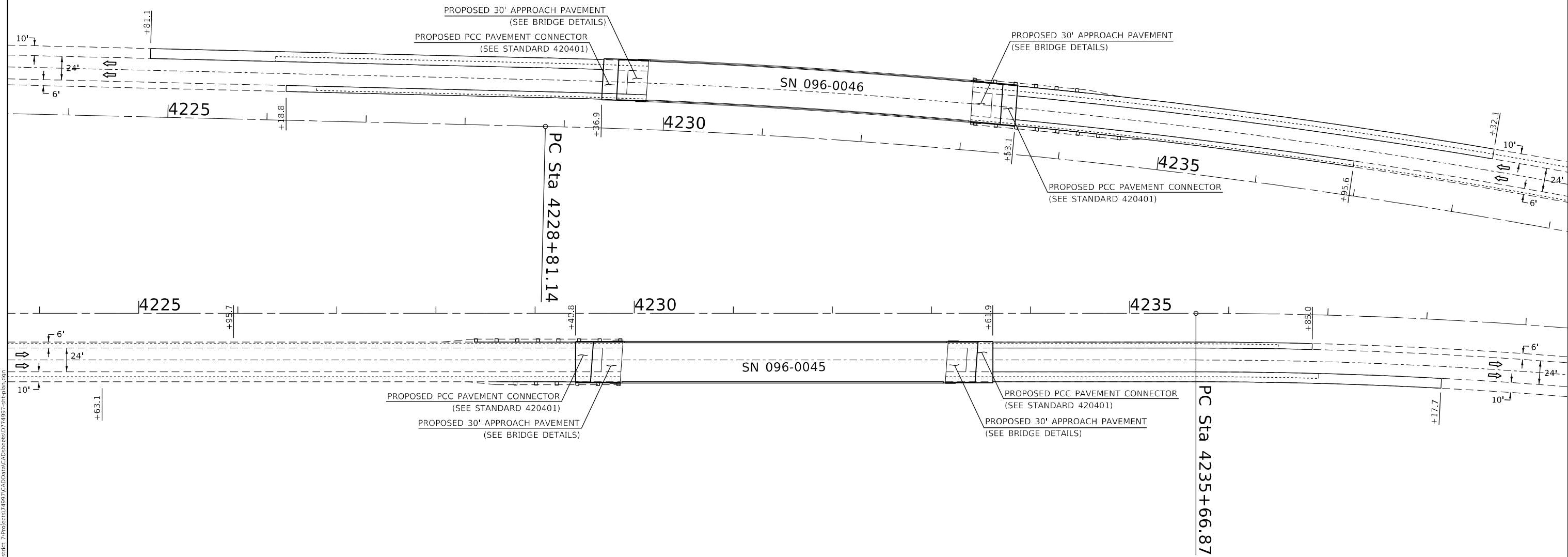
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PLOT DATE = 8/19/2021	DATE -	REVISED -

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

**PLAN - S.N. 096-0043 & 096-0044**  
 SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	12
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



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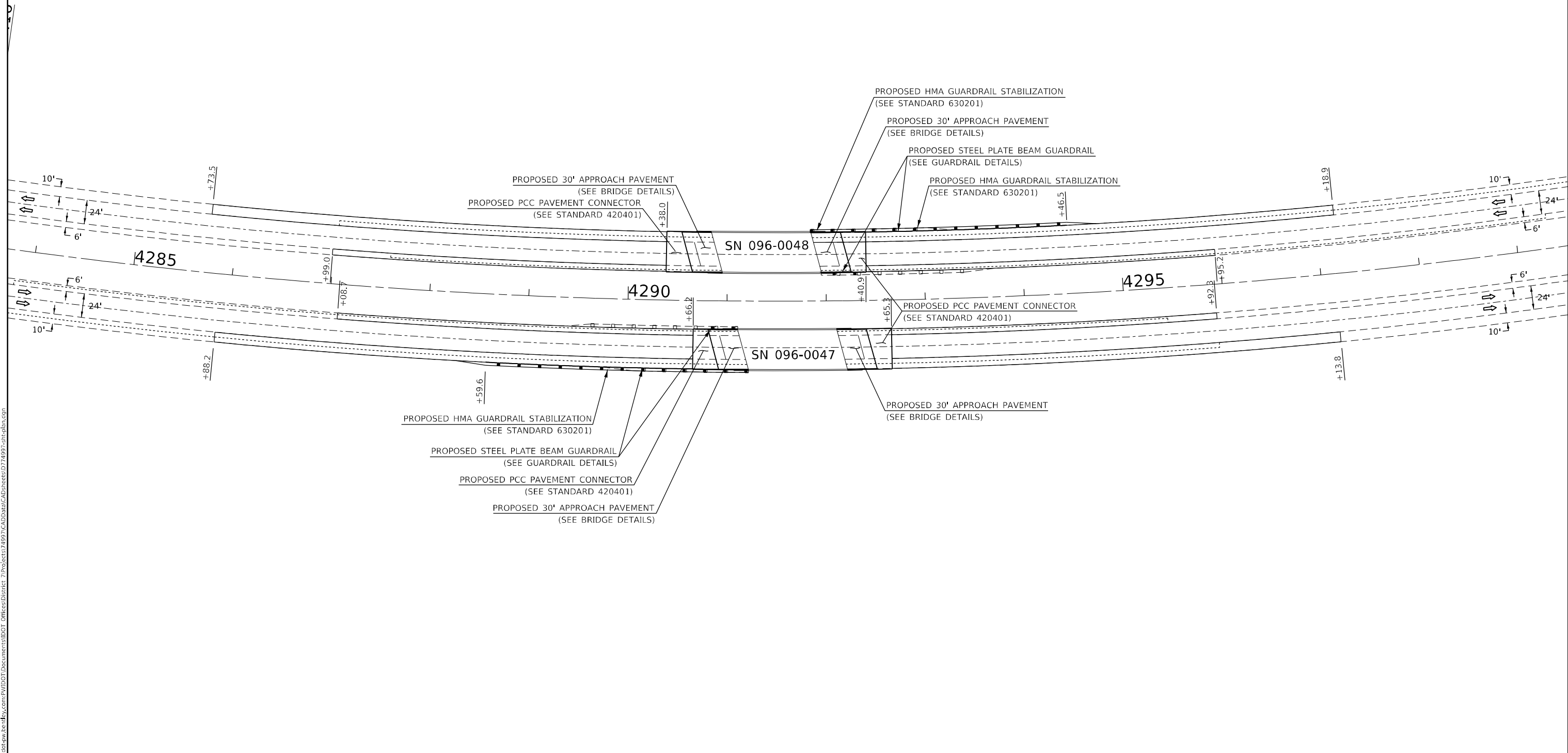
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PLAN - S.N. 096-0045 &amp; 096-0046</b>			
SCALE:	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	13
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

S.N. 096-0047 & 096-0048



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

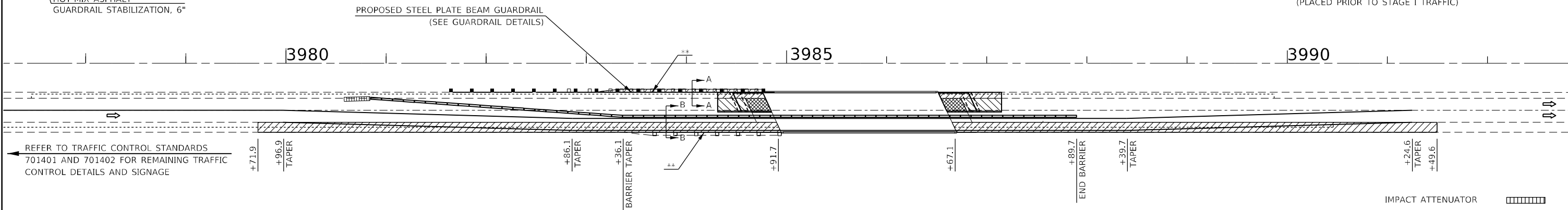
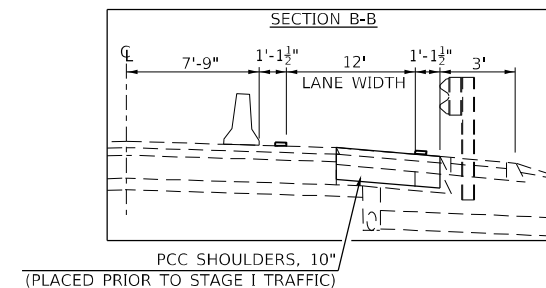
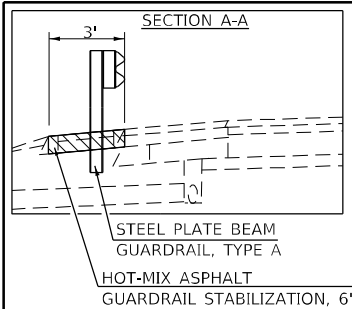
**PLAN - S.N. 096-0047 & 096-0048**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	14
CONTRACT NO. 74997			ILLINOIS FED. AID PROJECT	

# TRAFFIC CONTROL PLAN - S.N. 096-0041

## STAGE I



PRE-STAGE I SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE I PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE I PORTION OF THE PROPOSED PCC SHOULDERS.

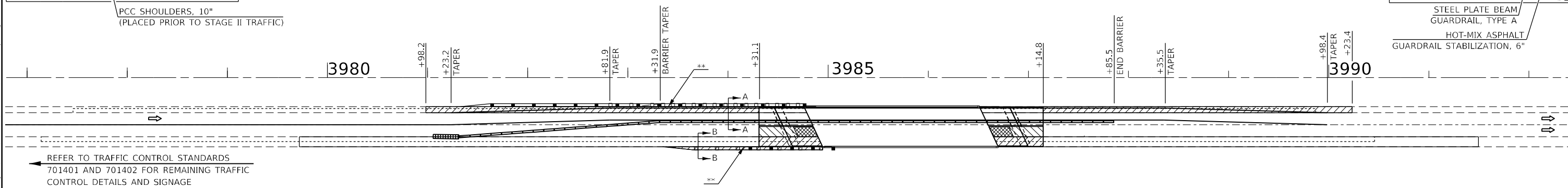
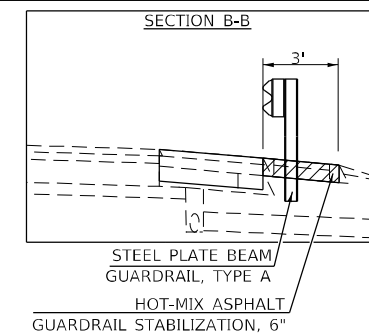
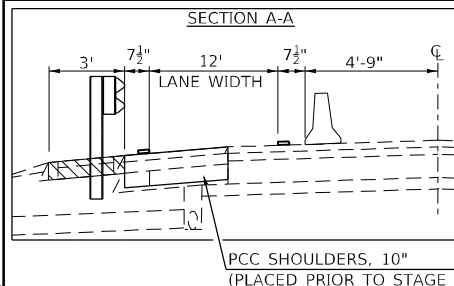
STAGE I SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, SHOULDERS, AND GUARDRAIL.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND GUARDRAIL.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03

# TRAFFIC CONTROL PLAN - S.N. 096-0041

## STAGE II



PRE-STAGE II SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE II PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE II PORTION OF THE PROPOSED PCC SHOULDERS.

STAGE II SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, SHOULDERS, AND GUARDRAIL.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND GUARDRAIL.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03

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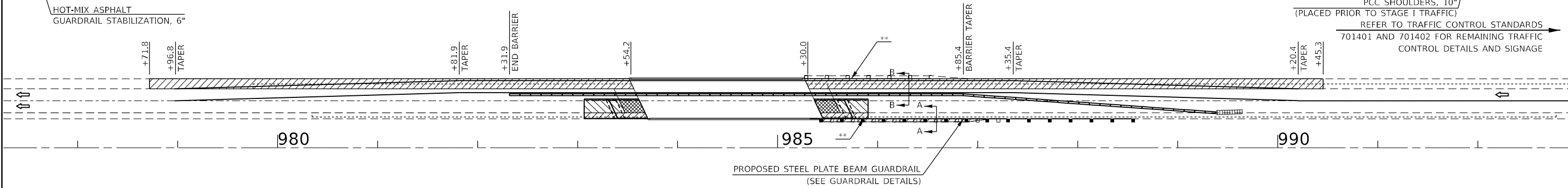
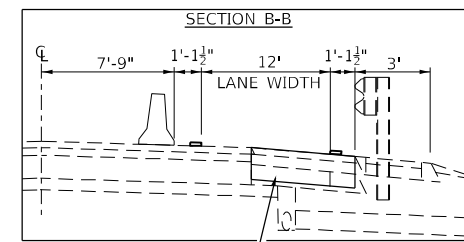
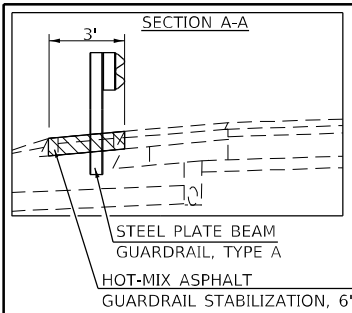
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL STAGING PLAN  
STRUCTURE NO. 096-0041 STAGE I & II**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	15
CONTRACT NO. 74997				
ILLINOIS		FED. AID PROJECT		

## TRAFFIC CONTROL PLAN - S.N. 096-0042 STAGE I



PCC SHOULDERS, 10"  
(PLACED PRIOR TO STAGE I TRAFFIC)  
REFER TO TRAFFIC CONTROL STANDARDS  
701401 AND 701402 FOR REMAINING TRAFFIC  
CONTROL DETAILS AND SIGNAGE

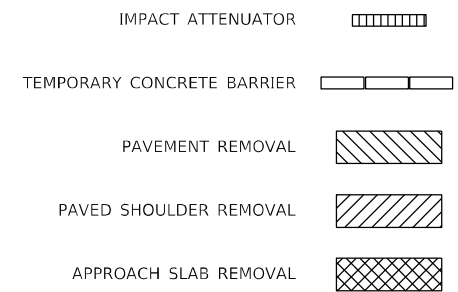
### PRE-STAGE I SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE I PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE I PORTION OF THE PROPOSED PCC SHOULDERS.

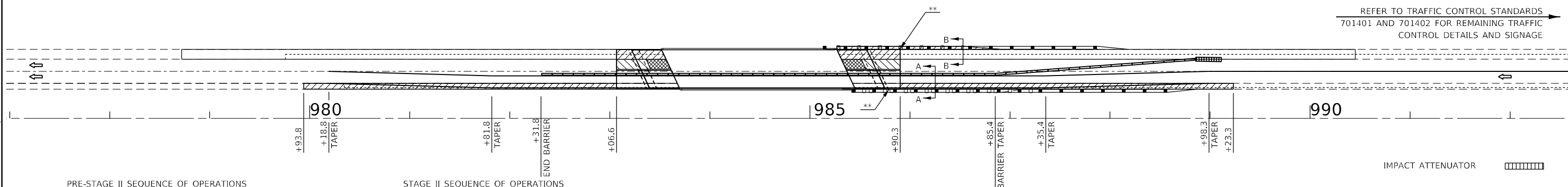
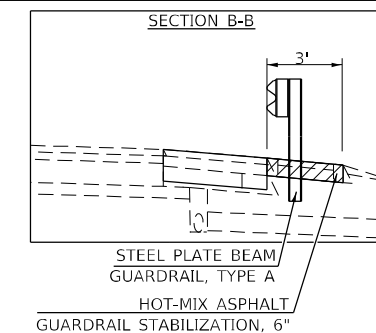
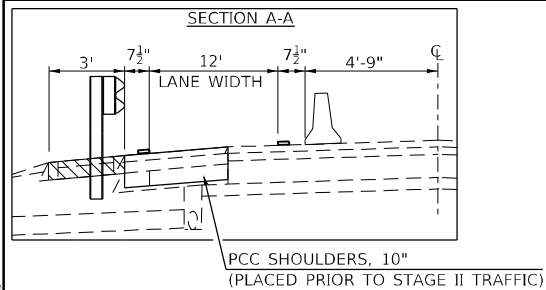
### STAGE I SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND SHOULDERS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER  
ACCORDING TO 440.03



## TRAFFIC CONTROL PLAN - S.N. 096-0042 STAGE II



REFER TO TRAFFIC CONTROL STANDARDS  
701401 AND 701402 FOR REMAINING TRAFFIC  
CONTROL DETAILS AND SIGNAGE

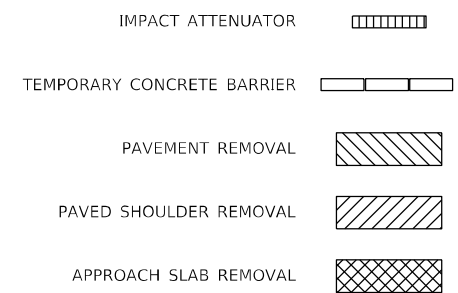
### PRE-STAGE II SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE II PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE II PORTION OF THE PROPOSED PCC SHOULDERS.

### STAGE II SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND SHOULDERS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER  
ACCORDING TO 440.03



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

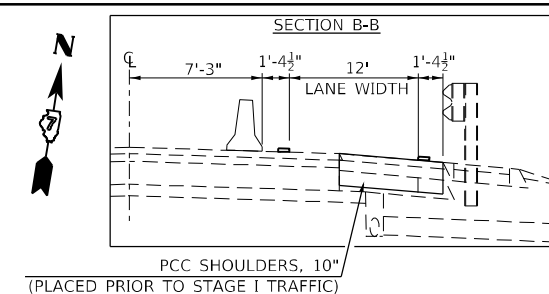
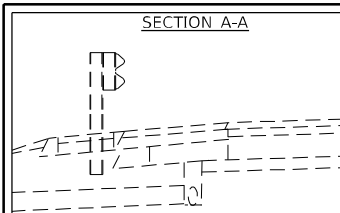
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

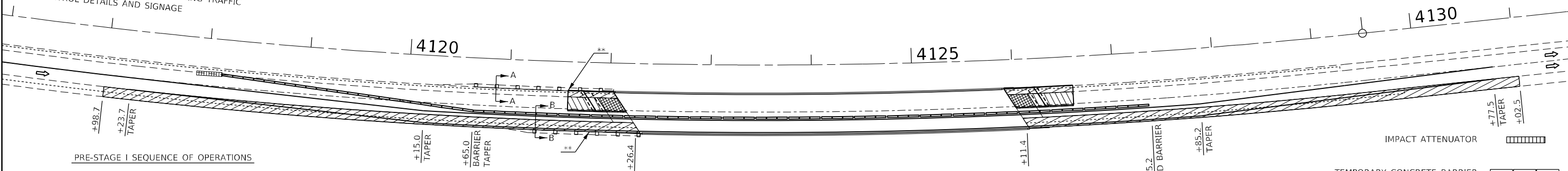


# TRAFFIC CONTROL PLAN - S.N. 096-0043

## STAGE I



REFER TO TRAFFIC CONTROL STANDARDS 701401 AND 701402 FOR REMAINING TRAFFIC CONTROL DETAILS AND SIGNAGE



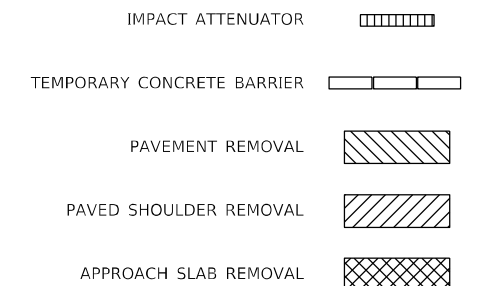
### PRE-STAGE I SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE I PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE I PORTION OF THE PROPOSED PCC SHOULDERS.

### STAGE I SEQUENCE OF OPERATIONS

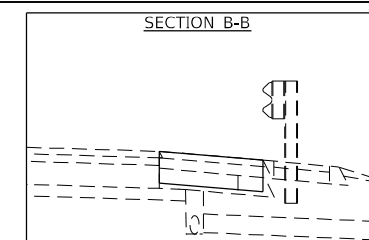
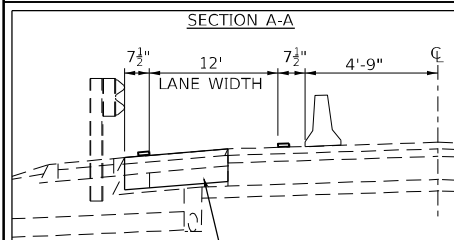
1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND SHOULDERS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03



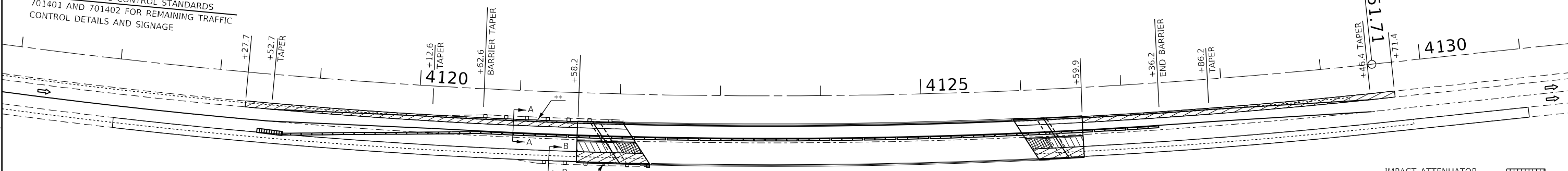
# TRAFFIC CONTROL PLAN - S.N. 096-0043

## STAGE II



PCC SHOULDERS, 10" (PLACED PRIOR TO STAGE II TRAFFIC)

REFER TO TRAFFIC CONTROL STANDARDS 701401 AND 701402 FOR REMAINING TRAFFIC CONTROL DETAILS AND SIGNAGE

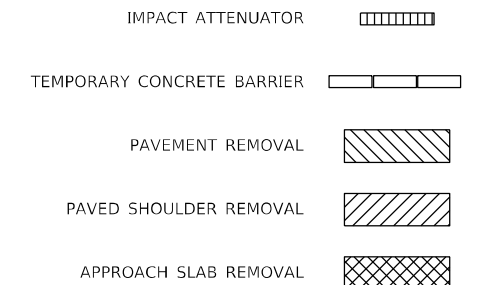


### PRE-STAGE II SEQUENCE OF OPERATIONS

1. REMOVE THE STAGE II PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE II PORTION OF THE PROPOSED PCC SHOULDERS.

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND SHOULDERS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.

\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03



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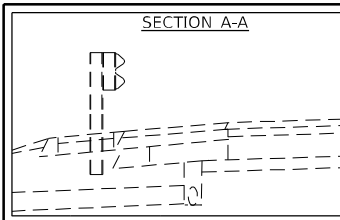
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL STAGING PLAN  
STRUCTURE NO. 096-0043 STAGE I & II**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	17
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03

### TRAFFIC CONTROL PLAN - S.N. 096-0044

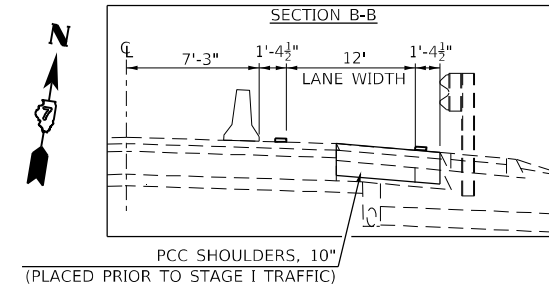
#### STAGE I

##### PRE-STAGE I SEQUENCE OF OPERATIONS

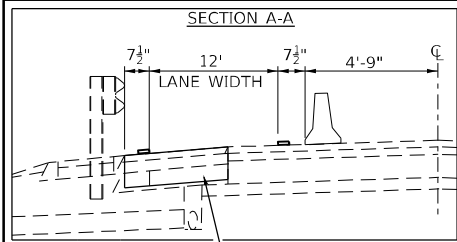
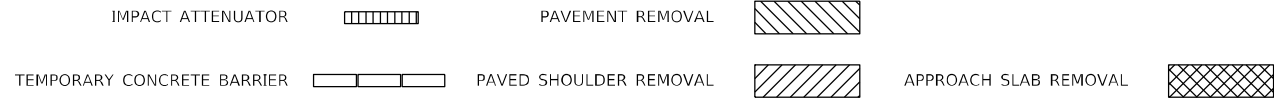
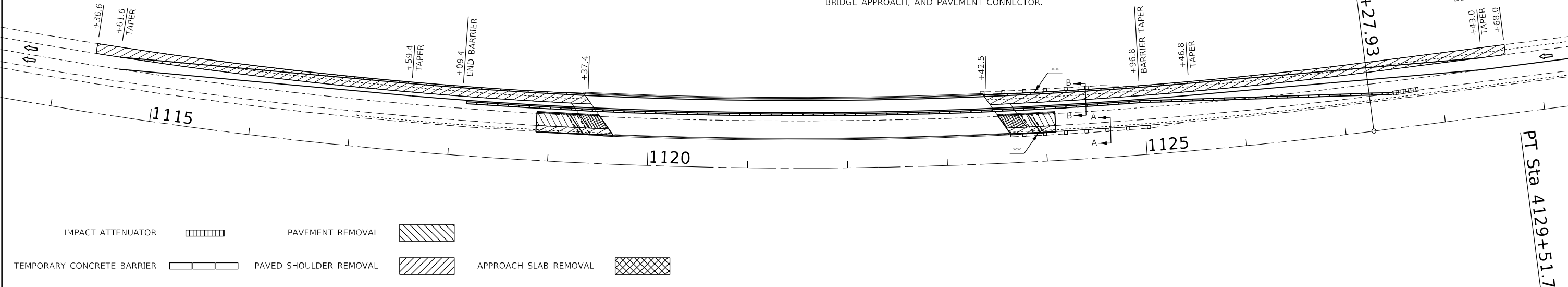
1. REMOVE THE STAGE I PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE I PORTION OF THE PROPOSED PCC SHOULDERS.

##### STAGE I SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
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3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.



PCC SHOULDERS, 10" (PLACED PRIOR TO STAGE I TRAFFIC)  
REFER TO TRAFFIC CONTROL STANDARDS 701401 AND 701402 FOR REMAINING TRAFFIC CONTROL DETAILS AND SIGNAGE



\*\* FULL DEPTH SAW CUT AT THE EDGE OF SHOULDER ACCORDING TO 440.03

### TRAFFIC CONTROL PLAN - S.N. 096-0044

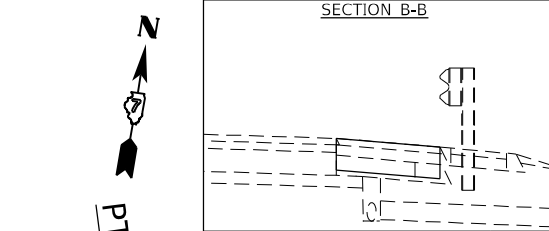
#### STAGE II

##### PRE-STAGE II SEQUENCE OF OPERATIONS

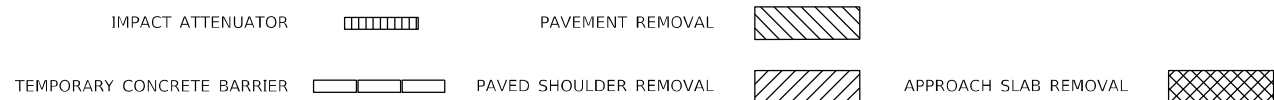
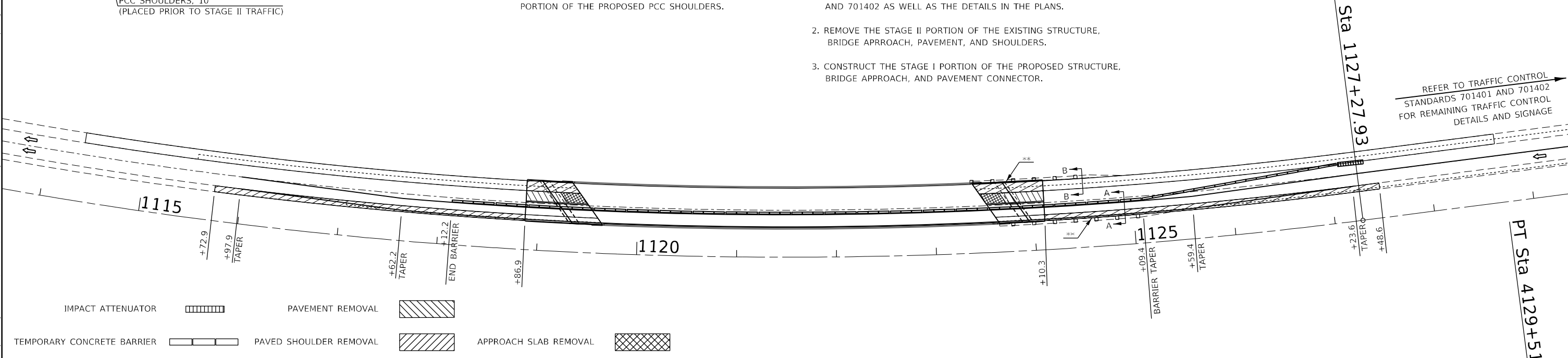
1. REMOVE THE STAGE II PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE II PORTION OF THE PROPOSED PCC SHOULDERS.

##### STAGE II SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, AND SHOULDERS.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, AND PAVEMENT CONNECTOR.



PCC SHOULDERS, 10" (PLACED PRIOR TO STAGE II TRAFFIC)  
REFER TO TRAFFIC CONTROL STANDARDS 701401 AND 701402 FOR REMAINING TRAFFIC CONTROL DETAILS AND SIGNAGE



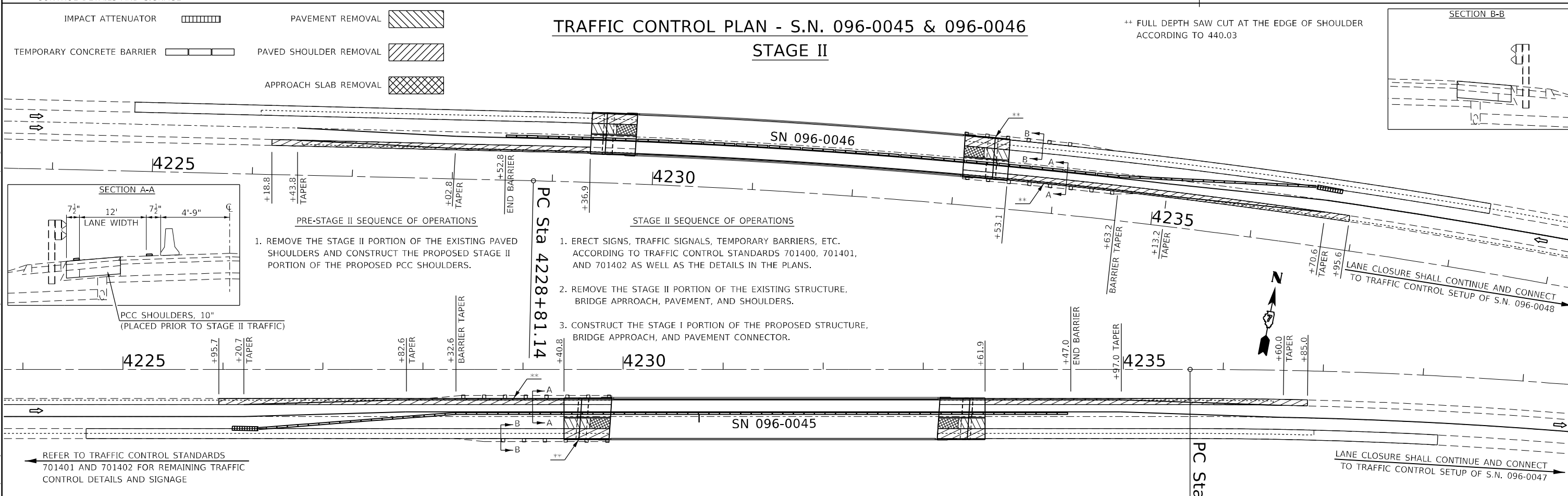
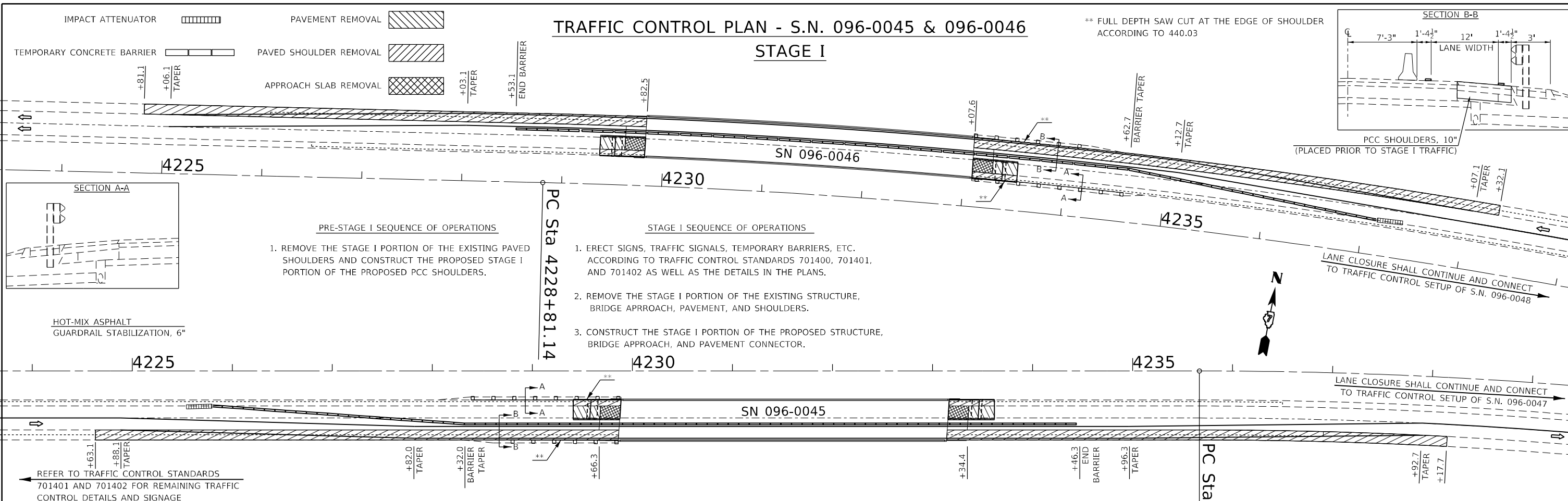
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TRAFFIC CONTROL STAGING PLAN</b>			
<b>STRUCTURE NO. 096-0044 STAGE I &amp; II</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS / FED. AID PROJECT				



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

TRAFFIC CONTROL STAGING PLAN			
STRUCTURE NO. 096-0045 & 096-0046 STAGE I & II			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

PRE-STAGE I SEQUENCE OF OPERATIONS

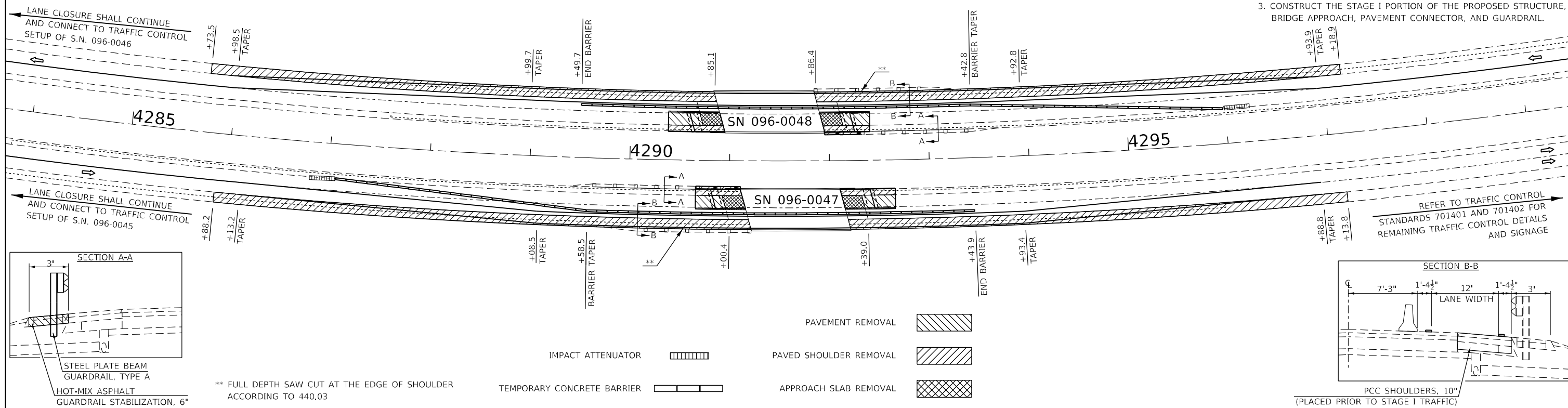
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TRAFFIC CONTROL PLAN - S.N. 096-0047 & 096-0048

STAGE I

STAGE I SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE I PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, SHOULDERS, AND GUARDRAIL.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND GUARDRAIL.



PRE-STAGE II SEQUENCE OF OPERATIONS

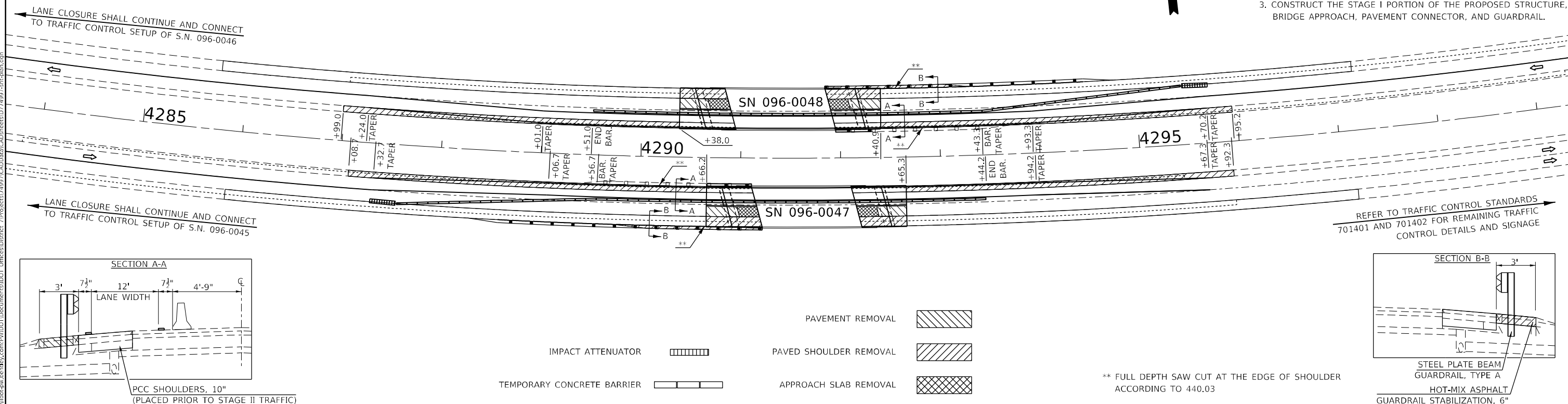
1. REMOVE THE STAGE II PORTION OF THE EXISTING PAVED SHOULDERS AND CONSTRUCT THE PROPOSED STAGE II PORTION OF THE PROPOSED PCC SHOULDERS.

TRAFFIC CONTROL PLAN - S.N. 096-0047 & 096-0048

STAGE II

STAGE II SEQUENCE OF OPERATIONS

1. ERECT SIGNS, TRAFFIC SIGNALS, TEMPORARY BARRIERS, ETC. ACCORDING TO TRAFFIC CONTROL STANDARDS 701400, 701401, AND 701402 AS WELL AS THE DETAILS IN THE PLANS.
2. REMOVE THE STAGE II PORTION OF THE EXISTING STRUCTURE, BRIDGE APPROACH, PAVEMENT, SHOULDERS, AND GUARDRAIL.
3. CONSTRUCT THE STAGE I PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND GUARDRAIL.



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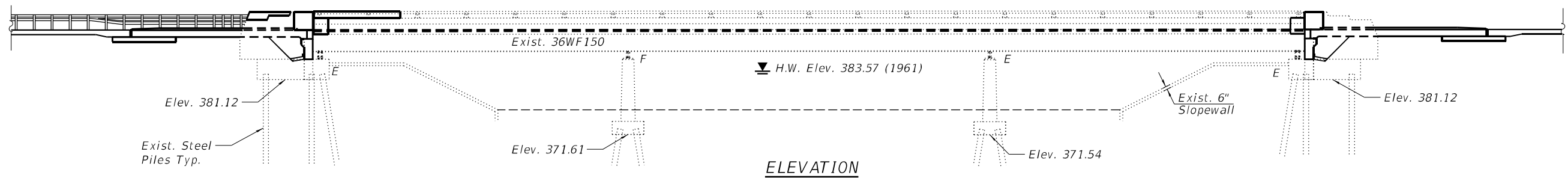
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL STAGING PLAN  
STRUCTURE NO. 096-0047 & 096-0048 STAGE I & II

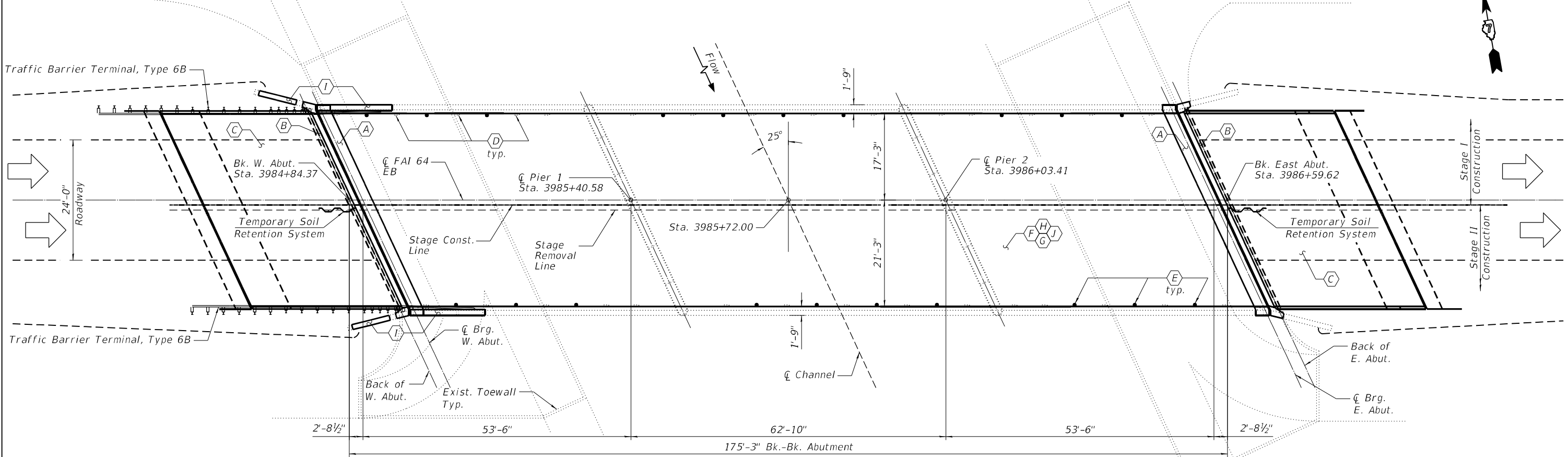
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	20
				CONTRACT NO. 74997
ILLINOIS / FED. AID PROJECT				

The existing three span continuous WF beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-2B-1 at STA. 3985+72.00. S.N. 096-0041 (EB) carries F.A.I. Route 64 (I-64) over Skillet Fork Lagoon. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, a new concrete overlay, bridge deck patching with Stage Construction, and modification of parapet at expansion joints and wingwall for guardrail connection.



ELEVATION



PLAN

STRUCTURE INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching
4	Deck Drain Replacement Details
5	Approach Slab Details-I
6	Approach Slab Details-II
7	Expansion Joint Removal Details
8	Expansion Joint Replacement Details
9	Wingwall Modification at Expansion Joint
10	Wingwall, Parapet and Railing Modification Details- I
11	Wingwall, Parapet and Railing Modification Details- II
12	Preformed Joint Strip Seal Details
13	Abutment Backwall Removal Details-I
14	Abutment Backwall Removal Details-II
15	Abutment Backwall Repair Details-I
16	Abutment Backwall Repair Details-II
17	Bar Splicer Assembly and Mechanical Splicers Details

SCOPE OF WORK

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 7, 8 & 12 of 17)
- (B) - Remove & Replace Abutment Backwall (See Sheet 13-16 of 17)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 5-6 of 17)
- (D) - Eliminate Floor Drains (See Sheet 3-4 of 17)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-4 of 17)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 17)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 17)
- (H) - Install Bridge Deck Patches. (See Sheet 3 of 17)
- (I) - Modify Wingwall and Parapet for Guardrail Attachments (See Sheet 9-11 of 17)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)

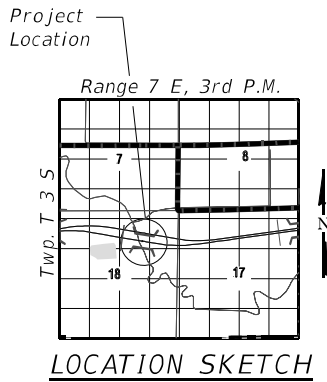
*M. Choudhry*



Dated **8/31/2021**  
 Mahboob A Choudhry  
 Licensed Structural Engineer  
 In Illinois No. 081-004380  
 Expires: 11/30/2022

DESIGN STRESSES

FIELD UNITS  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)



MODEL: 096004174997-001  
 FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

<b>GREENE &amp; BRADFORD, INC.</b> OF SPRINGFIELD <small>CONSULTING ENGINEERS                  3541 CONSTITUTION DRIVE                  SPRINGFIELD, ILLINOIS 62711                  PROFESSIONAL DESIGN FIRM NO. 081-001179                  PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098                  (217) 754-8844, 792-6277, 791</small>	USER NAME = BenB	DESIGNED - KAS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION SN. 096-0041 (EB)	F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 21
	PLOT SCALE = 0:2" / in.	DRAWN - PG, BB	REVISED -			SHEET 1 OF 17 SHEETS	CONTRACT NO. 74997			
PLOT DATE = 8/31/2021	CHECKED - MC	REVISED -				ILLINOIS		FED. AID PROJECT		

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1½", Number 6 and larger bars = 2".

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

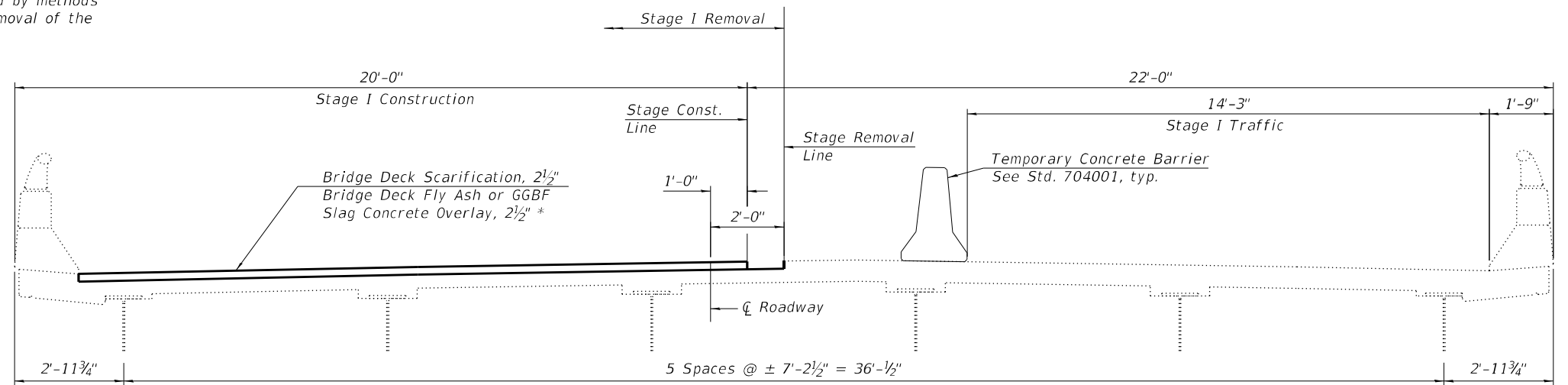
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full Depth Deck Slab Repair will be required at each existing floor drain. Removal and Disposal of Existing Floor Drains shall be included in the contract unit price for Deck Slab Repair (Full Depth Type I).

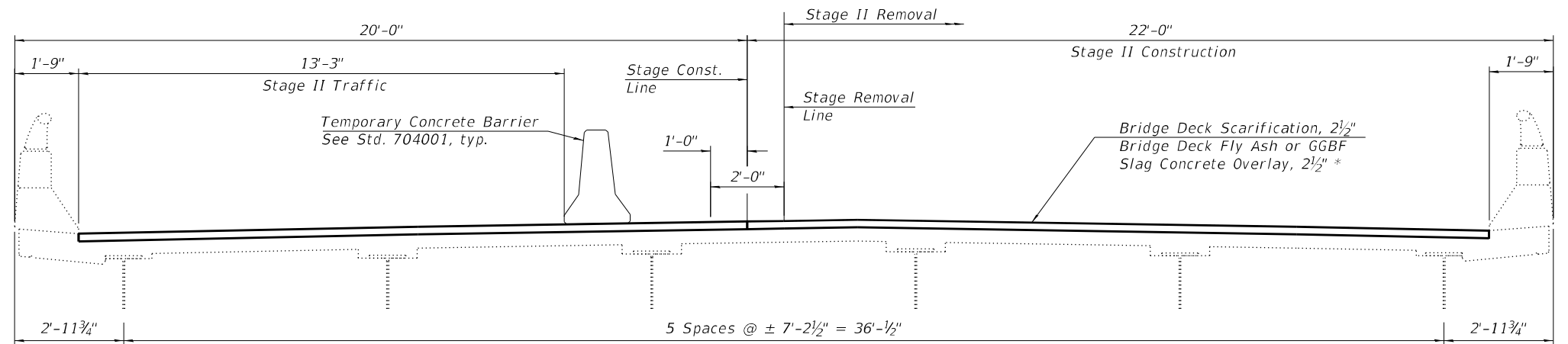
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	29.3
Concrete Structures	Cu. Yd.	45.0
Concrete Superstructures	Cu. Yd.	16.2
Concrete Superstructure (Approach Slab)	Cu. Yd.	107.3
Reinforcement Bars, Epoxy Coated	Pound	49485
Bar Splicers	Each	334
Prefomed Joint Strip Seal	Foot	92.3
Floor Drains	Each	20
** Bridge Deck Scarification, 2½"	Sq. Yd.	710
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2½"	Sq. Yd.	710
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	457.1
** Diamond Grinding (Bridge Section)	Sq. Yd.	1002
*** Protective Coat	Sq. Yd.	1288
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	11.1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	8.3
Porous Granular Backfill	Cu. Yd.	52.3
Structure Excavation	Cu. Yd.	52.3
Temporary Soil Retention System	Sq. Ft.	44.9
Bridge Rail Removal	Foot	30

\*\* See Special Provisions.  
\*\*\* New Concrete and overlay areas



**Stage I**  
(Looking East)  
\* Overlay Thickness Prior to Grinding



**Stage II**  
(Looking East)

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**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-001179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277, 752-6277

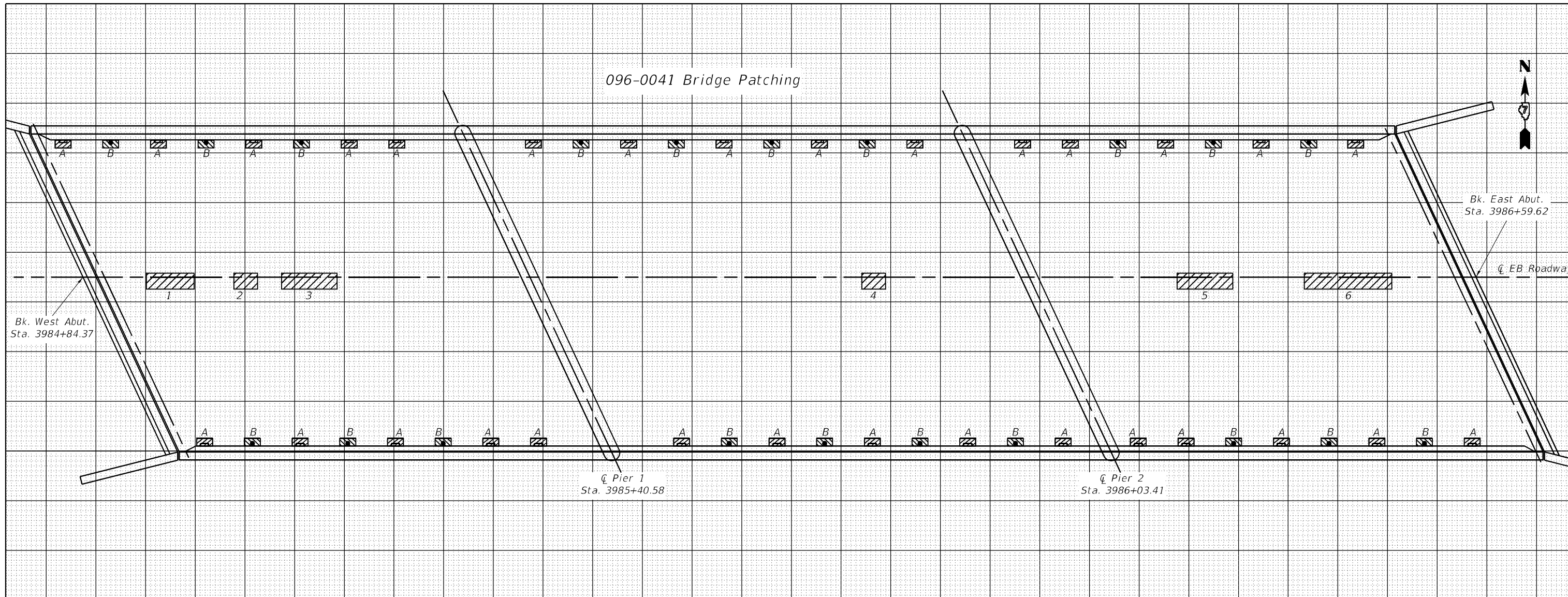
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DEPARTMENT OF TRANSPORTATION	CHECKED - MC	REVISED -
	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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

**GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS**  
**SN. 096-0041 (EB)**

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 22
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



096-0041 Bridge Patching

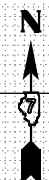
Bk. West Abut.  
Sta. 3984+84.37

☐ Pier 1  
Sta. 3985+40.58

☐ Pier 2  
Sta. 3986+03.41

Bk. East Abut.  
Sta. 3986+59.62

☐ EB Roadway



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	6.0	2.0		1.3
2	3.0	2.0		0.7
3	7.0	2.0		1.6
4	3.0	2.0		0.7
5	7.0	2.0		1.6
6	11.0	2.0		2.4
A - Remove Drain, 30 ea			6.7	
B - Replace Drain, 20 ea			4.4	
TOTALS			11.1	8.3

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
SURVEY BY: DPM  
METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 11.1 SQ YD  
DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 8.3 SQ YD  
FLOOR DRAINS = 20 Each

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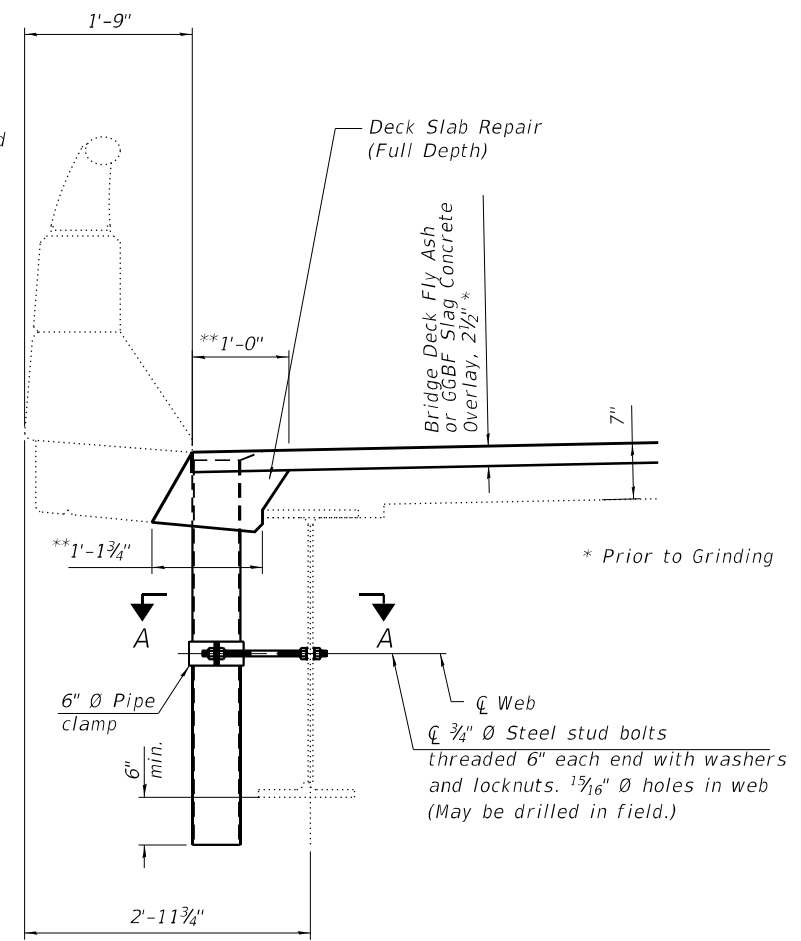
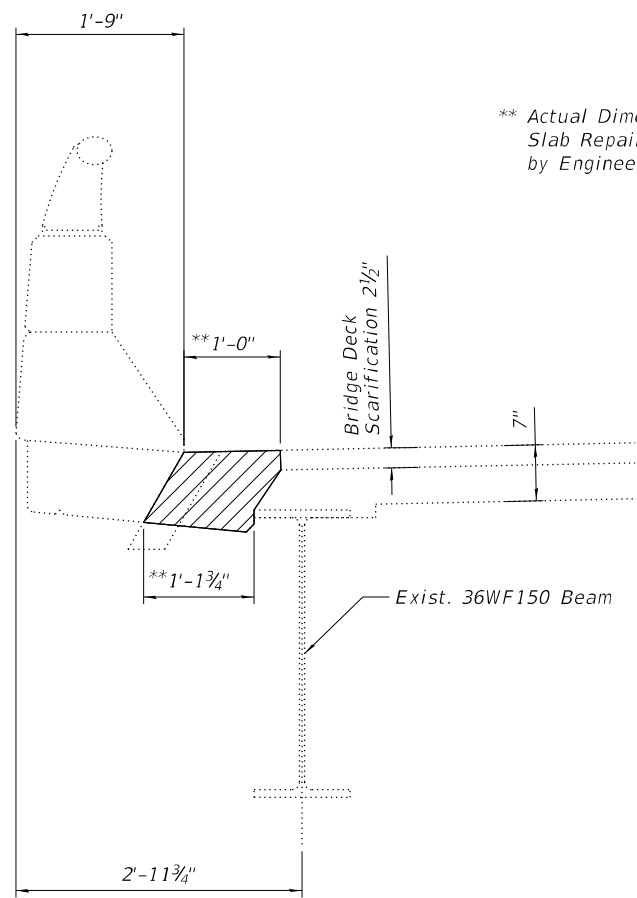
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PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING  
SN. 096-0041

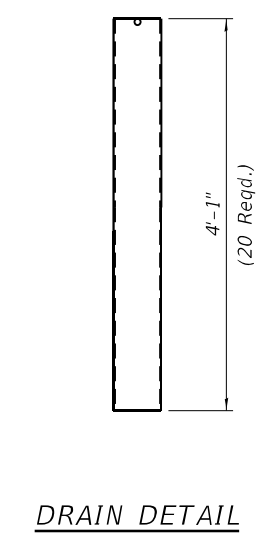
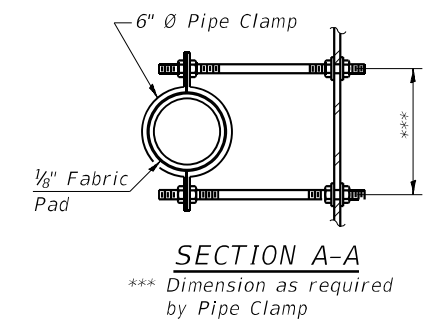
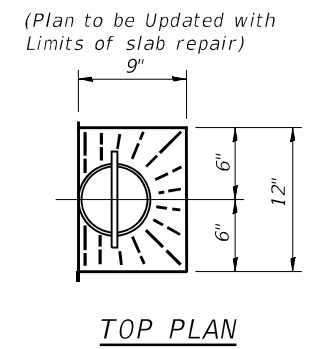
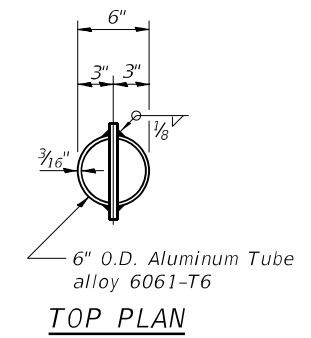
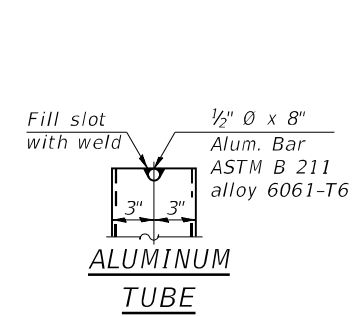
SCALE: SHEET 3 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	23
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



Notes:  
 Fiberglass pipe alternative shall not be allowed for floor drains.  
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.  
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3 of 17.

**SECTIONS THRU DRAIN TO BE REPLACED**  
 50 Locations - See Bridge Patching Sheet



MODEL: 0960041-74997-004  
 FILE NAME: J:\20100.02\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

**GREENE & BRADFORD, INC.**  
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 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 722-6277 (F)

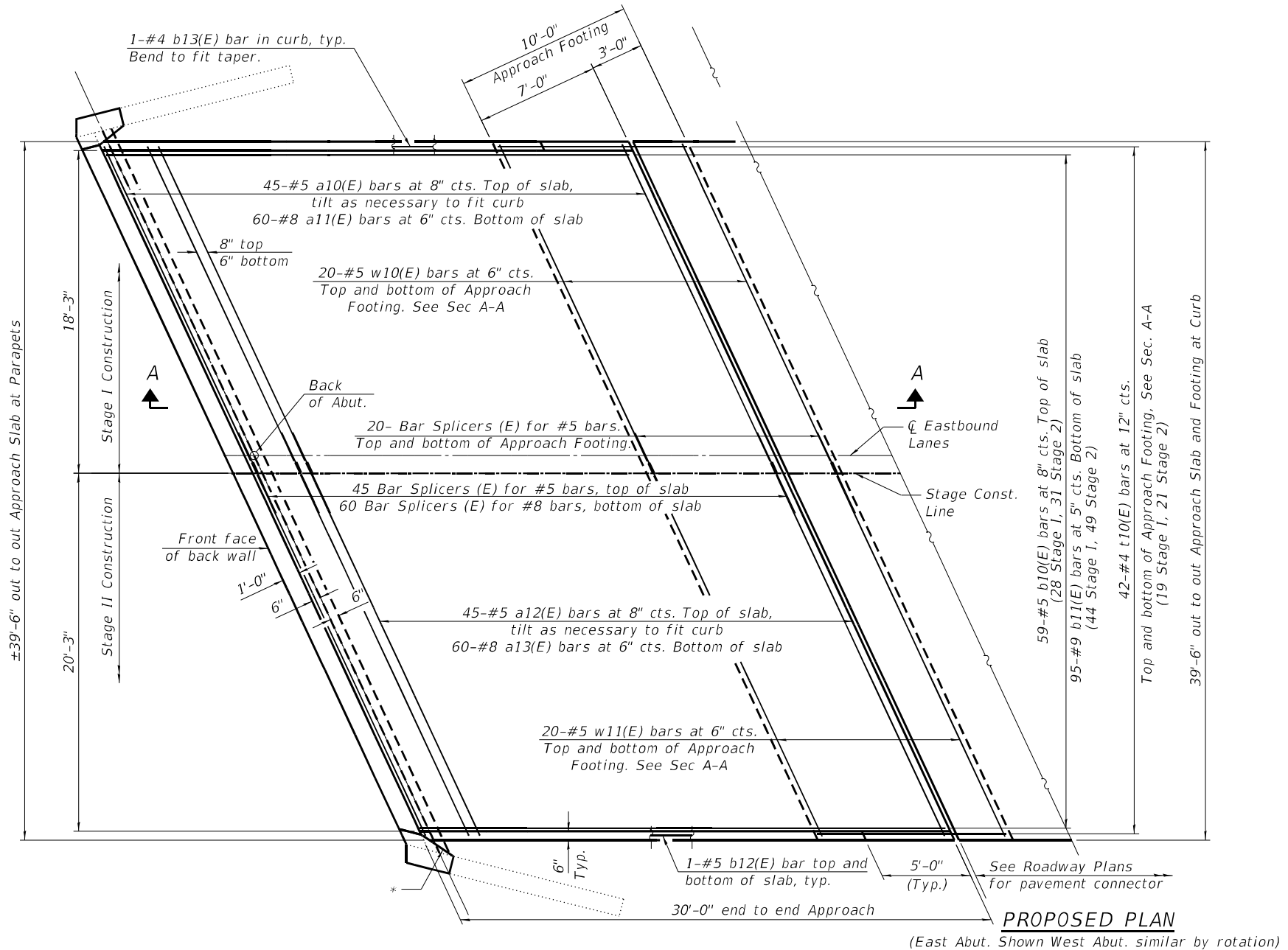
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

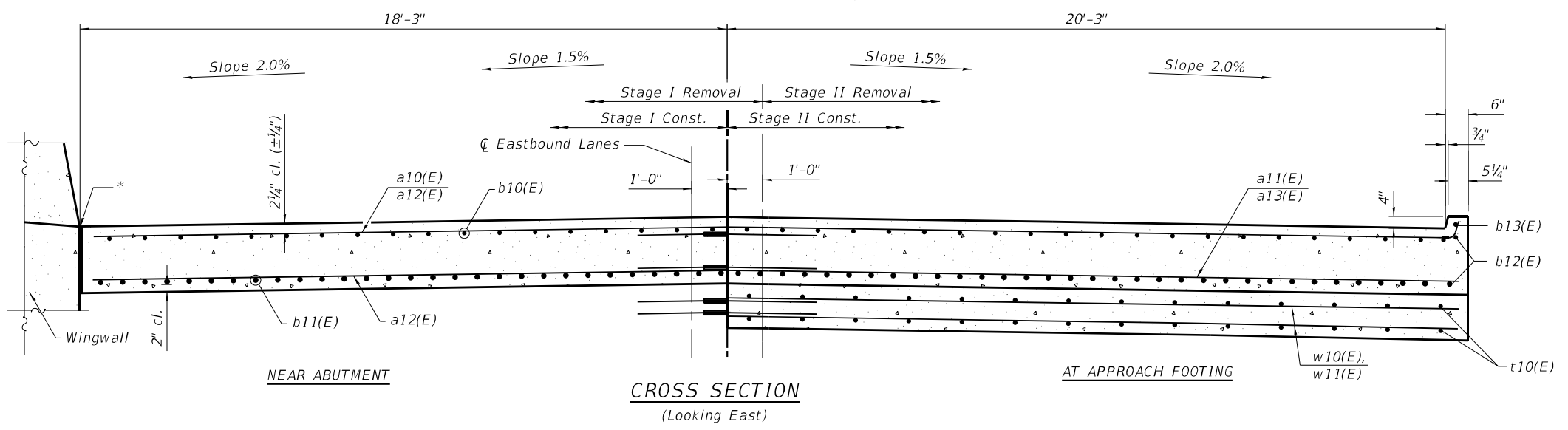
**DECK DRAIN REPLACEMENT DETAILS**  
**SN. 096-0041 (EB)**  
 SHEET 4 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	24
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				





\* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.  
See Sheet 6 of 17 for Section A-A.



MODEL: 0960041-74997-005  
FILE NAME: J:\201002\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

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3541 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL ENGINEER REG. NO. 042-0001179  
PROFESSIONAL LAND SURVEYOR REG. NO. 048-000098  
(217) 752-8844, 752-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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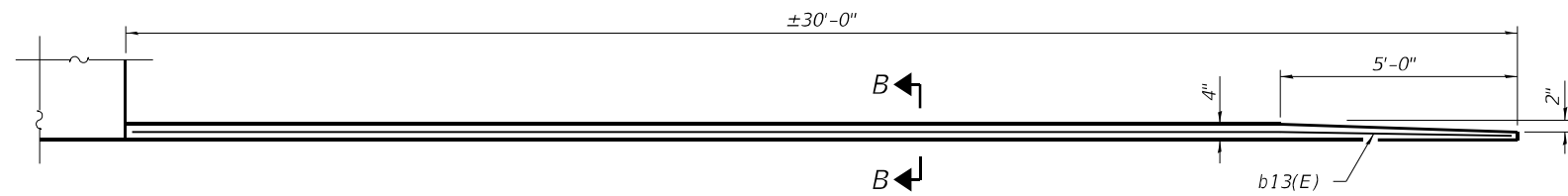
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - I  
SN. 096-0041 (EB)**

SHEET 5 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 25
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

(Sheet 1 of 2)



**INSIDE ELEVATION OF PARAPET AND CURB**

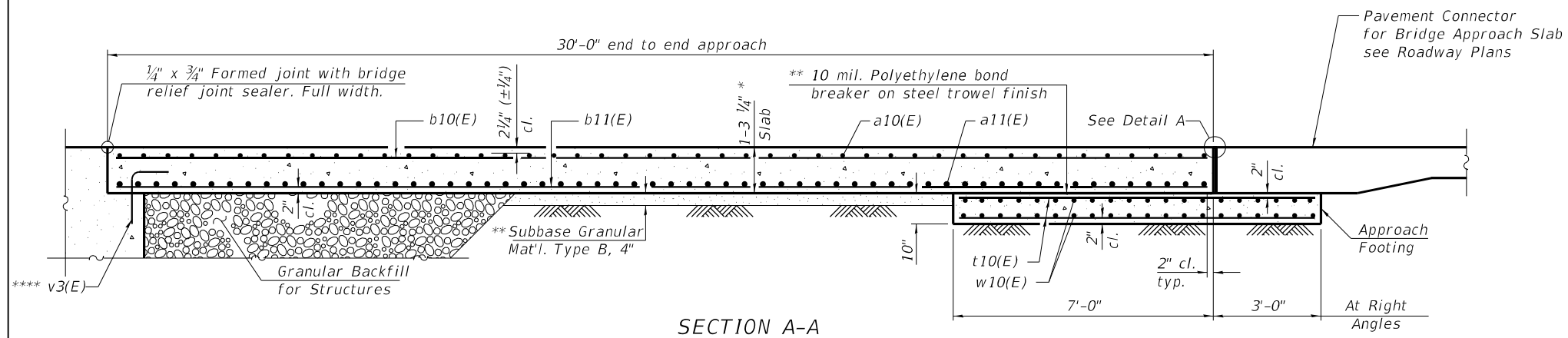
Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 8 of 17.

\* Prior to Grinding

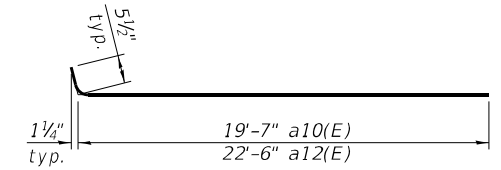
\*\* Cost included with Concrete Superstructure (Approach Slab).

\*\*\* Per manufacturer recommendations

\*\*\*\* v3(E) bar shown on sheet 15-16 of 17.



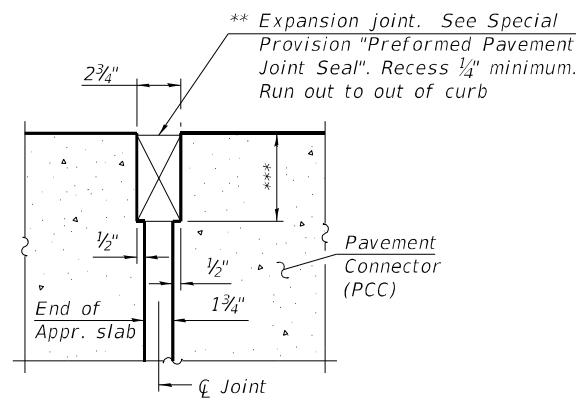
**SECTION A-A**



**BAR a10(E) & a12(E)**

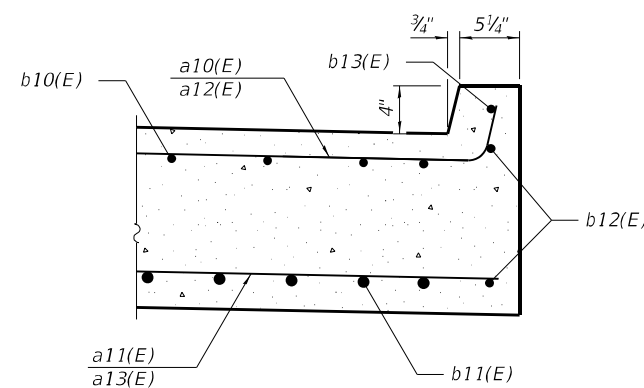
**TWO APPROACHES  
 BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a10(E)	90		90	#5	20'-1"	┌───┐
a11(E)		120	120	#8	19'-7"	┌───┐
a12(E)		90	90	#5	23'-0"	┌───┐
a13(E)		120	120	#8	22'-6"	┌───┐
b10(E)	56	62	118	#5	29'-8"	┌───┐
b11(E)	88	98	186	#9	29'-8"	┌───┐
b12(E)	4	4	8	#5	29'-9"	┌───┐
b13(E)	2	2	4	#4	29'-10"	┌───┐
t10(E)	38	42	80	#4	10'-8"	┌───┐
w10(E)	80		80	#5	19'-7"	┌───┐
w11(E)		80	80	#5	22'-6"	┌───┐
Concrete Superstructure (Approach Slab)						Cu. Yd. 107.3
Concrete Structures						Cu. Yd. 26.9
Reinforcement Bars, Epoxy Coated						Pound 44352
Bar Splicers						Each 290



**DETAIL A**

(Detail A shown, applies to Highway Standard 420401 only.  
 Detail A for pavement connector (HMA) may be found on  
 Highway Standard 420406.)



