

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	1
		ILLINOIS	CONTRACT NO. 74B41	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

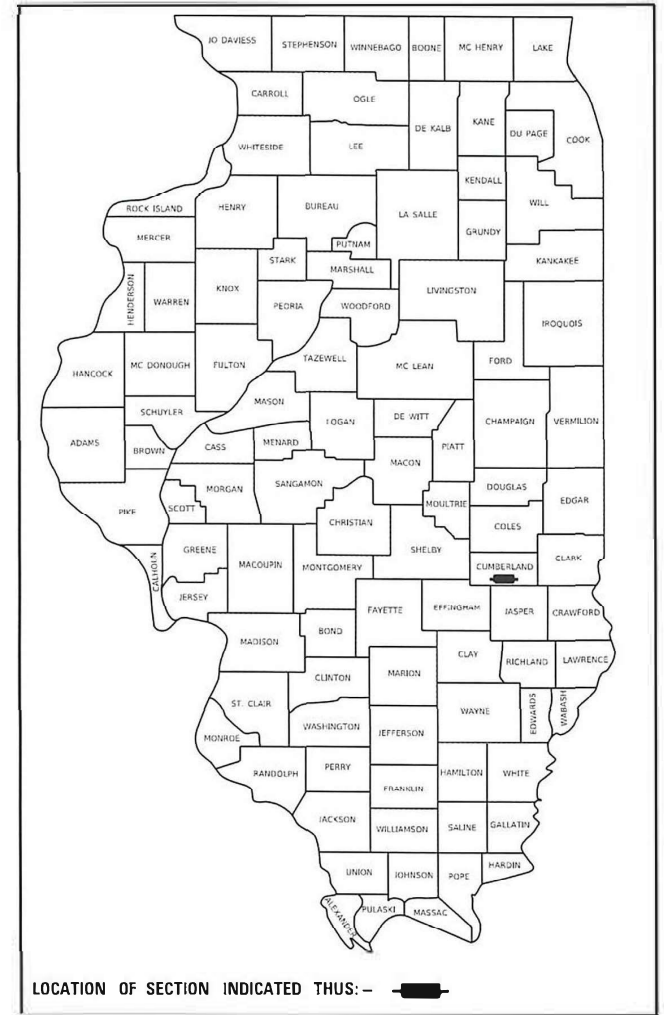
ADT 13,200 (2021) EASTBOUND  
ADT 12,800 (2021) WESTBOUND

# PROPOSED HIGHWAY PLANS

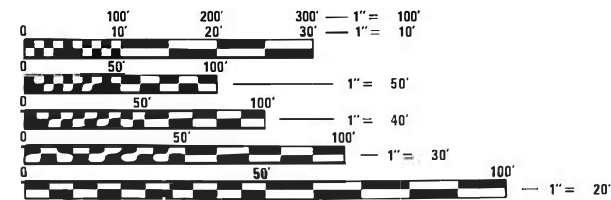
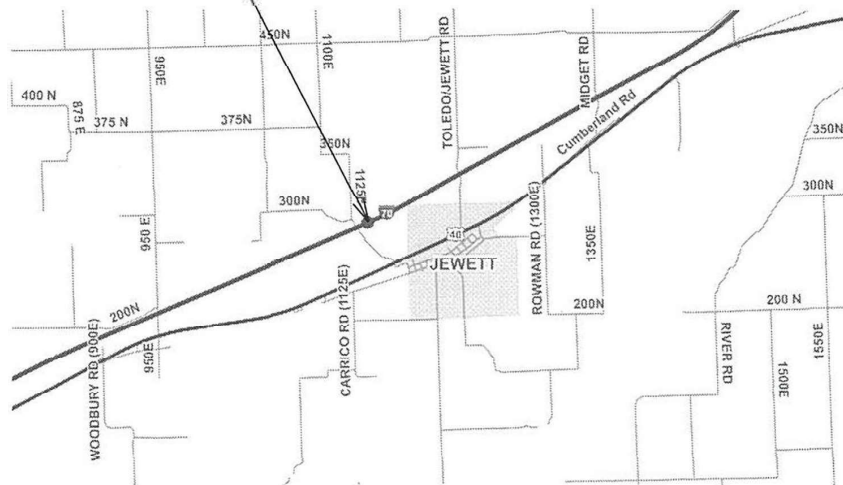
FAI ROUTE 70 (I-70)  
SECTION D7 BRIDGE REPAIRS 2024-12  
PROJECT NHPP-KFMZ(873)  
BRIDGE DECK OVERLAY, BRIDGE JOINT REPLACE/REPAIR,  
BRIDGE APPROACH ROADWAY, BRIDGE DECK REPAIRS  
CUMBERLAND COUNTY

C-97-110-22

D-97-062-22



S.N. 018-0044 WESTBOUND  
S.N. 018-0054 EASTBOUND  
STA 359+25.00



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: MATT BOWER  
PROJECT MANAGER: LEVI LUND

CONTRACT NO. 74B41

GROSS LENGTH = 437.00 FT. = 0.083 MILE  
NET LENGTH = 437.00 FT. = 0.083 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 16 2023  
Jeffrey P. Myrland  
REGIONAL ENGINEER

October 4, 2024  
Scott A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

October 4, 2024  
Gemma J. [Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

**GENERAL NOTES**

THE PROPOSED PROJECT IS LOCATED ON I-70 AT COTTONWOOD CREEK 0.1 MILES EAST OF CR 1125E (OVERHEAD)

THE WORK IN THIS SECTION CONSISTS OF BRIDGE DECK OVERLAY, BRIDGE JOINT REPLACE/REPAIR, BRIDGE APPROACH ROADWAY, BRIDGE DECK REPAIRS, PAVEMENT CONNECTORS, REMOVE AND RE-ERECT TYPE 6 TRAFFIC BARRIER TERMINALS, SHOULDER REMOVAL, PCC SHOULDER, 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.  
 PAVEMENT MARKINGS ON HOT-MIX ASPHALT SURFACE, PCC APPROACH PAVEMENTS AND BRIDGE DECK OVERLAY SHALL BE PREFORMED PLASTIC MARKING, TYPE D - LINE 6"

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS AND GENERAL NOTES
3 - 4	SUMMARY OF QUANTITIES
5	TYPICAL SECTIONS
6	SCHEDULE OF QUANTITIES
7	STRUCTURE PROFILE TRANSITION DETAIL
8 - 9	STAGING PLAN SHEETS
10 - 29	BRIDGE REPAIR PLANS
30 - 31	DISTRICT 7 DETAILS

**THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:**

LOCATION(S)	MIXTURE USE(S)	PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE	MIXTURE WEIGHT	QUALITY MANAGEMENT PROGRAM	SUBLOT SIZE	MATERIAL TRANSFER DEVICE (REQUIRED?)
MAINLINE	POLYMERIZED HMA SURFACE COURSE, IL-9.5, MIX "D", N90	SBS PG 70-22	4.0% @ N=90	IL - 9.5	MIXTURE D	N90	QC/QA	3000	N/A
SHOULDERS	POLYMERIZED HMA SURFACE COURSE, IL-9.5, MIX "D", N90	SBS PG 70-22	4.0% @ N=90	IL - 9.5	MIXTURE D	N90	QC/QA	3000	N/A
CONNECTOR	POLYMERIZED HMA SURFACE COURSE, IL-9.5, MIX "D", N90 (TOP LIFTS)	SBS PG 70-22	4.0% @ N=90	IL - 9.5	MIXTURE D	N90	QC/QA	3000	N/A
CONNECTOR	HMA BINDER COURSE, IL-19.0, N90 (BOTTOM LIFTS)	SBS PG 70-22	4.0% @ N=90	IL - 19.0	N/A	N90	QC/QA	3000	N/A

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
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
420701-03	PAVEMENT WELDED WIRE REINFORCEMENT
483001-06	PCC SHOULDER
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
642001-03	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
701400-12	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701406-13	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701901-09	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER

90% FED  
10% STATE

90% FED  
10% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047		
20700220	POROUS GRANULAR EMBANKMENT	CU YD	28	28		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	1240	1240		
40604164	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "D", N90	TON	60	60		
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	108	108		
44000100	PAVEMENT REMOVAL	SQ YD	108	108		
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	4	4		
48203003	HOT-MIX ASPHALT SHOULDERS, 1 1/2"	SQ YD	544	544		
50102400	CONCRETE REMOVAL	CU YD	43.2	43.2		
50200100	STRUCTURE EXCAVATION	CU YD	12	12		
50300225	CONCRETE STRUCTURES	CU YD	42.8	42.8		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	41.6	41.6		
50300300	PROTECTIVE COAT	SQ YD	2146	2146		
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	137.6	137.6		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	60200	60200		
50800515	BAR SPLICERS	EACH	620	620		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	182	182		
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	1414	1414		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5		
67100100	MOBILIZATION	L SUM	1	1		
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	2	2		
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2		
70100701	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	EACH	2	2		
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	210	210		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	178	178		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	136	136		

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PLOT DATE = 8/18/2023	DATE -	REVISOR -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	3
			CONTRACT NO. 74B41	
ILLINOIS FED. AID PROJECT				

90% FED  
10% STATE

90% FED  
10% STATE

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
				0047		
70300241	TEMPORARY PAVEMENT MARKING - LINE 6"- PAINT	FOOT	2870	2870		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1005	1005		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1005	1005		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
* 78004630	PREFORMED PLASTIC PAVEMENT MARKING, TYPE D - STANDARD - LINE 6"	FOOT	2870	2870		
78011035	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	2870	2870		
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SO FT	1270	1270		
X4060995	TEMPORARY RAMP (SPECIAL)	SO YD	216	216		
X4201510	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (SPECIAL)	SO YD	216	216		
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SO YD	1284	1284		
X6420002	FILLING EXISTING RUMBLE STRIP	FOOT	1414	1414		

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
				0047		
Z0001495	BRIDGE APPROACH SHOULDER REMOVAL	SQ YD	216	216		
Z0001905	STRUCTURAL STEEL REPAIR	POUND	70	70		
Z0004552	APPROACH SLAB REMOVAL	SO YD	320	320		
Z0012111	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 1/2"	SO YD	1488	1488		
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SO YD	1488	1488		
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	12	12		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	3	3		
Z0018051	DRAINAGE SCUPPERS TO BE ADJUSTED	EACH	4	4		
Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SO YD	1902	1902		

\* SPECIALTY ITEM

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PLOT DATE = 8/18/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

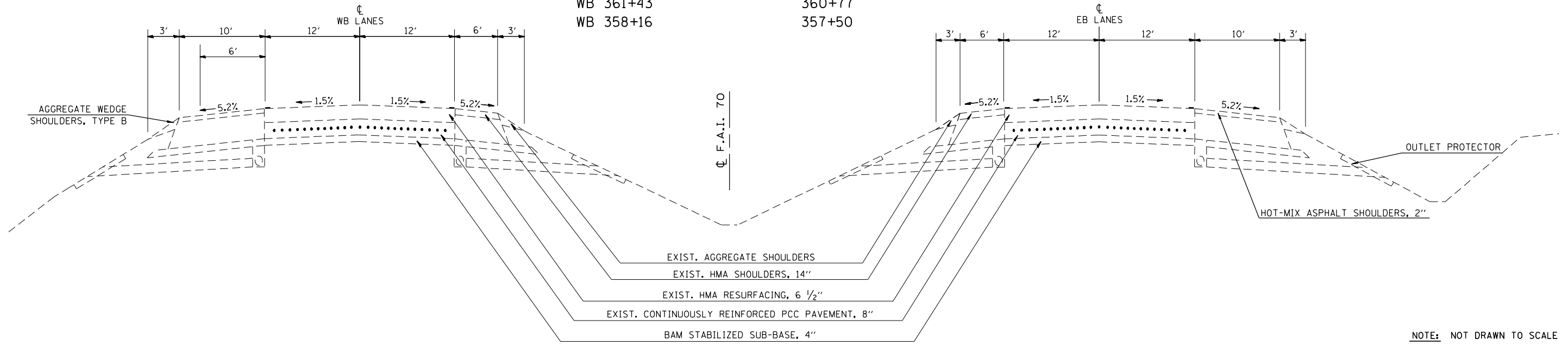
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	4
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

## EXISTING TYPICAL CROSS SECTION

### F.A.I. 70

STATION	TO	STATION
EB 357+06		357+72
EB 360+33		360+99
WB 361+43		360+77
WB 358+16		357+50

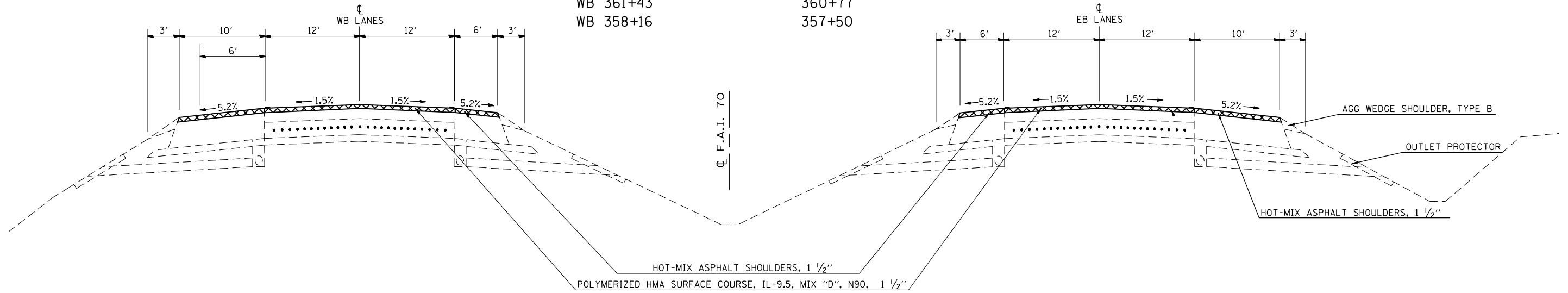


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## PROPOSED TYPICAL CROSS SECTION

### F.A.I. 70

STATION	TO	STATION
EB 357+06		357+72
EB 360+33		360+99
WB 361+43		360+77
WB 358+16		357+50



NOTE: NOT DRAWN TO SCALE

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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTION	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	5
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

POLYMERIZED HMA SURFACE COURSE, IL-9.5, MIX "D", N90						
BRIDGE NO.	STATION	TO	STATION	LENGTH (FOOT)	WIDTH (FOOT)	AREA (SQ YD)
018-0044	361+43	TO	360+78	65	24	15
018-0044	358+16	TO	357+51	65	24	15
018-0054	357+07	TO	357+72	65	24	15
018-0054	360+33	TO	360+98	65	24	15
TOTAL						60

HOT-MIX ASPHALT SURFACE REMOVAL- BUTT JOINT (MAINLINE)						
BRIDGE NO.	LOCATION			LENGTH (FOOT)	WIDTH (FOOT)	AREA (SQ YD)
018-0044	361+43	TO	360+78	65.0	24.0	174
018-0044	358+16	TO	357+51	65.0	24.0	174
018-0054	357+07	TO	357+72	65.0	24.0	174
018-0054	360+33	TO	360+98	65.0	24.0	174
TOTAL:						696

PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB						
BRIDGE NO.	STATION	TO	STATION	LENGTH	WIDTH	AREA SQ YD
018-0044	360+74	TO	360+64	10	24	27
	358+26	TO	358+16	10	24	27
018-0054	357+72	TO	357+82	10	24	27
	360+23	TO	360+33	10	24	27
TOTAL						108

HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT (SHOULDER)						
BRIDGE NO.	LOCATION			LENGTH (FOOT)	WIDTH (FOOT)	AREA (SQ YD)
018-0044 DL	361+43	TO	360+74	69	10	77
	358+33	TO	357+50	83	10	93
018-0044 PL	361+43	TO	360+60	83	6	56
	358+19	TO	357+50	69	6	46
018-0054 DL	357+06	TO	357+75	69	10	77
	360+16	TO	360+99	83	10	93
018-0054 PL	357+06	TO	357+89	83	6	56
	360+30	TO	360+99	69	6	46
TOTAL						544

PAVEMENT REMOVAL						
BRIDGE NO.	STATION	TO	STATION	LENGTH	WIDTH	SQ YD
018-0044	360+74	TO	360+64	10	24	27
018-0044	358+26	TO	358+16	10	24	27
018-0054	357+72	TO	357+82	10	24	27
018-0054	360+23	TO	360+33	10	24	27
TOTAL						108

TEMPORARY RAMP, SPECIAL							
BRIDGE NO.	STATION	TO	STATION	LENGTH	WIDTH (FT)	SQ YD	
018-0044	STAGE 2 TRAFFIC	361+03	360+73	30	16	54	
018-0044	STAGE 2 TRAFFIC	358+33	358+03	30	16	54	
018-0054	STAGE 2 TRAFFIC	357+76	357+46	30	16	54	
018-0054	STAGE 2 TRAFFIC	360+18	360+48	30	16	54	
TOTAL:						216	

HOT-MIX ASPHALT SHOULDERS, 1 1/2 INCH						
BRIDGE NO.	LOCATION			LENGTH (FOOT)	WIDTH (FOOT)	AREA (SQ YD)
018-0044 DL	361+43	TO	360+74	69	10	77
	358+33	TO	357+50	83	10	93
018-0044 PL	361+43	TO	360+60	83	6	56
	358+19	TO	357+50	69	6	46
018-0054 DL	357+06	TO	357+75	69	10	77
	360+16	TO	360+99	83	10	93
018-0054 PL	357+06	TO	357+89	83	6	56
	360+30	TO	360+99	69	6	46
TOTAL						544

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (SPECIAL)						
BRIDGE NO.	STATION	TO	STATION	LENGTH	WIDTH	SQ YD
018-0044	358+20	TO	358+50	30	6	20
	358+31	TO	358+61	30	10	34
	360+32	TO	360+62	30	6	20
	360+43	TO	360+73	30	10	34
018-0054	357+76	TO	358+06	30	10	34
	357+90	TO	358+20	30	6	20
	359+84	TO	360+04	30	10	34
	359+99	TO	360+29	30	6	20
TOTAL:						216

STAGE CONSTRUCTION SCHEDULE							
BRIDGE NO.	TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTING), TEST LEVEL 3	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTING), TEST LEVEL 3	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406
018-0044	502.5	1	502.5	1	1	1	1
018-0054	502.5	1	502.5	1	1	1	1
TOTAL		1005	2	1005	2	2	2

PAVEMENT MARKING SCHEDULE											
BRIDGE NO.	DL/PL/CL	STATION	TO	STATION	FOOT	FOOT	FOOT	SQ FT	FOOT	SQ FT	FOOT
018-0044	CL	363+68	TO	360+67	80	80	30		80	10	80
	DL	364+00	TO	360+74	326	326	7	163		2	326
	DL	360+74	TO	358+35	239	239	5	120		2	239
	DL	358+35	TO	357+49	86	86	2	43		1	86
	CL	360+67	TO	358+26	60	60	24			8	60
	PL	363+68	TO	360+61	307	307	6	154		2	307
	PL	360+61	TO	358+20	241	241	5	121		2	241
	PL	358+20	TO	357+50	70	70	1	35		0	70
	CL	358+26	TO	357+50	20	20	8		20	15	20
	CL	354+51	TO	357+82	90	90	33		90	64	90
018-0054	DL	354+51	TO	357+76	325	325	7	163		2	325
	DL	357+73	TO	360+14	241	241	5	121		2	241
	DL	360+14	TO	361+00	86	86	2	43		1	86
	CL	357+82	TO	360+23	60	60	24			8	60
	PL	354+81	TO	357+87	306	306	6	153		2	306
	PL	357+87	TO	360+29	242	242	5	121		2	242
	PL	360+29	TO	361+00	71	71	1	36		0	71
	CL	360+23	TO	361+00	20	20	8		20	15	20
TOTAL					2870	2870	178	1270	210	136	2870

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	DATE - _____	REVISED - _____

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

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

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70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	6
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

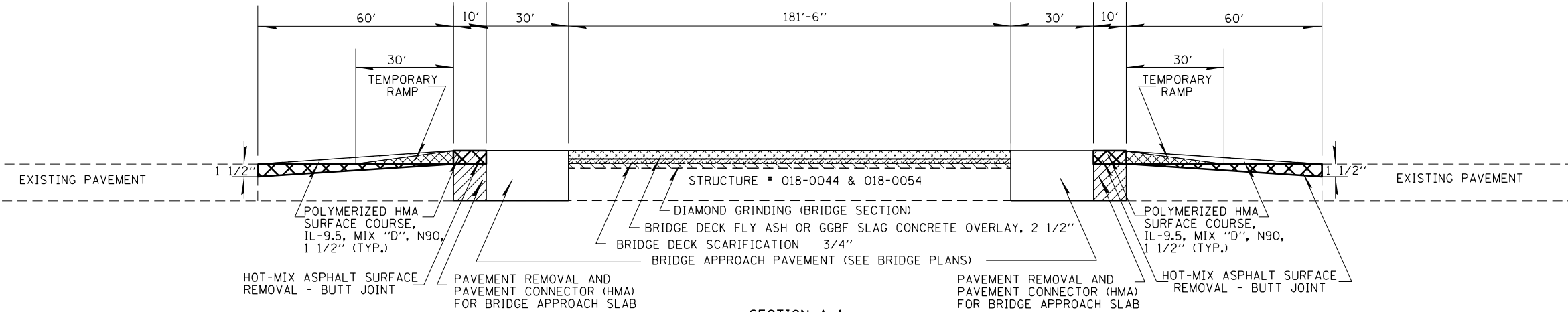


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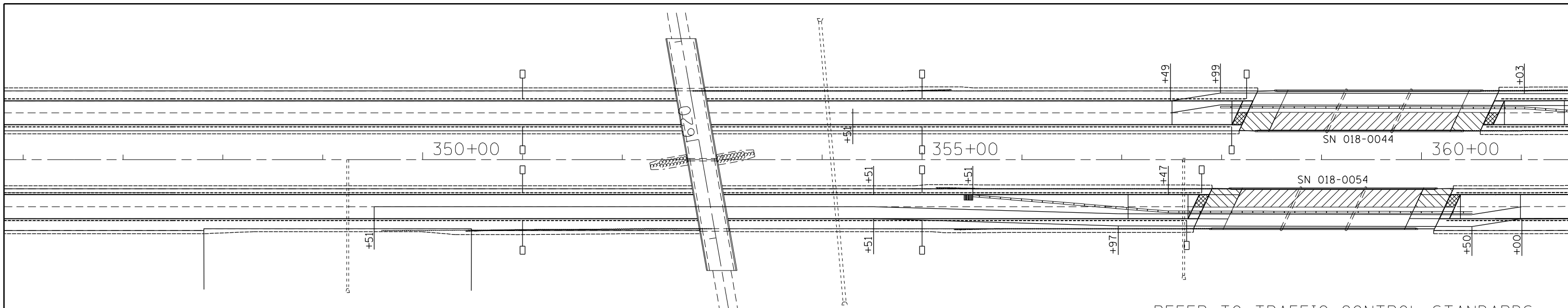
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	DATE -	REVISED -

**STATE OF ILLINOIS  
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**STRUCTURE PROFILE TRANSITION**

SCALE: SHEET OF SHEETS STA. TO STA.

