

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

\* 93 + 4 = 97 TOTAL SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2, 3BR-3)BR	EFFINGHAM	93	1
ILLINOIS CONTRACT NO. 74859				

041

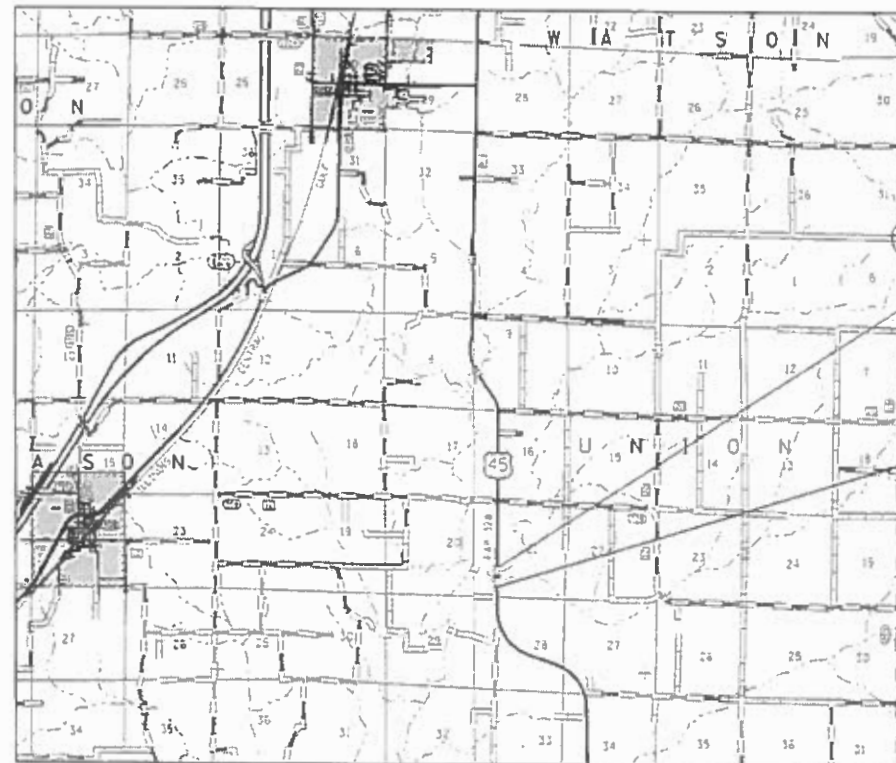
FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT (2017) = 2800

# PROPOSED HIGHWAY PLANS

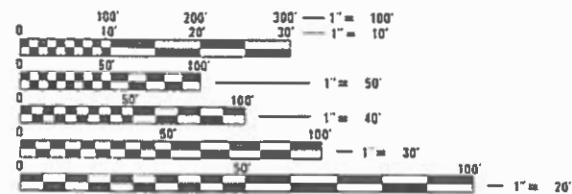
FAP ROUTE 328A (US 45)  
SECTION (3BR-2, 3BR-3)BR  
PROJECT NHPP FJZY (701)  
SUPERSTRUCTURE DECK REPLACEMENT  
EFFINGHAM COUNTY

C-97-085-18



SN 025-0080  
STA 635+92

SN 025-0081  
STA 640+36.1



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 BIERMAN  
PROJECT MANAGER: DEB BARRETT

CONTRACT NO. 74859

GROSS LENGTH = 1222 FT. = 0.231 MILE  
NET LENGTH = 1222 FT. = 0.231 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 28, 2019

*Jeffrey P. Meyer*  
REGIONAL ENGINEER

*Oct 1, 2019*  
*E.A. Elk*  
ENGINEER OF DESIGN AND ENVIRONMENT

*Oct 1, 2019*  
*Paul J. [Signature]*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS



80% FED  
20% STATE

80% FED  
20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
28100109	STONE RIPRAP, CLASS A5	SO YD	755	755		
28200200	FILTER FABRIC	SO YD	755	755		
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	9	9		
40600290	BITUMINOUS MATERIALS ( TACK COAT)	POUND	241	241		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	437	437		
40600990	TEMPORARY RAMP	SO YD	726	726		
40602970	HOT-MIX ASPHALT BINDER COURSE, 1L-9.5FG, N70	TON	154	154		
40604052	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "C", N70	TON	439	439		
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SO YD	194	194		
44000100	PAVEMENT REMOVAL	SO YD	427	427		
44004250	PAVED SHOULDER REMOVAL	SO YD	1404	1404		
48203100	HOT-MIX ASPHALT SHOULDERS	TON	683	683		
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1	1		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
50102400	CONCRETE REMOVAL	CU YD	65.1	65.1		
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1	1		
50200100	STRUCTURE EXCAVATION	CU YD	304	304		
50300100	FLOOR DRAINS	EACH	24	24		
50300225	CONCRETE STRUCTURES	CU YD	125.8	125.8		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	551.1	551.1		
50300260	BRIDGE DECK GROOVING	SO YD	2223	2223		
50300300	PROTECTIVE COAT	SO YD	2729	2729		
50301350	CONCRETE SUPERSTRUCTURE ( APPROACH SLAB)	CU YD	244.3	244.3		
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1		
50500505	STUD SHEAR CONNECTORS	EACH	10566	10566		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	259470	259470		
50800515	BAR SPLICERS	EACH	2050	2050		
51500100	NAME PLATES	EACH	2	2		

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REV. - MS

USER NAME = steffemk DESIGNED - DRAWN - PLOT SCALE = 100.0000' / in. CHECKED - PLOT DATE = 8/28/2019 DATE -	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b> SCALE: SHEET OF SHEETS STA. TO STA.	F.A.P. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO. 328A (3BR-2,3BR-3)BR EFFINGHAM 93 3 CONTRACT NO. 74859 ILLINOIS FED. AID PROJECT
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80% FED  
20% STATE

80% FED  
20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	182	182		
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	30	30		
52100510	ANCHOR BOLTS, 3/4"	EACH	48	48		
52100530	ANCHOR BOLTS, 1 1/4"	EACH	24	24		
52200010	TEMPORARY SHEET PILING	SQ FT	585	585		
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	257	257		
58700300	CONCRETE SEALER	SQ FT	1361	1361		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	130	130		
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	353	353		
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	4	4		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	8		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4		
63200310	GUARDRAIL REMOVAL	FOOT	786	786		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
66700205	PERMANENT SURVEY MARKERS, TYPE I	EACH	2	2		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		
67100100	MOBILIZATION	L SUM	1	1		
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	6	6		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6		
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	278	278		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	244	244		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	41	41		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	888	888		

\* SPECIALTY ITEM

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PLOT DATE = 8/28/2019	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74859	

REV. - MS

80% FED  
20% STATE

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20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	813	813		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2		
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3309	3309		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	15	15		
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	16		
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SO YD	1627	1627		
* X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	100	100		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0013		
X7010202	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	1	1		
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	150	150		
Z0001495	BRIDGE APPROACH SHOULDER REMOVAL	SO YD	37	37		
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	12	12		
Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1		
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1		
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	268	268		
Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	2	2		
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	466	466		
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	4	4		
Z0076600	TRAINEES	HOUR	500	500		
Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500		

\* SPECIALTY ITEM

Ø 0042

REV. - MS

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PLOT DATE = 8/28/2019	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	5
			CONTRACT NO. 74859	
ILLINOIS FED. AID PROJECT				