**SECTION B-B**

(Sheet 2 of 2)

MODEL: 0960041-74997-006  
 FILE NAME: J:\201002\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

<b>GREENE &amp; BRADFORD, INC.</b> OF SPRINGFIELD <small>CONSULTING ENGINEERS          3501 CONSTITUTION DRIVE          SPRINGFIELD, ILLINOIS 62111          PROFESSIONAL DESIGN FIRM NO. 054-061179          PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098          (217) 755-8844, 752-6277 (F)</small>	USER NAME = BenB	DESIGNED - KAS	REVISED -
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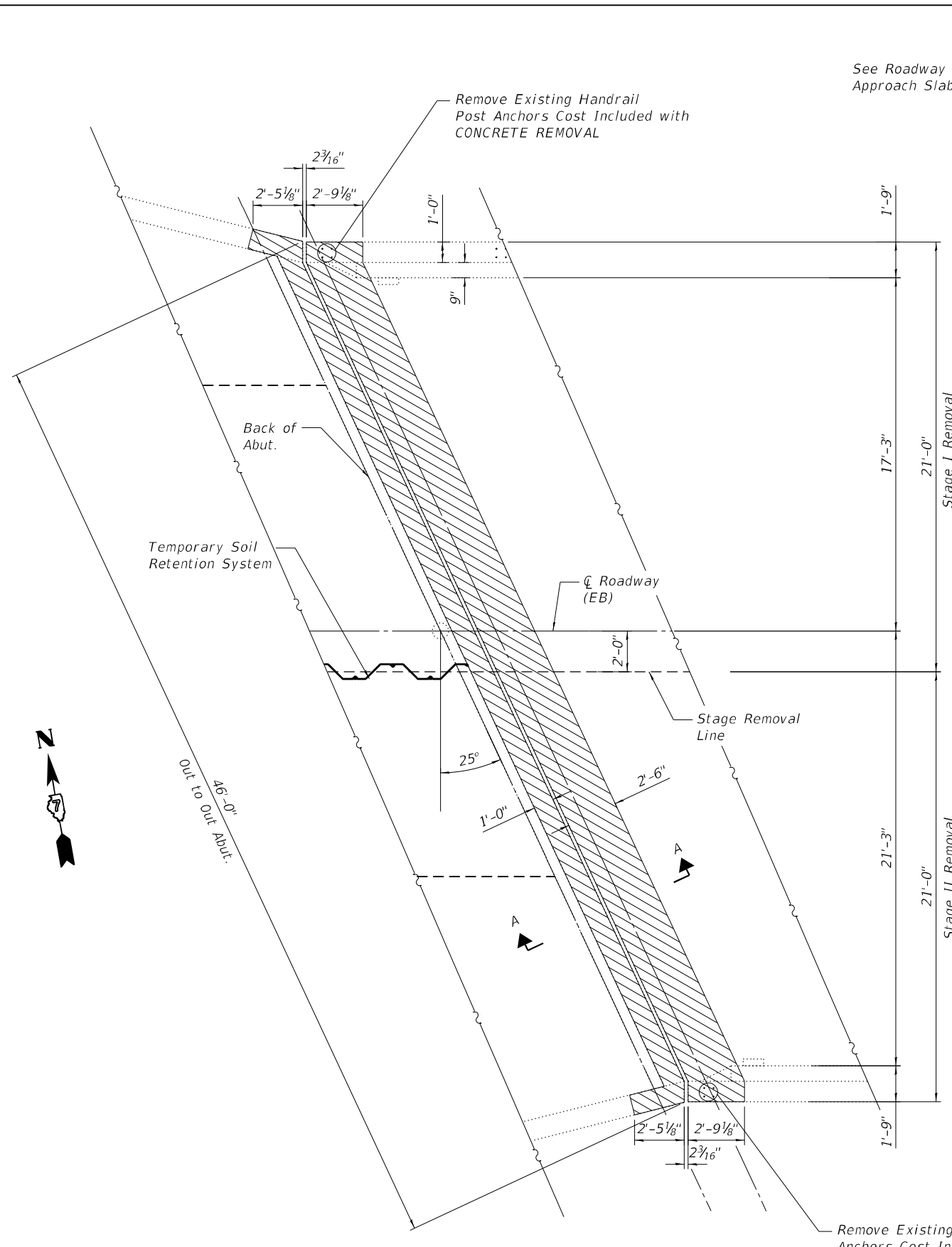
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - II  
 SN. 096-0041 (EB)**

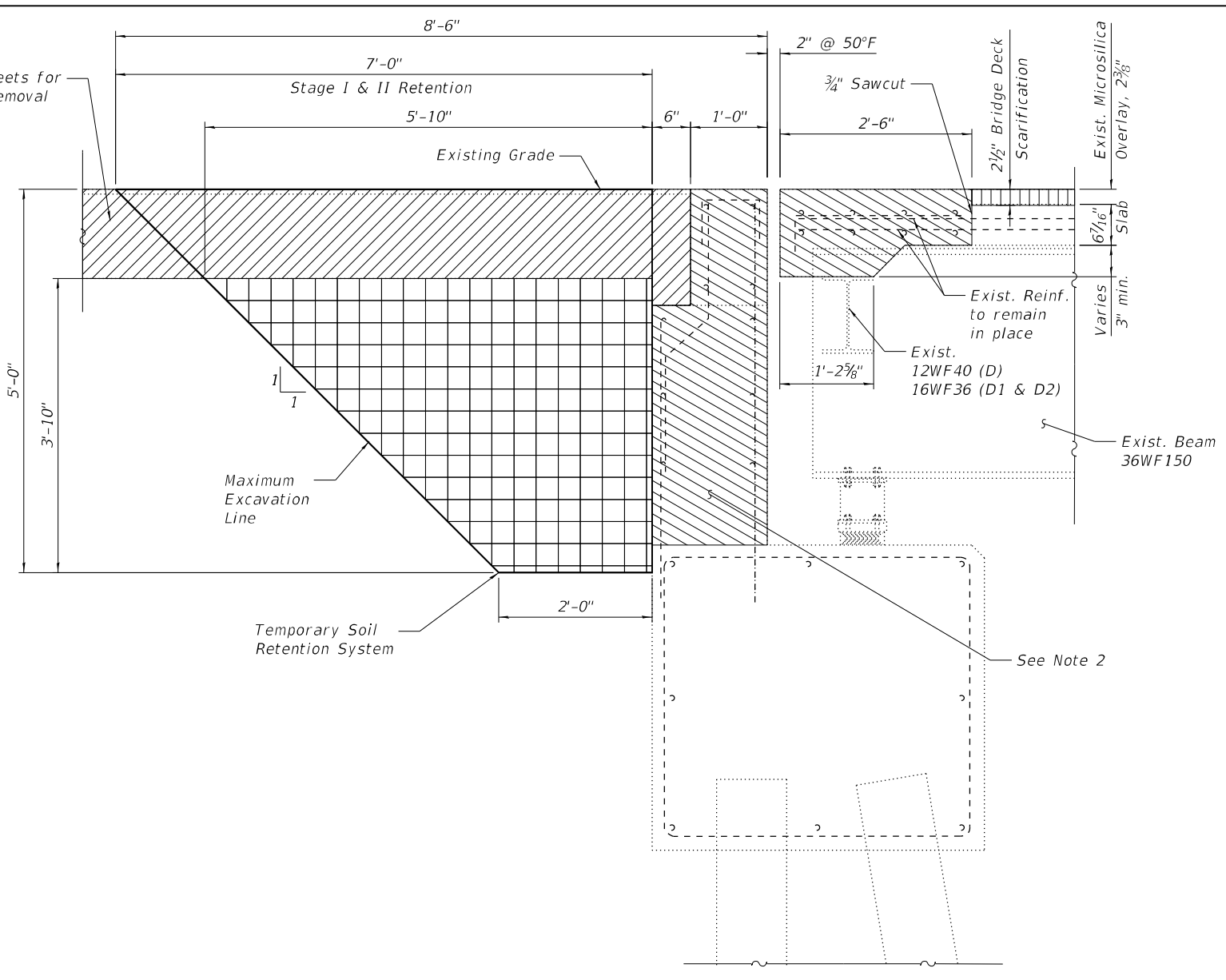
SHEET 6 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 26
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

MODEL: 0960041-74997-007  
 FILE NAME: J:\201002\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn



**CONCRETE REMOVAL PLAN**  
 (West Abutment shown, East Abutment similar by rotation)



**SECTION A-A**  
 Removal

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

**NOTE**

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities of Abutment Backwall and Hatch block, See sheet 13-14 of 17

**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	9.0
Structure Excavation	Cu. Yd.	52.3
Temporary Soil Retention System	Sq. Ft.	44.9

\*\* Concrete Removal Quantity is for end of the Deck removal only, See Note 2

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 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 792-6277 (F)

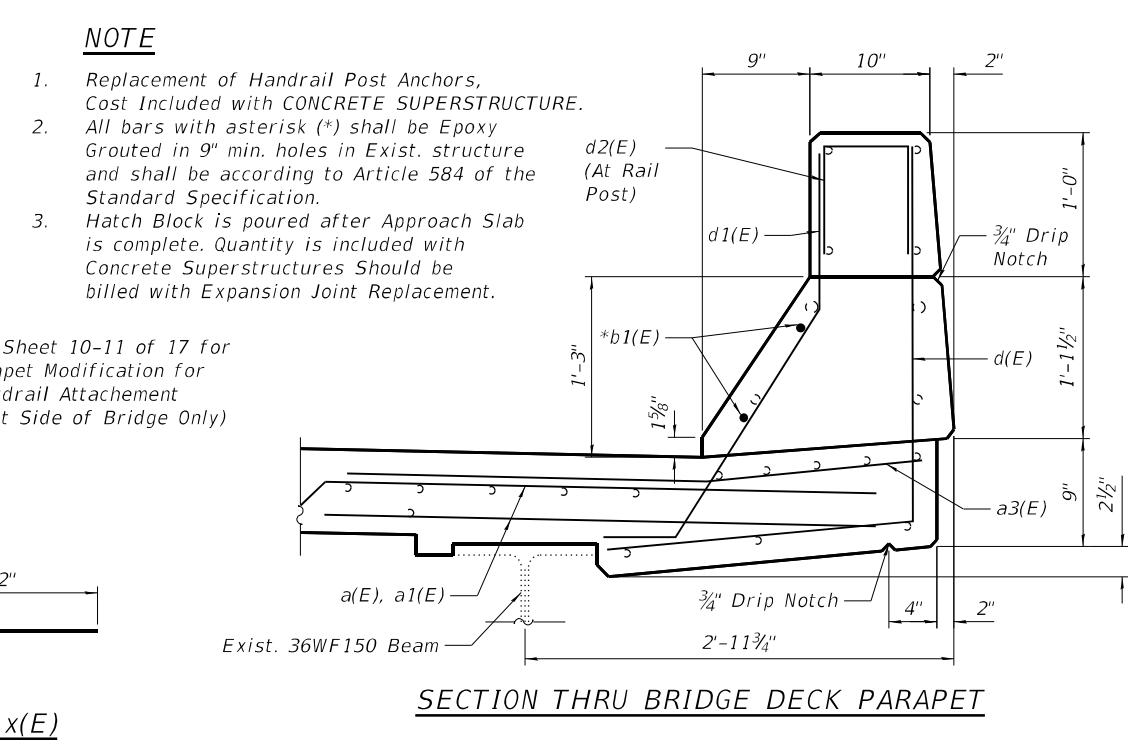
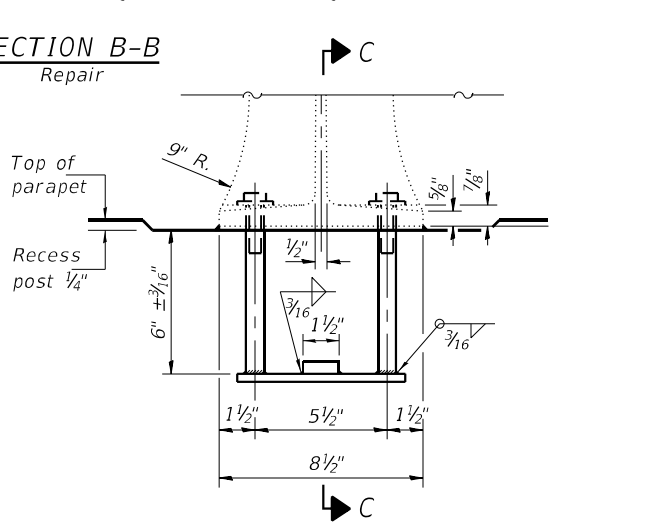
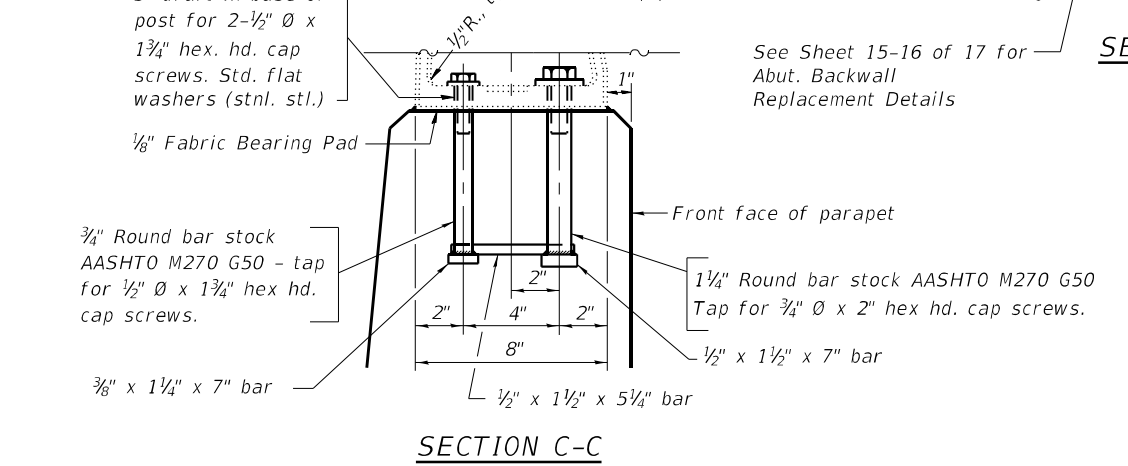
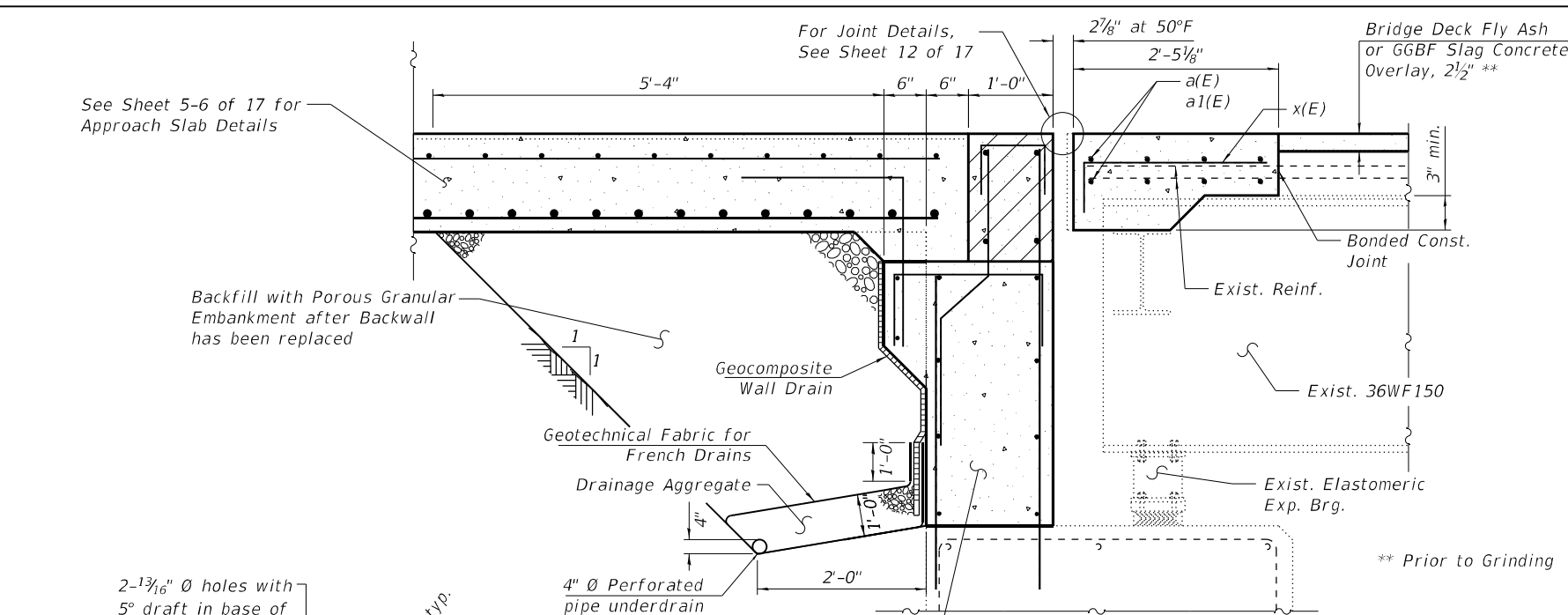
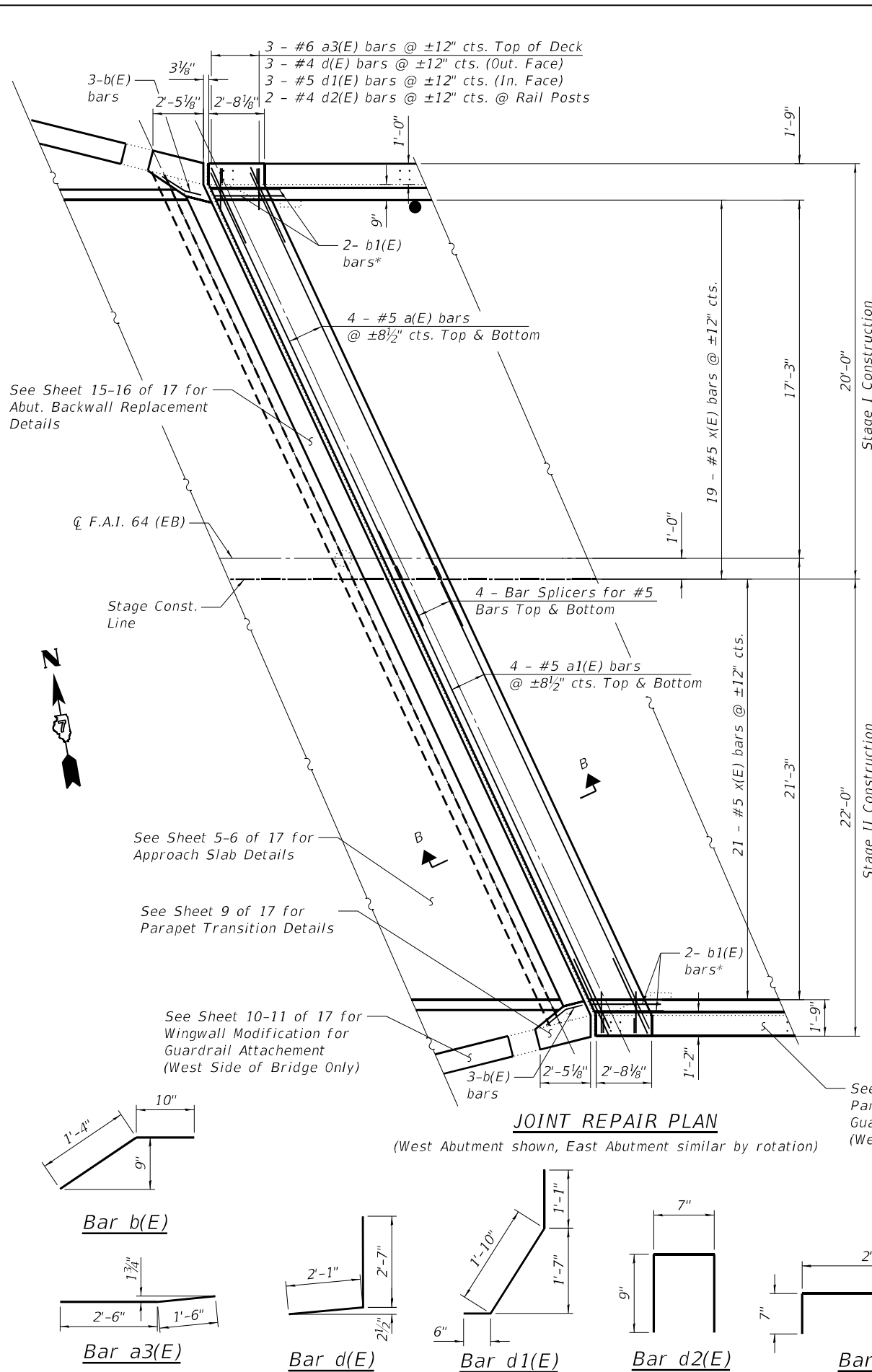
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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**STATE OF ILLINOIS**  
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**EXPANSION JOINT REMOVAL DETAILS**  
**SN. 096-0041 (EB)**  
 SHEET 7 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	27
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

MODEL: 0960041-74997-008  
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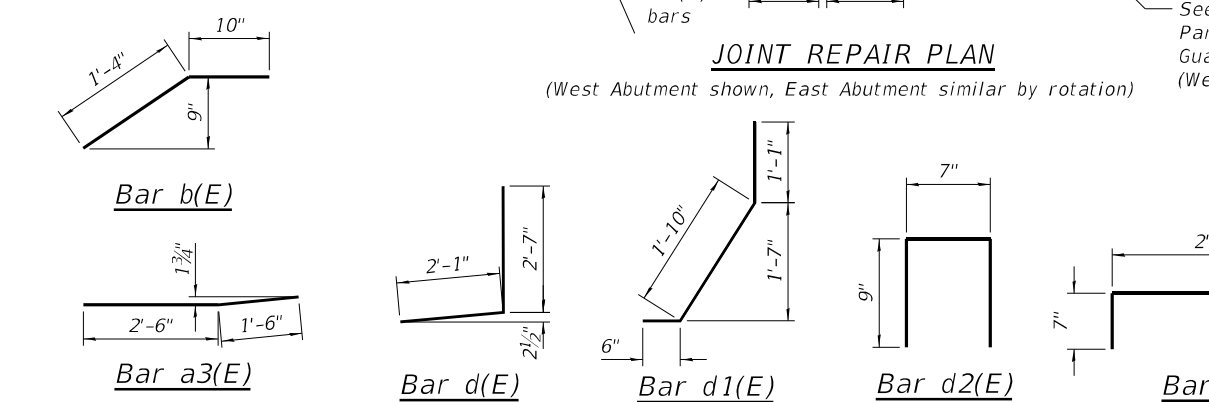


- NOTE**
1. Replacement of Handrail Post Anchors, Cost Included with CONCRETE SUPERSTRUCTURE.
  2. All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes in Exist. structure and shall be according to Article 584 of the Standard Specification.
  3. Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.

**SECTION AT RAIL POST**  
(Rail Posts - 2 Locations Req'd. at E. Abut. only)

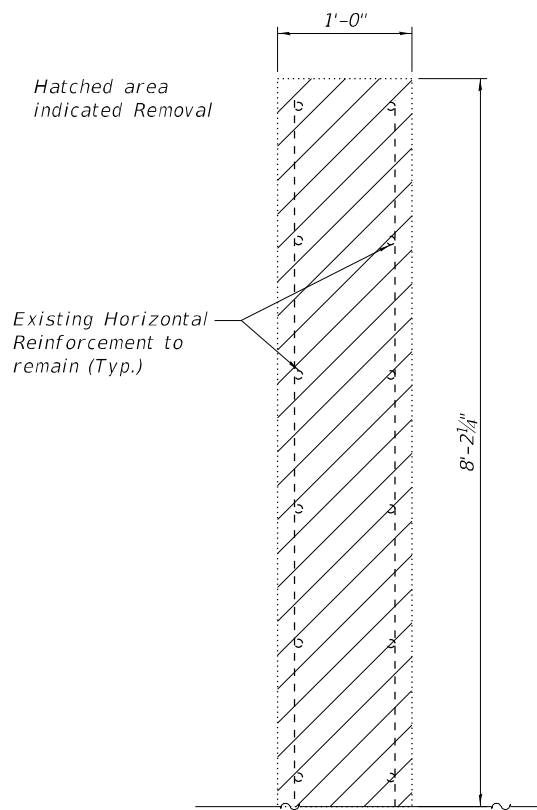
**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II				
a(E)	16	16	#5	20'-10"	—	
a1(E)	16	16	#5	23'-9"	—	
a3(E)	6	6	#6	4'-0"	—	
b(E)	6	6	#5	2'-2"	⤴	
b1(E)	4	4	#5	3'-4"	—	
d(E)	6	6	#4	4'-8"	⤴	
d1(E)	6	6	#5	3'-5"	⤴	
d2(E)	2	2	#4	2'-1"	⤴	
x(E)	38	42	#5	2'-9"	—	
Concrete Superstructures					Cu. Yd.	14.6
Reinforcement Bars, Epoxy Coated					Pound	1186
Bar Splicers					Each	16
Porous Granular Backfill					Cu. Yd.	52.3

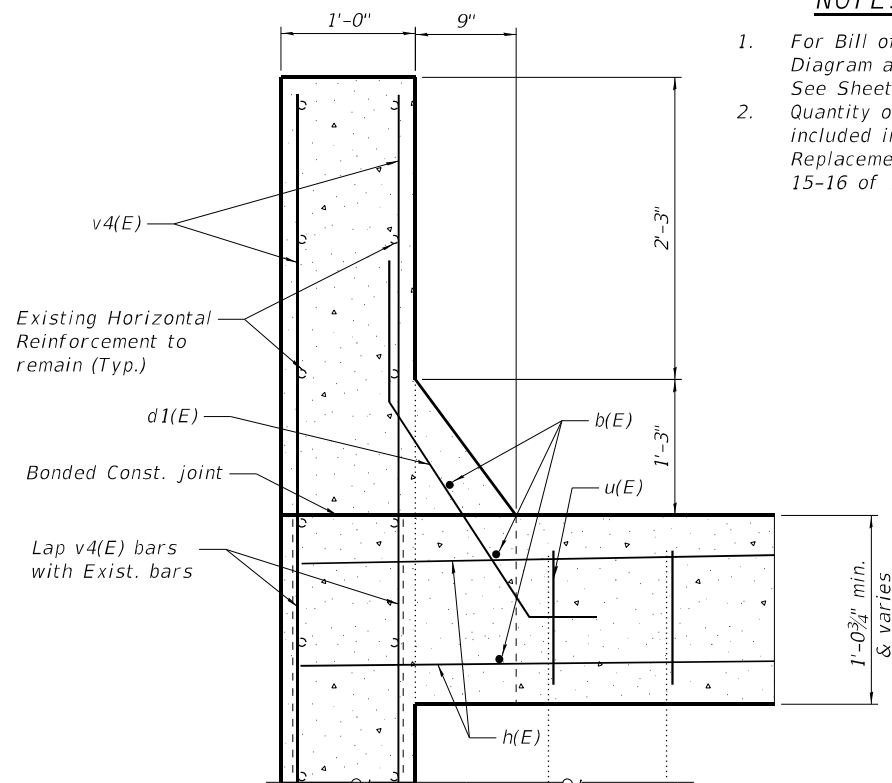


**NOTES**

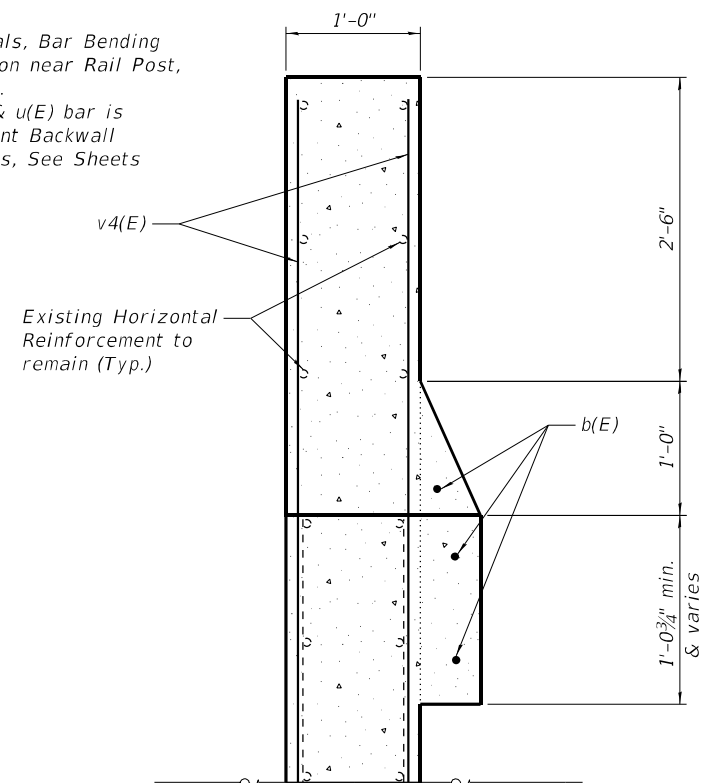
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 8 of 17.
2. Quantity of v4(E) & u(E) bar is included in Abutment Backwall Replacement Sheets, See Sheets 15-16 of 17.



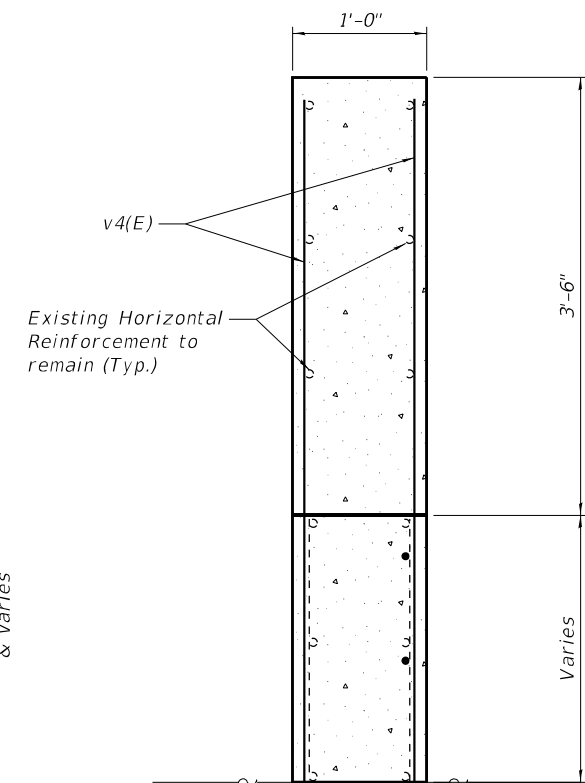
**SECTION C-C**  
Removal Section at Wingwall



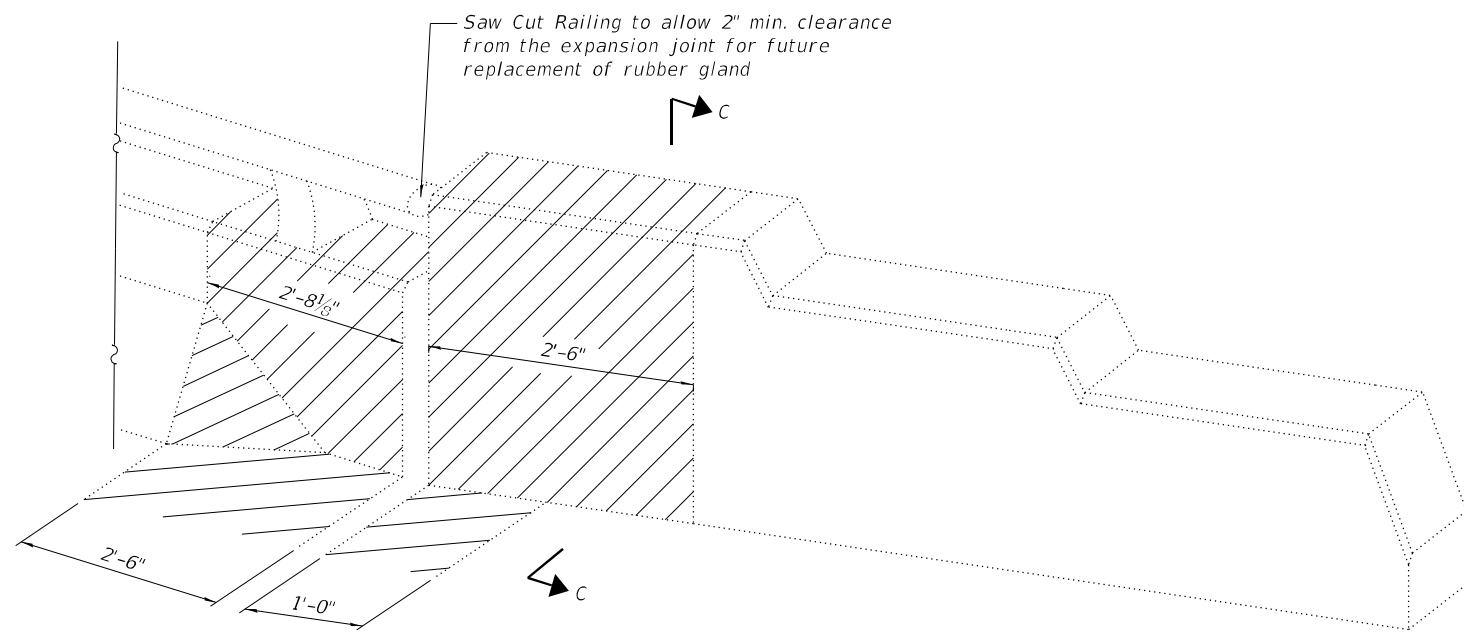
**SECTION D-D**  
Proposed section thru parapet at expansion joint



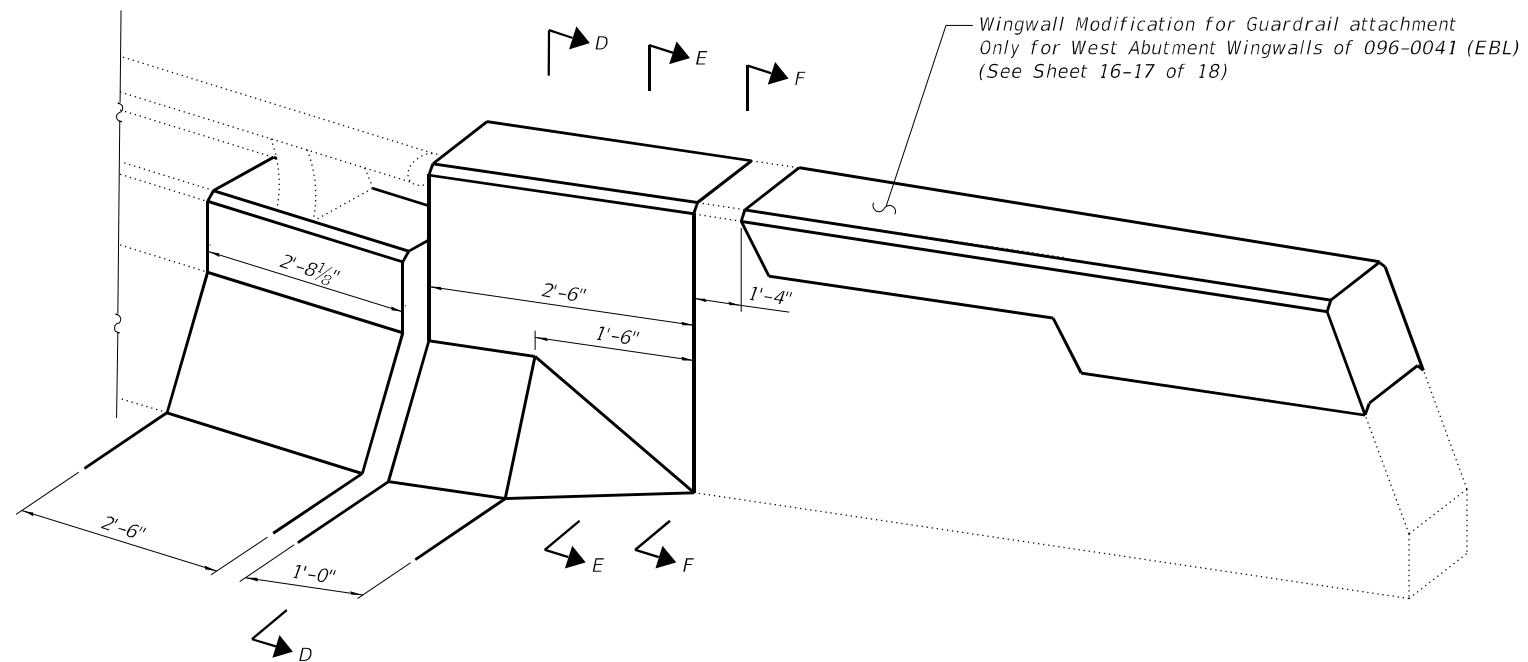
**SECTION E-E**  
Section thru Proposed Transition Parapet



**SECTION F-F**  
Section thru End of Proposed Parapet



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WING WALL & PARAPET AT EACH ABUTMENT CORNER**

MODEL: 0960041-74997-009  
FILE NAME: J:\201002\_W04\_2\_8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

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PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
(217) 755-8844, 792-6227, 791

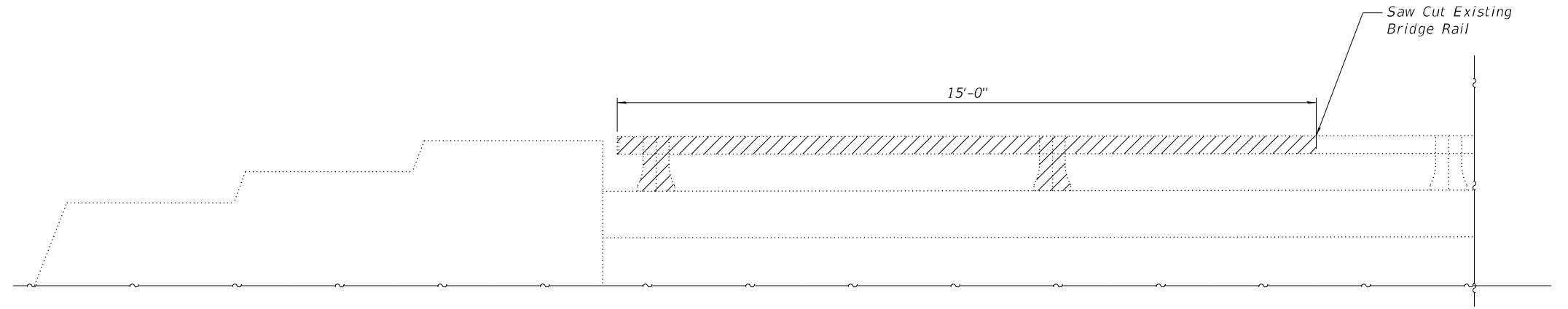
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WINGWALL MODIFICATION AT EXPANSION JOINTS**  
**SN. 096-0041 (EB)**

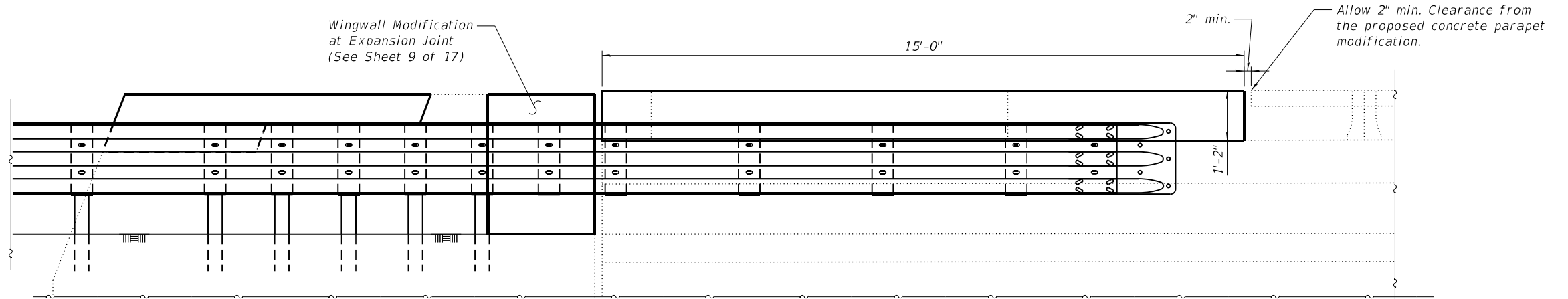
SHEET 9 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	29
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



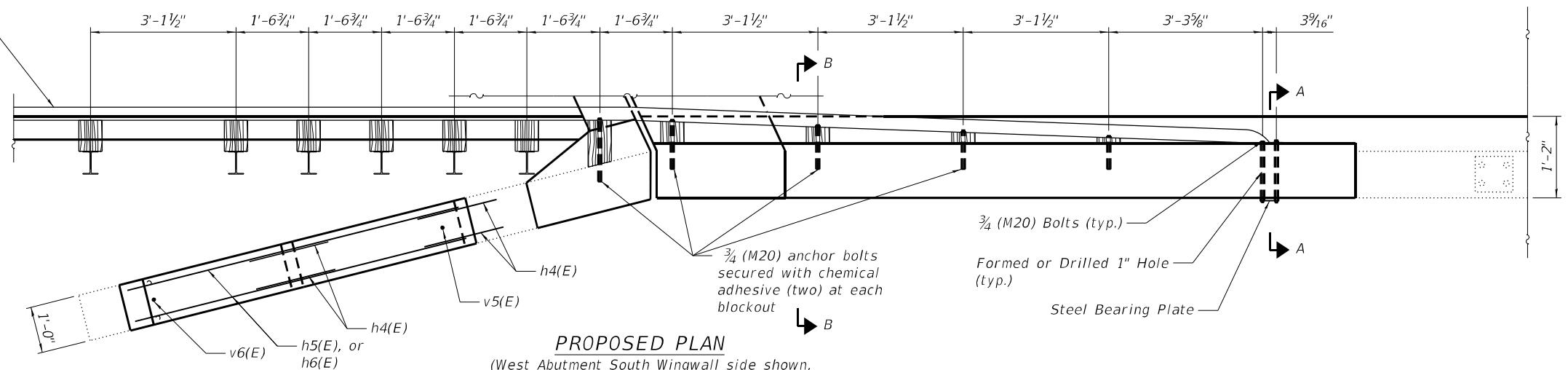
 Bridge Rail Removal

**REMOVAL**  
 (West Abutment South Wingwall side shown,  
 West Abutment North Wingwall side similar)



**PROPOSED GUARDRAIL LOCATION**  
 (West Abutment South Wingwall side shown,  
 West Abutment North Wingwall side similar)

Traffic Barrier Terminal, Type 6B  
 STD. 631033-08



**PROPOSED PLAN**  
 (West Abutment South Wingwall side shown,  
 West Abutment North Wingwall side similar)

**NOTES**

1. Wingwall, Railing and Parapet Modification for Guardrail attachment shall be done only on the West End of S.N. 096-0041 (EB).
2. See Sheet 11 of 17 for Section A-A and Section B-B.

MODEL: 0960041-74997-010  
 FILE NAME: J:\201002\_WD# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

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 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 755-8844, 726-0227 (F)

USER NAME = BenB  
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 PLOT DATE = 8/31/2021

DESIGNED - KAS  
 CHECKED - MC  
 DRAWN - PG  
 CHECKED - MC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
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**WINGWALL, PARAPET & RAILING MODIFICATION DETAILS - I  
 SN. 096-0041 (EB)**

SHEET 10 OF 17 SHEETS

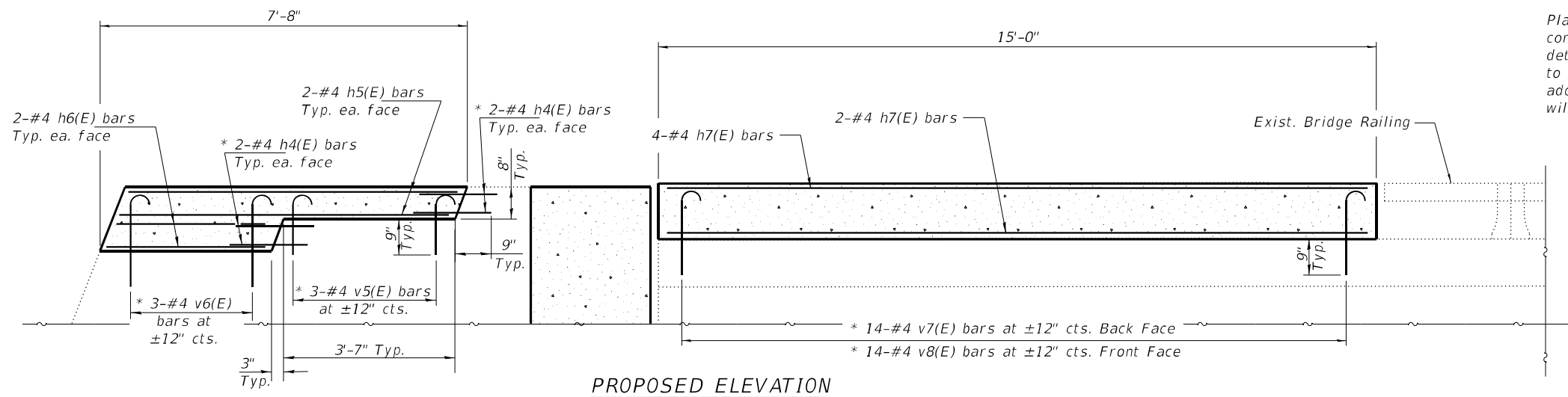
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	30
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**NOTES**

All edges shall have standard (3/4") chamfers.

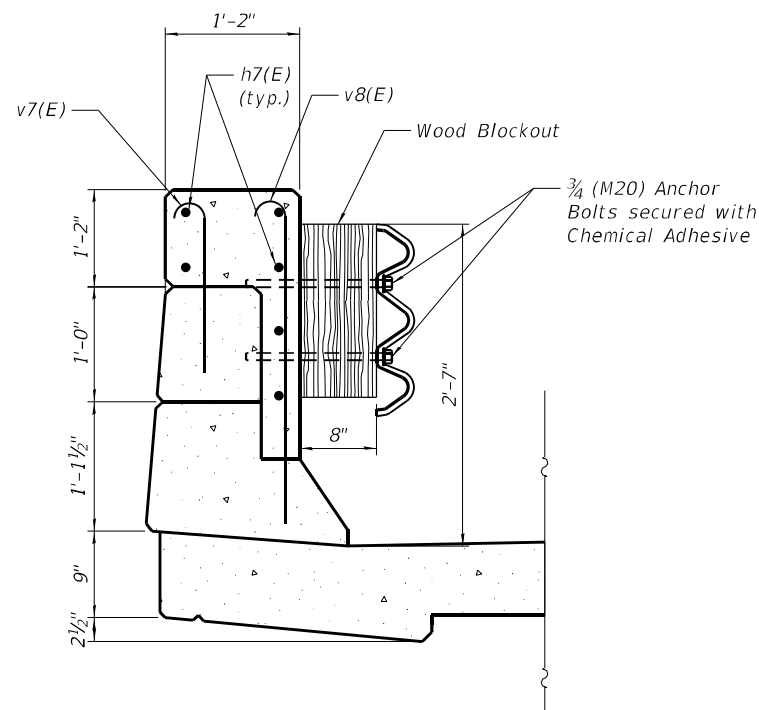
Reinforcement bars designated (E) shall be epoxy coated

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope for the work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

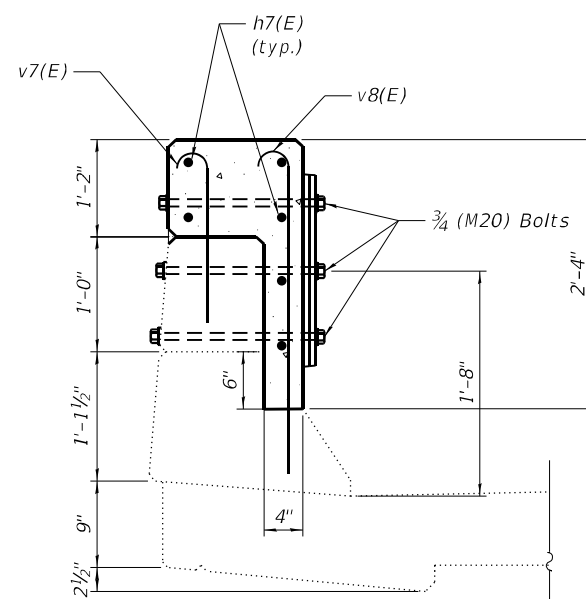


**PROPOSED ELEVATION**

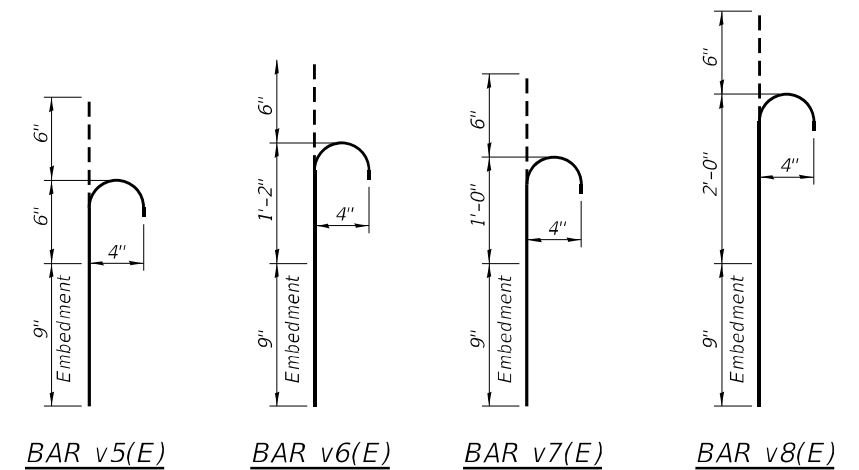
\* Epoxy grout h4(E), v4(E), v5(E), v6(E) & v7(E) bars in 9" min. holes according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



**SECTION B-B**



**SECTION A-A**



**BILL OF MATERIAL  
TWO WINGWALLS & PARAPETS  
WEST SIDE**

Bar	No.	Size	Length	Shape
h4(E)	16	#4	1'-9"	—
h5(E)	8	#4	7'-1"	—
h6(E)	8	#4	3'-3"	—
h7(E)	12	#4	14'-9"	—
v5(E)	6	#4	1'-3"	┌
v6(E)	6	#4	2'-5"	┌
v7(E)	28	#4	2'-0"	┌
v8(E)	28	#4	4'-0"	┌
Concrete Superstructure			Cu. Yd.	1.6
Bridge Rail Removal			Foot	30
Reinforcement Bars, Epoxy Coated			Pound	319

MODEL: 0960041-74997-011  
FILE NAME: J:\20100402\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

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PROFESSIONAL ENGINEER REG. NO. 044-061179  
PROFESSIONAL LAND SURVEYING REG. NO. 048-000098  
(217) 753-8844, 752-6277 (F)

USER NAME =	BenB
PLOT SCALE =	0:2" / 1"
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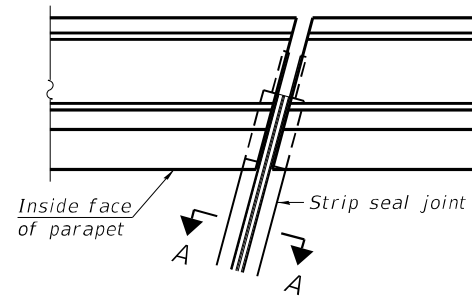
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REVISED -	
REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

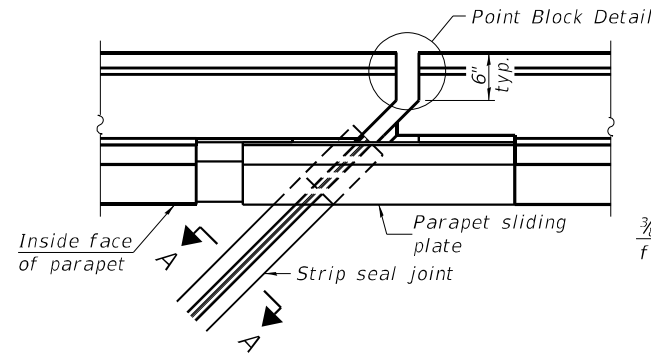
**WINGWALL, PARAPET & RAILING MODIFICATION DETAILS - II  
SN. 096-0041 (EB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	31
CONTRACT NO. 74997				
SHEET 11 OF 17 SHEETS		ILLINOIS FED. AID PROJECT		

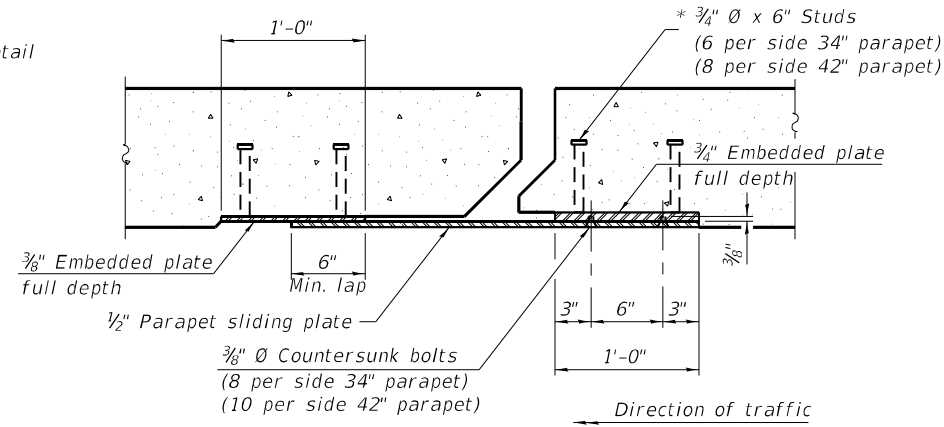


FOR SKEWS  $\leq 30^\circ$

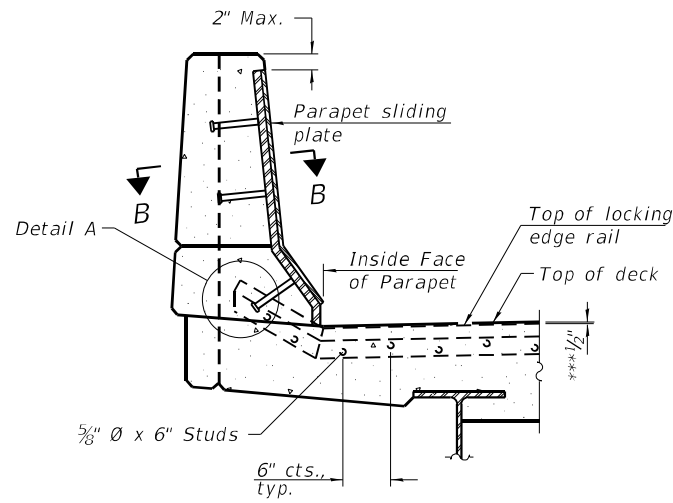
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

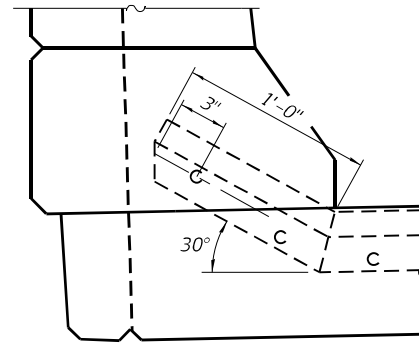


SECTION B-B

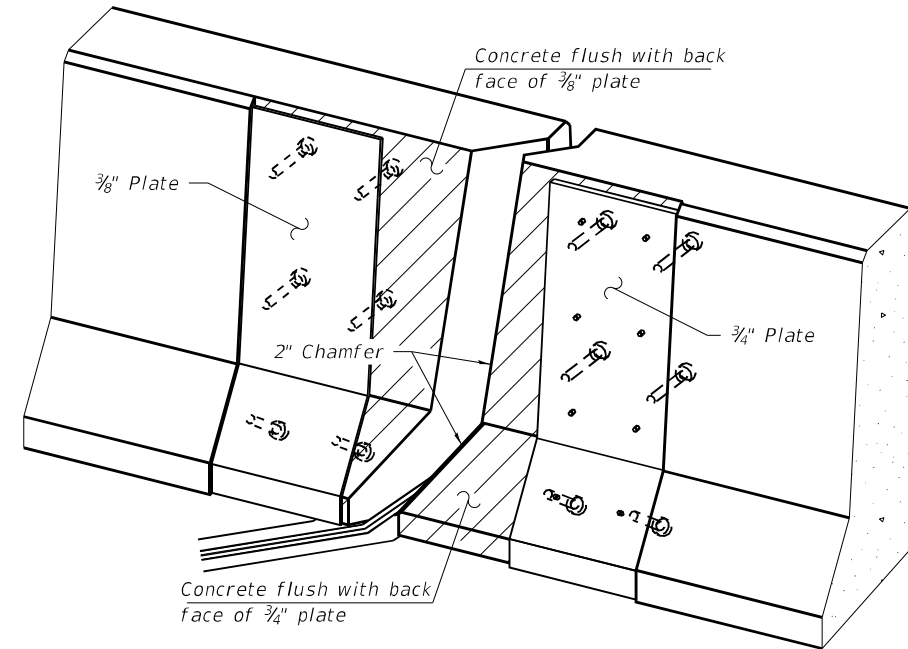


ELEVATION AT PARAPET

(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of  $1/4$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4 1/2$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

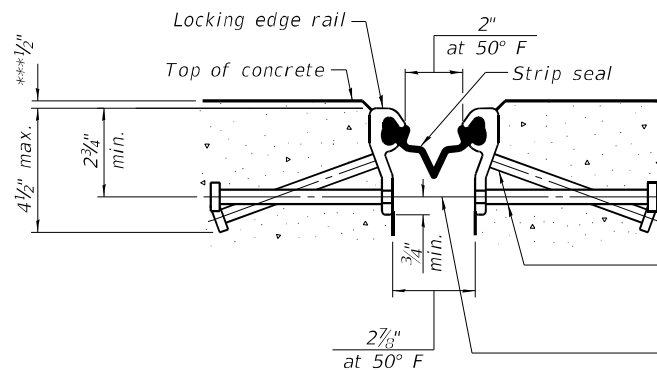
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be  $3/16$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

\*\*\* Prior to 1/4" Grinding



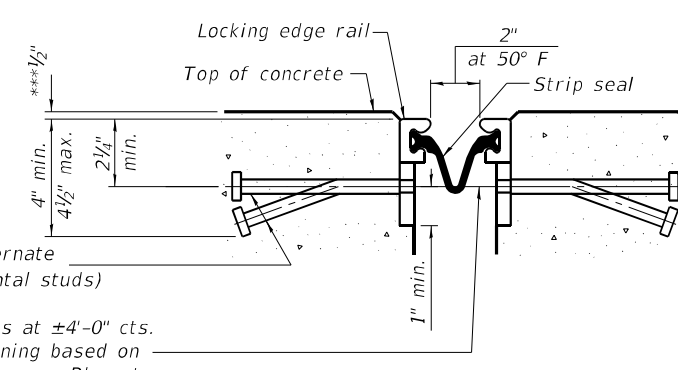
SHOWING ROLLED RAIL JOINT

\*  $3/8$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

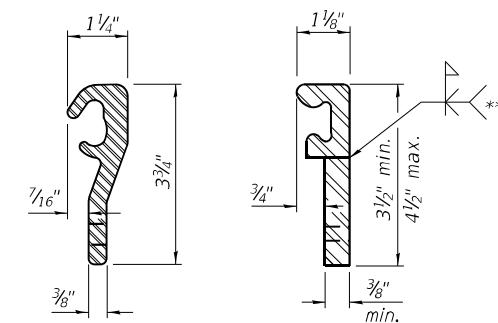
$3/8$ "  $\phi$  threaded rods in  $1/16$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

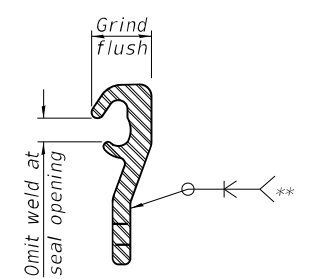


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	44	48	Foot	92

MODEL: 0960041-74997-012  
FILE NAME: J:\20100402\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 044-000179  
1211, 715-8244, 715-8227, 71

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
CHECKED - MC  
PLOT SCALE = 0:2" / 1 in.  
PLOT DATE = 9/27/2021

DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
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REVISED - 9/27/2021  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

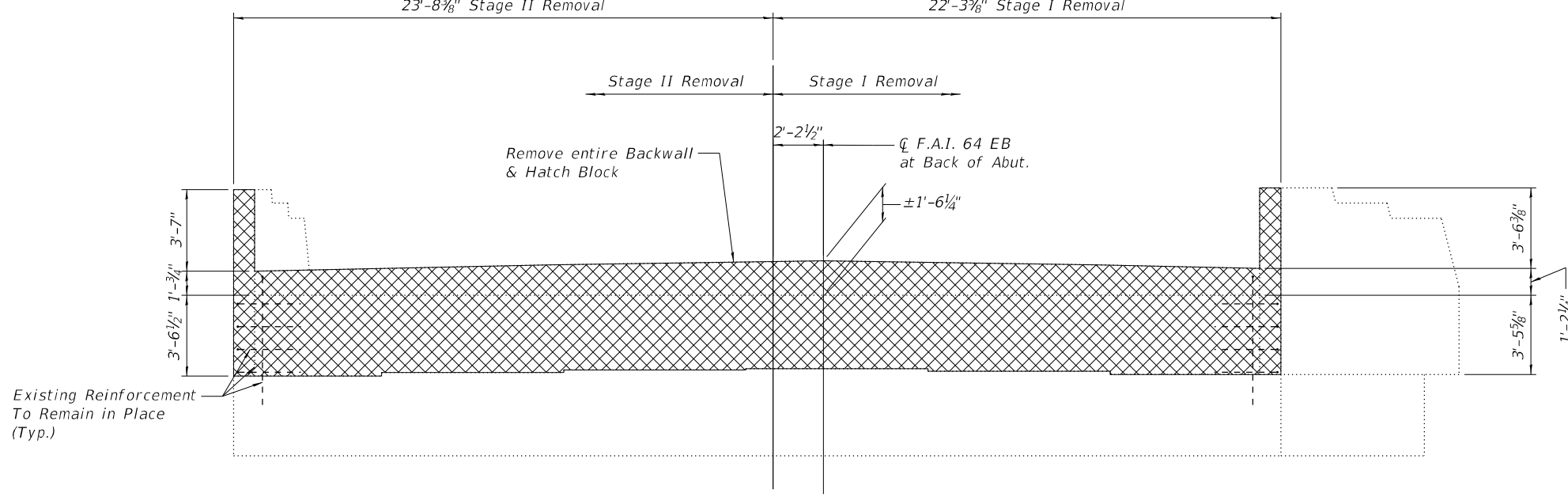
PREFORMED JOINT STRIP SEAL DETAILS  
SN. 096-0041 (EB)

SHEET 12 OF 17 SHEETS

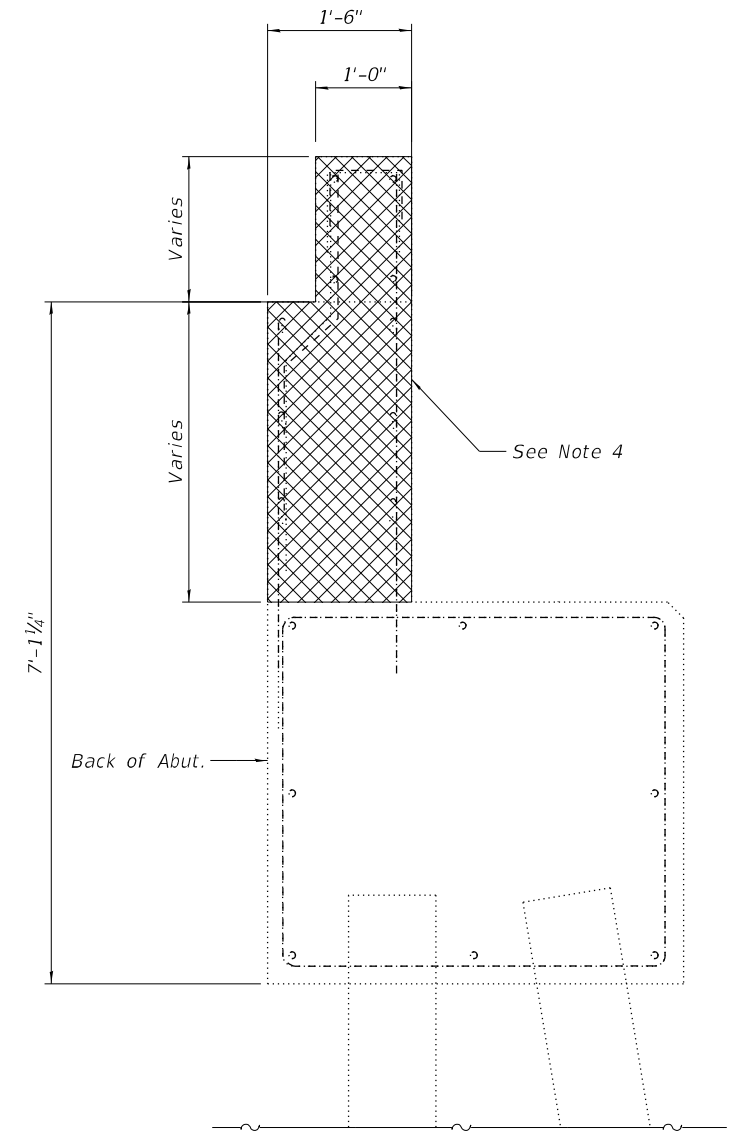
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	32
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



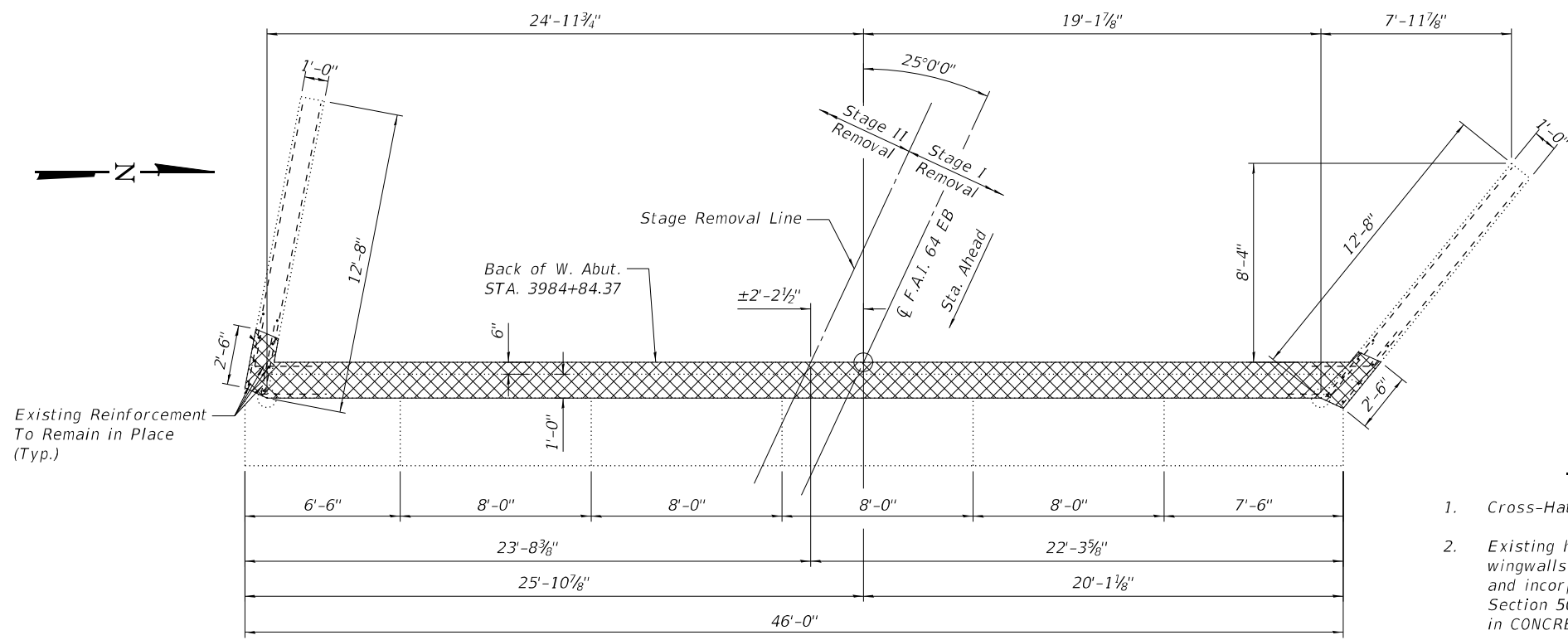
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**ABUTMENT BACKWALL REMOVAL ELEVATION**  
 (West Abutment)



**SECTION THRU ABUTMENT**  
 (Dimensions at right angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
 (West Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal quantity of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**BILL OF MATERIAL  
 WEST ABUTMENT**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844 FAX (217) 755-8277

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0.2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

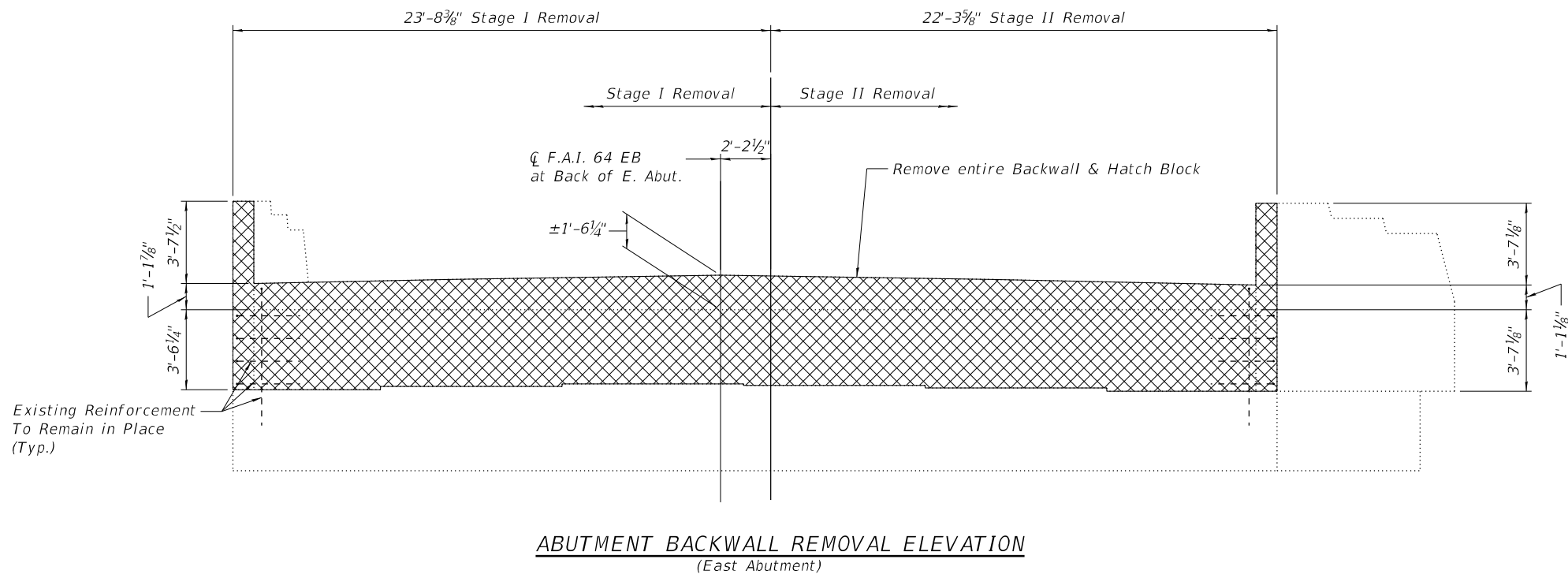
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REMOVAL DETAILS - I  
 SN. 096-0041 (EB)**

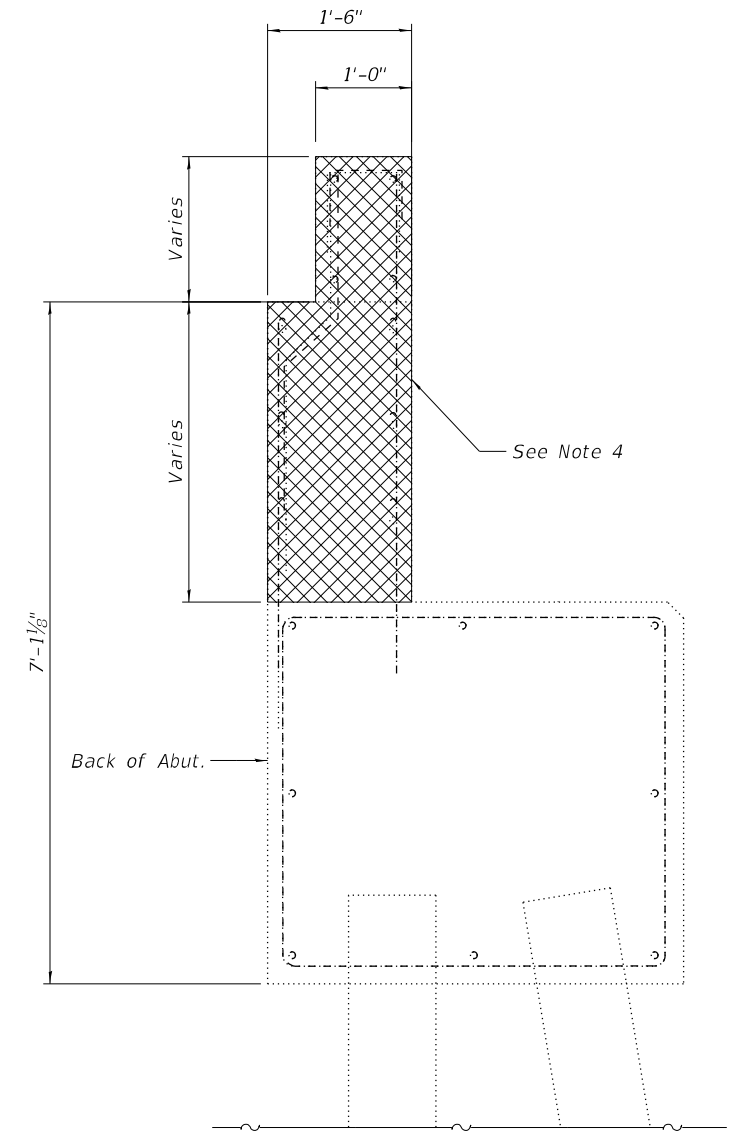
SHEET 13 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	33
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

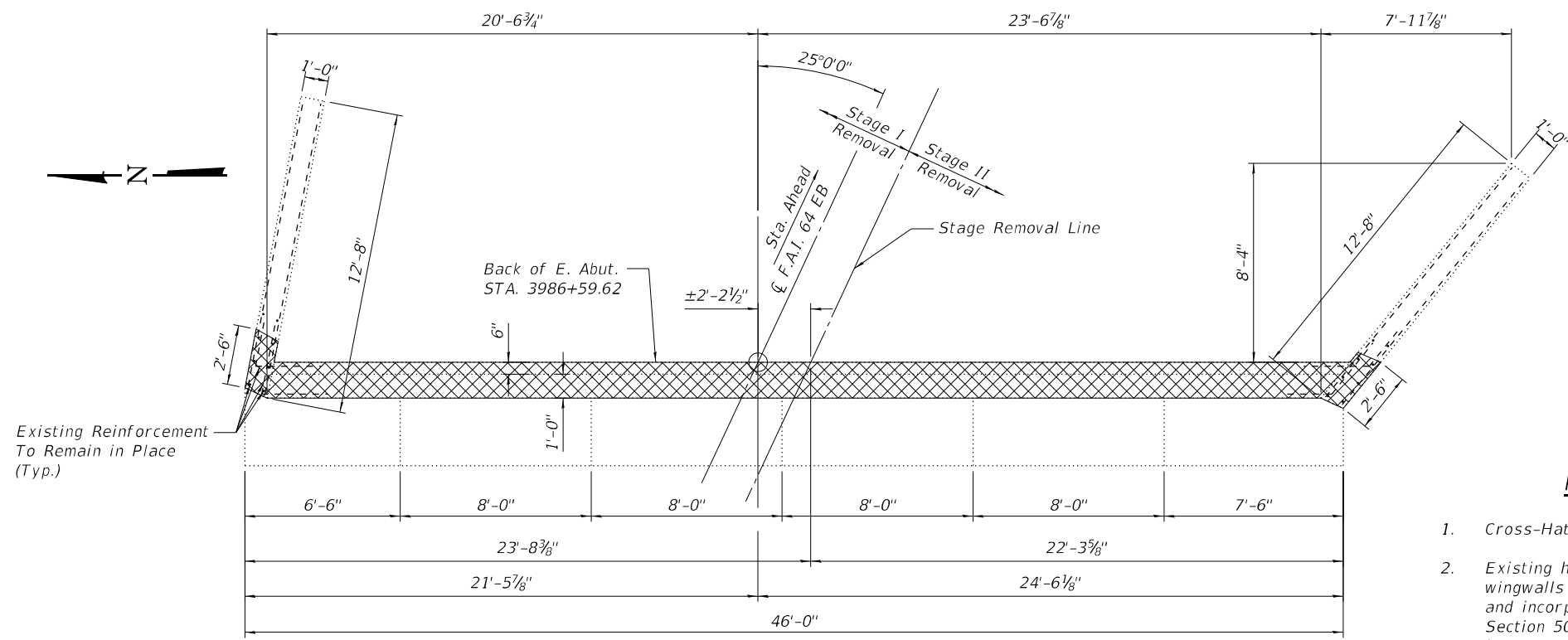
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**ABUTMENT BACKWALL REMOVAL ELEVATION**  
 (East Abutment)



**SECTION THRU ABUTMENT**  
 (Dimensions at right angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
 (East Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal Quantity of Entire East Abut. Backwall and Hatch Block is included in Bill of Material.

**BILL OF MATERIAL**  
**EAST ABUTMENT**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL ENGINEERING FIRM NO. 042-060117P  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098  
 (217) 755-8844 FAX (217) 755-8277

USER NAME = BenB	DESIGNED - KAS	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

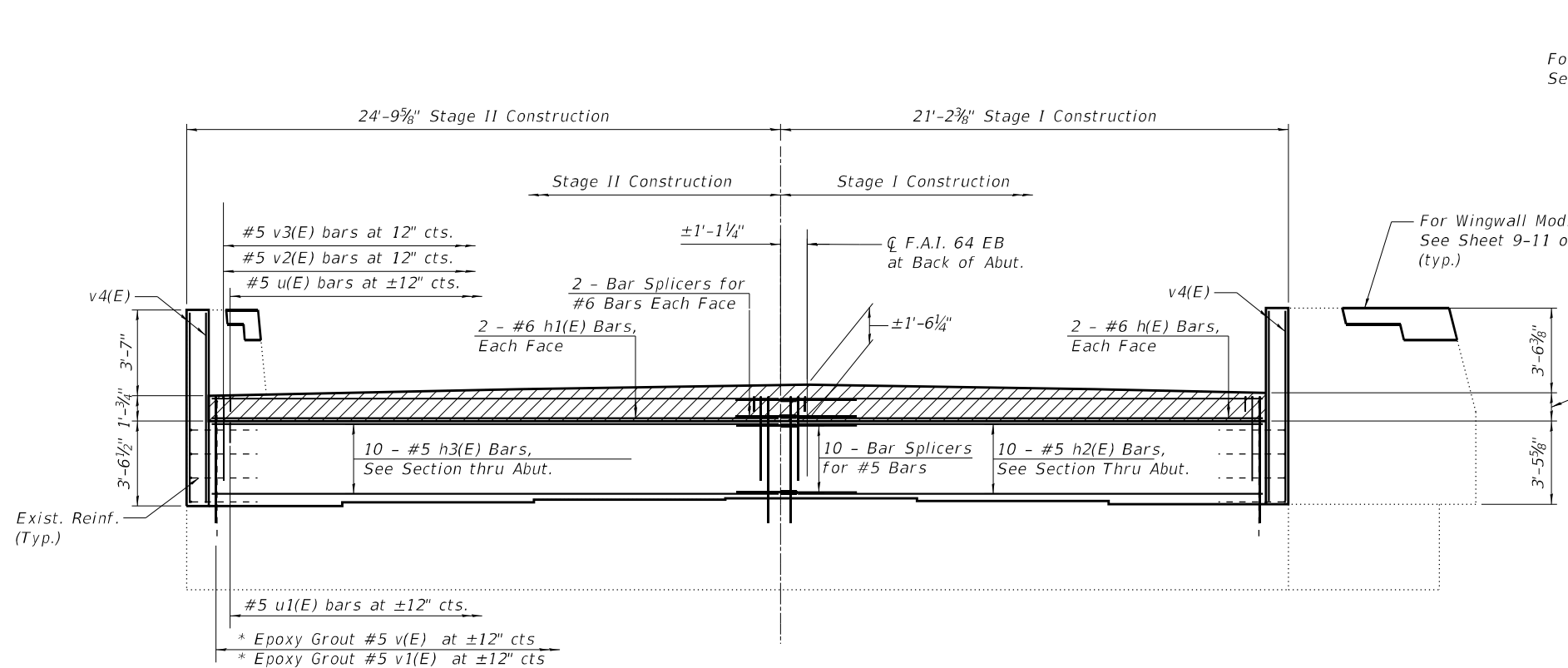
**ABUTMENT BACKWALL REMOVAL DETAILS - II**  
**SN. 096-0041 (EB)**

SHEET 14 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	34

CONTRACT NO. 74997

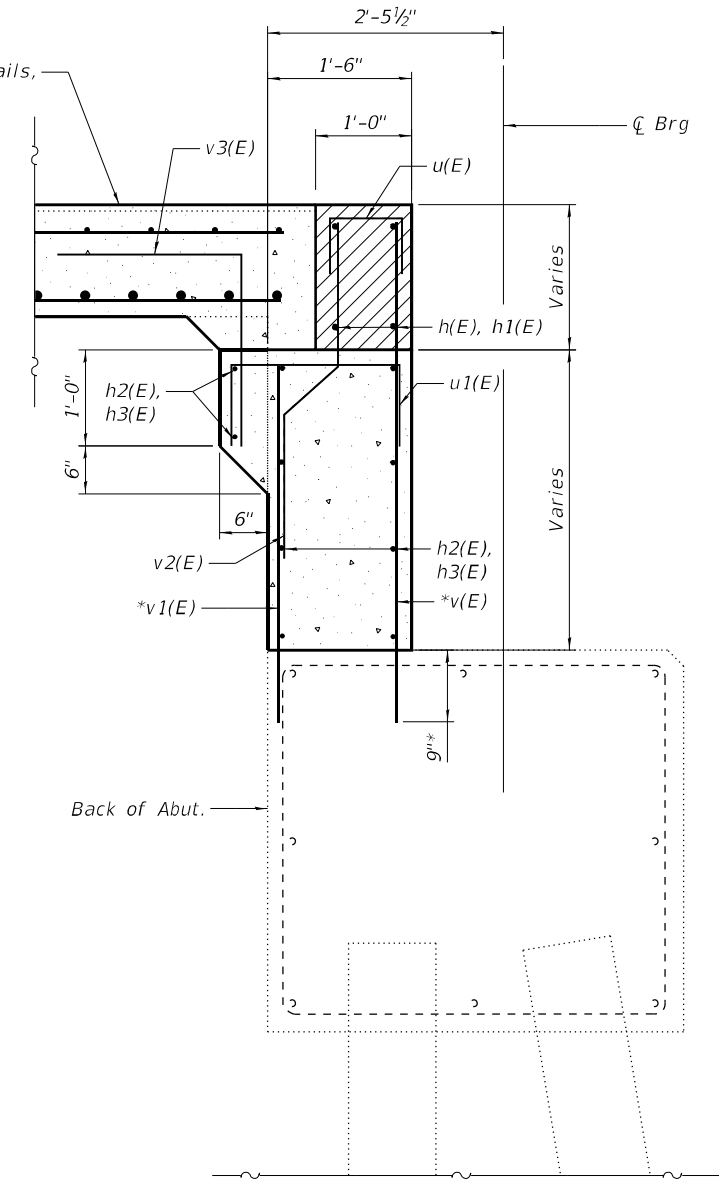
ILLINOIS FED. AID PROJECT



**ABUTMENT BACKWALL REPAIR ELEVATION**  
(West Abutment)

For Approach Slab Details, See Sheet 5-6 of 17

For Wingwall Modification details, See Sheet 9-11 of 17 (typ.)