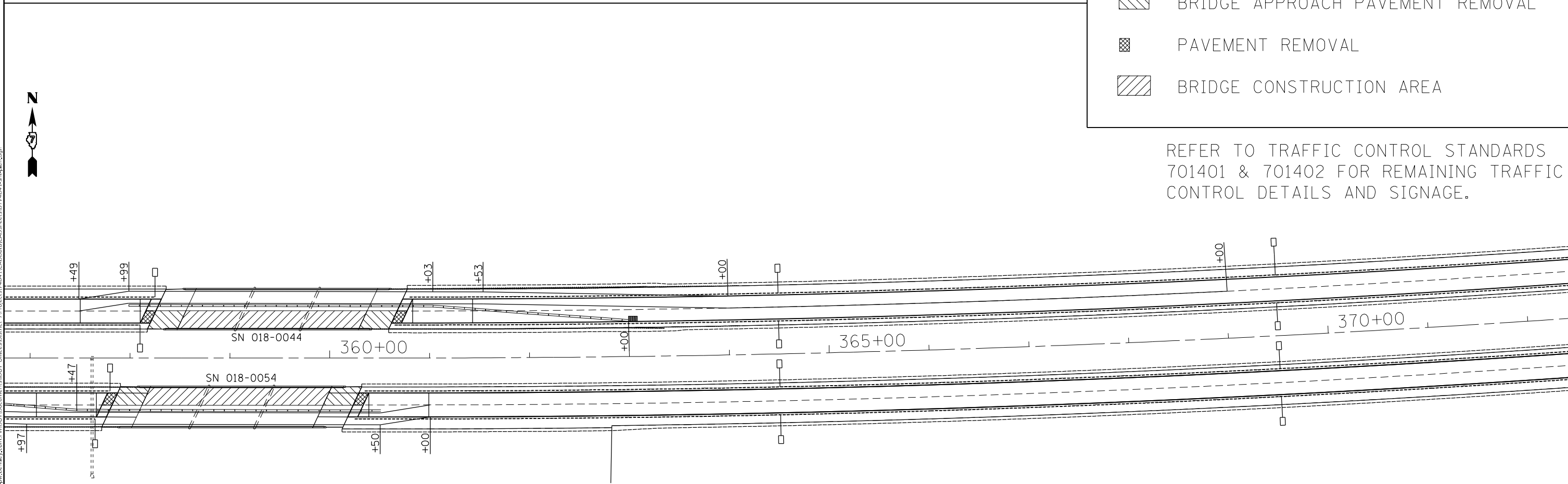
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70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	7
CONTRACT NO. 74841				
ILLINOIS FED. AID PROJECT				



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

	TEMPORARY CONCRETE BARRIER
	IMPACT ATTENUATOR
	BRIDGE APPROACH PAVEMENT REMOVAL
	PAVEMENT REMOVAL
	BRIDGE CONSTRUCTION AREA

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



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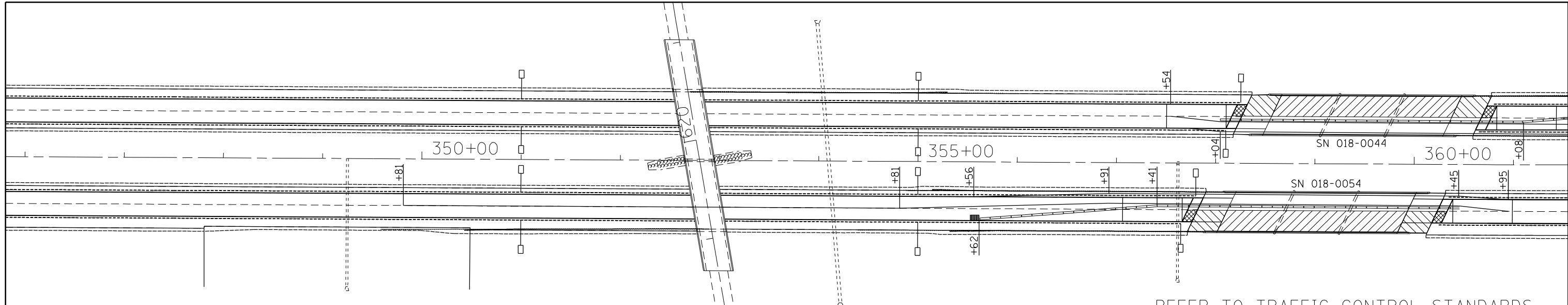
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PHASE I DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	8
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

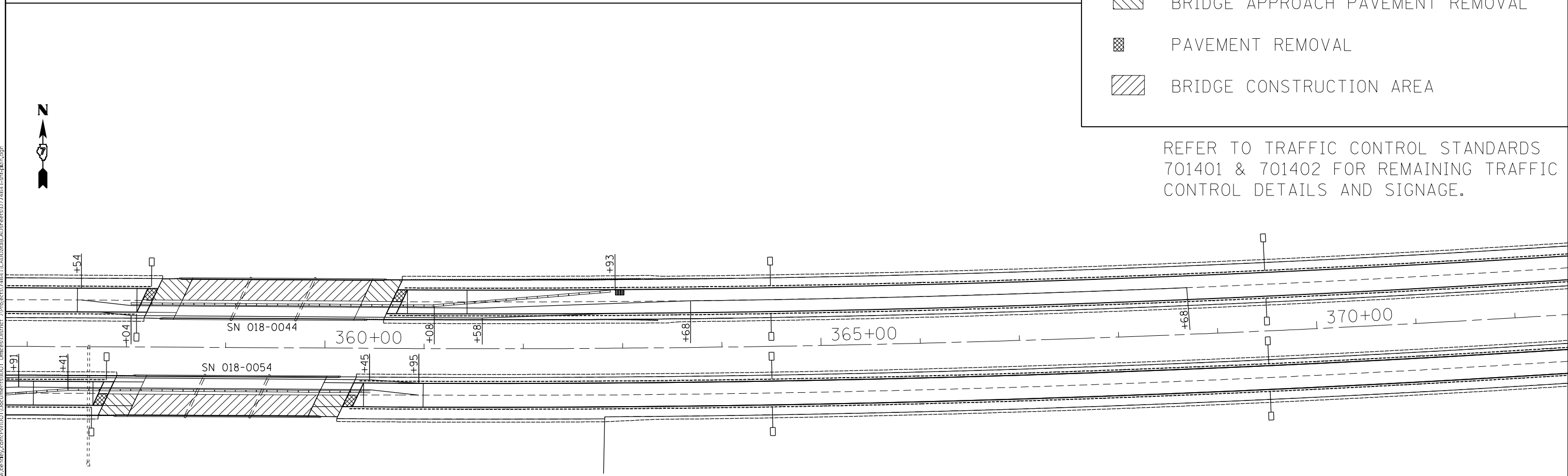




REFER TO TRAFFIC CONTROL STANDARDS 701401 & 701402 FOR REMAINING TRAFFIC CONTROL DETAILS AND SIGNAGE.

	TEMPORARY CONCRETE BARRIER
	IMPACT ATTENUATOR
	BRIDGE APPROACH PAVEMENT REMOVAL
	PAVEMENT REMOVAL
	BRIDGE CONSTRUCTION AREA

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



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

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	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2023	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PHASE II DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	9
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

**EXISTING STRUCTURE:**

The existing three-span continuous steel beam structures were constructed in 1968 as F.A.I. 70 Section 18-46B at Station 359+25.00. SN 018-0044 carries I-70 Westbound over Cottonwood Creek. SN 018-0054 carries I-70 Eastbound over Cottonwood Creek. In 2002, the concrete deck was replaced, and the joints, bearings, abutment backwalls and wingwalls were replaced. New bridge approach slabs were included in the 2002 project. The concrete stub abutments are supported on steel piles, and the piers are supported on creosoted timber piles. Each bridge is 181'-6" back-to-back of abutments. The superstructures are 42'-7 $\frac{3}{4}$ " out-to-out and are skewed 25 degrees left-forward.

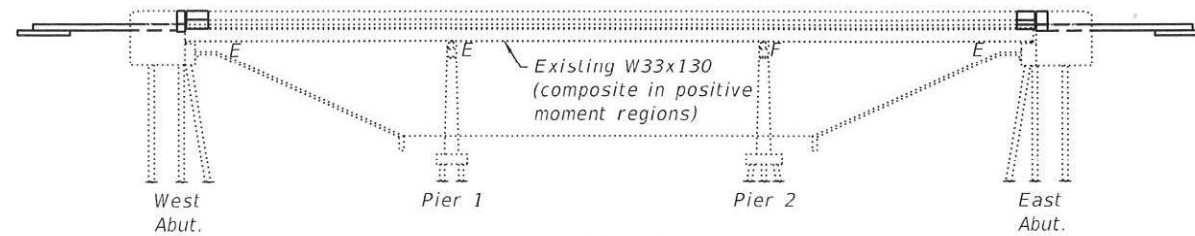
The proposed project consists of new expansion joints, new concrete overlays, bridge deck repairs, structural steel repair, and new concrete approaches. Traffic is to be maintained utilizing stage construction.

**STRUCTURE INDEX OF SHEETS**

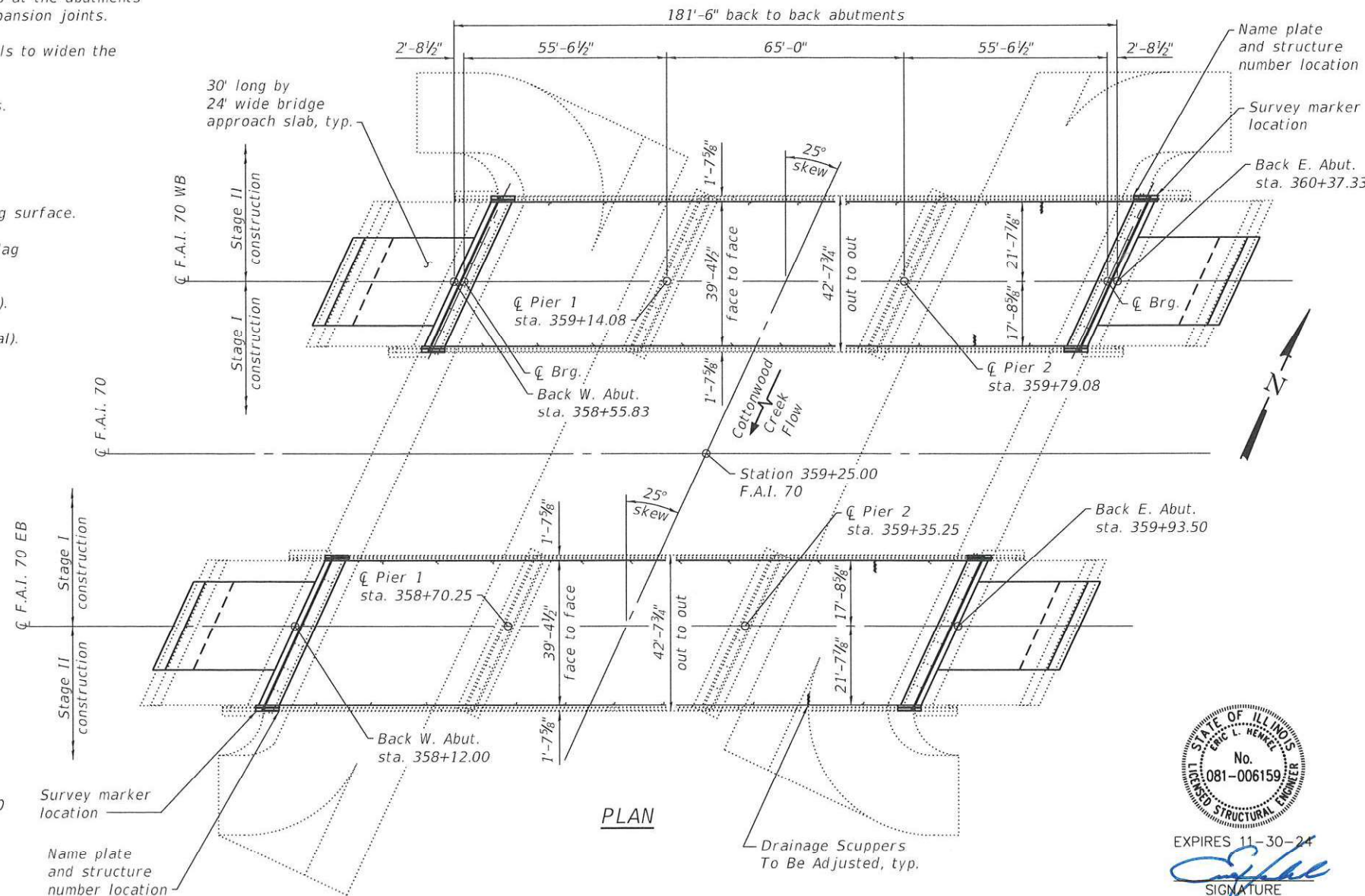
General Plan & Elevation	Sheet No. 1 of 18
General Notes and Total Bill of Material	Sheet No. 2 of 18
Stage Construction	Sheet No. 3 of 18
Temporary Concrete Barrier	Sheet No. 4 of 18
Bridge Deck Patching	Sheet No. 5-6 of 18
Deck Drains and Scuppers	Sheet No. 7 of 18
Expansion Joint Replacement Details	Sheet No. 8-10 of 18
Bridge Approach Slab Details	Sheet No. 11-13 of 18
Preformed Joint Strip Seal	Sheet No. 14 of 18
Beam End Repair Details	Sheet No. 15 of 18
Abutment Repairs	Sheet No. 16 of 18
Bar Splicer Assembly Details	Sheet No. 17 of 18
Existing Scuppers Plan Sheet	Sheet No. 18 of 18

**SCOPE OF WORK**

1. Construct structural steel repair.
2. Remove existing neoprene expansion joints at the abutments and install Preformed Joint Strip Seal expansion joints.
3. Construct corbels at the abutment backwalls to widen the approach seats.
4. Remove and replace bridge approach slabs.
5. Perform Bridge Deck Scarification  $\frac{3}{4}$ ".
6. Perform bridge deck patching.
7. Modify drains to accommodate new wearing surface.
8. Construct Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2  $\frac{1}{2}$ " wearing surface.
9. Perform Diamond Grinding (Bridge Section).
10. Perform Bridge Deck Grooving (Longitudinal).



**ELEVATION**



**PLAN**

**DESIGN SPECIFICATIONS (new const.)**

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

**LOADING HS20-44 & ALT. (new const.)**

No allowance for future wearing surface

**DESIGN STRESSES**

**FIELD UNITS**

**EXISTING CONSTRUCTION**

$f'_c = 3,500$  psi (concrete superstructure, abutment backwalls and wings)  
 $f_y = 60,000$  psi (reinforcement for superstructure, abutment backwalls and wings)  
 $f_c = 1,400$  psi (other concrete substructure)  
 $f_s = 20,000$  psi (other substructure reinforcement)

**NEW CONSTRUCTION**

$f'_c = 4,000$  psi (concrete)  
 $f_y = 60,000$  psi (reinforcement)



EXPIRES 11-30-24

*Eric L. Henkel*  
SIGNATURE

08-11-2023  
DATE

**GENERAL PLAN & ELEVATION**  
**I-70 OVER COTTONWOOD CREEK**  
**F.A.I. ROUTE 70**  
**SECTION D7 BRIDGE REPAIRS 2024-12**  
**CUMBERLAND COUNTY**  
**STATION 359+25.00**  
**STRUCTURE NO. 018-0044 (WB)**  
**STRUCTURE NO. 018-0054 (EB)**

REV - MS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR PLANS

SHEET 1 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	10
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

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PLOT SCALE = 0.2" / 1"	DRAWN - NHC	08/23	REVISED -
PLOT DATE = 8/21/2023	CHECKED - ELH	08/23	REVISED -

**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering 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.
3. 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.
4. Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.
5. 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.
6. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
7. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surface 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.
8. Bridge Deck Grooving (Longitudinal) shall be completed only after Diamond Grinding (Bridge Section) is complete.
9. 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 be applied to the top of the new concrete overlays and to the areas of Concrete Superstructure (Approach Slab) and approach shoulder pavements including the front faces and tops of the curbs.
10. The existing name plates and structure number signs are located within the limits of concrete removal at the bridge parapets. The name plates and signs shall be cleaned and re-installed in the bridge parapet reconstruction. Cost is included in Concrete Superstructure.
11. There is a survey marker located on the top of a wingwall on each bridge and is within the limits of concrete removal. These survey markers shall be cleaned and re-installed in the bridge wingwall reconstruction. Cost is included in Concrete Superstructure. The Engineer shall notify the IDOT District 7 Chief of Surveys once the survey markers are re-installed. The District 7 Survey Unit will resurvey the elevations and coordinates of the markers.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SN 018-0044	SN 018-0054	TOTAL
Porous Granular Embankment	Cu. Yd.	14	14	28
Concrete Removal	Cu. Yd.	21.6	21.6	43.2
Structure Excavation	Cu. Yd.	6	6	12
Concrete Structures	Cu. Yd.	21.4	21.4	42.8
Concrete Superstructure	Cu. Yd.	20.8	20.8	41.6
Protective Coat	Sq. Yd.	1,073	1,073	2,146
Concrete Superstructure (Approach Slab)	Cu. Yd.	68.8	68.8	137.6
Reinforcement Bars, Epoxy Coated	Pound	30,100	30,100	60,200
Bar Splicers	Each	310	310	620
Preformed Joint Strip Seal	Foot	91	91	182
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	642	642	1,284
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2"	Sq. Yd.	744	744	1,488
Bridge Deck Scarification 3/4"	Sq. Yd.	744	744	1,488
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	6	6	12
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	2	1	3
Drainage Scuppers To Be Adjusted	Each	2	2	4
Structural Steel Repair	Pound	70	-	70
Diamond Grinding (Bridge Section)	Sq. Yd.	951	951	1,902

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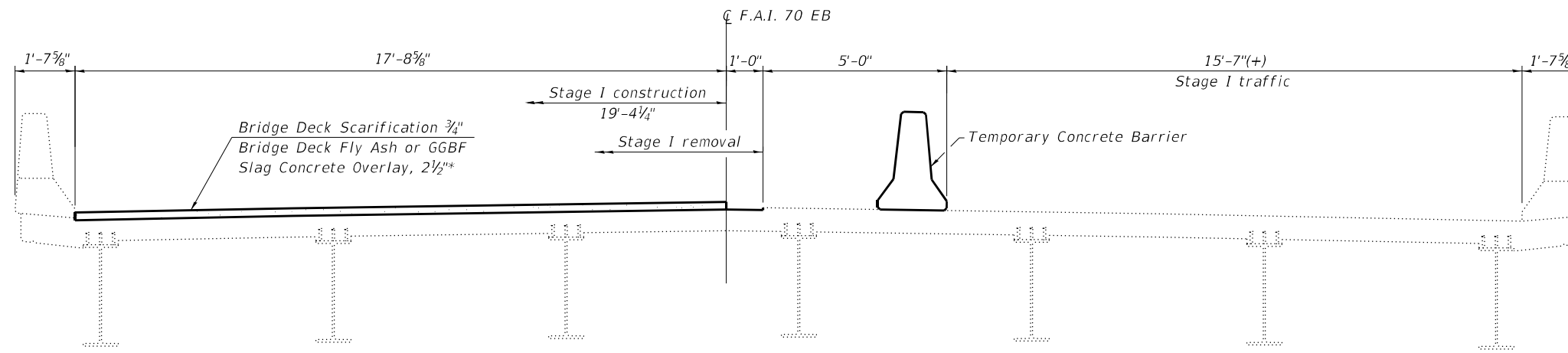
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PLOT DATE = 9/26/2023	CHECKED - ELH 09/23	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES AND TOTAL BILL OF MATERIAL  
SN 018-0044 (WB) & SN 018-0054 (EB)**