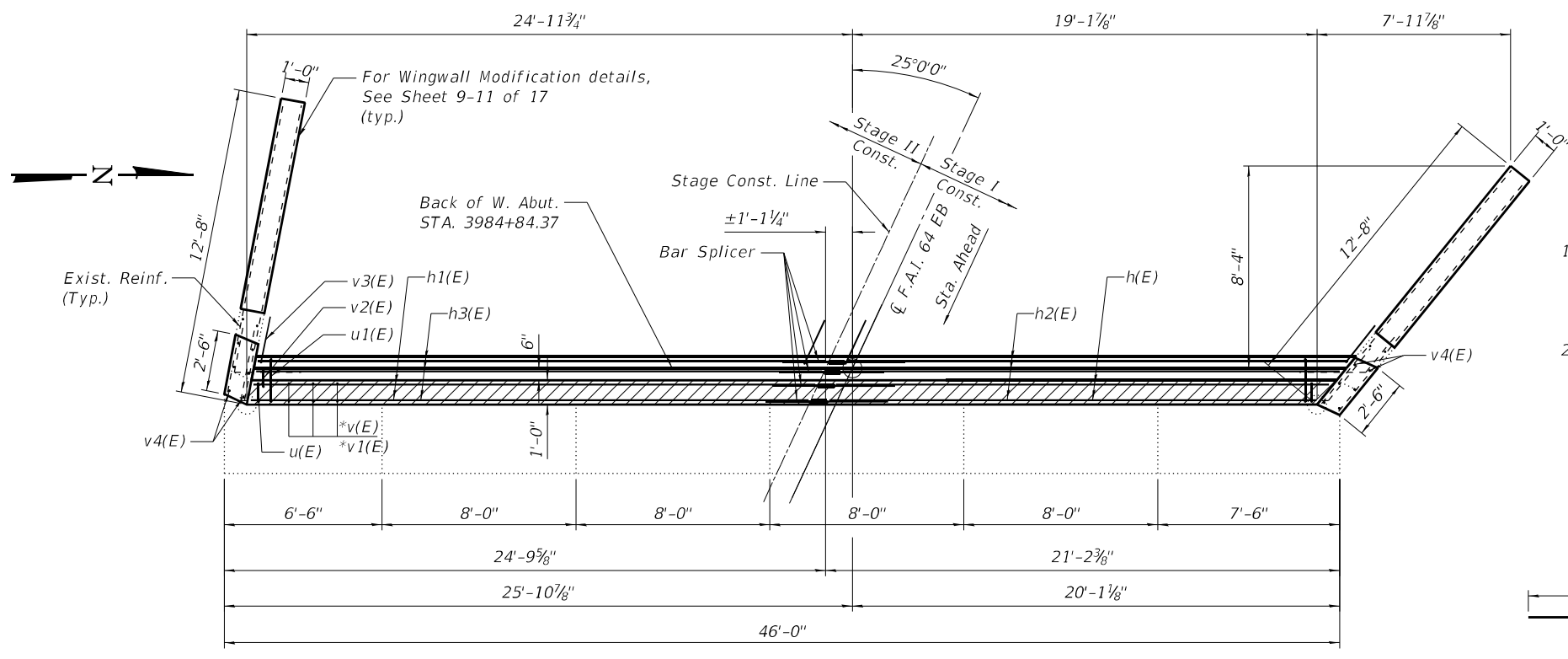
**SECTION THRU ABUTMENT**  
(Dimensions at right angles)

**NOTE**

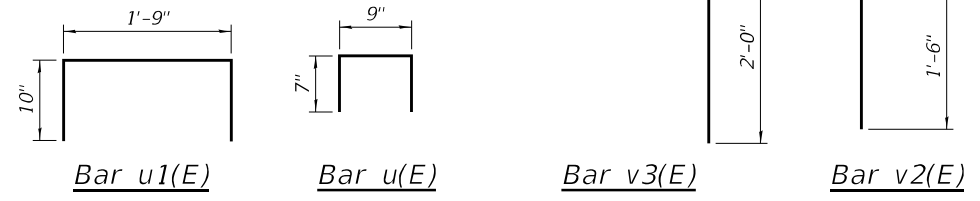
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

**BILL OF MATERIAL**  
**WEST ABUTMENT**

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II				
h(E)	4	4	#6	20'-4"	—	
h1(E)		4	#6	23'-2"	—	
h2(E)	10	10	#5	20'-8"	—	
h3(E)		10	#5	23'-5"	—	
u(E)	22	23	#5	1'-11"	┌	
u1(E)	22	23	#5	3'-5"	┌	
v(E)	22	23	#5	5'-3"	—	
v1(E)	22	23	#5	3'-8"	—	
v2(E)	22	23	#5	3'-9"	┌	
v3(E)	22	23	#5	3'-11"	┌	
v4(E)	6	6	#4	8'-0"	—	
Concrete Structures					Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated					Pound	1814
Bar Splicers					Each	14



**ABUTMENT BACKWALL REPAIR PLAN**  
(West Abutment)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ABUTMENT BACKWALL REPAIR DETAILS - I  
SN. 096-0041 (EB)

SHEET 15 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	35
CONTRACT NO. 74997				

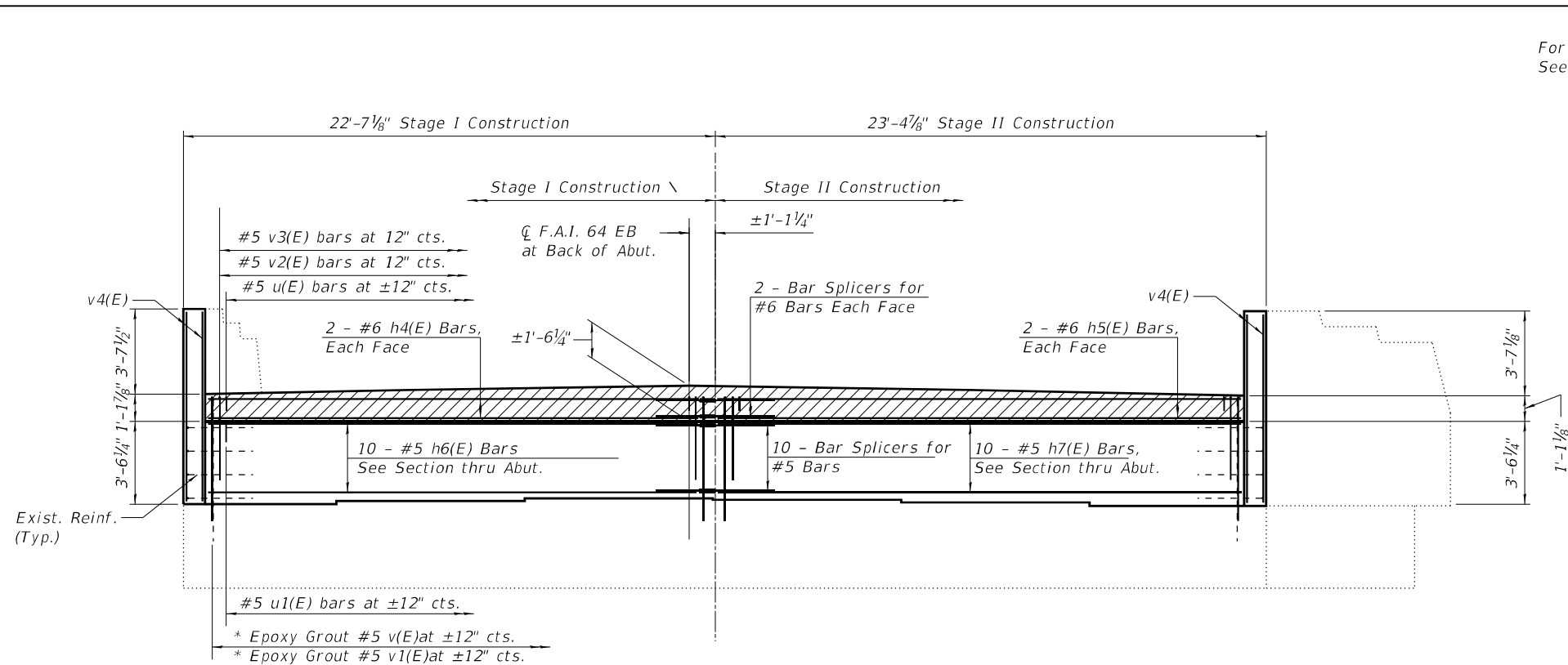
ILLINOIS FED. AID PROJECT

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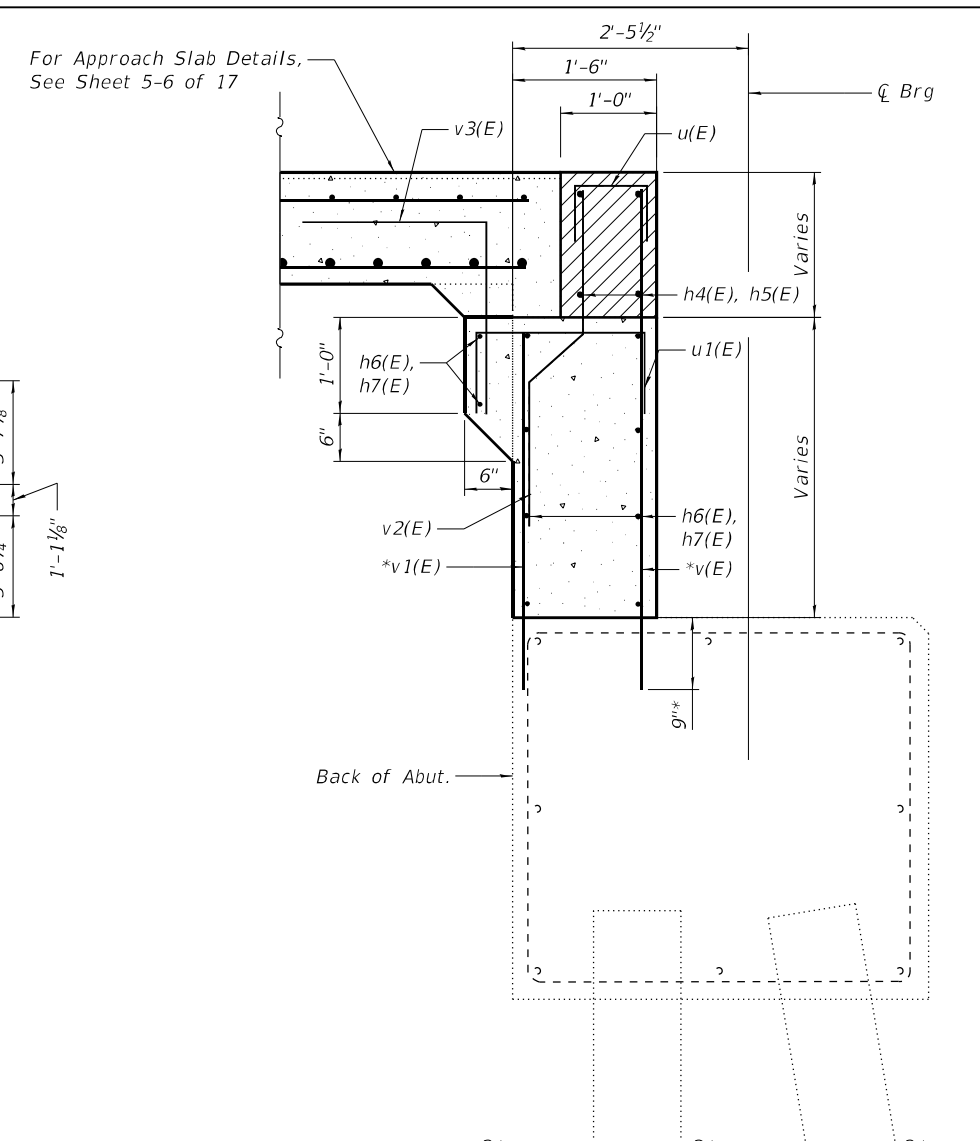
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277, 751

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
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PLOT SCALE = 0.2" / in.  
PLOT DATE = 8/31/2021

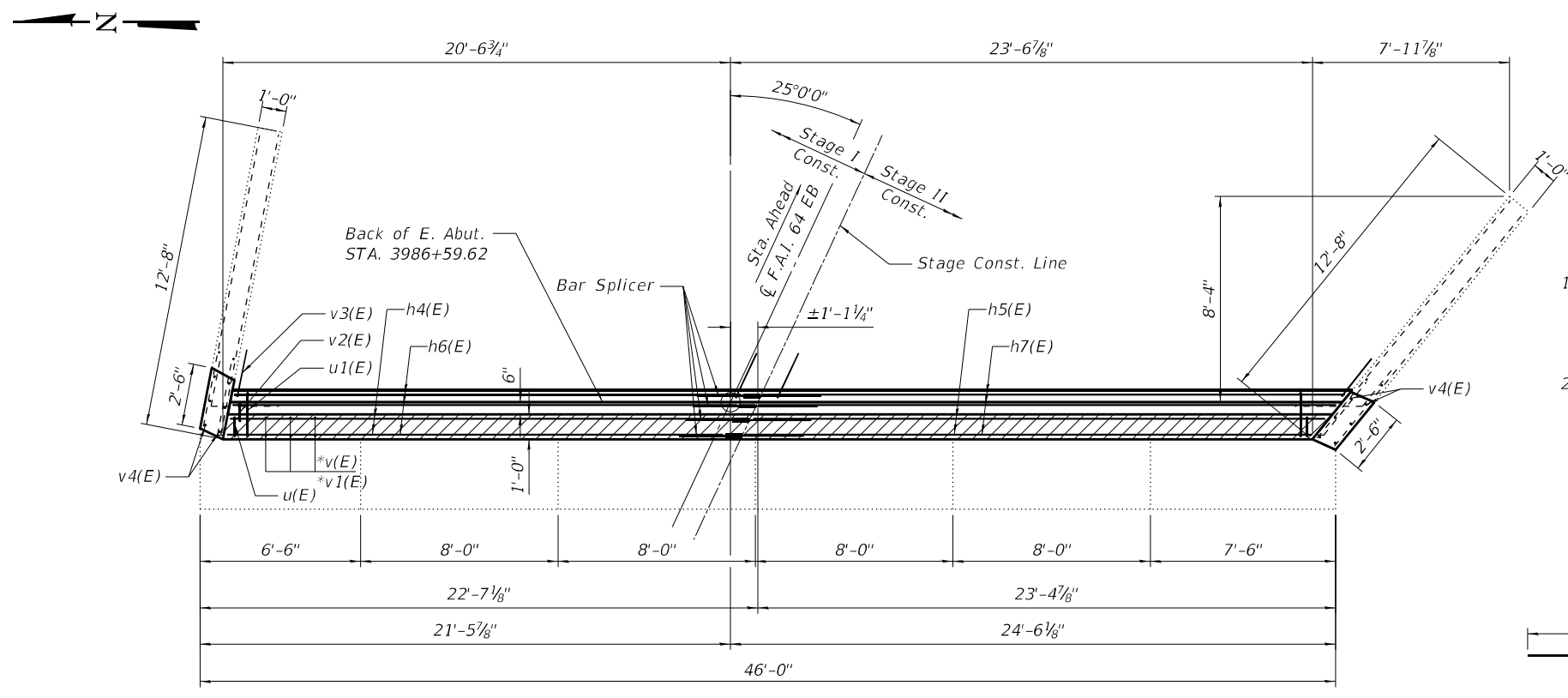
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REVISION -  
REVISION -  
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REVISION -



**ABUTMENT BACKWALL REPAIR ELEVATION**  
(East Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)

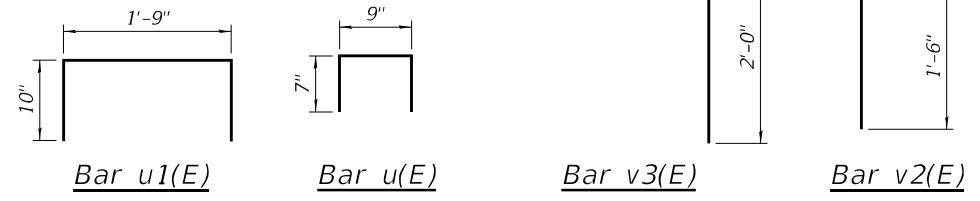


**ABUTMENT BACKWALL REPAIR PLAN**  
(East Abutment)

- NOTE**
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
  - All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

**BILL OF MATERIAL**  
**EAST ABUTMENT**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h4(E)	4		4	#6	20'-3"	—	
h5(E)		4	4	#6	23'-2"	—	
h6(E)	10		10	#5	20'-6"	—	
h7(E)		10	10	#5	23'-7"	—	
u(E)	21	24	45	#5	1'-11"	┌	
u1(E)	21	24	45	#5	3'-5"	┌	
v(E)	21	24	45	#5	5'-3"	—	
v1(E)	21	24	45	#5	3'-8"	—	
v2(E)	21	24	45	#5	3'-9"	┌	
v3(E)	21	24	45	#5	3'-11"	┌	
v4(E)	6	6	12	#4	8'-0"	—	
Concrete Structures						Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated						Pound	1813
Bar Splicers						Each	14



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ABUTMENT BACKWALL REPAIR DETAILS - II  
SN. 096-0041 (EB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	36
CONTRACT NO. 74997				

SHEET 16 OF 17 SHEETS

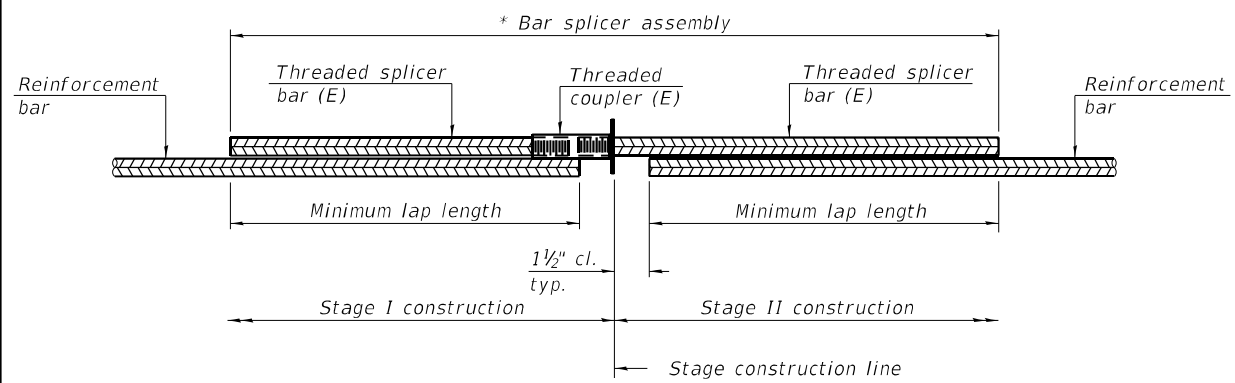
ILLINOIS FED. AID PROJECT

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8/31/2021 9:36:19 AM

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 042-000179  
REGISTERED PROFESSIONAL ENGINEER NO. 042-000179

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
PLOT DATE = 8/31/2021

REVISIONS  
REVISIONS  
REVISIONS  
REVISIONS

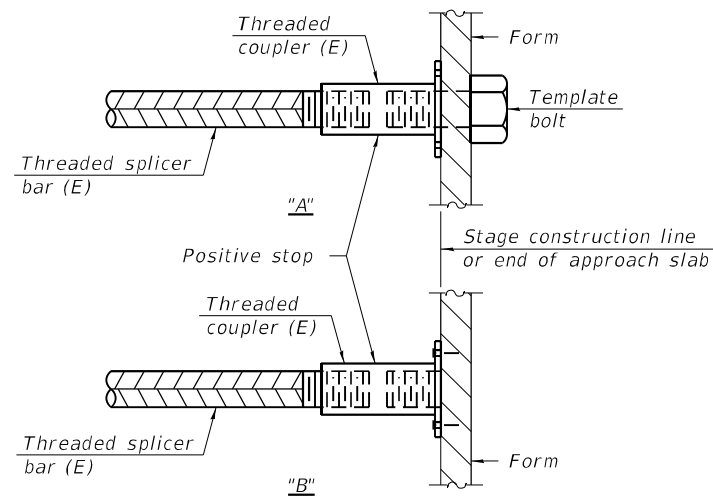


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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

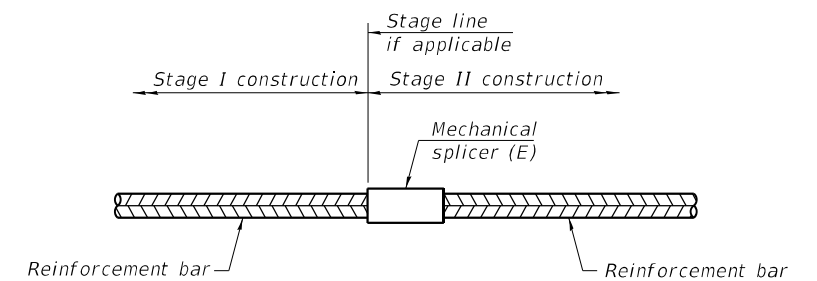
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#5	16	3'-7"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	90	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"



**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.

MODEL: 0960041-74997-017  
 FILE NAME: J:\201002\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960041-74997.dgn

BSD-1 1-1-2020

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTRUCTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 753-8844, 752-6277, 752-6277

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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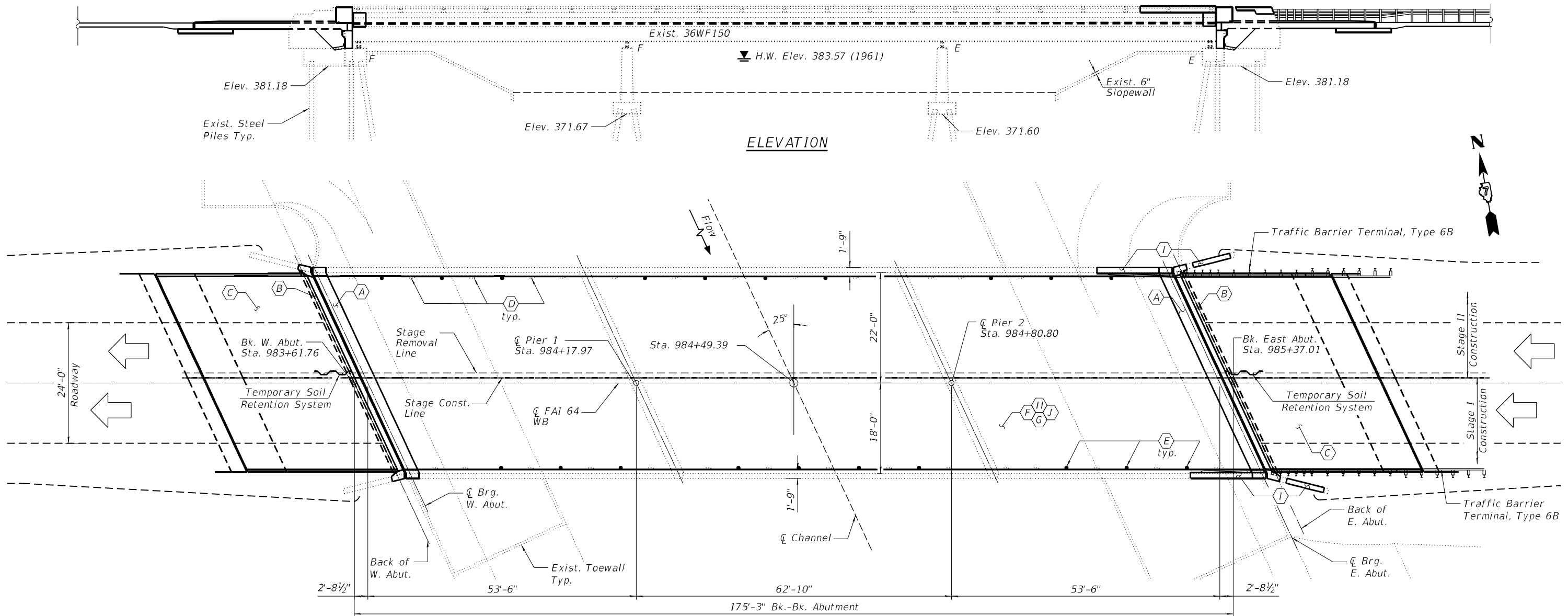
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS**  
**SN. 096-0041 (EB)**

SHEET 17 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	37
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

The existing three span continuous WF beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-2B-1 at STA. 984+49.39. S.N. 096-0042 (WB) carries F.A.I. Route 64 (I-64) over Skillet Fork Lagoon. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, a new concrete overlay, bridge deck patching with Stage Construction, and modification of parapet at expansion joints and wingwall for guardrail connection.



**STRUCTURE INDEX OF SHEETS**

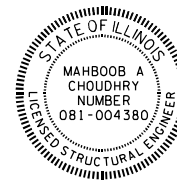
SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching
4	Deck Drain Replacement Details
5	Approach Slab Details-I
6	Approach Slab Details-II
7	Expansion Joint Removal Details
8	Expansion Joint Replacement Details
9	Wingwall Modification at Expansion Joint
10	Wingwall, Parapet and Railing Modification Details- I
11	Wingwall, Parapet and Railing Modification Details- II
12	Preformed Joint Strip Seal Details
13	Abutment Backwall Removal Details-I
14	Abutment Backwall Removal Details-II
15	Abutment Backwall Repair Details-I
16	Abutment Backwall Repair Details-II
17	Bar Splicer Assembly and Mechanical Splicers Details

**SCOPE OF WORK**

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 7, 8 & 12 of 17)
- (B) - Remove & Replace Abutment Backwall (See Sheet 13-16 of 17)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 5-6 of 17)
- (D) - Eliminate Floor Drains (See Sheet 3-4 of 17)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-4 of 17)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 17)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 17)
- (H) - Install Bridge Deck Patches. (See Sheet 3 of 17)
- (I) - Modify Wingwall and Parapet for Guardrail Attachments (See Sheet 9-11 of 17)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)

**PLAN**

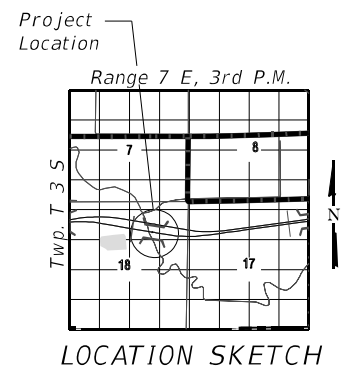
*M. Choudhry*



Dated **8/31/2021**  
 Mahboob A Choudhry  
 Licensed Structural Engineer  
 In Illinois No. 081-004380  
 Expires: 11/30/2022

**DESIGN STRESSES**  
FIELD UNITS

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



MODEL: 0960042-74997-001  
 FILE NAME: J:\2010042\_WB# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3541 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 081-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 754-8844, 792-6227, 791

USER NAME = BenB	DESIGNED - KAS	REVISD -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISD -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISD -
	CHECKED - MC	REVISD -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION  
 SN. 096-0042 (WB)**

SHEET 1 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	38
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

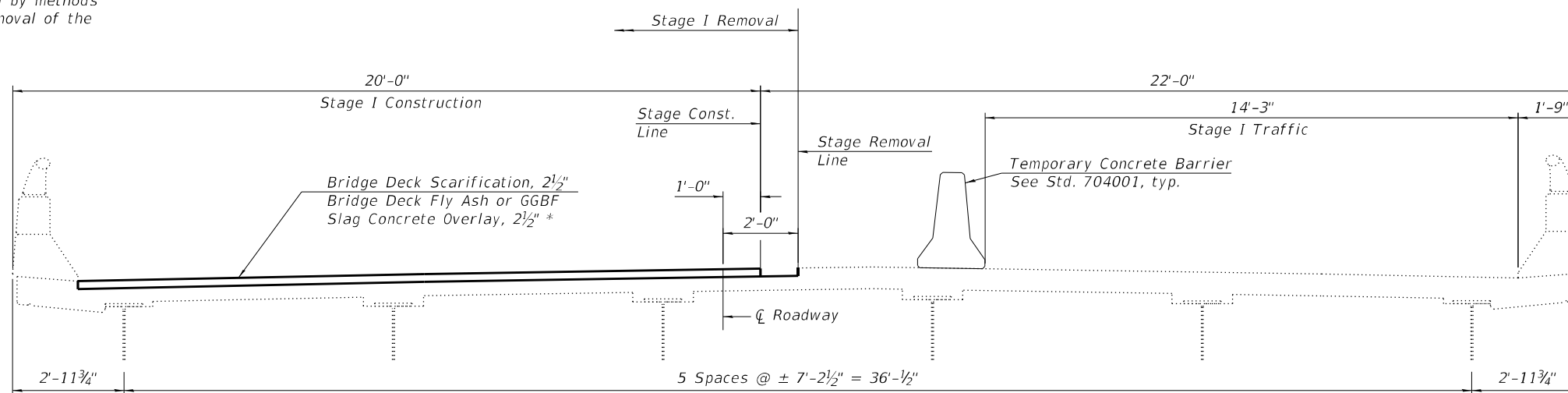
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full Depth Deck Slab Repair will be required at each existing floor drain. Removal and Disposal of Existing Floor Drains shall be included in the contract unit price for Deck Slab Repair (Full Depth Type I).

**TOTAL BILL OF MATERIAL**

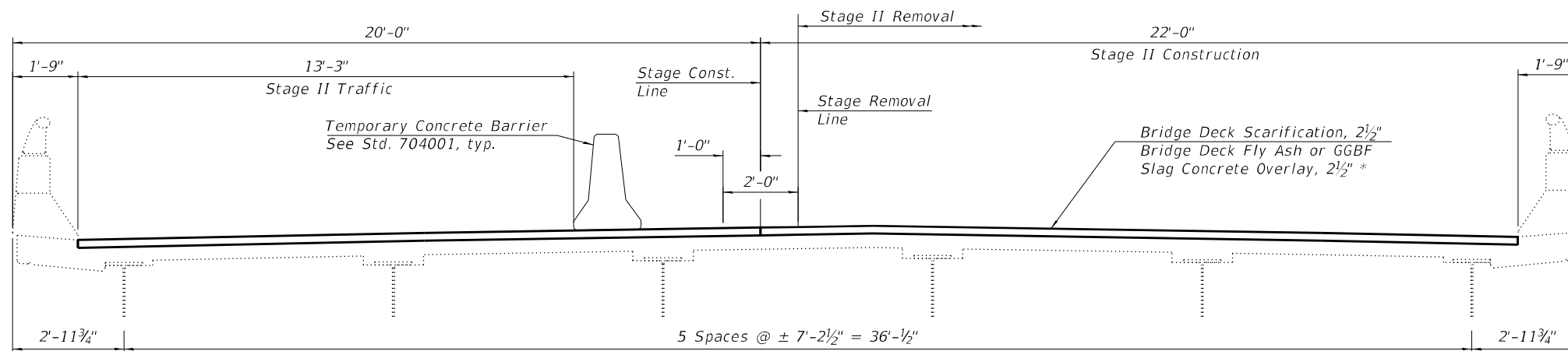
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	29.3
Concrete Structures	Cu. Yd.	45.0
Concrete Superstructures	Cu. Yd.	16.2
Concrete Superstructure (Approach Slab)	Cu. Yd.	107.3
Reinforcement Bars, Epoxy Coated	Pound	49485
Bar Splicers	Each	334
Prefomed Joint Strip Seal	Foot	92.3
Floor Drains	Each	20
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	710
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	710
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	457
** Diamond Grinding (Bridge Section)	Sq. Yd.	1002
*** Protective Coat	Sq. Yd.	1288
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	11.1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	9.2
Porous Granular Backfill	Cu. Yd.	52.3
Structure Excavation	Cu. Yd.	52.3
Temporary Soil Retention System	Sq. Ft.	44.9
Bridge Rail Removal	Foot	30

\*\* See Special Provisions.  
\*\*\* New Concrete and overlay areas



\* Overlay Thickness Prior to Grinding

**Stage I**  
(Looking West)



**Stage II**  
(Looking West)

MODEL: 0960042-74997-002  
FILE NAME: J:\2010042\_WD# 2 - Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277, 752-6277

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
CHECKED - MC  
PLOT SCALE = 0:2" / 1"  
PLOT DATE = 8/31/2021

REVISER -  
REVISER -  
REVISER -  
REVISER -

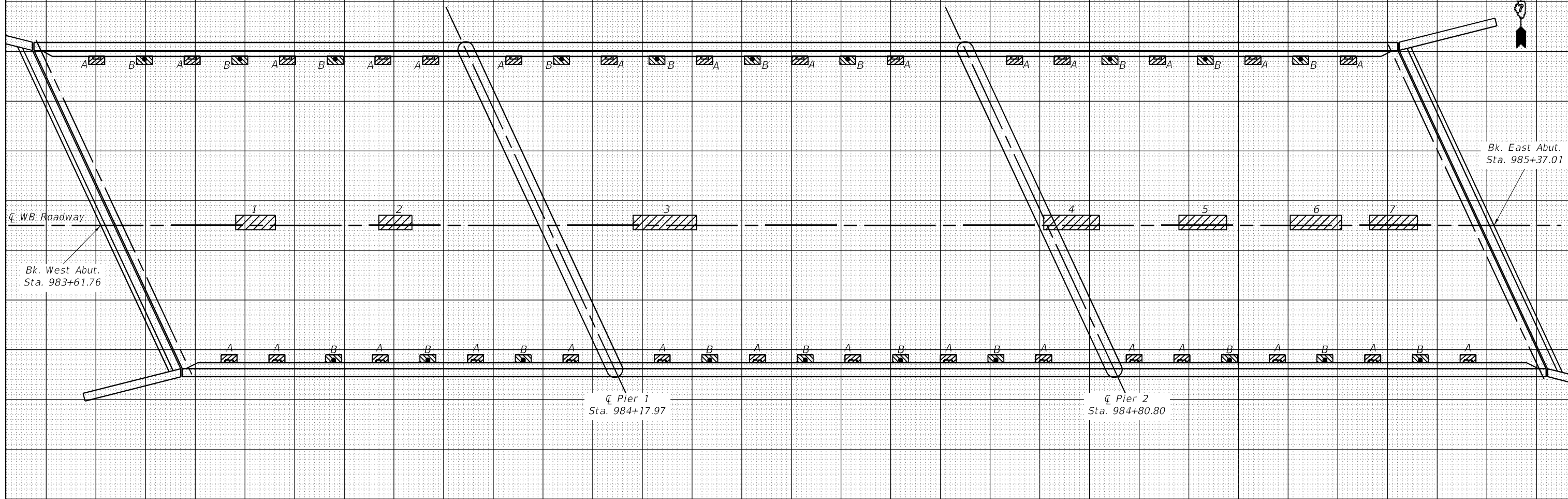
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS**  
**SN. 096-0042(WB)**

SHEET 2 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	39
CONTRACT NO. 74997				
ILLINOIS		FED. AID PROJECT		

096-0042 Bridge Patching



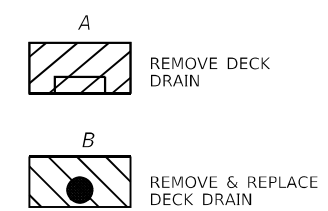
PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	5.0	2.0		1.1
2	4.0	2.0		0.9
3	8.0	2.0		1.8
4	7.0	2.0		1.6
5	6.0	2.0		1.3
6	5.5	2.0		1.2
7	6.0	2.0		1.3
A - Remove Drain, 30 ea			6.7	
B - Replace Drain, 20 ea			4.4	
TOTALS			11.1	9.2

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
 DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 11.1 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 9.2 SQ YD  
 FLOOR DRAINS = 20 Each

MODEL: 0960042-74997-003  
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PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

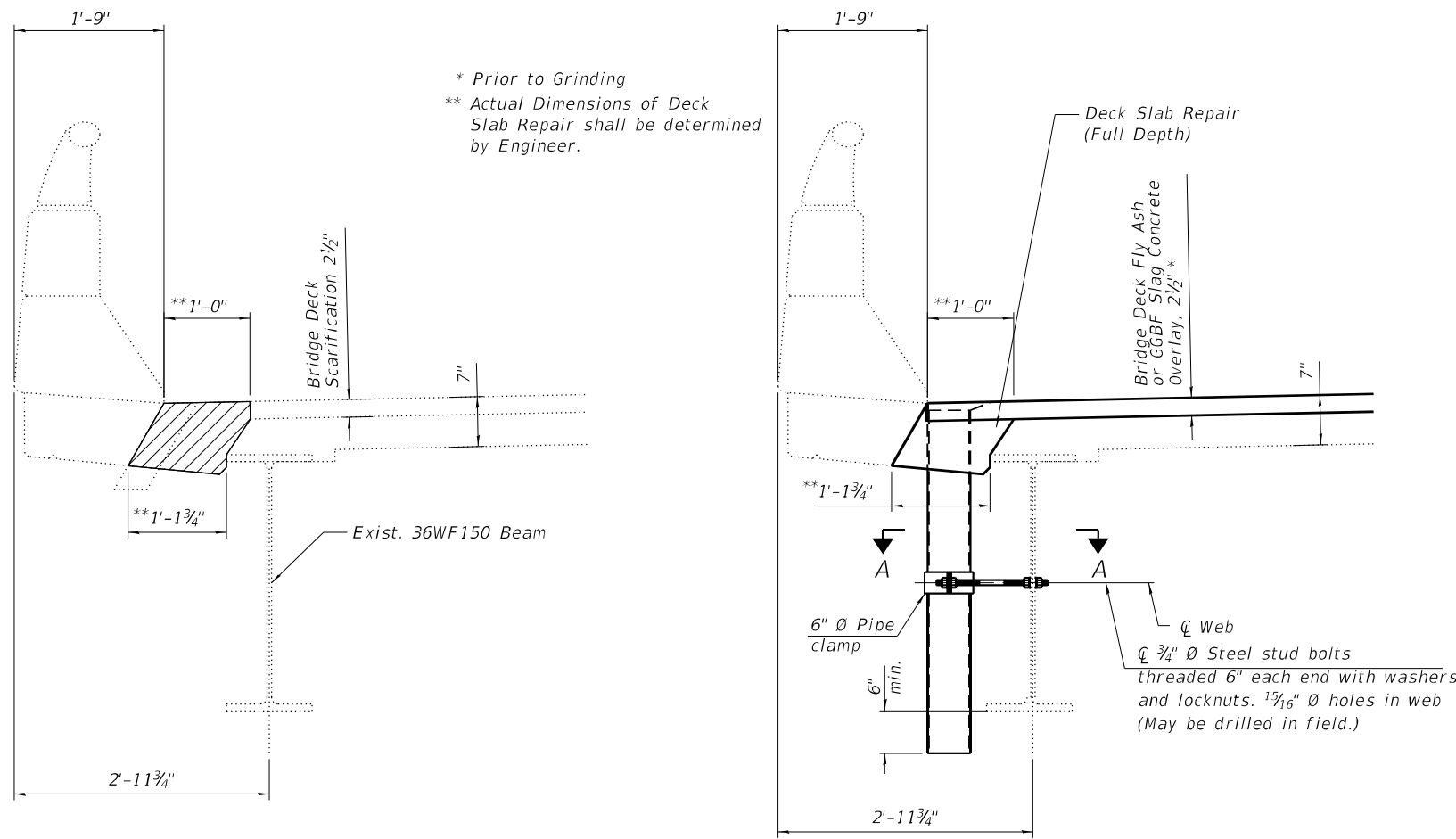
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING  
 SN. 096-0042

SCALE: SHEET 3 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	40
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

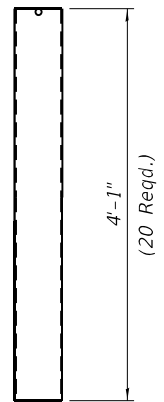
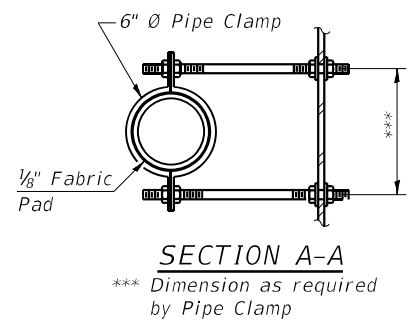
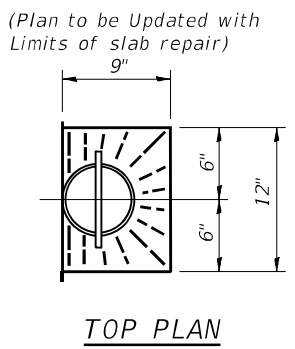
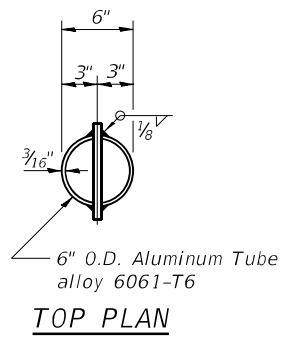
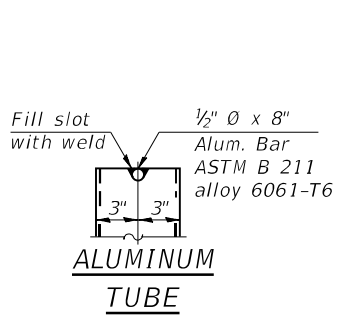




\* Prior to Grinding  
 \*\* Actual Dimensions of Deck Slab Repair shall be determined by Engineer.

Notes:  
 Fiberglass pipe alternative shall not be allowed for floor drains.  
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.  
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3 of 17.

**SECTIONS THRU DRAIN TO BE REPLACED**  
 50 Locations - See Bridge Patching Sheet



**DRAIN DETAIL**

MODEL: 0960042-74997-004  
 FILE NAME: J:\20100.02\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

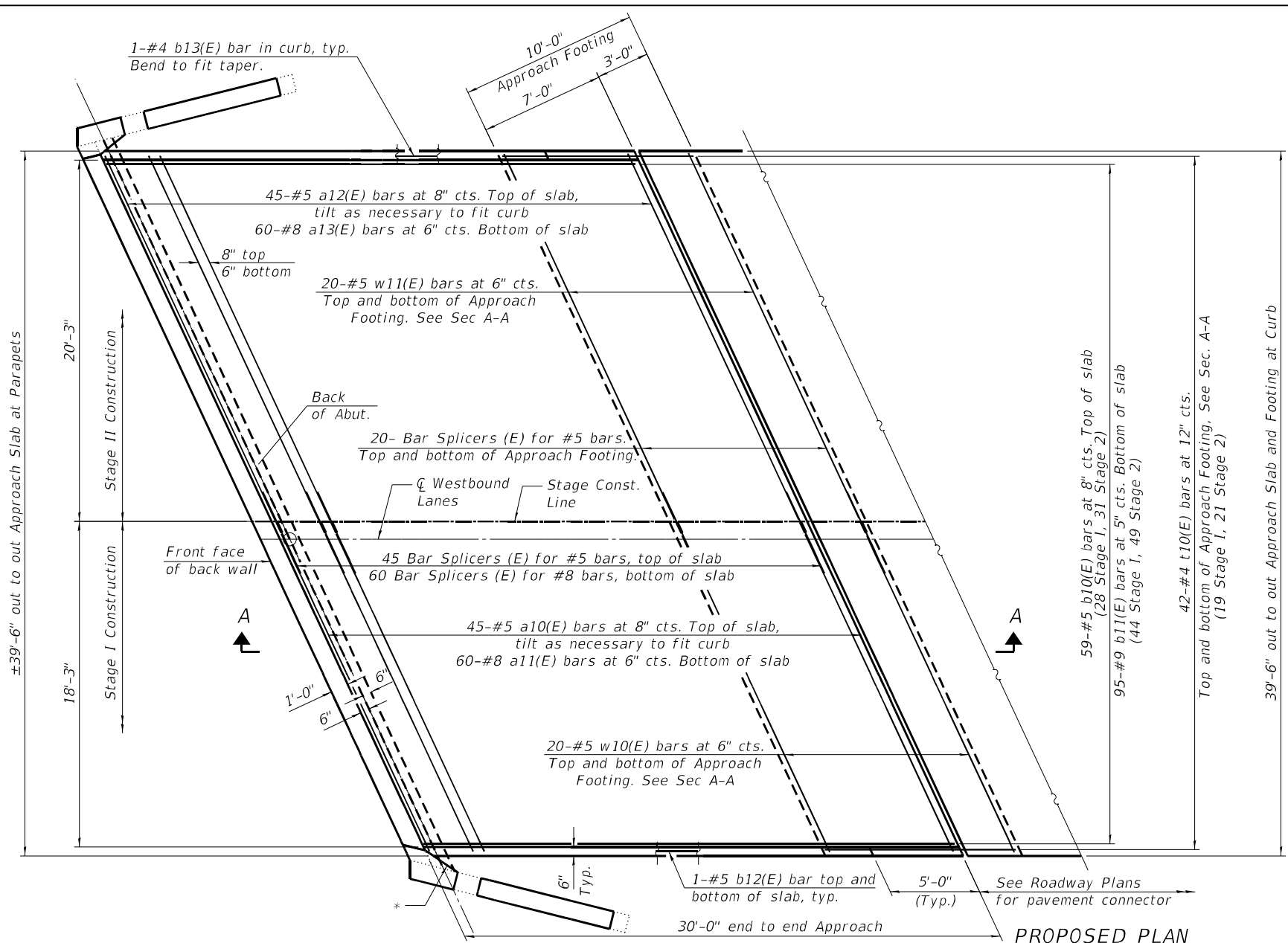
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3541 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 722-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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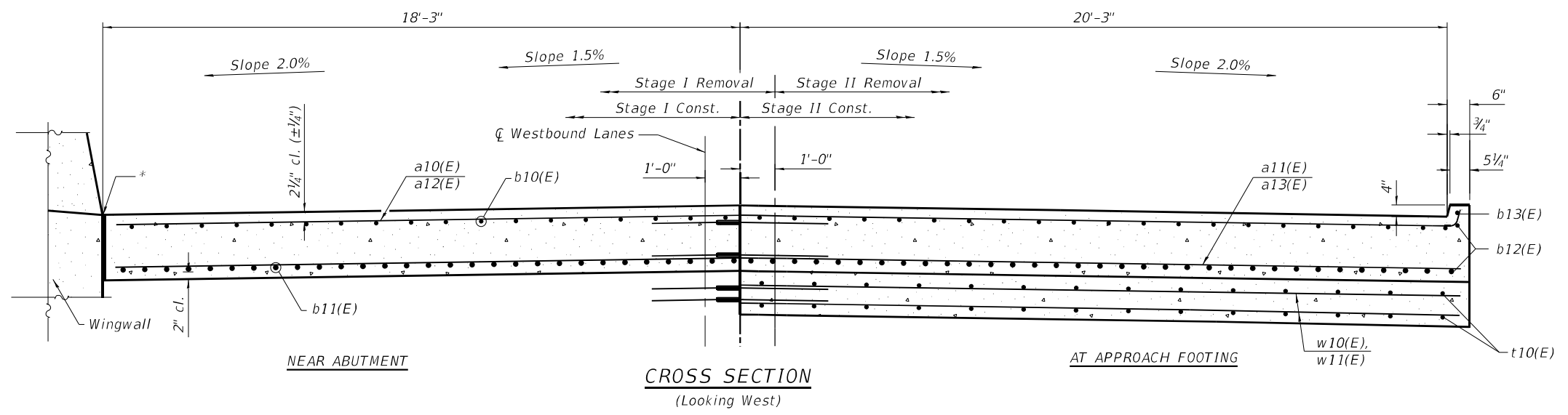
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DECK DRAIN REPLACEMENT DETAILS**  
**SN. 096-0042 (WB)**  
 SHEET 4 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	41
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



\* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.  
See Sheet 6 of 17 for Section A-A.



(Sheet 1 of 2)

MODEL: 0960042-74997-005  
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**GREENE & BRADFORD, INC.**  
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SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 752-8844 FAX (217) 752-8277

USER NAME =	BenB
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PLOT DATE =	8/31/2021

DESIGNED -	KAS
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DRAWN -	PG
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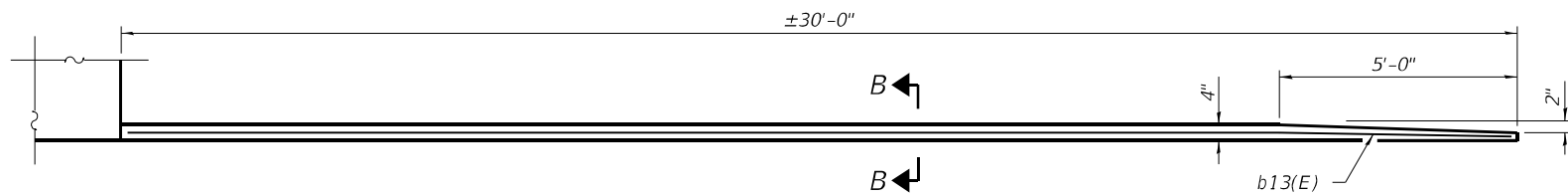
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REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - I  
SN. 096-0042 (WB)**

SHEET 5 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	42
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



**INSIDE ELEVATION OF PARAPET AND CURB**

**Notes:**

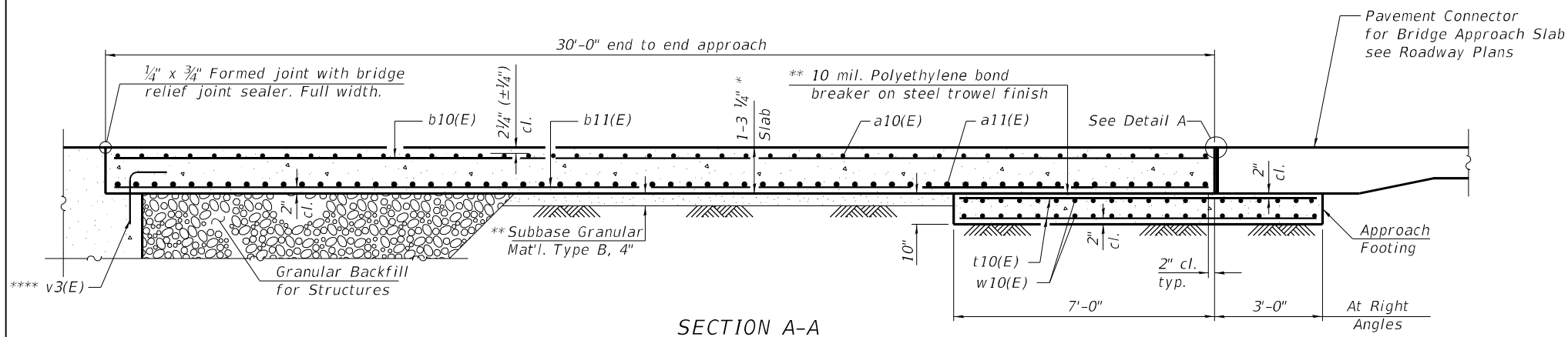
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Q<sub>max</sub>) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 8 of 17.

\* Prior to Grinding

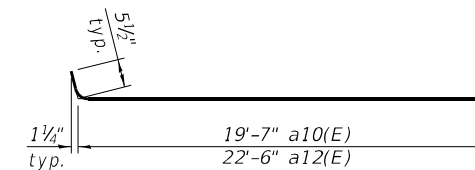
\*\* Cost included with Concrete Superstructure (Approach Slab).

\*\*\* Per manufacturer recommendations

\*\*\*\* v3(E) bar shown on sheet 15-16 of 17.



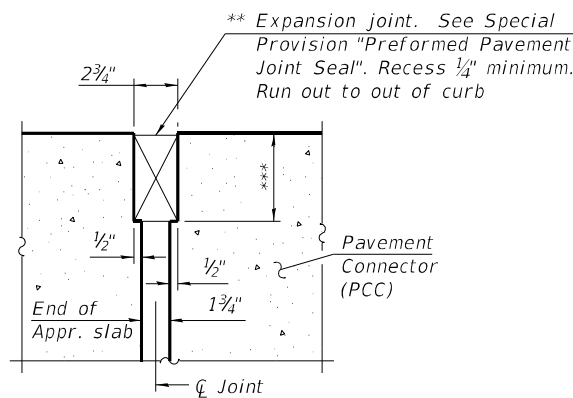
**SECTION A-A**



**BAR a10(E) & a12(E)**

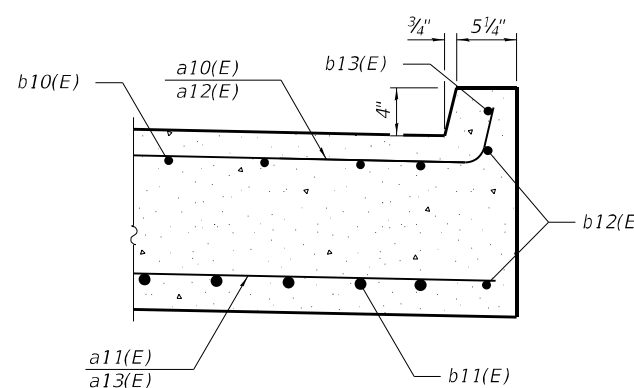
**TWO APPROACHES  
BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a10(E)	90		90	#5	20'-1"	—
a11(E)	120		120	#8	19'-7"	—
a12(E)		90	90	#5	23'-0"	—
a13(E)		120	120	#8	22'-6"	—
b10(E)	56	62	118	#5	29'-8"	—
b11(E)	88	98	186	#9	29'-8"	—
b12(E)	4	4	8	#5	29'-9"	—
b13(E)	2	2	4	#4	29'-10"	—
t10(E)	38	42	80	#4	10'-8"	—
w10(E)	80		80	#5	19'-7"	—
w11(E)		80	80	#5	22'-6"	—
Concrete Superstructure (Approach Slab)				Cu. Yd.	107.3	
Concrete Structures				Cu. Yd.	26.9	
Reinforcement Bars, Epoxy Coated				Pound	44352	
Bar Splicers				Each	290	



**DETAIL A**

(Detail A shown, applies to Highway Standard 420401 only.  
 Detail A for pavement connector (HMA) may be found on  
 Highway Standard 420406.)



**SECTION B-B**

(Sheet 2 of 2)

MODEL: 0960042-74997-006  
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**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 054-061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-060398  
 (217) 755-8844, 752-6277 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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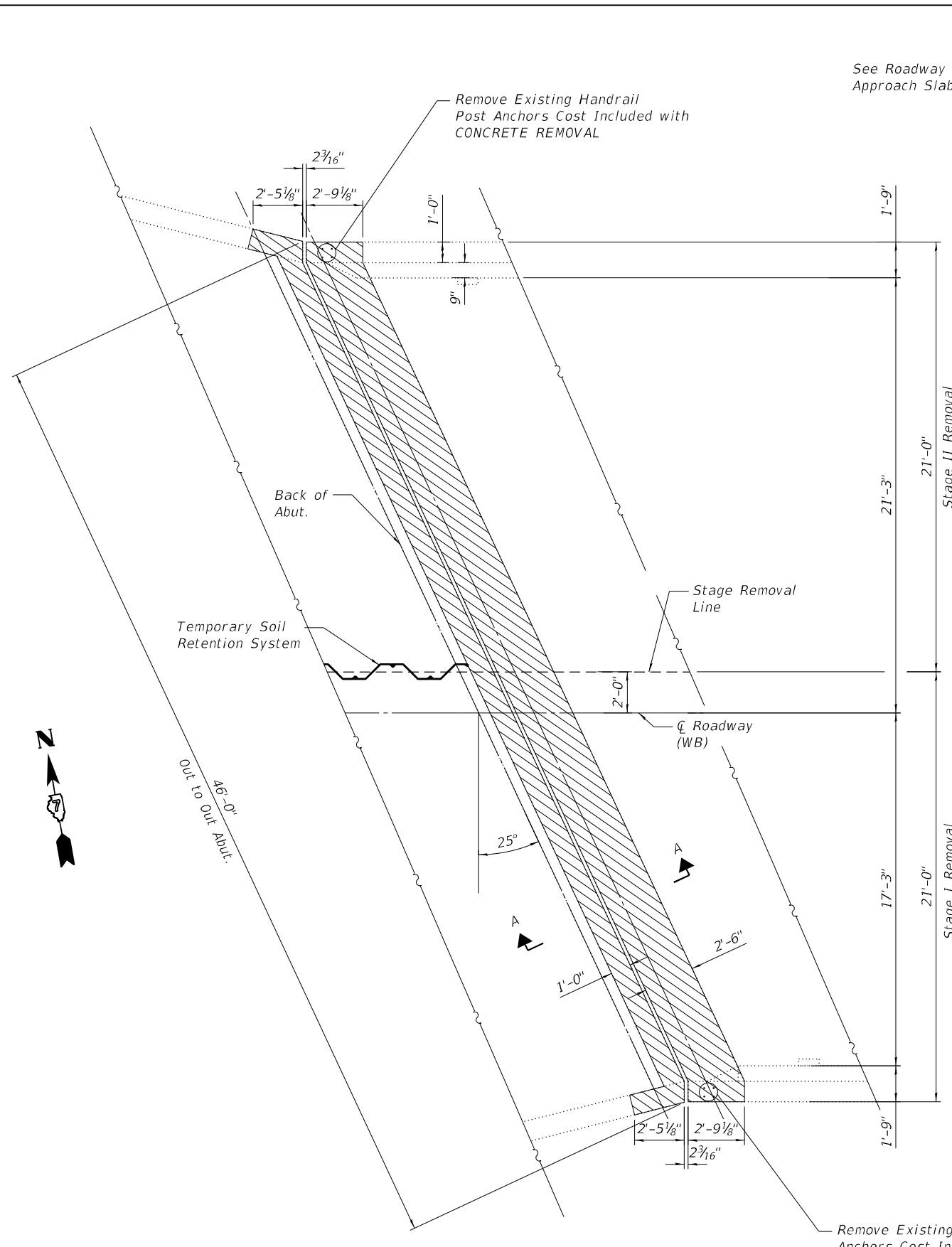
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - II  
SN. 096-0042 (WB)**

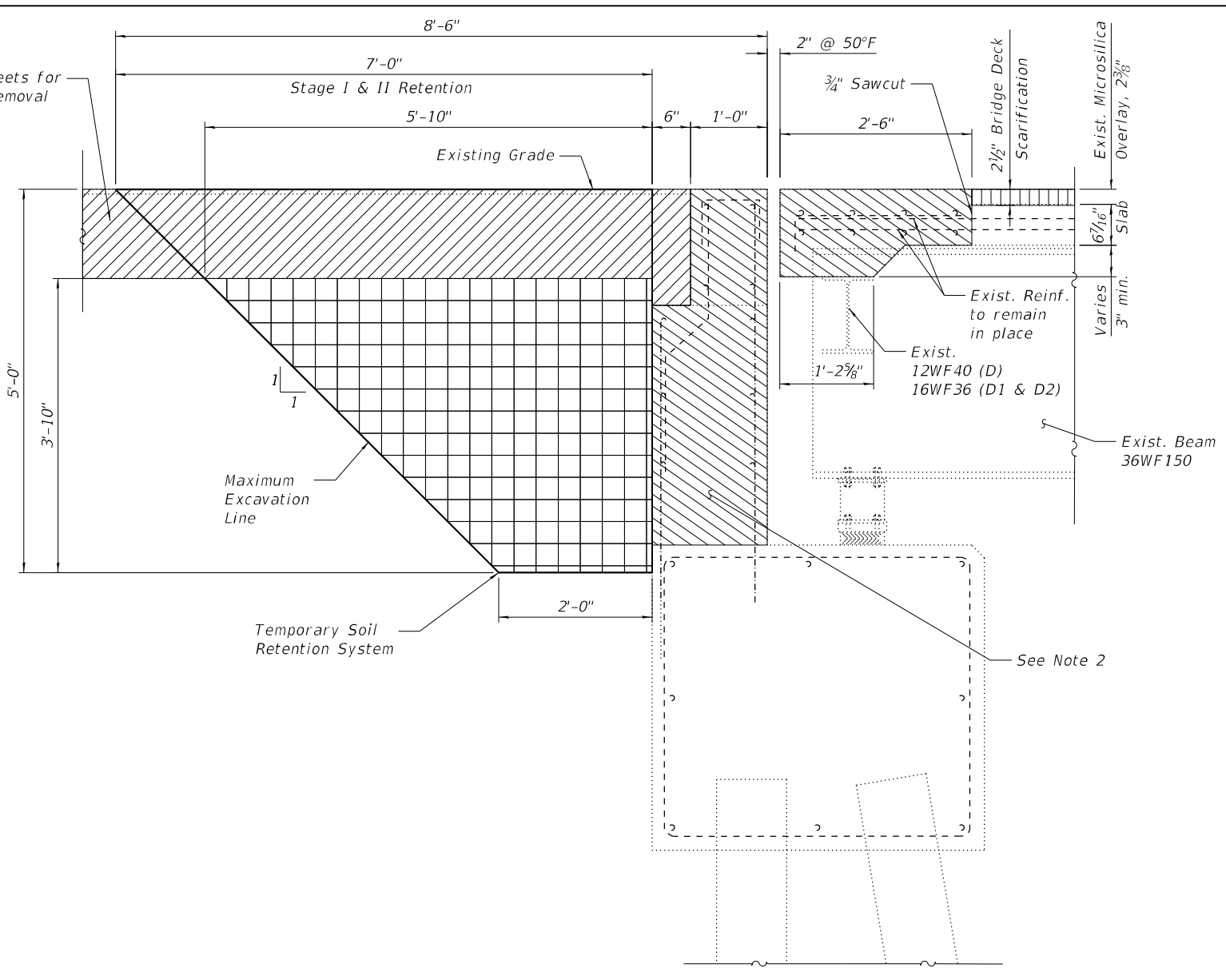
SHEET 6 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	43
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

MODEL: 0960042-74997-007  
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**CONCRETE REMOVAL PLAN**  
 (West Abutment shown, East Abutment similar by rotation)



**SECTION A-A**  
 Removal

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

**NOTE**

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities of Abutment Backwall and Hatch block, See sheet 13-14 of 17

**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	9.0
Structure Excavation	Cu. Yd.	52.3
Temporary Soil Retention System	Sq. Ft.	44.9

\*\* Concrete Removal Quantity is for end of the Deck removal only, See Note 2

**GREENE & BRADFORD, INC.**  
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 SPRINGFIELD, ILLINOIS 62711  
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 12/11/75-08/84, 7/26/02/7/01

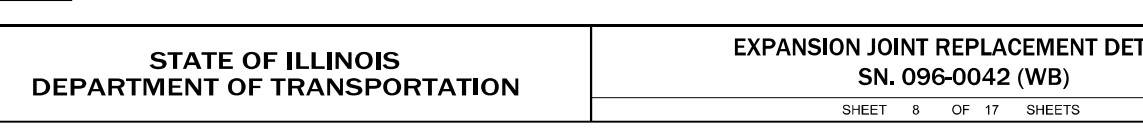
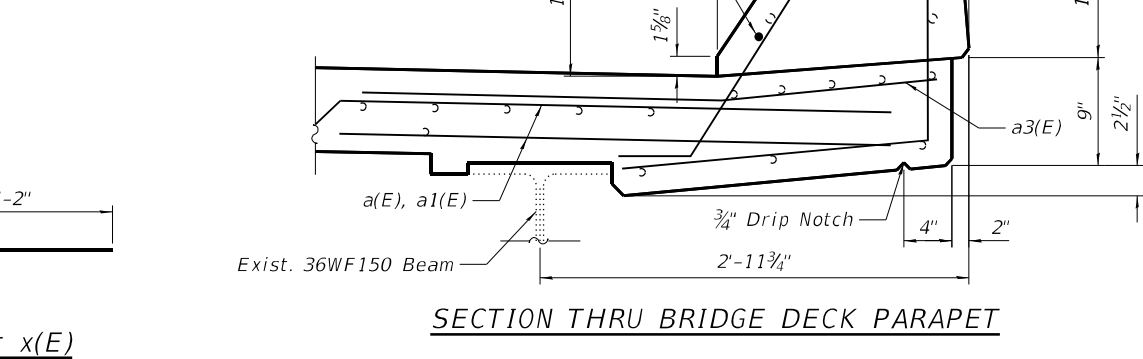
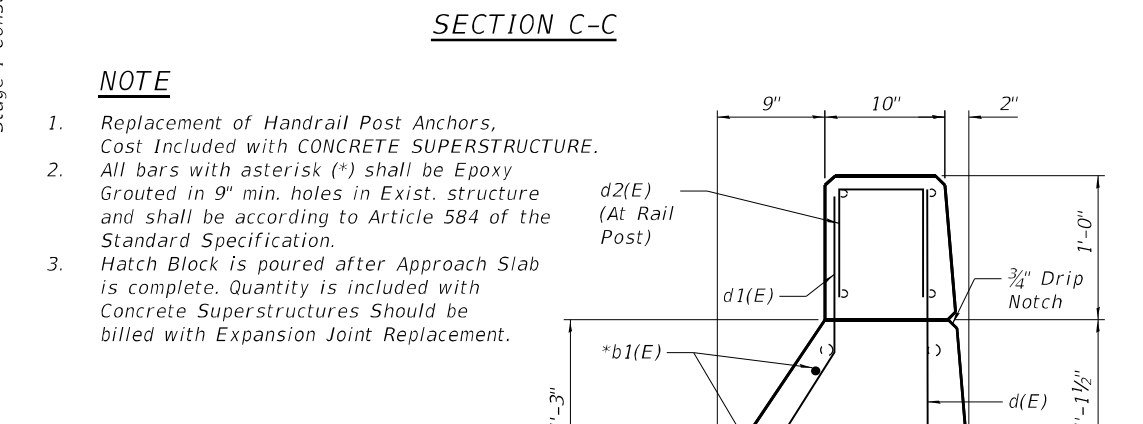
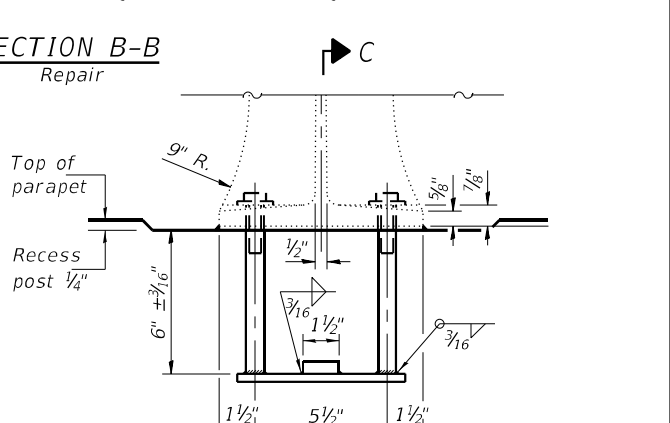
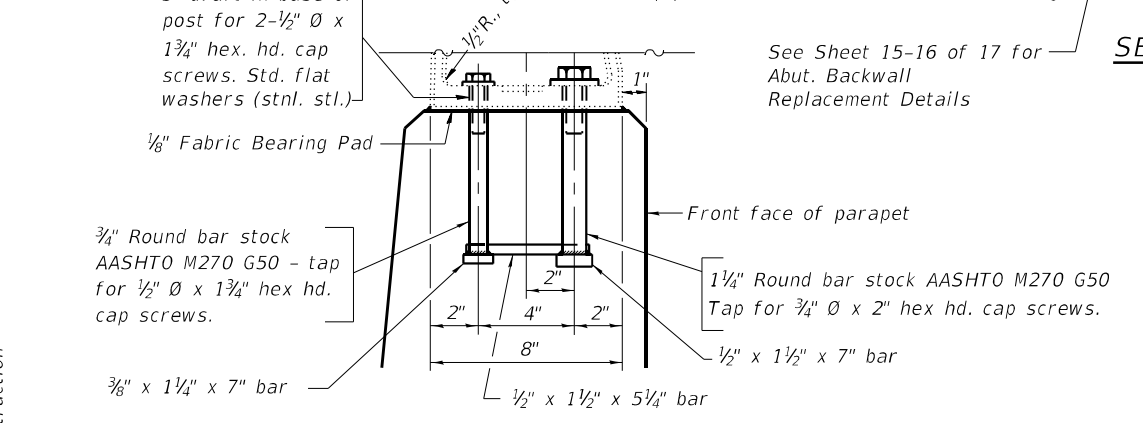
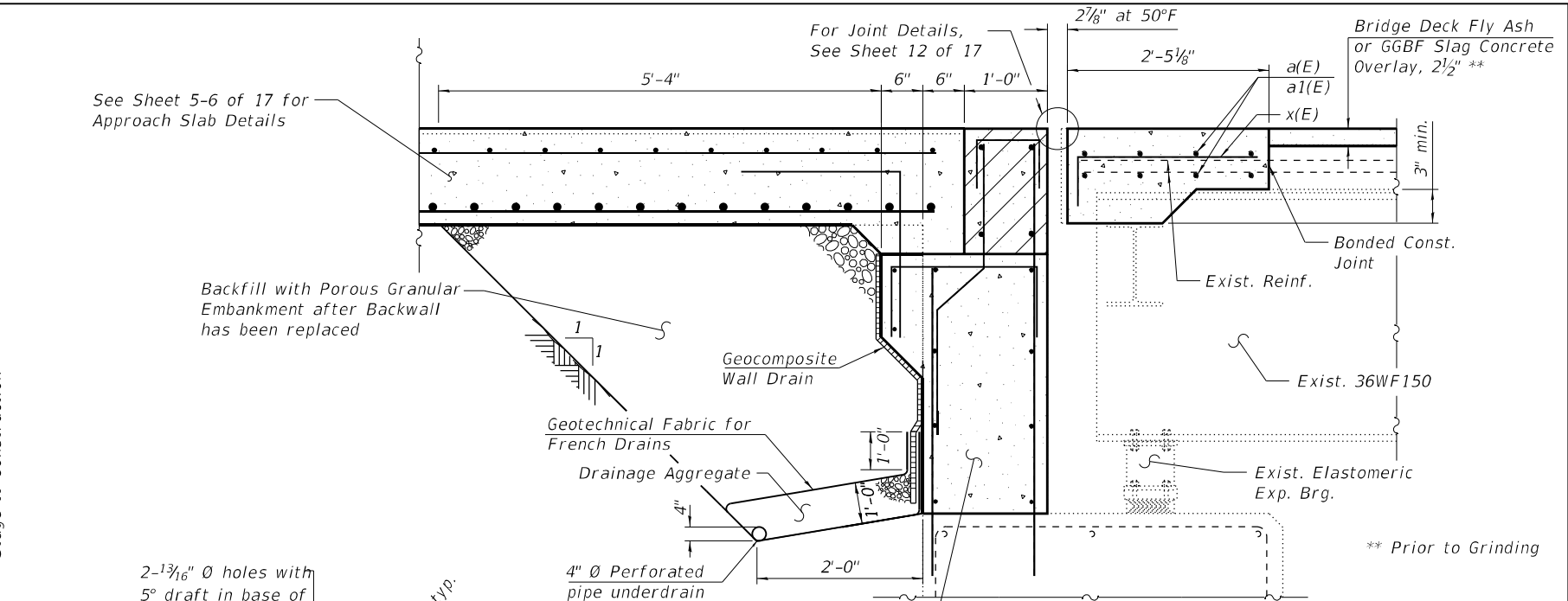
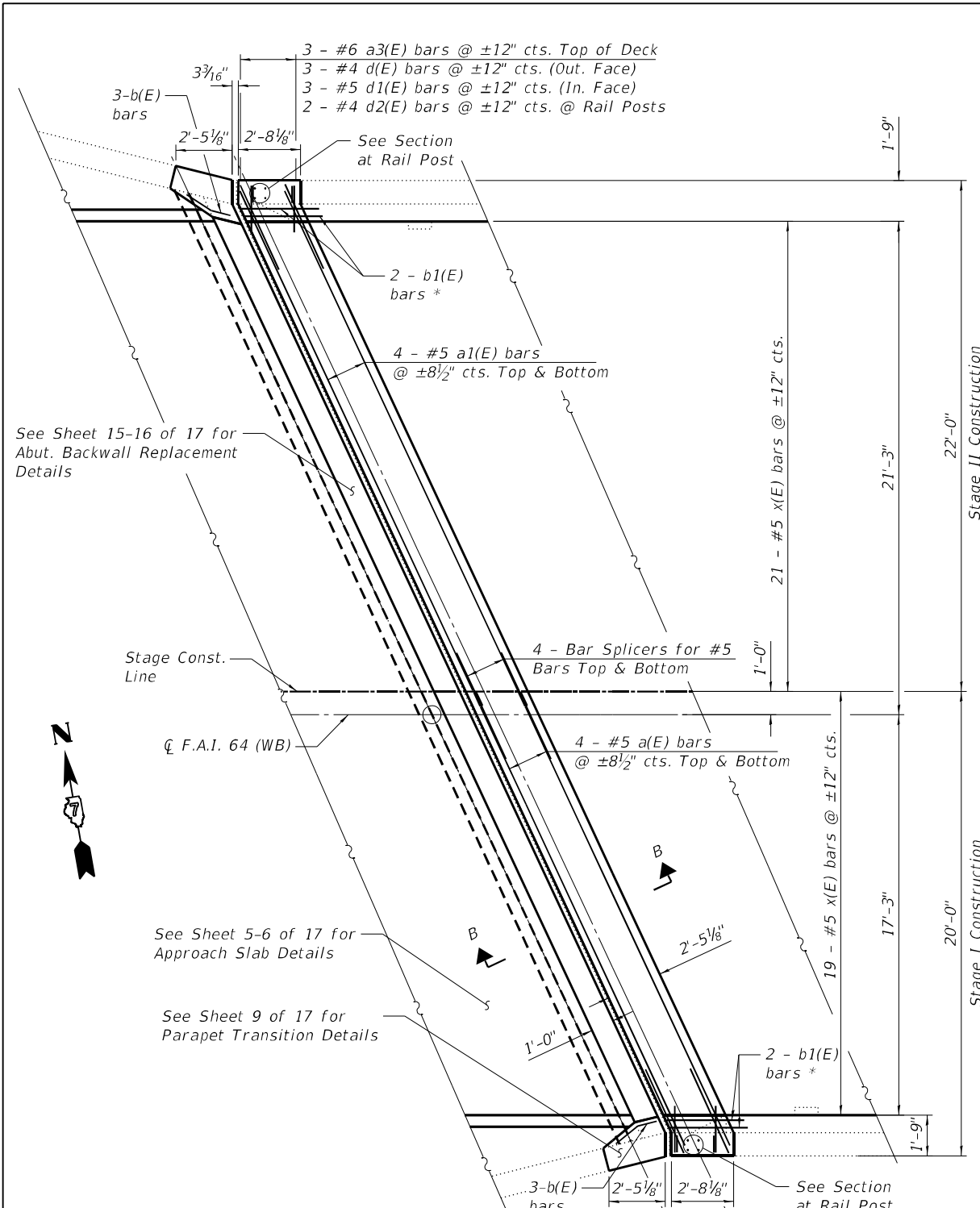
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REMOVAL DETAILS**  
**SN. 096-0042 (WB)**

SHEET 7 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	44
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



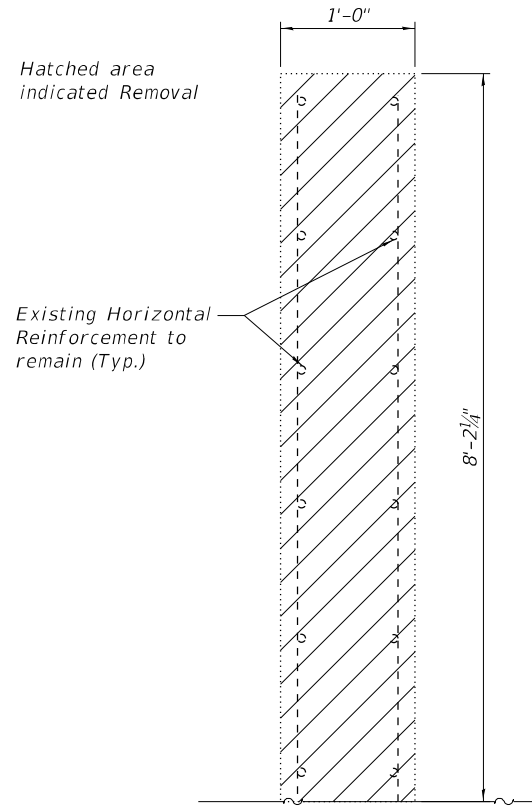
- NOTE**
1. Replacement of Handrail Post Anchors, Cost Included with CONCRETE SUPERSTRUCTURE.
  2. All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes in Exist. structure and shall be according to Article 584 of the Standard Specification.
  3. Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.

**TWO EXPANSION JOINTS  
BILL OF MATERIAL**

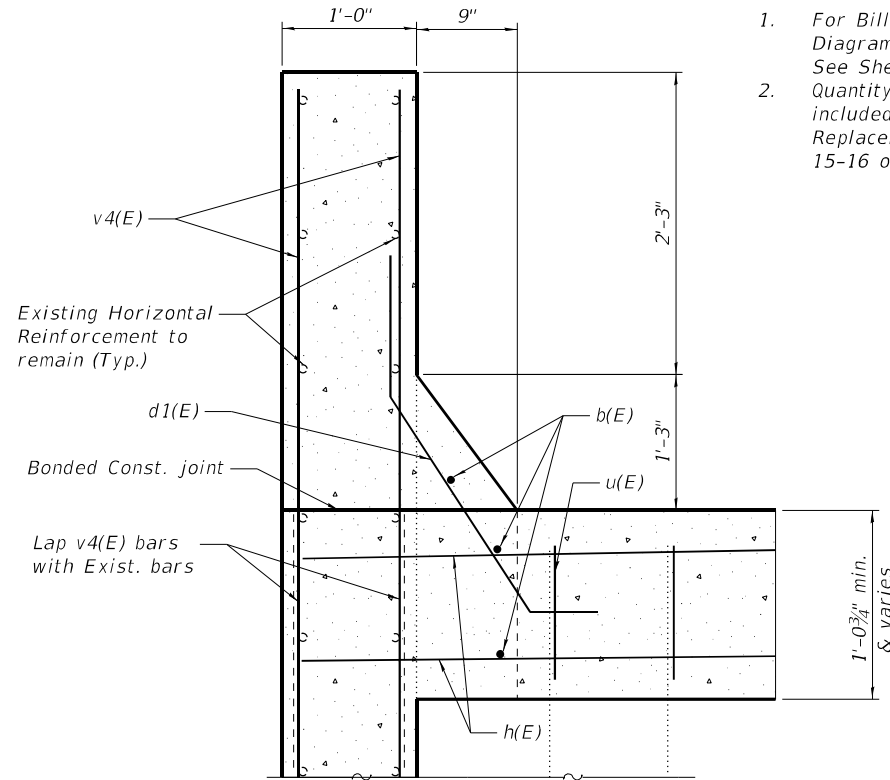
BAR	NO. OF BARS STAGE I	STAGE II	TOTAL	SIZE	LENGTH	SHAPE	
a(E)	16		16	#5	20'-10"	—	
a1(E)		16	16	#5	23'-9"	—	
a3(E)	6	6	12	#6	4'-0"	—	
b(E)	6	6	12	#5	2'-2"	↘	
b1(E)	4	4	8	#5	3'-4"	—	
d(E)	6	6	12	#4	4'-8"	┘	
d1(E)	6	6	12	#5	3'-5"	┘	
d2(E)	2	2	4	#4	2'-1"	┘	
x(E)	38	42	80	#5	2'-9"	—	
Concrete Superstructures						Cu. Yd.	14.6
Reinforcement Bars, Epoxy Coated						Pound	1186
Bar Splicers						Each	16
Porous Granular Backfill						Cu. Yd.	52.3

**NOTES**

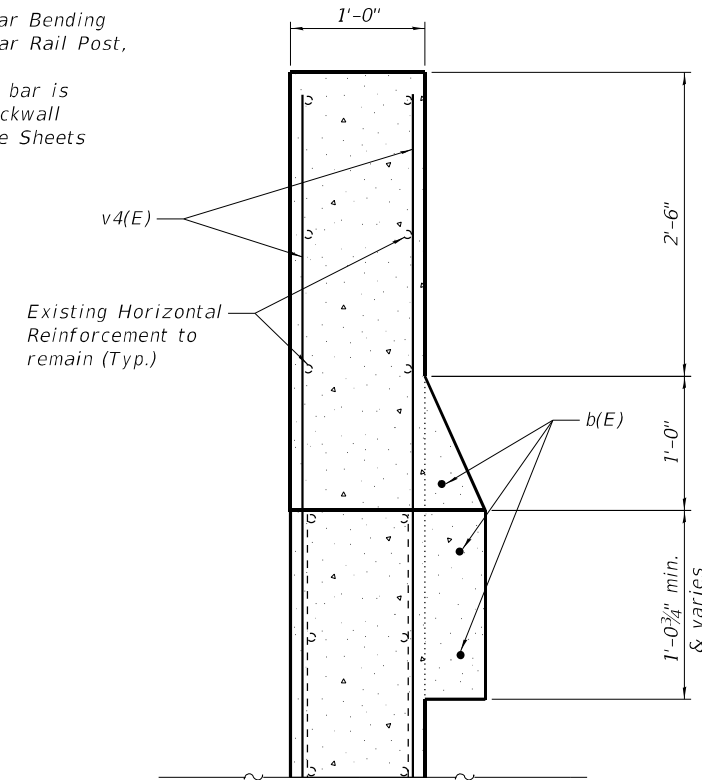
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 8 of 17.
2. Quantity of v4(E) & u(E) bar is included in Abutment Backwall Replacement Sheets, See Sheets 15-16 of 17.