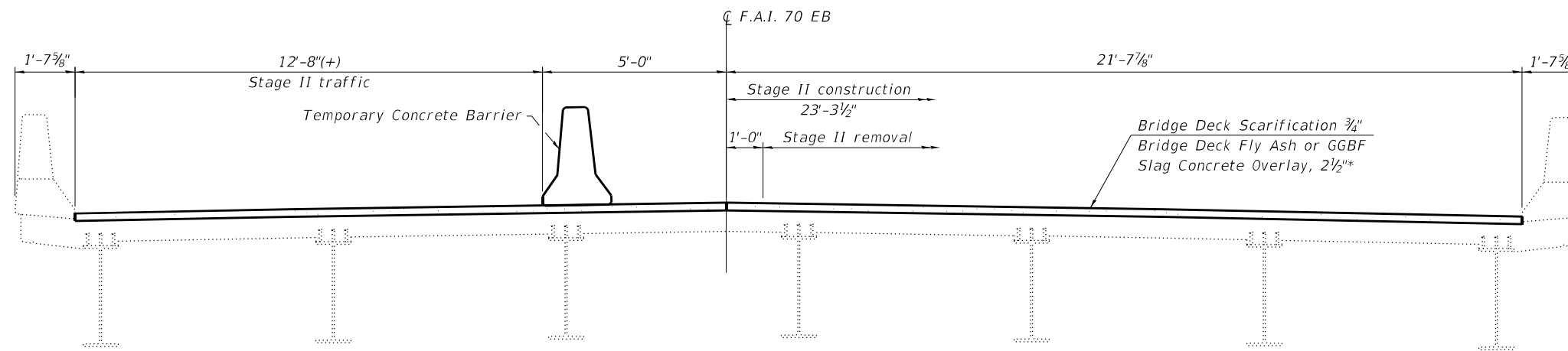
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	11
CONTRACT NO. 74B41				
		ILLINOIS	FED. AID PROJECT	

SHEET 2 OF 18 SHEETS



**STAGE I - EASTBOUND LOOKING EAST**  
 (STAGE I - WESTBOUND LOOKING WEST SIMILAR)

\*Prior to grinding



**STAGE II - EASTBOUND LOOKING EAST**  
 (STAGE II - WESTBOUND LOOKING WEST SIMILAR)

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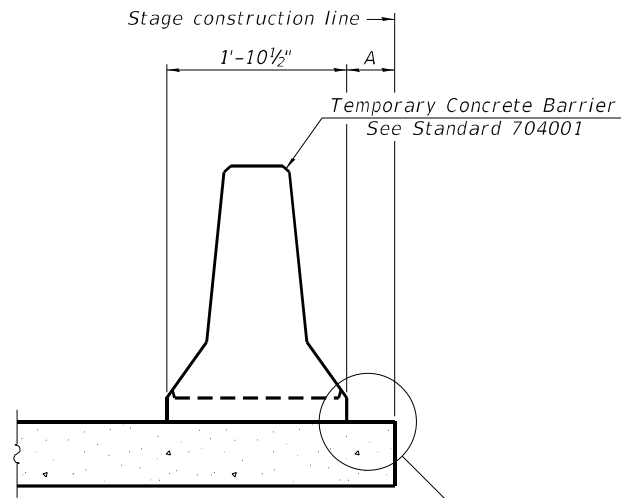
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PLOT DATE = 8/21/2023	CHECKED - ELH	03/23	REVISED -

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

**STAGE CONSTRUCTION**  
**SN 018-0044 (WB) & SN 018-0054 (EB)**

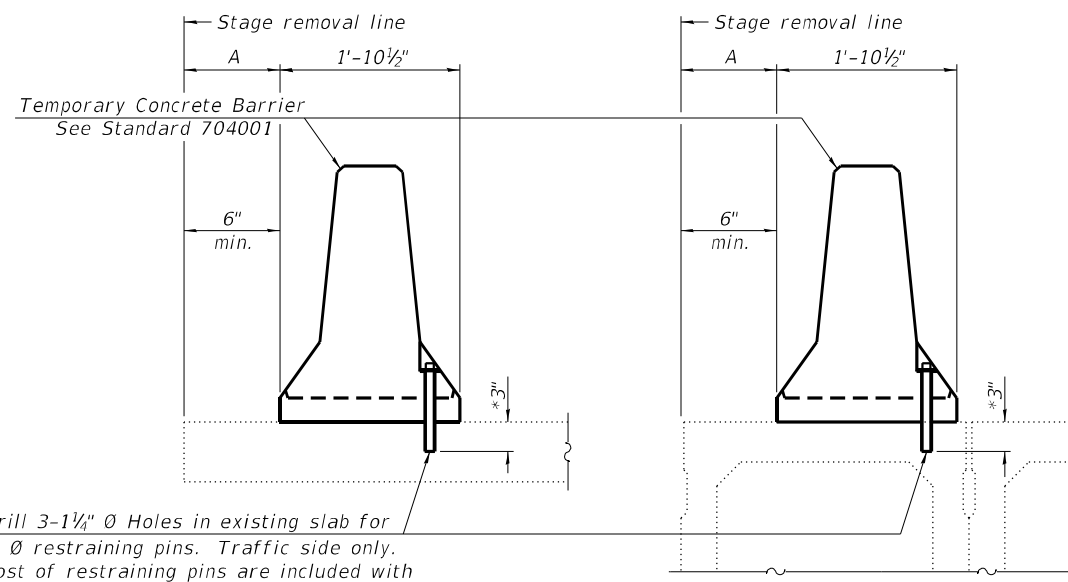
SHEET 3 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	12
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				



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

**NEW SLAB OR NEW DECK BEAM**

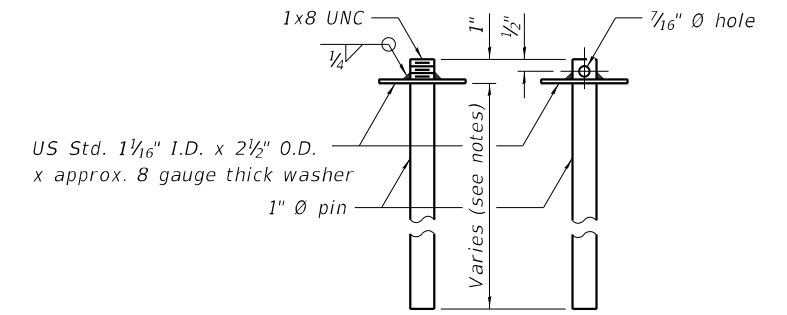


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**

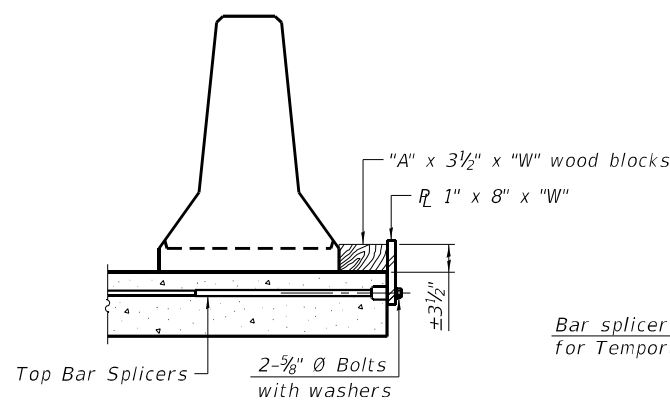
**EXISTING DECK BEAM**

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

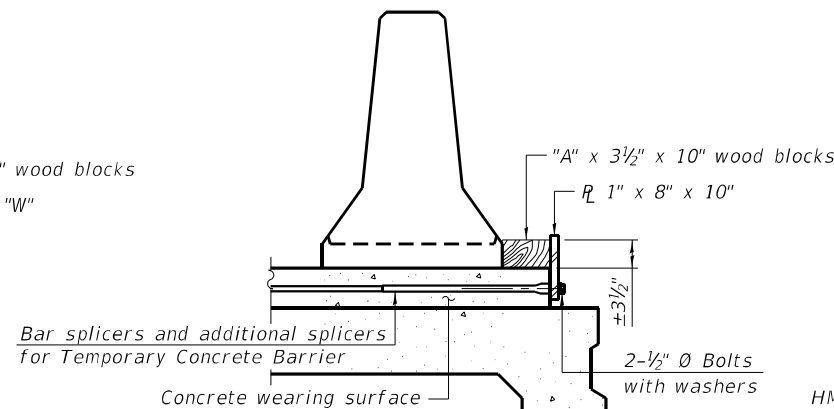


**RESTRAINING PIN**

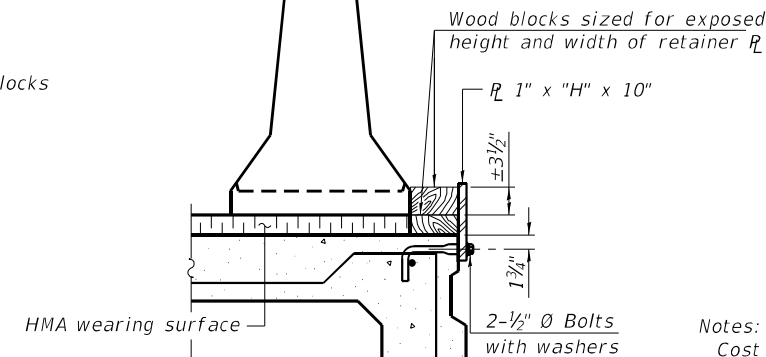
**SECTIONS THRU SLAB OR DECK BEAM**



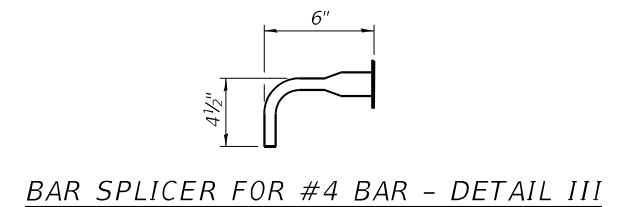
**DETAIL I**



**DETAIL II**



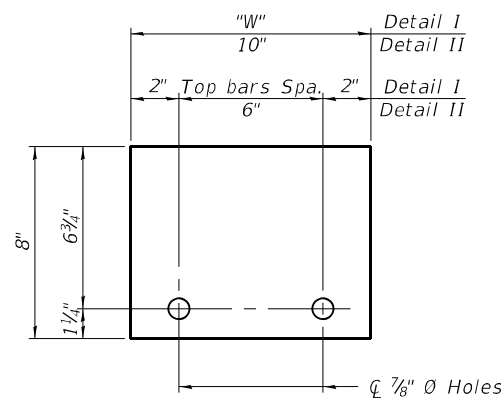
**DETAIL III**



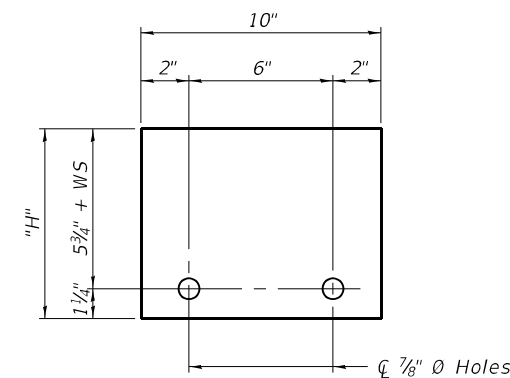
**BAR SPLICER FOR #4 BAR - DETAIL III**

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

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



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



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

**RAILING CRITERIA**

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

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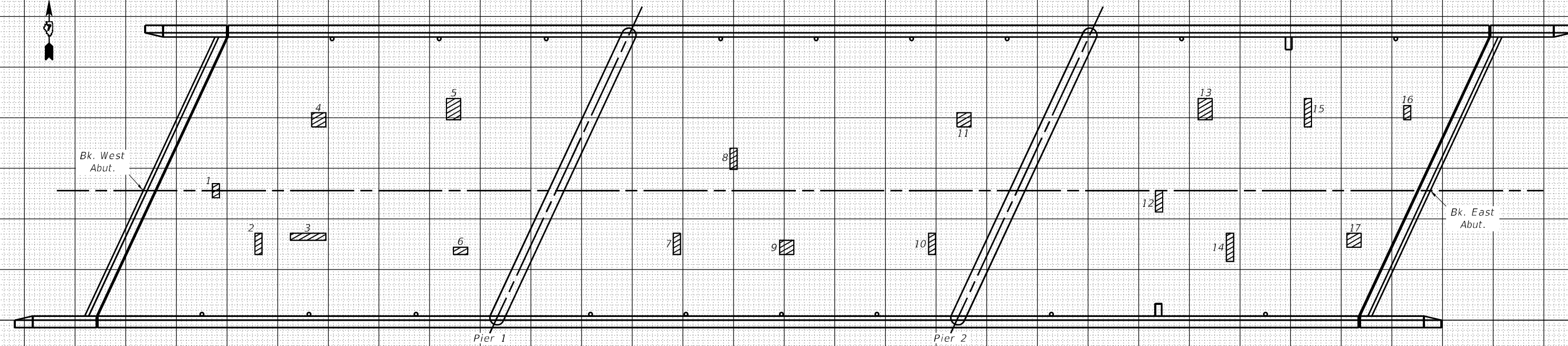
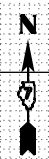
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER  
 SN 018-0044 (WB) & SN 018-0054 (EB)**

SHEET 4 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	13
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

018-0044 Bridge Deck Patching



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
1	1.0	2.0	0.2	
2	1.0	3.0	0.3	
3	5.0	1.0	0.6	
4	2.0	2.0	0.4	
5	2.0	3.0		0.7
6	2.0	1.0	0.2	
7	1.0	3.0	0.3	
8	1.0	3.0	0.3	
9	2.0	2.0	0.4	
10	2.0	2.0	0.4	
11	1.0	3.0	0.3	
12	1.0	3.0	0.3	
13	2.0	3.0		0.7
14	1.0	4.0	0.4	
15	1.0	4.0	0.4	
16	1.0	2.0	0.2	

PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
17	2.0	2.0	0.4	
TOTAL ROUNDS TO:			6.0	2.0

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



DATE OF SURVEY: 11-9-22  
 SURVEY BY: DPM & TMW  
 METHOD OF SURVEY: VISUAL

ESTIMATED PAY QUANTITIES:  
 DECK SLAB REPAIR (FULL DEPTH TYPE I)  
 6.0 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH TYPE II)  
 2.0 SQ YD

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PLOT SCALE = 100,0000' / in.	DRAWN - T. Walk	REVISED -
PLOT DATE = 8/21/2023	CHECKED - D. Macklin	REVISED -
	DATE - November 2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

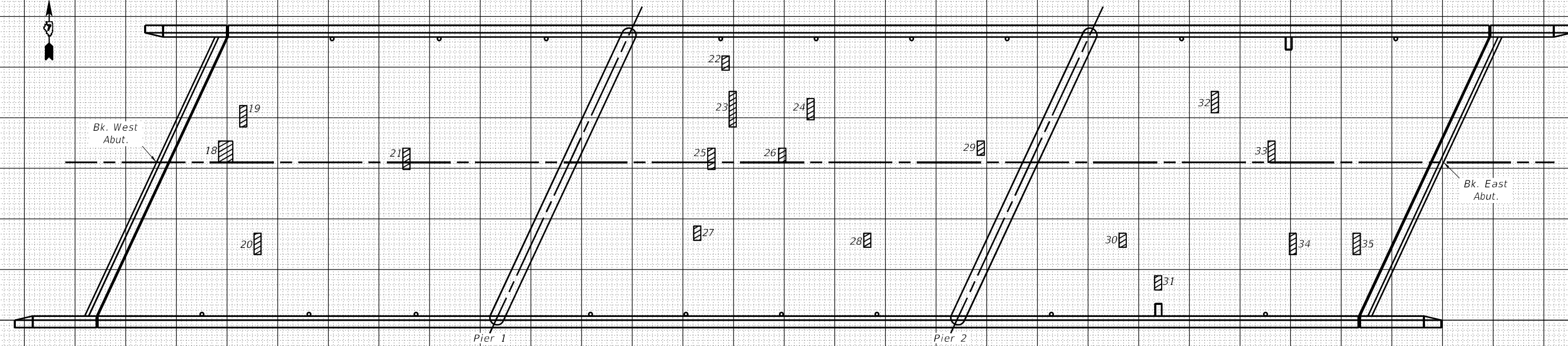
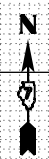
**BRIDGE DECK PATCHING  
 SN 018-0044 (WB)**

SHEET 5 OF 18 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	14
CONTRACT NO. 74B41				

ILLINOIS FED. AID PROJECT

018-0054 Bridge Deck Patching



PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
18	2.0	3.0		0.7
19	1.0	3.0	0.3	
20	1.0	3.0	0.3	
21	1.0	3.0	0.3	
22	1.0	2.0	0.2	
23	1.0	5.0	0.6	
24	1.0	3.0	0.3	
25	1.0	3.0	0.3	
26	1.0	2.0	0.2	
27	1.0	2.0	0.2	
28	1.0	2.0	0.2	
29	1.0	2.0	0.2	
30	1.0	3.0	0.3	
31	1.0	3.0	0.3	
32	1.0	2.0	0.2	
33	1.0	2.0	0.2	

PATCH NO.	SIZE		DECK SLAB REPAIR (FD TY I)	DECK SLAB REPAIR (FD TY II)
	LENGTH	WIDTH	SQ YD	SQ YD
34	1.0	3.0	0.4	
35	1.0	3.0	0.4	
TOTAL ROUNDS TO:			6.0	1.0

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



DATE OF SURVEY: 11-9-22  
 SURVEY BY: DPM & TMW  
 METHOD OF SURVEY: VISUAL

ESTIMATED PAY QUANTITIES:  
 DECK SLAB REPAIR (FULL DEPTH TYPE I)  
 6.0 SQ YD  
 DECK SLAB REPAIR (FULL DEPTH TYPE II)  
 1.0 SQ YD

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	DATE - November 2022	REVISED - _____

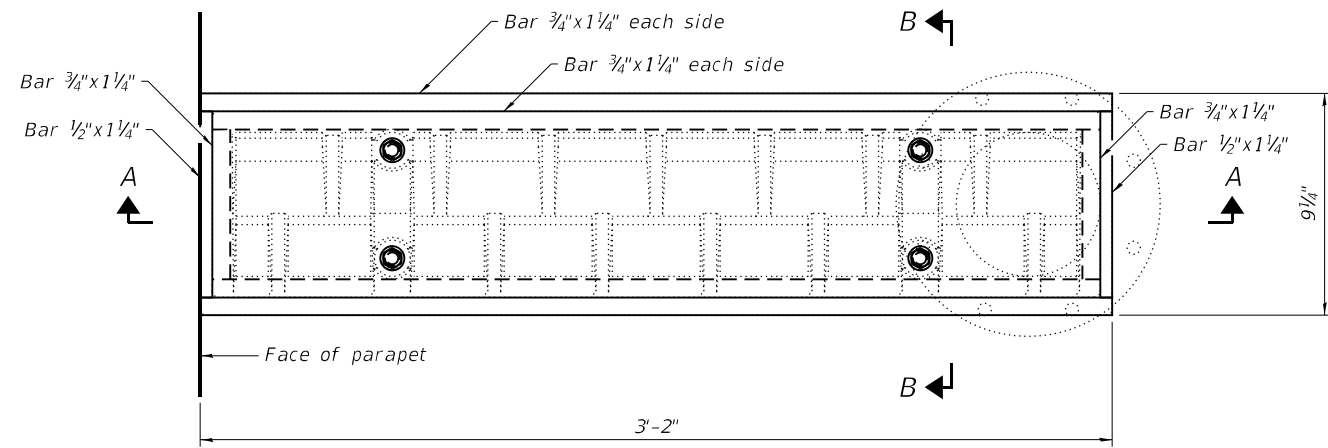
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING  
 SN 018-0054 (EB)

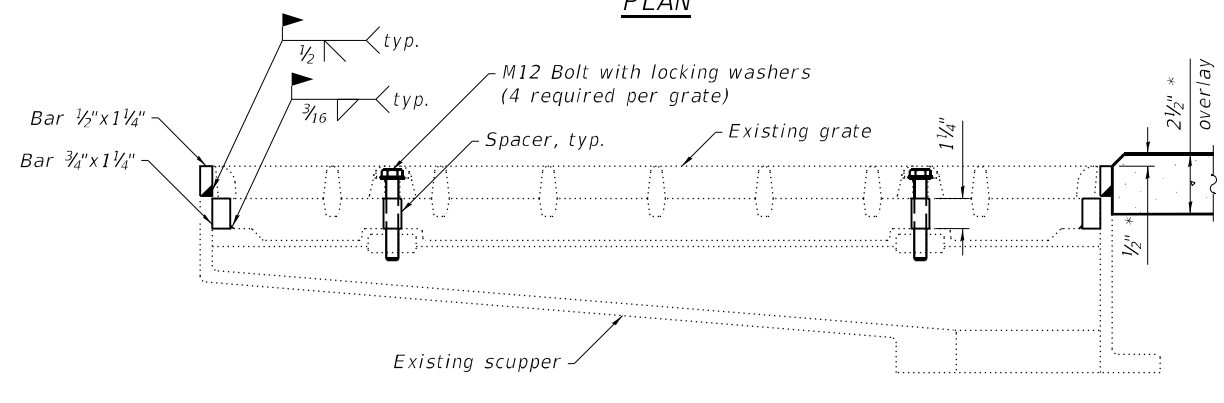
SHEET 6 OF 18 SHEETS

F.A.J. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	15
CONTRACT NO. 74B41				