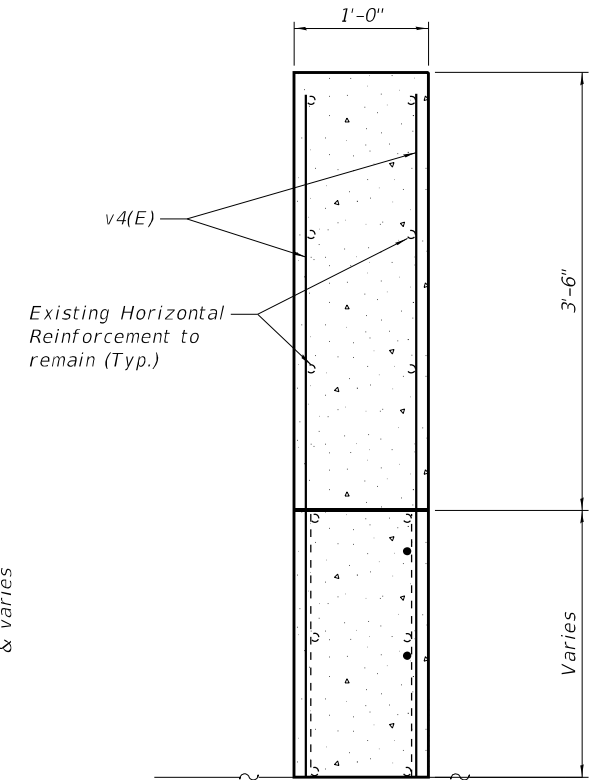
**SECTION C-C**  
Removal Section at Wingwall



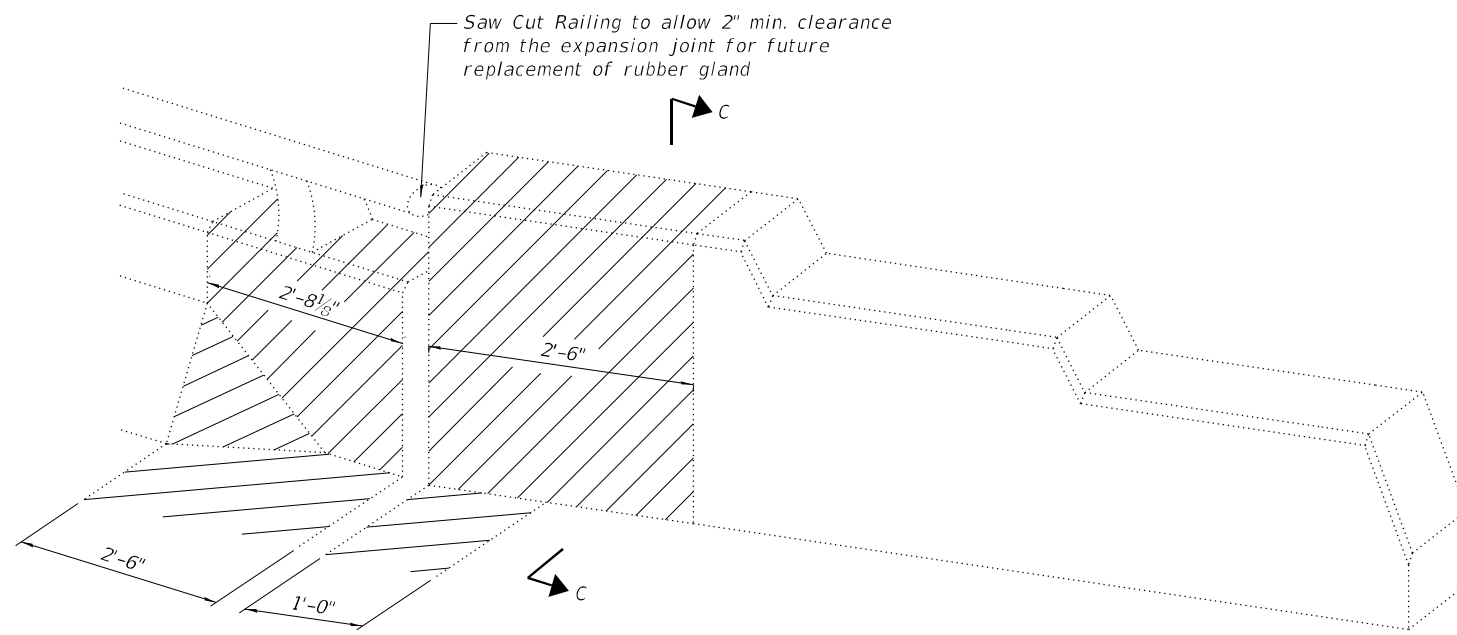
**SECTION D-D**  
Proposed section thru parapet at expansion joint



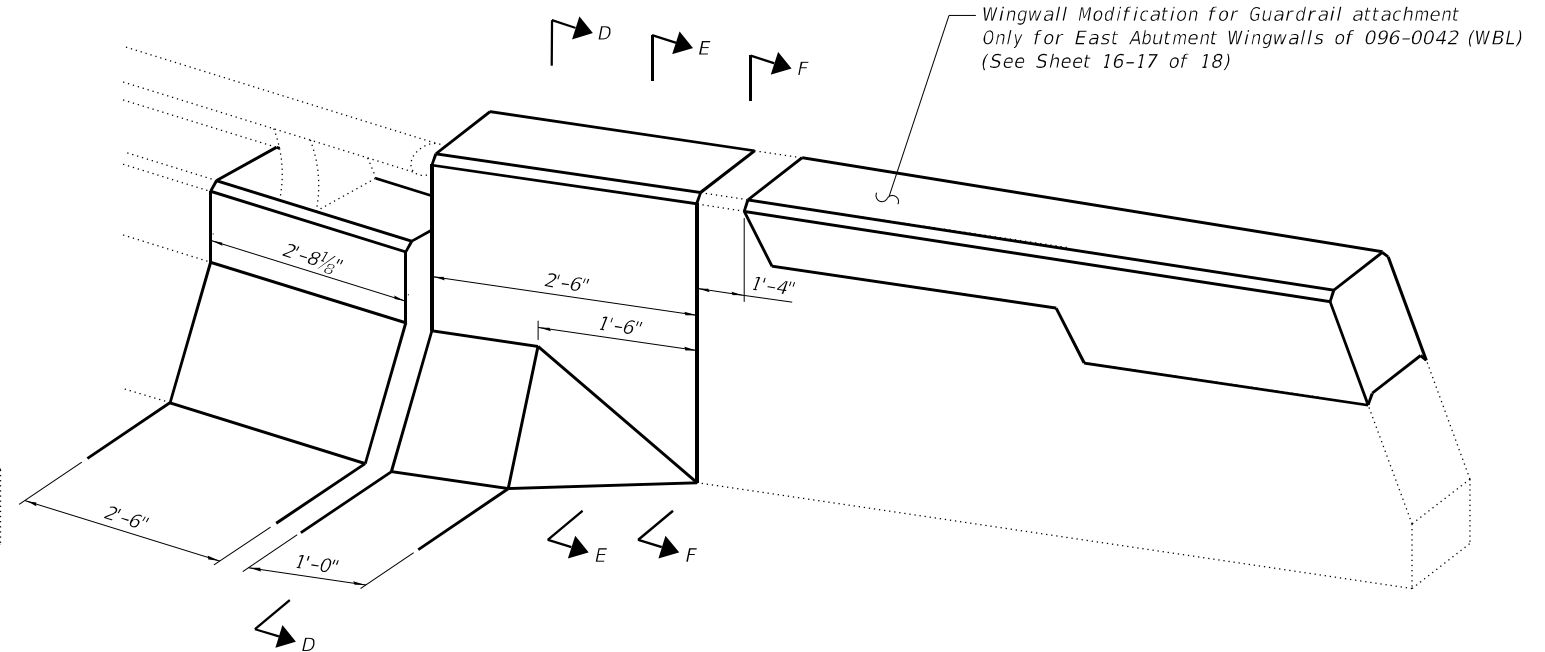
**SECTION E-E**  
Section thru Proposed Transition Parapet



**SECTION F-F**  
Section thru End of Proposed Parapet



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WING WALL AND PARAPET AT EACH ABUTMENT CORNER**

MODEL: 0960042-74997-009  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

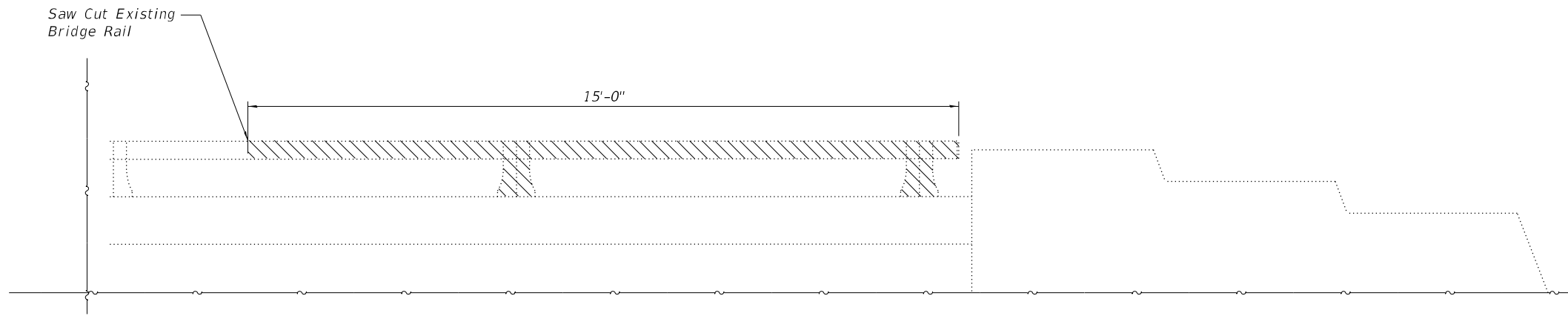
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL ENGINEER REG. NO. 044-061179  
PROFESSIONAL LAND SURVEYOR REG. NO. 048-060098  
(217) 753-8844, 752-6227, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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**WINGWALL MODIFICATION AT EXPANSION JOINTS**  
**SN. 096-0042 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	46
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

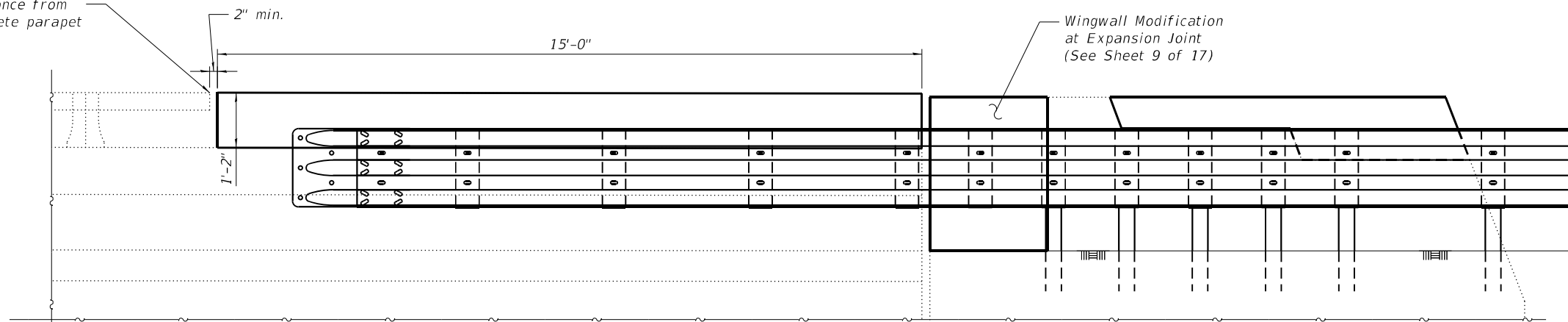


 Bridge Rail Removal

**REMOVAL**

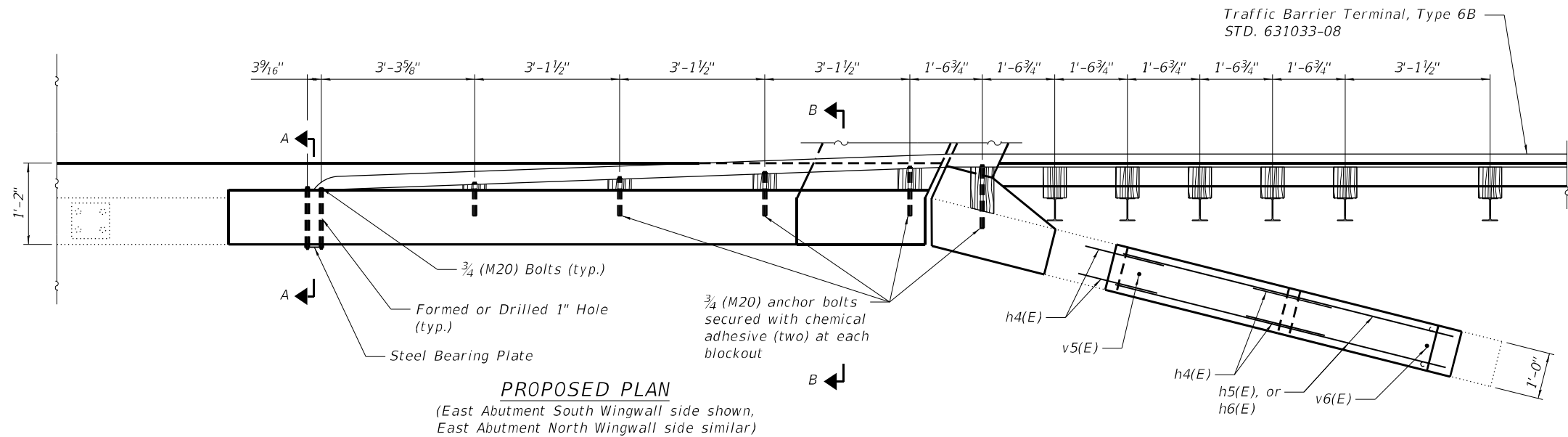
(East Abutment South Wingwall side shown,  
East Abutment North Wingwall side similar)

Allow 2" min. Clearance from  
the proposed concrete parapet  
modification.



**PROPOSED GUARDRAIL LOCATION**

(East Abutment South Wingwall side shown,  
East Abutment North Wingwall side similar)



**NOTES**

1. Wingwall, Railing and Parapet Modification for Guardrail attachment shall be done only on the East End of S.N. 096-0042 (WB).
2. See Sheet 11 of 17 for Section A-A and Section B-B.

MODEL: 0960042-74997-010  
FILE NAME: J:\20100402\_WD# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

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SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
ILLINOIS REG. NO. 0217, 75-0884, 72-06277, 71

USER NAME =	BenB
PLOT SCALE =	0.2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

REVISED -	
REVISED -	
REVISED -	
REVISED -	

**STATE OF ILLINOIS  
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**WINGWALL, PARAPET & RAILING MODIFICATION DETAILS - I  
SN. 096-0042 (WB)**

SHEET 10 OF 17 SHEETS

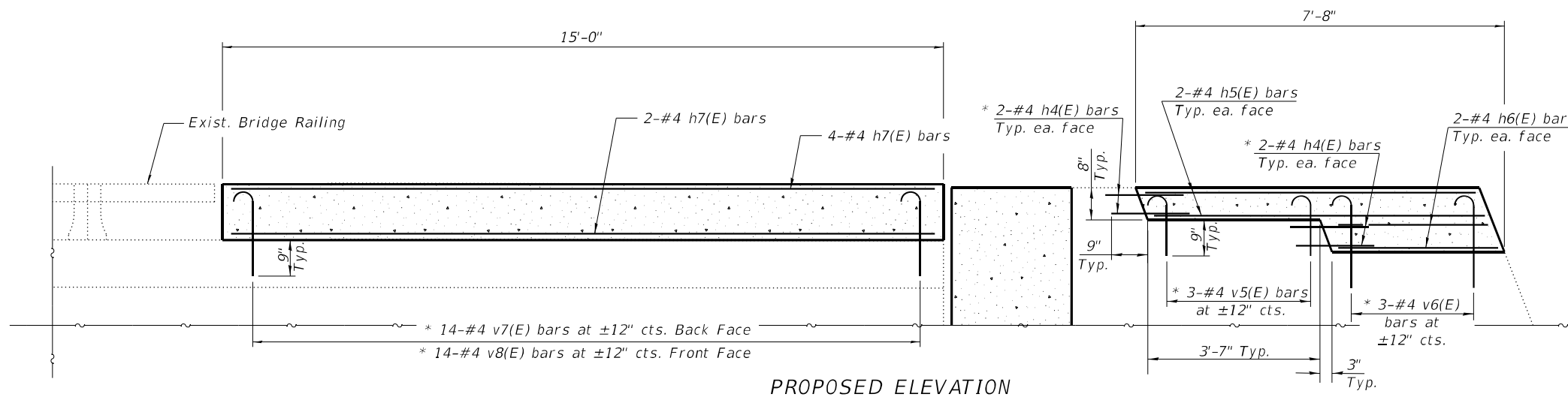
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	47
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**NOTES**

All edges shall have standard (3/4") chamfers.

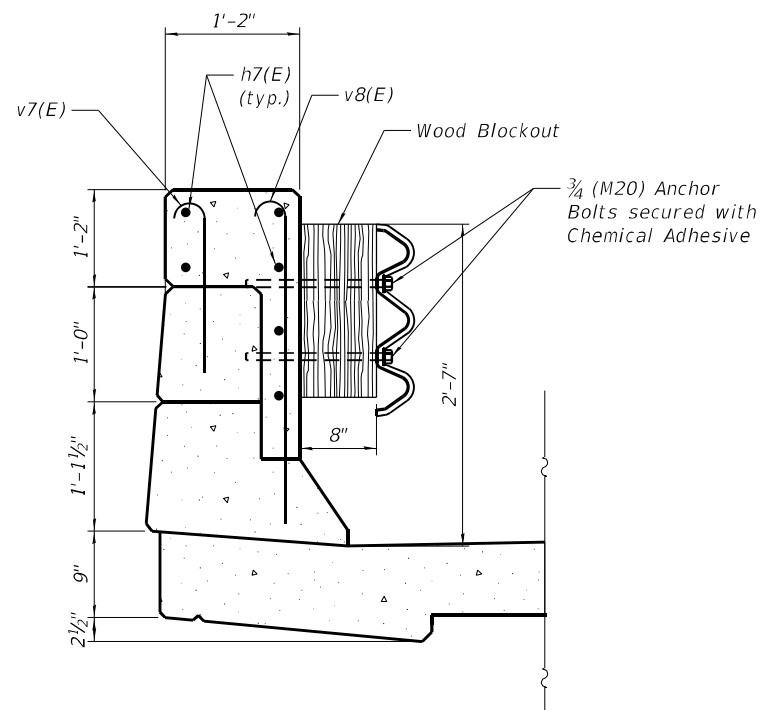
Reinforcement bars designated (E) shall be epoxy coated

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope for the work. However, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

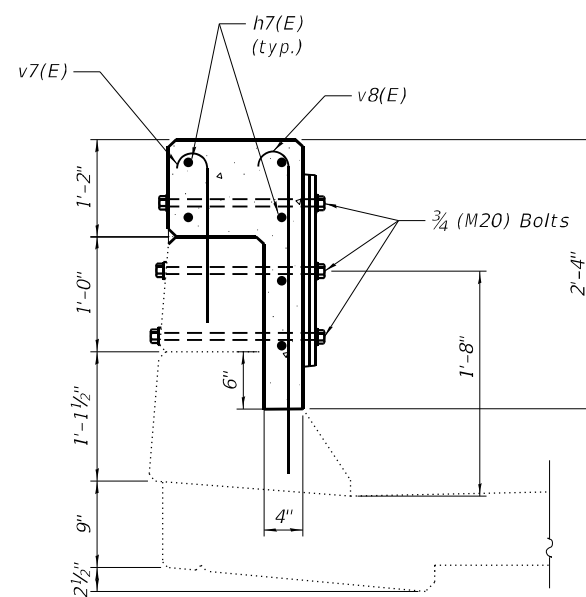


**PROPOSED ELEVATION**

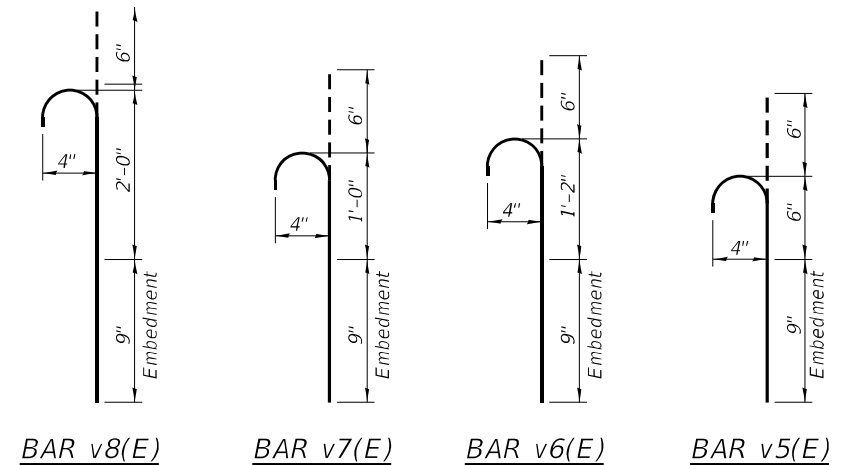
\* Epoxy grout h4(E), v4(E), v5(E), v6(E) & v7(E) bars in 9" min. holes according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



**SECTION B-B**



**SECTION A-A**



**BILL OF MATERIAL  
TWO WINGWALLS & PARAPETS  
EAST SIDE**

Bar	No.	Size	Length	Shape
h4(E)	16	#4	1'-9"	—
h5(E)	8	#4	7'-1"	—
h6(E)	8	#4	3'-3"	—
h7(E)	12	#4	14'-9"	—
v5(E)	6	#4	1'-3"	⌋
v6(E)	6	#4	2'-5"	⌋
v7(E)	28	#4	2'-0"	⌋
v8(E)	28	#4	4'-0"	⌋
Concrete Superstructure			Cu. Yd.	1.6
Bridge Rail Removal			Foot	30
Reinforcement Bars, Epoxy Coated			Pound	319

MODEL: 0960042-74997-011  
FILE NAME: J:\20100402\_W04# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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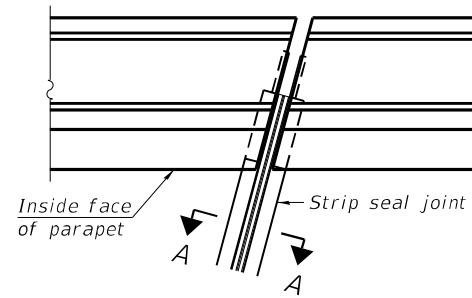
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WINGWALL, PARAPET & RAILING MODIFICATION DETAILS - II  
SN. 096-0042 (WB)**

SHEET 11 OF 17 SHEETS

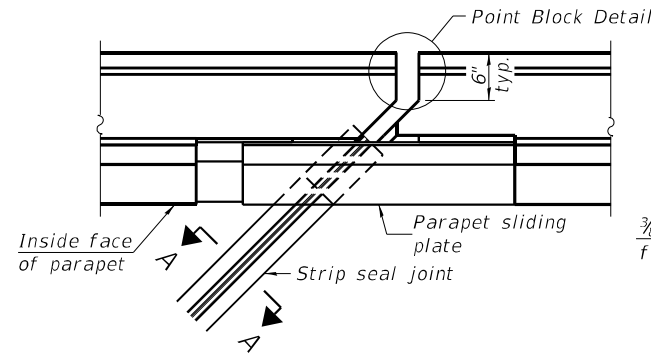
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 48
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



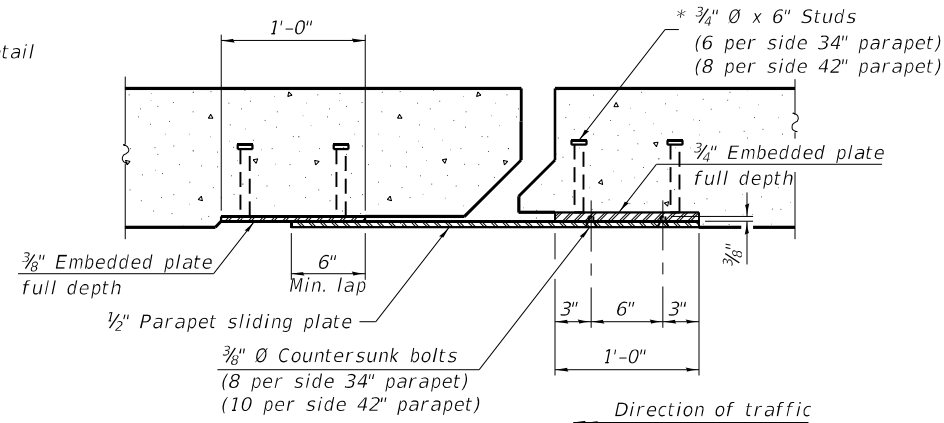


FOR SKEWS  $\leq 30^\circ$

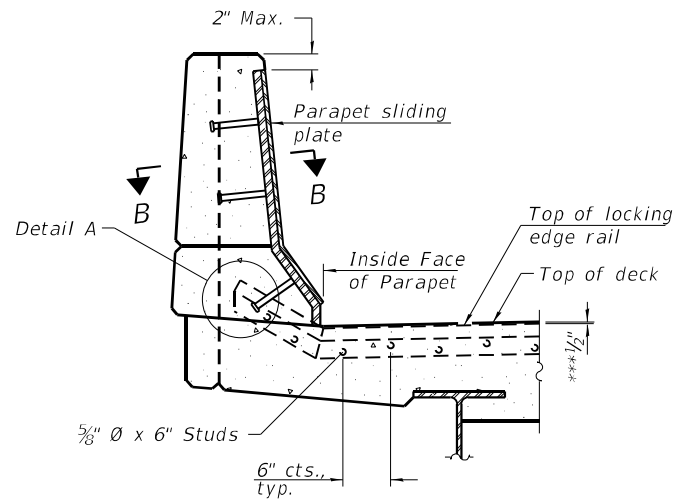
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

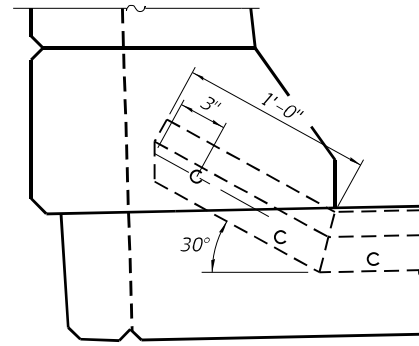


SECTION B-B

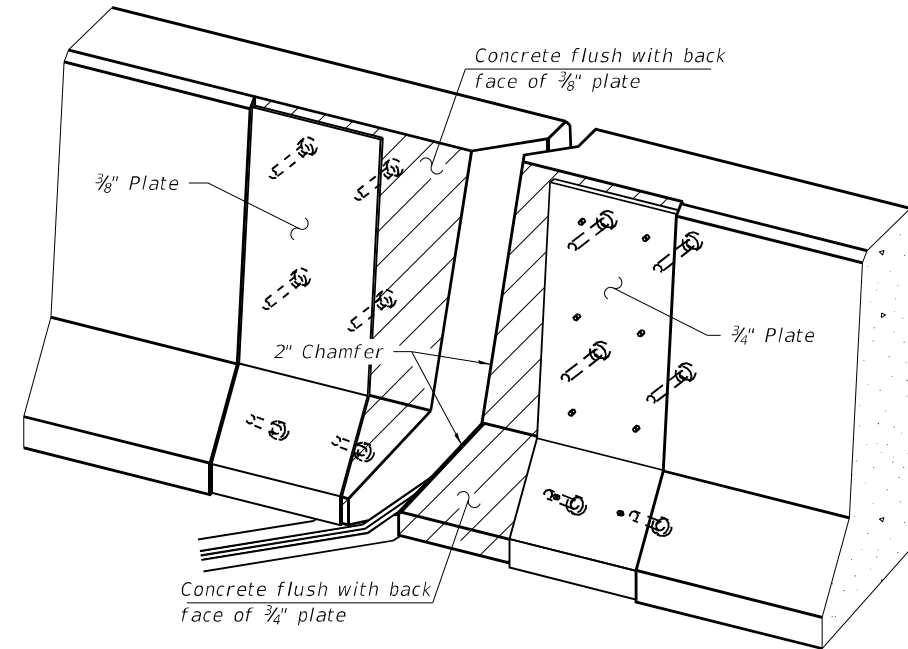


ELEVATION AT PARAPET

(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

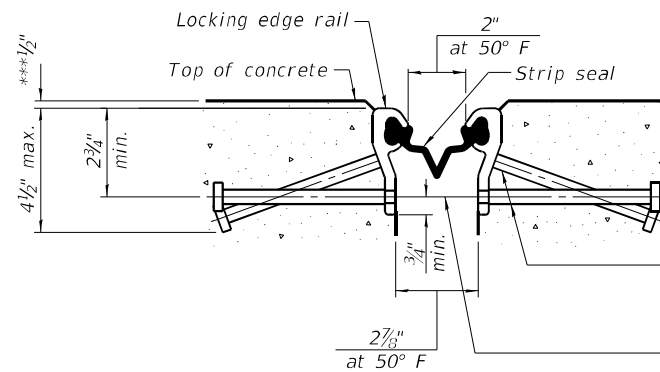
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be  $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

\*\*\* Prior to 1/4" Grinding



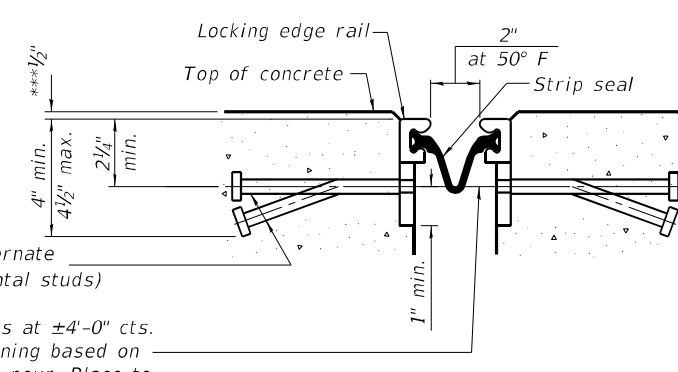
SHOWING ROLLED RAIL JOINT

\*  $\frac{3}{8}$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

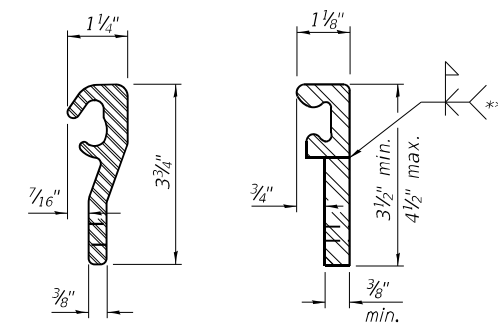
$\frac{3}{8}$ "  $\phi$  threaded rods in  $\frac{1}{16}$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

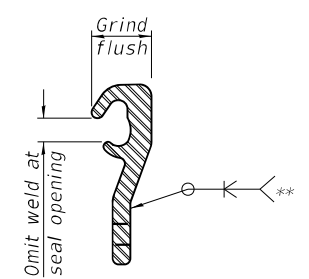


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	44	48	Foot	92

MODEL: 0960042-74997-012  
FILE NAME: J:\20100402\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

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PROFESSIONAL DESIGN FIRM NO. 044-0601179  
ILLINOIS REG. NO. 0217, 7542844, 79246227, 81

USER NAME = BenB	DESIGNED - KAS	REVISED - 9/27/2021
PLOT SCALE = 0:2" / 1 in.	CHECKED - MC	REVISED -
PLOT DATE = 9/27/2021	DRAWN - PG	REVISED -
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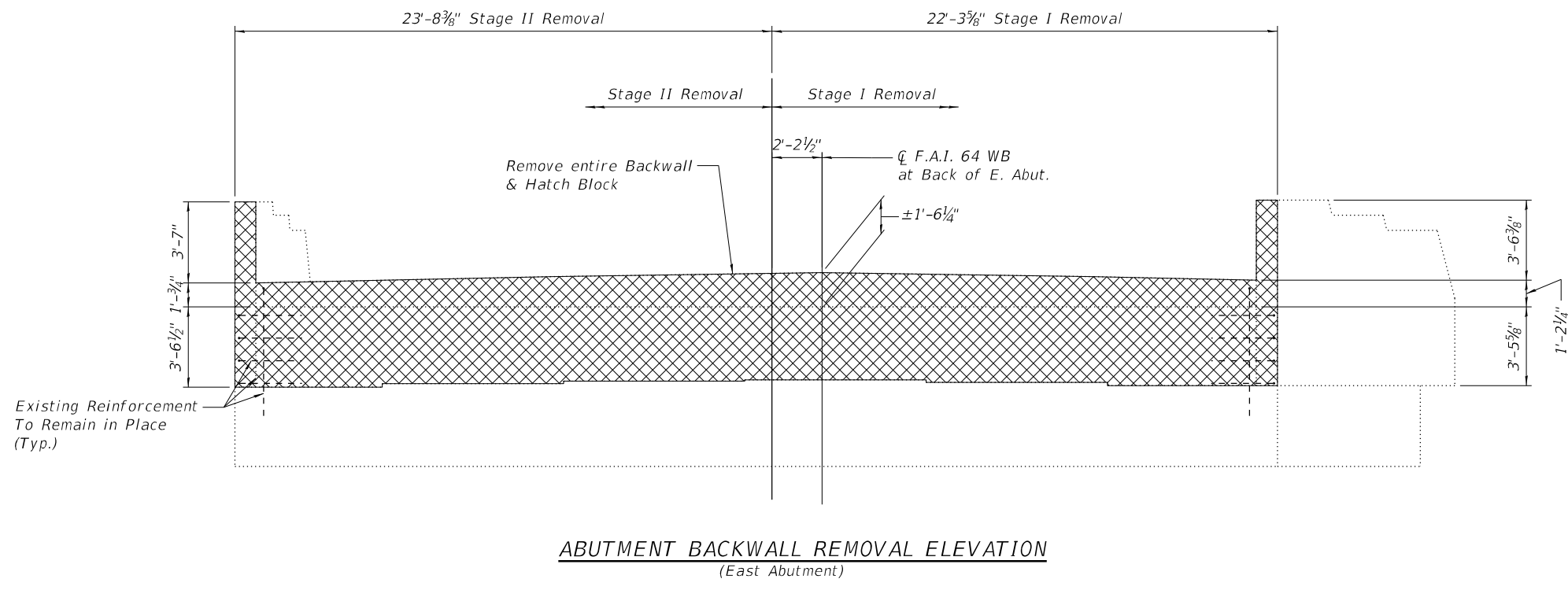
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL DETAILS  
SN. 096-0042 (WB)**

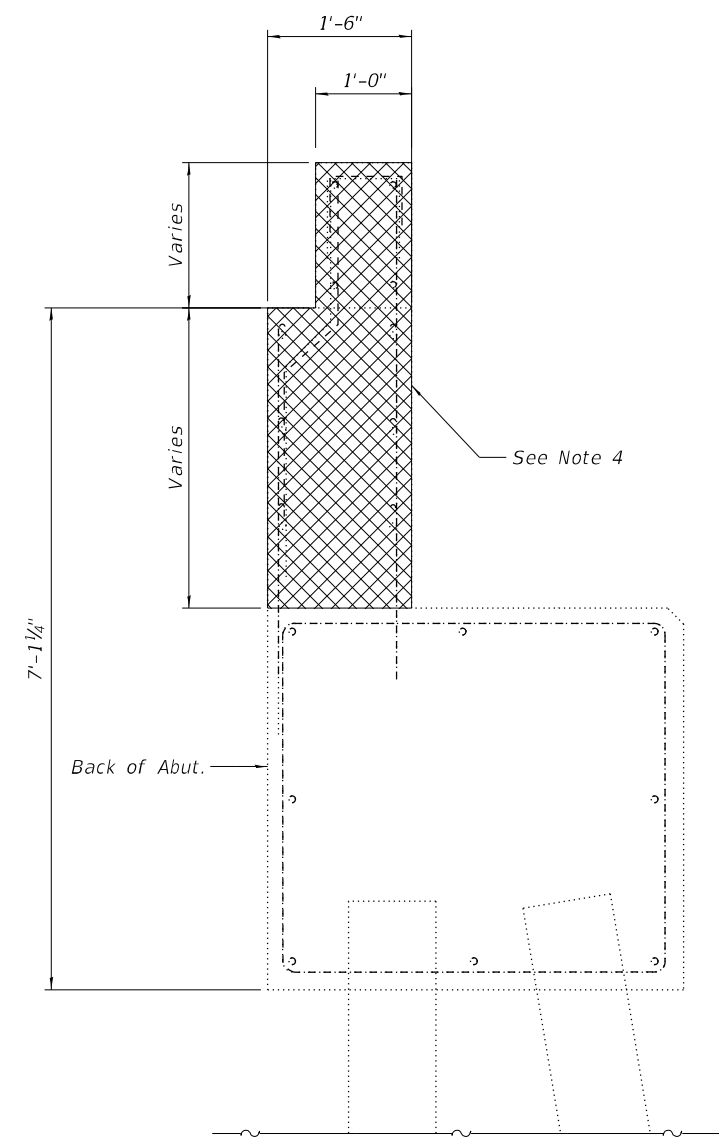
SHEET 12 OF 17 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 49
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

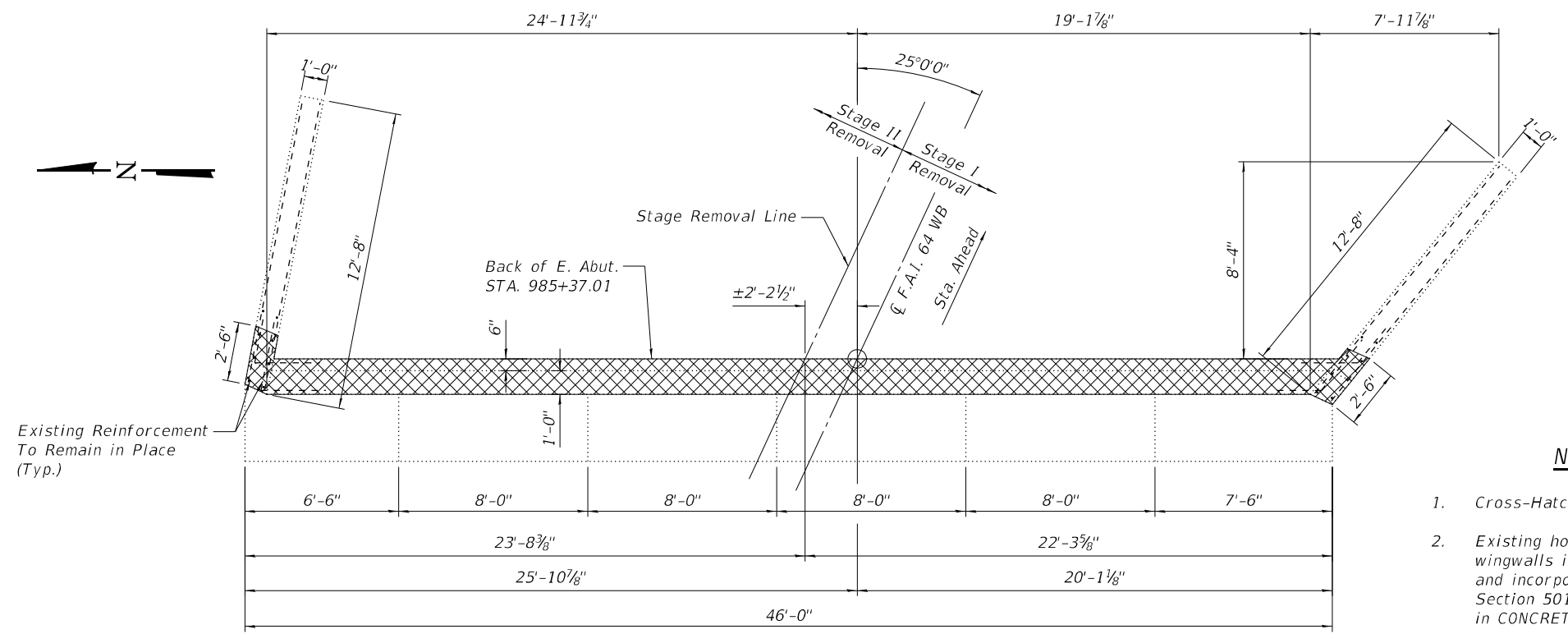
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**ABUTMENT BACKWALL REMOVAL ELEVATION**  
 (East Abutment)



**SECTION THRU ABUTMENT**  
 (Dimensions at right angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
 (East Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal quantity of Entire East Abut. Backwall and Hatch Block is included in Bill of Material.

**BILL OF MATERIAL**  
**EAST ABUTMENT**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

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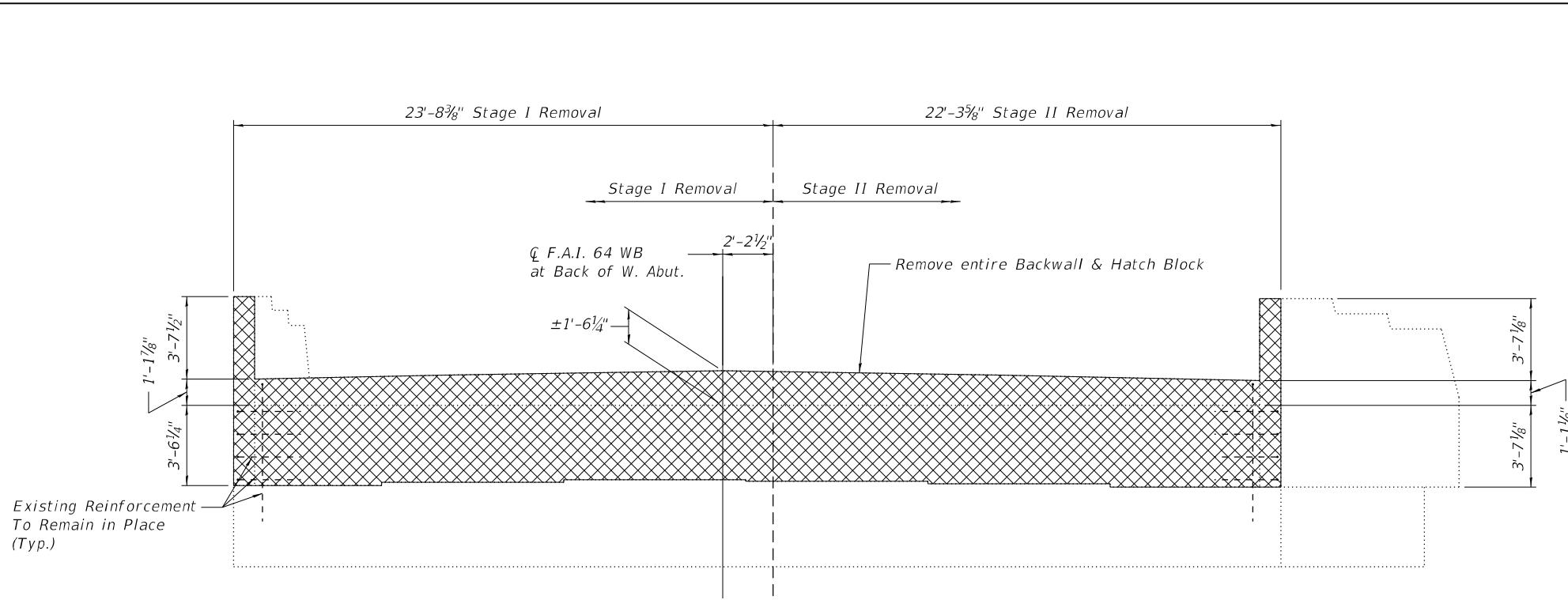
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**STATE OF ILLINOIS**  
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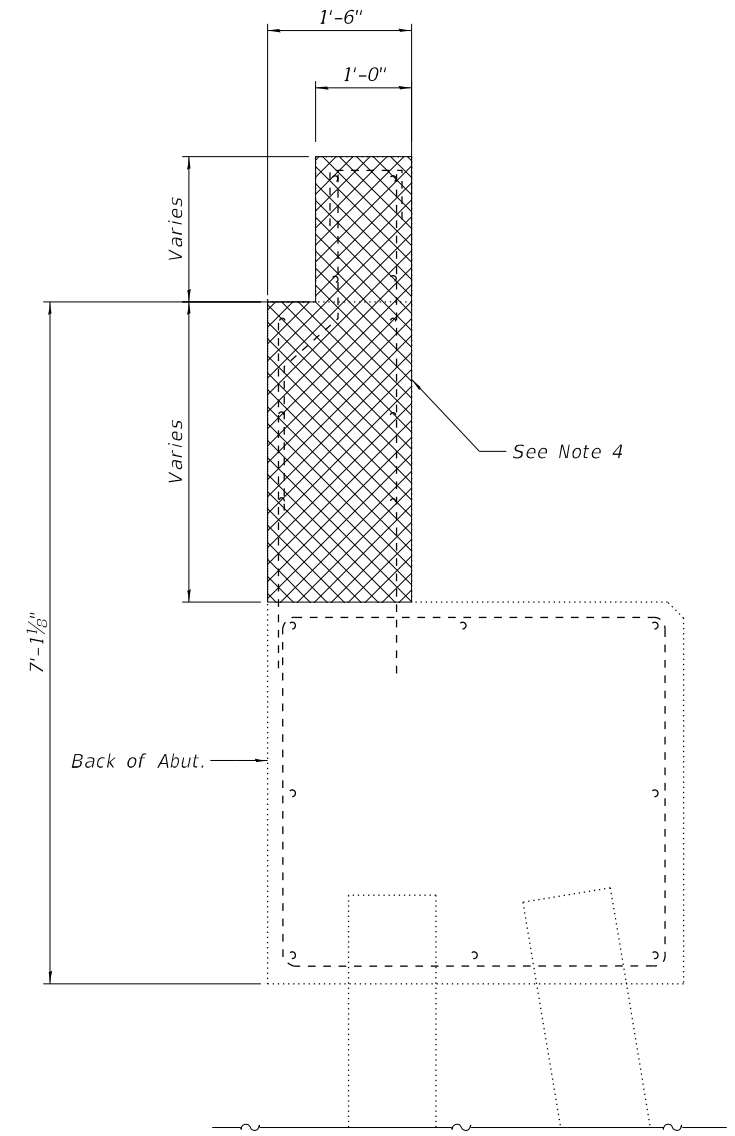
**ABUTMENT BACKWALL REMOVAL DETAILS - I**  
**SN. 096-0042 (WB)**

SHEET 13 OF 17 SHEETS

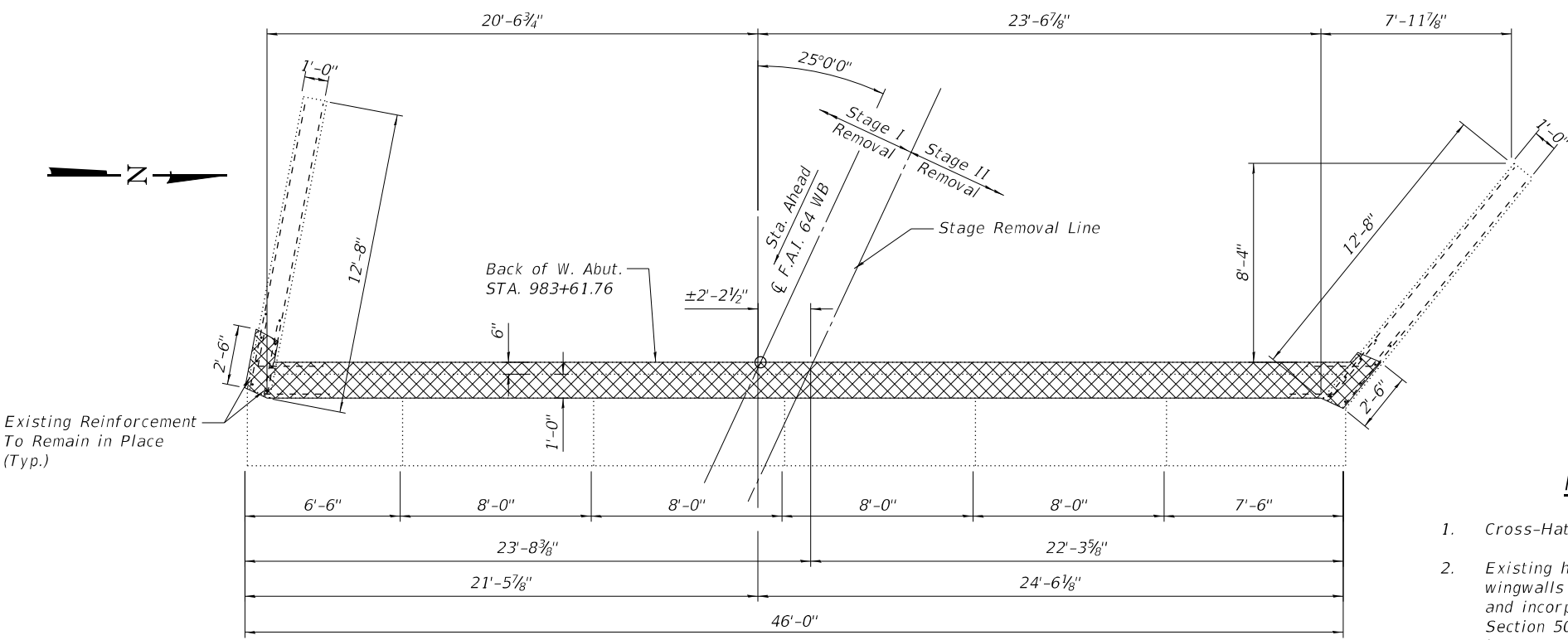
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	50
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(West Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(West Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal Quantity of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**BILL OF MATERIAL**  
**WEST ABUTMENT**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.2

MODEL: 0960042-74997-014  
FILE NAME: J:\201002\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

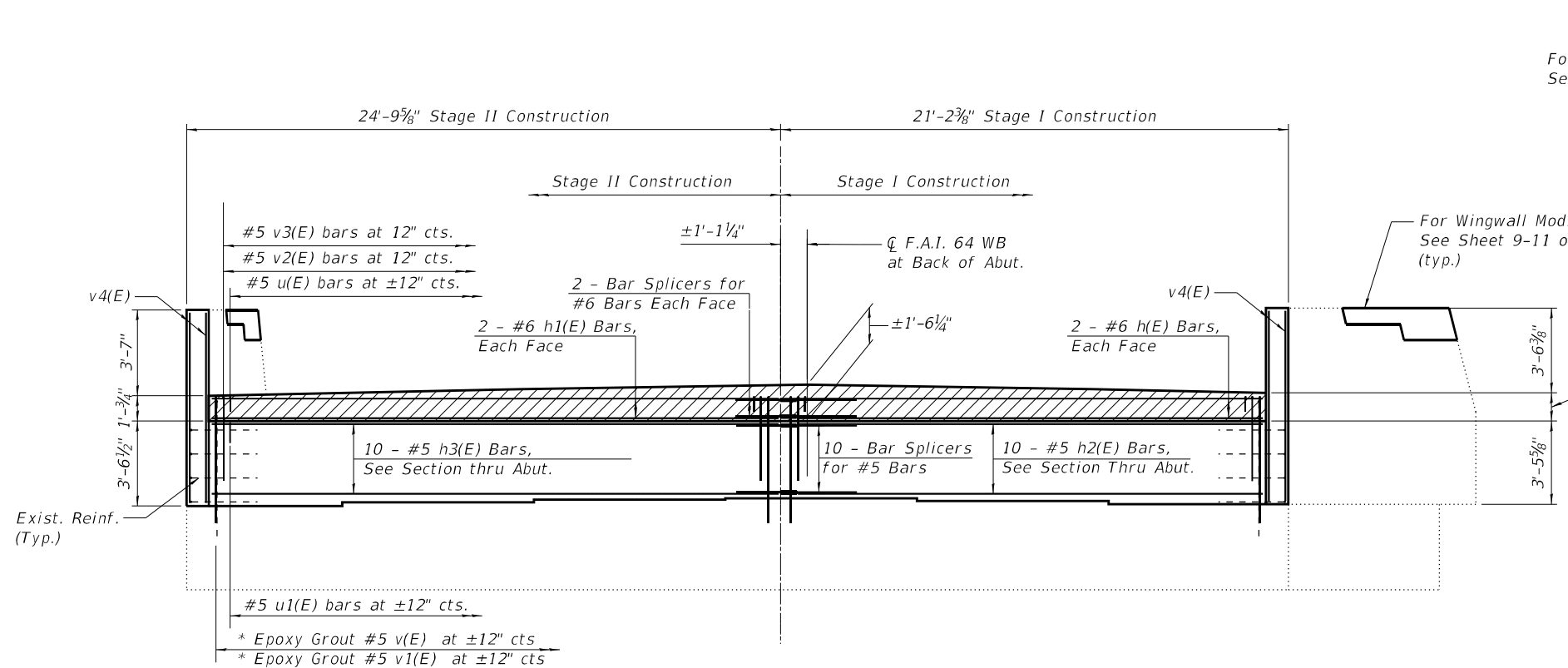
**GREENE & BRADFORD, INC.**  
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CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL ENGINEER REG. NO. 042-0001179  
PROFESSIONAL LAND SURVEYING REG. NO. 048-000098  
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USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0.2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS**  
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**ABUTMENT BACKWALL REMOVAL DETAILS - II**  
**SN. 096-0042 (WB)**

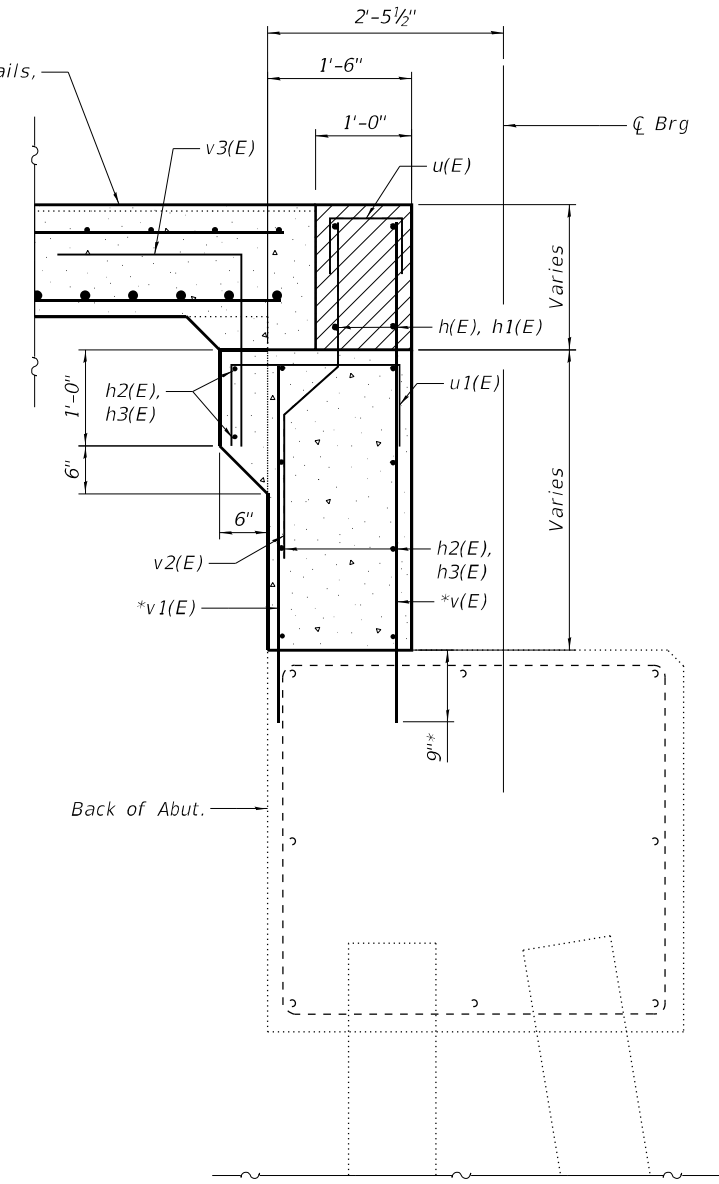
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 51
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



**ABUTMENT BACKWALL REPAIR ELEVATION**  
(East Abutment)

For Approach Slab Details, See Sheet 5-6 of 17

For Wingwall Modification details, See Sheet 9-11 of 17 (typ.)



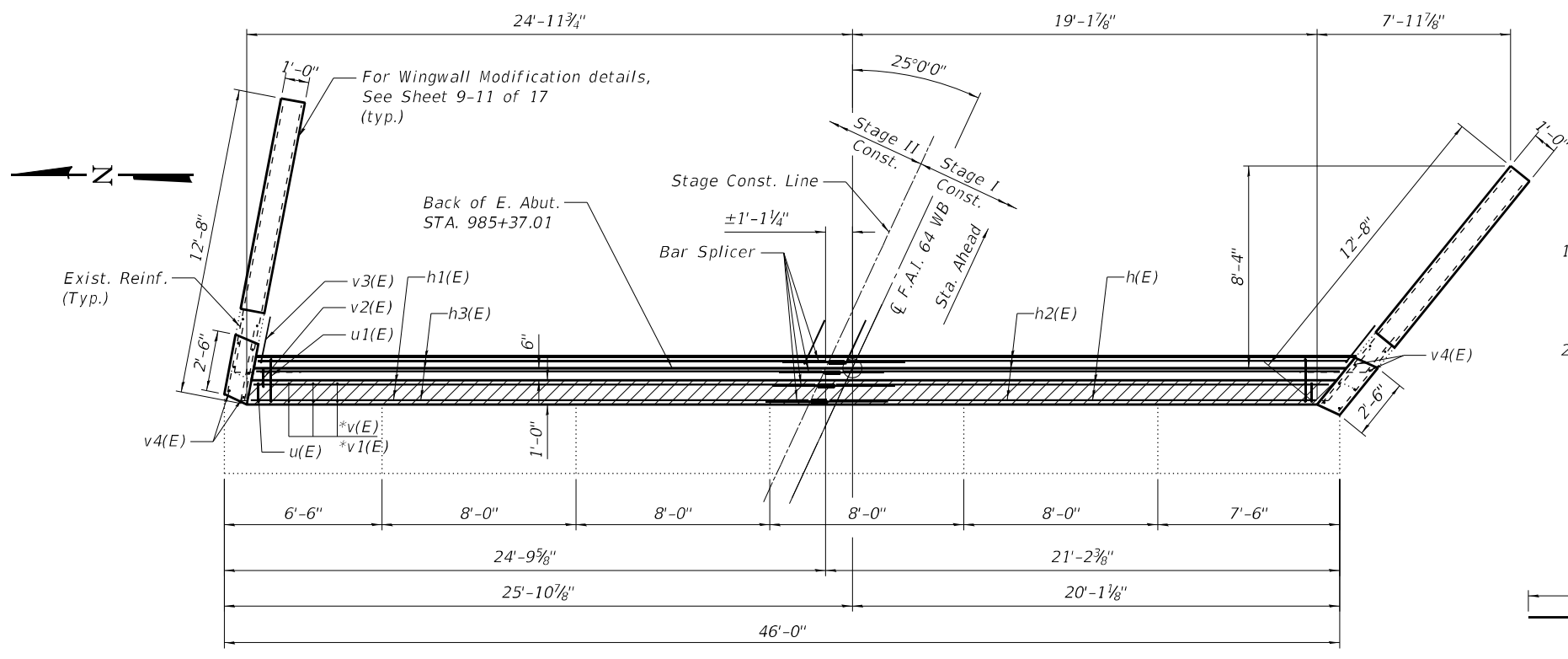
**SECTION THRU ABUTMENT**  
(Dimensions at right angles)

**NOTE**

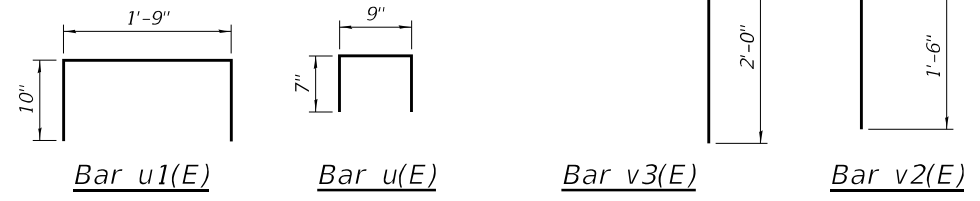
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

**BILL OF MATERIAL**  
**EAST ABUTMENT**

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II				
h(E)	4	4	#6	20'-4"	—	
h1(E)		4	#6	23'-2"	—	
h2(E)	10	10	#5	20'-8"	—	
h3(E)		10	#5	23'-5"	—	
u(E)	22	23	#5	1'-11"	┌	
u1(E)	22	23	#5	3'-5"	┌	
v(E)	22	23	#5	5'-3"	—	
v1(E)	22	23	#5	3'-8"	—	
v2(E)	22	23	#5	3'-9"	┌	
v3(E)	22	23	#5	3'-11"	┌	
v4(E)	6	6	#4	8'-0"	—	
Concrete Structures					Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated					Pound	1814
Bar Splicers					Each	14



**ABUTMENT BACKWALL REPAIR PLAN**  
(East Abutment)



STATE OF ILLINOIS  
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ABUTMENT BACKWALL REPAIR DETAILS - I  
SN. 096-0042 (WB)

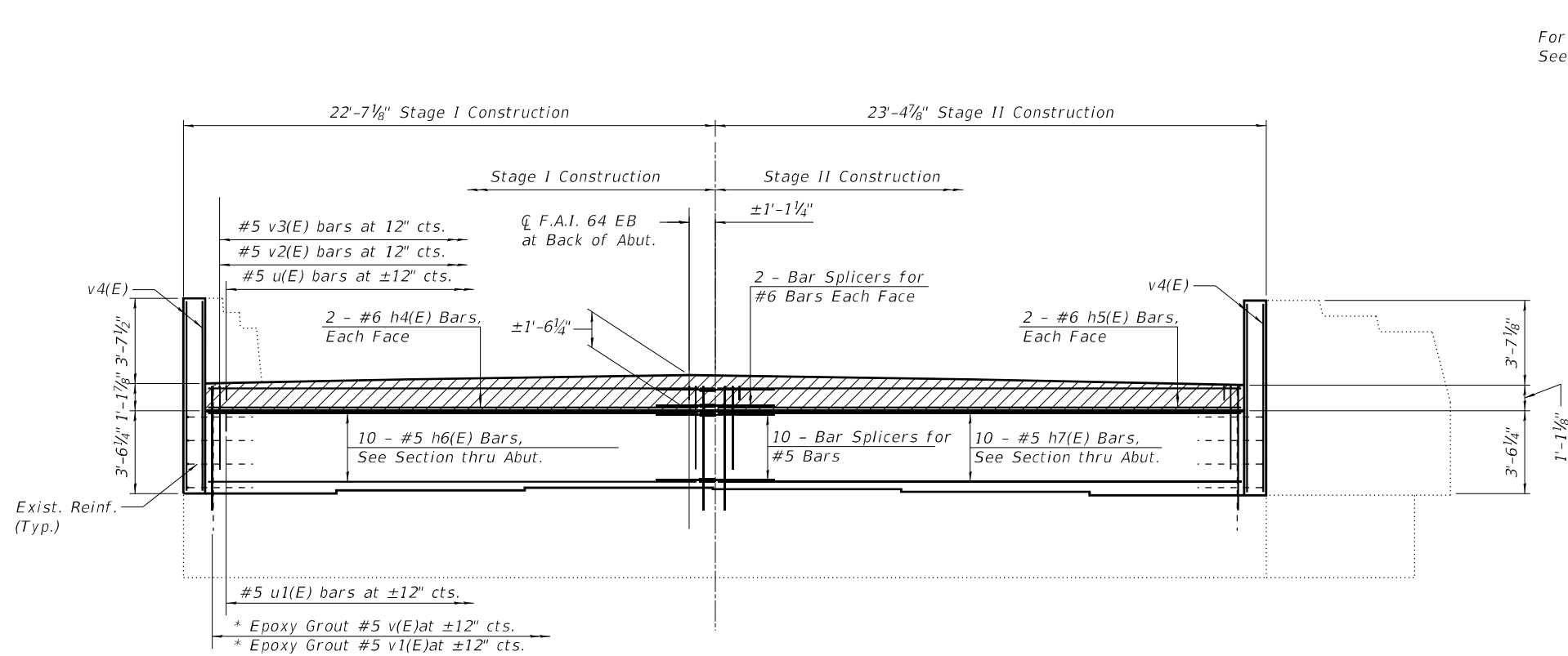
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				

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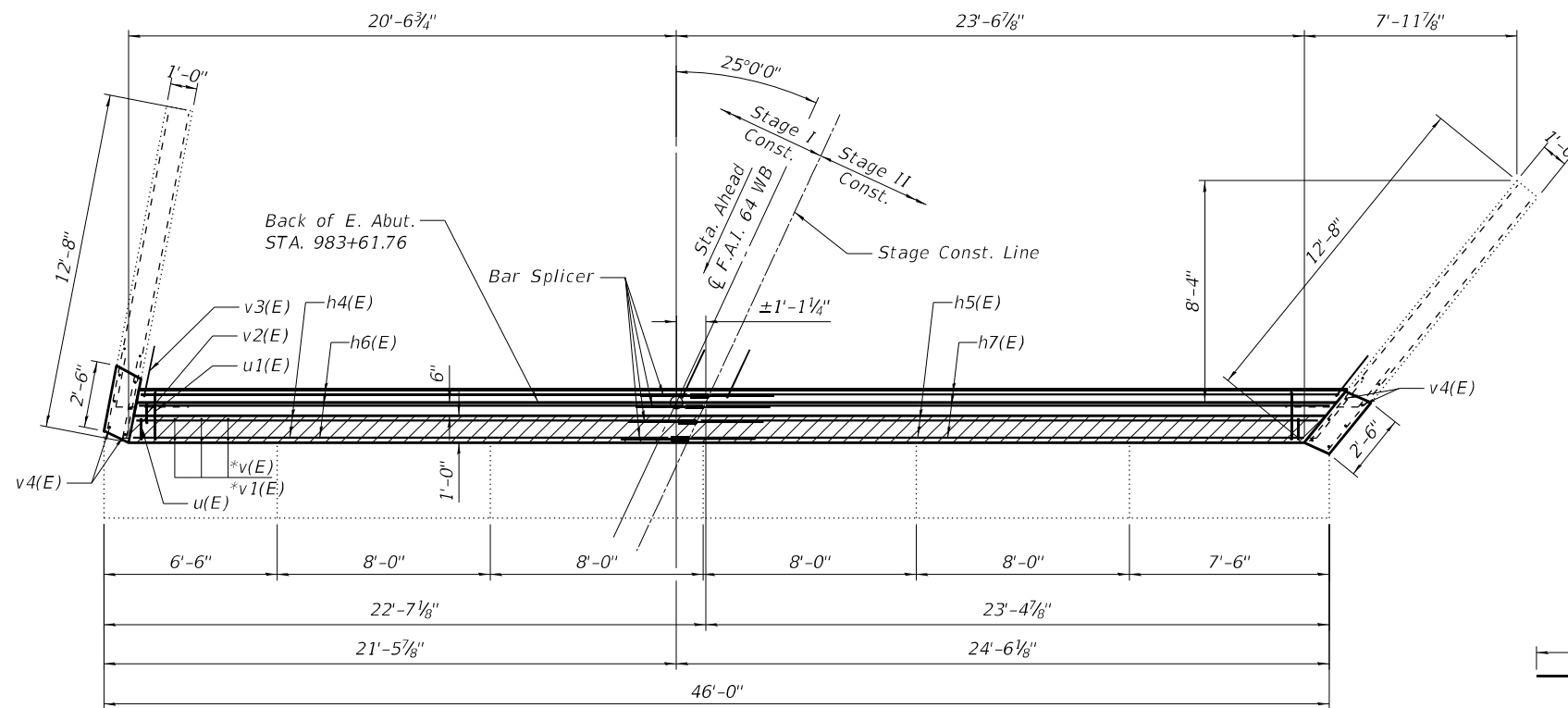
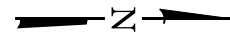
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277, 751

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
CHECKED - MC  
PLOT SCALE = 0'2" / 1"  
PLOT DATE = 8/31/2021

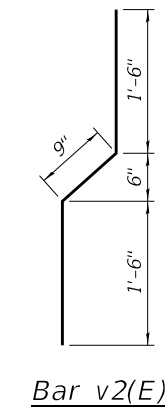
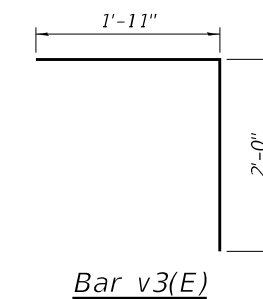
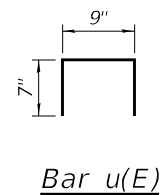
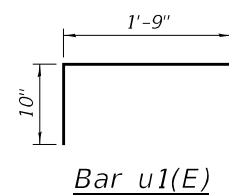
REVISOR -  
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REVISION -  
REVISION -



**ABUTMENT BACKWALL REPAIR ELEVATION**  
(West Abutment)



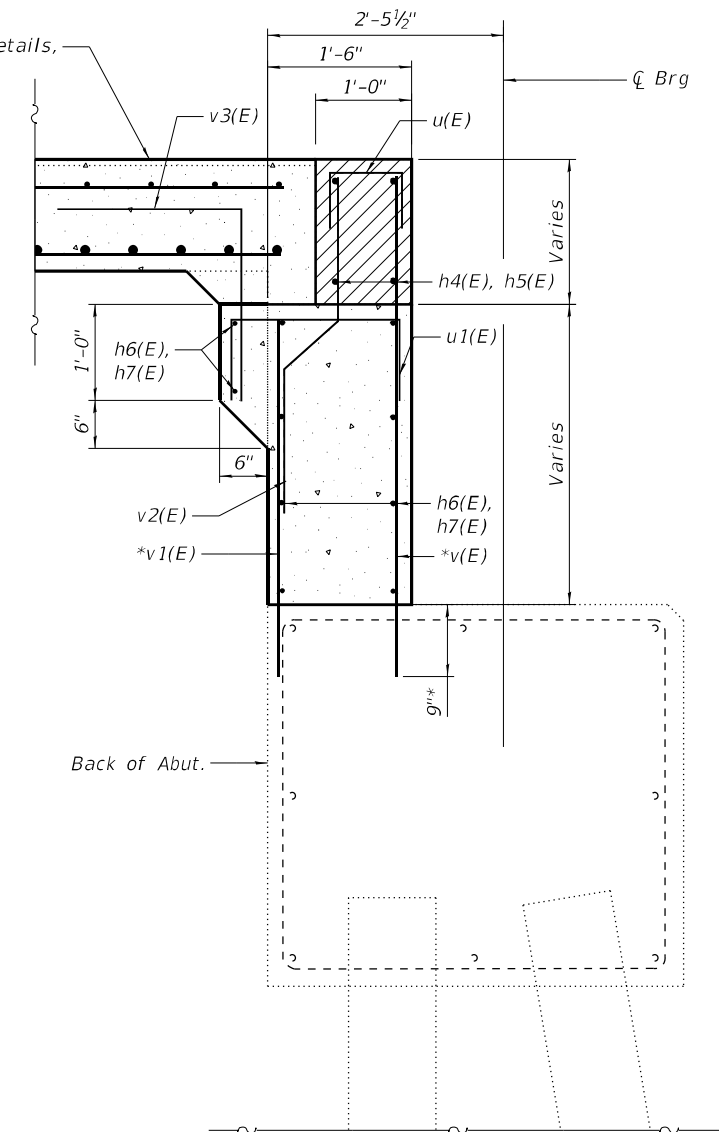
**ABUTMENT BACKWALL REPAIR PLAN**  
(West Abutment)



**NOTE**

- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

For Approach Slab Details, See Sheet 5-6 of 17



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)

**BILL OF MATERIAL**  
**WEST ABUTMENT**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h4(E)	4		4	#6	20'-3"	—	
h5(E)		4	4	#6	23'-2"	—	
h6(E)	10		10	#5	20'-6"	—	
h7(E)		10	10	#5	23'-7"	—	
u(E)	21	24	45	#5	1'-11"	⌒	
u1(E)	21	24	45	#5	3'-5"	⌒	
v(E)	21	24	45	#5	5'-3"	—	
v1(E)	21	24	45	#5	3'-8"	—	
v2(E)	21	24	45	#5	3'-9"	—	
v3(E)	21	24	45	#5	3'-11"	⌒	
v4(E)	6	6	12	#4	8'-0"	—	
Concrete Structures						Cu. Yd.	9.1
Reinforcement Bars, Epoxy Coated						Pound	1813
Bar Splicers						Each	14

MODEL: 0960042-74997-016  
FILE NAME: J:\2010\02\_WD# 2 8 Bridge Repairs in D7\DRAWINGS\096-0041 & 096-0042\0960042-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD

CONSULTING ENGINEERS  
3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 042-0001179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277, 752-6277

USER NAME = BenB

PLOT SCALE = 0:2" / in.

PLOT DATE = 8/31/2021

DESIGNED - KAS

CHECKED - MC

DRAWN - PG

CHECKED - MC

REVISED -

REVISED -

REVISED -

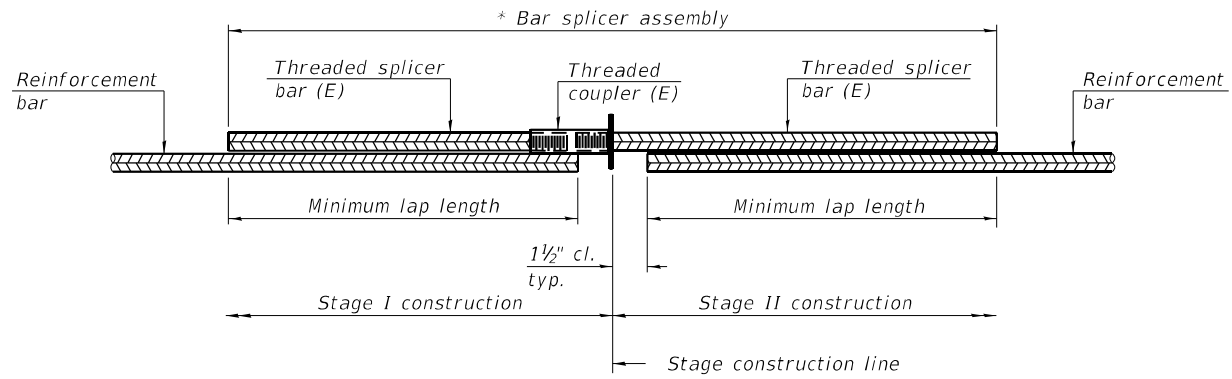
REVISED -

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

**ABUTMENT BACKWALL REPAIR DETAILS - II**  
**SN. 096-0042 (WB)**

SHEET 16 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	53
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

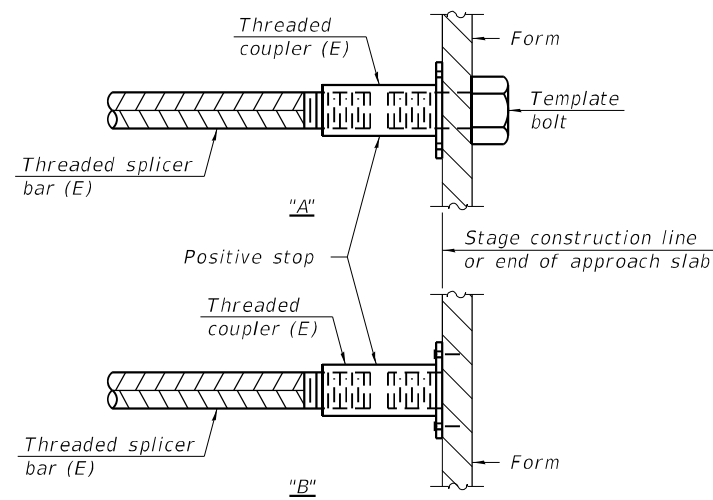


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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.

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#5	16	3'-7"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	90	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"

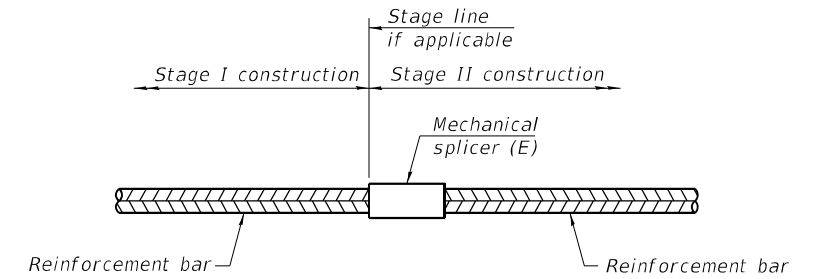


**INSTALLATION AND SETTING METHODS**

"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.

MODEL: 0960042-74997-017  
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BSD-1 1-1-2020

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3541 CONSTRUCTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 044-0001179  
 (217) 754-8844, 754-6277, 754-6278

USER NAME = BenB	DESIGNED - KAS	REVISED -
	CHECKED - MC	REVISED -
PLOT SCALE = 0:2" = 1"	DRAWN - PG	REVISED -
PLOT DATE = 8/31/2021	CHECKED - MC	REVISED -

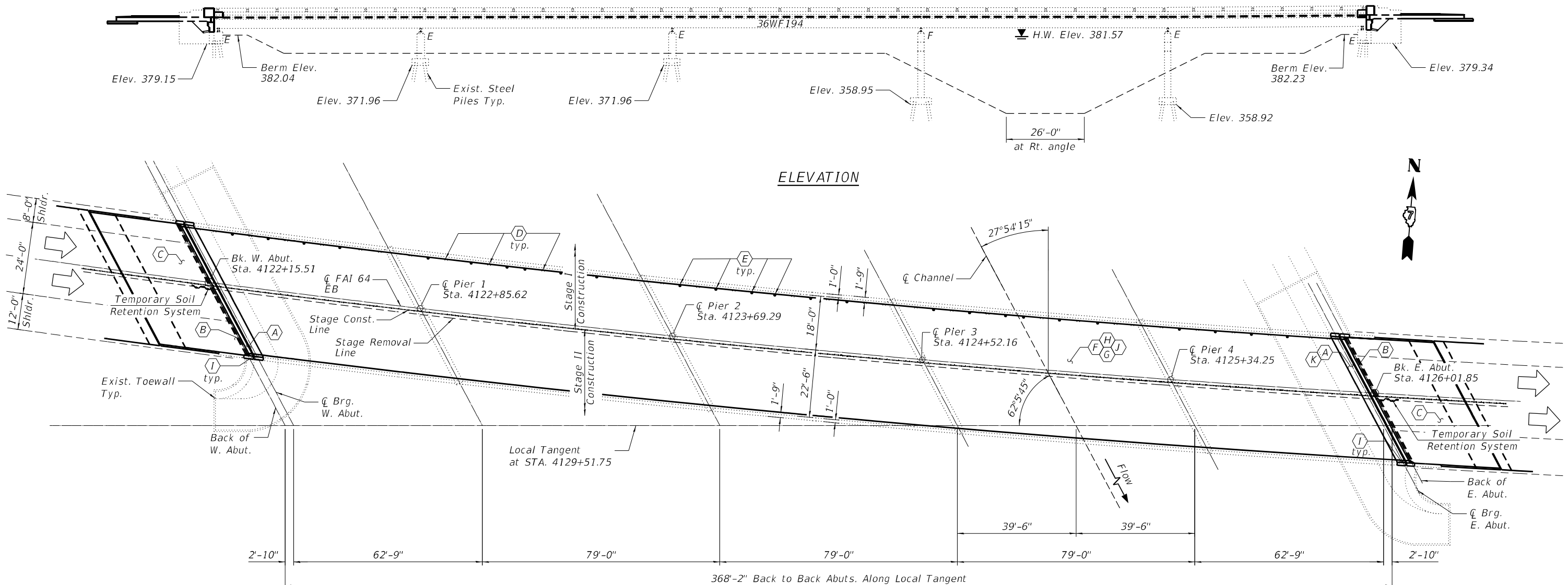
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 SN. 096-0042 (WB)**

SHEET 17 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	54
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

The existing five span continuous WF beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-1 at STA. 4124+93.30. S.N. 096-0043 (EB) carries F.A.I. Route 64 (I-64) over Skillet Fork. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, new diaphragms, structural steel repairs, a new concrete overlay, and bridge deck patching with Stage Construction.



**STRUCTURE INDEX OF SHEETS**

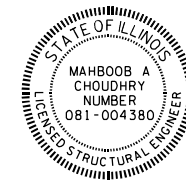
SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching- Span 1 & 2
4	Bridge Deck Patching- Span 3
5	Bridge Deck Patching- Span 4 & 5
6	Deck Drain Replacement Details
7	Approach Slab Details-I
8	Approach Slab Details-II
9	Expansion Joint Removal Details
10	Expansion Joint Replacement Details
11	Wingwall Modification at Expansion Joint
12	Preformed Joint Strip Seal Details
13	Diaphragm Replacement Details
14	Abutment Backwall Removal Details-I
15	Abutment Backwall Removal Details-II
16	Abutment Backwall Repair Details-I
17	Abutment Backwall Repair Details-II
18	Bar Splicer Assembly and Mechanical Splicers Details

**SCOPE OF WORK**

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 9-10 of 18)
- (B) - Remove & Replace Abutment Backwall (See Sheet 14-17 of 18)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 7-8 of 18)
- (D) - Eliminate Floor Drains (See Sheet 3-6 of 18)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-6 of 18)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 18)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 18)
- (H) - Install Bridge Deck Patches. (See Sheet 3-5 of 18)
- (I) - Modify Parapet Transition (See Sheet 11 of 18)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)
- (K) - Structural Steel Repairs (See Sheet 13 of 18)

**PLAN**

*M. Choudhry*



Dated **8/31/2021**  
 Mahboob A Choudhry  
 Licensed Structural Engineer  
 In Illinois No. 081-004380  
 Expires: 11/30/2022

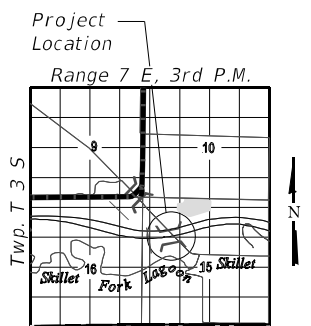
**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 36,000$  psi (Structural Steel)

**EXIST. CURVE DATA**

P.I. Sta. = 4114+90.42  
 $\Delta = 29^\circ-55'-34''$   
 $D = 1^\circ-0'-0''$   
 $R = 5729.58'$   
 $T = 1531.28'$   
 $L = 2992.61'$   
 $E = 201.09$   
 $S.E. = 0.028$  Ft. per Ft.

S.E. removed  
 STA. 4128+85.08 to  
 STA. 4130+85.08



**LOCATION SKETCH**

MODEL: 096004374997-001  
 FILE NAME: I:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3501 CONSTRUCTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 045-0001179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 752-8844 722-6227 FX

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION  
 SN. 096-0043 (EB)**

SHEET 01 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	55
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

All Structural steel shall conform to AASHTO Classification M-270, Gr-36, unless otherwise noted.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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

Existing Structural Steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting contact surface areas of existing steel structures".

All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1. Cost included in Furnishing and Erecting Structural Steel.

The existing structural steel coating contains lead. The contractor shall take appropriate precautions to deal with the lead on this project.