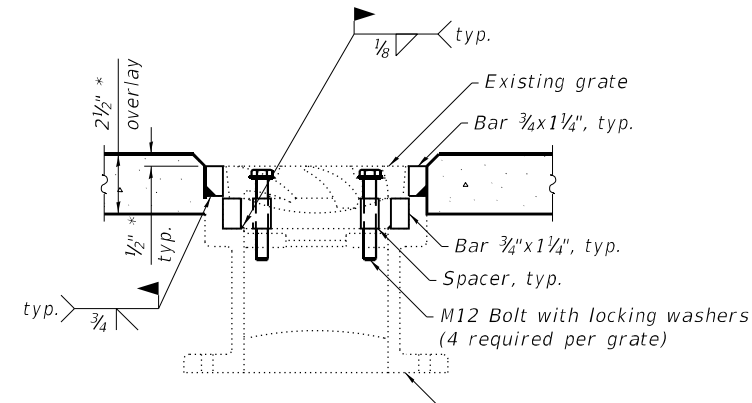
ILLINOIS FED. AID PROJECT



PLAN

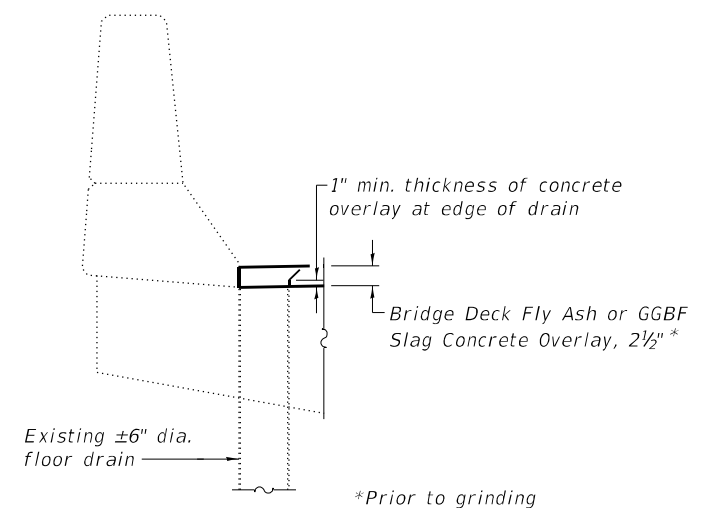


SECTION A-A



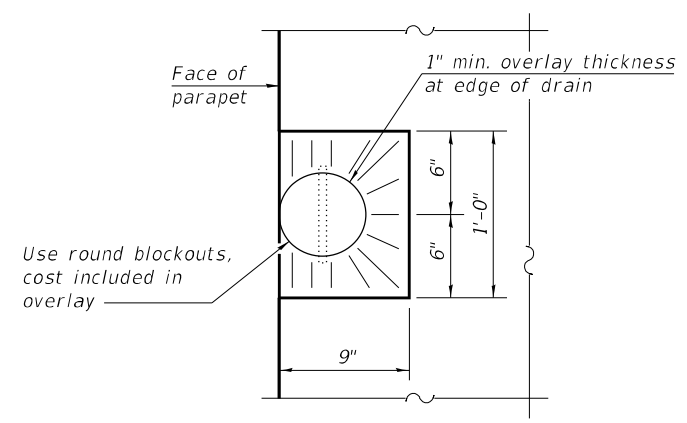
SECTION B-B

\*Prior to grinding



SECTION AT FLOOR DRAINS

\*Prior to grinding



OVERLAY TREATMENT AT FLOOR DRAINS

Notes:  
 The Contractor shall field verify dimensions and details of the existing scupper and make necessary adjustments prior to construction of new adjusting ring or ordering material for adjusting drainage scupper.  
 All structural steel shall conform to AASHTO M-270, Grade 36.  
 The adjusting bars shall be galvanized according to AASHTO M111 and ASTM A385.  
 All cast iron parts shall be grey iron conforming to the requirements of AASHTO M105, Class 35B, and AASHTO M306.  
 Bolts, anchor studs, washers, and nuts shall conform to the requirements of ASTM A307 and shall be galvanized according to the requirements of AASHTO M232.  
 Cast iron parts shall be unfinished.  
 Adjusting ring shall be from Neenah or approved equal.  
 Structural steel weldments or equal sections of the same configuration may be submitted for cast iron. Fillet or full penetration welds may be used for weldments. Details shall be submitted to the Engineer for approval.  
 All labor and materials necessary to remove the existing grate, clean the existing scupper, install the adjusting bars, and reinstall the existing grate are included in the cost of Drainage Scuppers To Be Adjusted.

BILL OF MATERIAL

Item	Unit	Total
Drainage Scupper To Be Adjusted	Each	4

MODEL: PLOT  
 FILE NAME: Y:\IDOT\1363-04\_74B41\CADD\SP\_SN\_018-0044\0180044-74B41-07-DeckDrain.dgn



USER NAME = nhc  
 ESCA PROJECT NO. 1363.04  
 PLOT SCALE = 0.2" = 1' / in.  
 PLOT DATE = 8/21/2023

DESIGNED - ELH 02/23  
 CHECKED - CTJ 02/23  
 DRAWN - NHC 02/23  
 CHECKED - ELH 02/23

REVISED -  
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 REVISED -  
 REVISED -

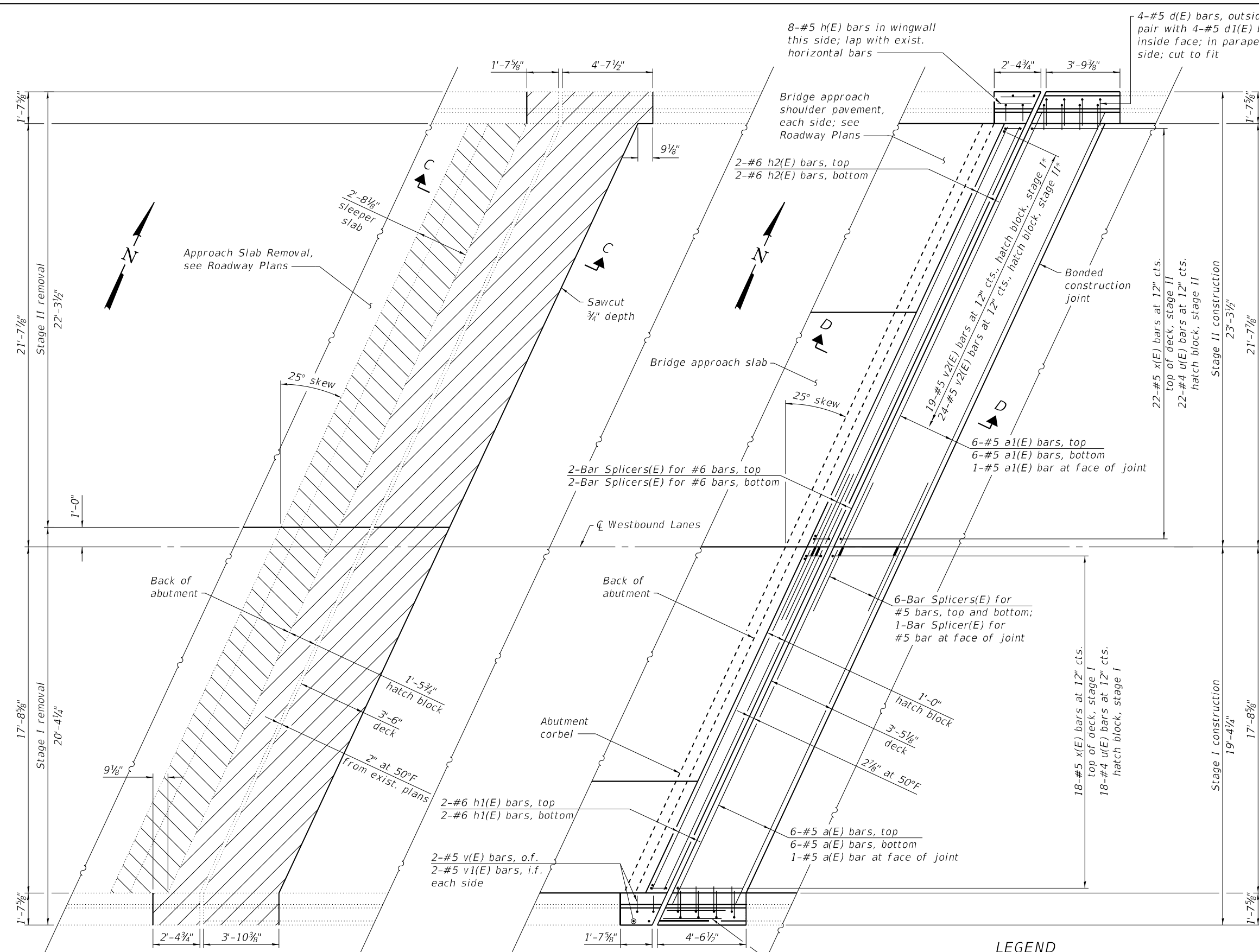
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DECK DRAINS AND SCUPPERS  
 SN 018-0044 (WB) & SN 018-0054 (EB)

SHEET 7 OF 18 SHEETS

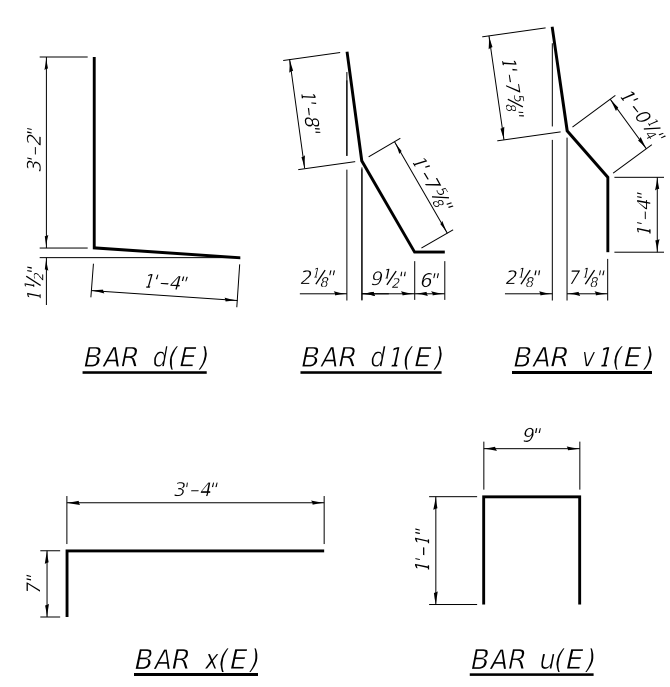
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	16
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				





**BILL OF MATERIAL**  
Per Abutment

Bar	Number		Total	Size	Length	Shape	
	Stage I	Stage II					
a(E)	13	-	13	#5	20'-0"	—	
a1(E)	-	13	13	#5	24'-4"	—	
d(E)	4	4	8	#5	4'-6"	L	
d1(E)	4	4	8	#5	3'-10"	U	
e(E)	12	-	12	#5	3'-0"	—	
h(E)	-	8	8	#5	1'-9"	—	
h1(E)	4	-	4	#6	19'-3"	—	
h2(E)	-	4	4	#6	23'-7"	—	
u(E)	18	22	40	#4	2'-11"	□	
v(E)	2	2	4	#5	3'-10"	—	
v1(E)	2	2	4	#5	4'-0"	—	
v2(E)	19	24	43	#5	2'-6"	—	
x(E)	18	22	40	#5	3'-11"	—	
Reinforcement Bars, Epoxy Coated						Pound	1,370
Concrete Removal						Cu. Yd.	10.8
Concrete Superstructure						Cu. Yd.	10.4
Bar Splicers						Each	17



\*Use epoxy adhesive in 9" holes for v2(E) bars according to Section 584 of the Standard Specifications.

Notes:  
For Section C-C and Section D-D see Sheet 9 of 18.  
Trim ends of existing longitudinal reinforcement in deck, parapets, and wingwalls to provide minimum clearance for the expansion joint. Cost is included in Concrete Removal.  
Hatch block to be poured after bridge deck false work has been removed.

**LEGEND**

- Sleeper slab removal, cost included in Approach Slab Removal. See Roadway Plans.
- Concrete Removal

(Sheet 1 of 3)

**EXISTING PARTIAL PLAN**  
(Westbound West Abutment shown, other abutments similar)

**PROPOSED PARTIAL PLAN**  
(Westbound West Abutment shown, other abutments similar)

MODEL: PLOT FILE NAME: Y:\DOT\1363-04\_74B41\CADD\SP\_SN\_018-0044\10180044-74B41-08-Expansion\jointDtls.dgn 9/26/2023 3:34:04 PM



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PLOT SCALE = 0.2" = 1' / in.  
PLOT DATE = 9/26/2023

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CHECKED - CTJ 02/23  
DRAWN - NHC 09/23  
CHECKED - ELH 09/23

REVISED -  
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REVISED -  
REVISED -

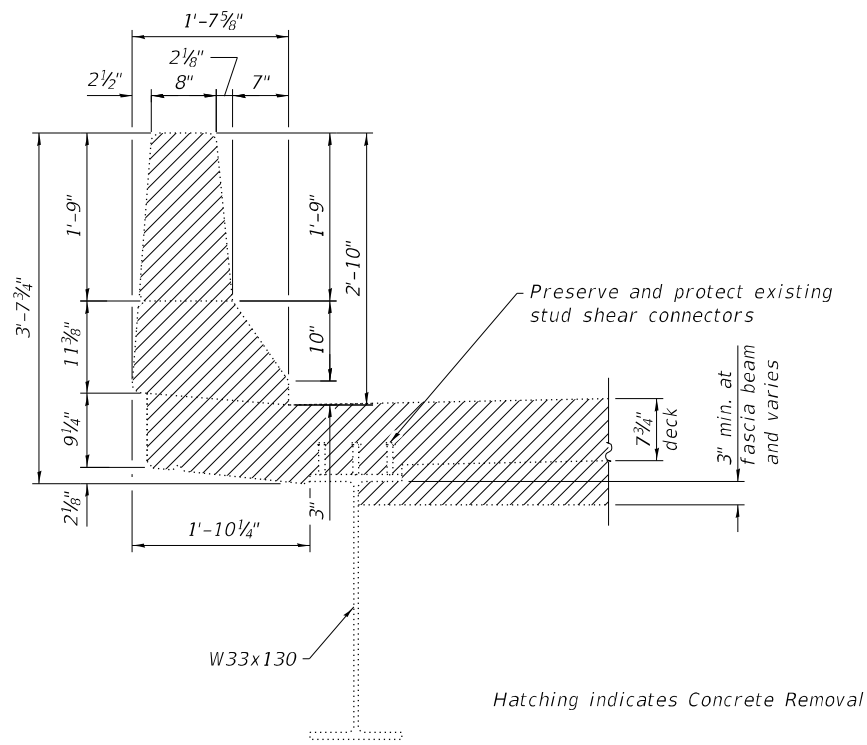
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REPLACEMENT DETAILS**  
**SN 018-0044 (WB) & SN 018-0054 (EB)**

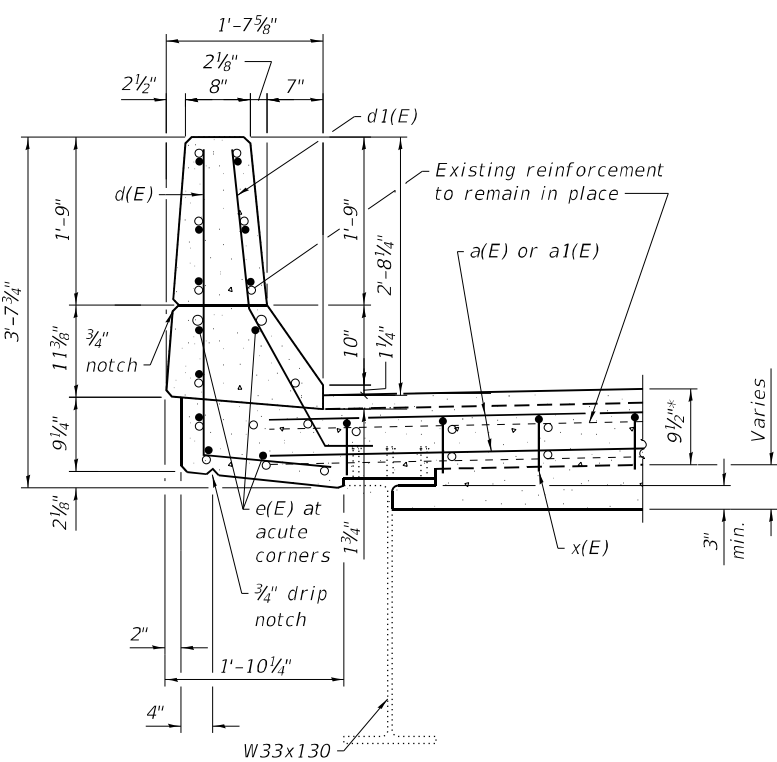
SHEET 8 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	17
CONTRACT NO. 74B41				

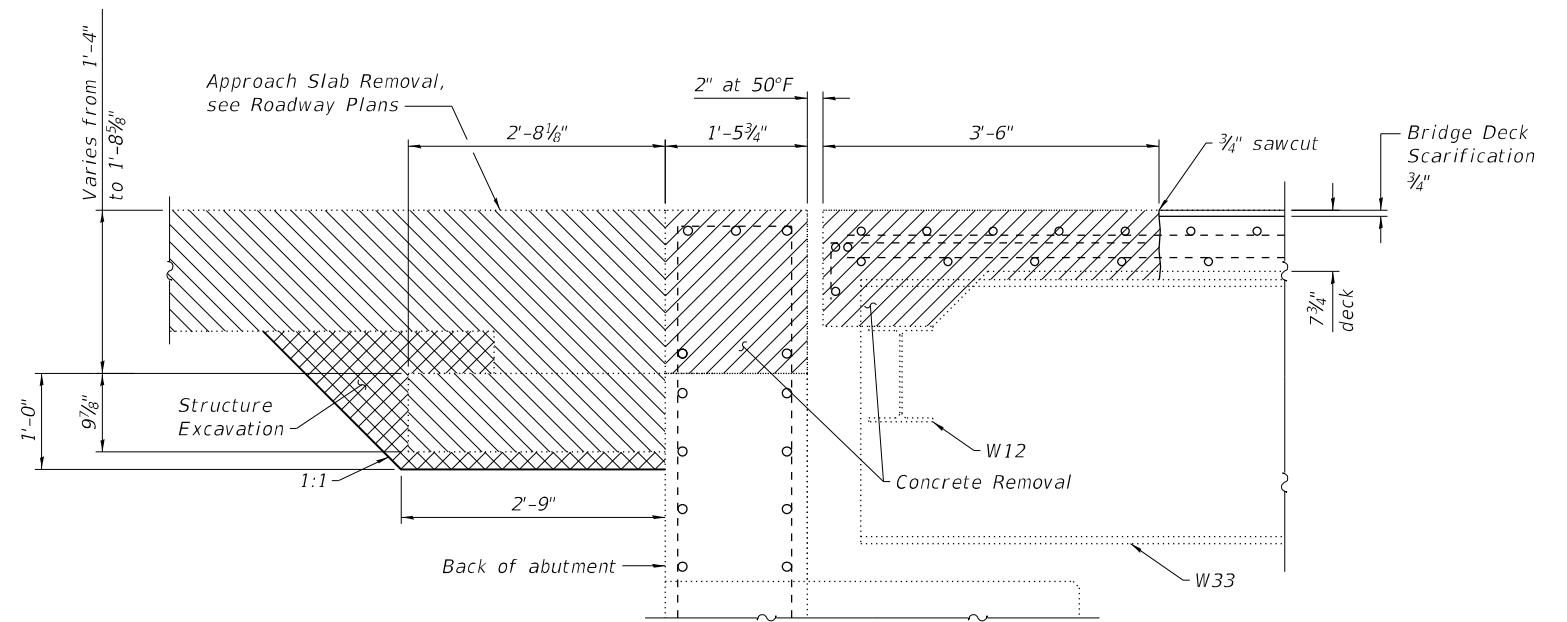
ILLINOIS FED. AID PROJECT



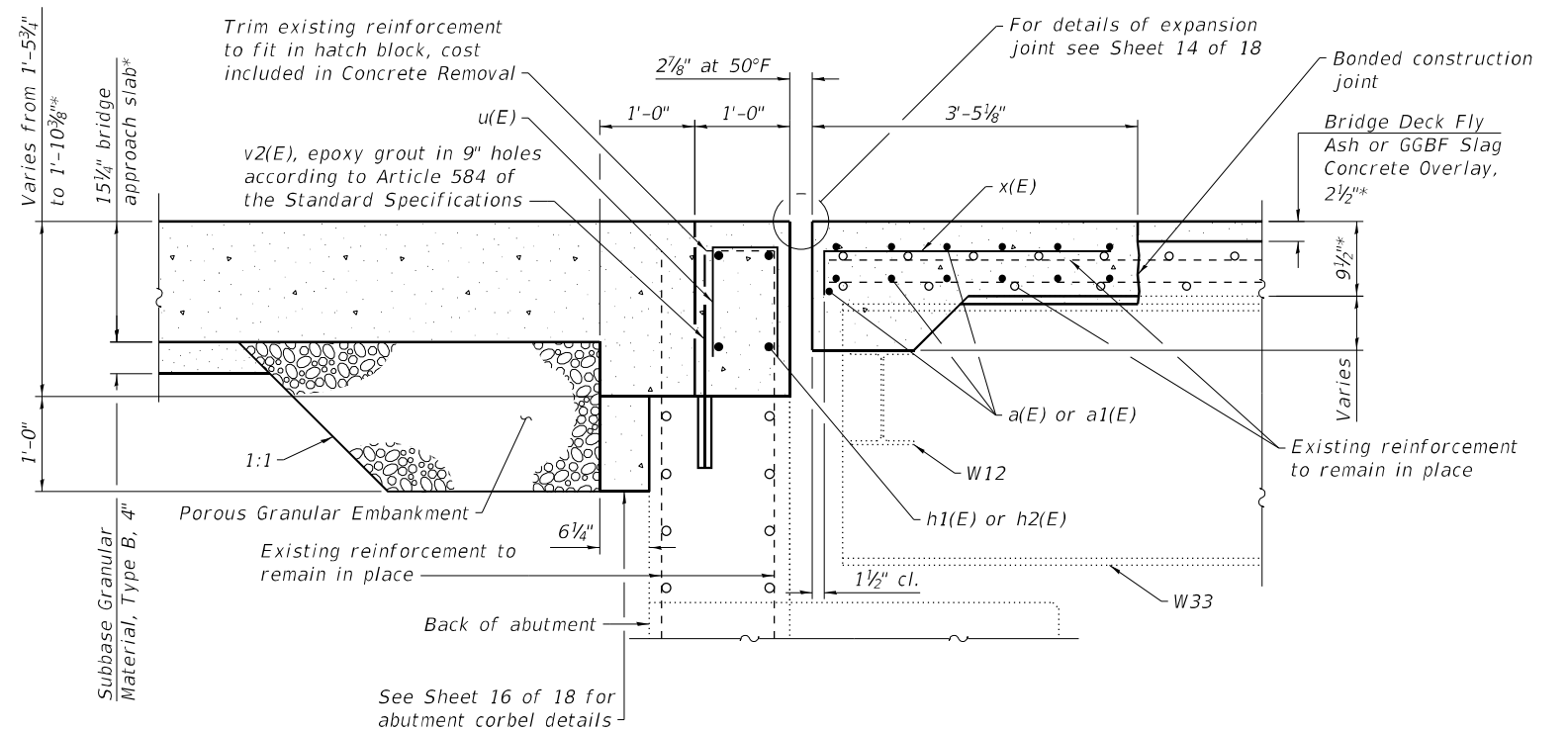
**SECTION THRU EXISTING PARAPET**



**SECTION THRU PROPOSED PARAPET**



**SECTION C-C**  
(Horizontal dimensions at rt. L's)



**SECTION D-D**  
(Horizontal dimensions at rt. L's)

\*Prior to grinding

(Sheet 2 of 3)

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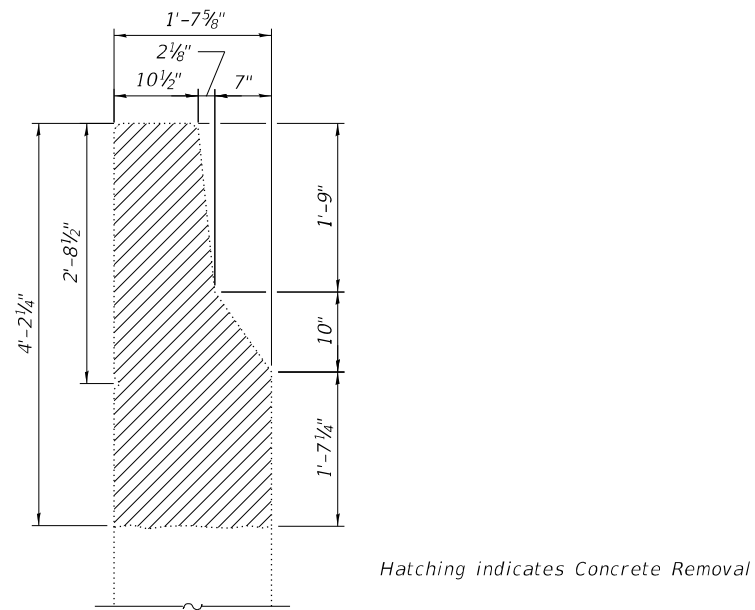
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

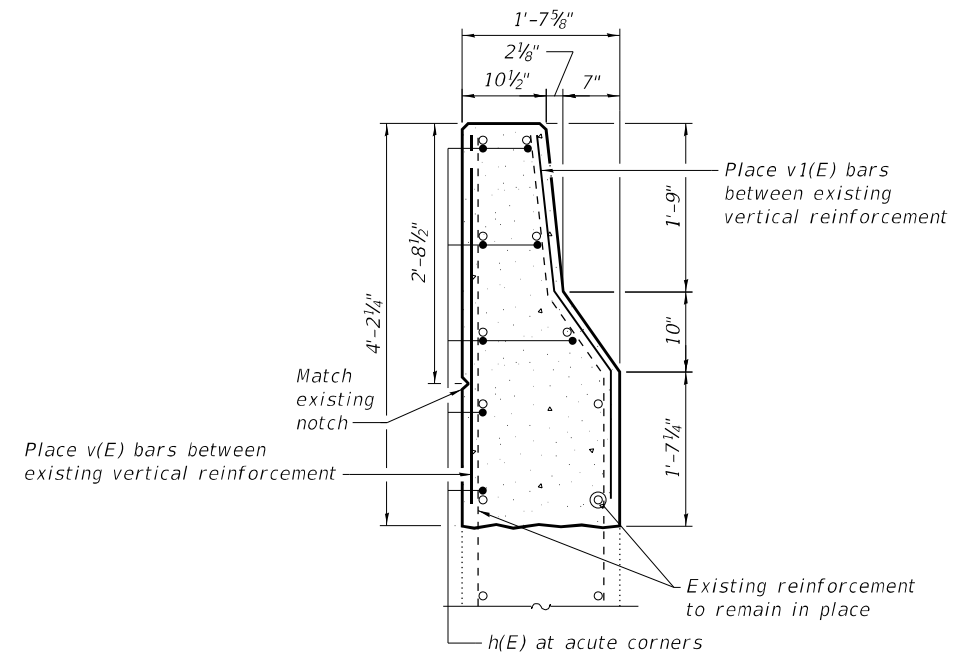
**EXPANSION JOINT REPLACEMENT DETAILS  
SN 018-0044 (WB) & SN 018-0054 (EB)**

SHEET 9 OF 18 SHEETS

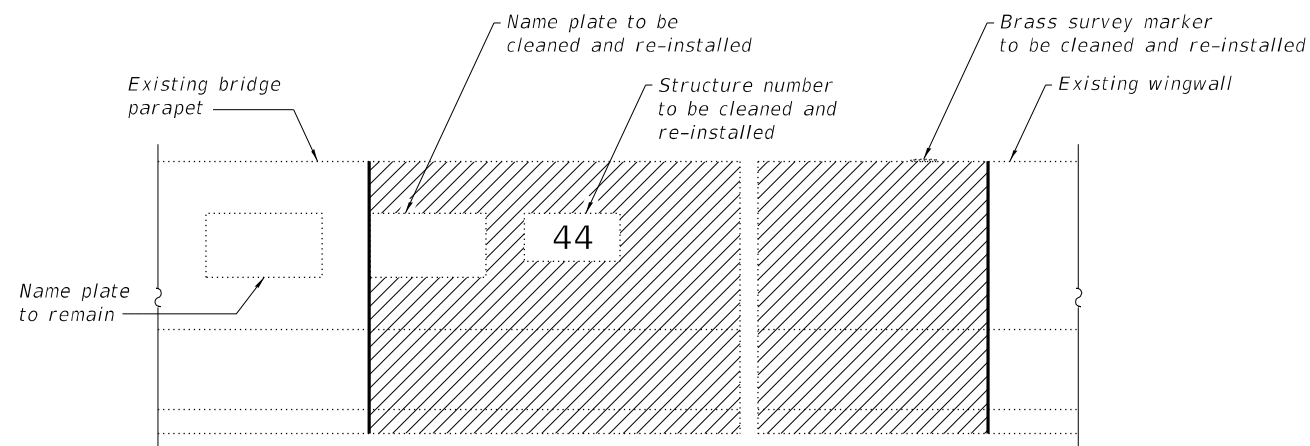
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	18
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				



SECTION THRU EXISTING WINGWALL



SECTION THRU PROPOSED WINGWALL



ELEVATION SHOWING NAME PLATES  
(Two locations)

(Sheet 3 of 3)

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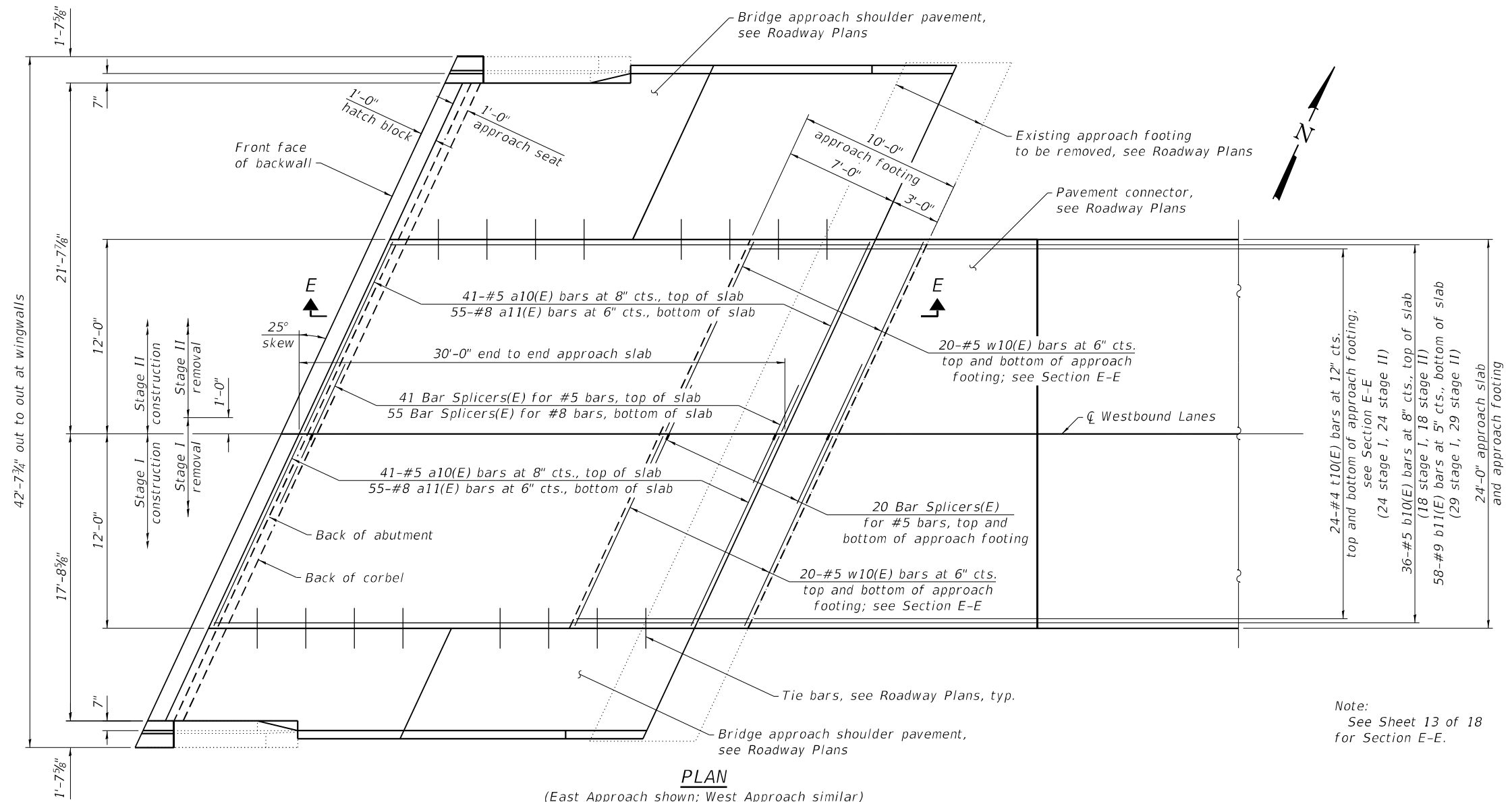
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REPLACEMENT DETAILS  
SN 018-0044 (WB) & SN 018-0054 (EB)**

SHEET 10 OF 18 SHEETS

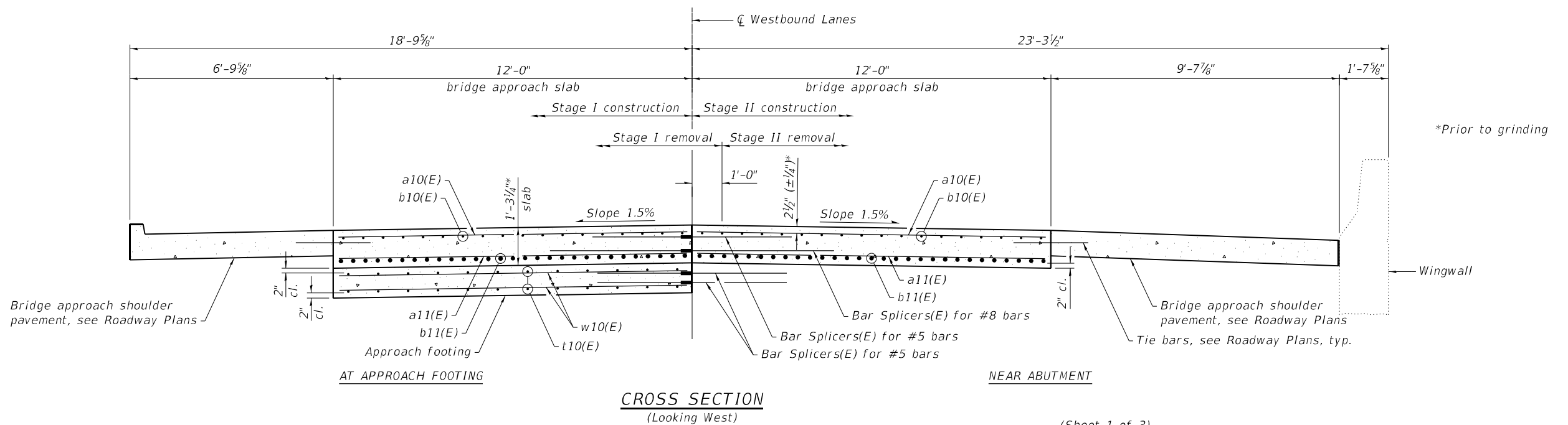
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	19
CONTRACT NO. 74B41				

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**PLAN**  
(East Approach shown; West Approach similar)

Note:  
See Sheet 13 of 18  
for Section E-E.



**CROSS SECTION**  
(Looking West)

(Sheet 1 of 3)

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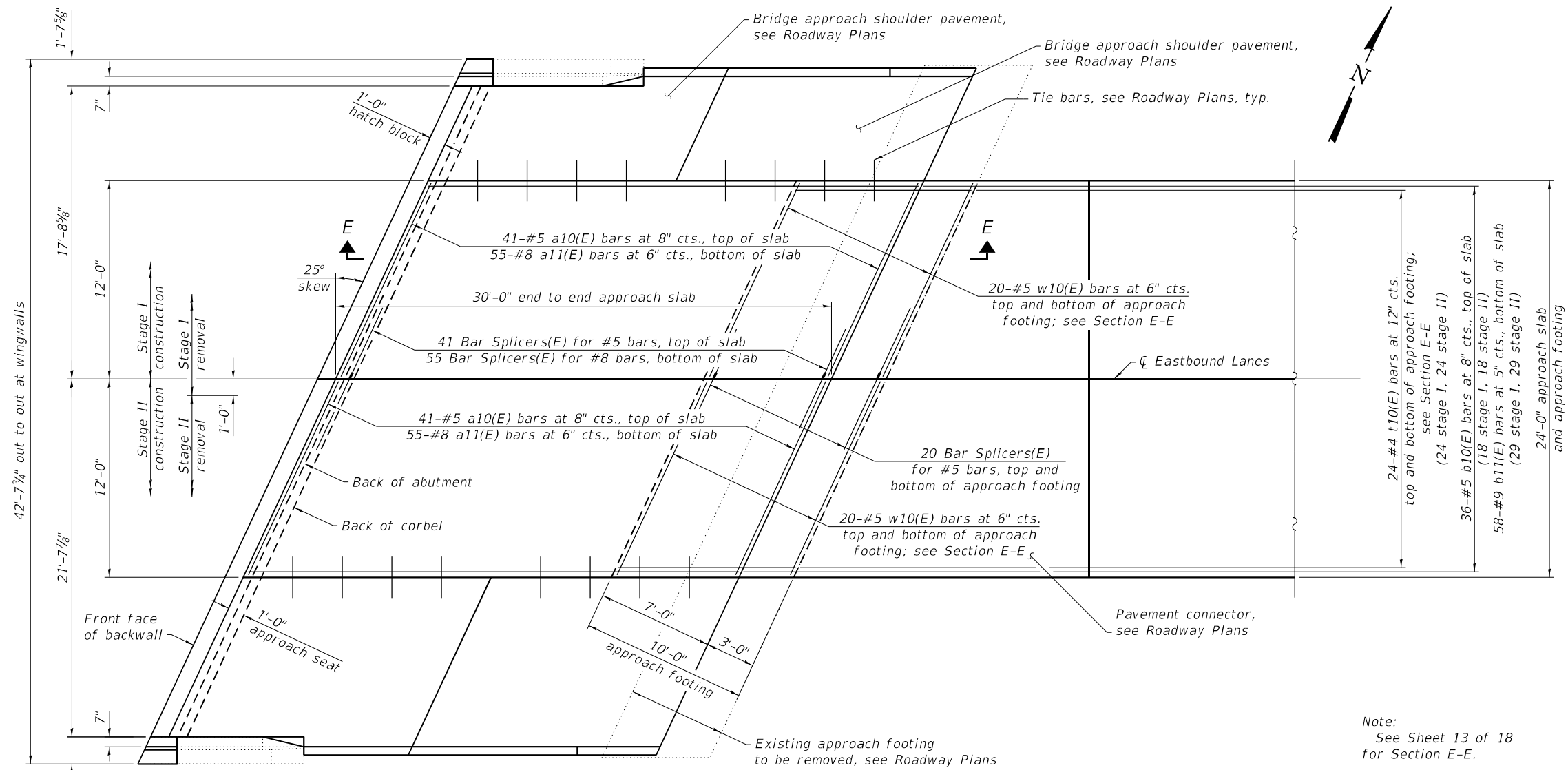
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS  
SN 018-0044 (WB)**

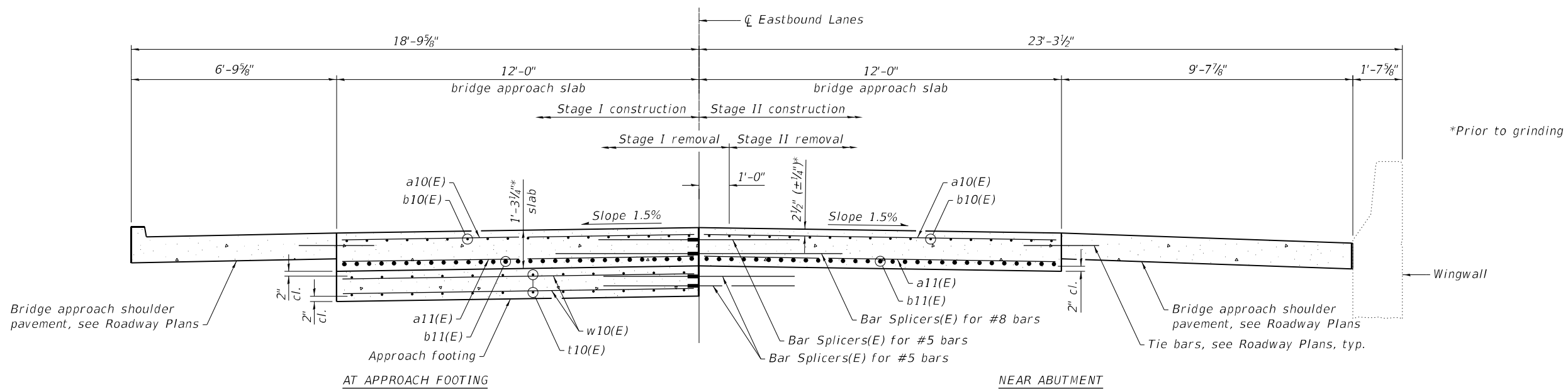
SHEET 11 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	20
CONTRACT NO. 74B41				

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**PLAN**  
(East Approach shown; West Approach similar)



**CROSS SECTION**  
(Looking East)

(Sheet 2 of 3)

MODEL: PLOT  
FILE NAME: Y:\IDOT\1363-04\_74B41\CADD\SP\_SN\_018-0044\0180044-74B41-12-App\Slab\016.dgn



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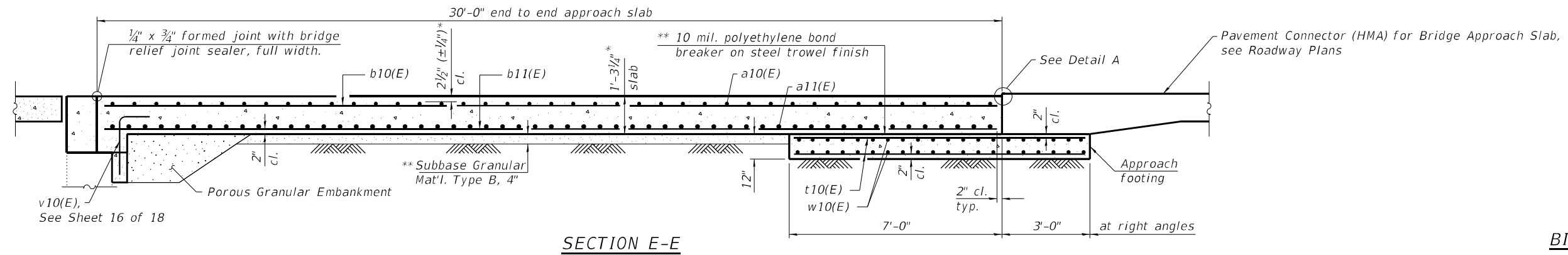
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS**  
**SN 018-0054 (EB)**

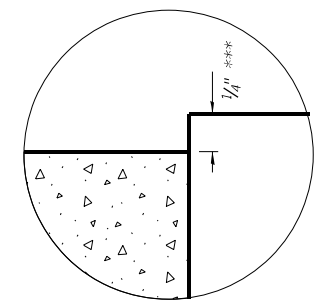
SHEET 12 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	21
CONTRACT NO. 74B41				
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 is included with Concrete Structures.  
 Cost of excavation, grading, and trimming for Subbase Granular Material, Type B, 4" is included with Concrete Superstructure (Approach Slab).