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

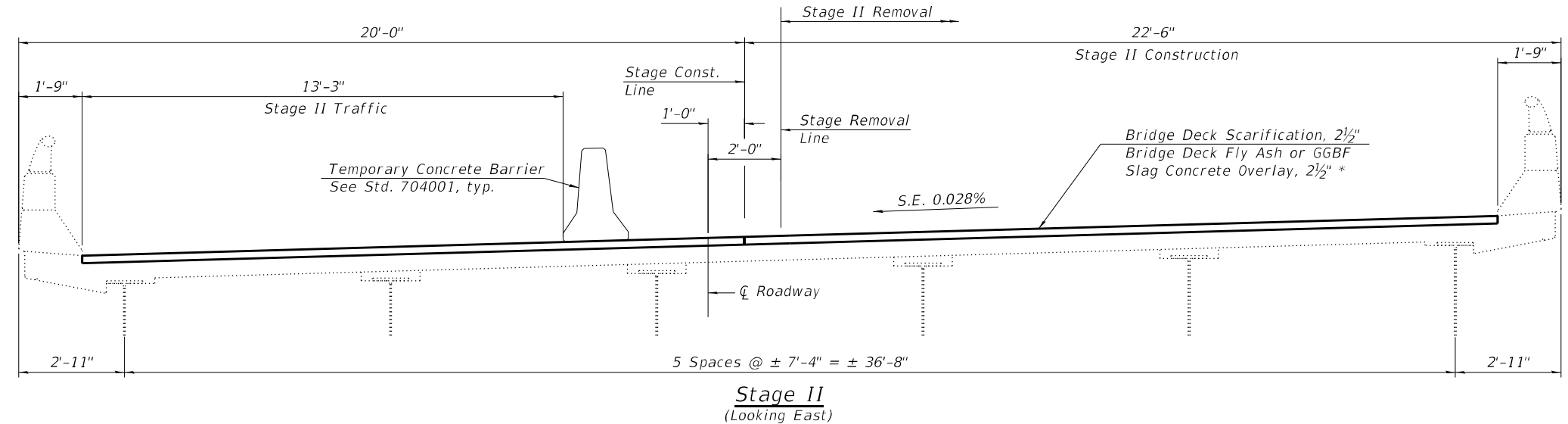
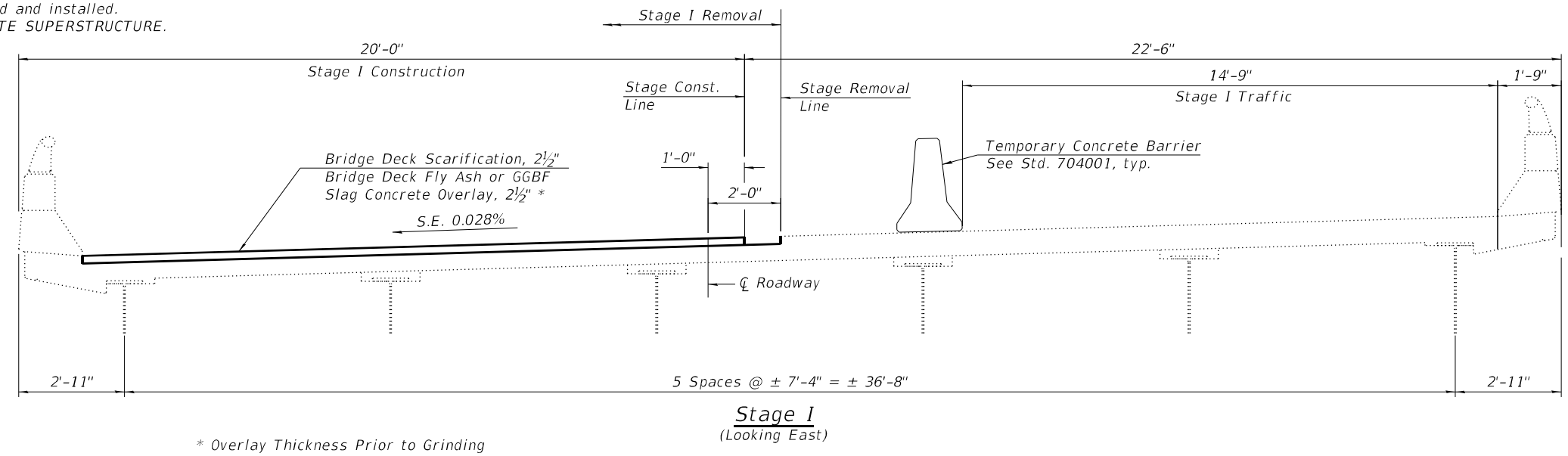
Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

Fasteners shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized bolts in painted areas.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	35.4
Concrete Structures	Cu. Yd.	51.8
Concrete Superstructures	Cu. Yd.	18.7
Concrete Superstructure (Approach Slab)	Cu. Yd.	115.3
Reinforcement Bars, Epoxy Coated	Pound	57289
Bar Splicers	Each	336
Prefomed Joint Strip Seal	Foot	103
Floor Drains	Each	26
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	1644
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	1644
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1028
** Diamond Grinding (Bridge Section)	Sq. Yd.	1920
*** Protective Coat	Sq. Yd.	2099
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	13.6
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	1.4
Porous Granular Backfill	Cu. Yd.	57.0
Structure Excavation	Cu. Yd.	57.0
Temporary Soil Retention System	Sq. Ft.	47.7
Structural Steel Removal	Pound	2006
Furnishing and Erecting Structural Steel	Pound	2006

\*\* See Special Provisions.  
\*\*\* New Concrete and overlay areas

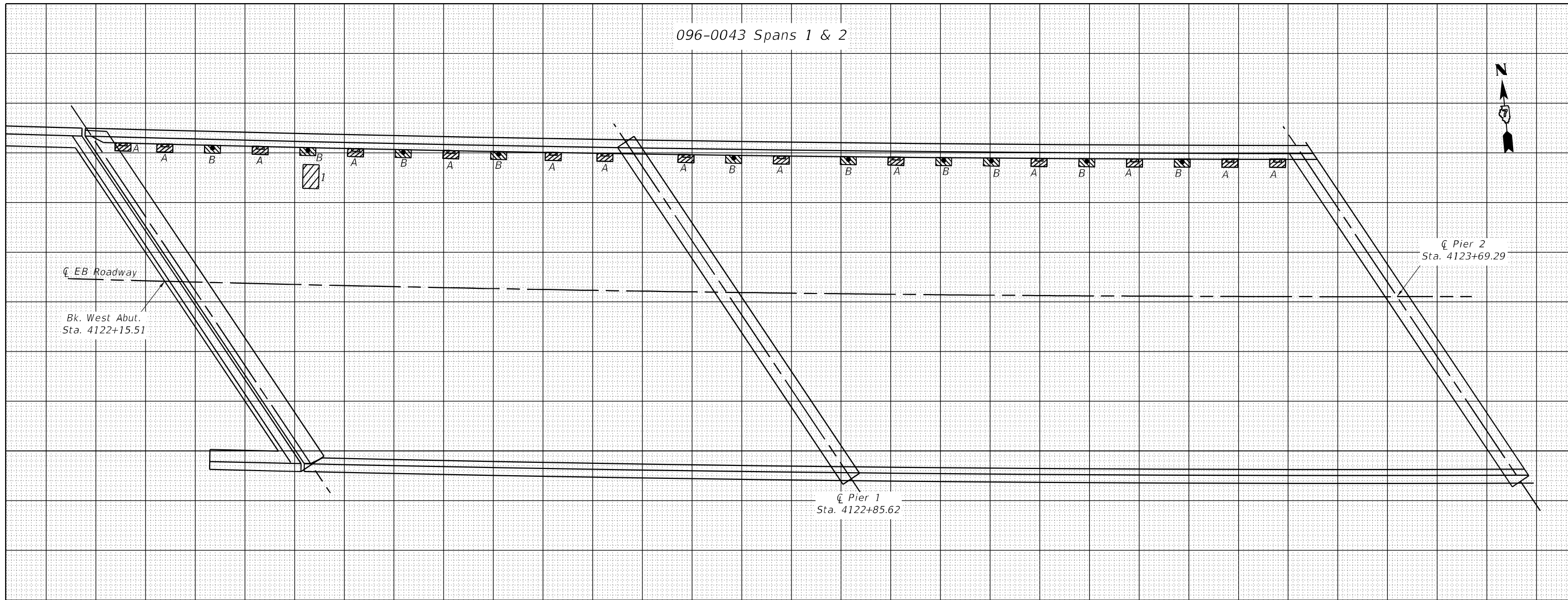


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<b>GREENE &amp; BRADFORD, INC.</b> OF SPRINGFIELD <small>REGISTERED PROFESSIONAL ENGINEERS          3541 CONSTITUTION DRIVE          SPRINGFIELD, ILLINOIS 62111          PROFESSIONAL DESIGN FIRM NO. 04-0061179          PROFESSIONAL LAND SURVEYING FIRM NO. 04-0060098          (217) 754-8844, 752-6227, 752-6227</small>	USER NAME = BenB DESIGNED - KAS CHECKED - MC DRAWN - PG CHECKED - MC PLOT SCALE = 0:2" / in. PLOT DATE = 8/31/2021	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, BILL OF MATERIALS &amp; STAGE CONST. DETAILS</b> <b>SN. 096-0043 (EB)</b>	F.A.I. RTE. = 64 SECTION = D7 BRIDGE REPAIRS 2022-3 COUNTY = WAYNE ILLINOIS FED. AID PROJECT	TOTAL SHEETS = 152 SHEET NO. = 56 CONTRACT NO. 74997
	SHEET 02 OF 18 SHEETS					



096-0043 Spans 1 & 2



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	2.0	3.0		0.7
A - Remove Drain, 13 ea			2.9	
B - Replace Drain, 10 ea			2.2	
TOTALS			5.1	0.7

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair  
 (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 5.1 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0.7 SQ YD  
 FLOOR DRAINS = 10 Each

MODEL: 0960013-74997-003  
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USER NAME = BenB	DESIGNED - T. Walk	REVISED -
PLOT SCALE = 100:0' = 1" / in.	DRAWN - T. Walk	REVISED -
PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

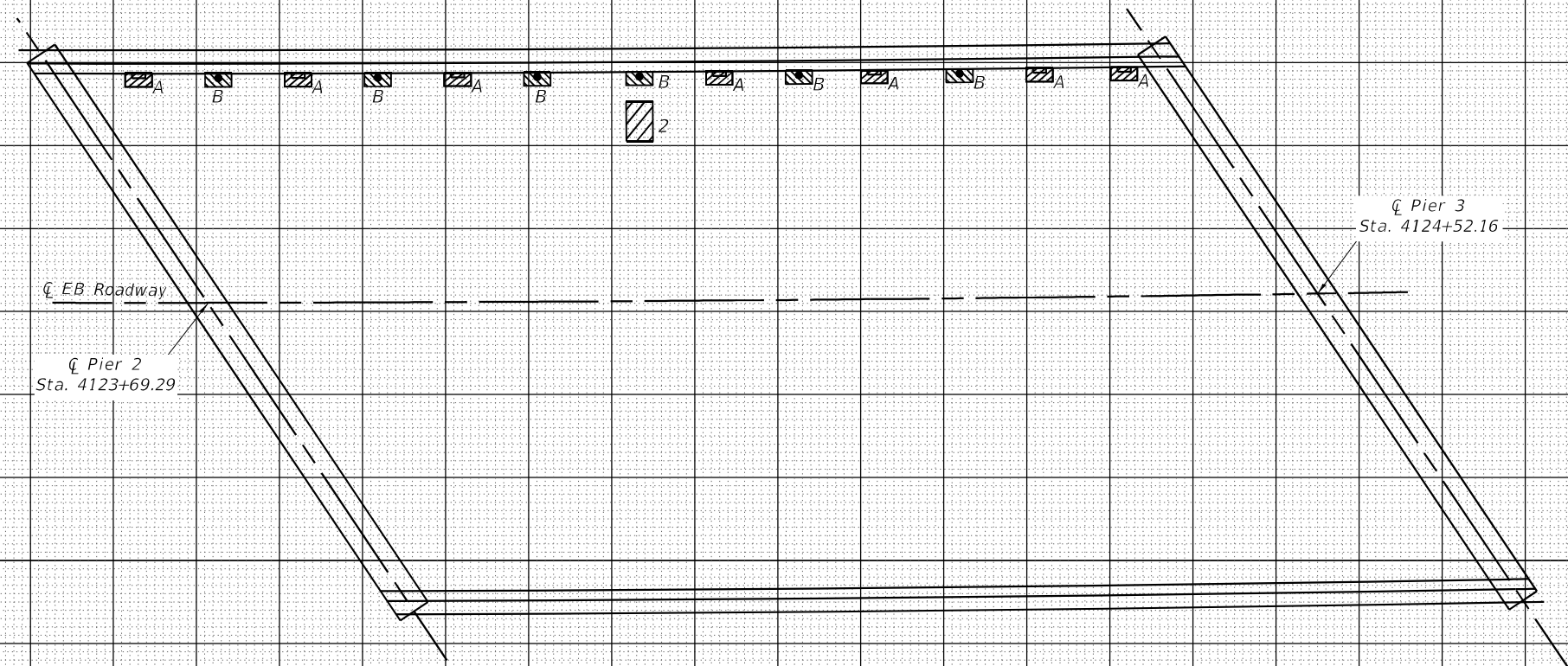
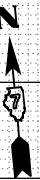
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPANS 1 & 2  
 SN. 096-0043

SCALE: SHEET 03 OF 18 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	57
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

096-0043 Span 3



PATCH	SIZE		DECK SLAB REPAIR (FD TY I) SQ YD	DECK SLAB REPAIR (FD TY II) SQ YD
	NO.	LENGTH		
2	2.0	3.0		0.7
A - Remove Drain, 7 ea			1.6	
B - Replace Drain, 6 ea			1.3	
TOTALS			2.9	0.7

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
SURVEY BY: DPM  
METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 2.9 SQ YD  
DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0.7 SQ YD  
FLOOR DRAINS = 6 Each

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PLOT DATE = 8/31/2021	DATE - Nov. 2020	REVISED -

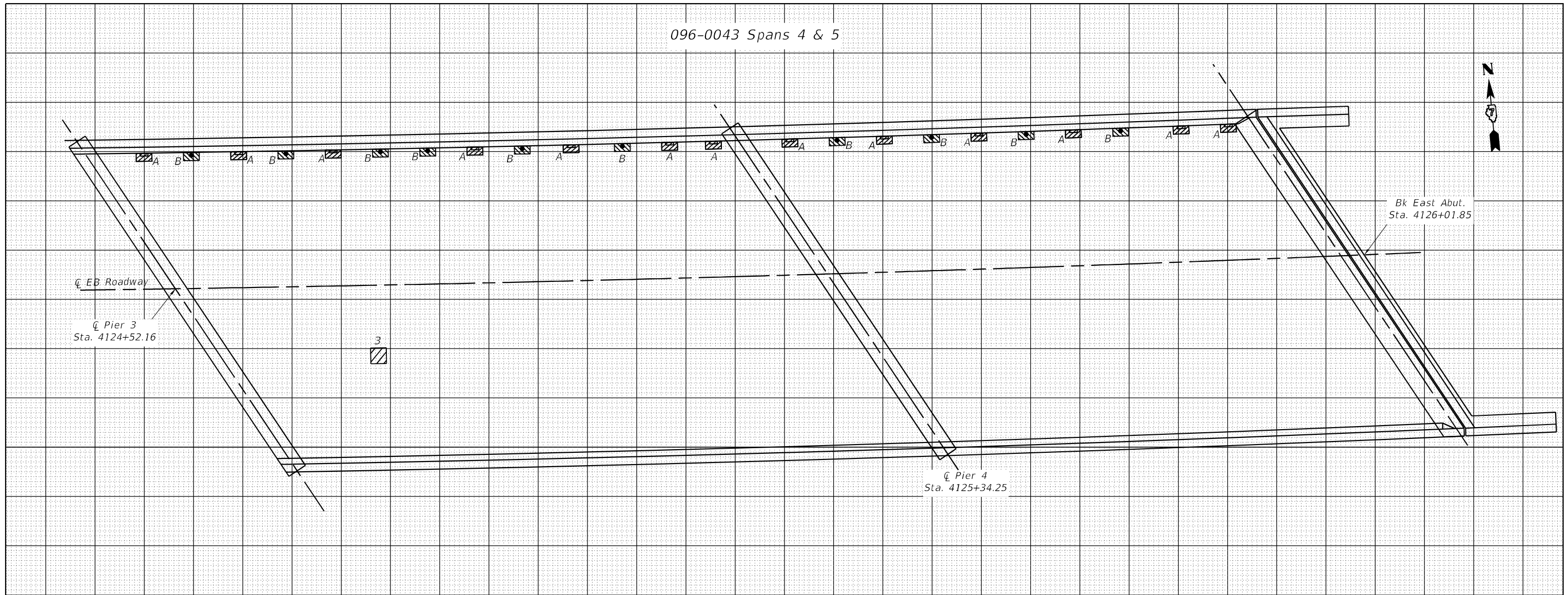
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPAN 3  
SN. 096-0043

SCALE: SHEET 04 OF 18 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	58
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

096-0043 Spans 4 & 5



PATCH	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	NO.	LENGTH	WIDTH	SQ YD
3	2.0	2.0	0.5	
A - Remove Drain, 13 ea			2.9	
B- Replace Drain, 10 ea			2.2	
TOTALS			5.6	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 5.6 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
 FLOOR DRAINS = 10 Each

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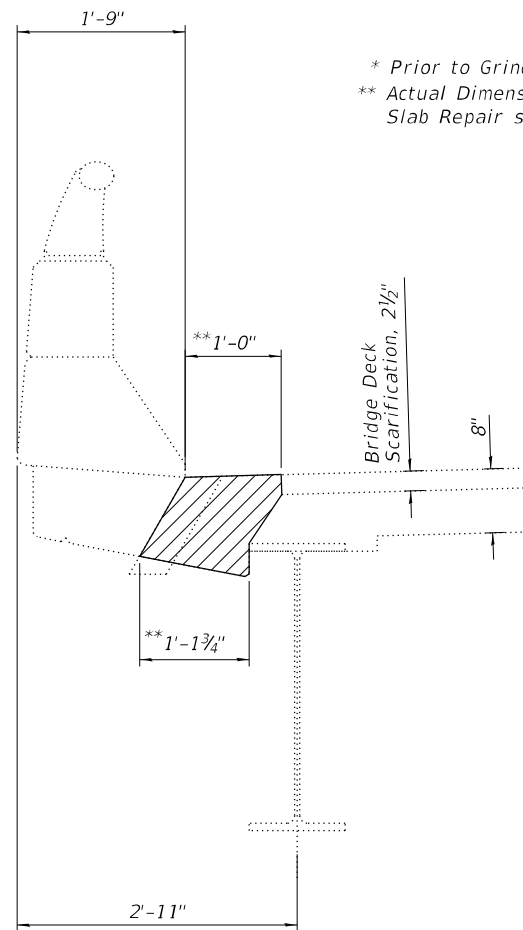
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PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

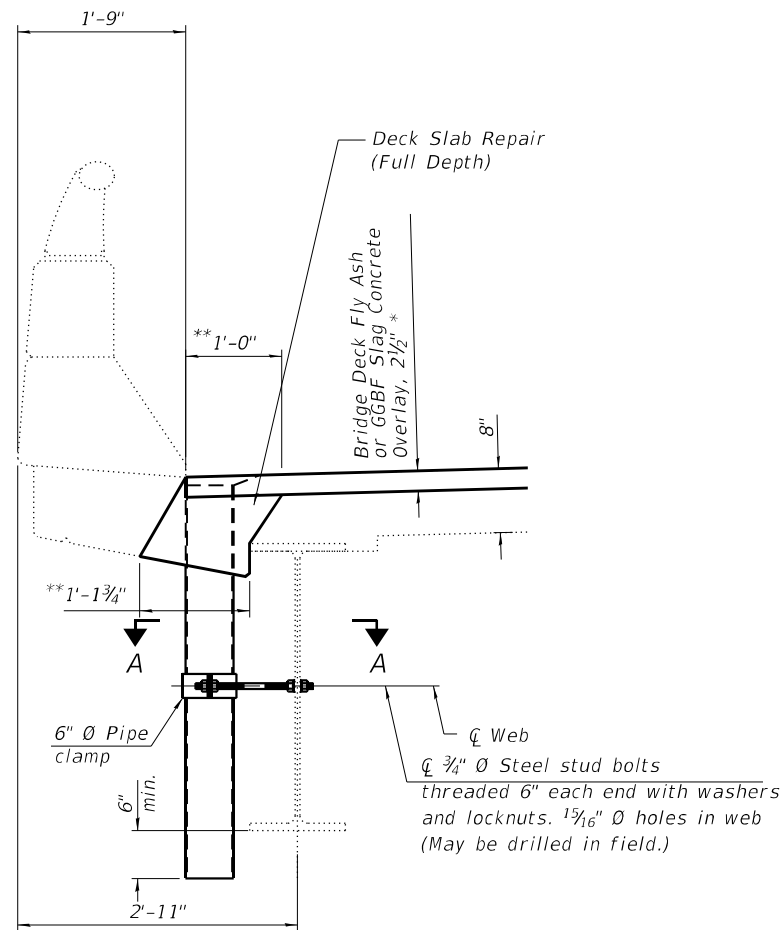
BRIDGE DECK PATCHING, SPANS 4 & 5  
 SN. 096-0043

SCALE: SHEET 05 OF 18 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	59
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

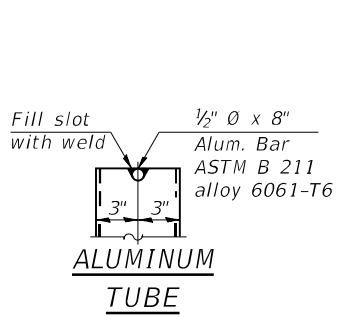


\* Prior to Grinding  
 \*\* Actual Dimensions of Deck Slab Repair shall be determined by Engineer

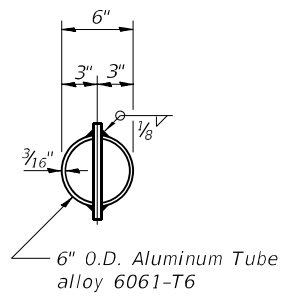


Notes:  
 Fiberglass pipe alternative shall not be allowed for floor drains.  
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.  
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3-5 of 18.

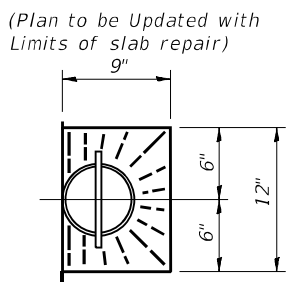
**SECTIONS THRU DRAIN TO BE REPLACED**  
 59 Locations - See Bridge Patching Sheet



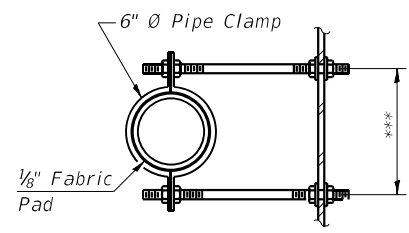
**ALUMINUM TUBE**



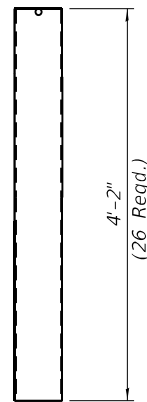
**TOP PLAN**



**TOP PLAN**



**SECTION A-A**  
 \*\*\* Dimension as required by Pipe Clamp



**DRAIN DETAIL**

MODEL: 0960043-74997-006  
 FILE NAME: J:\201002\_W04# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

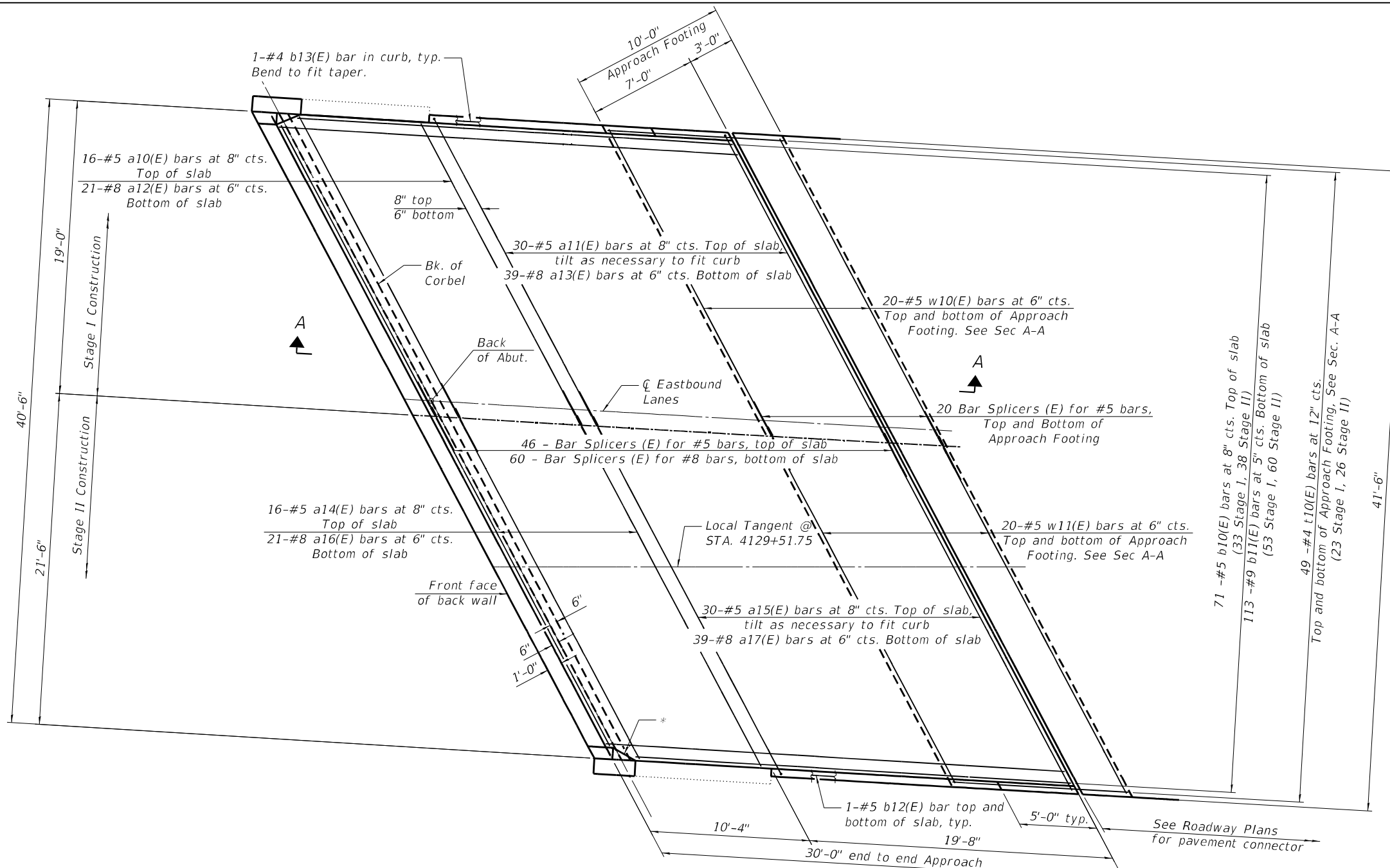
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-000179  
 LICENSE NO. 04-000179

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0.2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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

**DECK DRAIN REPLACEMENT DETAILS**  
**SN. 096-0043 (EB)**  
 SHEET 06 OF 18 SHEETS

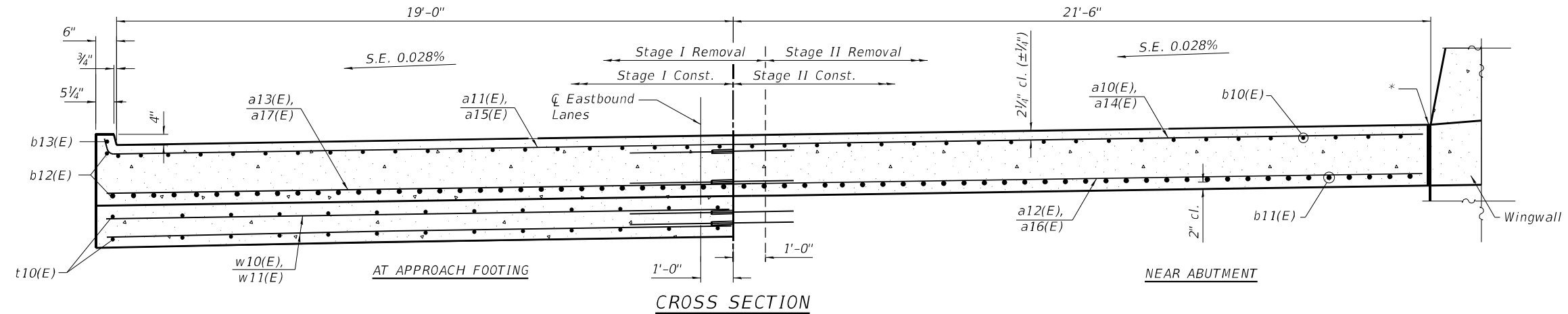
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	60
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



\* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.  
See Sheet 8 of 18 for Section A-A.

**PROPOSED PLAN**

(East Abut. Shown West Abut. similar by rotation)



**CROSS SECTION**

(Looking West)

MODEL: 0960043-74997-007  
FILE NAME: J:\201002\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

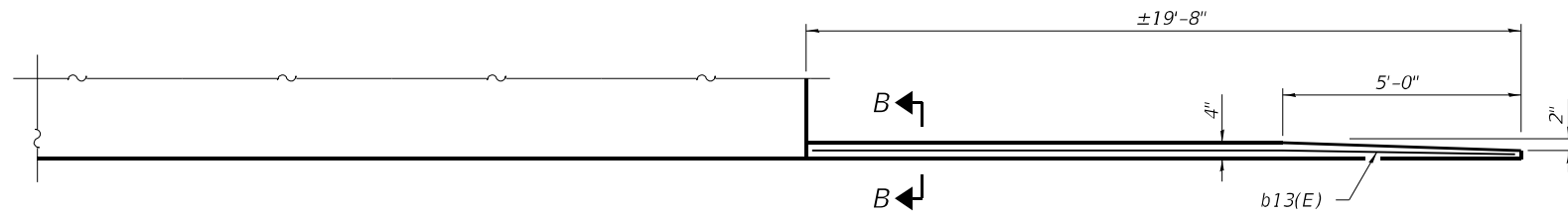
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
1211 7542844 79246227 81

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0'2" / 1 in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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

**APPROACH SLAB DETAILS - I**  
**SN. 096-0043 (EB)**  
SHEET 07 OF 18 SHEETS

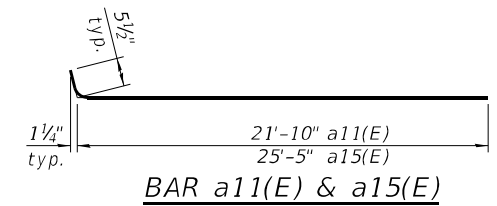
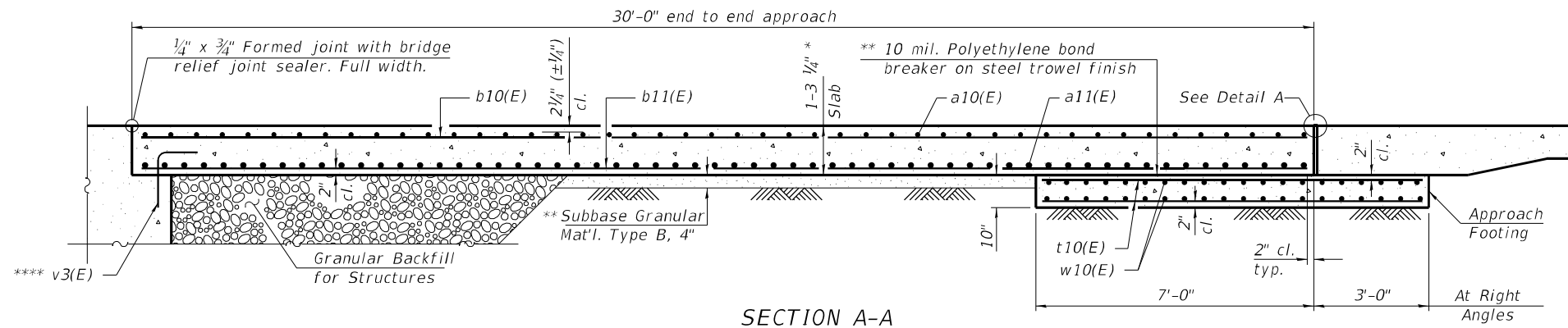
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	61
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 10 of 18.

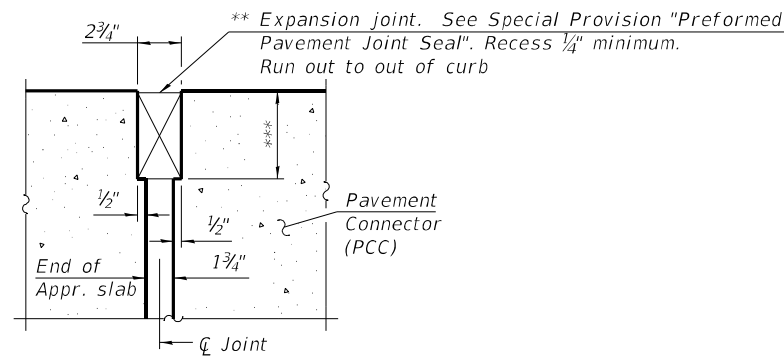
\* Prior to Grinding

INSIDE ELEVATION OF PARAPET AND CURB



TWO APPROACHES  
BILL OF MATERIAL

Bar	Stage I	Stage II	Total	Size	Length	Shape	
a10(E)	32		32	#5	21'-5"	—	
a11(E)	60		60	#5	22'-3"	—	
a12(E)	42		42	#8	21'-5"	—	
a13(E)	78		78	#8	21'-10"	—	
a14(E)		32	32	#5	24'-11"	—	
a15(E)		60	60	#5	25'-10"	—	
a16(E)		42	42	#8	24'-11"	—	
a17(E)		78	78	#8	25'-5"	—	
b10(E)	66	76	142	#5	29'-8"	—	
b11(E)	106	120	226	#9	29'-8"	—	
b12(E)	4	4	8	#5	19'-5"	—	
b13(E)	2	2	4	#4	19'-6"	—	
t10(E)	46	52	98	#4	11'-6"	—	
w10(E)	80		80	#5	21'-10"	—	
w11(E)		80	80	#5	25'-5"	—	
Concrete Superstructure (Approach Slab)						Cu. Yd.	115.3
Concrete Structures						Cu. Yd.	30.7
Reinforcement Bars, Epoxy Coated						Pound	51691
Bar Splicers						Each	292

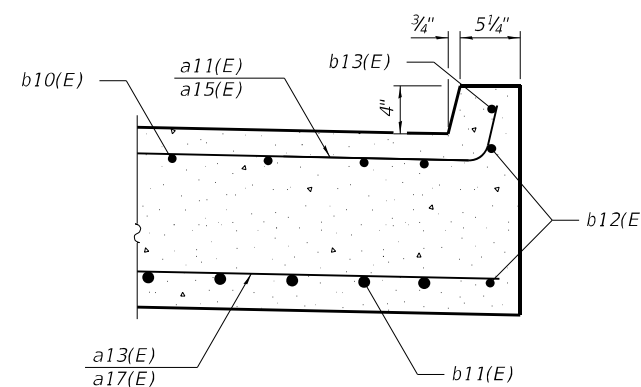


DETAIL A  
 (Detail A shown, applies to Highway Standard 420401 only.  
 Detail A for pavement connector (HMA) may be found on  
 Highway Standard 420406.)

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

\*\*\* Per manufacturer recommendations

\*\*\*\* v3(E) bar shown on Sheet 16-17 of 18.



SECTION B-B

(Sheet 2 of 2)

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS - II  
 SN. 096-0043 (EB)

SHEET 08 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	62
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

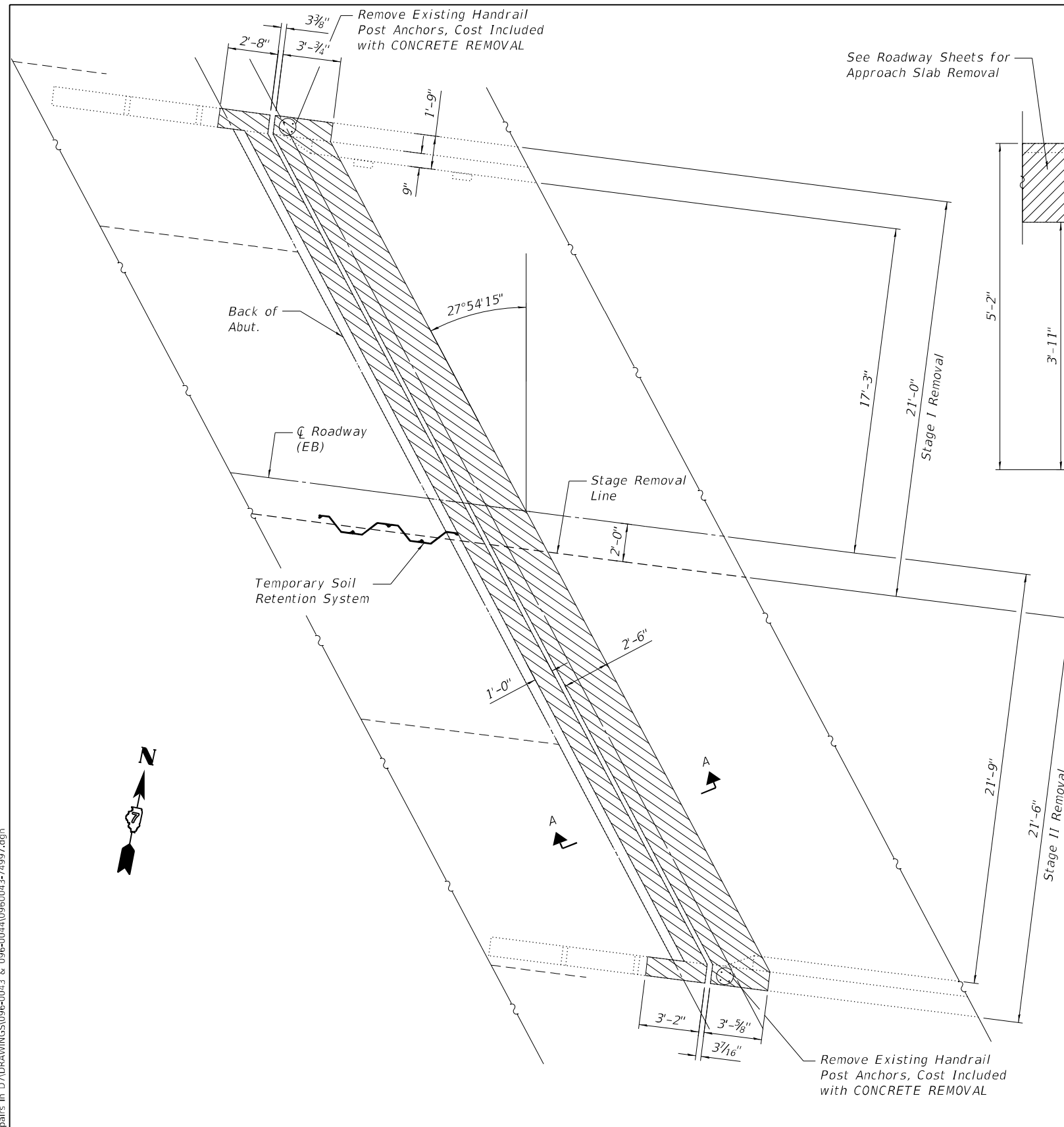
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**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62111  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 752-6277, 751

USER NAME	DESIGNED	REVISIONS
BenB	KAS	
	MC	
	PG	
	MC	

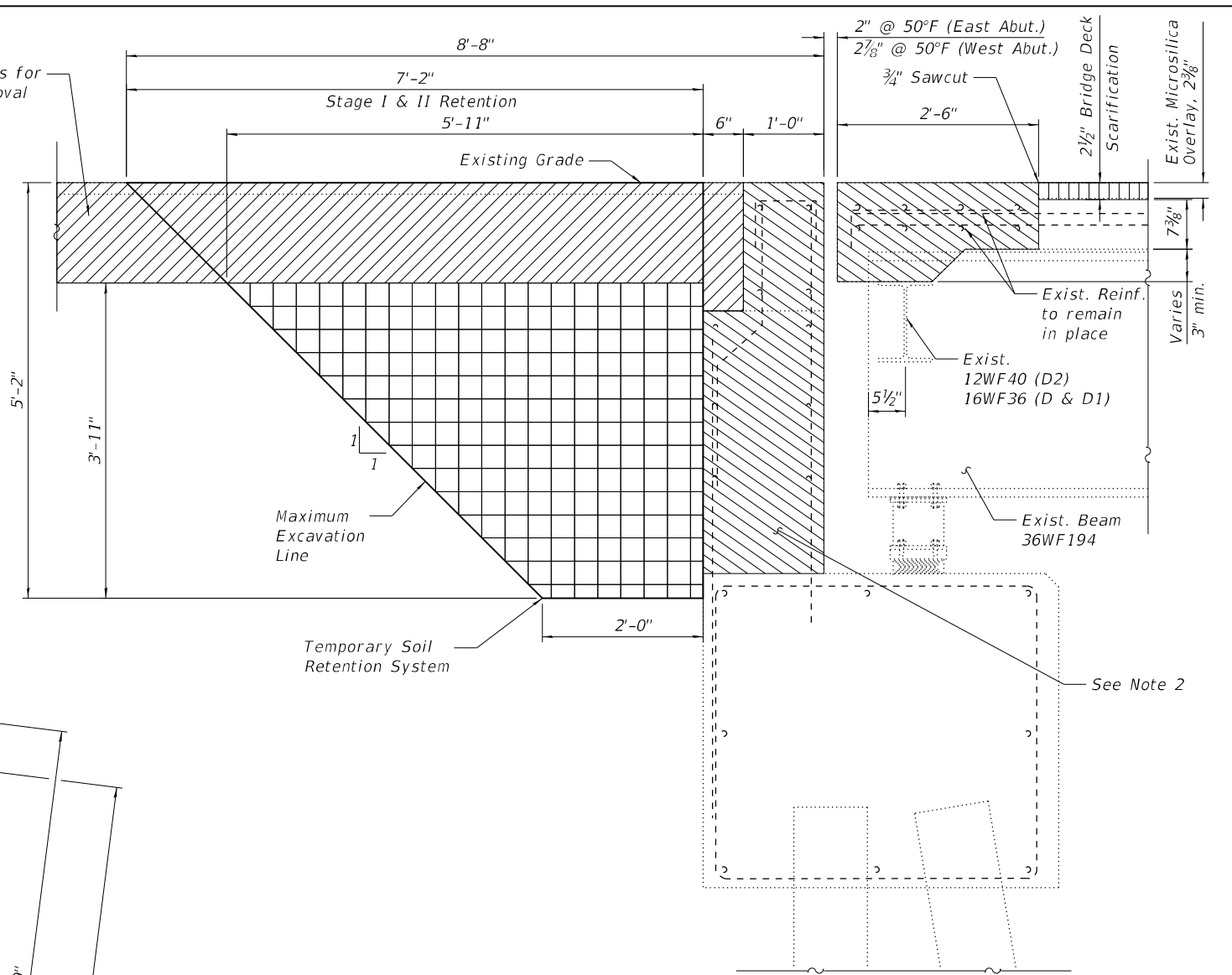
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**CONCRETE REMOVAL PLAN**  
 (West Abutment shown, East Abutment similar by rotation)

See Roadway Sheets for Approach Slab Removal



**SECTION A-A**  
 Removal

**NOTE**

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities for Abutment Backwall and hatch block, See sheet 14-15 of 18.

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	11.7
Structure Excavation	Cu. Yd.	57.0
Temporary Soil Retention System	Sq. Ft.	47.4

\*\* Concrete Removal Quantity is for end of the Deck removal only, See Note 2

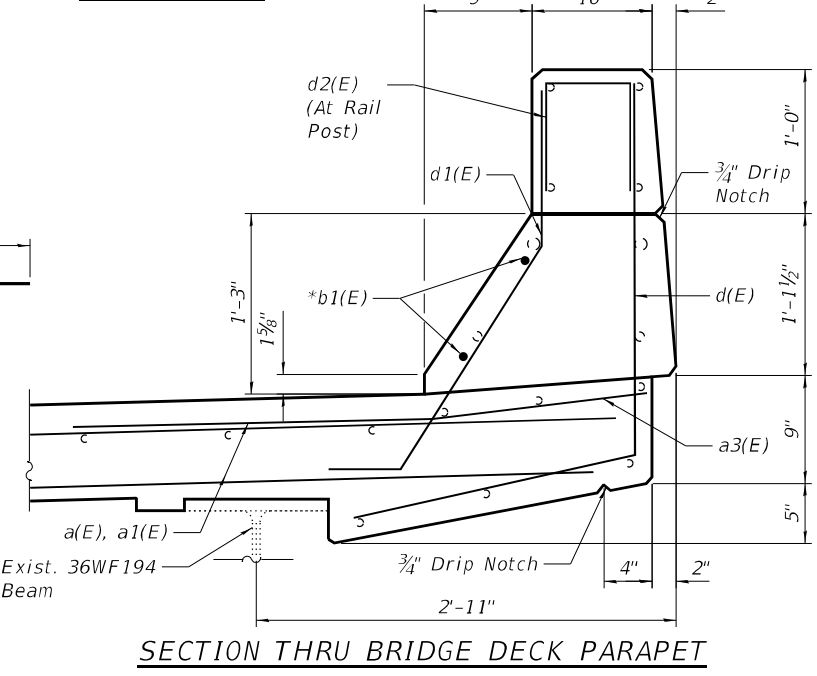
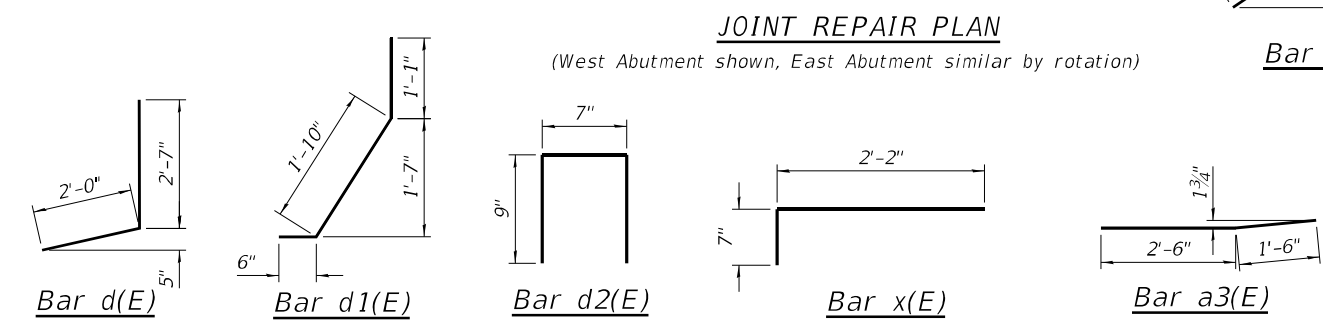
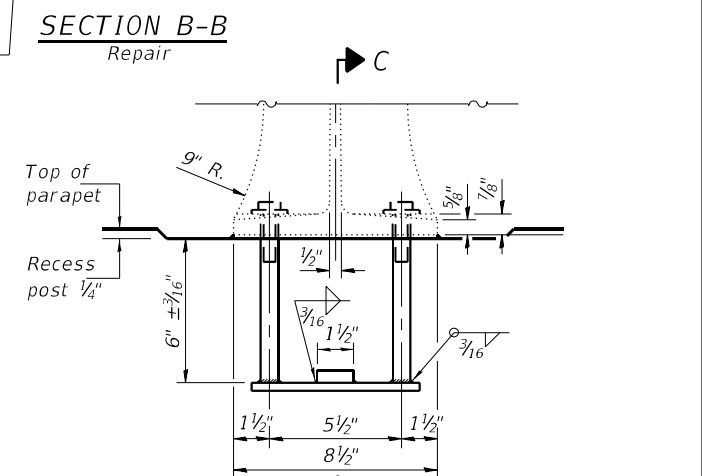
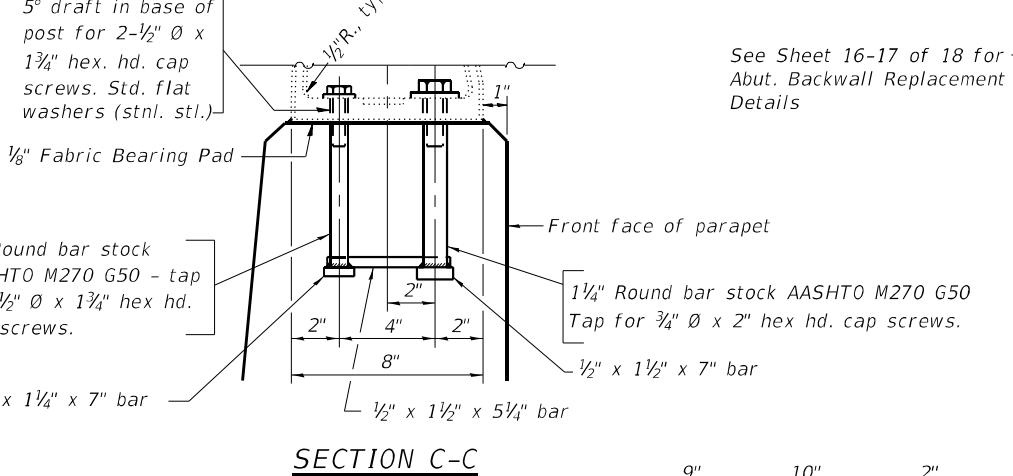
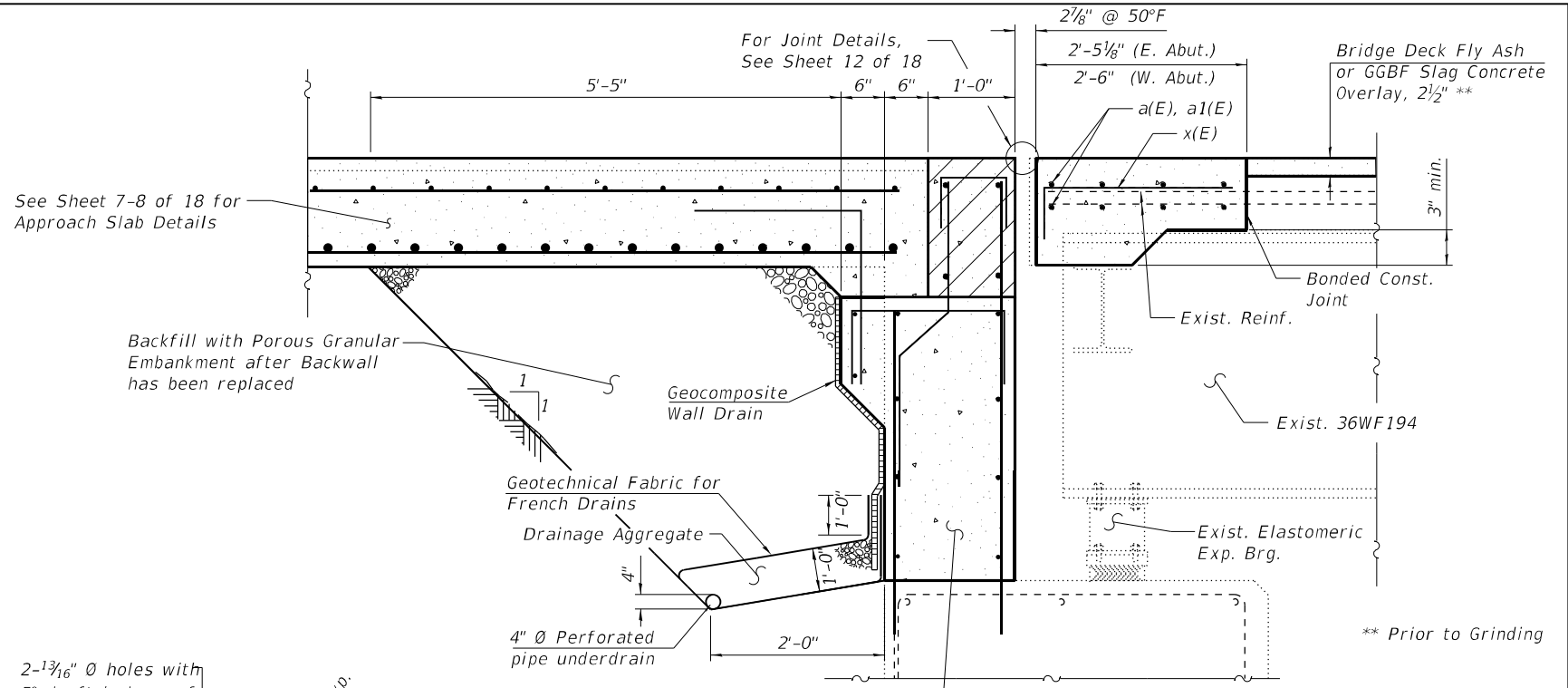
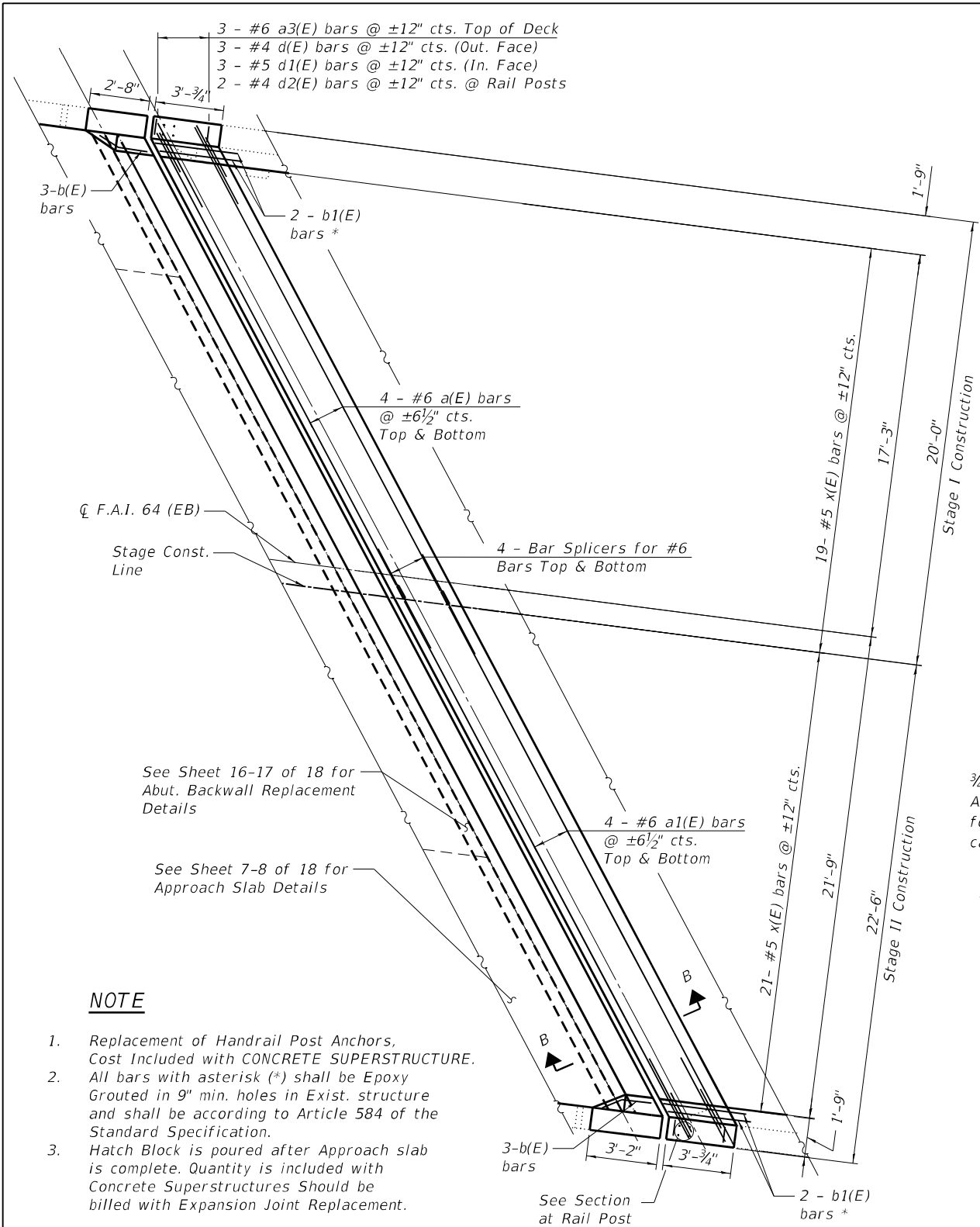
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL GEORGE FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 752-6277, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
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PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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

**EXPANSION JOINT REMOVAL DETAILS**  
**SN. 096-0043 (EB)**  
 SHEET 09 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	63
CONTRACT NO. 74997				
		ILLINOIS	FED. AID PROJECT	



TWO EXPANSION JOINTS

BILL OF MATERIAL

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II			
a(E)	16	16	#6	23'-6"	—
a1(E)	16	16	#6	27'-3"	—
a3(E)	6	6	#6	4'-0"	—
b(E)	6	12	#5	2'-8"	—
b1(E)	4	4	#5	3'-9"	—
d(E)	6	12	#4	4'-7"	—
d1(E)	6	12	#5	3'-5"	—
d2(E)	4	4	#4	2'-1"	—
x(E)	38	42	#5	2'-9"	—
Concrete Superstructures				Cu. Yd.	18.7
Reinforcement Bars, Epoxy Coated				Pound	1677
Bar Splicers				Each	16
Porous Granular Backfill				Cu. Yd.	57.0

MODEL: 0960043-74997-010  
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**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTRUCTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-006098  
 (217) 755-8844, 752-6227, 752-6227

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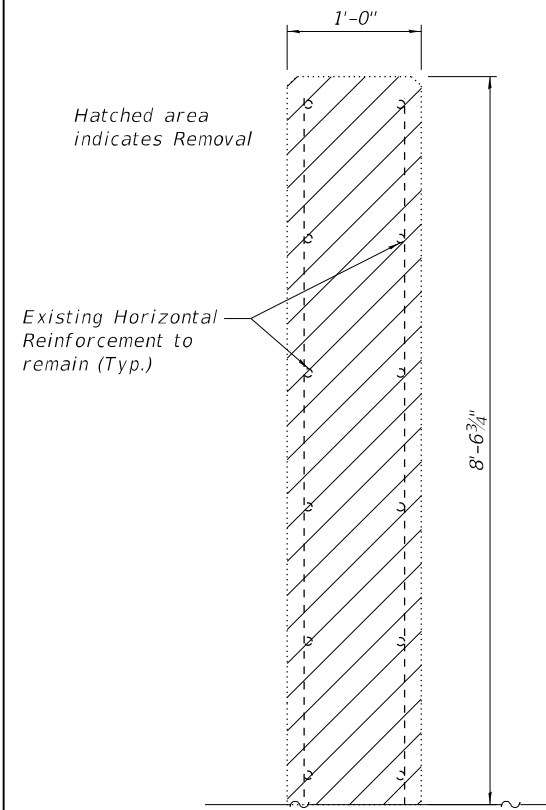
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REPLACEMENT DETAILS**  
**SN. 096-0043 (EB)**

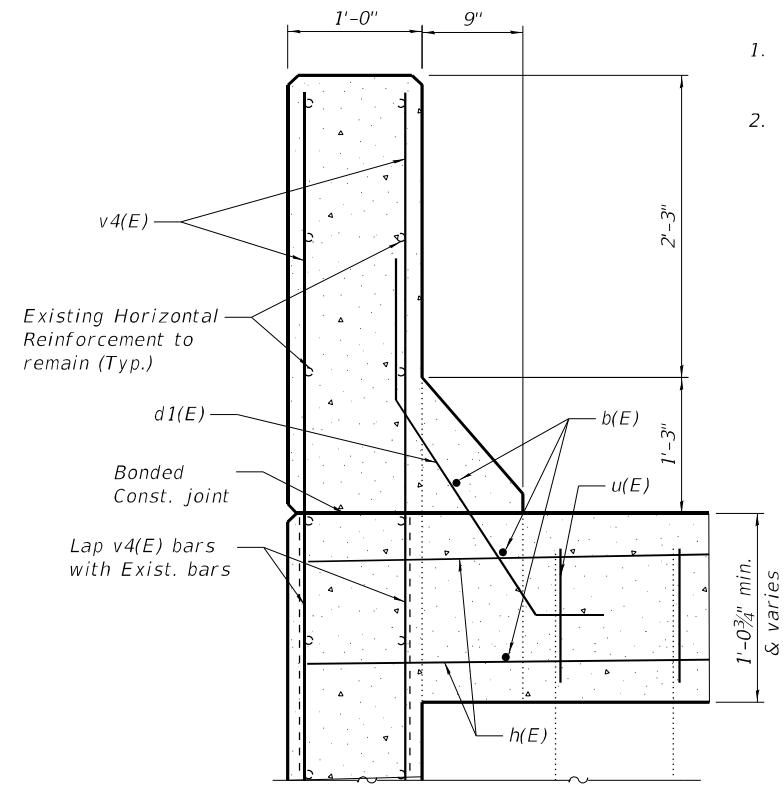
SHEET 10 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				





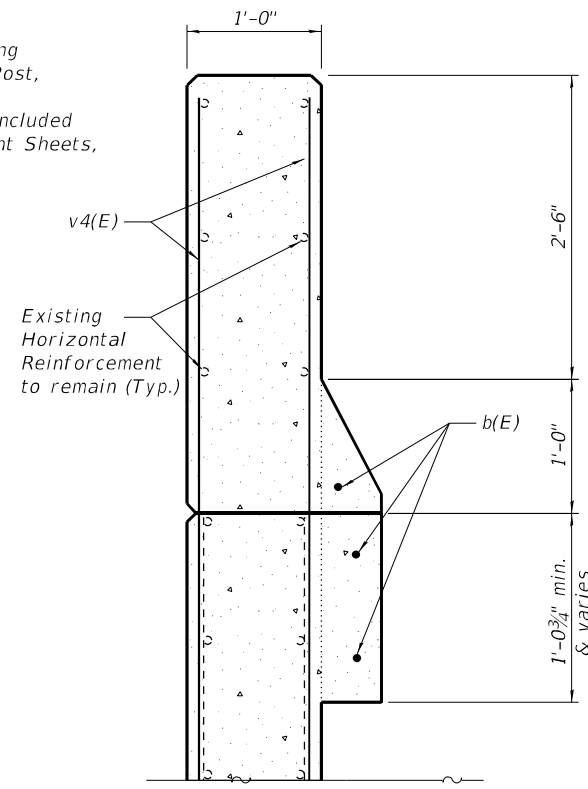
**SECTION C-C**  
Removal Section  
at Wingwall



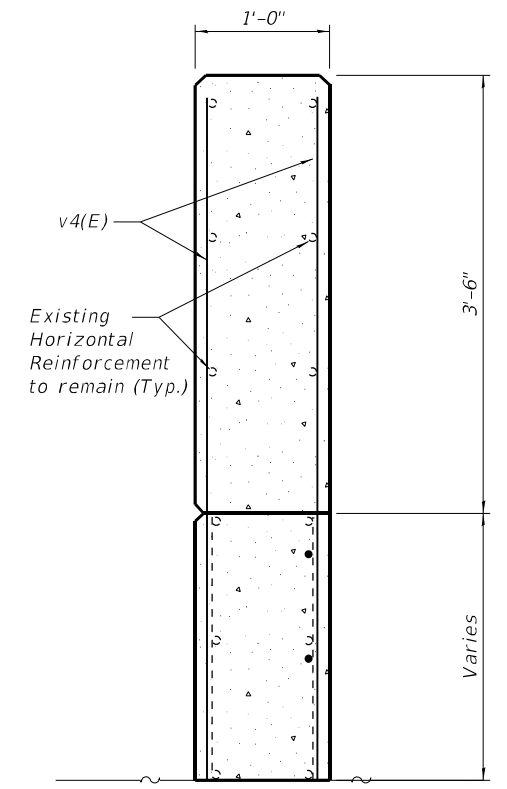
**SECTION D-D**  
Section thru Proposed  
Transition Parapet

**NOTES**

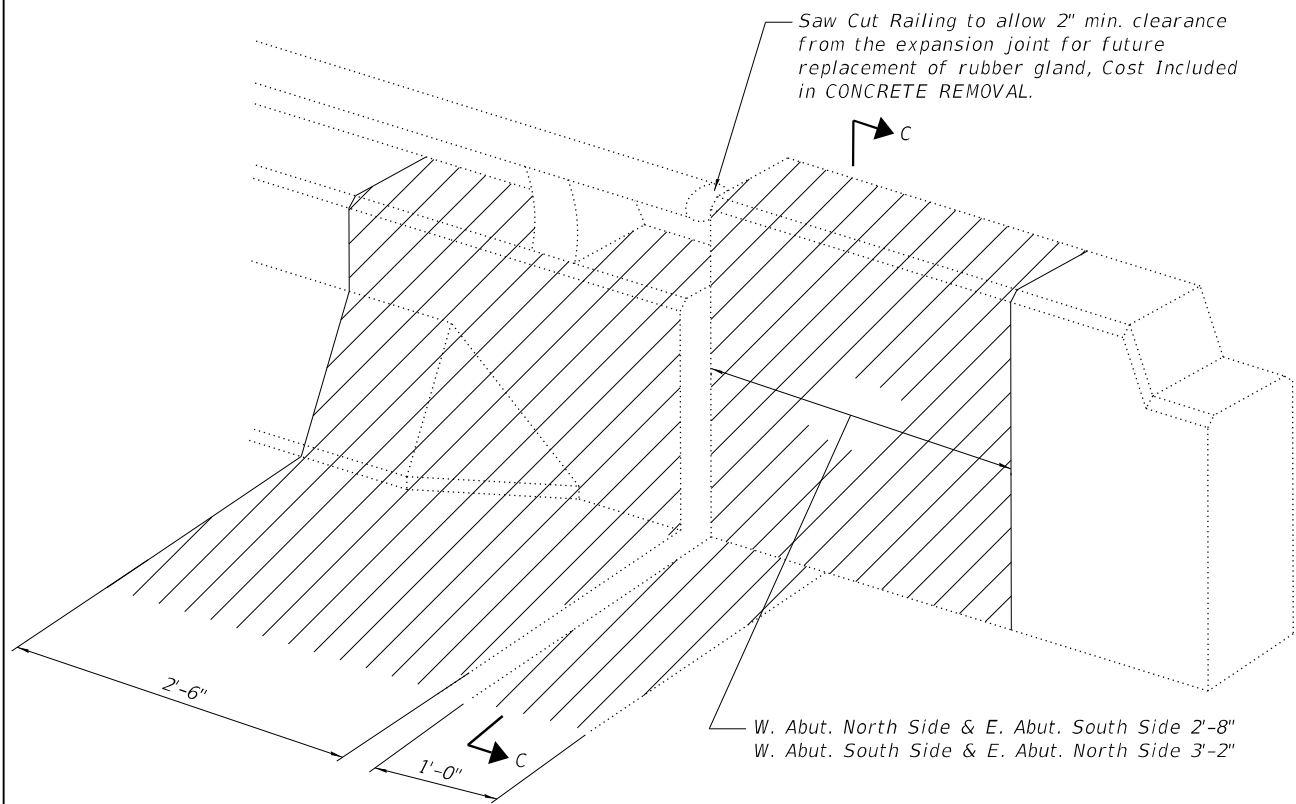
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 10 of 18.
2. Quantity of v4(E) & u(E) bar is included in Abutment Backwall Replacement Sheets, See Sheets 16-17 of 18.



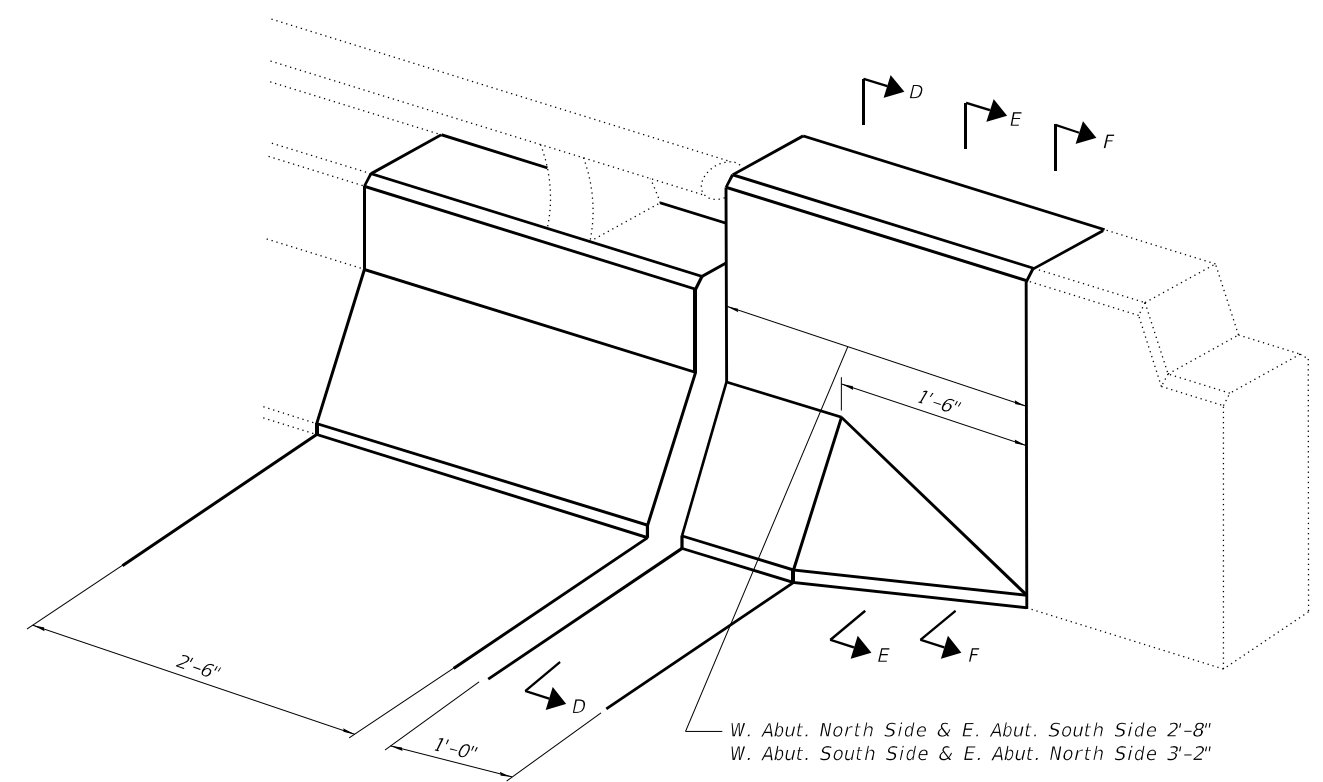
**SECTION E-E**  
Section thru End of  
Proposed Parapet



**SECTION F-F**  
Section thru End of  
Proposed Parapet



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WINGWALL & PARAPET AT EACH ABUTMENT CORNER**

MODEL: 0960043-74997-011  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 054-061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098  
(217) 755-8844, 752-6227 (F)

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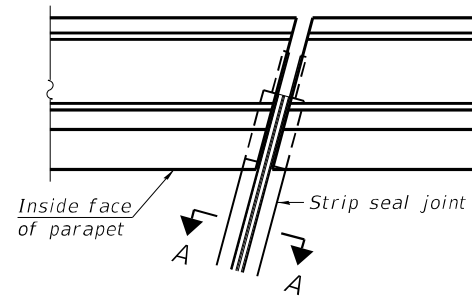
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WING WALL MODIFICATION AT EXPANSION JOINT**  
**SN. 096-0043 (EB)**

SHEET 11 OF 18 SHEETS

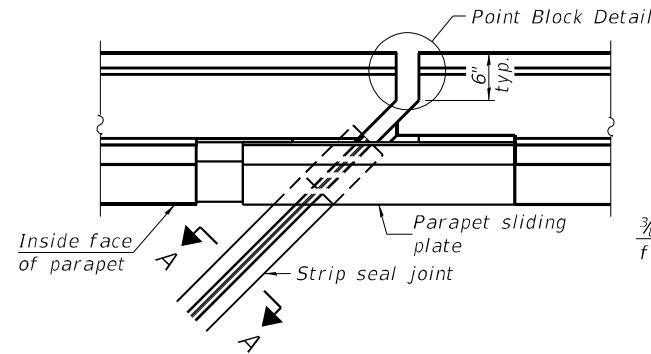
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	65
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

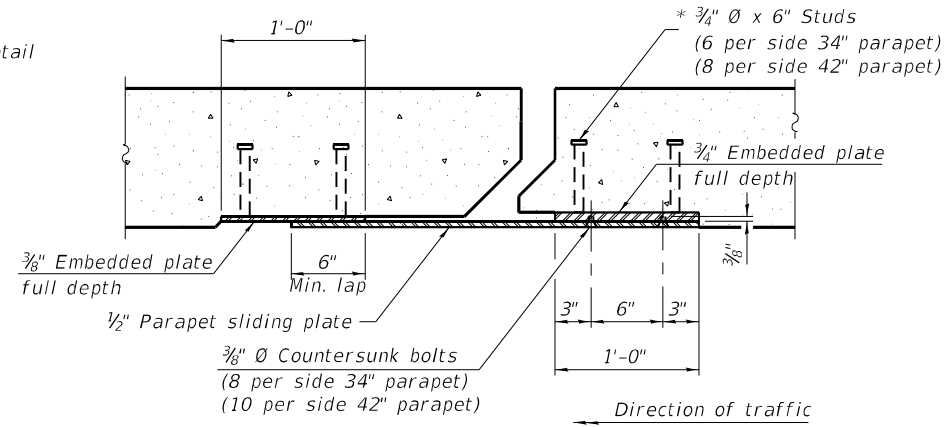


FOR SKEWS  $\leq 30^\circ$

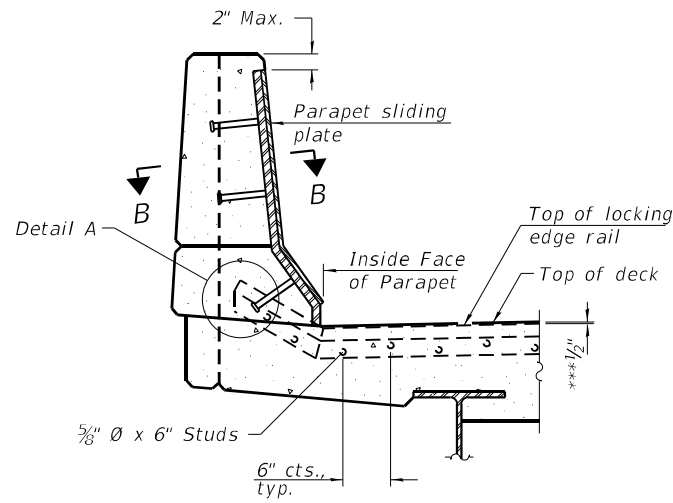
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

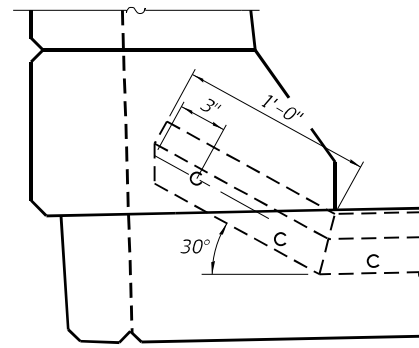


SECTION B-B

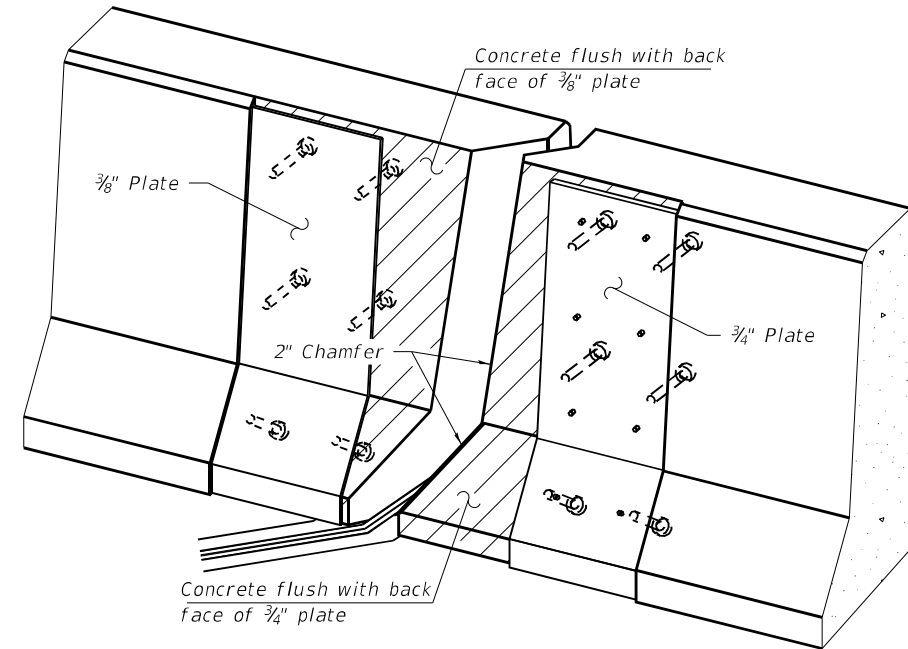


ELEVATION AT PARAPET

(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

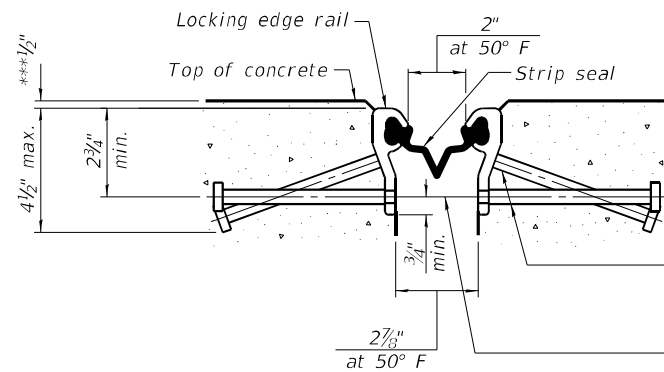
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be  $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

\*\*\* Prior to 1/4" Grinding



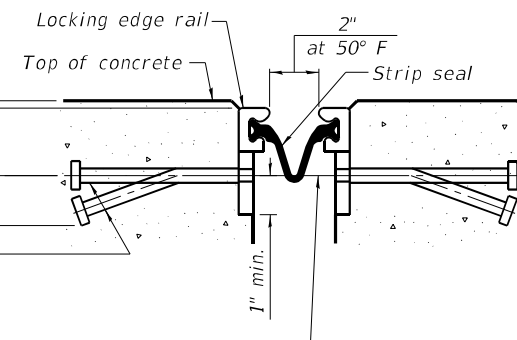
SHOWING ROLLED RAIL JOINT

\*  $\frac{3}{8}$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

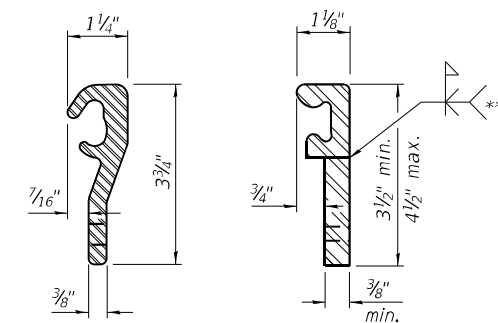
$\frac{3}{8}$ "  $\phi$  threaded rods in  $\frac{1}{16}$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



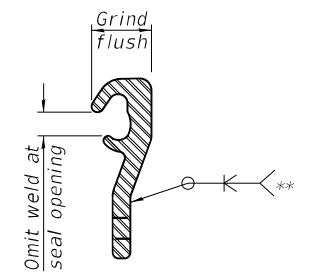
SHOWING WELDED RAIL JOINT



ROLLED (EXTRUDED) RAIL  
WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	49	55	Foot	104

MODEL: 0960043-74997-012  
FILE NAME: J:\201002\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 044-061179  
ILLINOIS REG. NO. 044-061179

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
CHECKED - MC  
PLOT SCALE = 0:2" / 1".  
PLOT DATE = 9/27/2021

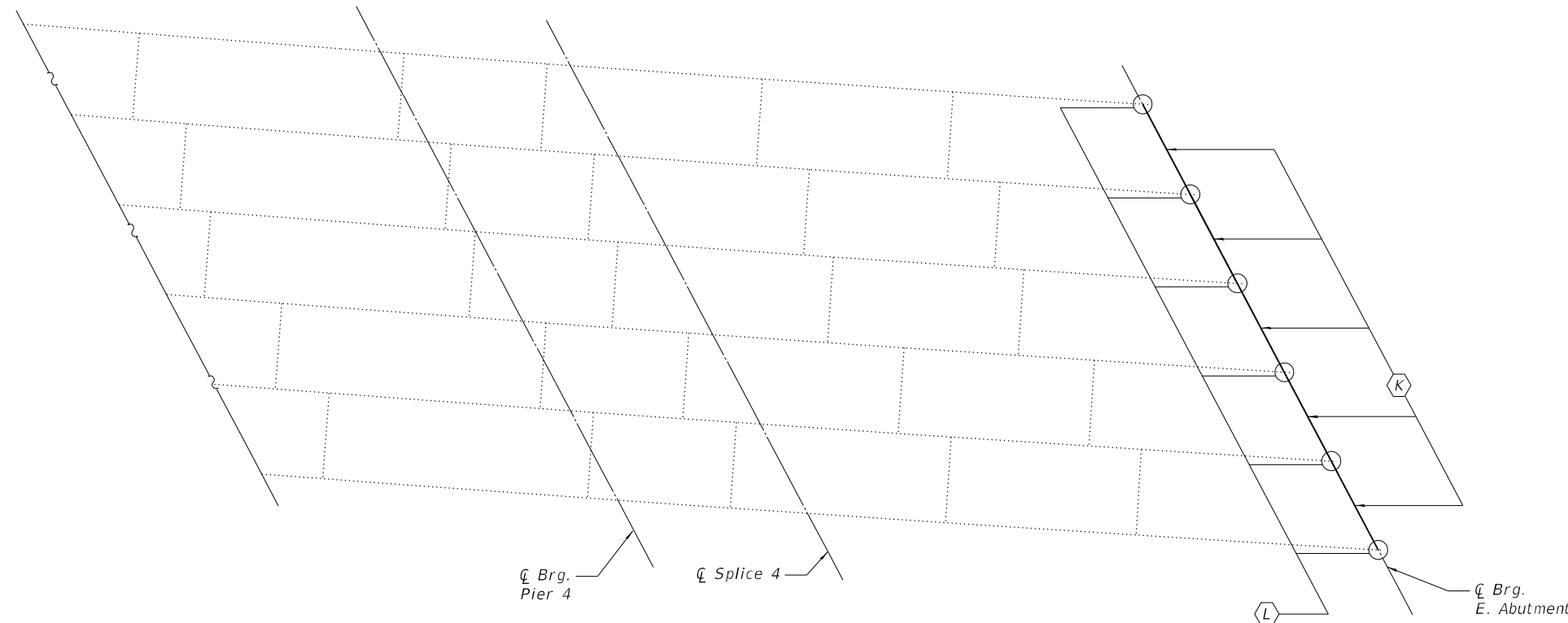
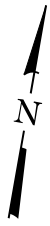
REVISIONS:  
REVISED - 9/27/2021  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

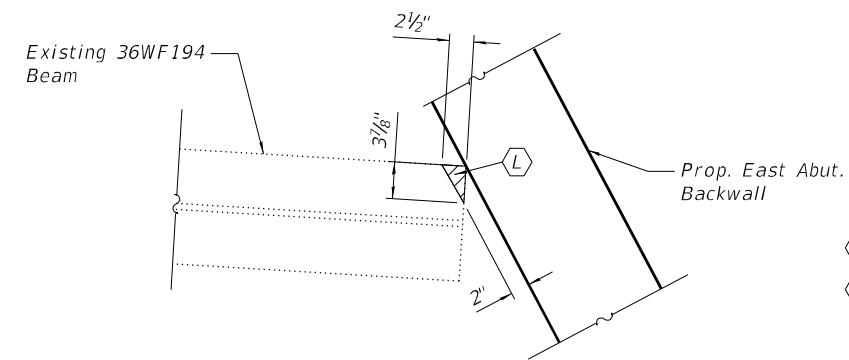
PREFORMED JOINT STRIP SEAL DETAILS  
SN. 096-0043 (EB)

SHEET 12 OF 18 SHEETS

F.A.I. RTE. 64  
SECTION D7 BRIDGE REPAIRS 2022-3  
COUNTY WAYNE  
TOTAL SHEETS 152  
SHEET NO. 66  
CONTRACT NO. 74997  
ILLINOIS FED. AID PROJECT



**PARTIAL FRAMING PLAN**  
(Replacement)



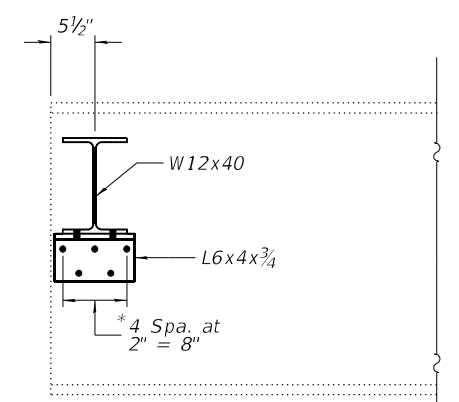
**BEAM END REMOVAL DETAILS**  
(Top View)

- (K) Remove and Replace Diaphragm
- (L) Saw cut the corners of the top and bottom flange of each beam so that there is a 2 1/2" space (measured parallel to the beam) between the end of the beam and the Proposed East Abutment Backwall. Cost included with Structural Steel Removal. (See Beam End Removal Details)

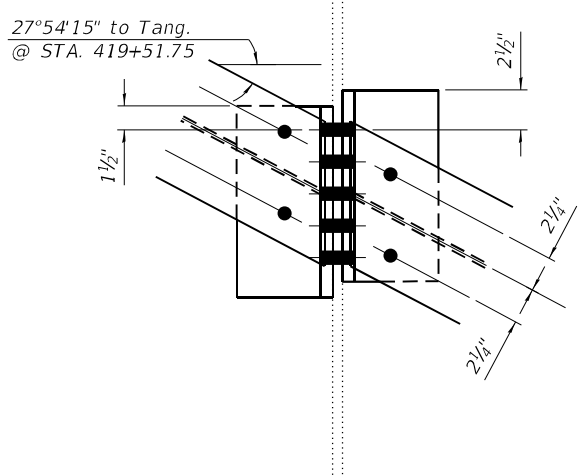
**NOTE**

1. Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
2. New Steel Extensions and Connection Bolts are included with Furnishing and Erecting Structural Steel.
3. Hatching indicates Removal
4. Contractor shall measure as-built dimensions in the field before ordering any material.