\* Prior to grinding  
 \*\* Cost included with Concrete Superstructure (Approach Slab)  
 \*\*\* After grinding



**BILL OF MATERIAL**  
 Per Bridge Approach Slab

Bar	Number		Total	Size	Length	Shape	
	Stage I	Stage II					
a10(E)	41	41	82	#5	12'-11"	—	
a11(E)	55	55	110	#8	12'-11"	—	
b10(E)	18	18	36	#5	29'-8"	—	
b11(E)	29	29	58	#9	29'-8"	—	
t10(E)	24	24	48	#4	10'-8"	—	
w10(E)	40	40	80	#5	12'-11"	—	
Concrete Superstructure (Approach Slab)						Cu. Yd.	34.4
Concrete Structures						Cu. Yd.	9.8
Reinforcement Bars, Epoxy Coated						Pound	13,290
Bar Splicers						Each	136

(Sheet 3 of 3)

MODEL: PLOT  
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 PLOT DATE = 8/21/2023

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 CHECKED - CTJ 02/23  
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 CHECKED - ELH 03/23

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 REVISED -

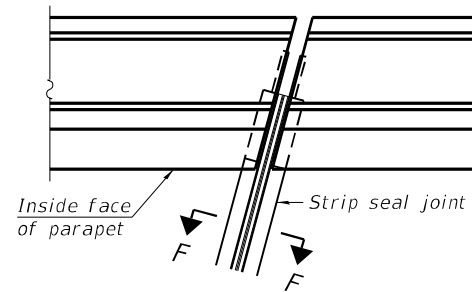
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS**  
**SN 018-0044 (WB) & SN 018-0054 (EB)**

SHEET 13 OF 18 SHEETS

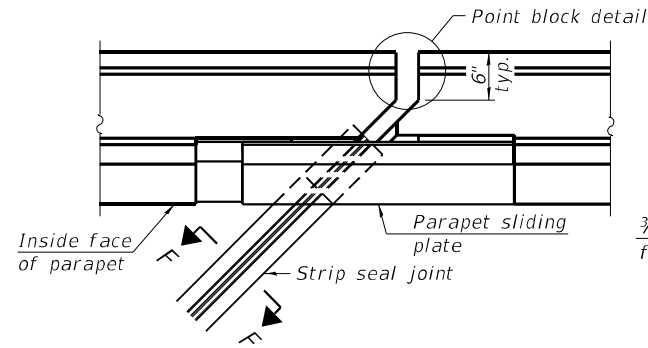
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	22
CONTRACT NO. 74B41				

ILLINOIS FED. AID PROJECT

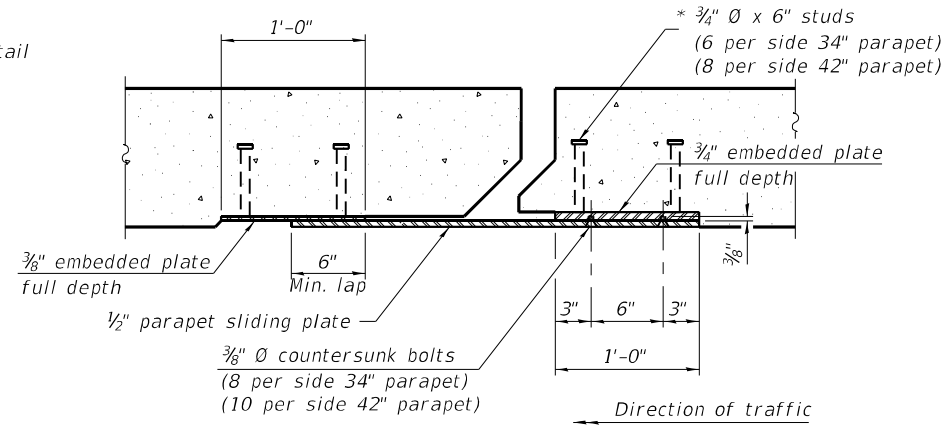


FOR SKEWS  $\leq 30^\circ$

PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$



SECTION G-G

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.

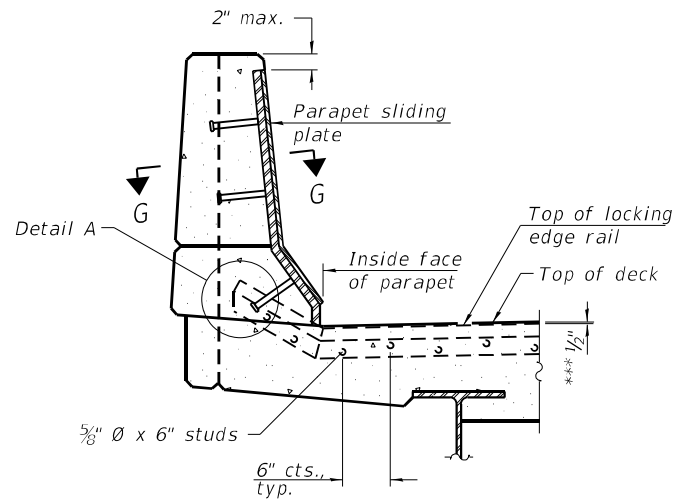
The manufacturer's recommended installation methods shall be followed.

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.

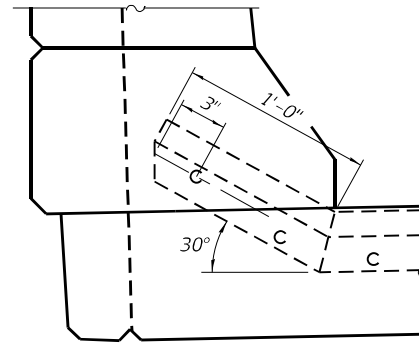
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

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.



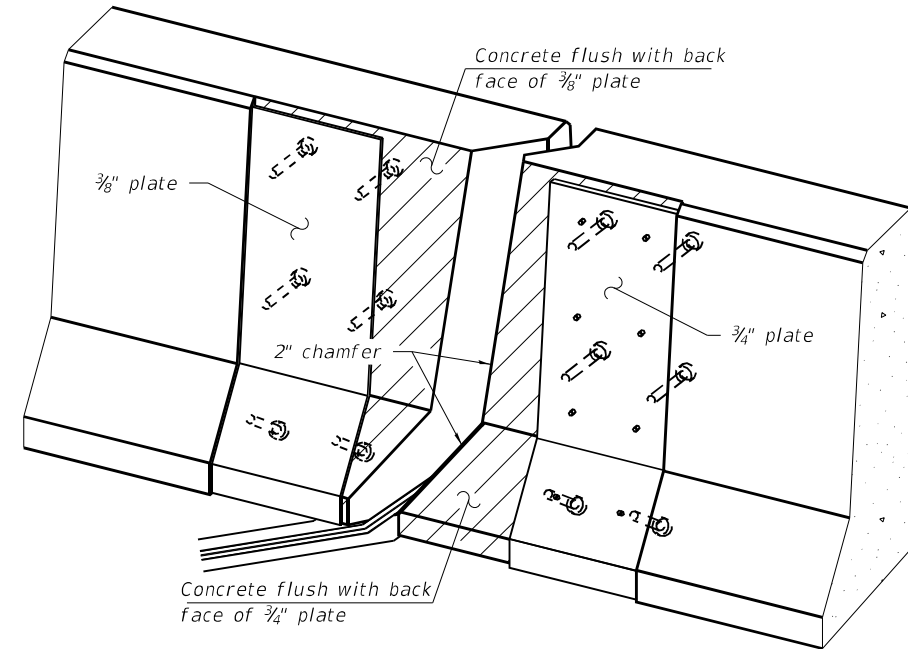
ELEVATION AT PARAPET

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



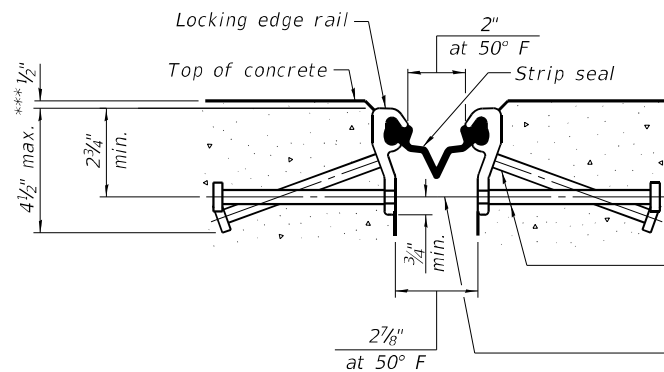
DETAIL A

\*\*\* Prior to grinding



TRIMETRIC VIEW

(Showing embedded plates only)



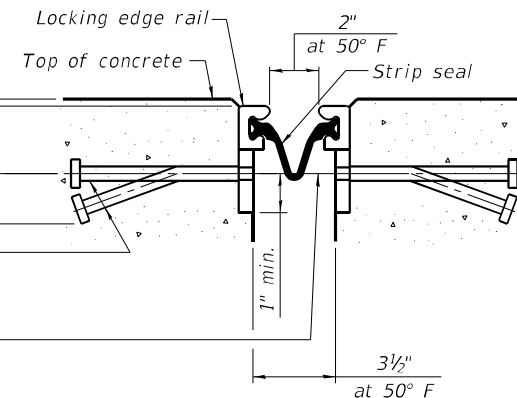
SHOWING ROLLED RAIL JOINT

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

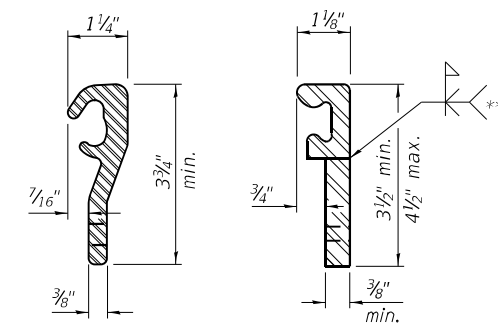
3/8"  $\phi$  threaded rods in 1/16"  $\phi$  holes at  $\pm 4$ -0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION F-F

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

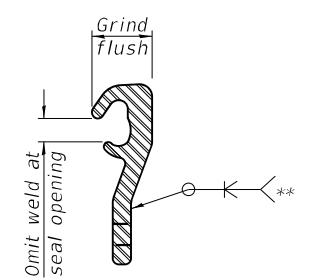


SHOWING WELDED RAIL JOINT



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	Unit	Total
Preformed Joint Strip Seal	Foot	182

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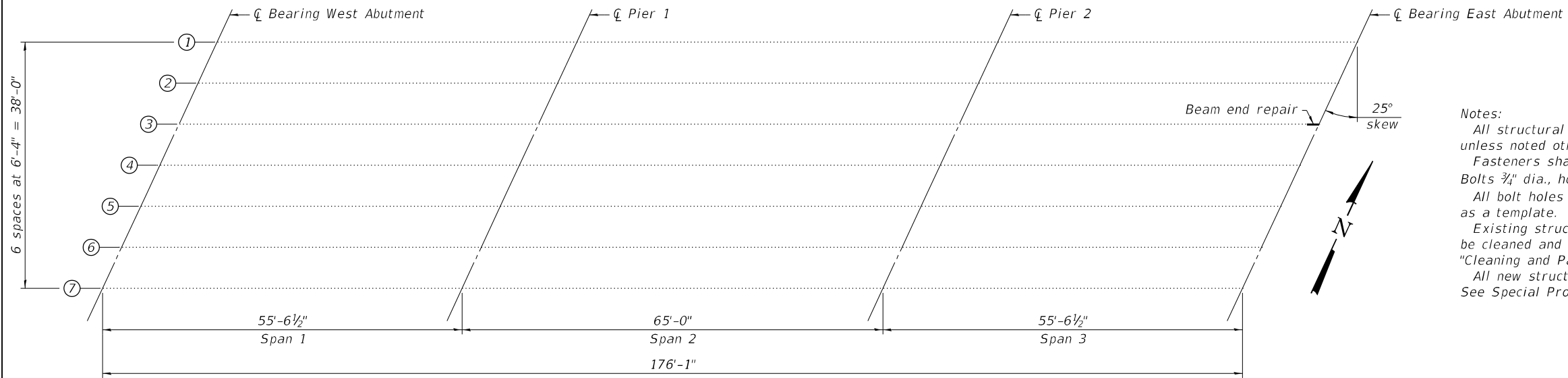
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REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL  
SN 018-0044 (WB) & SN 018-0054 (EB)

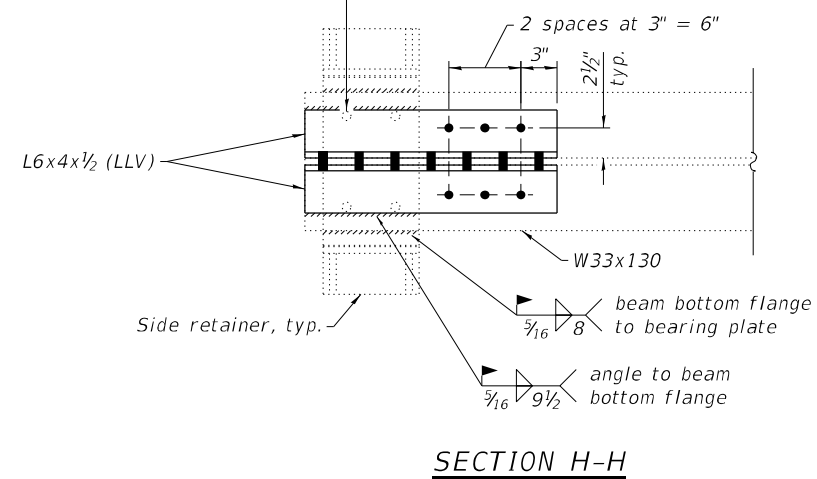
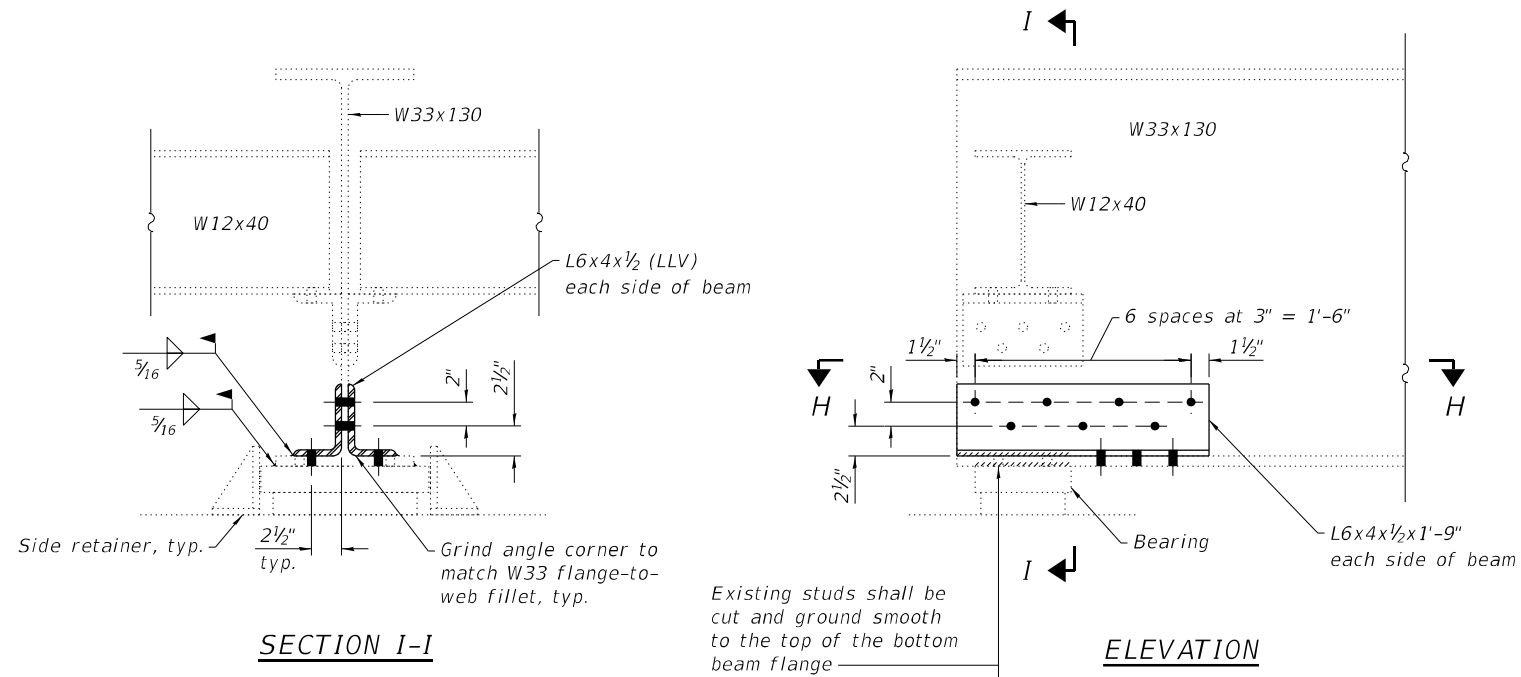
SHEET 14 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	23
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				



Notes:  
 All structural steel shall conform to AASHTO Classification M-270 grade 36, unless noted otherwise.  
 Fasteners shall be ASTM F3125 Grade A325 Type 1, hot dip galvanized bolts. Bolts 3/4" dia., holes 1 3/16" dia., unless noted otherwise.  
 All bolt holes shall be field drilled in the existing steel using the new steel as a template.  
 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 hot dip galvanized and then field painted. See Special Provisions for "Hot Dip Galvanizing for Structural Steel."

SN 018-0044 PLAN



BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	70

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PLOT DATE = 8/21/2023	CHECKED - ELH 02/23	REVISED -

STATE OF ILLINOIS  
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BEAM END REPAIR DETAILS  
 SN 018-0044 (WB)

SHEET 15 OF 18 SHEETS

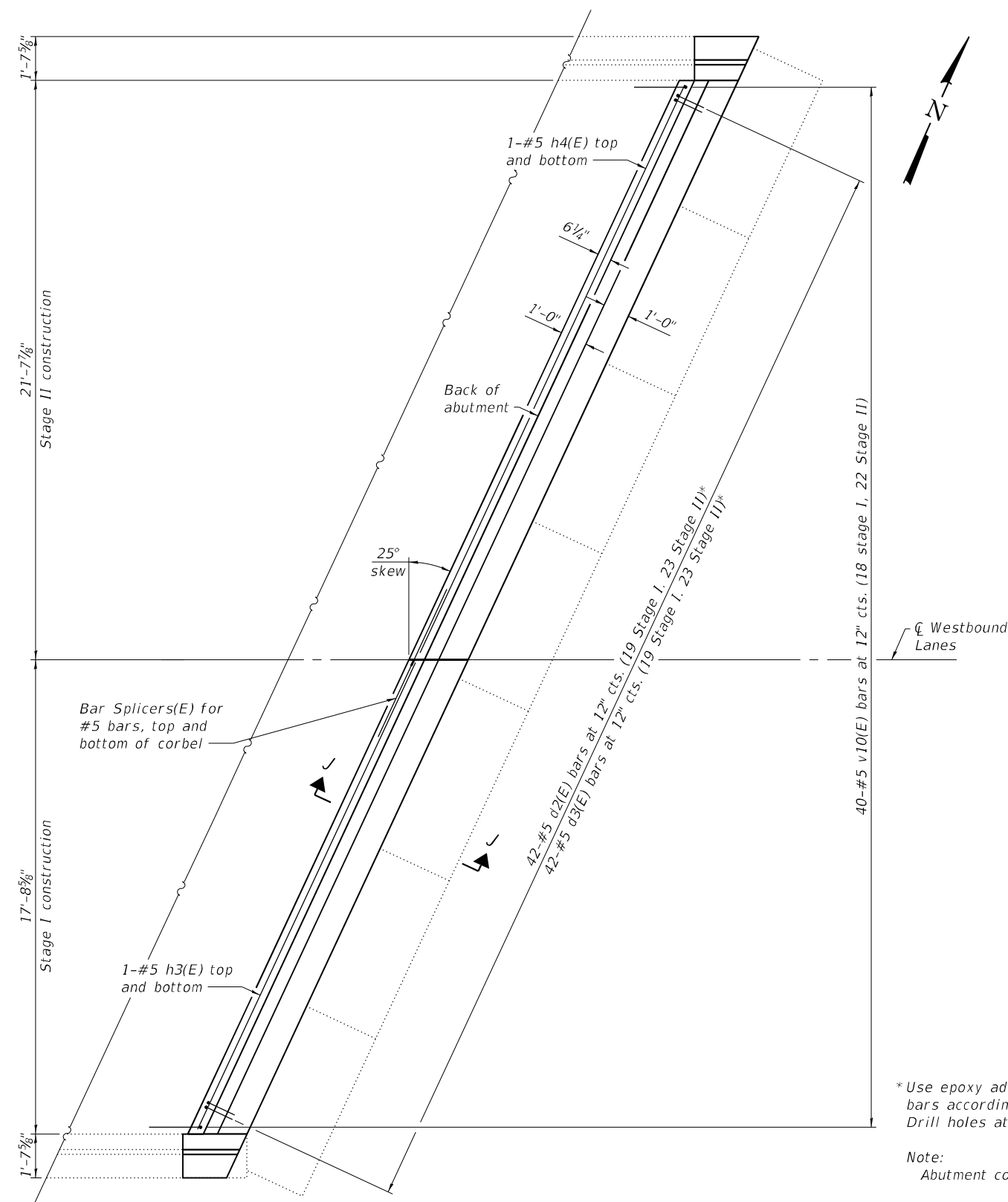
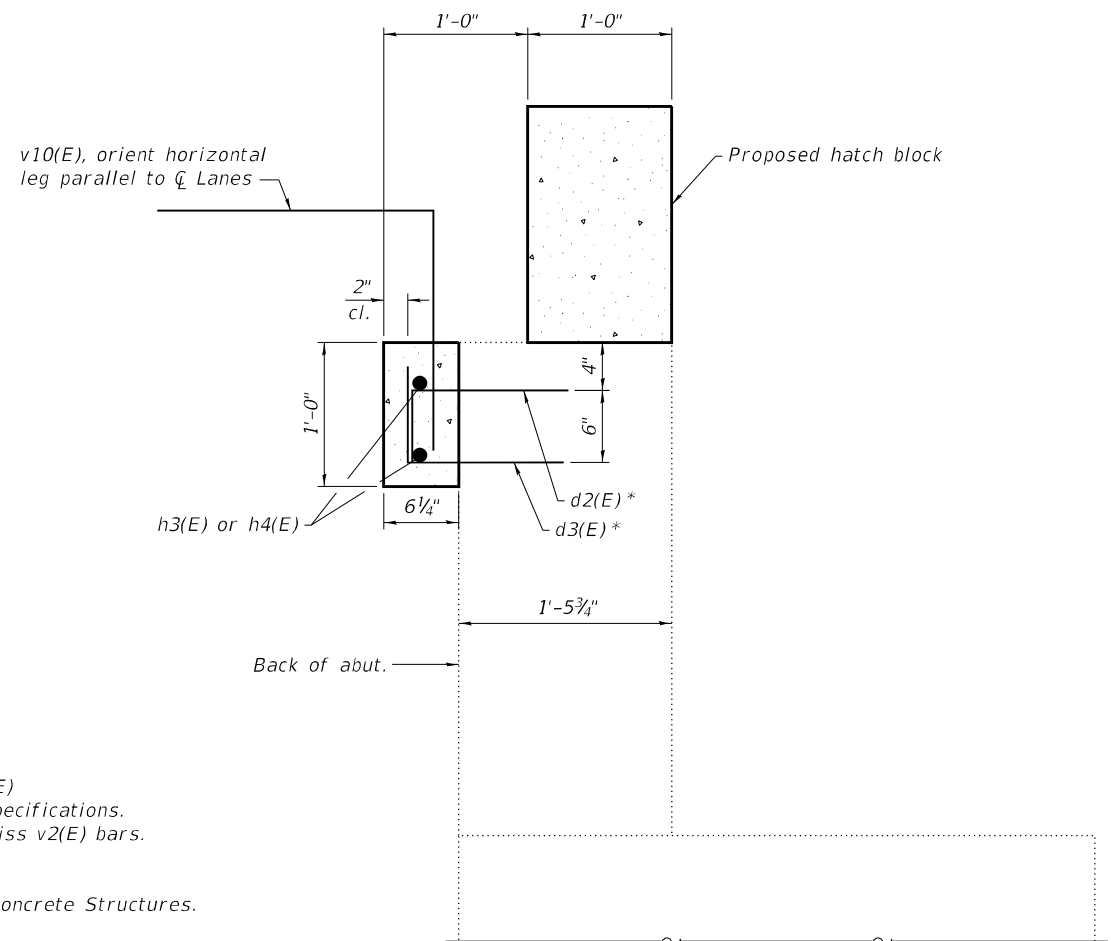
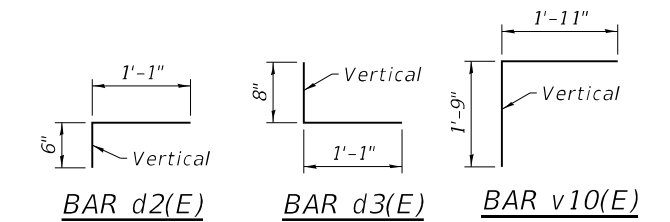
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70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	24
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				



**BILL OF MATERIAL**

Per Abutment

Bar	Number		Total	Size	Length	Shape
	Stage I	Stage II				
d2(E)	19	23	42	#5	1'-7"	┌
d3(E)	19	23	42	#5	1'-9"	┌
h3(E)	2	-	2	#5	19'-3"	—
h4(E)	-	2	2	#5	23'-5"	—
v10(E)	18	22	40	#5	3'-8"	┌
Reinforcement Bars, Epoxy Coated					Pound	390
Concrete Structures					Cu. Yd.	0.9
Bar Splicers					Each	2



\* Use epoxy adhesive in 9" holes for d2(E) and d3(E) bars according to Section 584 of the Standard Specifications. Drill holes at right angle to backwall. Space to miss v2(E) bars.

Note:  
Abutment corbel concrete shall be paid for as Concrete Structures.

**PROPOSED PARTIAL PLAN**  
Westbound West Abutment shown;  
Eastbound East Abutment similar by rotation

MODEL: PLOT  
FILE NAME: Y:\DOT\1365-04\_74B41\CADD\SP SN 018-0044\0180044-74B41-16-AbutRepairs.dgn



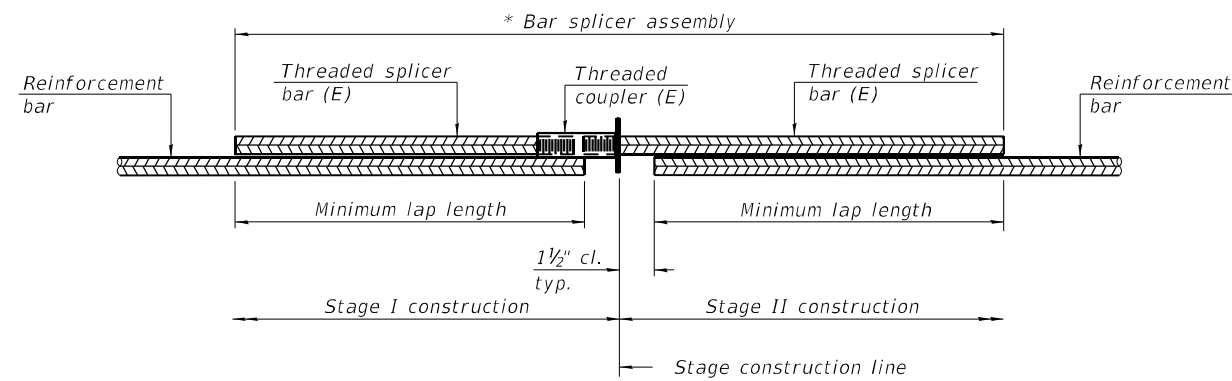
USER NAME = nhc	DESIGNED - ELH 02/23	REVISED -
ESCA PROJECT NO. 1363.04	CHECKED - CTJ 02/23	REVISED -
PLOT SCALE = 0.2" = 1' / in.	DRAWN - NHC 09/23	REVISED -
PLOT DATE = 9/26/2023	CHECKED - ELH 09/23	REVISED -

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

**ABUTMENT REPAIRS**  
**SN 018-0044 (WB) & SN 018-0054 (EB)**

SHEET 16 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	25
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B41	



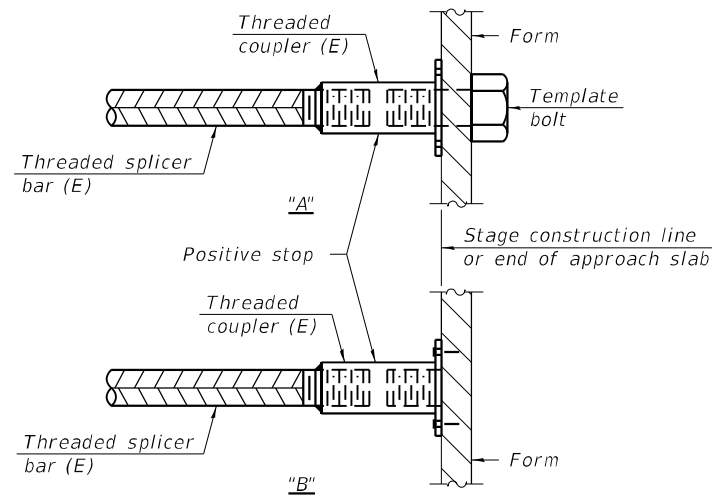
**STANDARD BAR SPLICER ASSEMBLY PLAN**

Only bar splicer assemblies as presented on the approved QPL list may be used.

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
018-0044 Deck	#5	26	3'-6"
018-0044 Hatch Blocks	#6	8	4'-0"
018-0044 Corbels	#5	4	3'-2"
018-0044 Approach Slabs	#5	82	3'-4"
018-0044 Approach Slabs	#8	110	4'-9"
018-0044 Approach Footings	#5	80	3'-2"
018-0054 Deck	#5	26	3'-6"
018-0054 Hatch Blocks	#6	8	4'-0"
018-0054 Corbels	#5	4	3'-2"
018-0054 Approach Slabs	#5	82	3'-4"
018-0054 Approach Slabs	#8	110	4'-9"
018-0054 Approach Footings	#5	80	3'-2"

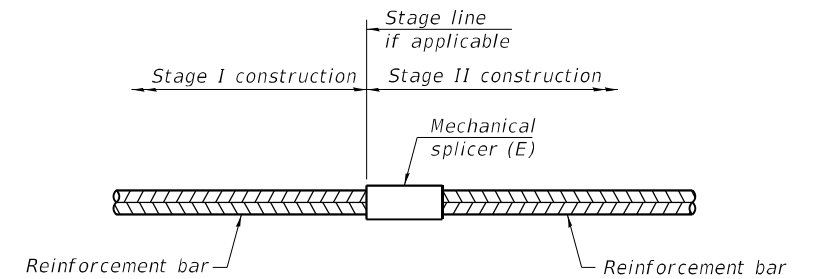


**INSTALLATION AND SETTING METHODS**

"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
NA		

**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: PLOT  
FILE NAME: Y:\IDOT\1363-04\_74B41\CADD\SP\_SN\_018-0044\0180044-74B41-17-BarSplicer.dgn

BSD-1

2-1-2023



USER NAME = nhc	DESIGNED - ELH 02/23	REVISED -
ESCA PROJECT NO. 1363.04	CHECKED - CTJ 02/23	REVISED -
PLOT SCALE = 0.1667' / in.	DRAWN - ZTC 02/23	REVISED -
PLOT DATE = 8/21/2023	CHECKED - ELH 02/23	REVISED -

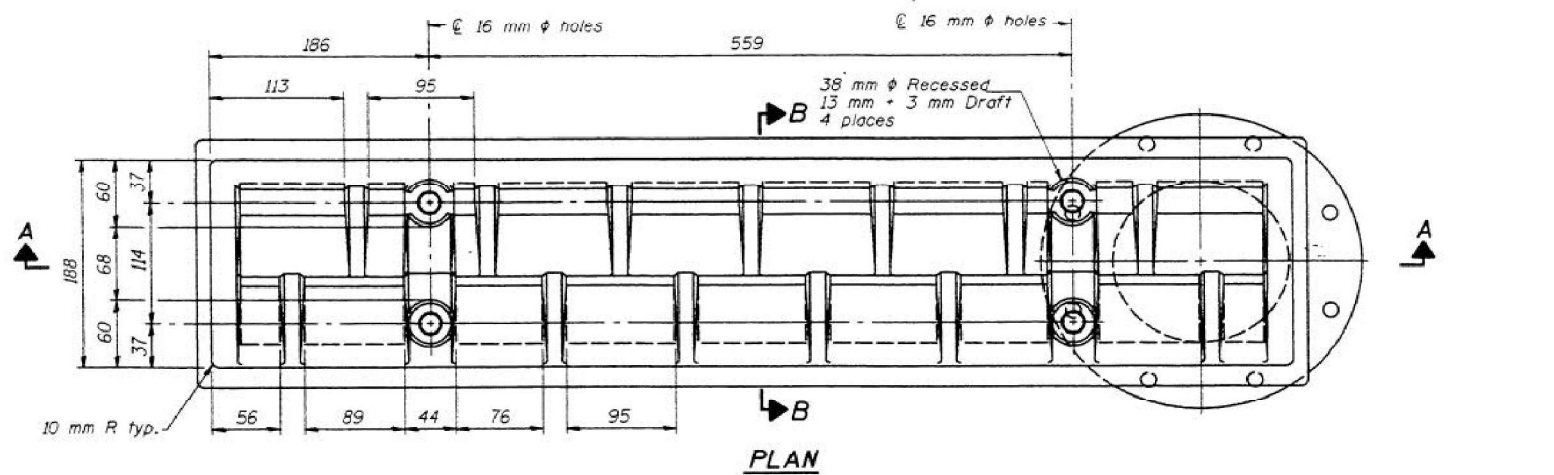
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS  
SN 018-0044 (WB) & SN 018-0054 (EB)**

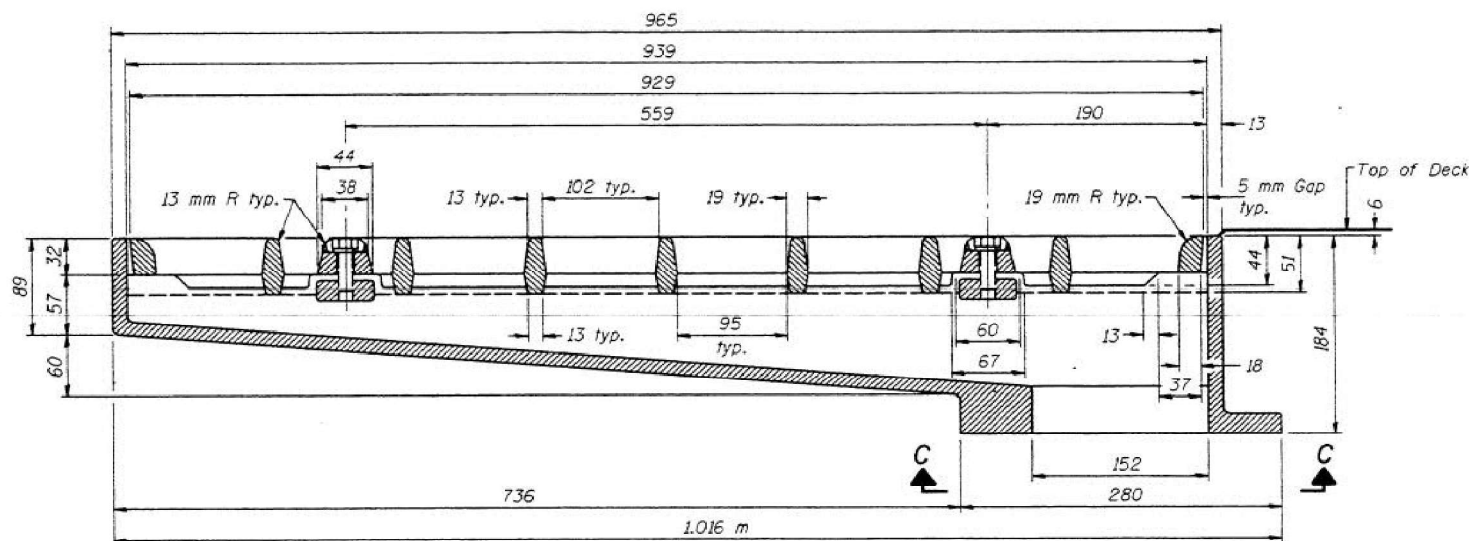
SHEET 17 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	26
				CONTRACT NO. 74B41

ILLINOIS FED. AID PROJECT

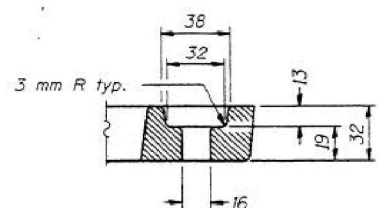


PLAN

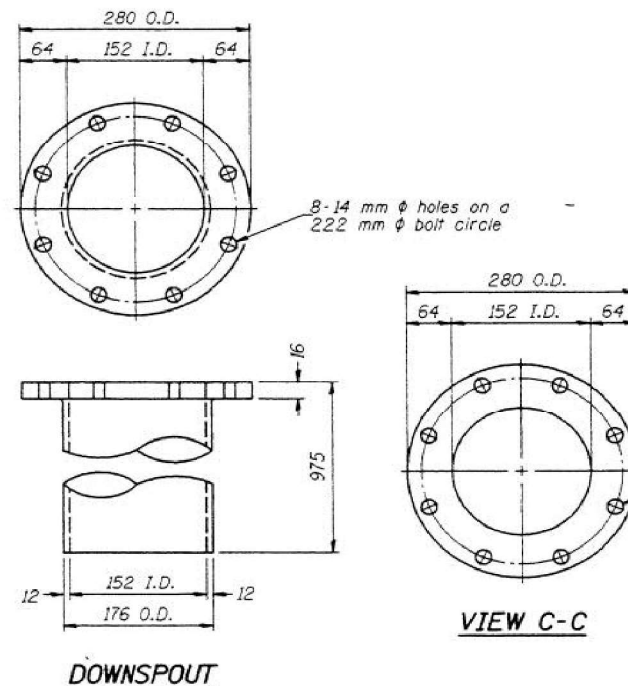


SECTION A-A

See sheet 11 of 26 for scupper location relative to parapet.

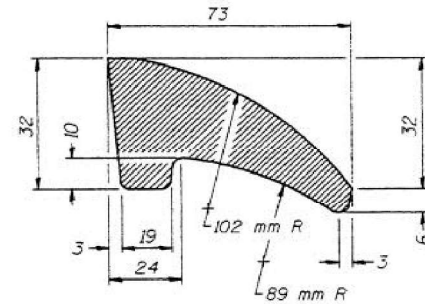


BOLT HOLE DETAIL

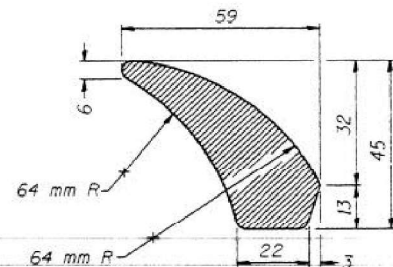


DOWNSPOUT

VIEW C-C



FIRST VANE DETAIL



SECOND VANE DETAIL

Notes: All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.  
 Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232M.  
 The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.  
 As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.  
 Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.  
 The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.  
 Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-33.  
 All dimensions are in millimeters (mm) except as noted.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-33	Each	4

FOR INFORMATION ONLY

MODEL: PLOT  
 FILE NAME: Y:\IDOT\1363-04\_74B41\CADD\SP\_SN 018-0044\180044-74B41-18-Drainage Scupper.dgn  
 DATE: 06-18-2000

**UPCHURCH AND ASSOCIATES**  
 CONSULTANTS, INC.  
 1100 N. W. 10th St., Suite 200  
 Ft. Lauderdale, FL 33304-3000  
 (954) 576-3377

**ESCA CONSULTANTS, INC.**  
 1100 N. W. 10th St., Suite 200  
 Ft. Lauderdale, FL 33304-3000  
 (954) 576-3377

DS-33 8-01-2000

USER NAME = nhc	DESIGNED - ELH	02/23	REVISED -
ESCA PROJECT NO. 1363.04	CHECKED - CTJ	02/23	REVISED -
PLOT SCALE = 0:2" = 1' / in.	DRAWN - ZTC/NHC	09/23	REVISED -
PLOT DATE = 9/26/2023	CHECKED - ELH	09/23	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

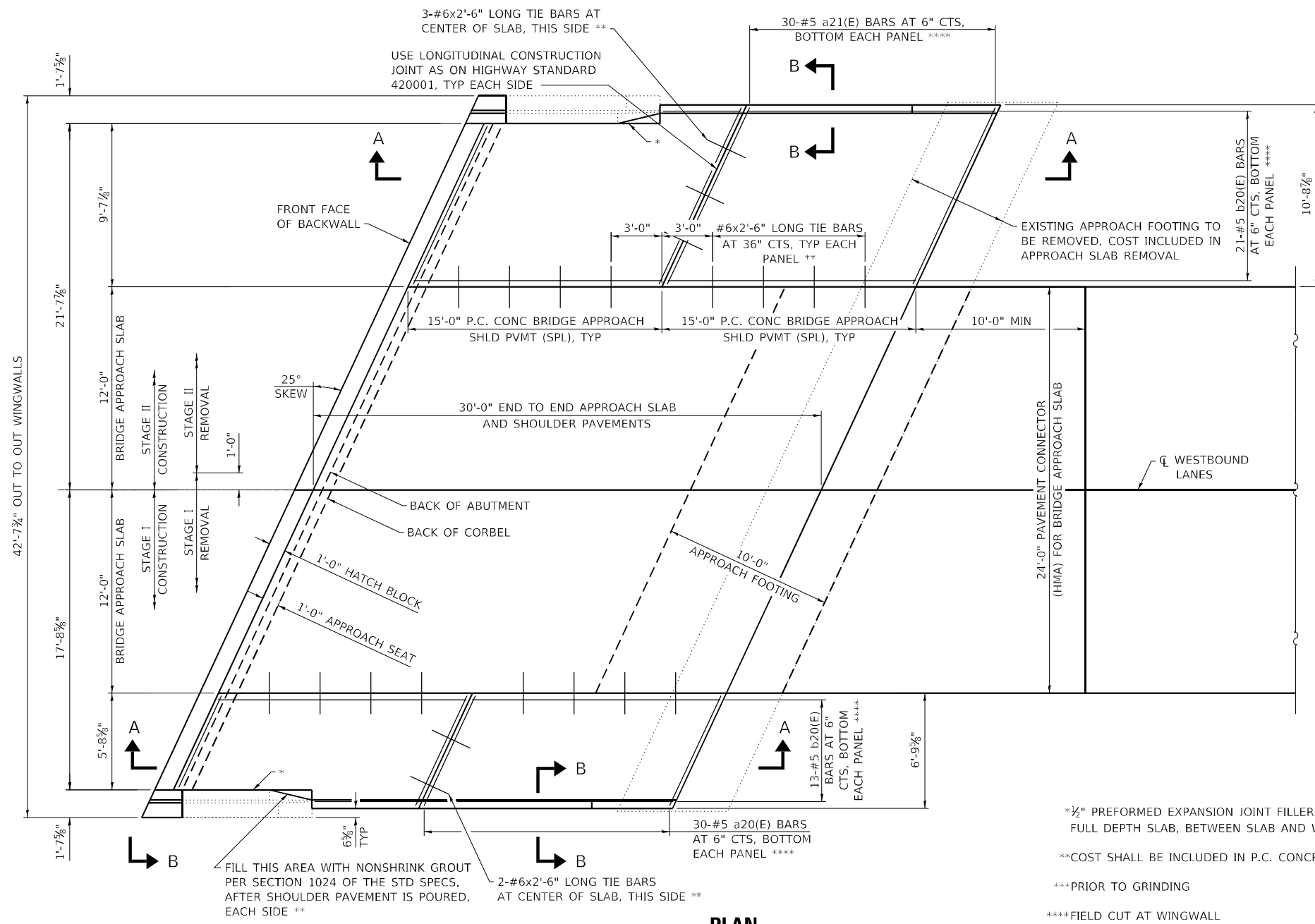
EXISTING SCUPPERS PLAN SHEET  
 SN 018-0044 (WB) & SN 018-0054 (EB)