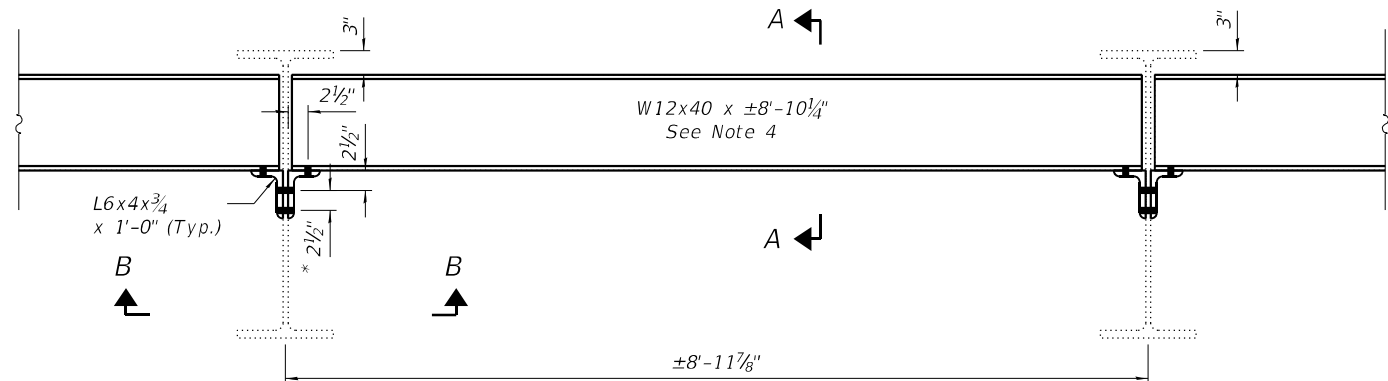
\* Field drill holes in new angle using holes in existing beams as template



**SECTION A-A**  
Replacement



**SECTION B-B**  
Replacement



**DIAPHRAGM REPLACEMENT DETAIL**  
(10 Required)

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	2006
Structural Steel Removal	Pound	2006

MODEL: 0960043-74997-013  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

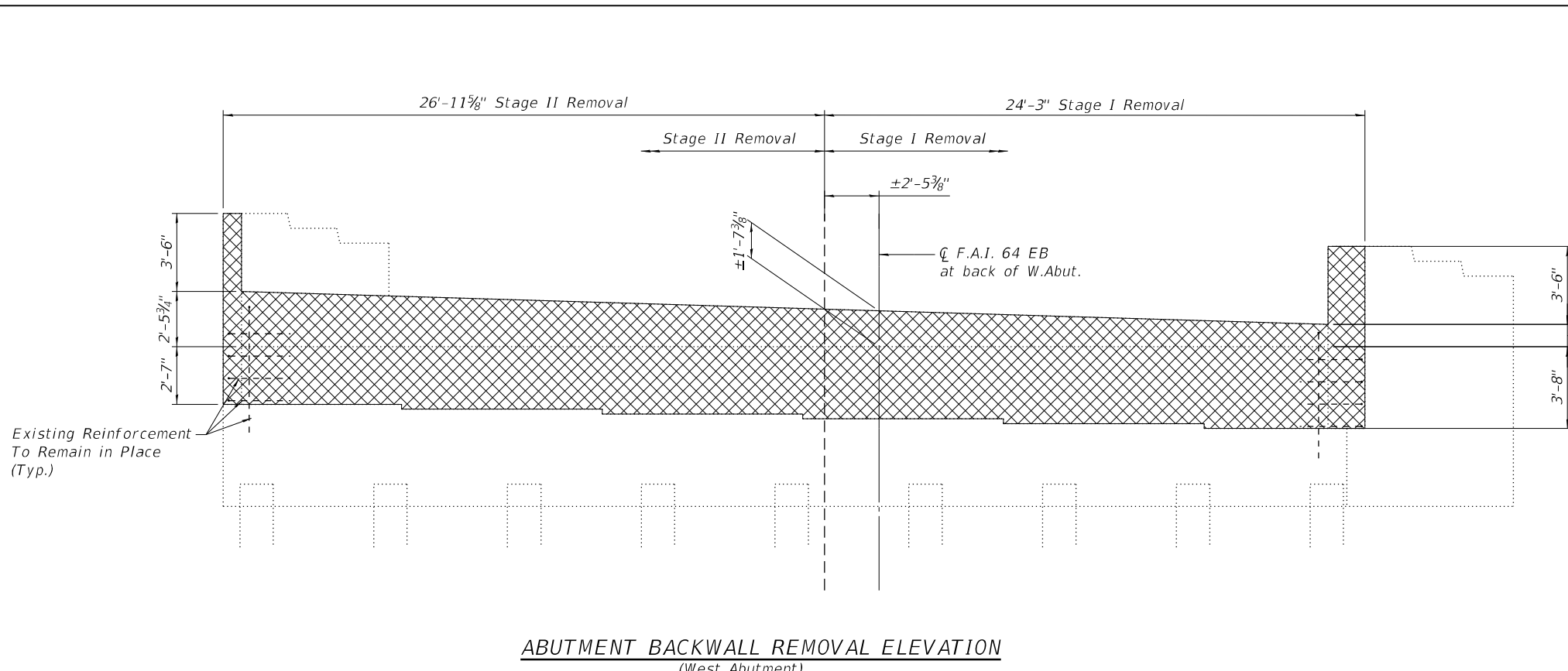
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM REPLACEMENT DETAILS**  
**SN. 096-0043 (EB)**

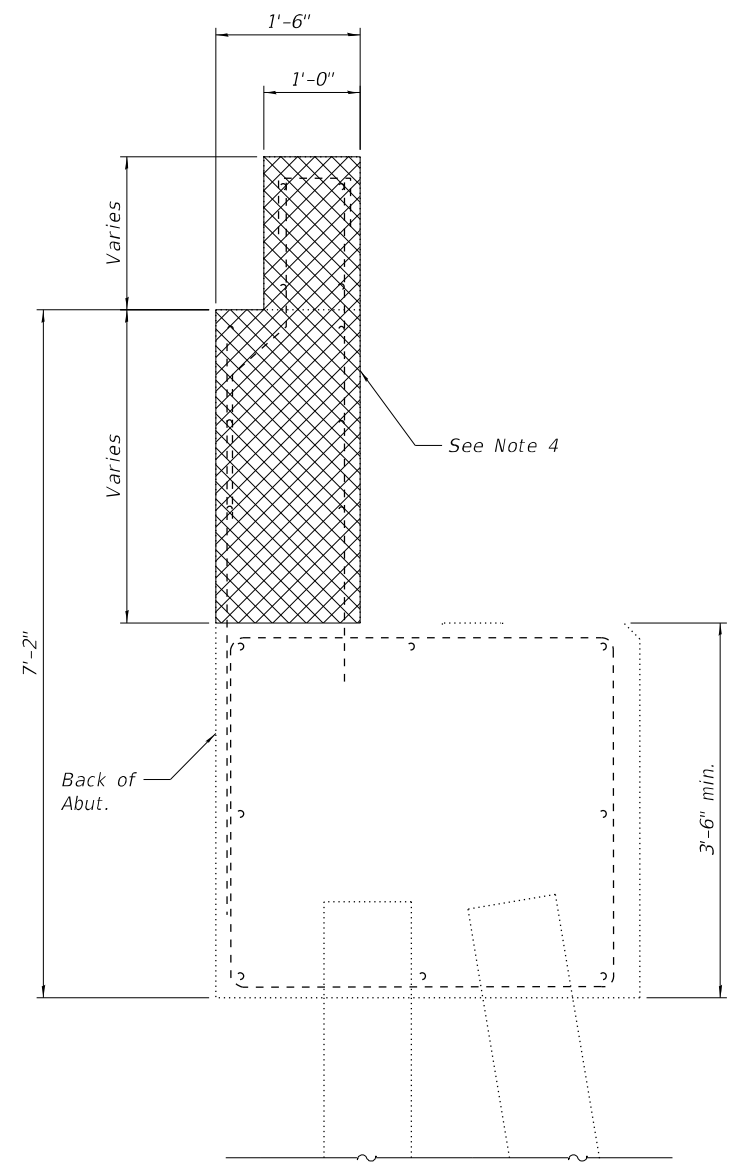
SHEET 13 OF 18 SHEETS

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 67
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

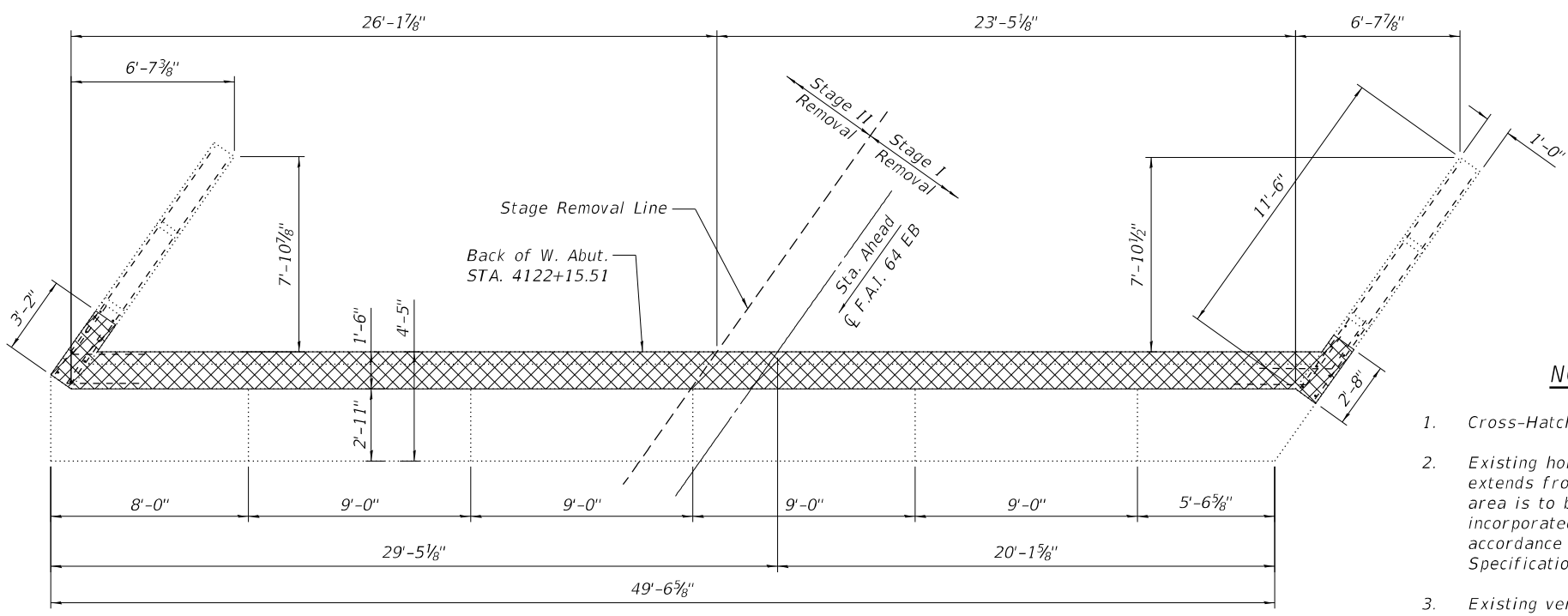
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**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(West Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at Right Angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(West Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**WEST ABUTMENT  
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	12.1

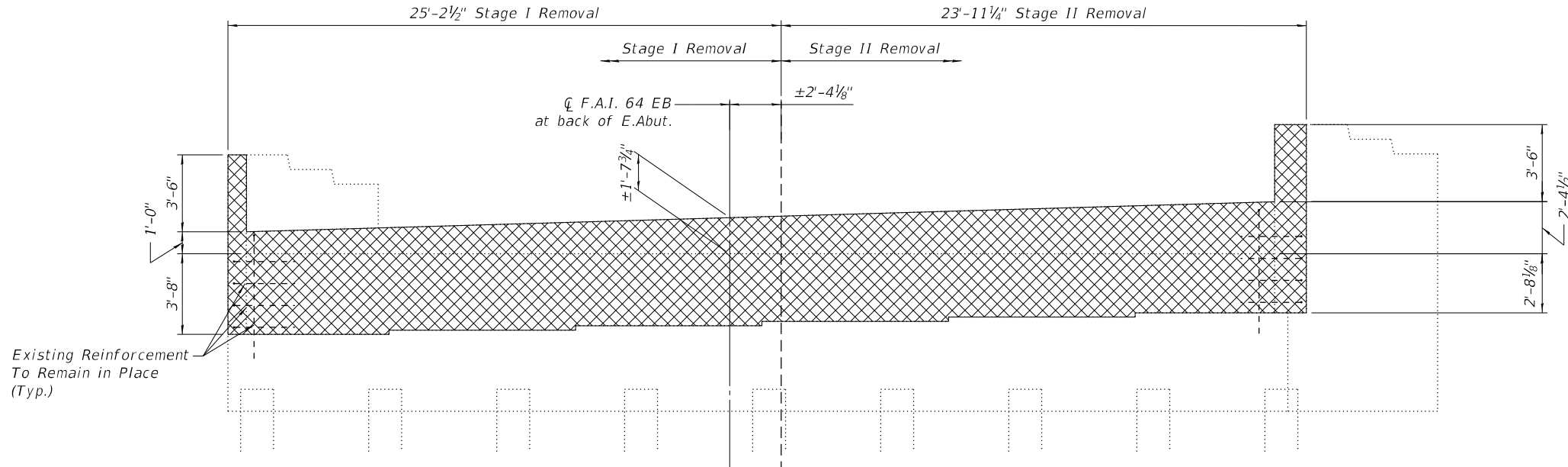
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3501 CONSTRUCTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL ENGINEER REG. NO. 042-061179  
 PROFESSIONAL LAND SURVEYING REG. NO. 048-060098  
 (217) 755-8844, 792-6277, 791

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

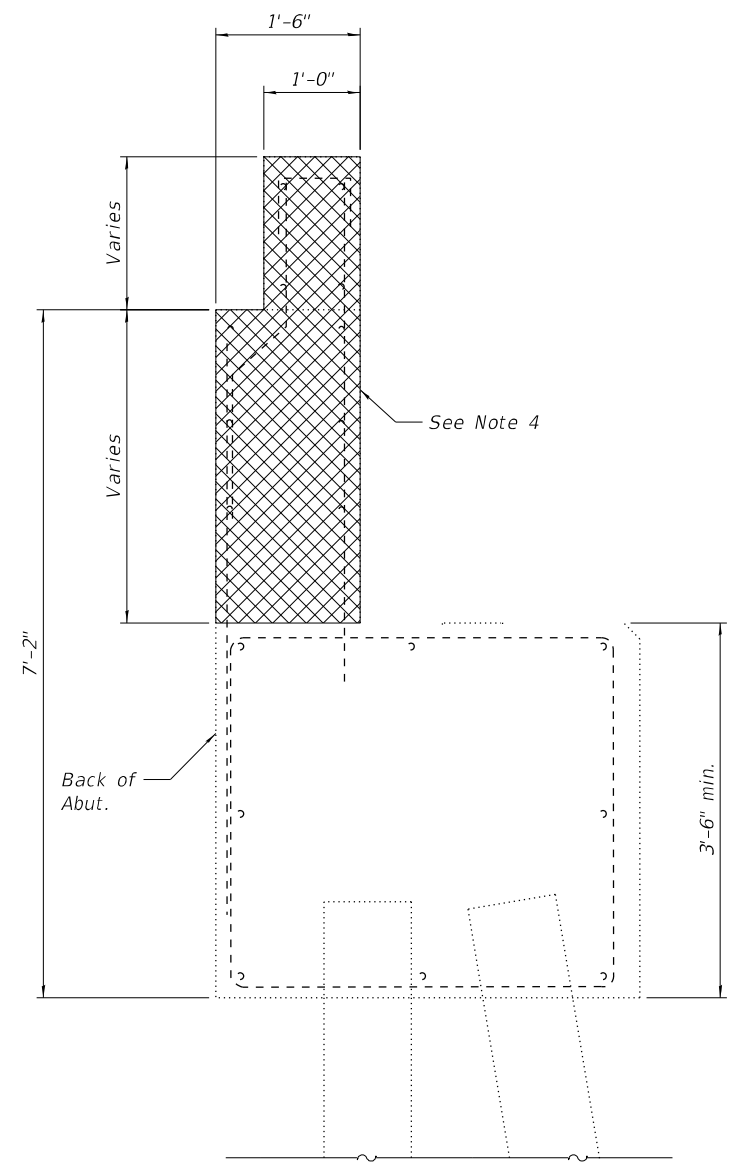
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REMOVAL DETAILS - I  
 SN. 096-0043 (EB)**

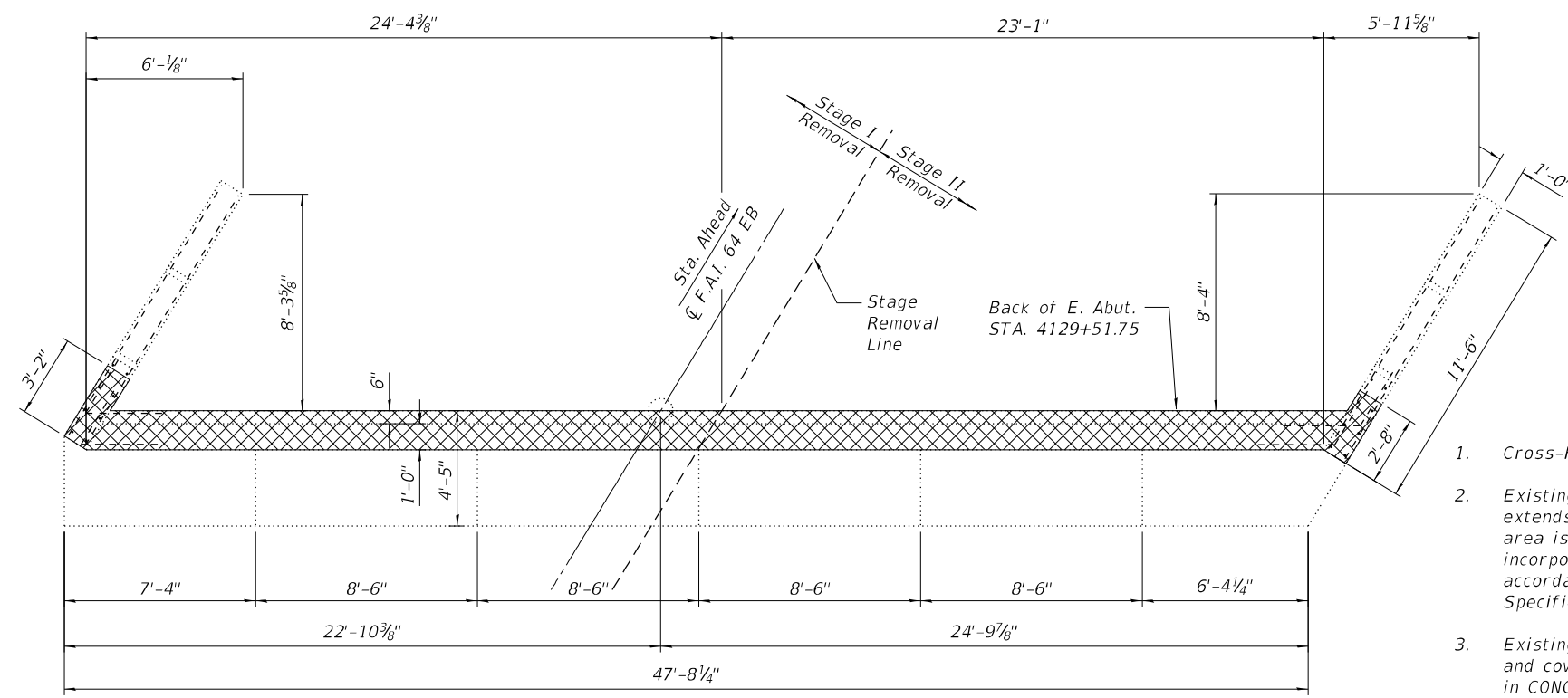
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 68
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(East Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at Right Angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(East Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire East Abut. Backwall and Hatch Block is included in Bill of Material.

**EAST ABUTMENT  
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	11.5

MODEL: 0960043-74997-015  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 042-0001179  
ILLINOIS LICENSE NO. 0217, 715-2844, 715-26227, 71

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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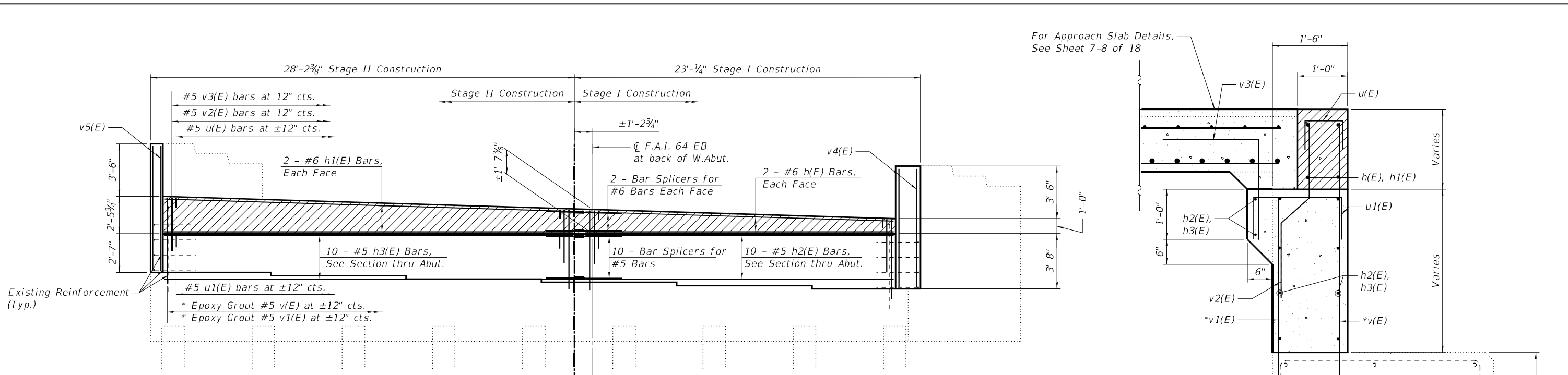
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REMOVAL DETAILS - II  
SN. 096-0043 (EB)**

SHEET 15 OF 18 SHEETS

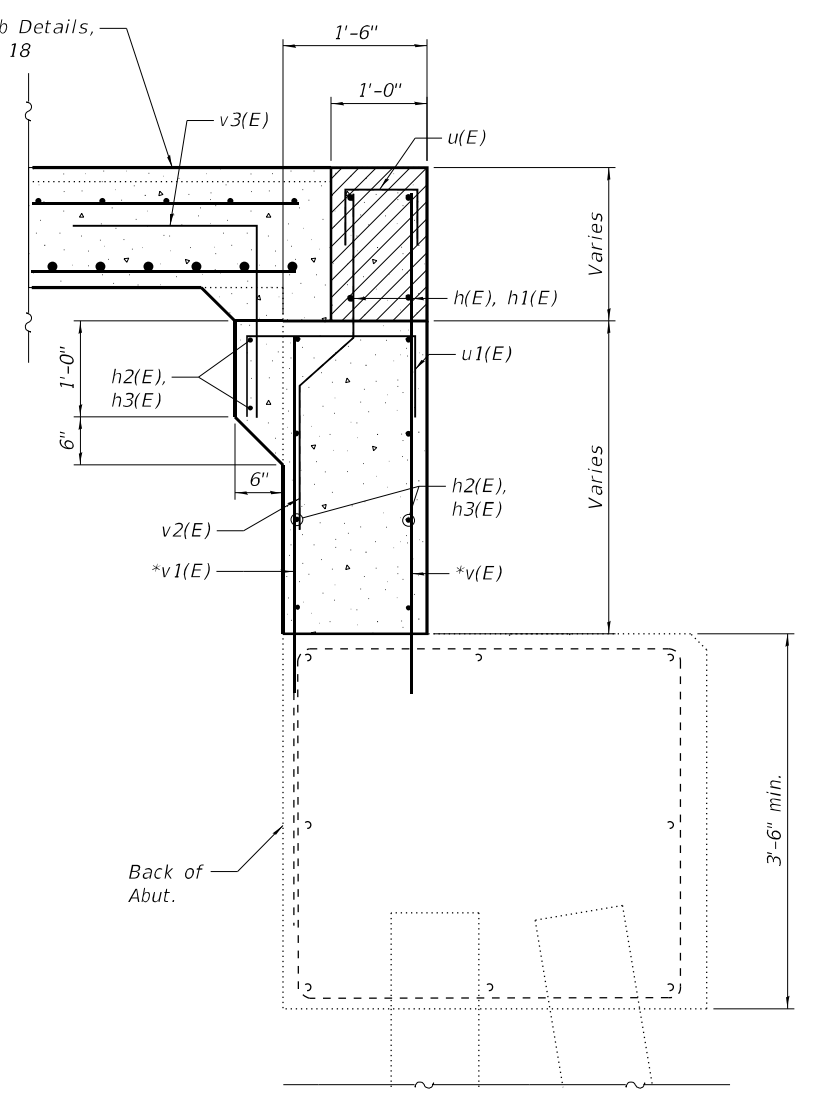
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

MODEL: 0960043-74997-016  
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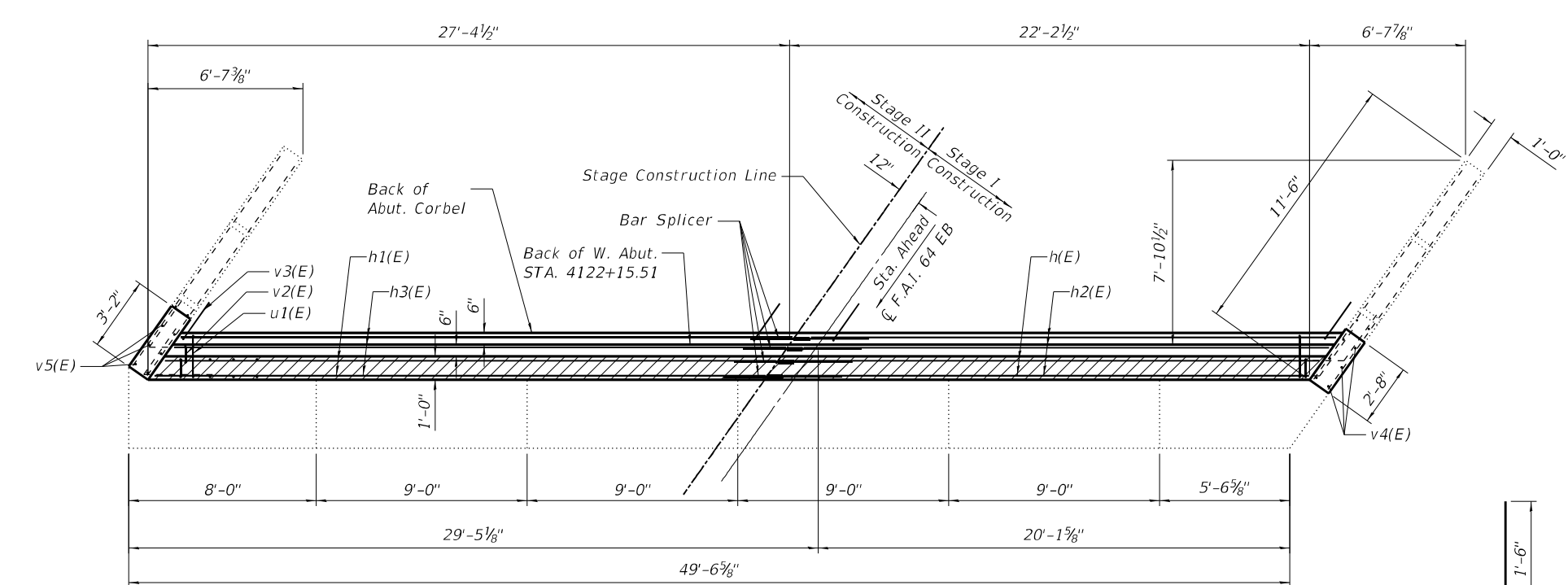


**ABUTMENT BACKWALL REPAIR ELEVATION**  
(West Abutment)

For Approach Slab Details,  
See Sheet 7-8 of 18



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)



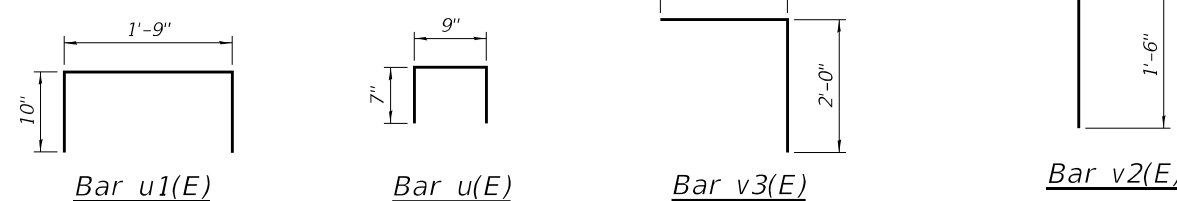
**ABUTMENT BACKWALL REPAIR PLAN**  
(West Abutment)

**WEST ABUTMENT**  
**BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h(E)	4		4	#6	22'-5"	—	
h1(E)		4	4	#6	26'-1"	—	
h2(E)	10		10	#5	22'-5"	—	
h3(E)		10	10	#5	26'-1"	—	
u(E)	23	27	50	#5	1'-11"	□	
u1(E)	23	27	50	#5	3'-5"	□	
v(E)	23	27	50	#5	5'-4"	—	
v1(E)	23	27	50	#5	3'-9"	—	
v2(E)	23	27	50	#5	3'-9"	—	
v3(E)	23	27	50	#5	3'-11"	└	
v4(E)	6		6	#4	7'-10"	—	
v5(E)		6	6	#4	8'-4"	—	
Concrete Structures						Cu. Yd.	10.5
Reinforcement Bars, Epoxy Coated						Pound	2014
Bar Splicers						Each	14

**NOTE**

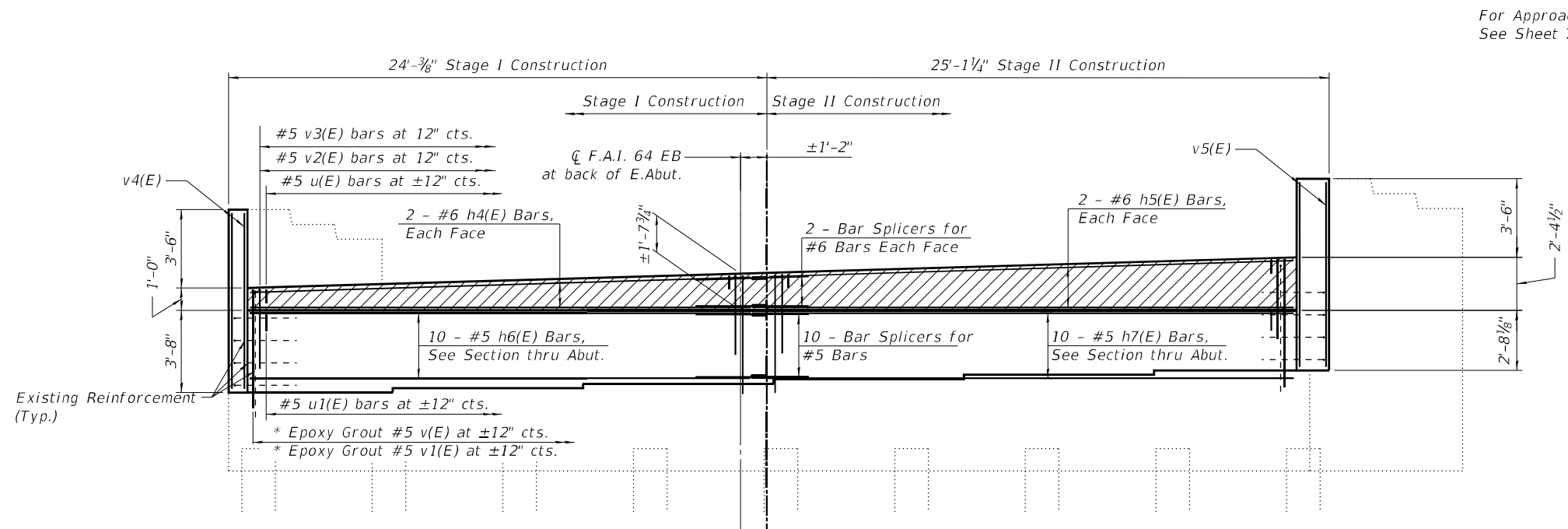
- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.



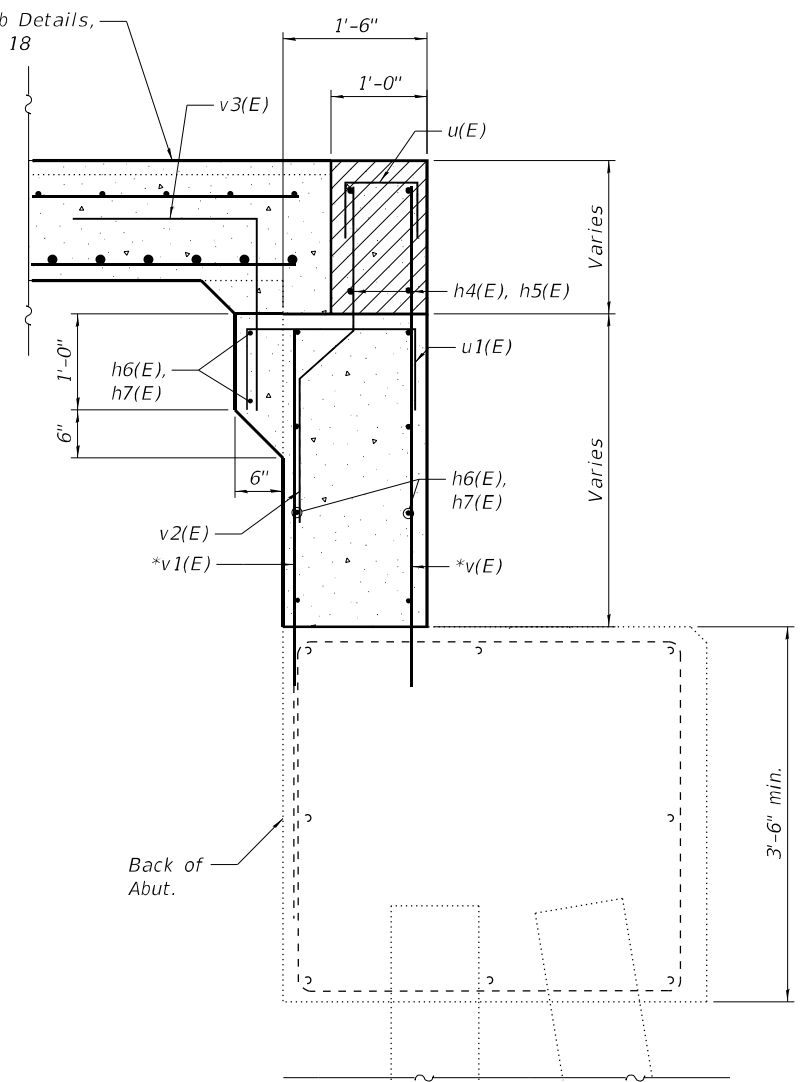
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REPAIR DETAILS - I**  
**SN. 096-0043 (EB)**

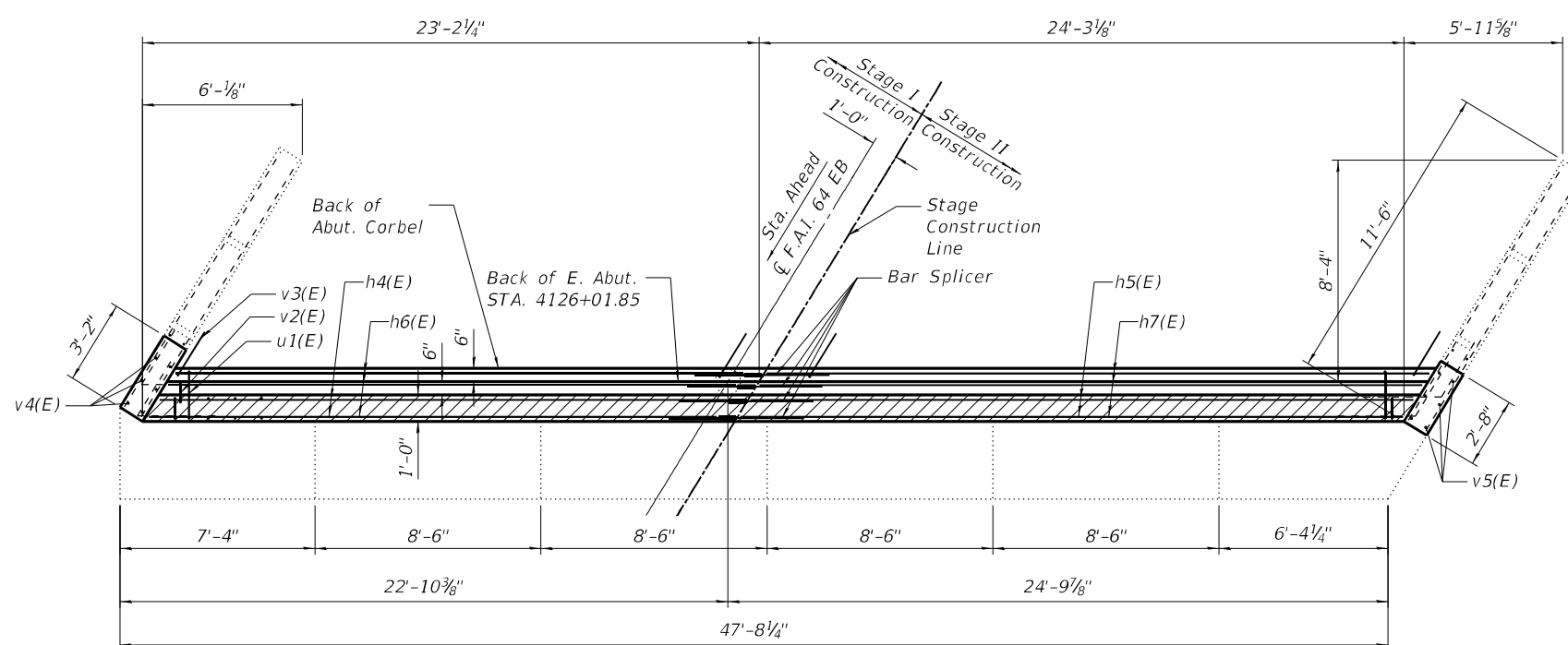
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	70
CONTRACT NO. 74997				



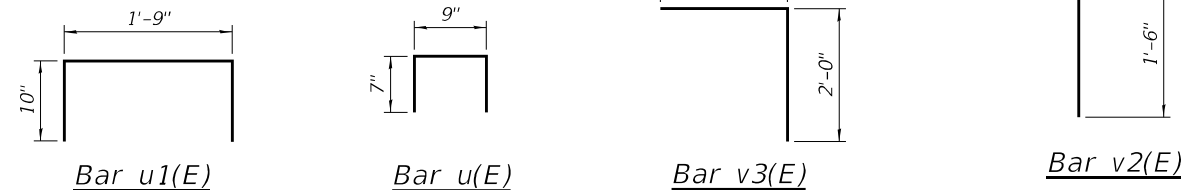
**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(East Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(East Abutment)



**EAST ABUTMENT BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h4(E)	4		4	#6	21'-4"	—	
h5(E)		4	4	#6	24'-11"	—	
h6(E)	10		10	#5	21'-4"	—	
h7(E)		10	10	#5	24'-11"	—	
u(E)	22	25	47	#5	1'-11"	□	
u1(E)	22	25	47	#5	3'-5"	□	
v(E)	22	25	47	#5	5'-4"	—	
v1(E)	22	25	47	#5	3'-9"	—	
v2(E)	22	25	47	#5	3'-9"	—	
v3(E)	22	25	47	#5	3'-11"	┌	
v4(E)	6		6	#4	7'-10"	—	
v5(E)		6	6	#4	8'-4"	—	
Concrete Structures						Cu. Yd.	10.5
Reinforcement Bars, Epoxy Coated						Pound	1908
Bar Splicers						Each	14

**NOTE**

- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.

MODEL: 0960043-74997-017  
FILE NAME: J:\20100402\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960043-74997.dgn

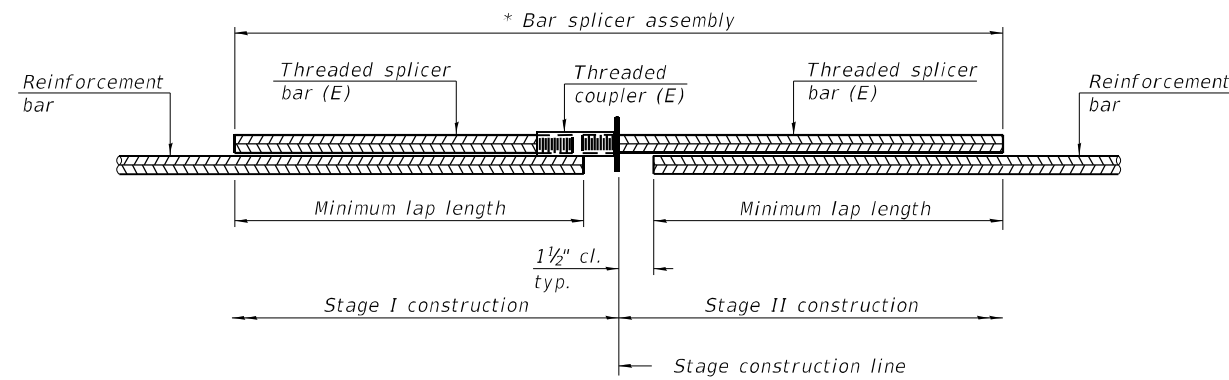
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL ENGINEER REG. NO. 042-061179  
PROFESSIONAL LAND SURVEYOR REG. NO. 048-060098  
(217) 755-8844, 792-6277, 791

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0'2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
	CHECKED - MC	REVISED -

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

**ABUTMENT BACKWALL REPAIR DETAILS - II**  
**SN. 096-0043 (EB)**

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 71
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

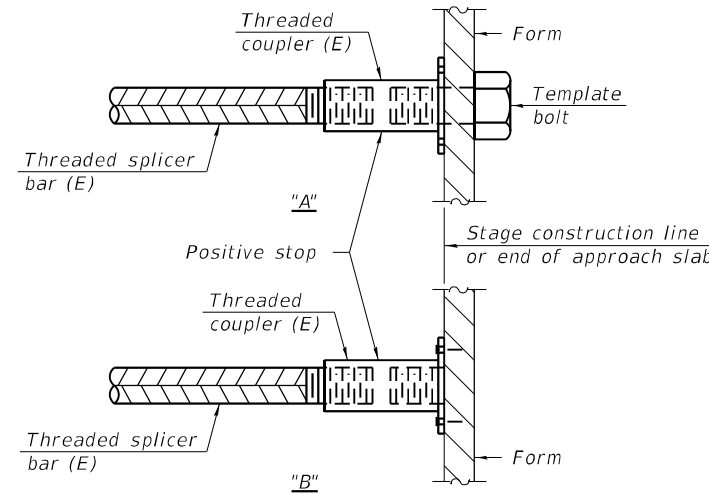


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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

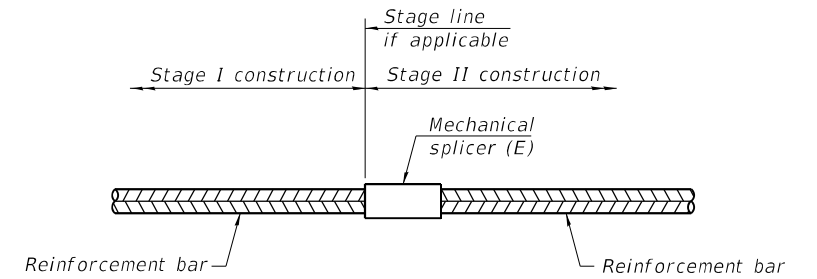
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#6	16	4'-4"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	92	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"



**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.

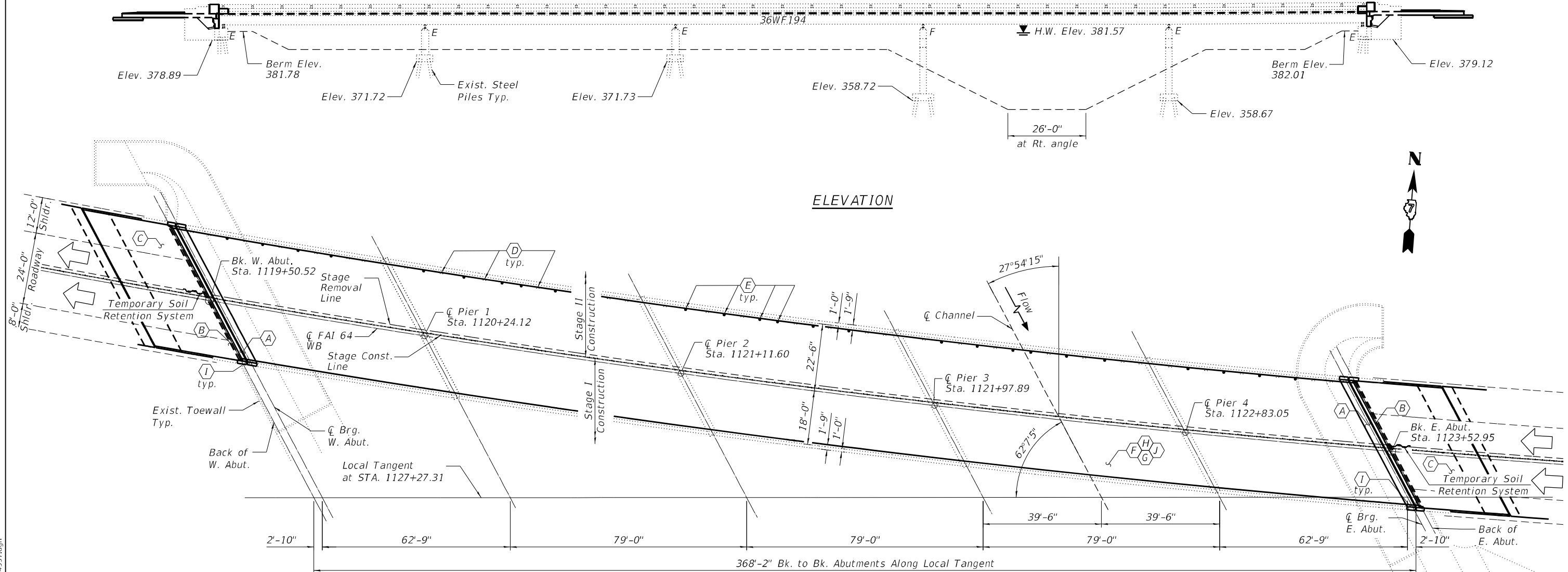
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BSD-1 1-1-2020

<b>GREENE &amp; BRADFORD, INC.</b> OF SPRINGFIELD <small>CONSULTING ENGINEERS          3501 CONSTRUCTION DRIVE          SPRINGFIELD, ILLINOIS 62711          PROFESSIONAL DESIGN FIRM NO. 054-061179          PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098          (217) 753-8844, 752-6277, 751</small>	USER NAME = BenB	DESIGNED - KAS	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS</b> <b>SN. 096-0043 (EB)</b>	F.A.I. RTE. = 64	SECTION = D7 BRIDGE REPAIRS 2022-3	COUNTY = WAYNE	TOTAL SHEETS = 152	SHEET NO. = 72
	PLOT SCALE = 0:2" / 1 in.	DRAWN - PG	REVISED -			CONTRACT NO. 74997				
PLOT DATE = 8/31/2021	CHECKED - MC	REVISED -	SHEET 18 OF 18 SHEETS			ILLINOIS FED. AID PROJECT				



The existing five span continuous WF beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-1 at STA. 1122+39.08. S.N. 096-0044 (WB) carries F.A.I. Route 64 (I-64) over Skillet Fork. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, a new concrete overlay, and bridge deck patching with Stage Construction.



**STRUCTURE INDEX OF SHEETS**

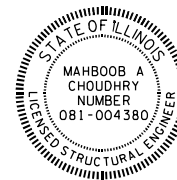
SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching- Span 1 & 2
4	Bridge Deck Patching- Span 3
5	Bridge Deck Patching- Span 4 & 5
6	Deck Drain Replacement Details
7	Approach Slab Details-I
8	Approach Slab Details-II
9	Expansion Joint Removal Details
10	Expansion Joint Replacement Details
11	Wingwall Modification at Expansion Joint
12	Preformed Joint Strip Seal Details
13	Abutment Backwall Removal Details-I
14	Abutment Backwall Removal Details-II
15	Abutment Backwall Repair Details-I
16	Abutment Backwall Repair Details-II
17	Bar Splicer Assembly and Mechanical Splicers Details

**SCOPE OF WORK**

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 9-10 of 17)
- (B) - Remove & Replace Abutment Backwall (See Sheet 13-16 of 17)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 7-8 of 17)
- (D) - Eliminate Floor Drains (See Sheet 3-6 of 17)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-6 of 17)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 17)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 17)
- (H) - Install Bridge Deck Patches. (See Sheet 3-5 of 17)
- (I) - Modify Parapet Transition (See Sheet 11 of 17)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)

**PLAN**

*M. Chaudhry*



Dated **8/31/2021**  
 Mahboob A Choudhry  
 Licensed Structural Engineer  
 In Illinois No. 081-004380  
 Expires: 11/30/2022

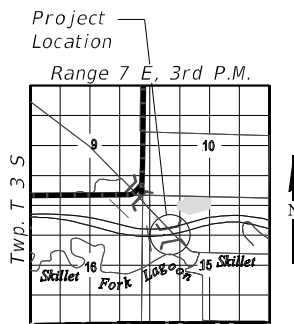
**DESIGN STRESSES**  
FIELD UNITS

f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)

**EXIST. CURVE DATA**

P.I. Sta. = 1115+71.92  
 Δ = 29°-58'-21"  
 D = 1°-16'-0"  
 R = 4523.35'  
 T = 1210.86'  
 L = 2366.25'  
 E = 159.27  
 S.E. = 0.035 Ft. per Ft.

S.E. removed  
 STA. 1126+60.64 to  
 STA. 1128+60.64



**LOCATION SKETCH**

MODEL: 0960044-74997-001  
 FILE NAME: J:\201002\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 754-8844, 792-6277, 791

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / 1 in.	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG, BB	REVISED -
	CHECKED - MC	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION  
 SN. 096-0044 (WB)**

SHEET 01 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	73
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

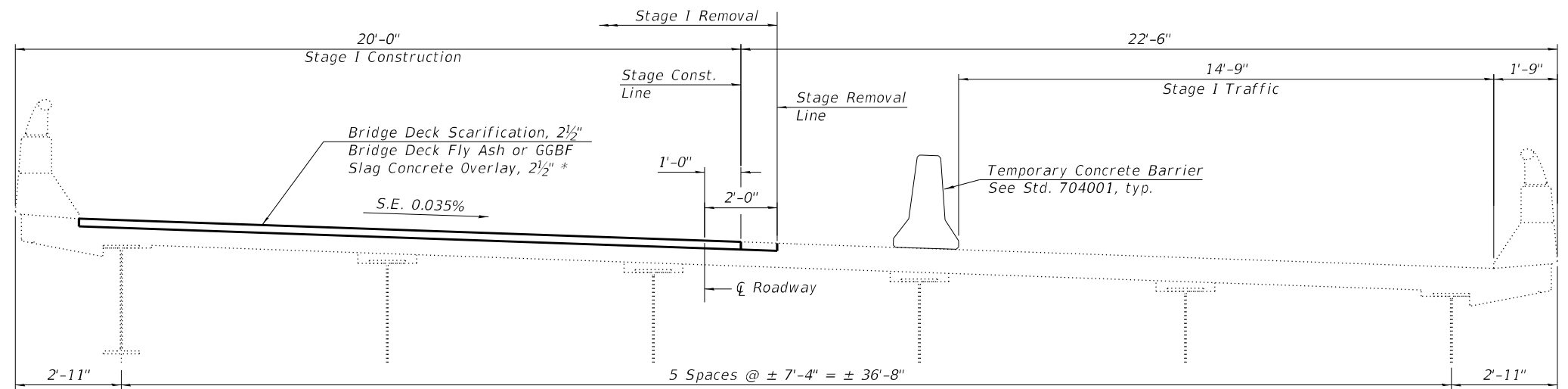
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

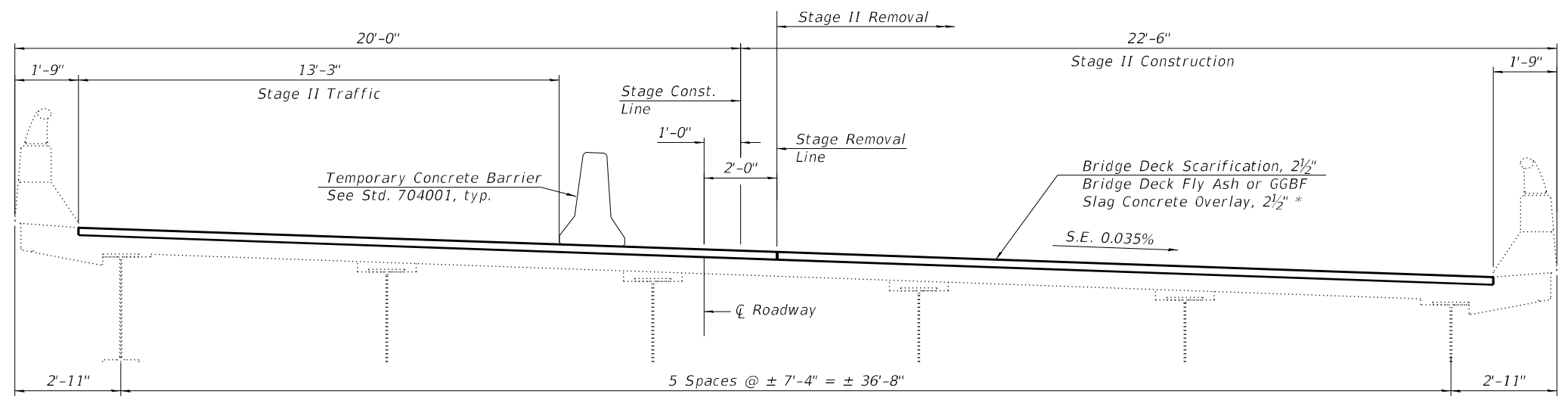
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	36.3
Concrete Structures	Cu. Yd.	51.7
Concrete Superstructures	Cu. Yd.	19.2
Concrete Superstructure (Approach Slab)	Cu. Yd.	113.1
Reinforcement Bars, Epoxy Coated	Pound	57575
Bar Splicers	Each	336
Prefomed Joint Strip Seal	Foot	107
Floor Drains	Each	26
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	1682
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	1682
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1051
** Diamond Grinding (Bridge Section)	Sq. Yd.	1952
*** Protective Coat	Sq. Yd.	2171
Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	13.9
Porous Granular Backfill	Cu. Yd.	57.0
Structure Excavation	Cu. Yd.	57.0
Temporary Soil Retention System	Sq. Ft.	47.4

\*\* See Special Provisions.  
\*\*\* New Concrete and overlay areas



\* Overlay Thickness Prior to Grinding



Stage II (Looking West)

MODEL: 0960044-74997-002  
FILE NAME: J:\201002\_W0# 2 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62111  
PROFESSIONAL DESIGN FIRM NO. 084-061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098  
(217) 755-8844, 752-6277, 752-6277

USER NAME = BenB  
PLOT SCALE = 0:2" = 1'-0"  
PLOT DATE = 8/31/2021

DESIGNED - KAS  
CHECKED - MC  
DRAWN - PG  
CHECKED - MC

REVISED -  
REVISED -  
REVISED -  
REVISED -

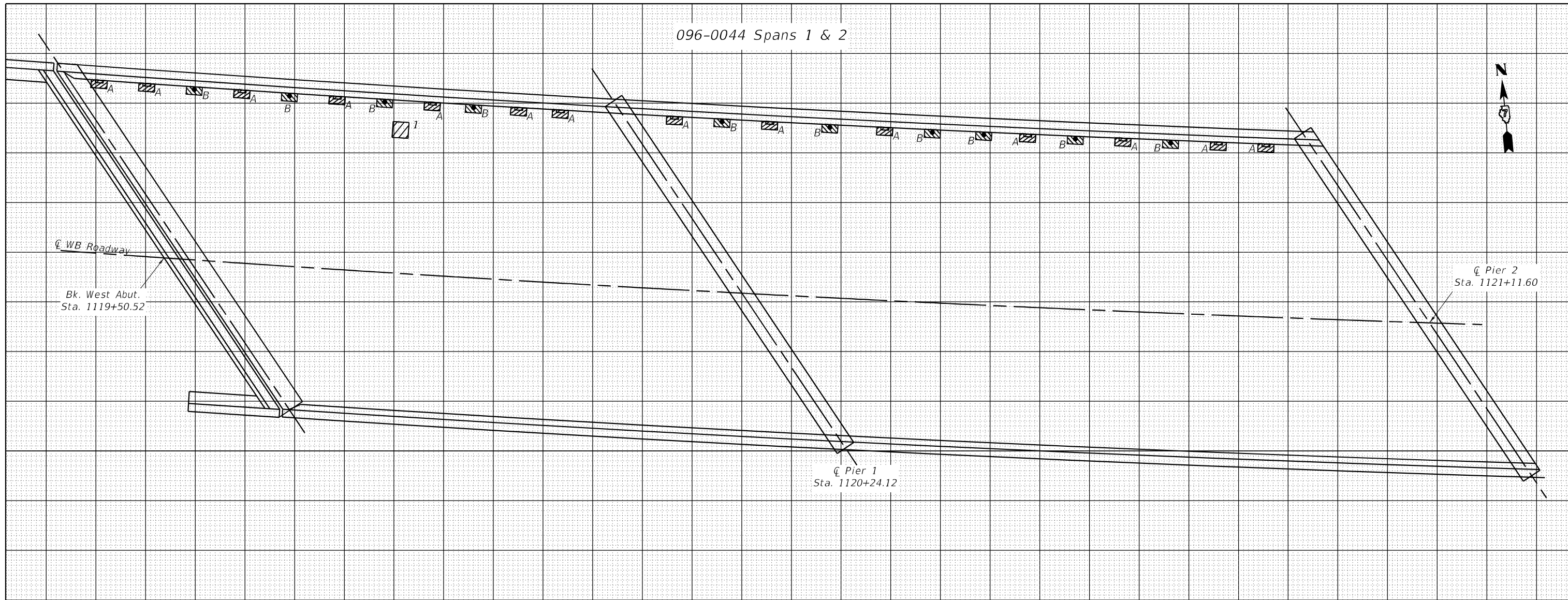
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS  
SN. 096-0044 (WB)**

SHEET 02 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	74
CONTRACT NO. 74997				
		ILLINOIS	FED. AID PROJECT	

096-0044 Spans 1 & 2



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	2.0	2.0	0.5	
A - Remove Drain, 14 ea			3.2	
B - Replace Drain, 10 ea			2.2	
TOTALS			5.9	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
 DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 5.9 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
 FLOOR DRAINS = 10 Each

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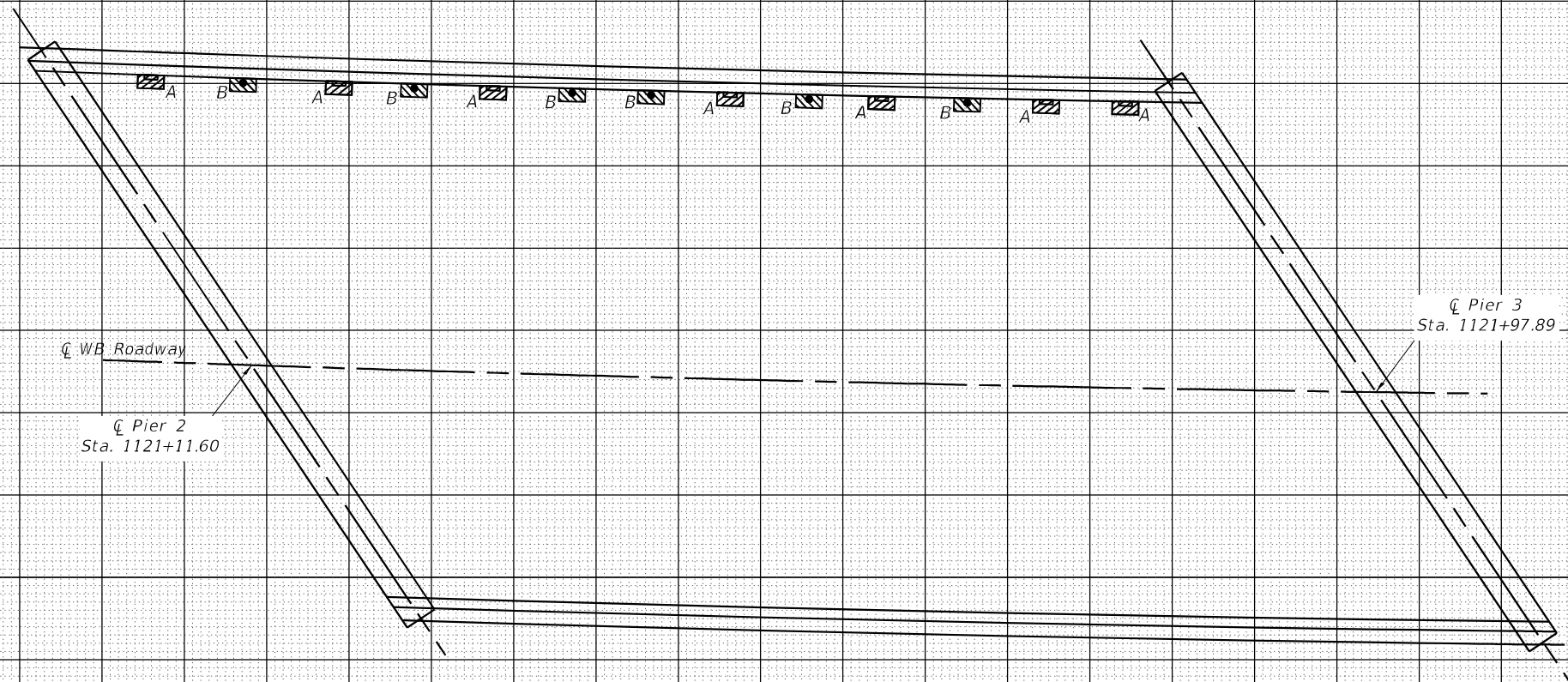
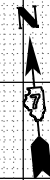
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PLOT DATE = 8/31/2021	CHECKED - D. Macklin	REVISED -
	DATE - Nov. 2020	REVISED -

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BRIDGE DECK PATCHING, SPANS 1 & 2			
SN. 096-0044			
SCALE:	SHEET 03	OF 17 SHEETS	STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	75
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

096-0044 Span 3



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
A - Remove Drain, 7 ea			1.6	
B- Replace Drain, 6 ea			1.3	
TOTALS			2.9	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
 DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 2.9 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
 FLOOR DRAINS = 6 Each

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PLOT DATE = 8/31/2021	DATE - Nov. 2020	REVISED -

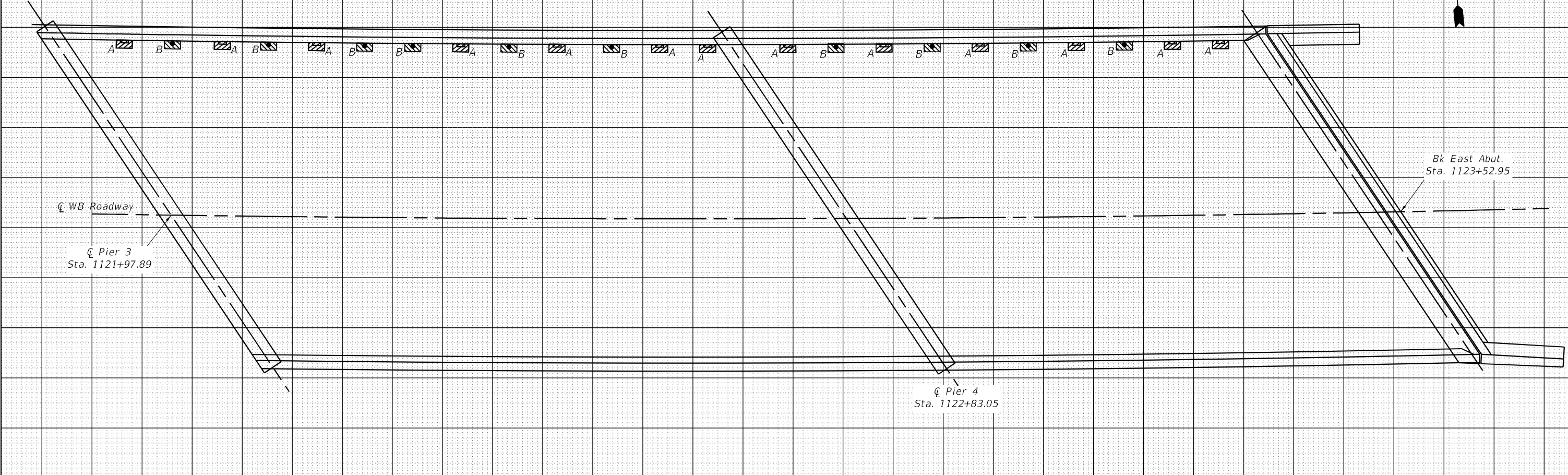
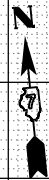
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPAN 3  
 SN. 096-0044

SCALE: SHEET 04 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	76
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

096-0044 Spans 4 & 5



PATCH	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	NO.	LENGTH	WIDTH	SQ YD
A - Remove Drain, 13 ea			2.9	
B - Replace Drain, 10 ea			2.2	
TOTALS			5.1	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

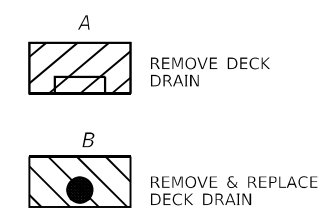


DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each

ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 5.1 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
 FLOOR DRAINS = 10 Each



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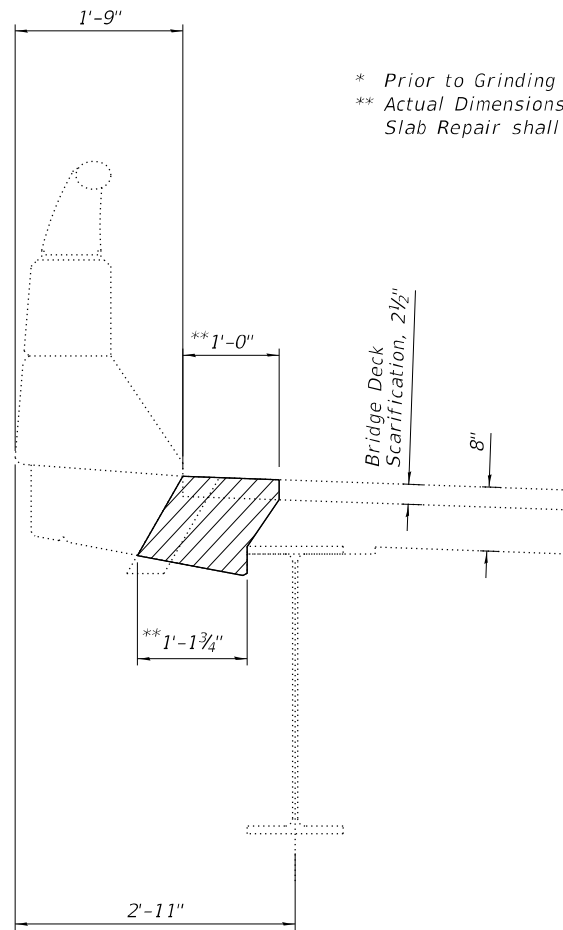
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	DATE - Nov. 2020	REVISED -

STATE OF ILLINOIS  
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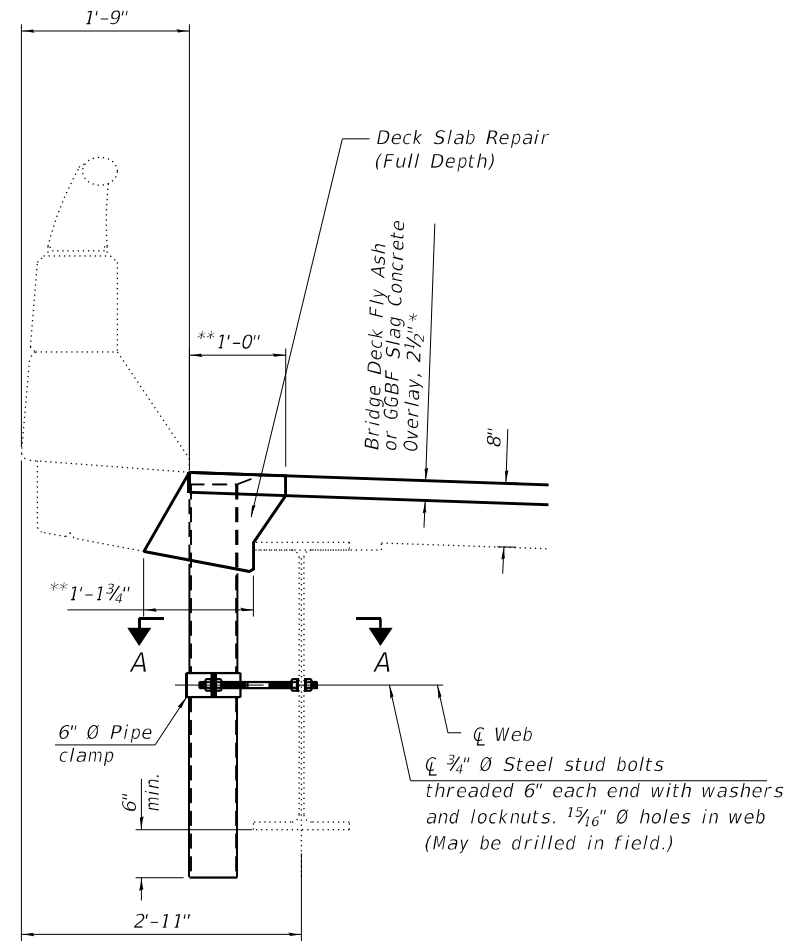
BRIDGE DECK PATCHING, SPANS 4 & 5  
 SN. 096-0044

SCALE: SHEET 05 OF 17 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	

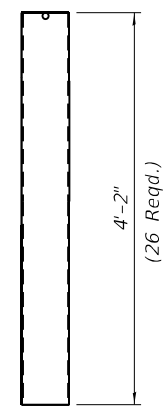
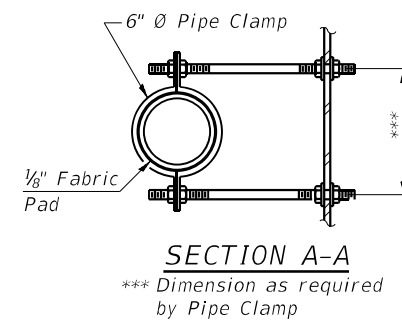
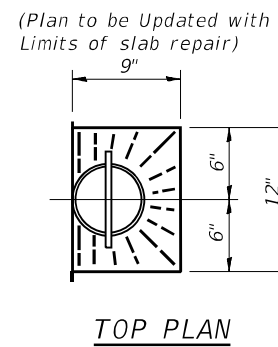
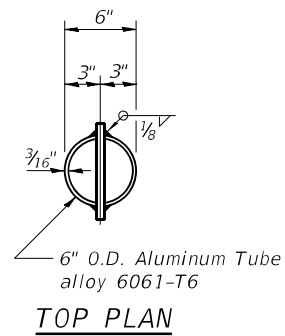
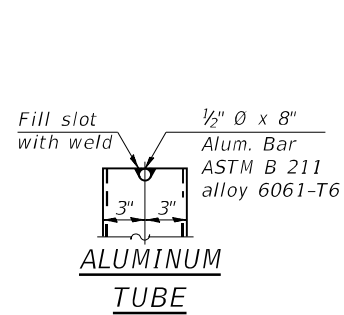


\* Prior to Grinding  
 \*\* Actual Dimensions of Deck  
 Slab Repair shall be determined by Engineer



Notes:  
 Fiberglass pipe alternative shall not be allowed for floor drains.  
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.  
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3-5 of 17.

**SECTIONS THRU DRAIN TO BE REPLACED**  
 60 Locations - See Bridge Patching Sheet



**DRAIN DETAIL**

MODEL: 0960044-74997-006  
 FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
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 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 054-061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098  
 (217) 753-8844, 752-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0.2" / in.	CHECKED - MC	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

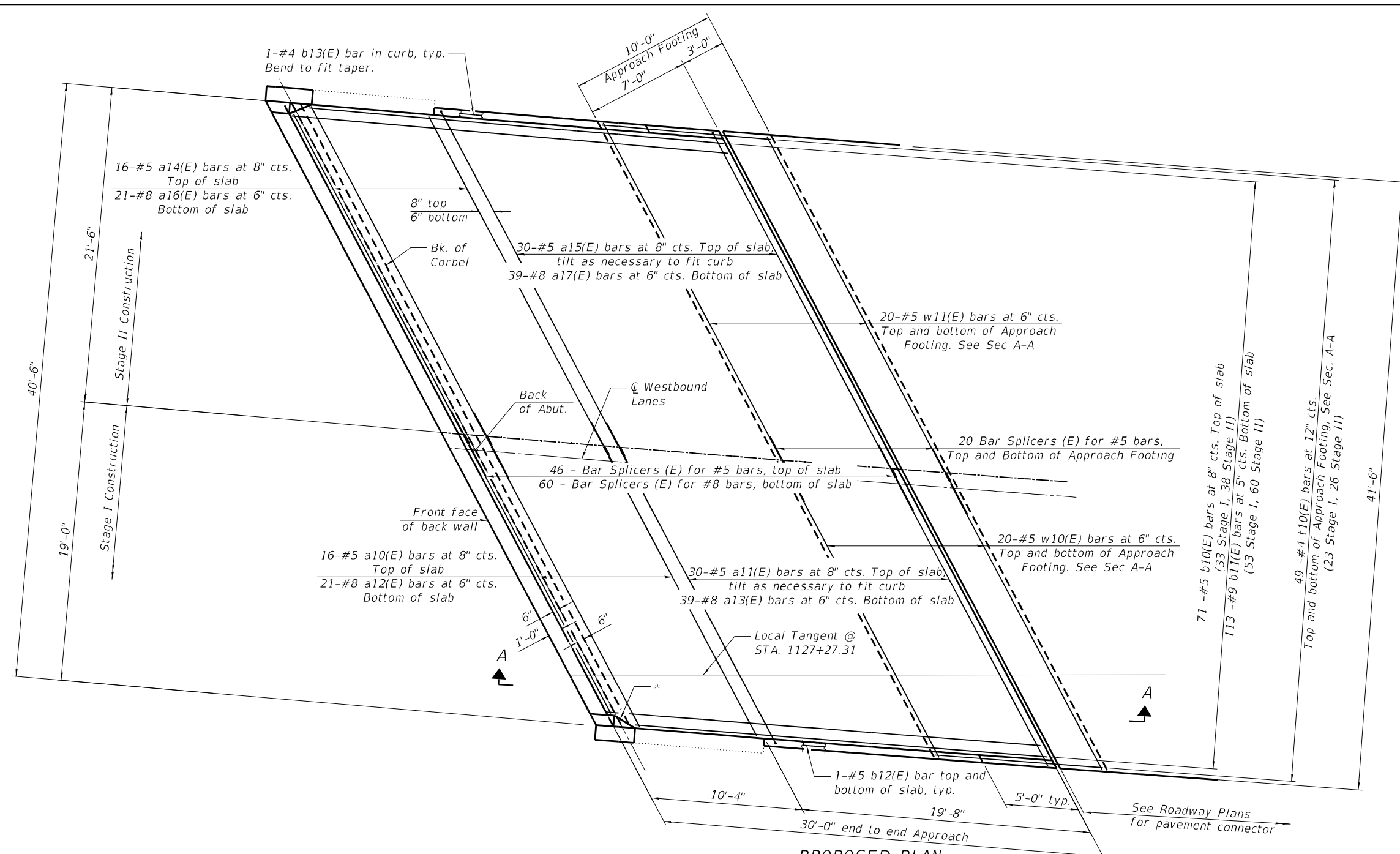
**DECK DRAIN REPLACEMENT DETAILS**  
**SN. 096-0044 (WB)**  
 SHEET 06 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	78
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



\* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.

See Sheet 8 of 17 for Section A-A.



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PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277 (F)

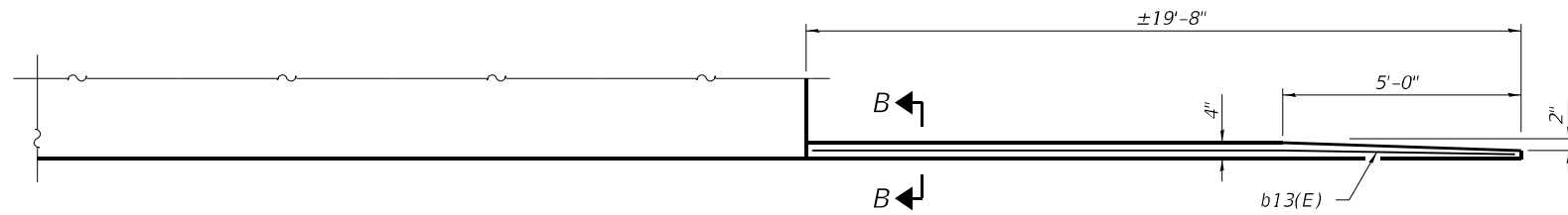
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - I  
SN. 096-0044 (WB)**

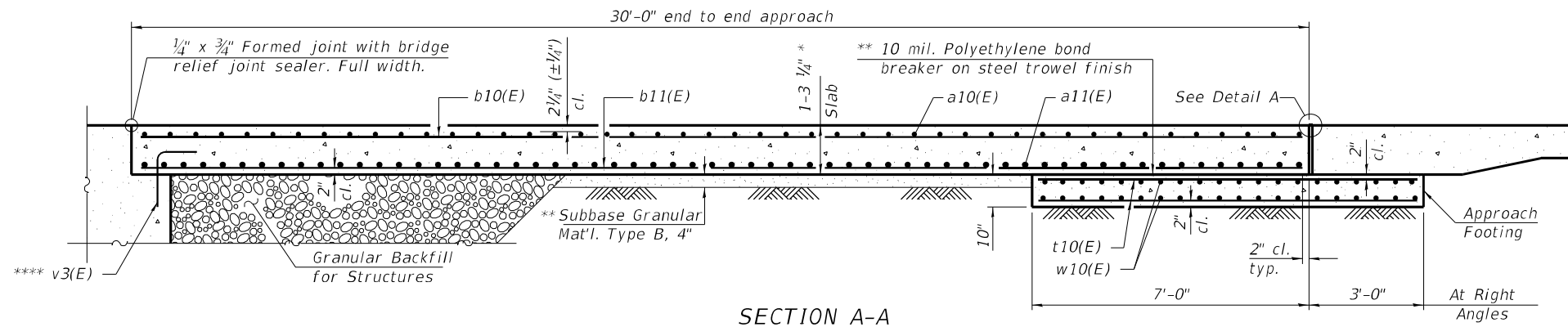
SHEET 07 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

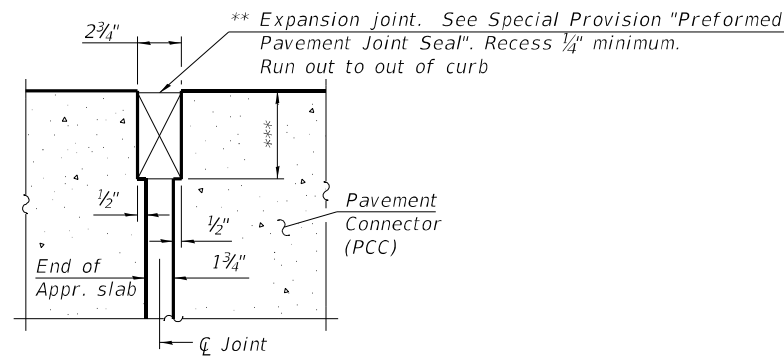
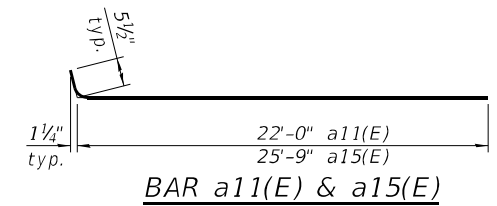


Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 10 of 17.  
 \* Prior to Grinding

INSIDE ELEVATION OF PARAPET AND CURB

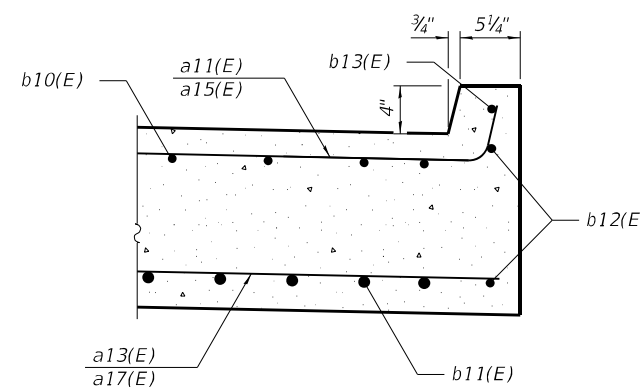


SECTION A-A



DETAIL A

(Detail A shown, applies to Highway Standard 420401 only.  
 Detail A for pavement connector (HMA) may be found on  
 Highway Standard 420406.)



SECTION B-B

TWO APPROACHES  
 BILL OF MATERIAL

Bar	Stage I	Stage II	Total	Size	Length	Shape
a10(E)	32		32	#5	21'-7"	————
a11(E)	60		60	#5	22'-6"	————
a12(E)	42		42	#8	21'-7"	————
a13(E)	78		78	#8	22'-0"	————
a14(E)		32	32	#5	25'-4"	————
a15(E)		60	60	#5	26'-2"	————
a16(E)		42	42	#8	25'-4"	————
a17(E)		78	78	#8	25'-9"	————
b10(E)	66	76	142	#5	29'-8"	————
b11(E)	106	120	226	#9	29'-8"	————
b12(E)	4	4	8	#5	19'-5"	————
b13(E)	2	2	4	#4	19'-6"	————
t10(E)	46	52	98	#4	11'-7"	————
w10(E)	80		80	#5	22'-1"	————
w11(E)		80	80	#5	25'-10"	————
Concrete Superstructure (Approach Slab)				Cu. Yd.	113.1	
Concrete Structures				Cu. Yd.	31.4	
Reinforcement Bars, Epoxy Coated				Pound	51896	
Bar Splicers				Each	292	

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

\*\*\* Per manufacturer recommendations

\*\*\*\* v3(E) bar shown on Sheet 15-16 of 17.

MODEL: 0960044-74997-008  
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**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
 (217) 755-8844, 752-6277 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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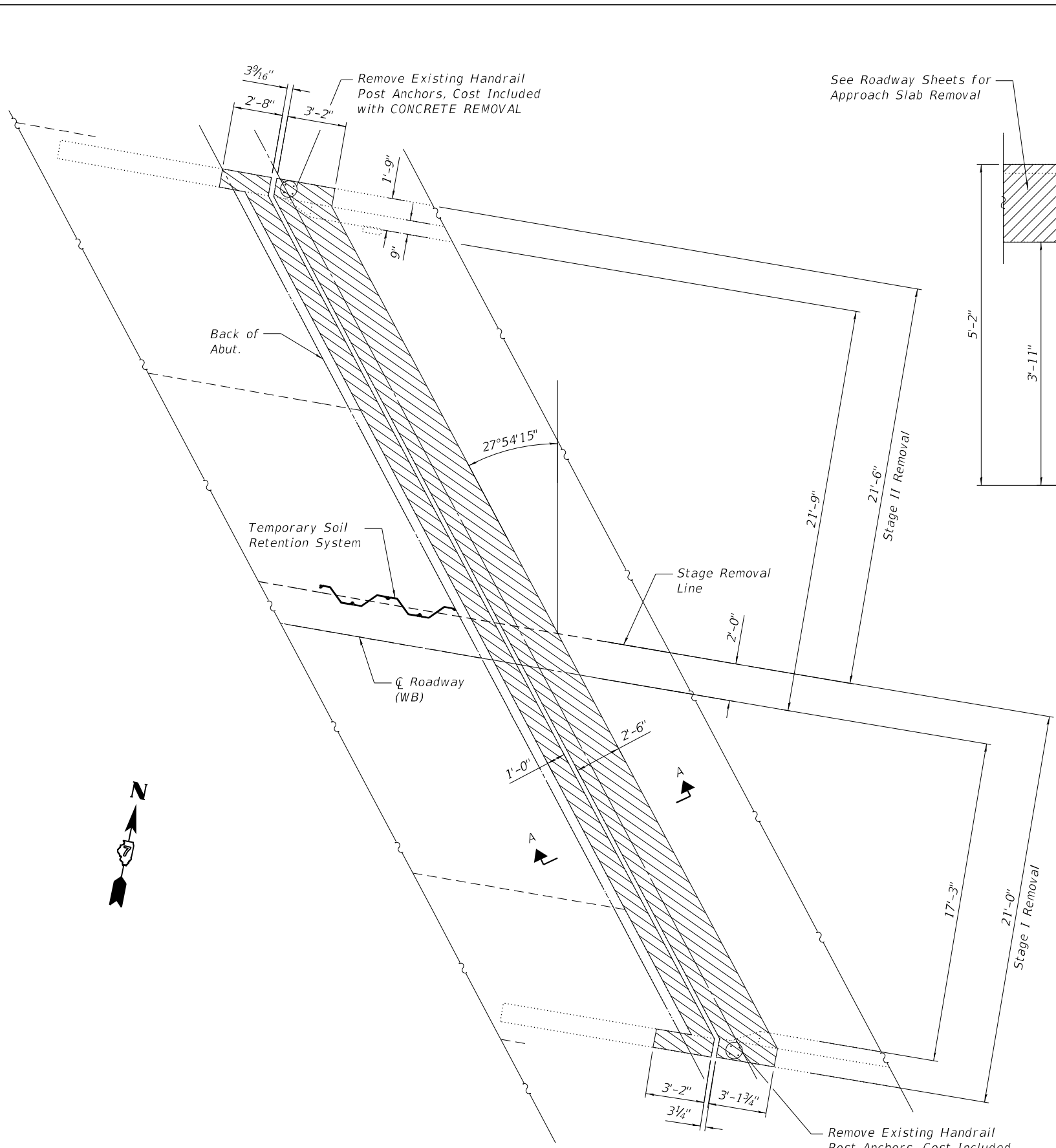
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - II**  
**SN. 096-0044 (WB)**  
 SHEET 08 OF 17 SHEETS

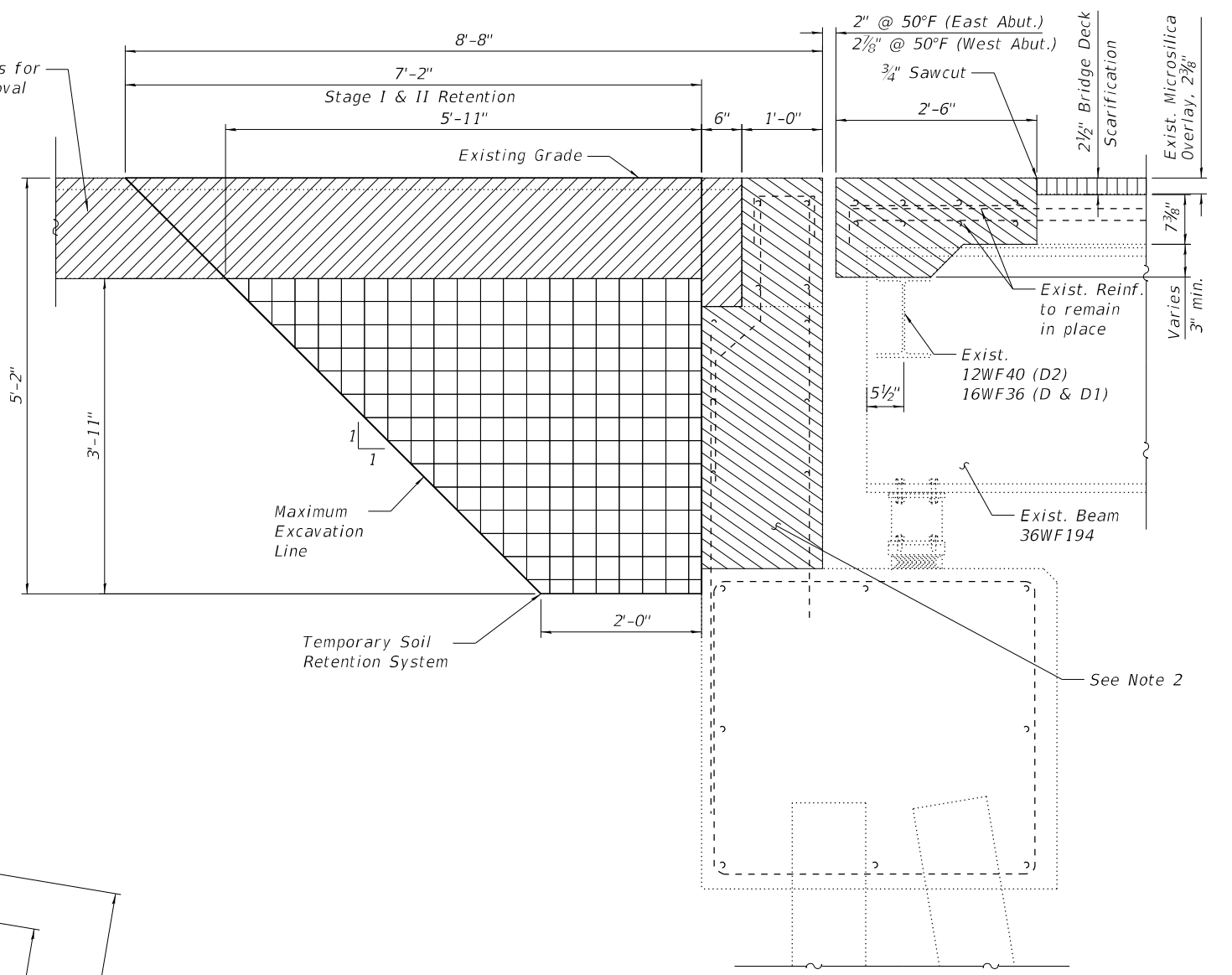
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64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	80
CONTRACT NO. 74997				
ILLINOIS		FED. AID PROJECT		



MODEL: 0960044-74997-009  
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**CONCRETE REMOVAL PLAN**  
 (West Abutment shown, East Abutment similar by rotation)



**SECTION A-A**  
 Removal

**NOTE**

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities for Abutment Backwall and hatch block, See sheet 13-14 of 17.

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	12.6
Structure Excavation	Cu. Yd.	57.0
Temporary Soil Retention System	Sq. Ft.	47.4

\*\* Concrete Removal Quantity is for end of the Deck removal only, See Note 2

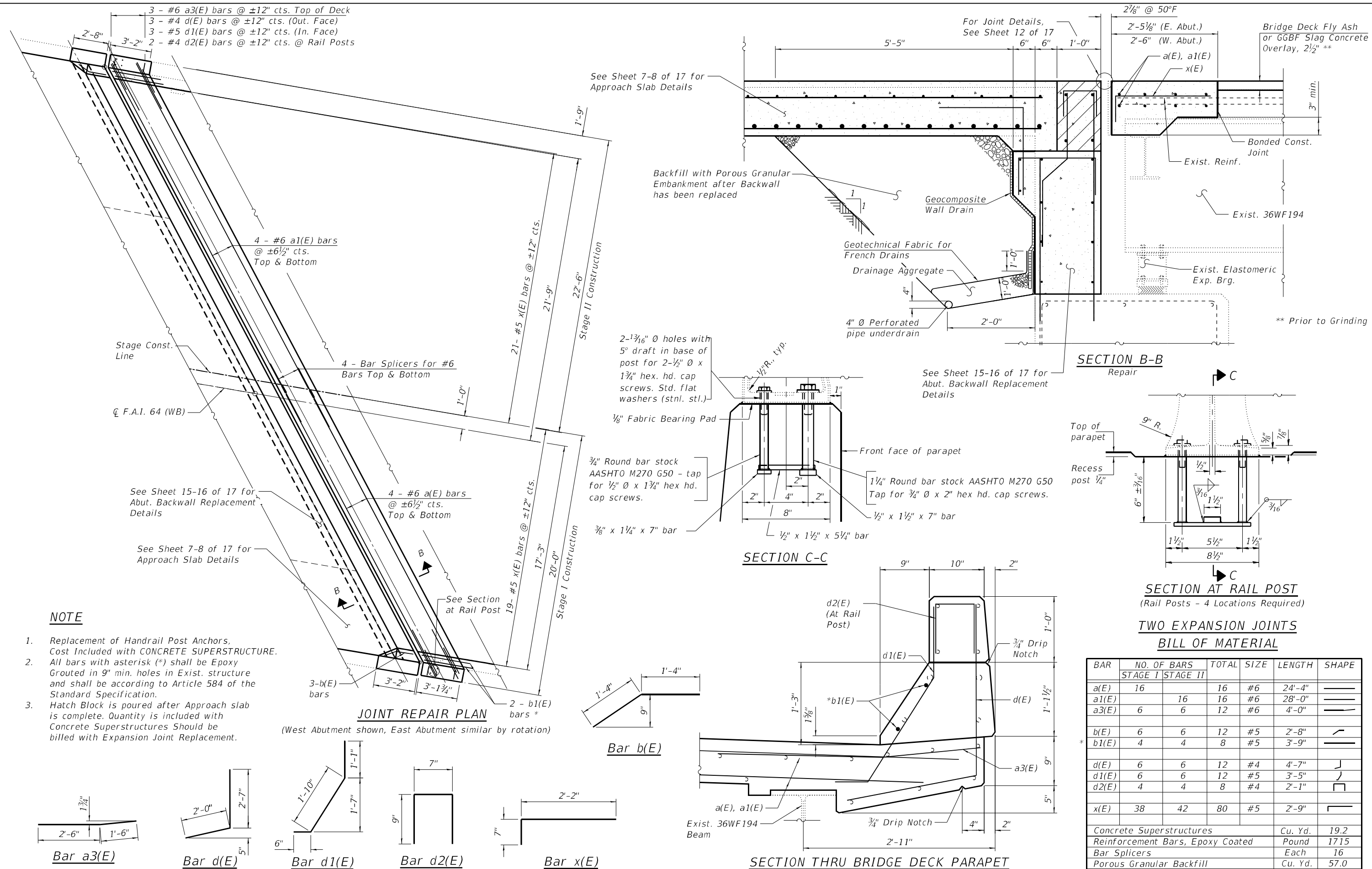
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
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 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 084-0001179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
 (217) 755-8844, 752-6227, 751

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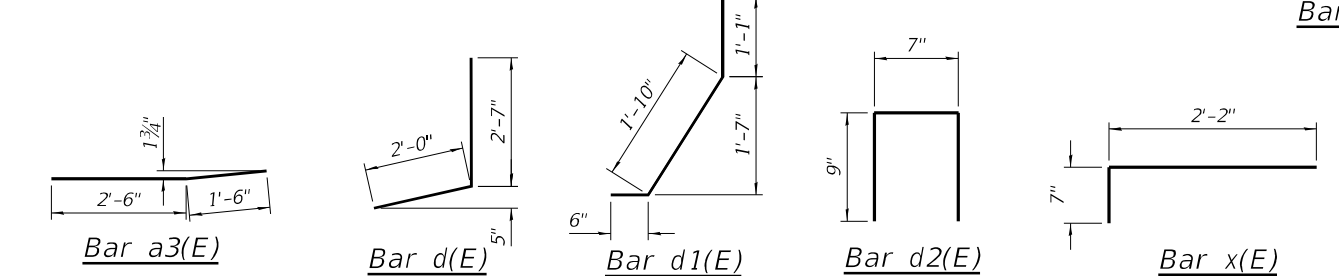
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REMOVAL DETAILS**  
**SN. 096-0044 (WB)**  
 SHEET 09 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	81
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



- NOTE**
1. Replacement of Handrail Post Anchors, Cost Included with CONCRETE SUPERSTRUCTURE.
  2. All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes in Exist. structure and shall be according to Article 584 of the Standard Specification.
  3. Hatch Block is poured after Approach slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.

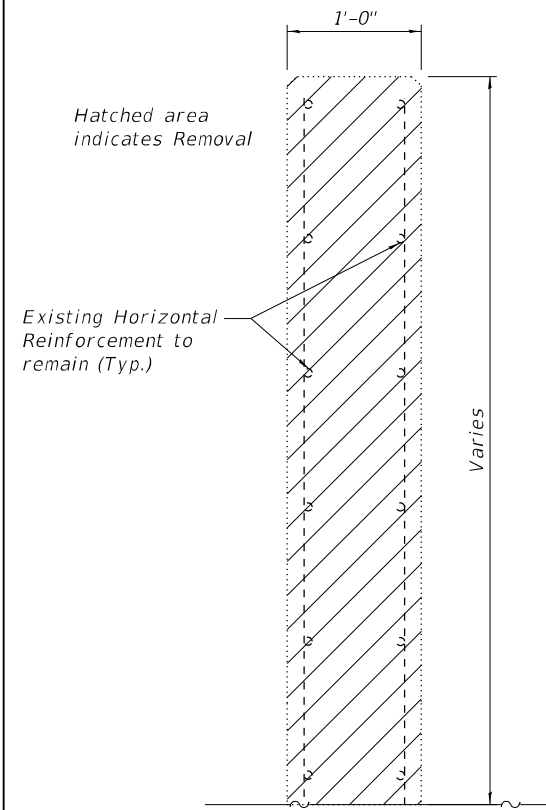


**TWO EXPANSION JOINTS**

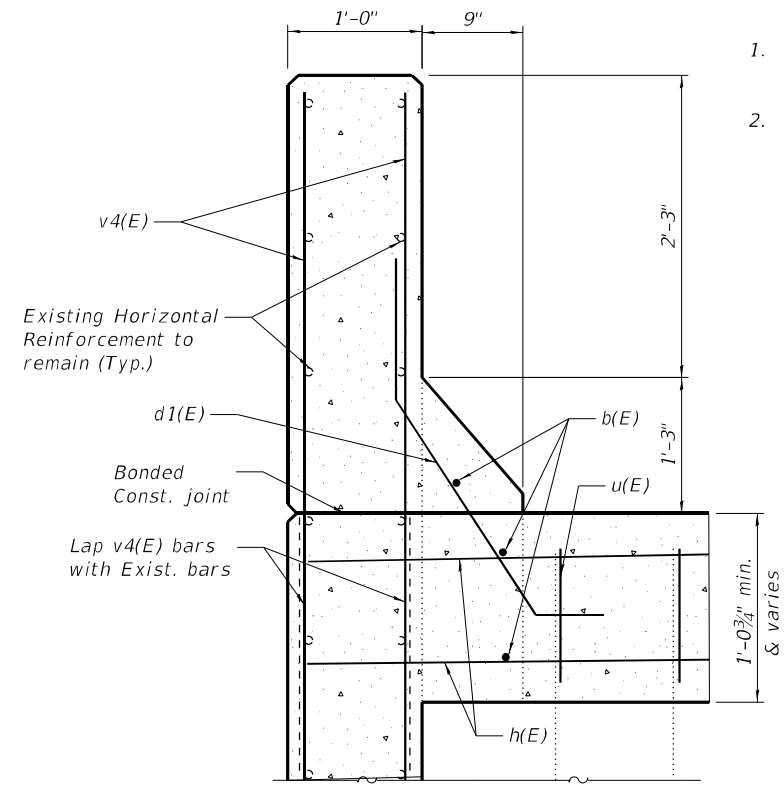
**BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
a(E)	16	16	16	#6	24'-4"	—	
a1(E)	16	16	16	#6	28'-0"	—	
a3(E)	6	6	12	#6	4'-0"	—	
b(E)	6	6	12	#5	2'-8"	—	
b1(E)	4	4	8	#5	3'-9"	—	
d(E)	6	6	12	#4	4'-7"	—	
d1(E)	6	6	12	#5	3'-5"	—	
d2(E)	4	4	8	#4	2'-1"	—	
x(E)	38	42	80	#5	2'-9"	—	
Concrete Superstructures						Cu. Yd.	19.2
Reinforcement Bars, Epoxy Coated						Pound	1715
Bar Splicers						Each	16
Porous Granular Backfill						Cu. Yd.	57.0

MODEL: 0960044-74997-010  
 FILE NAME: J:\2010\02\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn  
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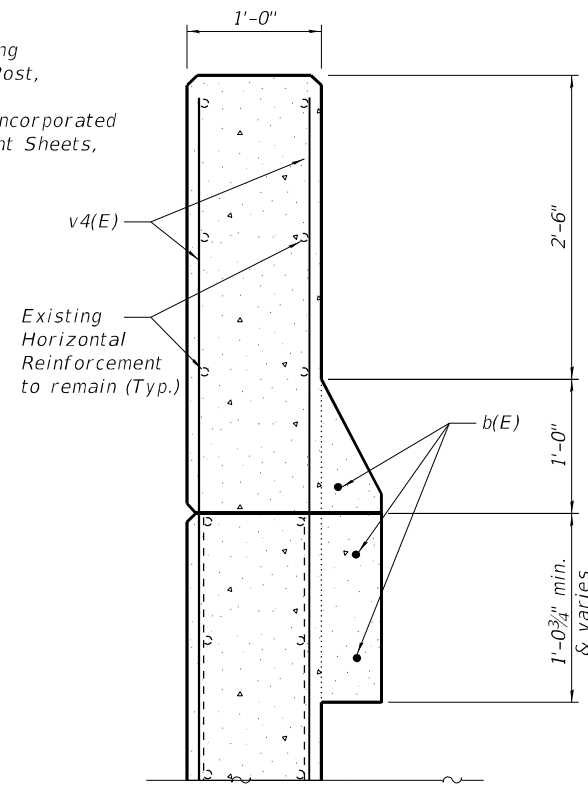
**SECTION C-C**  
Removal Section  
at Wingwall



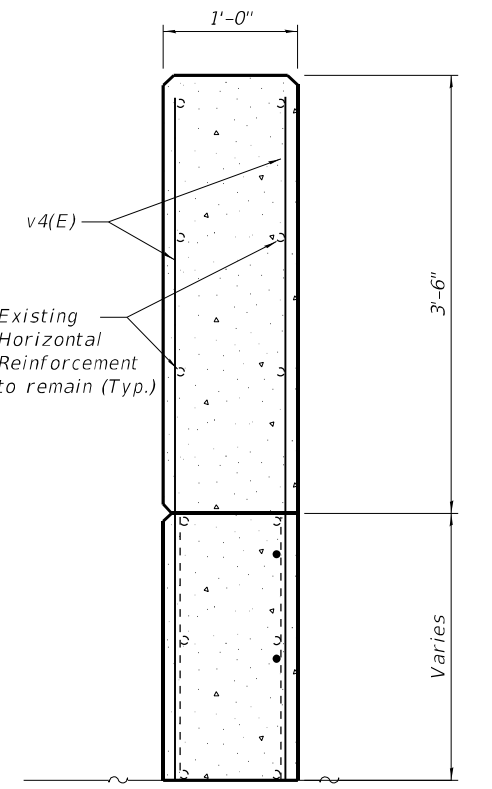
**SECTION D-D**  
Section thru Proposed  
Transition Parapet

**NOTES**

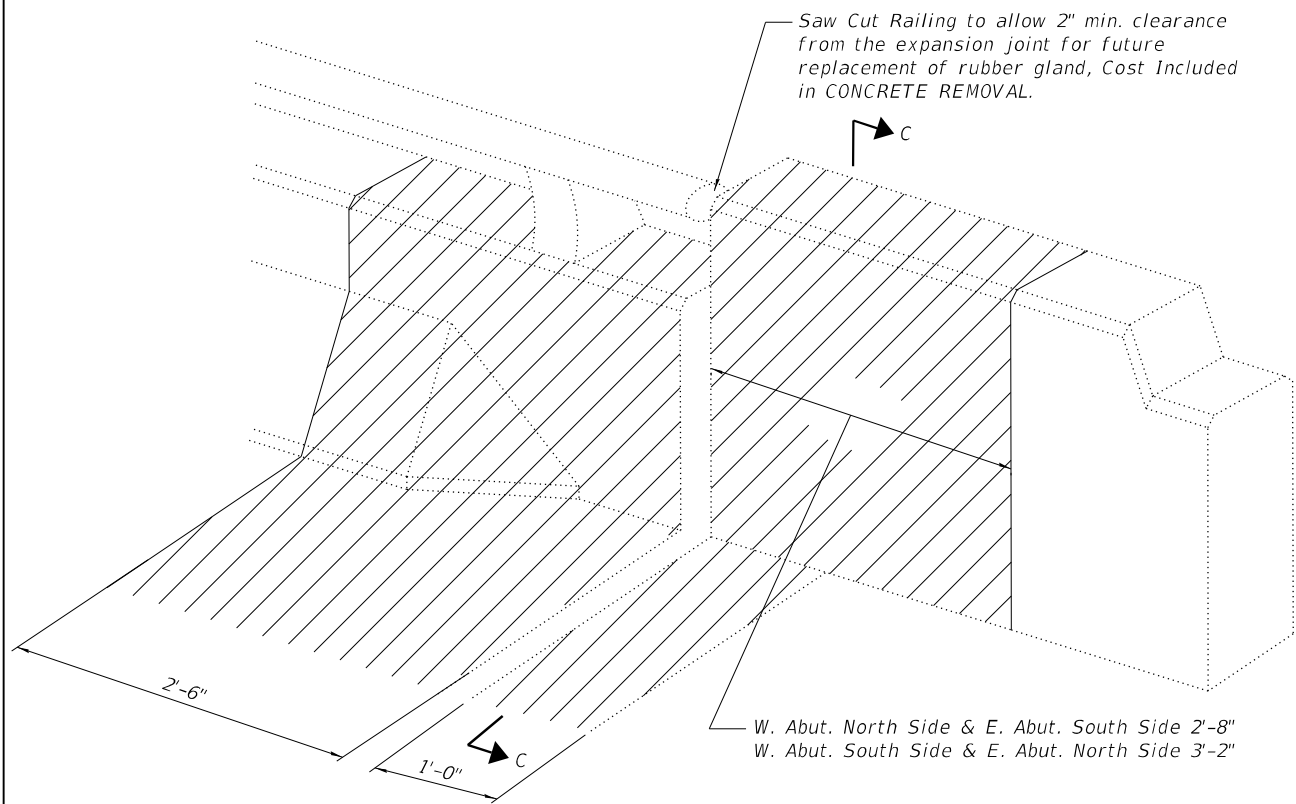
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 10 of 17.
2. Quantity of v4(E) & u(E) bar is incorporated in Abutment Backwall Replacement Sheets, See Sheets 16-17 of 17.



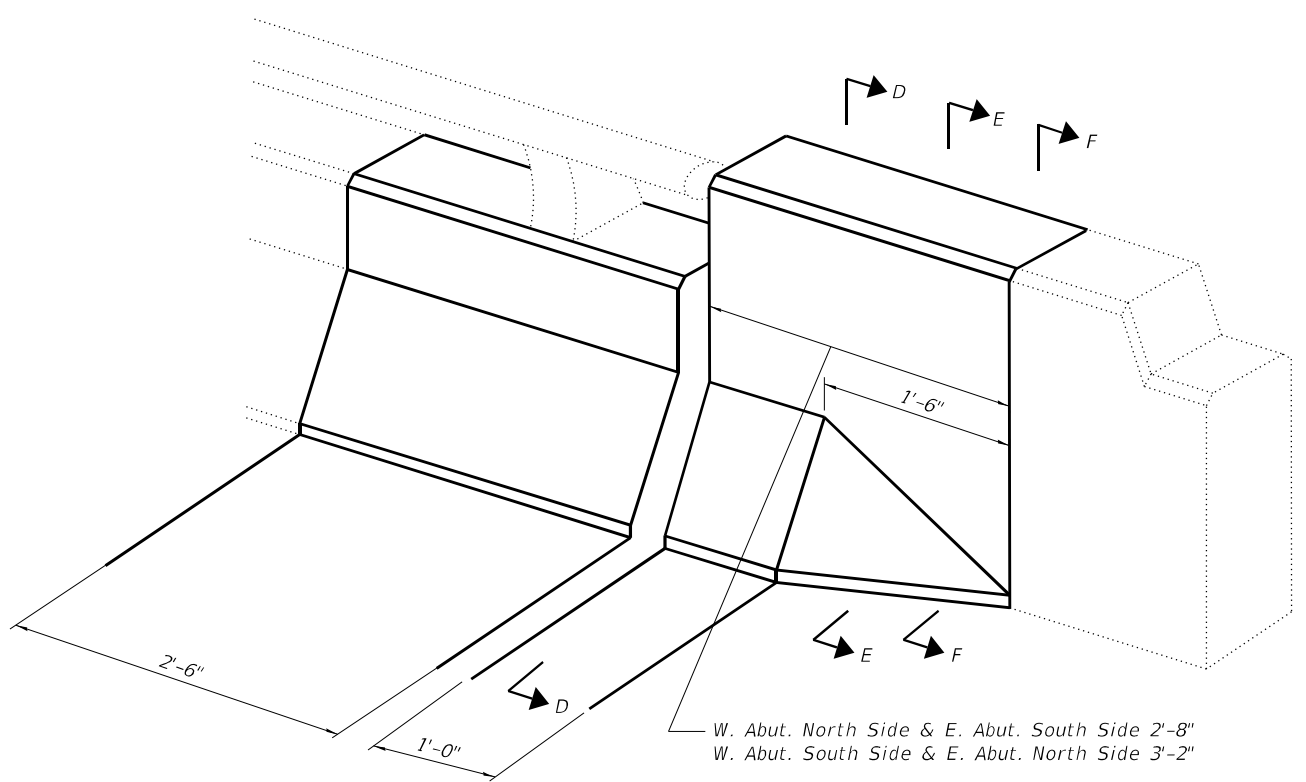
**SECTION E-E**  
Section thru End of  
Proposed Parapet



**SECTION F-F**  
Section thru End of  
Proposed Parapet



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WING WALL AT EACH ABUTMENT CORNER**

MODEL: 0960044-74997-011  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

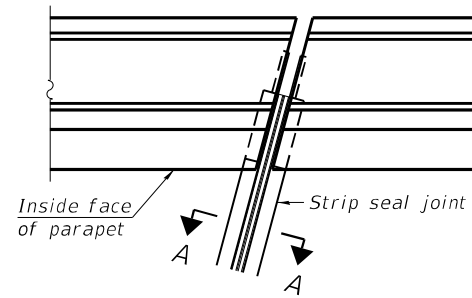
**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 054-061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-060098  
(217) 755-8844, 792-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / 1"	CHECKED - MC	REVISED -
PLOT DATE = 8/31/2021	DRAWN - PG	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

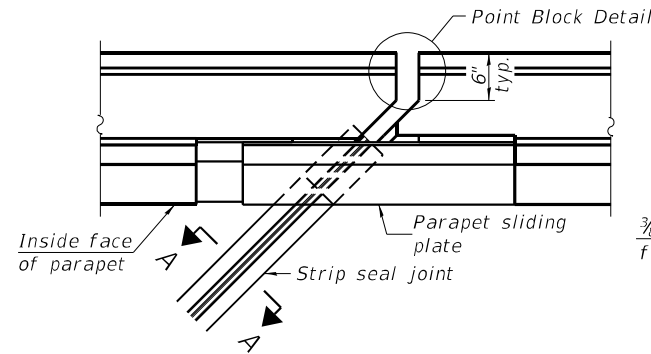
**WING WALL MODIFICATION AT EXPANSION JOINT**  
**SN. 096-0044 (WB)**

F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 83
			CONTRACT NO. 74997	
ILLINOIS FED. AID PROJECT				

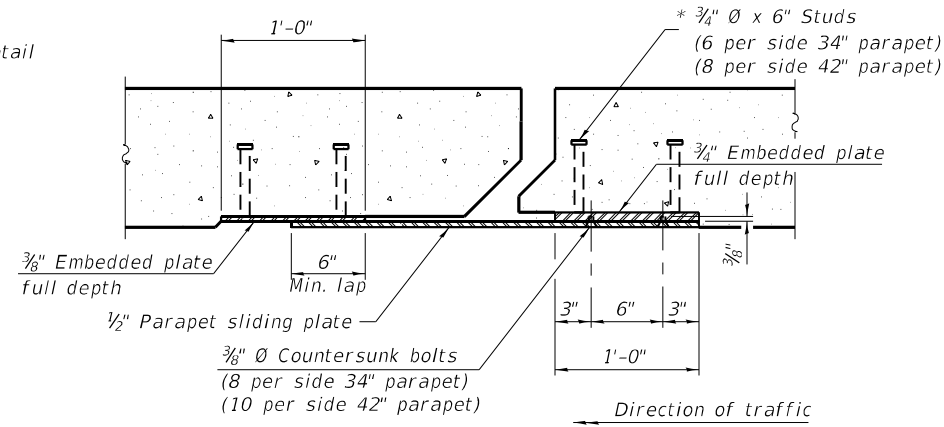


FOR SKEWS  $\leq 30^\circ$

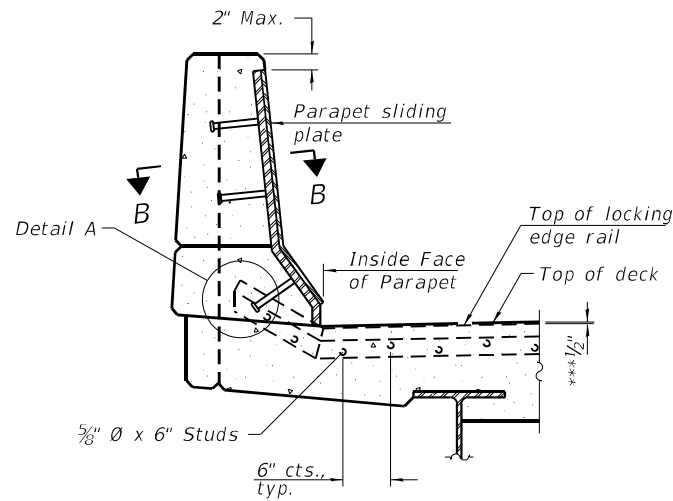
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

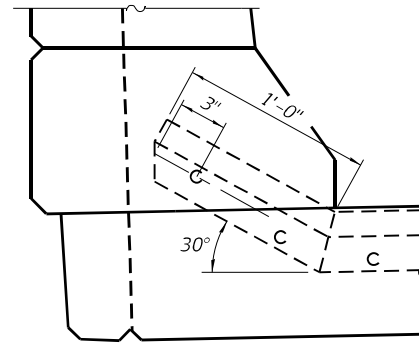


SECTION B-B

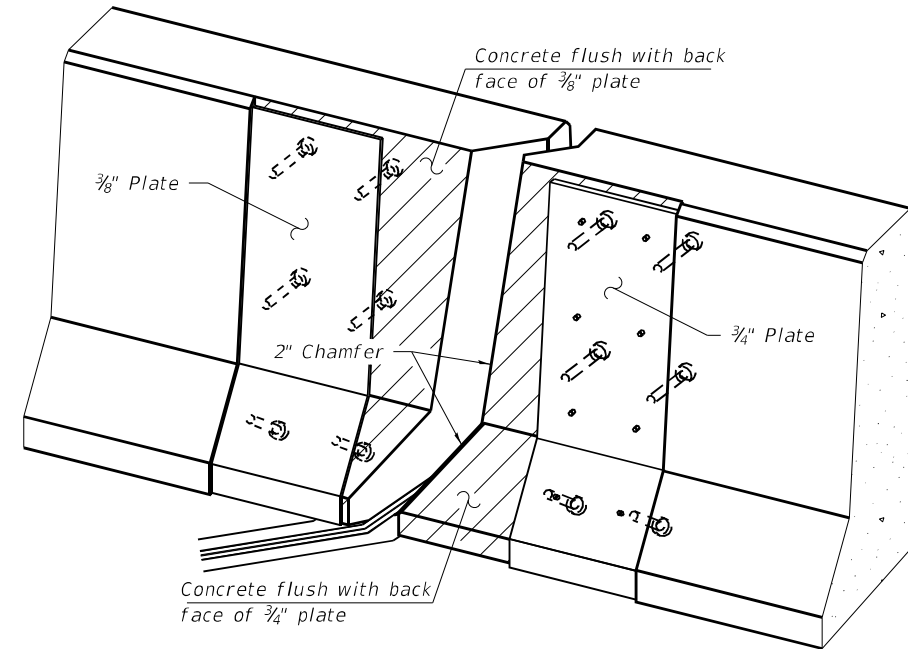


ELEVATION AT PARAPET

(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of  $1/4$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the  $4 1/2$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

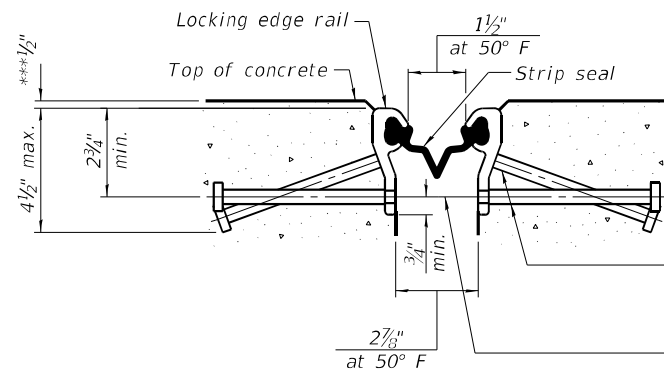
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be  $3/16$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

34" F-shape barrier shown, 42" F-shape similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

\*\*\* Prior to 1/4" Grinding



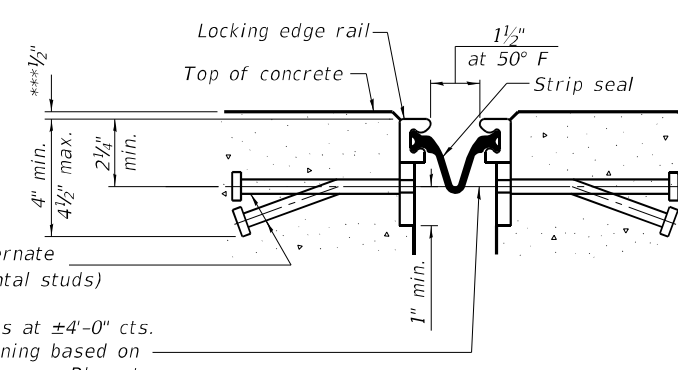
SHOWING ROLLED RAIL JOINT

\*  $3/8$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

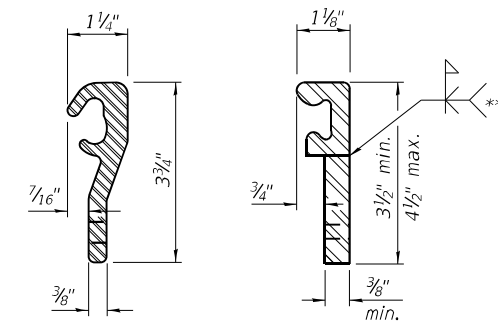
$3/8$ "  $\phi$  threaded rods in  $1/16$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



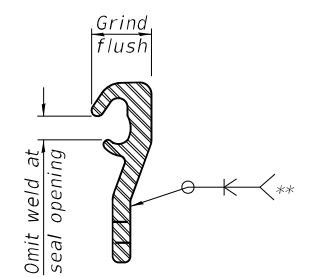
SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS  
ROLLED (EXTRUDED) RAIL      WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Stage I	Stage II	Unit	Total
Preformed Joint Strip Seal	50	56	Foot	106

MODEL: 0960044-74997-012  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 04-006098  
(217) 755-8844, 752-6227, 751

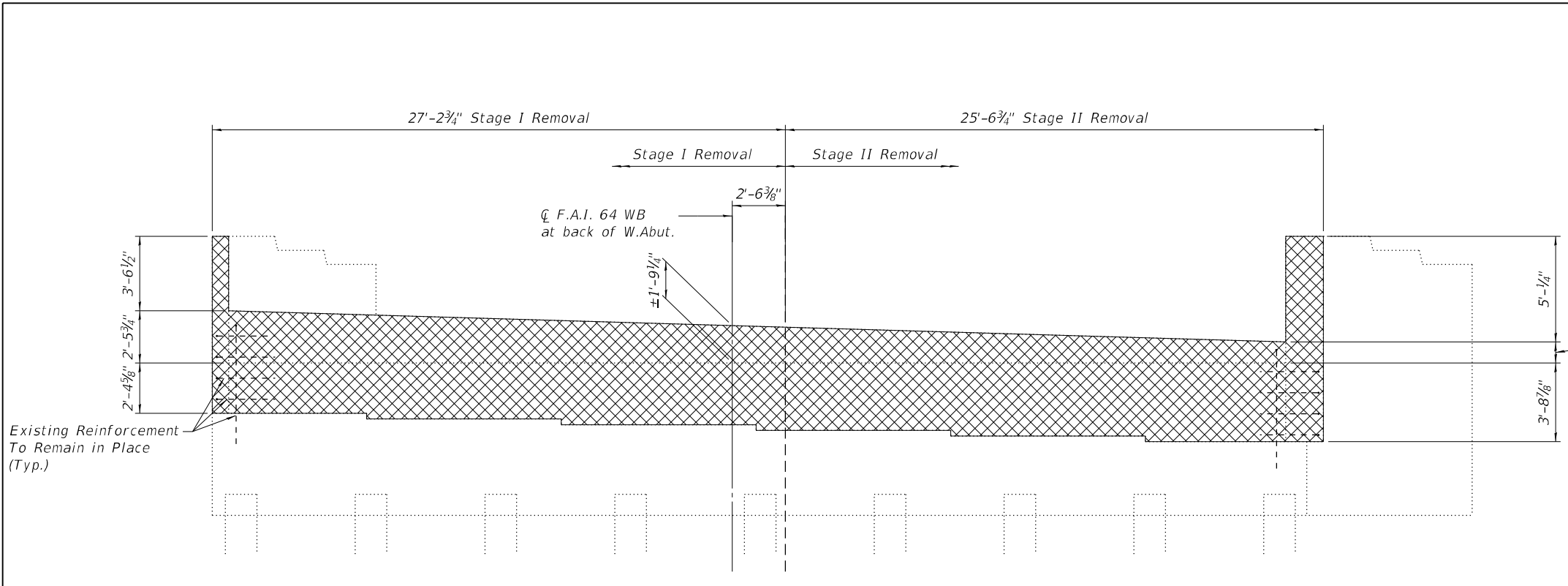
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PLOT SCALE = 0:2" / 1 in.	CHECKED - MC	REVISED -
PLOT DATE = 9/27/2021	DRAWN - PG	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

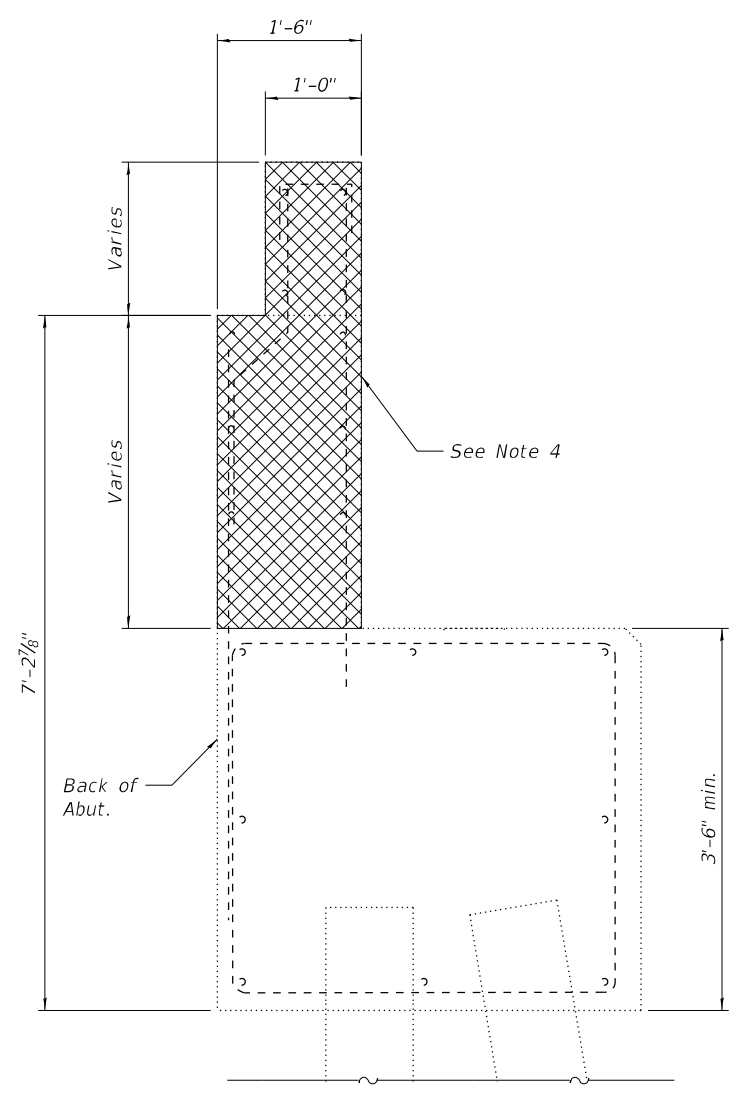
**PREFORMED JOINT STRIP SEAL DETAILS**  
**SN. 096-0044 (WB)**

SHEET 12 OF 17 SHEETS

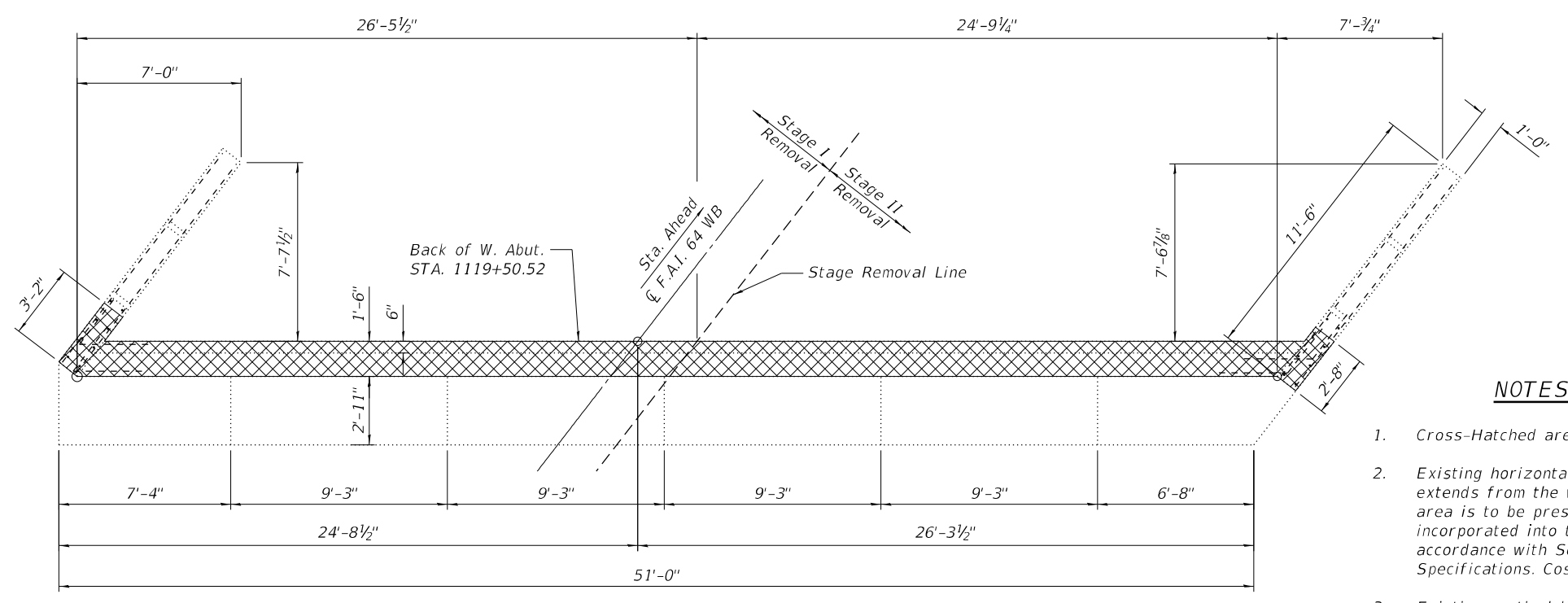
F.A.I. RTE. 64	SECTION D7 BRIDGE REPAIRS 2022-3	COUNTY WAYNE	TOTAL SHEETS 152	SHEET NO. 84
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74997	



**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(West Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at Right Angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(West Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire West Abut. Backwall and Hatch Block is included in Bill of Material.

**WEST ABUTMENT  
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	12.4

MODEL: 0960044-74997-013  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-001179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 752-8844, 792-6227, 791

USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
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PLOT DATE = 8/31/2021

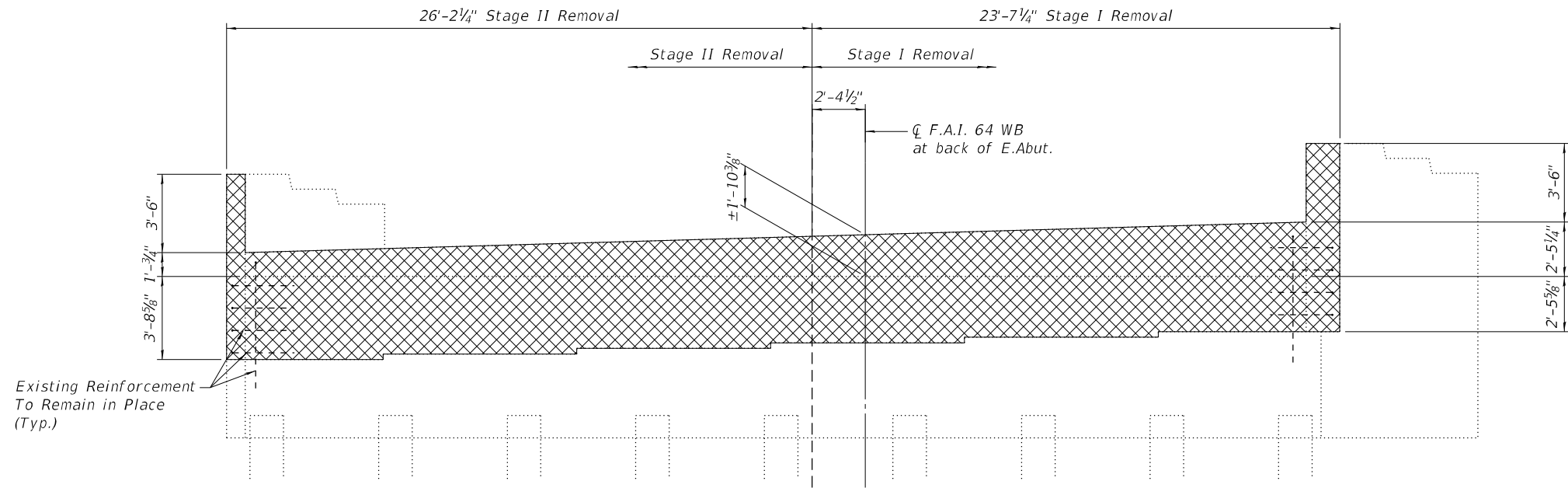
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

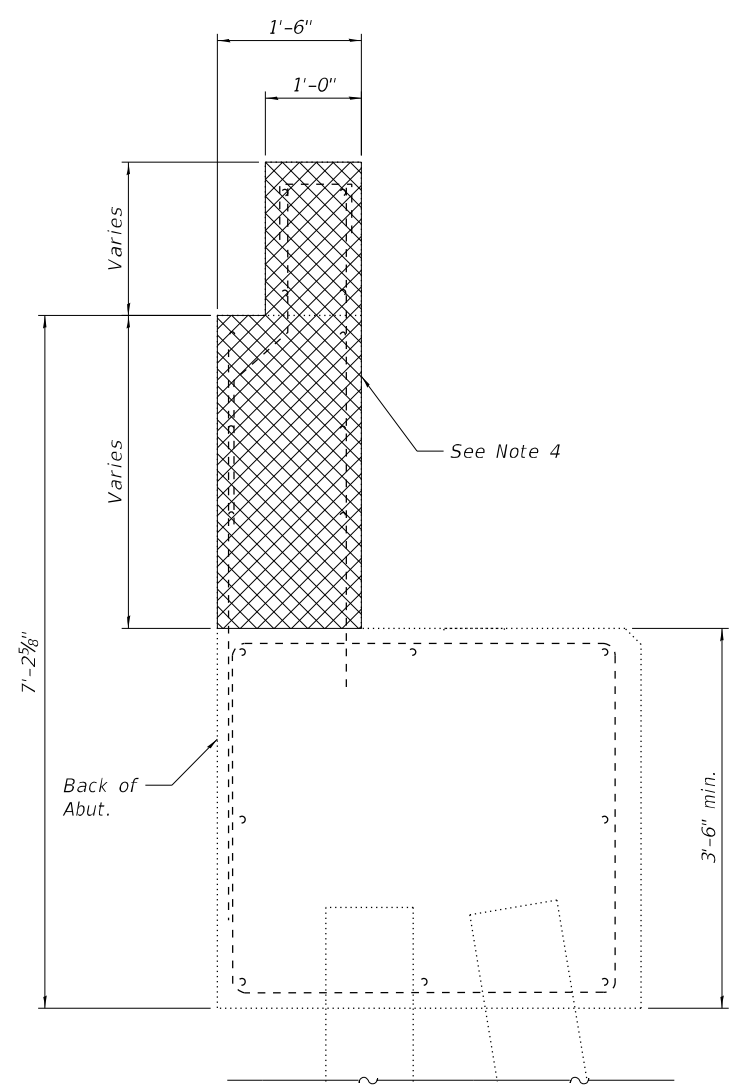
**ABUTMENT BACKWALL REMOVAL DETAILS - I  
SN. 096-0044 (WB)**

SHEET 13 OF 17 SHEETS

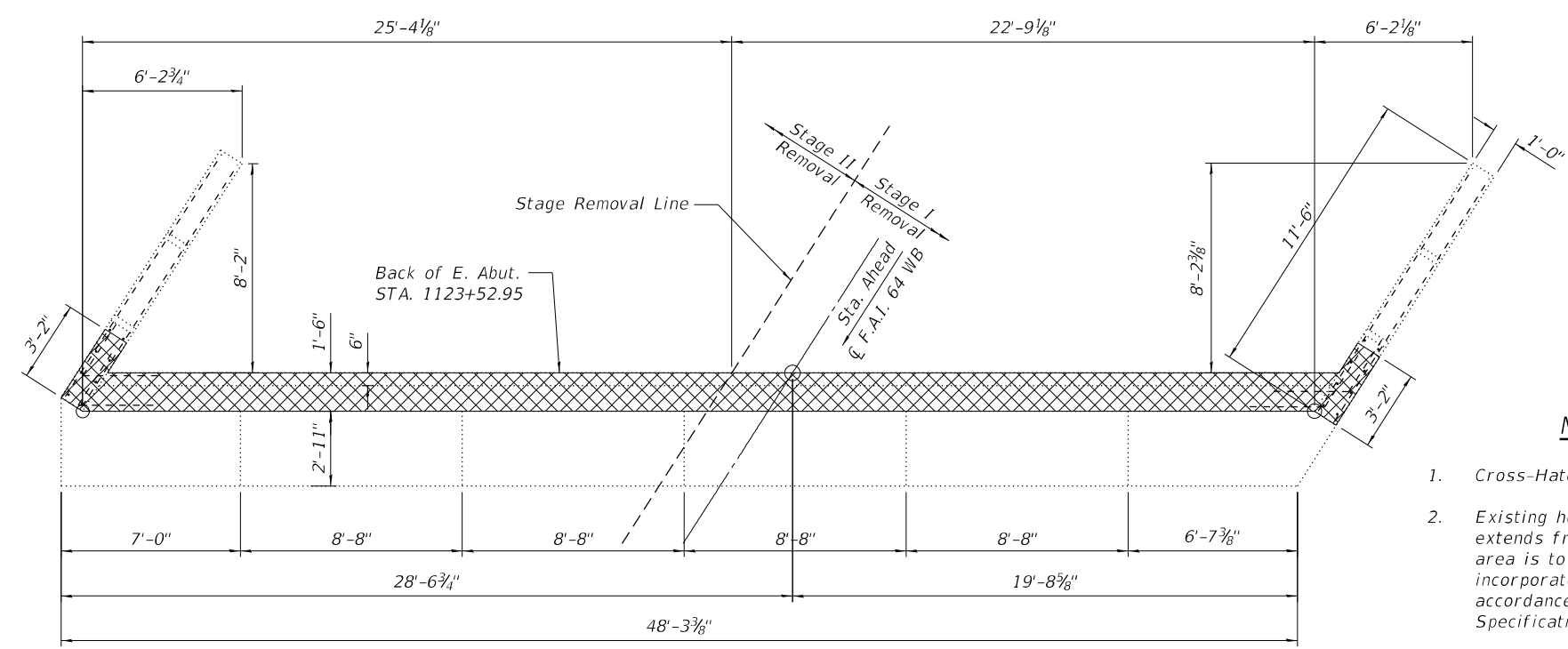
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	85
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



**ABUTMENT BACKWALL REMOVAL ELEVATION**  
(East Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at Right Angles)



**ABUTMENT BACKWALL REMOVAL PLAN**  
(East Abutment)

**NOTES**

1. Cross-Hatched area Indicates Removal.
2. Existing horizontal reinforcement which extends from the wingwalls into the removal area is to be preserved, cleaned and incorporated into the new construction in accordance with Section 501.03 of the Standard Specifications. Cost included in CONCRETE REMOVAL.
3. Existing vertical bars in backwall shall be cut off and covered with a layer of epoxy. Cost included in CONCRETE REMOVAL.
4. Concrete Removal of Entire East Abut. Backwall and Hatch Block is included in Bill of Material.

**EAST ABUTMENT  
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	11.9

MODEL: 0960044-74997-014  
FILE NAME: J:\2010\02\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

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OF SPRINGFIELD  
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3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL ENGINEER REG. NO. 042-001179  
PROFESSIONAL LAND SURVEYOR REG. NO. 048-000098  
(217) 755-8844, 752-6227 (F)

USER NAME = BenB	DESIGNED - KAS	REVISED -
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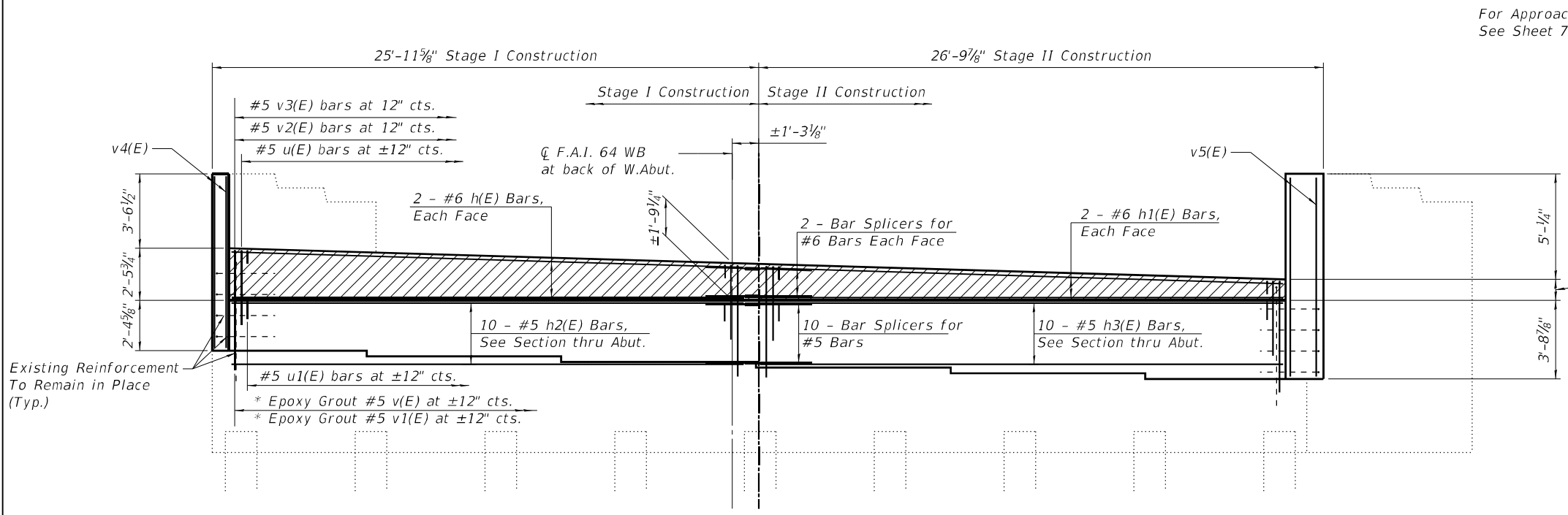
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REMOVAL DETAILS - II  
SN. 096-0044 (WB)**

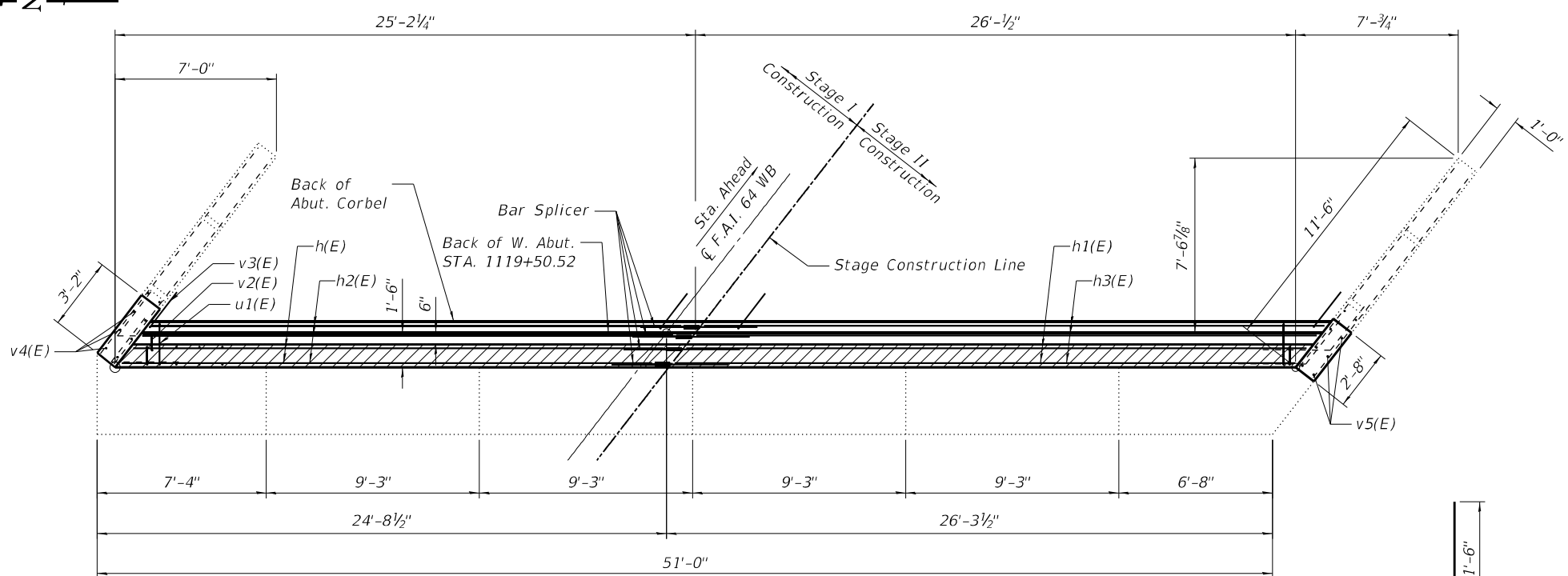
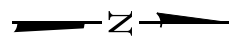
SHEET 14 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	86
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

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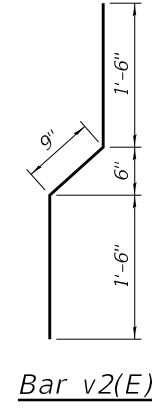
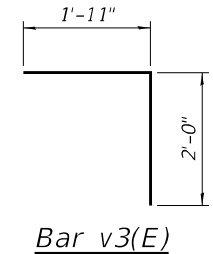
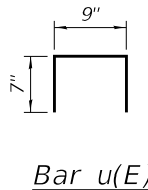
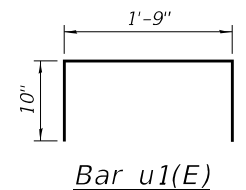
**ABUTMENT BACKWALL REPAIR ELEVATION**  
(West Abutment)



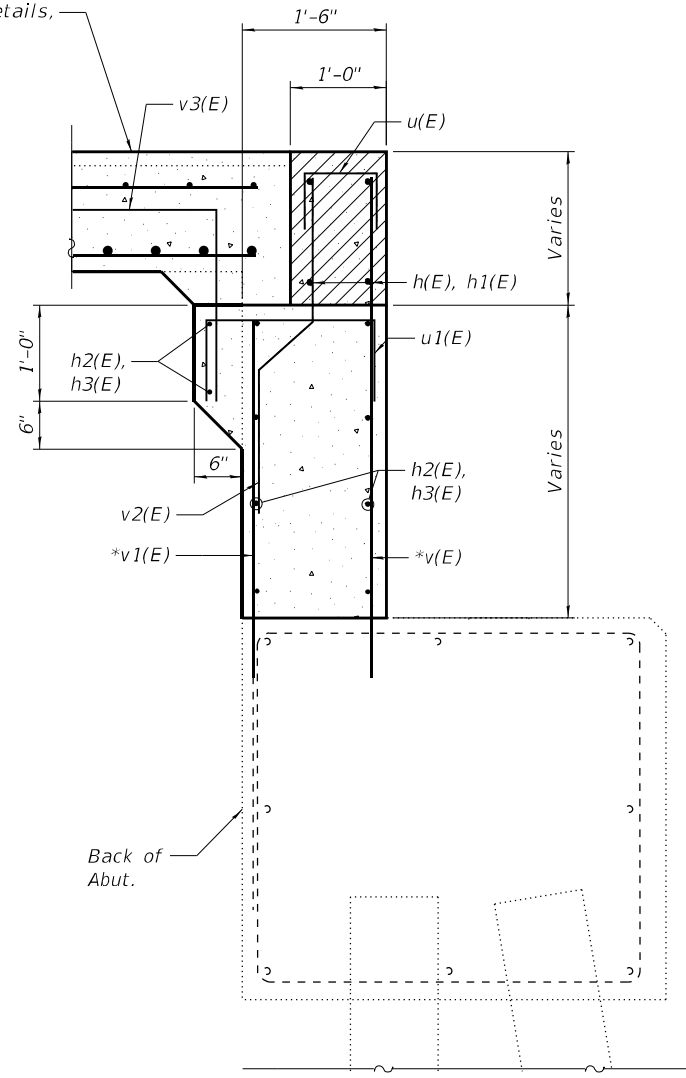
**ABUTMENT BACKWALL REPAIR PLAN**  
(West Abutment)

**NOTE**

- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.



For Approach Slab Details, See Sheet 7-8 of 17



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)

**WEST ABUTMENT BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h(E)	4		4	#6	23'-0"	—	
h1(E)		4	4	#6	26'-11"	—	
h2(E)	10		10	#5	23'-0"	—	
h3(E)		10	10	#5	26'-11"	—	
u(E)	23	27	50	#5	1'-11"	□	
u1(E)	23	27	50	#5	3'-5"	□	
v(E)	23	27	50	#5	5'-4"	—	
v1(E)	23	27	50	#5	3'-9"	—	
v2(E)	23	27	50	#5	3'-9"	—	
v3(E)	23	27	50	#5	3'-11"	└	
v4(E)	6		6	#4	8'-2"	—	
v5(E)		6	6	#4	9'-5"	—	
Concrete Structures						Cu. Yd.	10.4
Reinforcement Bars, Epoxy Coated						Pound	2043
Bar Splicers						Each	14

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 PROFESSIONAL LAND SURVEYOR REG. NO. 048-000098  
 (217) 755-8844, 792-6277, 791

USER NAME = BenB  
 PLOT SCALE = 0.2" / in.  
 PLOT DATE = 8/31/2021

DESIGNED - KAS  
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 DRAWN - PG  
 CHECKED - MC

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 REVISED -

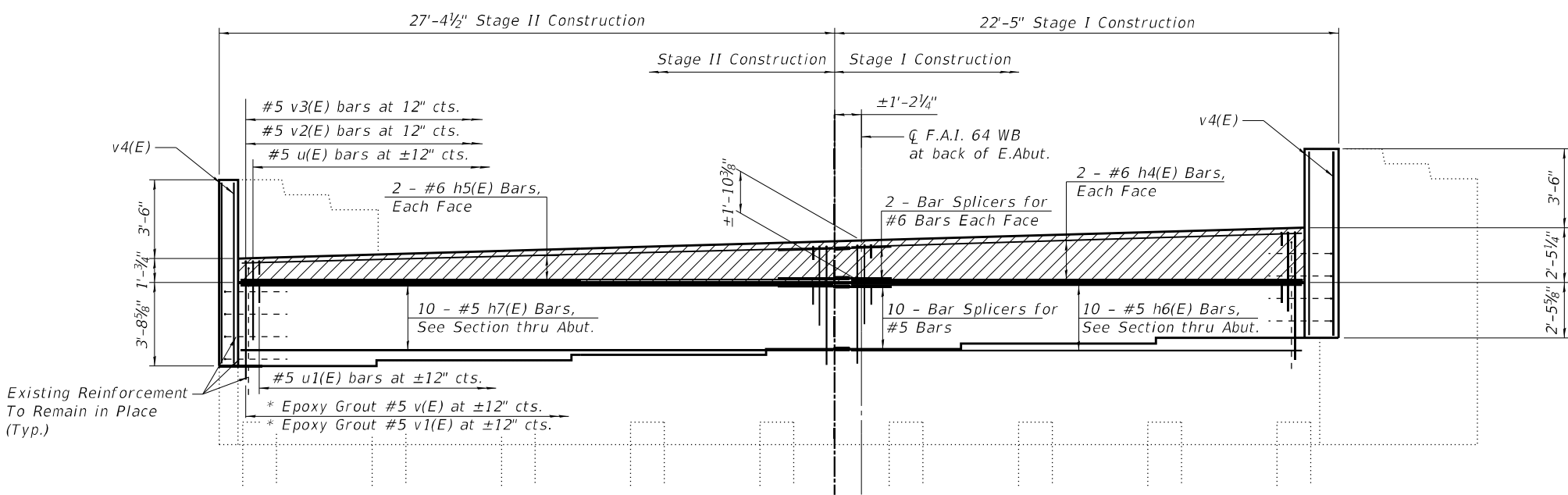
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REPAIR DETAILS - I  
 SN. 096-0044 (WB)**

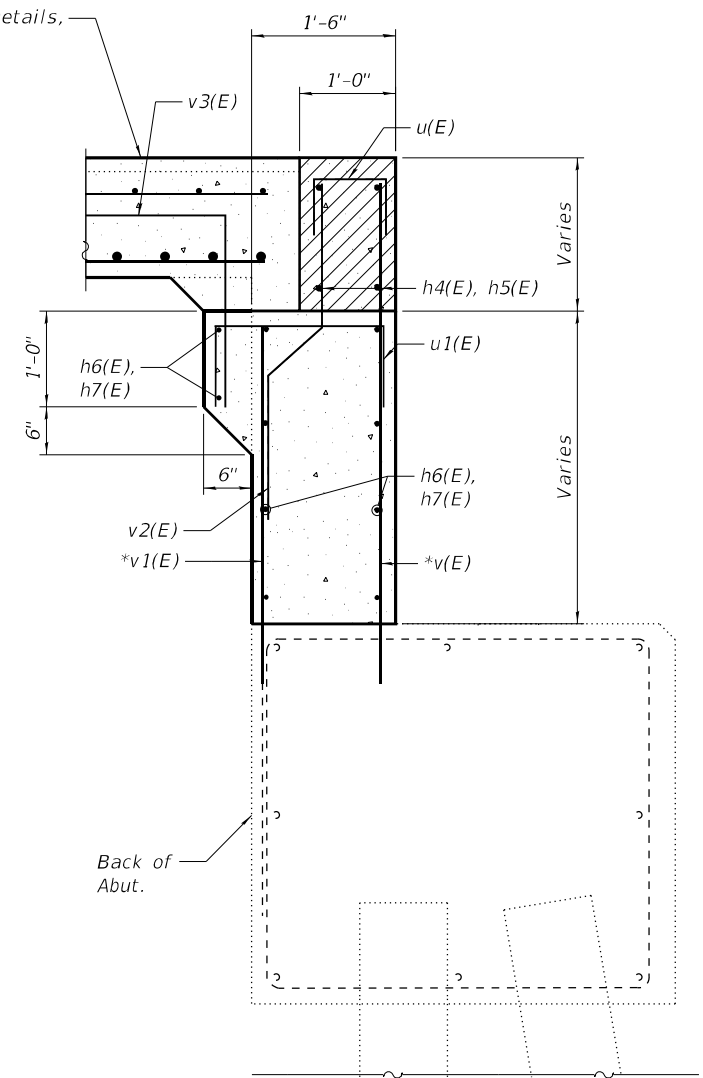
SHEET 15 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

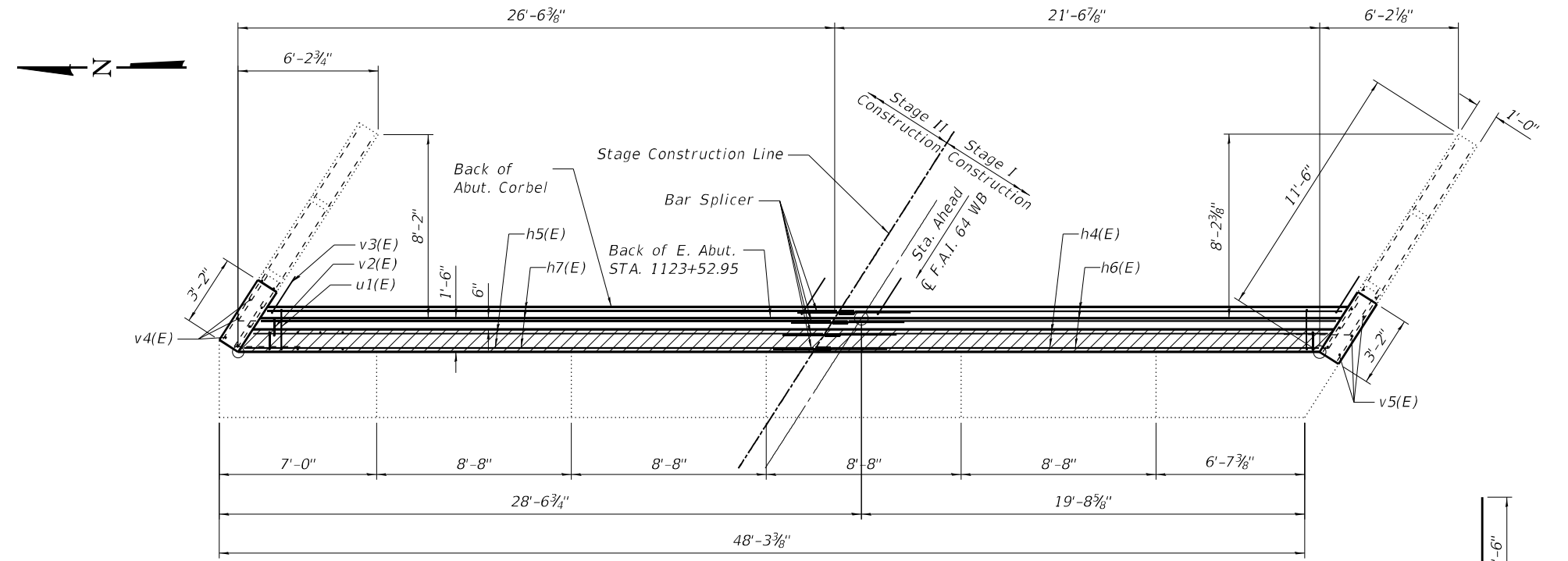
For Approach Slab Details,  
See Sheet 7-8 of 17



**ABUTMENT BACKWALL REPAIR ELEVATION**  
(East Abutment)



**SECTION THRU ABUTMENT**  
(Dimensions at right angles)



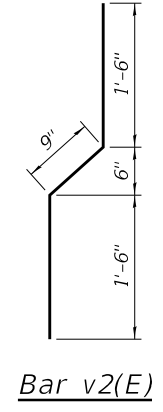
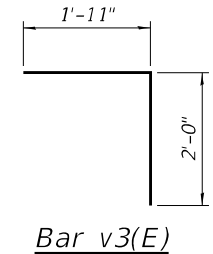
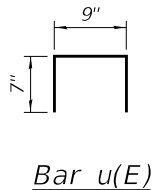
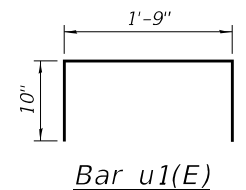
**ABUTMENT BACKWALL REPAIR PLAN**  
(East Abutment)

**EAST ABUTMENT**  
**BILL OF MATERIAL**

BAR	NO. OF BARS		TOTAL	SIZE	LENGTH	SHAPE	
	STAGE I	STAGE II					
h4(E)	4		4	#6	21'-8"	—	
h5(E)		4	4	#6	25'-4"	—	
h6(E)	10		10	#5	21'-8"	—	
h7(E)		10	10	#5	25'-4"	—	
u(E)	22	25	47	#5	1'-11"	□	
u1(E)	22	25	47	#5	3'-5"	□	
v(E)	22	25	47	#5	5'-4"	—	
v1(E)	22	25	47	#5	3'-9"	—	
v2(E)	22	25	47	#5	3'-9"	—	
v3(E)	22	25	47	#5	3'-11"	┌	
v4(E)	6	6	12	#4	8'-2"	—	
Concrete Structures						Cu. Yd.	9.9
Reinforcement Bars, Epoxy Coated						Pound	1921
Bar Splicers						Each	14

**NOTE**

- Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.
- All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes and shall be according to Article 584 of the Standard Specification.



MODEL: 0960044-74997-016  
FILE NAME: J:\2010\02\_W0# 2.8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

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3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 04-060098  
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USER NAME = BenB  
DESIGNED - KAS  
CHECKED - MC  
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PLOT DATE = 8/31/2021

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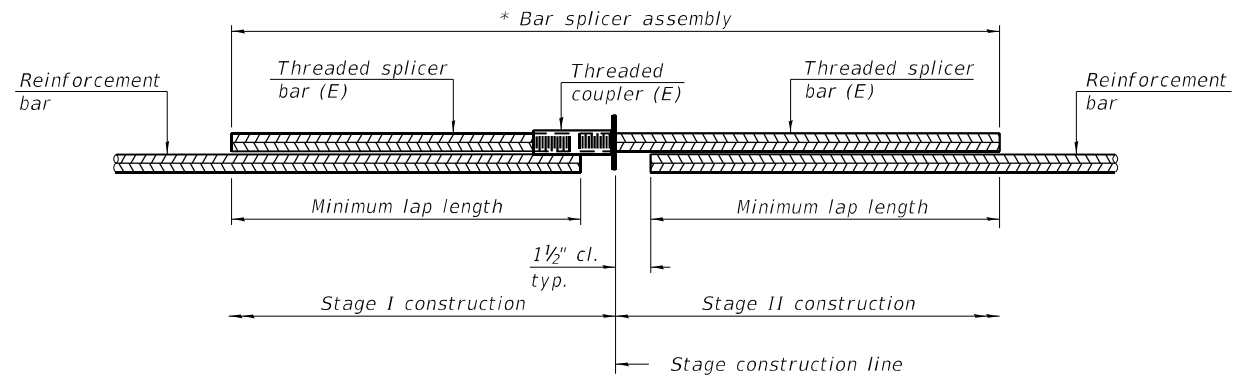
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL REPAIR DETAILS - II**  
**SN. 096-0044 (WB)**

SHEET 16 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	88
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



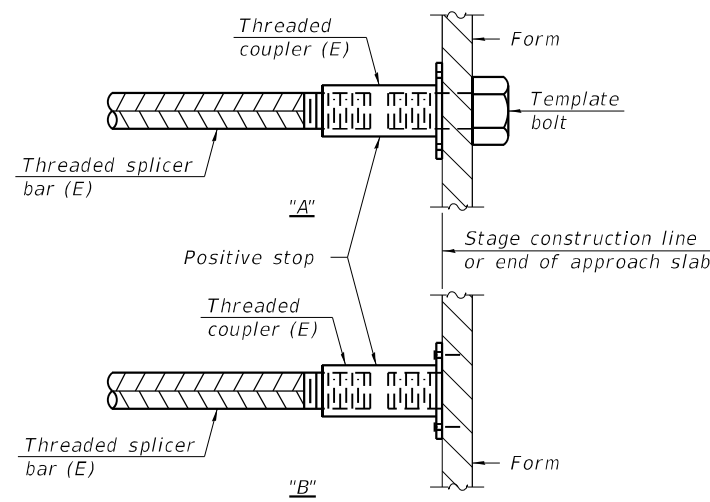


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
(All components shall be provided from one supplier)

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

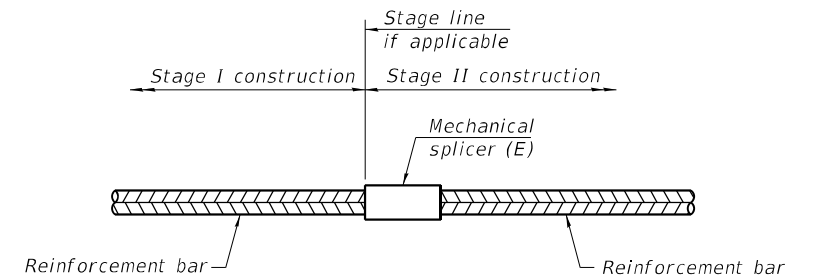
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Exp. Jt. Repair - Top & Bottom of Slab	#6	16	4'-4"
Abut. Backwall Repair - Hatch Block	#6	8	4'-4"
Abut. Backwall Repair - Backwall	#5	20	3'-7"
Approach Slab Repair - Top of Slab	#5	92	3'-7"
Approach Slab Repair - Bottom of Slab	#8	120	5'-1"
Approach Footing - Top & Bottom of Slab	#5	80	3'-7"



**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: 0960044-74997-017  
 FILE NAME: J:\201002\_WD# 2.8 Bridge Repairs in D7\DRAWINGS\096-0043 & 096-0044\0960044-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-0061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-006098  
 (217) 753-8844, 752-6277, 751

USER NAME = BenB	DESIGNED - KAS	REVISED -
PLOT SCALE = 0:2" / in.	CHECKED - MC	REVISED -
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

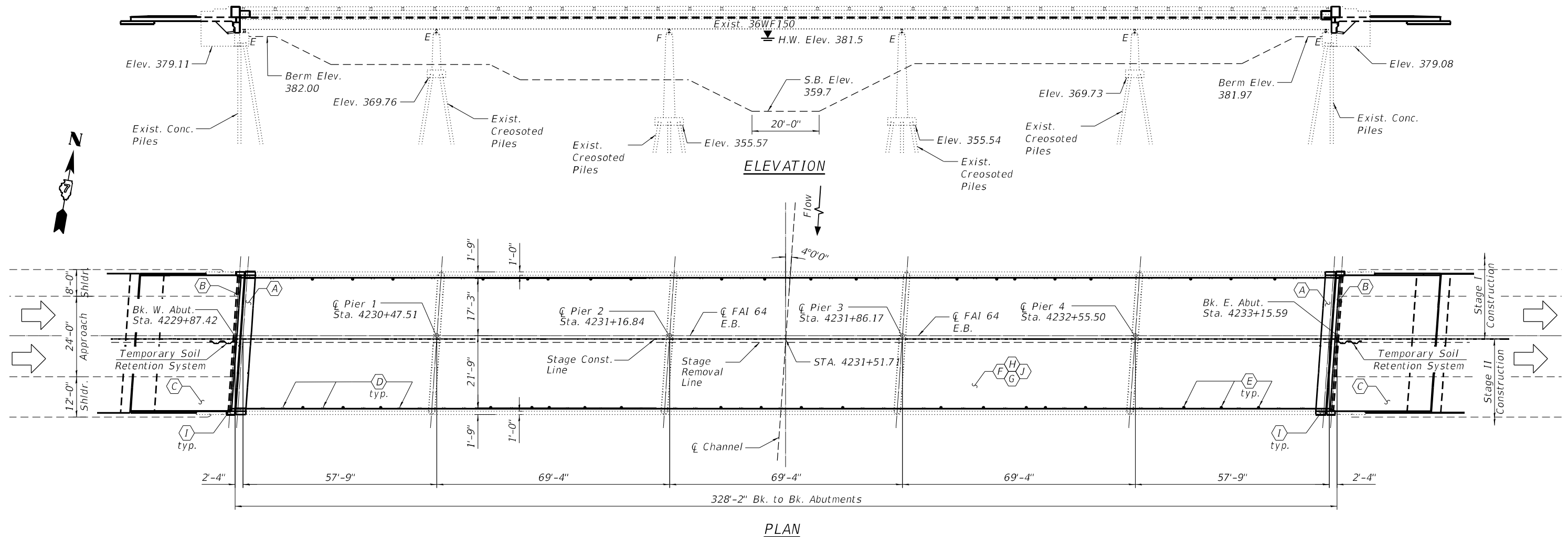
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS**  
**SN. 096-0044 (WB)**

SHEET 17 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	89
CONTRACT NO. 74997				

ILLINOIS FED. AID PROJECT

The existing five span continuous steel beam structure was constructed in 1974 as F.A.I. Route 64 Section 96-3B-2 at STA. 4231+55.00. S.N. 096-0045 (EB) carries F.A.I. Route 64 (I-64) over Eagle Slough Ditch. The proposed project consists of new expansion joints, new abutment backwalls, new approach slabs, new deck drains, bridge deck scarification, a new concrete overlay, and bridge deck patching with Stage Construction.