SHEET 18 OF 18 SHEETS

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**DRAINAGE SCUPPER**  
 F.A.I. RTE. 70 OVER COTTONWOOD CREEK  
 SECTION 18-46BR STA. 188+344.696  
 CUMBERLAND COUNTY  
 S.N. 018-0044 (W.B.) & S.N. 018-0054 (E.B.)  
 SCALE: N.T.S. DRAWN BY: LP  
 DATE: JULY 2000 CHECKED BY: MJS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	27

CONTRACT NO. 74B41  
 ILLINOIS FED. AID PROJECT

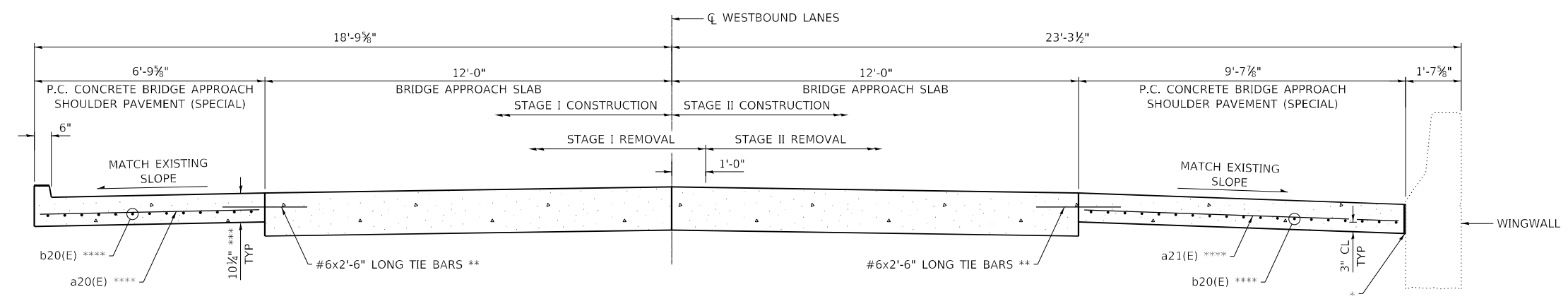


NOTE:  
SEE SHEET NO. 2 OF 2 FOR  
SECTION A-A AND SECTION B-B

- \*1/2" PREFORMED EXPANSION JOINT FILLER ACCORDING TO ARTICLE 1051.09 OF STD SPECS., FULL DEPTH SLAB, BETWEEN SLAB AND WINGWALL
- \*\*COST SHALL BE INCLUDED IN P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (SPECIAL)
- \*\*\*PRIOR TO GRINDING
- \*\*\*\*FIELD CUT AT WINGWALL

**PLAN**

(EAST APPROACH WESTBOUND LANES SHOWN; OTHER APPROACHES SIMILAR)



**CROSS SECTION**

(LOOKING WEST)

MODEL\_PLOT  
FILE\_NAME: Y:\DOT\1363-04-74B41\CADD\Highway\CADD\_Sheets\DOT74B41-SP-06-24\101.dgn



USER NAME = nhc  
ESCA PROJECT NO. 1363.04  
PLOT SCALE = 0.1667' / in.  
PLOT DATE = 8/21/2023

DESIGNED - ELH  
DRAWN - NHC  
CHECKED - CTJ  
DATE - 02/23

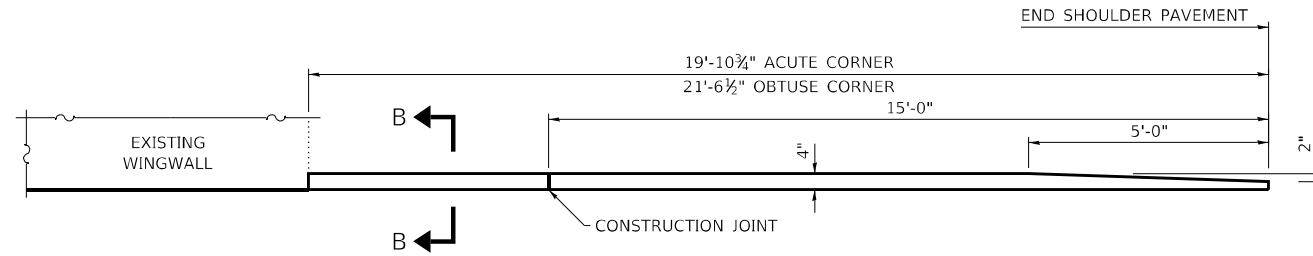
REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

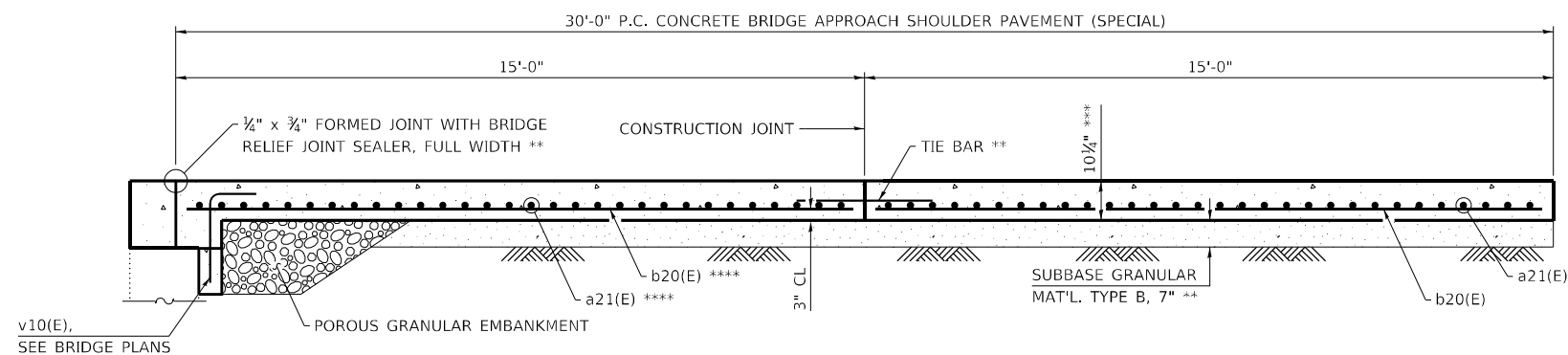
**BRIDGE APPROACH SHOULDER PAVEMENT**

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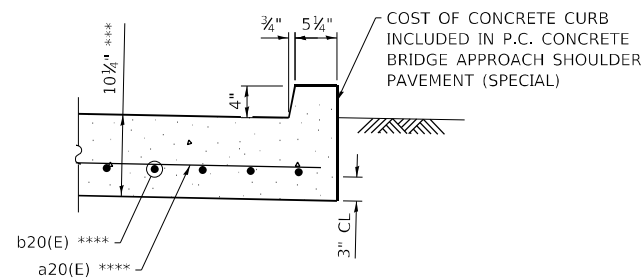
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	28
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				



**INSIDE ELEVATION OF CURB**



**SECTION A-A**



**SECTION B-B**

\*\*COST SHALL BE INCLUDED IN P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (SPECIAL)

\*\*\*PRIOR TO GRINDING

\*\*\*\*FIELD CUT AT WINGWALL

**BILL OF MATERIAL**  
PER APPROACH

BAR	NUMBER		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a20(E)	60	-	60	#5	7'-1"	————
a21(E)	-	60	60	#5	11'-5"	————
b20(E)	26	42	68	#5	14'-8"	————
P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT (SPECIAL)					SQ YD	57
REINFORCEMENT BARS, EPOXY COATED					POUND	2200

MODEL\_PLOT  
FILE\_NAME: Y:\PROJECTS\DOT1363-04-74B41\CADD\Highway\CAAD\_Sheets\DOT1363-04-74B41-41-01-01.dwg



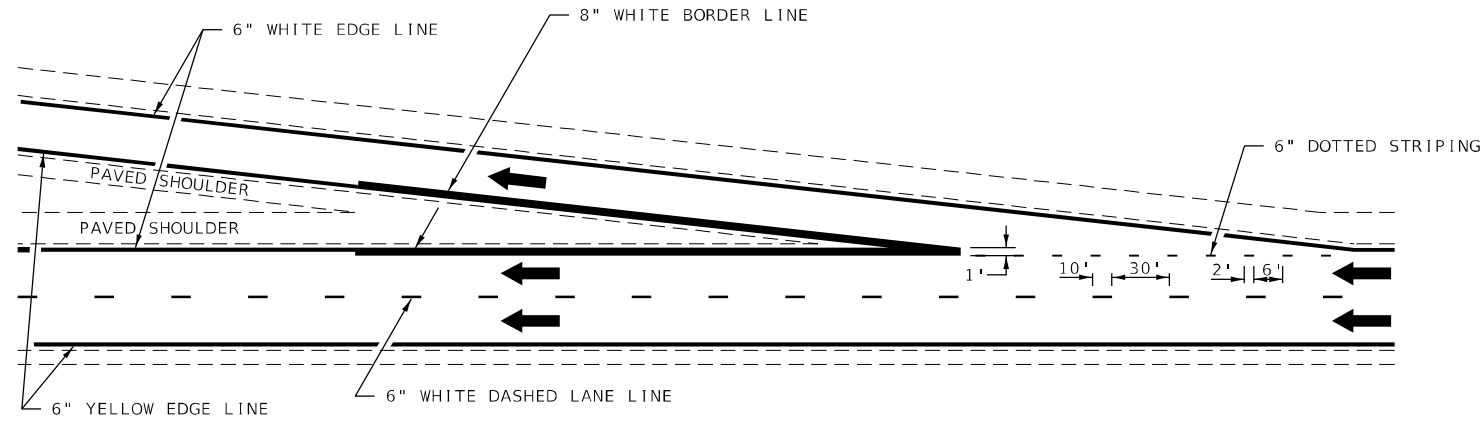
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ESCA PROJECT NO. 1363.04	DRAWN - NHC	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - CTJ	REVISED -
PLOT DATE = 8/21/2023	DATE - 02/23	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

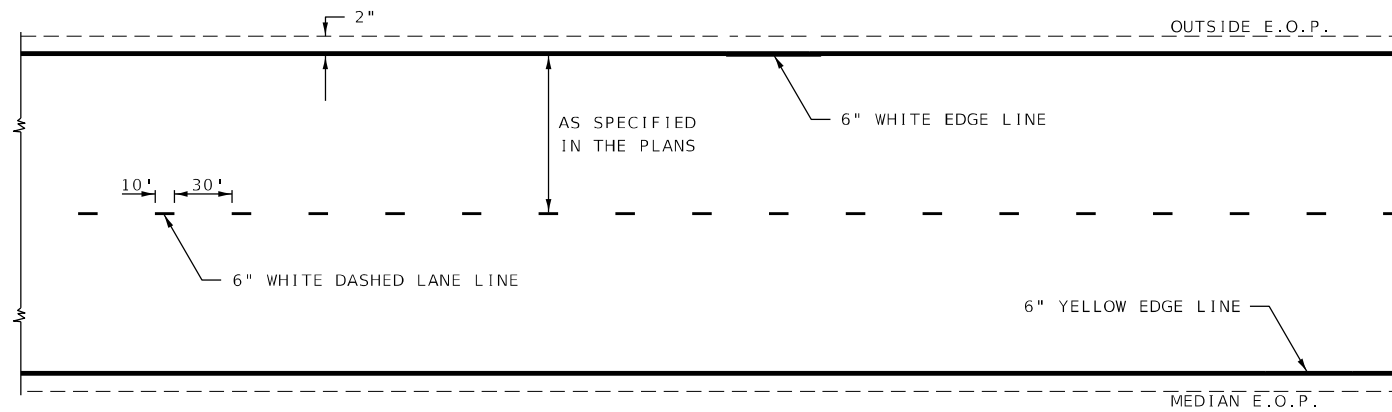
**BRIDGE APPROACH SHOULDER PAVEMENT**

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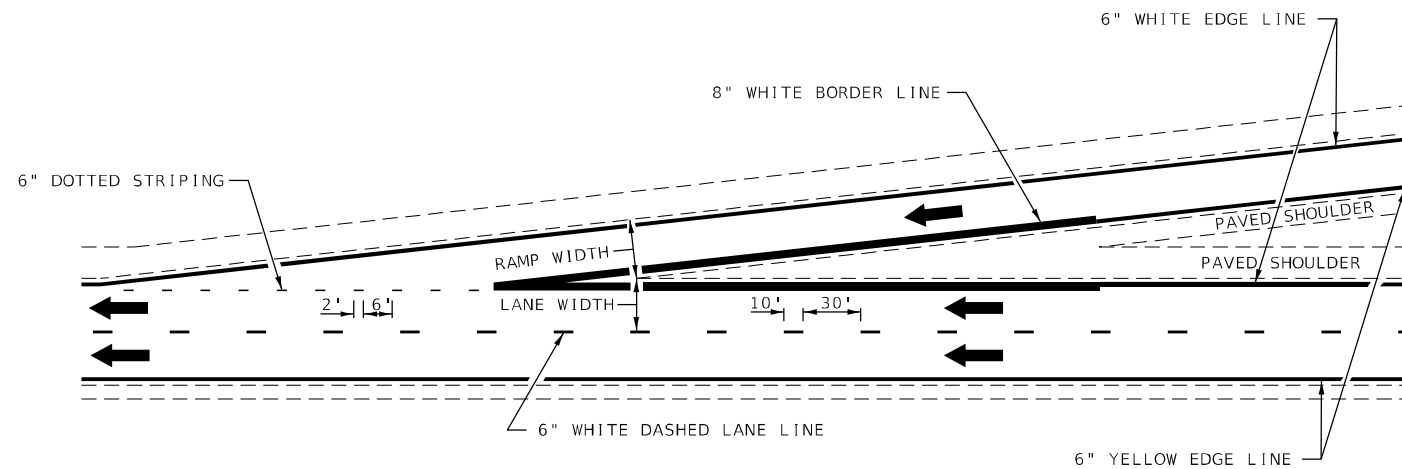
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	29
			CONTRACT NO. 74B41	
ILLINOIS FED. AID PROJECT				



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

NOT TO SCALE

**DISTRICT 7 DETAIL NO. 7800002**

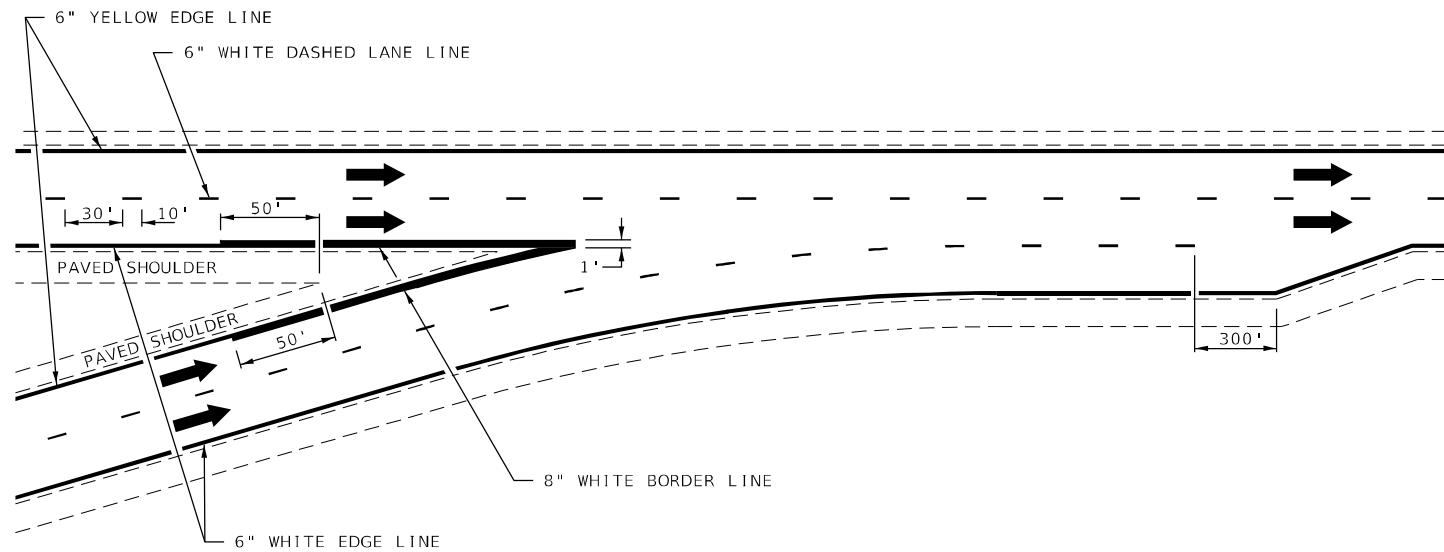
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	DRAWN -	REVISED - DRM 01-09
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PLOT DATE = 8/18/2023	DATE -	REVISED - MAD 01-20

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

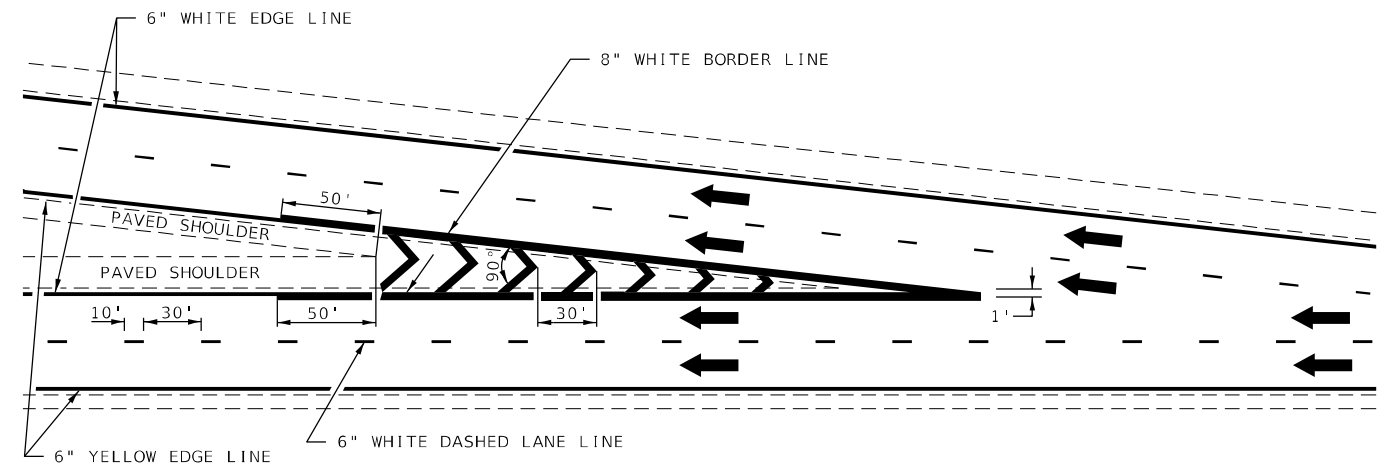
**TYPICAL APPLICATIONS OF FREEWAY/EXPRESSWAY  
PAVEMENT MARKING**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	30
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

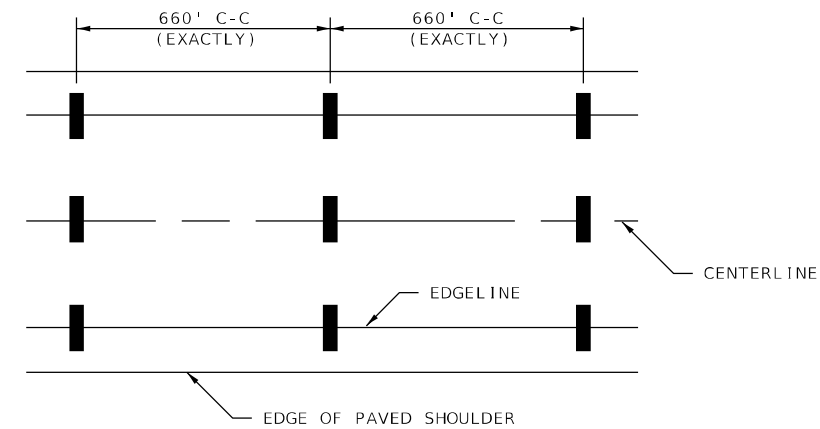


TYPICAL CONVERGENCE MARKING

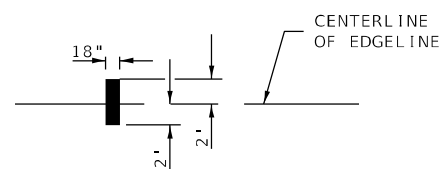


TYPICAL DIVERGENCE MARKING

AERIAL SPEED CHECK ZONES



IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF MEASUREMENT CAN BE ATTESTED TO IN COURT.



NOT TO SCALE

DISTRICT 7 DETAIL NO. 7800002

USER NAME = Mona.Steffen	DESIGNED -	REVISED - MMO 12-99
	DRAWN -	REVISED - DRM 08-04
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED - MKS 04-08
PLOT DATE = 8/18/2023	DATE -	REVISED - DRM 01-09

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF FREEWAY/EXPRESSWAY  
PAVEMENT MARKING

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2024-12	CUMBERLAND	31	31
CONTRACT NO. 74B41				
ILLINOIS FED. AID PROJECT				

MODEL: Default  
FILE NAME: p:\ultra-cw-beach\p\p\DOT Documents\DOT Office\District 7\Project\74B41\CADD\Drawings\DOT\74B41-SP-detail.dwg