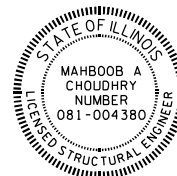
**STRUCTURE INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	General Plan & Elevation
2	General Notes & Stage Construction Details
3	Bridge Deck Patching- Span 1 & 2
4	Bridge Deck Patching- Span 3
5	Bridge Deck Patching- Span 4 & 5
6	Deck Drain Replacement Details
7	Approach Slab Details-I
8	Approach Slab Details-II
9	Expansion Joint Removal Details
10	Expansion Joint Replacement Details
11	Wingwall Modification at Expansion Joint
12	Preformed Joint Strip Seal Details
13	Abutment Backwall Removal Details-I
14	Abutment Backwall Removal Details-II
15	Abutment Backwall Repair Details-I
16	Abutment Backwall Repair Details-II
17	Bar Splicer Assembly and Mechanical Splicers Details

**SCOPE OF WORK**

- (A) - Remove Existing Expansion Joint and Install Preformed Joint Strip Seal (See Sheet 9-10 of 17)
- (B) - Remove & Replace Abutment Backwall (See Sheet 13-16 of 17)
- (C) - Remove and Replace Bridge Approach Slab (See Sheet 7-8 of 17)
- (D) - Eliminate Floor Drains (See Sheet 3-6 of 17)
- (E) - Remove Existing Floor Drains and Install New 6"-Dia. Floor Drains. (See Sheet 3-6 of 17)
- (F) - Scarify Deck to remove existing 2 3/8" Microsilica Concrete Overlay (See Sheet 2 of 17)
- (G) - Install Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2" (See Sheet 2 of 17)
- (H) - Install Bridge Deck Patches. (See Sheet 3-5 of 17)
- (I) - Modify Parapet Transition (See Sheet 11 of 17)
- (J) - Perform Diamond Grinding (Bridge Section) & Bridge Deck Grooving (Longitudinal)

*M. Choudhry*

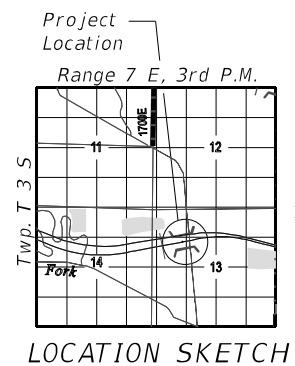


Dated **8/31/2021**

Mahboob A Choudhry  
Licensed Structural Engineer  
In Illinois No. 081-004380  
Expires: 11/30/2022

**DESIGN STRESSES**  
FIELD UNITS

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)



MODEL: 0960045-74997-001  
FILE NAME: I:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTRUCTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 081-006117P  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 754-8844, 792-6227 (F)

USER NAME =	BenB
PLOT SCALE =	0'2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG, BB
CHECKED -	MC

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REVISED -	

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

**GENERAL PLAN & ELEVATION**  
**SN. 096-0045 (EB)**

SHEET 01 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	90
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

Unless noted otherwise, Specified Concrete Cover over Reinforcement shall be as follows; Number 4 and 5 bars = 1 1/2", Number 6 and larger bars = 2".

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50 °F.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints.

All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated into the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

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

The Name Plate shall be removed from the existing wingwall and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructures

Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is completed.

Protective Coat shall be applied to areas of Concrete Superstructure consisting of the front faces and tops of the parapets and wingwalls and the top surfaces of the expansion joint blockouts. Protective Coat shall also be applied to the top of the new concrete overlay and to Areas of Concrete Superstructure (Approach Slab) including the front faces and tops of the curbs.

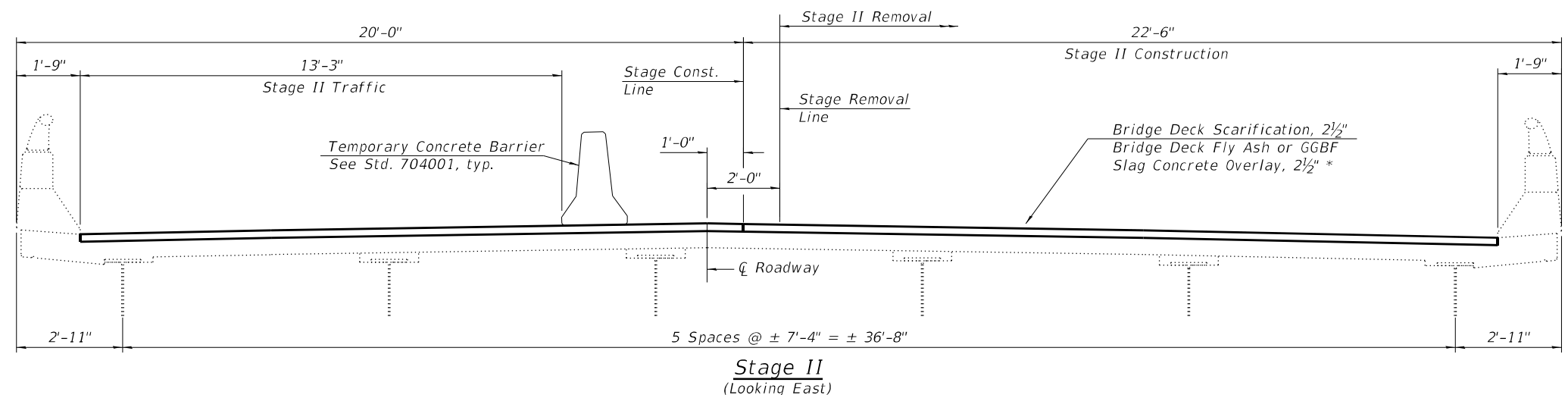
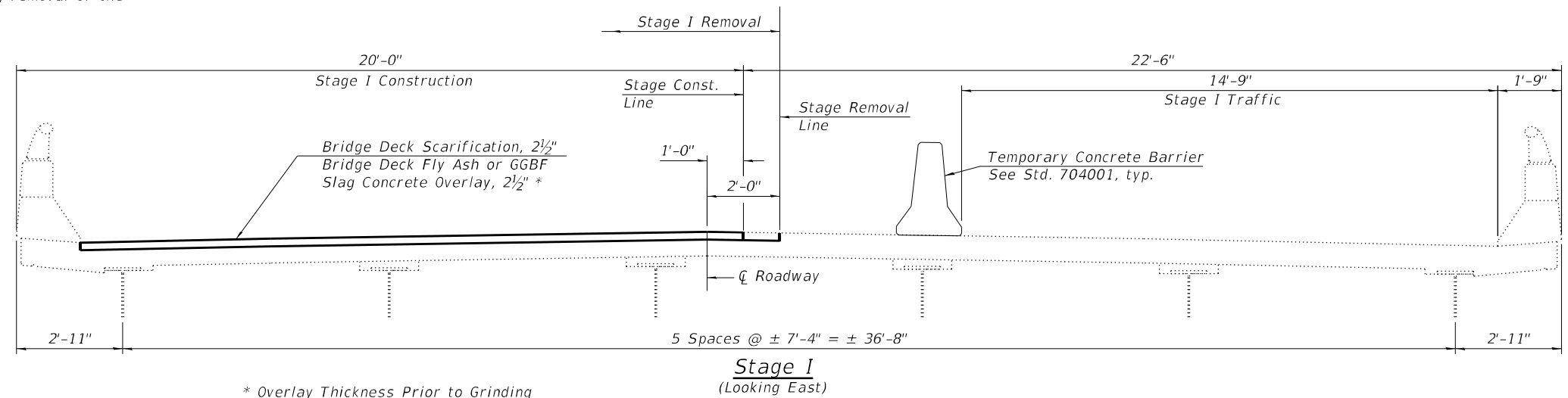
Synthetic fibers should be added to the Bridge Deck Fly Ash or GGBF Slag Concrete Overlay. See Special Provisions.

Full depth deck slab repair will be required at each floor drain location. Removal and disposal of existing floor drains shall be included in the contract unit price for deck slab repair (Full depth, Type 1).

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	30.1
Concrete Structures	Cu. Yd.	42.9
Concrete Superstructures	Cu. Yd.	15.8
Concrete Superstructure (Approach Slab)	Cu. Yd.	114.8
Reinforcement Bars, Epoxy Coated	Pound	49511
Bar Splicers	Each	338
Prefomed Joint Strip Seal	Foot	85
Floor Drains	Each	40
** Bridge Deck Scarification, 2 1/2"	Sq. Yd.	1381
** Bridge Deck Fly Ash or GGBF Slag Concrete Overlay 2 1/2"	Sq. Yd.	1381
** Bridge Deck Grooving (Longitudinal)	Sq. Yd.	866
** Diamond Grinding (Bridge Section)	Sq. Yd.	1687
*** Protective Coat	Sq. Yd.	1864
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	22.1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	1.2
Porous Granular Backfill	Cu. Yd.	46.6
Structure Excavation	Cu. Yd.	46.6
Temporary Soil Retention System	Sq. Ft.	47.4

\*\* See Special Provisions.  
\*\*\* New Concrete and overlay areas



MODEL: 0960045-74997-002  
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**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3501 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL DESIGN FIRM NO. 04-001179  
PROFESSIONAL LAND SURVEYING FIRM NO. 048-000098  
(217) 755-8844, 752-6277 (F)

USER NAME =	BenB
PLOT SCALE =	0:2" / in.
PLOT DATE =	8/31/2021

DESIGNED -	KAS
CHECKED -	MC
DRAWN -	PG
CHECKED -	MC

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

**GENERAL NOTES, BILL OF MATERIALS & STAGE CONST. DETAILS**  
**SN. 096-0045 (EB)**

SHEET 02 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	91
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

096-0045 Spans 1 & 2

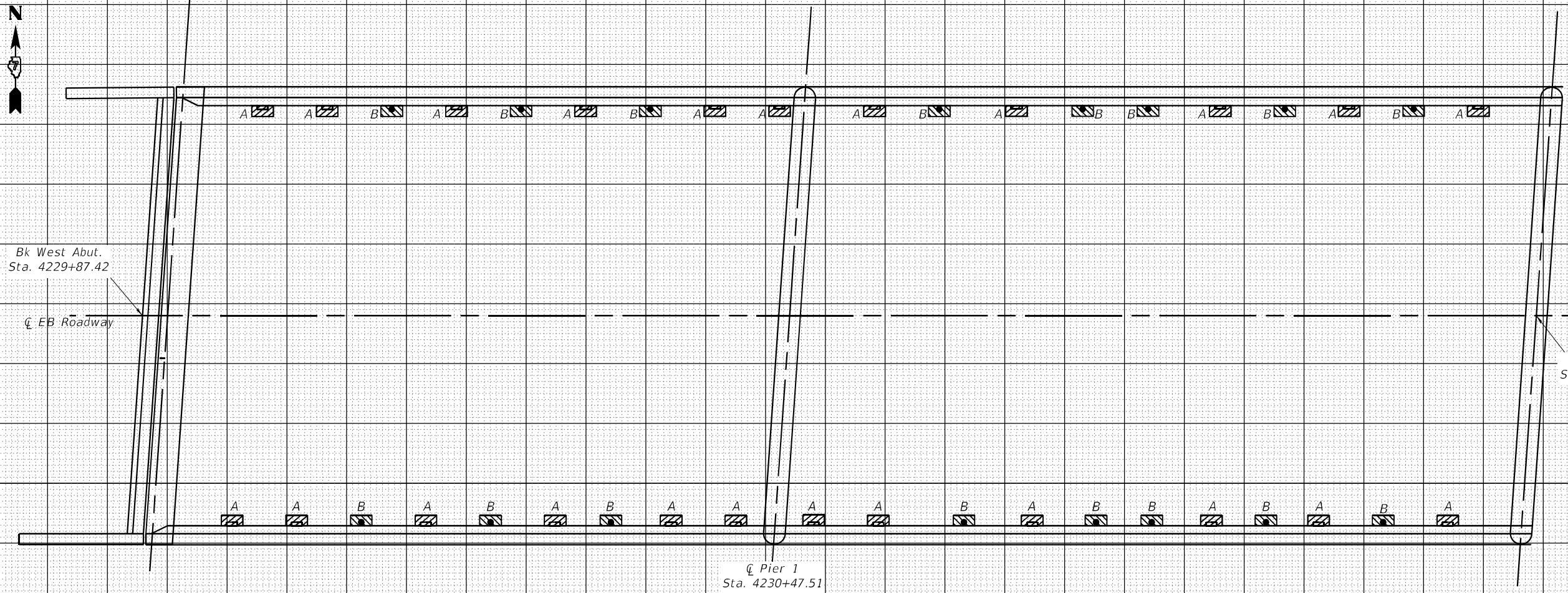


Bk West Abut.  
Sta. 4229+87.42

CL EB Roadway

CL Pier 2  
Sta. 4231+16.84

CL Pier 1  
Sta. 4230+47.51



PATCH	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	NO.	LENGTH	WIDTH	SQ YD
A - Remove Drain, 23 ea			5.1	
B - Replace Drain, 16 ea			3.6	
TOTALS			8.7	0

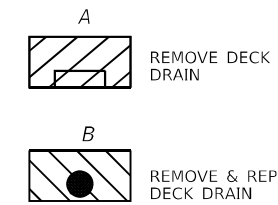
THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



A & B = Deck Slab Repair (Full Depth, Type I)  
2ft<sup>2</sup> = .22yd<sup>2</sup> Each

ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 8.7 SQ YD  
DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
FLOOR DRAINS = 16 Each



DATE OF SURVEY: OCT. 2020  
SURVEY BY: DPM  
METHOD OF SURVEY: VISUAL

MODEL: 0960045-74997-003  
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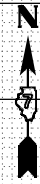
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPANS 1 & 2  
SN. 096-0045

SCALE: SHEET 3 OF 18 SHEETS STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	92
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

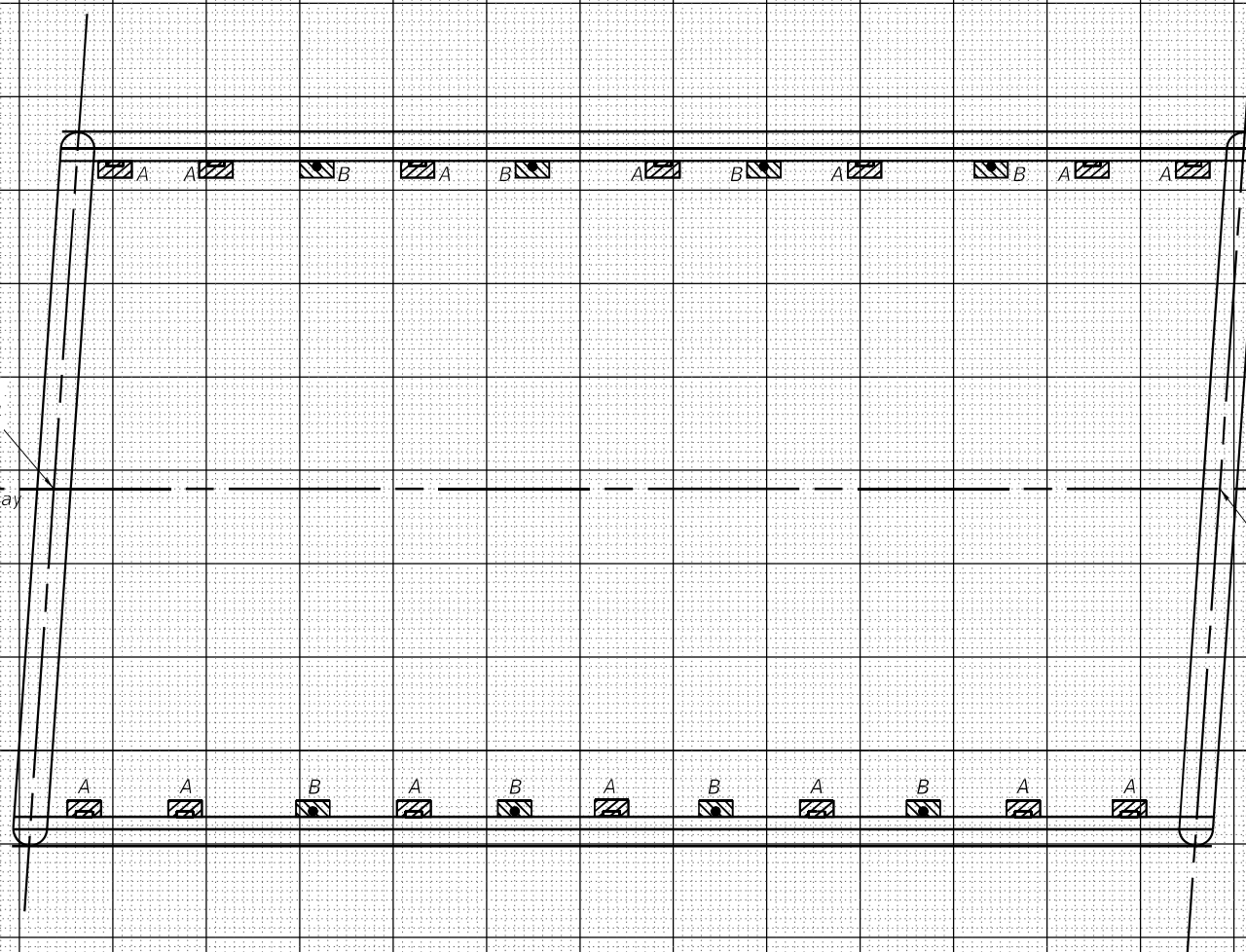
096-0045 Span 3



☐ Pier 2  
Sta. 4231+16.84

☐ EB Roadway

☐ Pier 3  
Sta. 4231+86.17



PATCH	SIZE		DECK SLAB REPAIR (FD TY I) SQ YD	DECK SLAB REPAIR (FD TY II) SQ YD
	NO.	LENGTH		
A - Remove Drain, 14 ea			3.1	
B - Replace Drain, 8 ea			1.8	
TOTALS			4.9	0

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.



DATE OF SURVEY: OCT. 2020  
SURVEY BY: DPM  
METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair  
(Full Depth, Type I)  
2ft<sup>2</sup> = .22yd<sup>2</sup> Each



ESTIMATED PAY QUANTITIES  
DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 4.9 SQ YD  
DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 0 SQ YD  
FLOOR DRAINS = 8 Each

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPAN 3  
SN. 096-0045

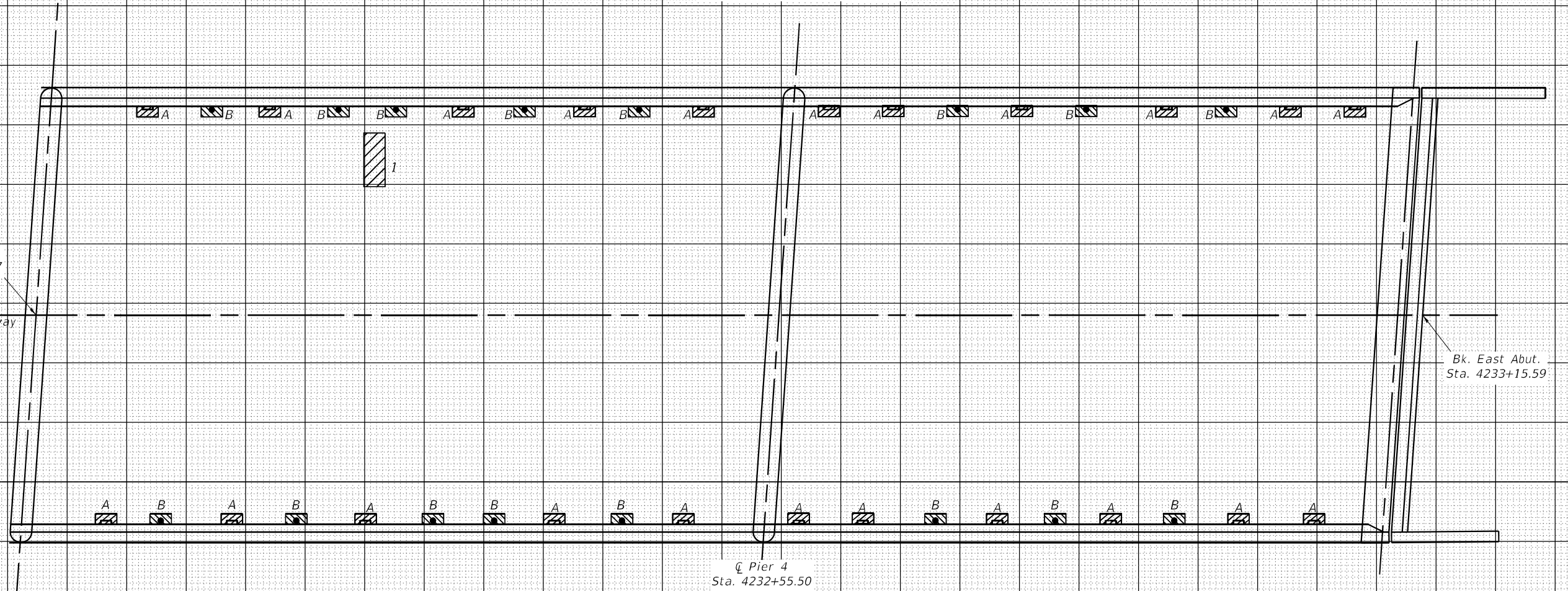
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	DATE - Nov. 2020	REVISED -

SCALE:	SHEET 4 OF 18 SHEETS	STA.	TO STA.
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F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	93
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

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096-0045 Spans 4 & 5



PATCH	SIZE		DECK SLAB REPAIR (FD TY I) SQ YD	DECK SLAB REPAIR (FD TY II) SQ YD
	NO.	LENGTH		
1	2.0	5.0		1.2
A - Remove Drain, 22 ea			4.9	
B - Replace Drain, 16 ea			3.6	
TOTALS			8.5	1.2

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

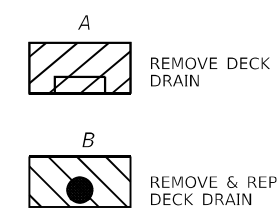


DATE OF SURVEY: OCT. 2020  
 SURVEY BY: DPM  
 METHOD OF SURVEY: VISUAL

A & B = Deck Slab Repair (Full Depth, Type I)  
 2ft<sup>2</sup> = .22yd<sup>2</sup> Each

ESTIMATED PAY QUANTITIES

DECK SLAB REPAIR (FULL DEPTH, TYPE I) = 8.5 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH, TYPE II) = 1.2 SQ YD  
 FLOOR DRAINS = 16 Each



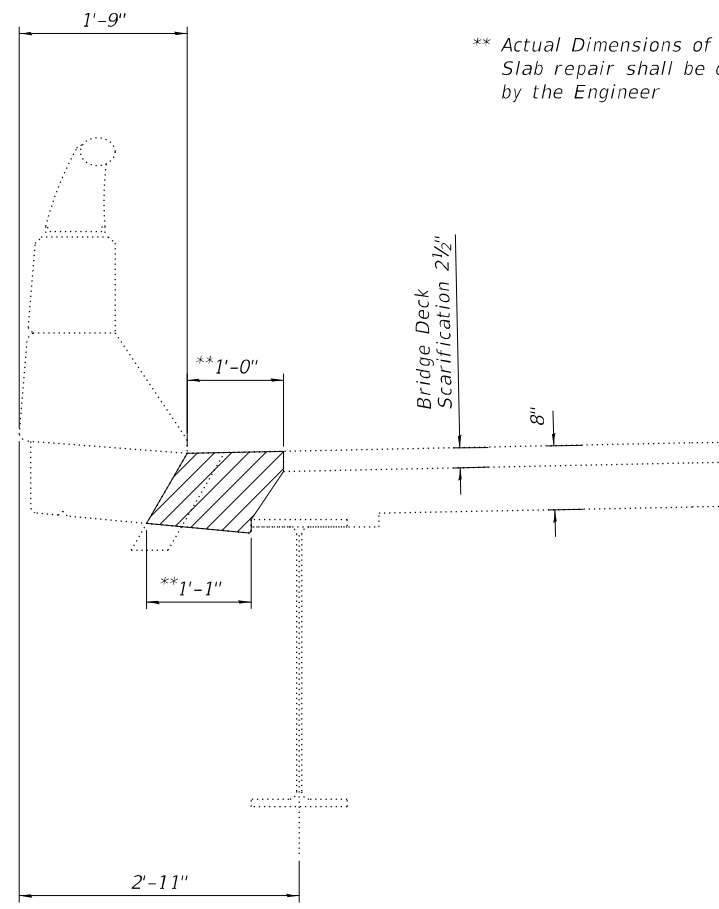
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	DATE - Nov. 2020	REVISED -

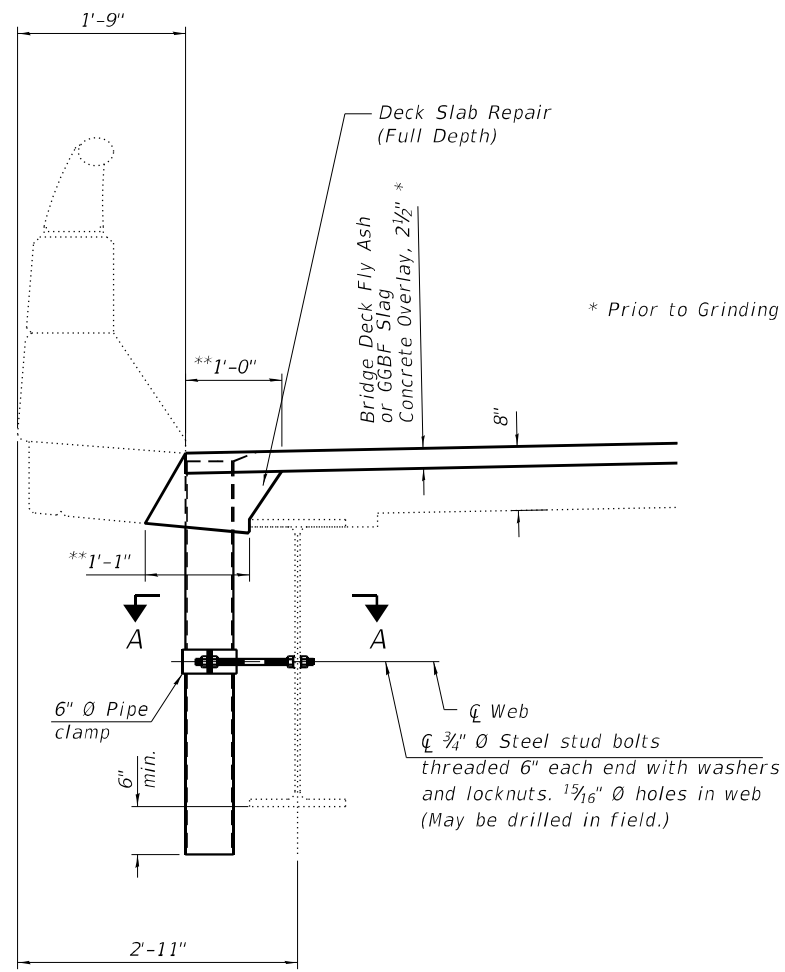
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING, SPANS 4 & 5			
SN. 096-0045			
SCALE:	SHEET 5	OF 18 SHEETS	STA. TO STA.

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

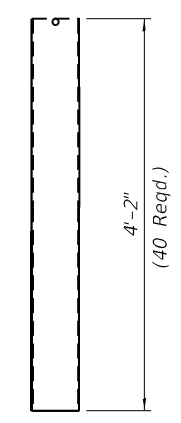
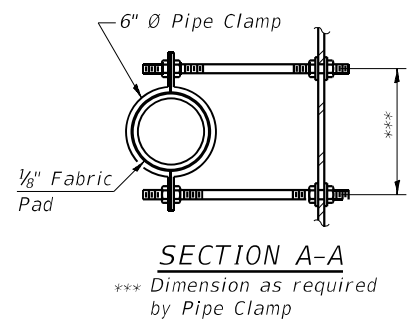
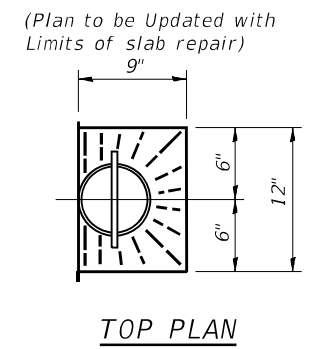
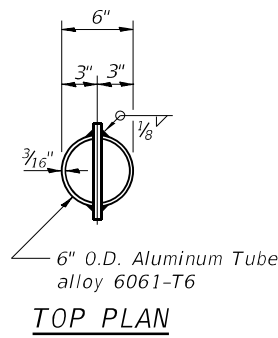
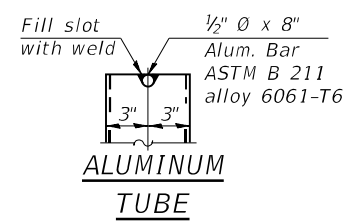


\*\* Actual Dimensions of Deck Slab repair shall be determined by the Engineer



Notes:  
 Fiberglass pipe alternative shall not be allowed for floor drains.  
 Galvanize clamping device according to AASHTO M232. Cost of clamping device, bolts and galvanizing is included with Floor Drains.  
 Concrete Removal and replacement quantities and locations for drains are included in Deck Slab Repair (Full Depth, Type 1) as shown on "Bridge Deck Patching Sheets", see sheets 3-5 of 17.

**SECTIONS THRU DRAIN TO BE REPLACED**  
 99 Locations - See Bridge Patching Sheet



**DRAIN DETAIL**

MODEL: 0960045-74997-006  
 FILE NAME: J:\20100.02\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

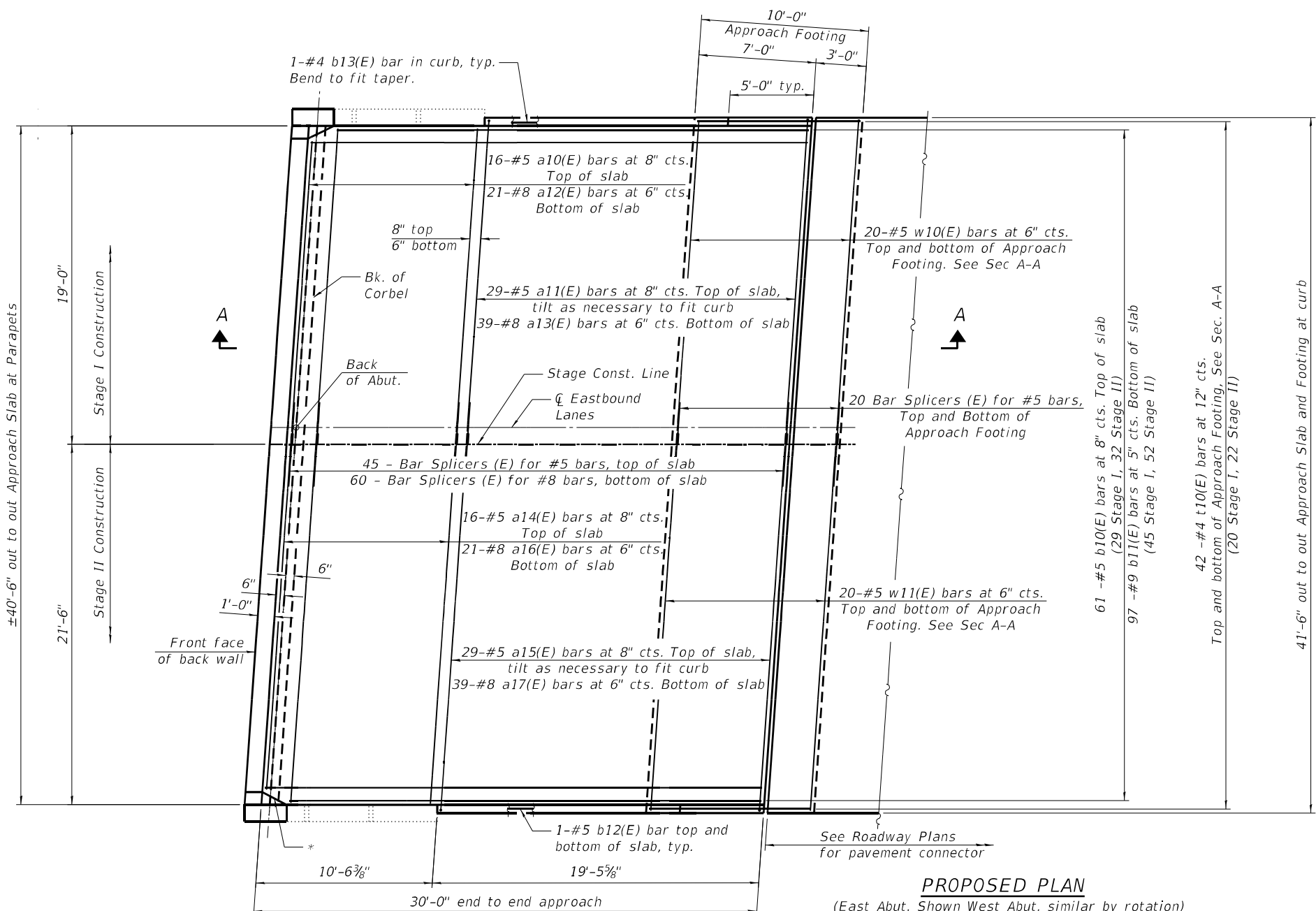
**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
 CONSULTING ENGINEERS  
 3501 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 04-061179  
 PROFESSIONAL LAND SURVEYING FIRM NO. 04-060098  
 (217) 753-8844, 752-6277, 751

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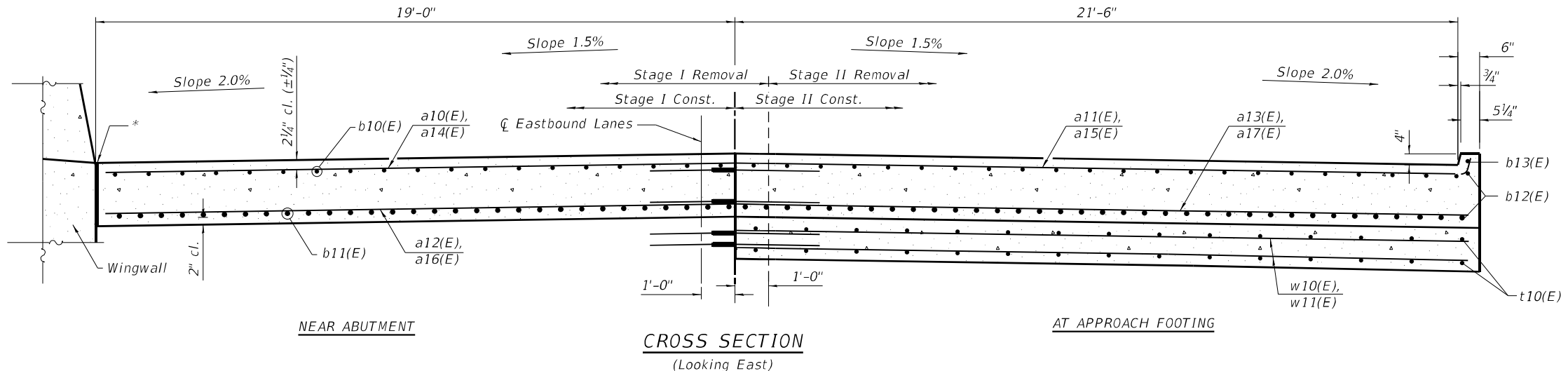
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DECK DRAIN REPLACEMENT DETAILS**  
**SN. 096-0045 (EB)**  
 SHEET 06 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	95
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				



\* 1/2" Preformed Expansion Joint Filler according to Article 1051.09 of the Standard Specifications; full depth of slab, full length of parapet. Typ. each parapet.  
See Sheet 8 of 17 for Section A-A.



MODEL: 0960045-74997-007  
FILE NAME: J:\201002\_W0# 2. 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

**GREENE & BRADFORD, INC.**  
OF SPRINGFIELD  
CONSULTING ENGINEERS  
3541 CONSTITUTION DRIVE  
SPRINGFIELD, ILLINOIS 62711  
PROFESSIONAL GEODESIC SURVEYING NO. 04-0061179  
PROFESSIONAL LAND SURVEYING FIRM NO. 04-000098  
1211, 7542844, 79246227, 81

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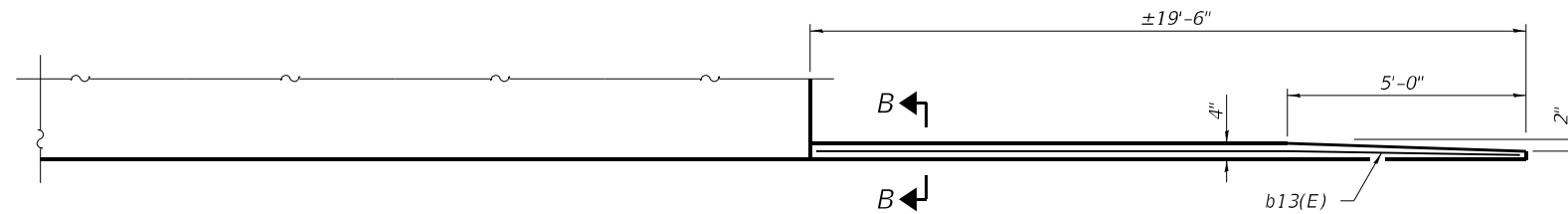
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - I  
SN. 096-0045 (EB)**

SHEET 07 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	96
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

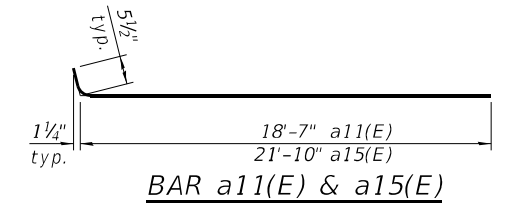
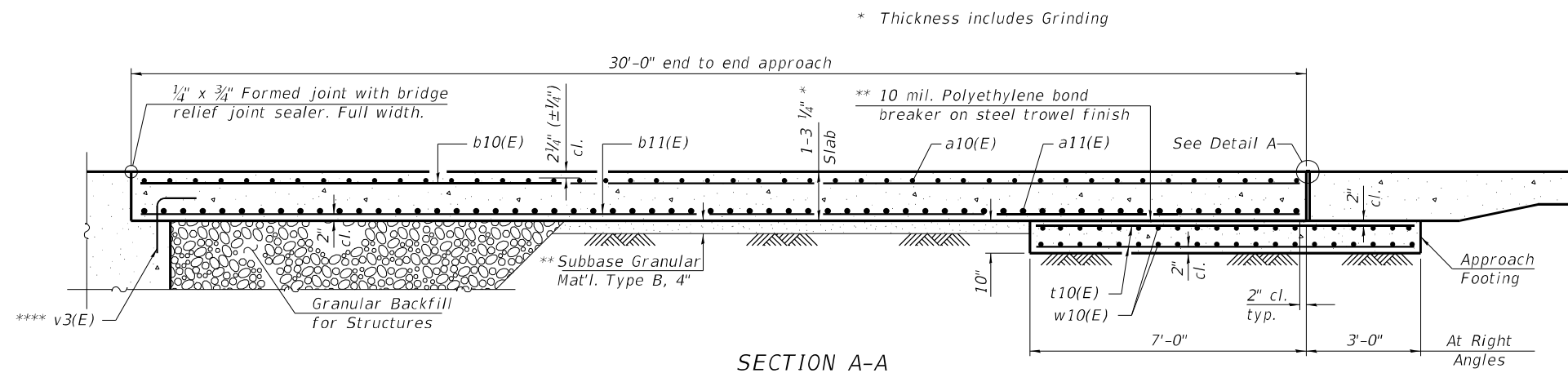




Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 10 of 17.

\* Prior to Grinding

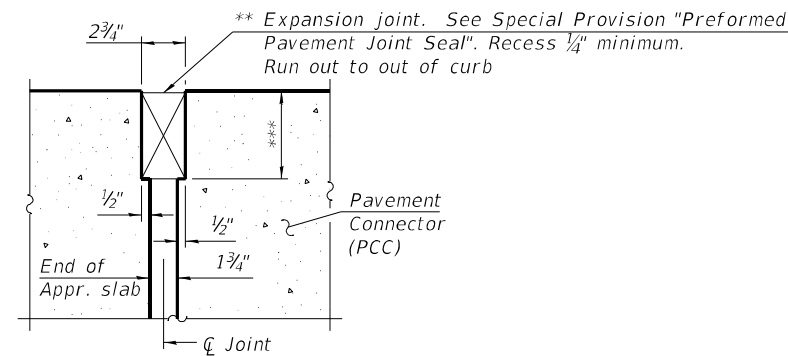
INSIDE ELEVATION OF PARAPET AND CURB



SECTION A-A

TWO APPROACHES  
BILL OF MATERIAL

Bar	Stage I	Stage II	Total	Size	Length	Shape
a10(E)	32		32	#5	18'-2"	—
a11(E)	58		58	#5	19'-0"	—
a12(E)	42		42	#8	18'-2"	—
a13(E)	78		78	#8	18'-7"	—
a14(E)		32	32	#5	21'-5"	—
a15(E)		58	58	#5	22'-3"	—
a16(E)		42	42	#8	21'-5"	—
a17(E)		78	78	#8	21'-10"	—
b10(E)	58	64	122	#5	29'-8"	—
b11(E)	90	104	194	#9	29'-8"	—
b12(E)	4	4	8	#5	19'-3"	—
b13(E)	2	2	4	#4	19'-4"	—
t10(E)	40	44	84	#4	9'-8"	—
w10(E)	80		80	#5	18'-7"	—
w11(E)		80	80	#5	21'-10"	—
Concrete Superstructure (Approach Slab)						Cu. Yd. 114.8
Concrete Structures						Cu. Yd. 25.7
Reinforcement Bars, Epoxy Coated						Pound 44146
Bar Splicers						Each 290



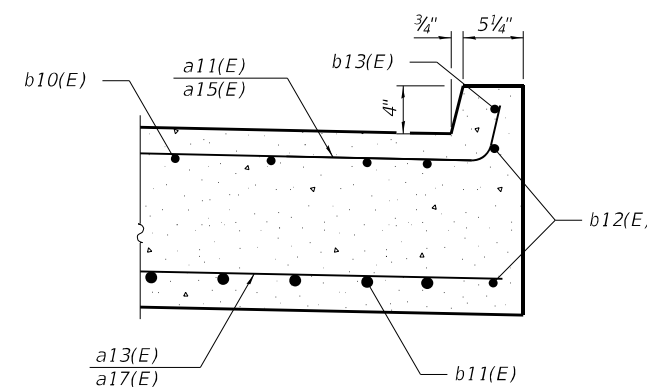
DETAIL A

(Detail A shown, applies to Highway Standard 420401 only.  
 Detail A for pavement connector (HMA) may be found on Highway Standard 420406.)

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

\*\*\* Per manufacturer recommendations

\*\*\*\* v3(E) shown on Sheet 15-16 of 17.



SECTION B-B

(Sheet 2 of 2)

MODEL: 0960045-74997-008  
 FILE NAME: J:\2010\02\_WD# 2.8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

**GREENE & BRADFORD, INC.**  
 OF SPRINGFIELD  
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 3541 CONSTITUTION DRIVE  
 SPRINGFIELD, ILLINOIS 62711  
 PROFESSIONAL DESIGN FIRM NO. 044-0661179  
 (217) 754-8844, 752-6277, 751

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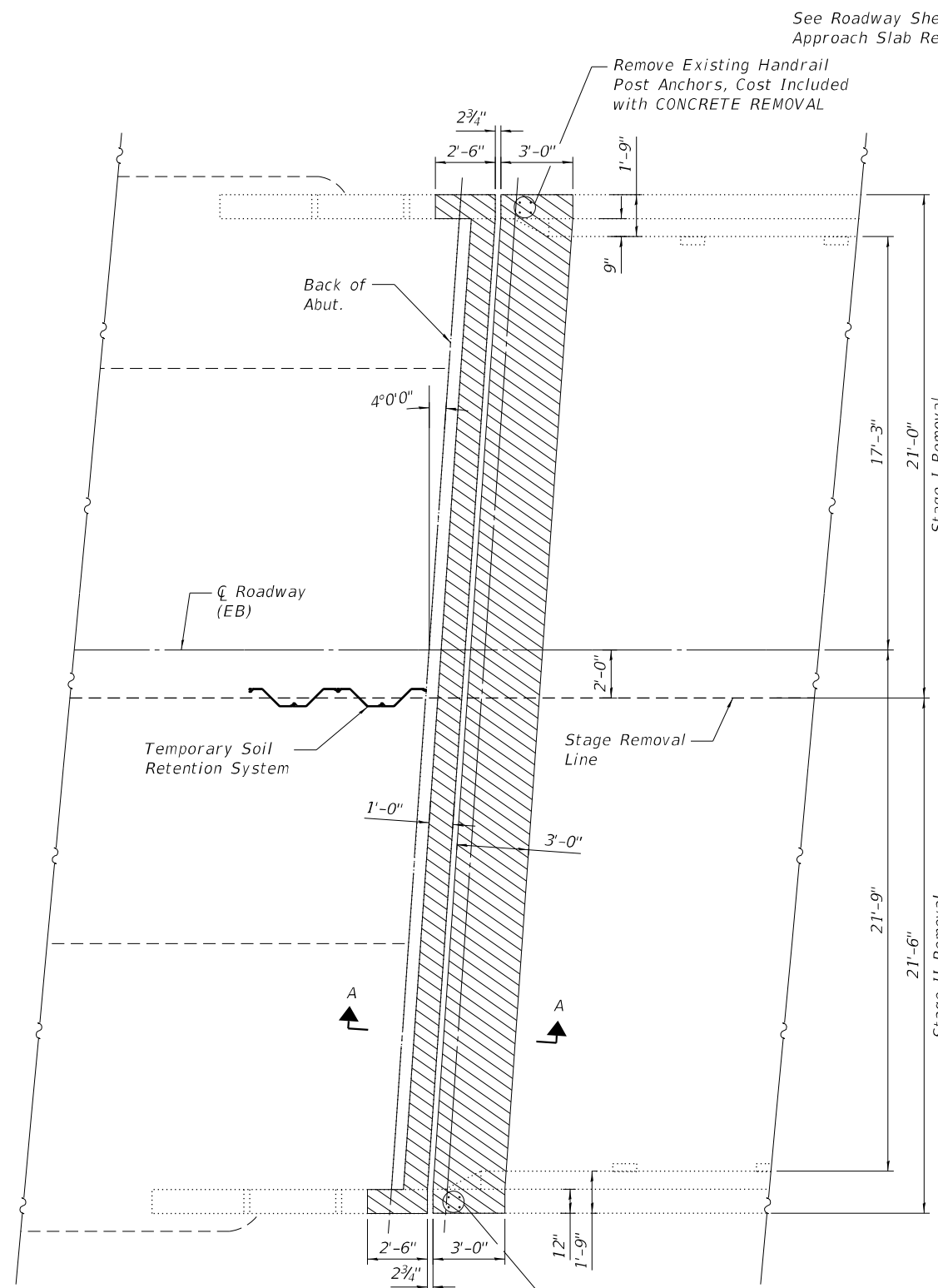
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**APPROACH SLAB DETAILS - II**  
**SN. 096-0045 (EB)**

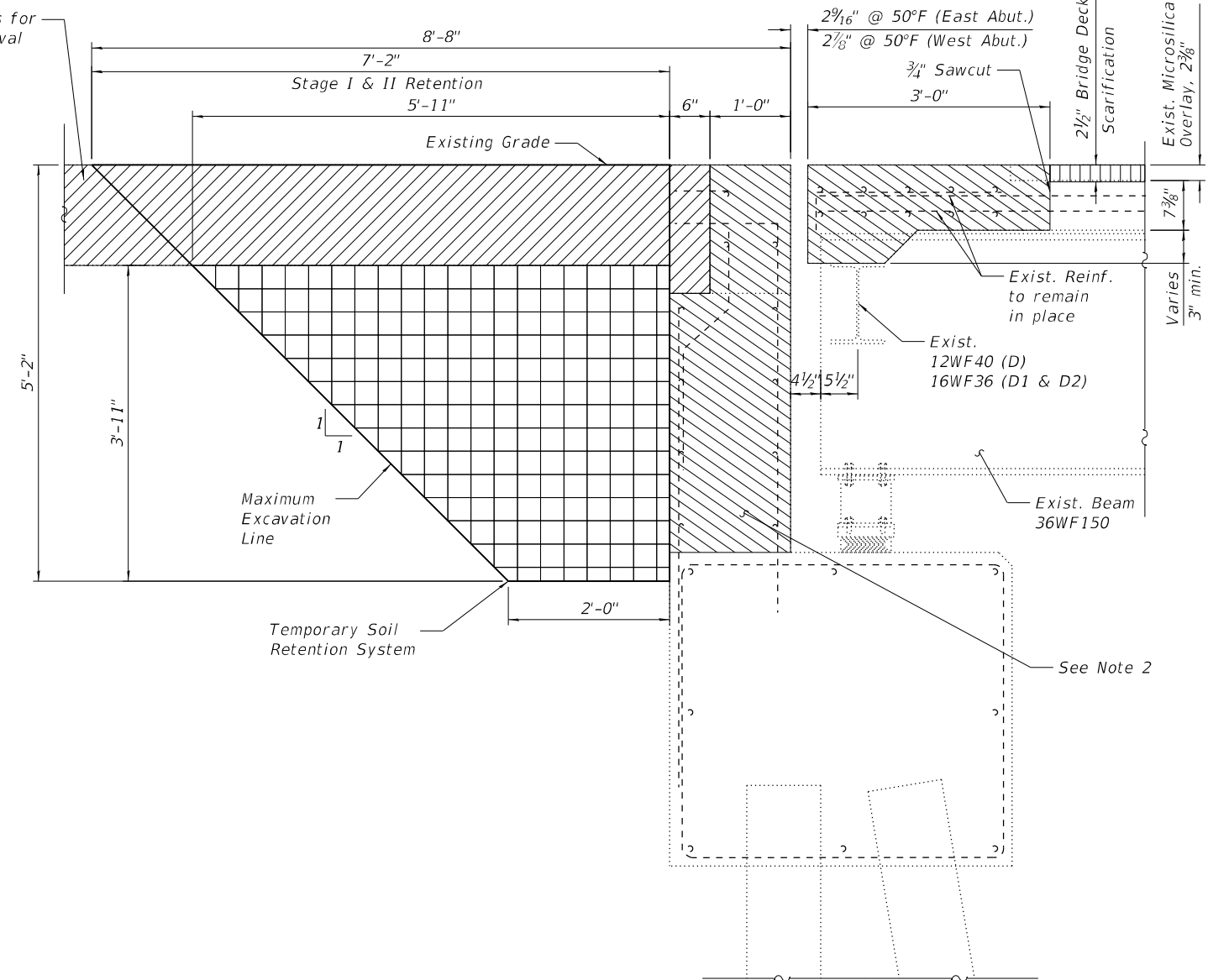
SHEET 08 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	97
CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

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**CONCRETE REMOVAL PLAN**  
(West Abutment shown, East Abutment similar by rotation)



**SECTION A-A**  
Removal

**NOTE**

1. Removal and Disposal of Exist. Expansion Joint is included in the cost of CONCRETE REMOVAL.
2. For Removal quantities for Abutment Backwall and hatch block, See sheet 13-14 of 17.

**TWO EXPANSION JOINTS**  
**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
** Concrete Removal	Cu. Yd.	10.7
Structure Excavation	Cu. Yd.	46.6
Temporary Soil Retention System	Sq. Ft.	47.4

\*\* Concrete Removal Quantity is for end of the Deck removal only, See Note 2

- Concrete Removal
- Approach Slab Removal (See Roadway Sheets)
- Bridge Deck Scarification
- Structure Excavation

MODEL: 0960045-74997-009  
FILE NAME: J:\201002\_W04# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

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1211, 715-8244, 715-8227, 81

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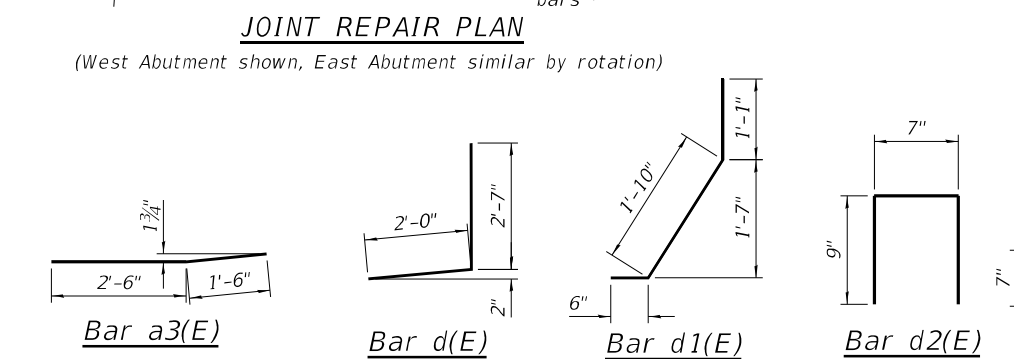
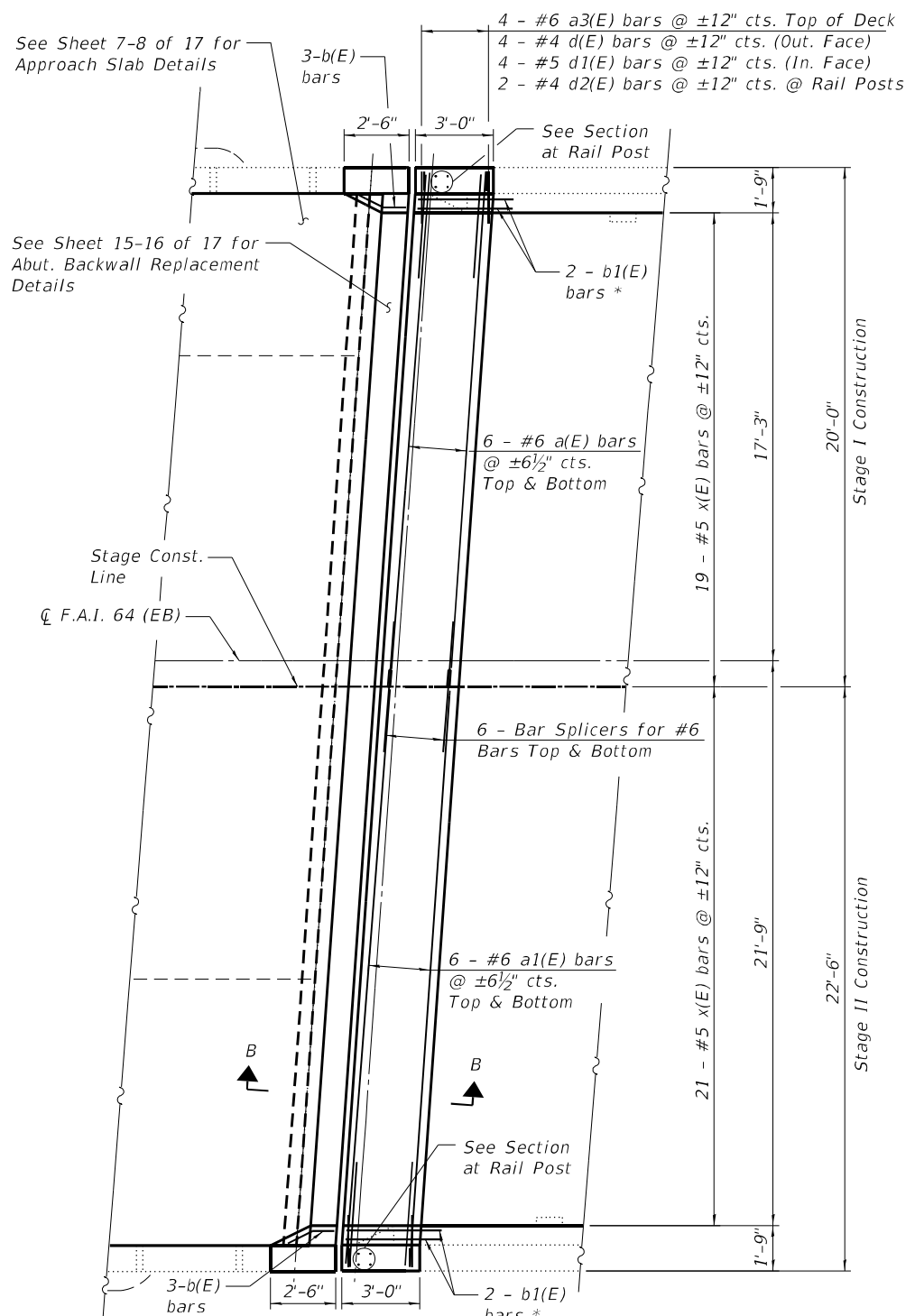
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REMOVAL DETAILS**  
**SN. 096-0045 (EB)**

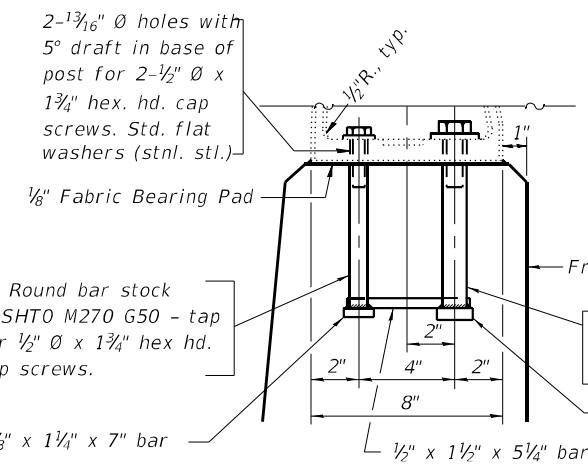
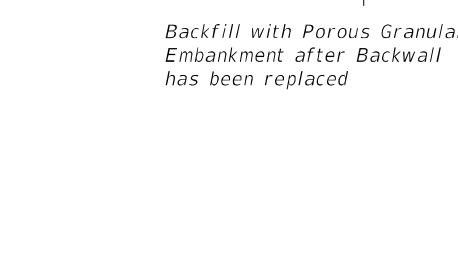
SHEET 09 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	98
CONTRACT NO. 74997				

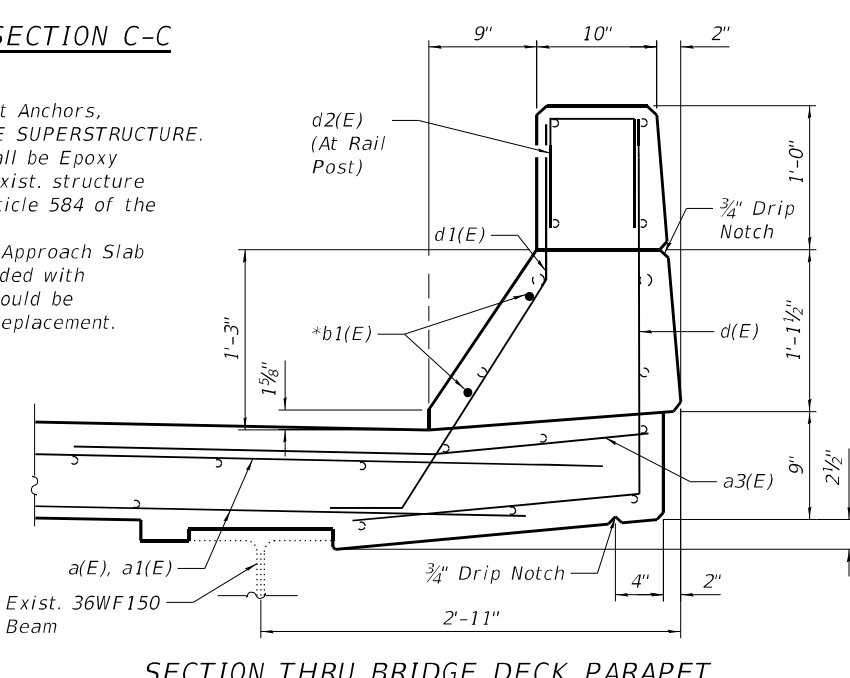
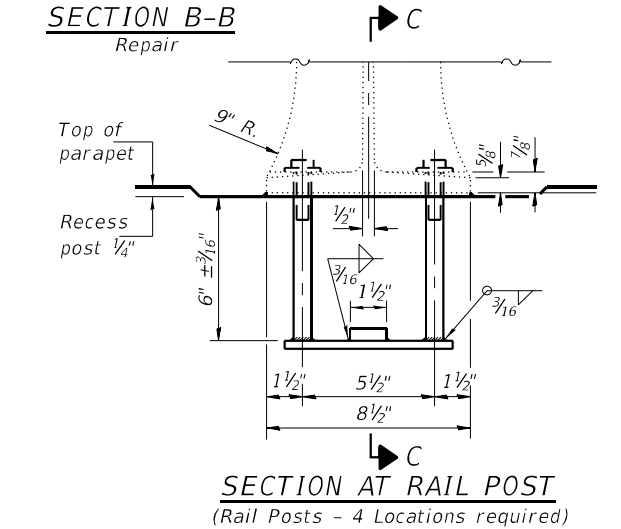
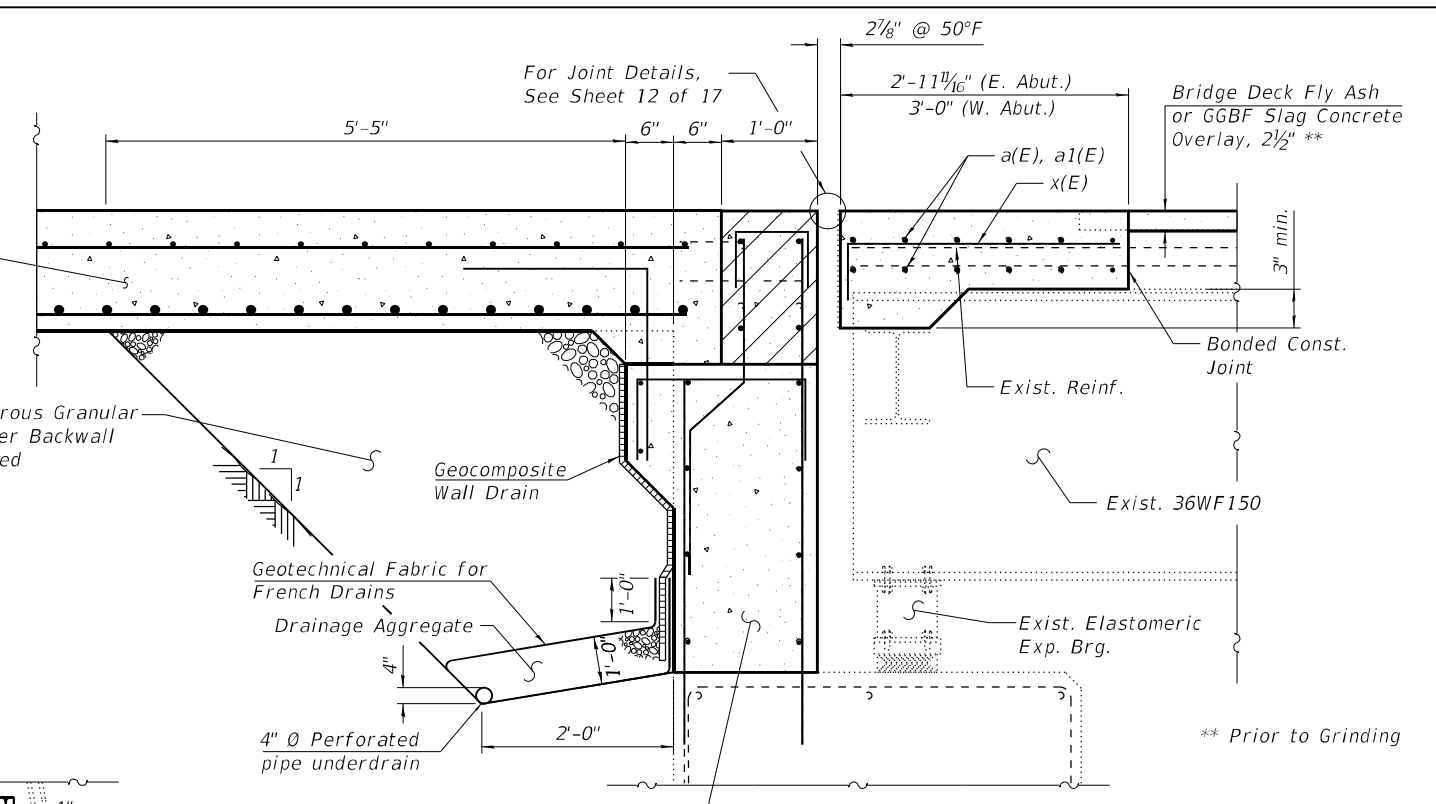
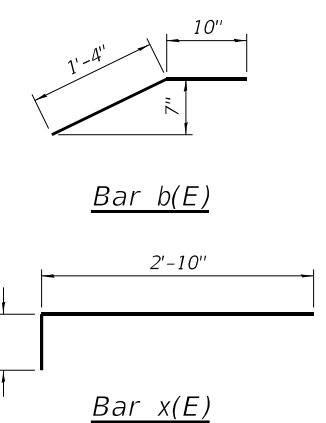
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See Sheet 7-8 of 17 for Approach Slab Details



- NOTE**
1. Replacement of Handrail Post Anchors, Cost Included with CONCRETE SUPERSTRUCTURE.
  2. All bars with asterisk (\*) shall be Epoxy Grouted in 9" min. holes in Exist. structure and shall be according to Article 584 of the Standard Specification.
  3. Hatch Block is poured after Approach Slab is complete. Quantity is included with Concrete Superstructures Should be billed with Expansion Joint Replacement.



**TWO EXPANSION JOINTS**

**BILL OF MATERIAL**

BAR	NO. OF BARS	TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II			
a(E)	24	24	#6	19'-2"	—
a1(E)		24	#6	22'-2"	—
a3(E)	8	8	#6	4'-0"	—
b(E)	6	6	#5	2'-2"	—
b1(E)	4	4	#5	3'-8"	—
d(E)	8	8	#4	4'-7"	┘
d1(E)	8	8	#5	3'-5"	┘
d2(E)	4	4	#4	2'-1"	┘
x(E)	38	42	#5	3'-5"	┘
Concrete Superstructures				Cu. Yd.	15.8
Reinforcement Bars, Epoxy Coated				Pound	2046
Bar Splicers				Each	24
Porous Granular Backfill				Cu. Yd.	46.6

MODEL: 0960045-74997-010  
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PROFESSIONAL LAND SURVEYING REG. NO. 042-060098  
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**DEPARTMENT OF TRANSPORTATION**

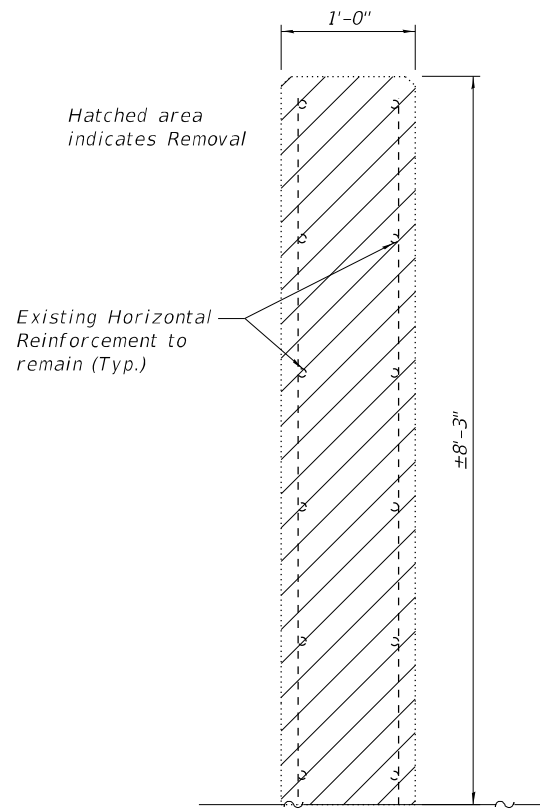
**EXPANSION JOINT REPLACEMENT DETAILS**  
**SN. 096-0045 (EB)**

SHEET 10 OF 17 SHEETS

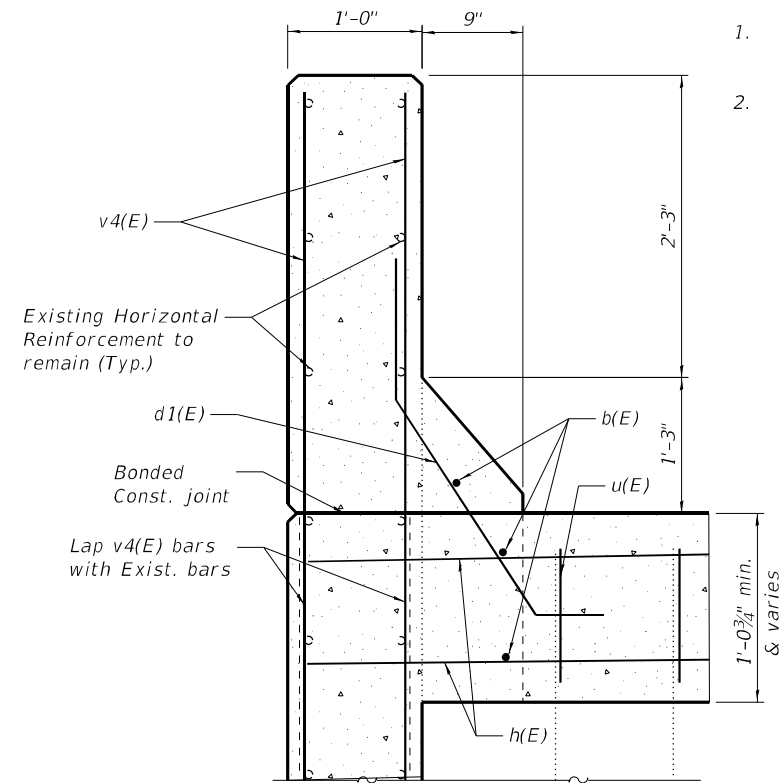
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CONTRACT NO. 74997				
ILLINOIS FED. AID PROJECT				

**NOTES**

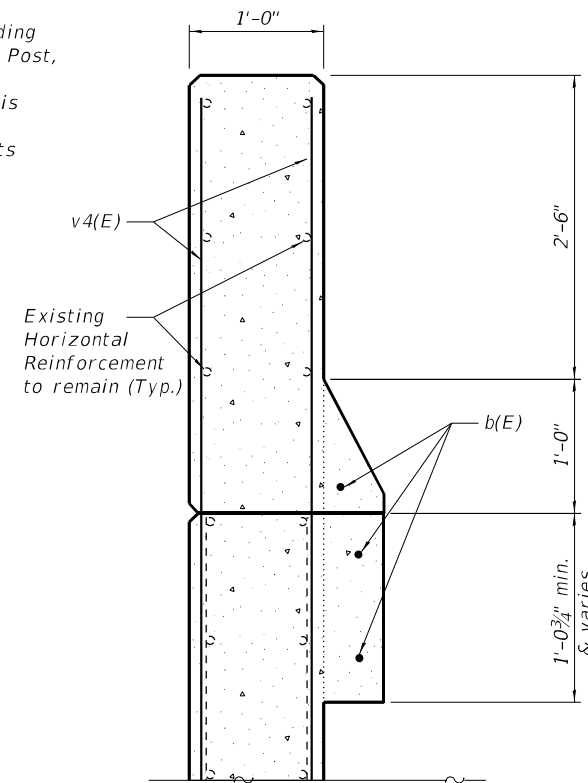
1. For Bill of Materials, Bar Bending Diagram and Section near Rail Post, See Sheet 10 of 17.
2. Quantity of v4(E) and u(E) bar is included in Abutment Backwall Replacement Sheets, See Sheets 15-16 of 17.



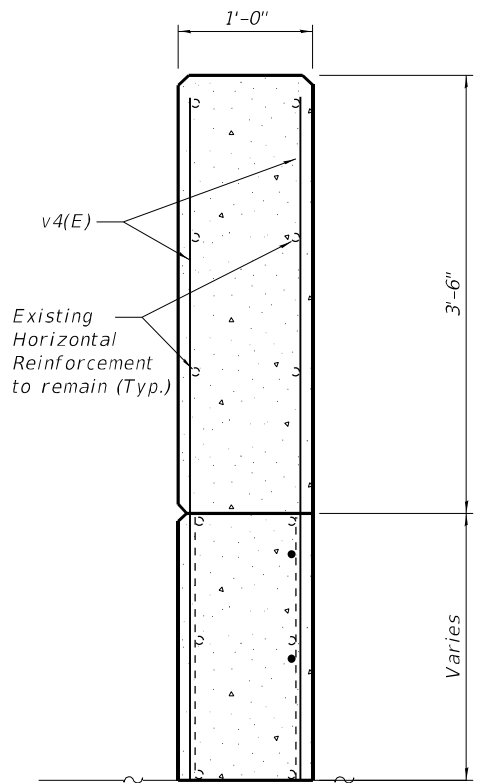
**SECTION C-C**  
Removal Section at Wingwall



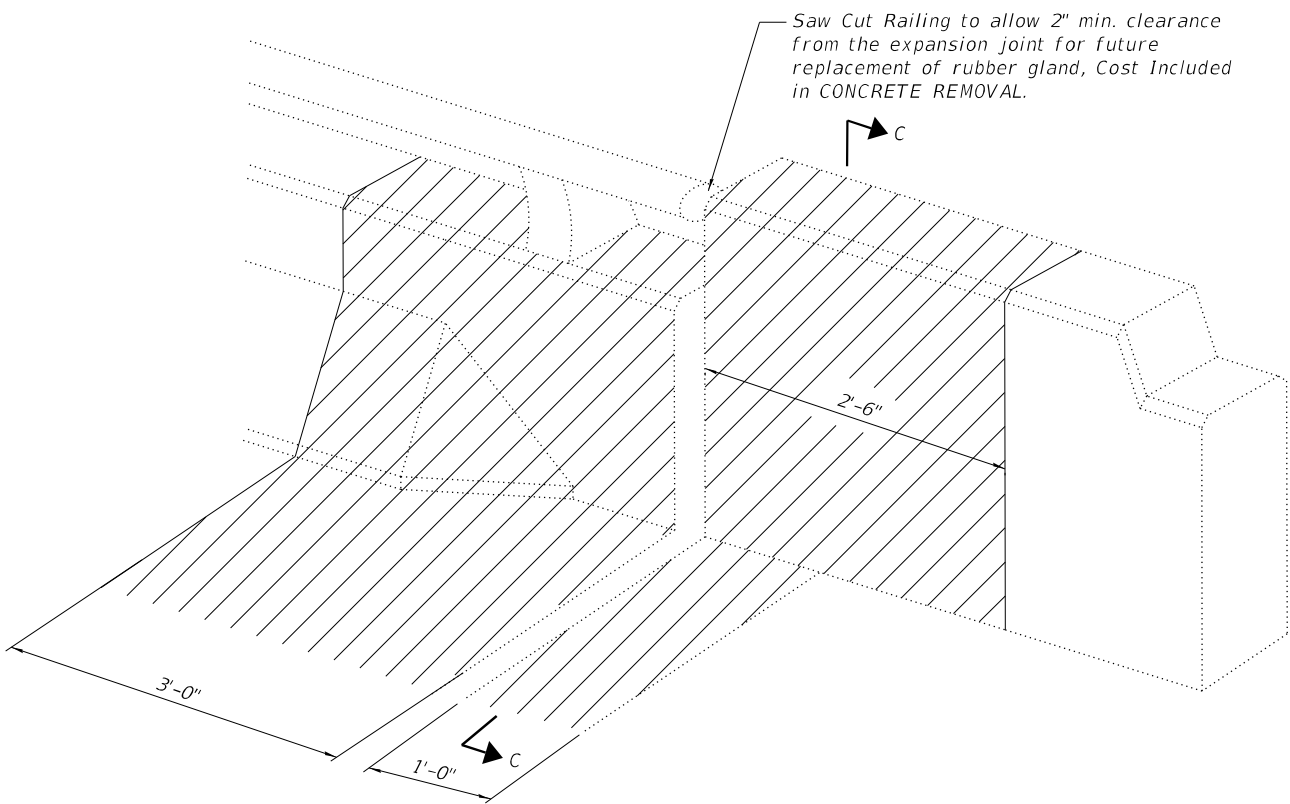
**SECTION D-D**  
Section thru Proposed Transition Parapet



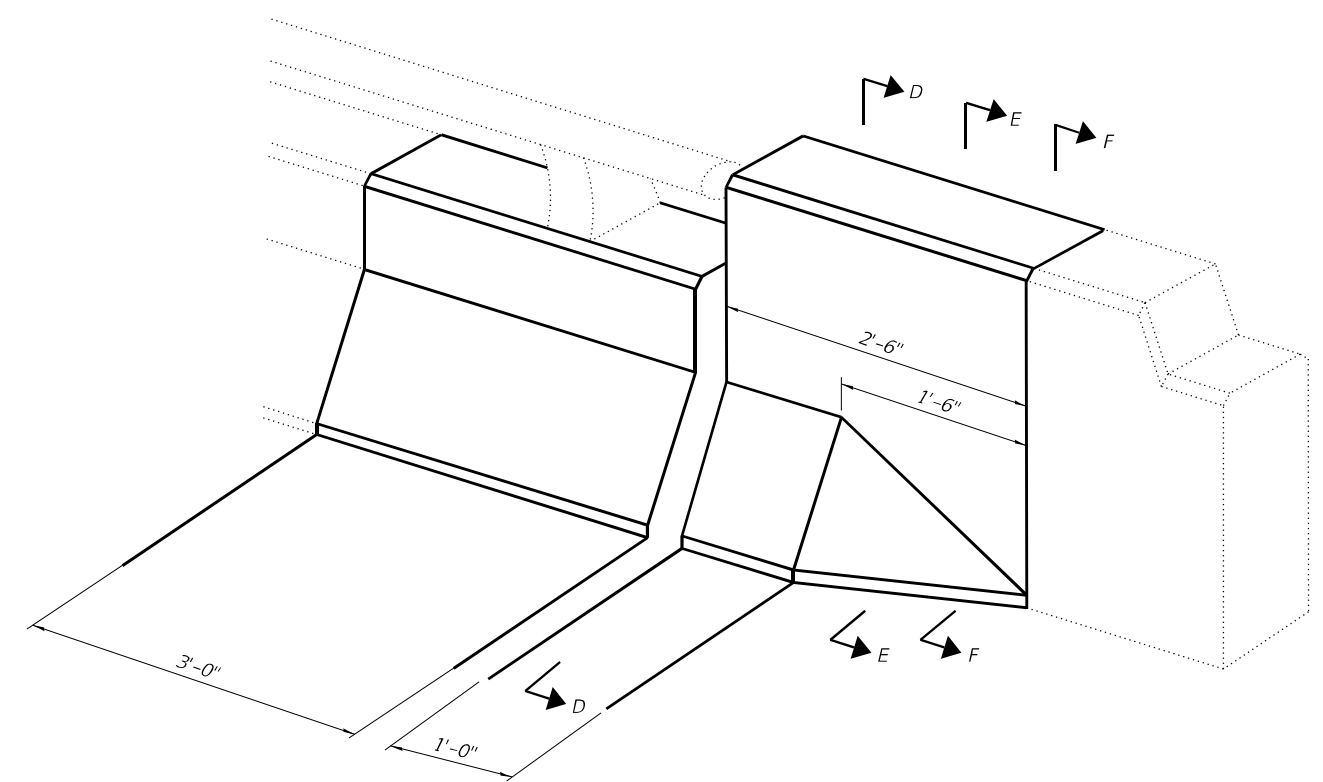
**SECTION E-E**  
Section thru End of Proposed Parapet



**SECTION F-F**  
Section thru End of Proposed Parapet



**TYPICAL CONCRETE REMOVAL AT EACH ABUTMENT CORNER**



**TYPICAL PROPOSED WING WALL AT EACH ABUTMENT CORNER**

MODEL: 0960045-74997-011  
FILE NAME: J:\201002\_W0# 2 8 Bridge Repairs in D7\DRAWINGS\096-0045 & 096-0046\0960045-74997.dgn

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**WINGWALL MODIFICATION AT EXPANSION JOINT**  
**SN. 096-0045 (EB)**

SHEET 11 OF 17 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	D7 BRIDGE REPAIRS 2022-3	WAYNE	152	100
CONTRACT NO. 74997				

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