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STATION TO STATION				LENGTH	WIDTH	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	HOT-MIX ASPHALT BINDER COURSE, IL-9.5FG, N70	HOT-MIX ASPHALT SHOULDERS	TEMPORARY RAMP	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	AGGREGATE SURFACE COURSE, TYPE B	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	PAVEMENT REMOVAL	PAVED SHOULDER REMOVAL	BRIDGE APPROACH SHOULDER REMOVAL
MAINLINE				FEET	FEET	POUND	SQ YD	TON	TON	TON	SQ YD	SQ YD	TON	SQ YD	SQ YD	SQ YD	SQ YD
STA 632+55	TO	STA 633+00		45	24	9.0	-	10.1	4.2	-	26.7	120.0	-	-	-	-	-
STA 633+00	TO	STA 634+59		159	24	31.8	424.0	35.6	48.2	-	44.0	-	-	-	-	-	-
STA 634+59	TO	STA 634+99		40	24	-	-	-	-	-	-	-	-	26.7	106.7	-	-
STA 636+85	TO	STA 637+25		40	24	-	-	-	-	-	-	-	-	26.7	106.7	-	-
STA 637+25	TO	STA 639+08		183	24	36.6	488.0	41.0	34.2	-	66.7	-	-	-	-	-	-
STA 639+08	TO	STA 639+48		40	24	-	-	-	-	-	-	-	-	26.7	106.7	-	-
STA 641+24	TO	STA 641+64		40	24	-	-	-	-	-	-	-	-	26.7	106.7	-	-
STA 641+64	TO	STA 644+32		268	24	53.6	714.7	60.0	63.7	-	53.3	-	-	-	-	-	-
STA 644+32	TO	STA 644+77		45	24	9.0	-	10.1	4.2	-	26.7	120.0	-	-	-	-	-
SHOULDER				FEET	FEET	POUND	SQ YD	TON	TON	TON	SQ YD	SQ YD	TON	SQ YD	SQ YD	SQ YD	SQ YD
LT STA 632+55	TO	LT STA 632+73		18	9.83	1.0	-	2.8	-	-	10.9	19.7	-	-	-	-	-
LT STA 632+73	TO	LT STA 633+00		27	9.83	1.5	-	4.1	-	1.4	-	29.5	-	-	-	28.8	-
LT STA 633+00	TO	LT STA 634+88		188	9.83	11.7	-	32.7	-	87.3	67.5	-	-	10.9	-	207.0	-
LT STA 636+97	TO	LT STA 639+36		239	9.83	15.3	-	42.9	-	137.2	74.2	-	-	21.8	-	268.7	18.6
LT STA 641+36	TO	LT STA 643+47		211	9.83	13.8	-	38.6	-	111.0	78.0	-	-	10.9	-	216.3	-
LT STA 643+47	TO	LT STA 644+32		85	9.83	4.6	-	13.0	-	-	-	-	-	-	-	-	-
LT STA 644+32	TO	LT STA 644+77		45	9.83	2.5	-	6.9	-	-	10.9	49.2	-	-	-	-	-
RT STA 632+55	TO	RT STA 633+00		45	9.83	2.5	-	6.9	-	-	10.9	49.2	-	-	-	-	-
RT STA 633+00	TO	RT STA 633+03		3	9.83	0.2	-	0.5	-	-	13.7	-	-	-	-	-	-
RT STA 633+03	TO	RT STA 634+88		185	9.83	12.4	-	34.6	-	110.7	67.6	-	-	10.9	-	213.0	-
RT STA 636+97	TO	RT STA 639+36		239	9.83	15.3	-	42.9	-	137.2	74.7	-	9.0	21.8	-	268.7	18.6
RT STA 641+36	TO	RT STA 643+38		202	9.83	12.4	-	34.9	-	97.8	89.1	-	-	10.9	-	201.5	-
RT STA 643+38	TO	RT STA 644+32		94	9.83	5.1	-	14.4	-	-	-	-	-	-	-	-	-
RT STA 644+32	TO	RT STA 644+77		45	9.83	2.5	-	6.9	-	-	10.9	49.2	-	-	-	-	-
<b>TOTALS:</b>				1628		241	1627	439	154	683	726	437	9	194	427	1404	37

STATION TO STATION				LENGTH	PAVEMENT MARKING BLACKOUT TAPE, 5'	PAINT PAVMENT MARKING - LINE 4"	RAISED REFLECTIVE PAVEMENT MARKER	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL
				FEET	FOOT	FOOT	EACH	FOOT	SQ FT
STA 631+27	TO	STA 632+55		128	32.0	-	-	-	-
STA 632+55	TO	STA 633+12		57	14.3	128.3	0.7	11.4	1.9
STA 633+12	TO	STA 639+18		606	-	1363.5	7.6	121.2	20.2
STA 639+18	TO	STA 643+12		394	-	1280.5	4.9	78.8	13.1
STA 643+12	TO	STA 644+77		165	206.3	536.3	2.1	33.0	5.5
STA 644+77	TO	STA 644+97		20	25.0	-	-	-	-
<b>TOTALS:</b>				1370	278	3309	15	244	41

STATION TO STATION				STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 6	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 2	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	GUARDRAIL REMOVAL	GUARDRAIL REFLECTORS, TYPE A	TERMINAL MARKER - DIRECT APPLIED
				FT	EACH	EACH	EACH	FT	FT	EACH	EACH
LT STA 633+76	TO	LT STA 634+88		25	1	1	-	-	102	2	1
RT STA 633+38	TO	RT STA 634+88		63	1	1	-	-	102	2	1
LT STA 636+97	TO	LT STA 637+83		32	1	-	1	25	76	2	-
RT STA 636+97	TO	RT STA 637+96		44	1	-	1	25	98	2	-
LT STA 638+25	TO	LT STA 639+36		57	1	-	1	25	102	2	-
RT STA 638+37	TO	RT STA 639+36		44	1	-	1	25	102	2	-
LT STA 641+36	TO	LT STA 642+86		63	1	1	-	-	102	2	1
RT STA 641+36	TO	RT STA 642+48		25	1	1	-	-	102	2	1
<b>TOTALS:</b>				353	8	4	4	100	786	16	4

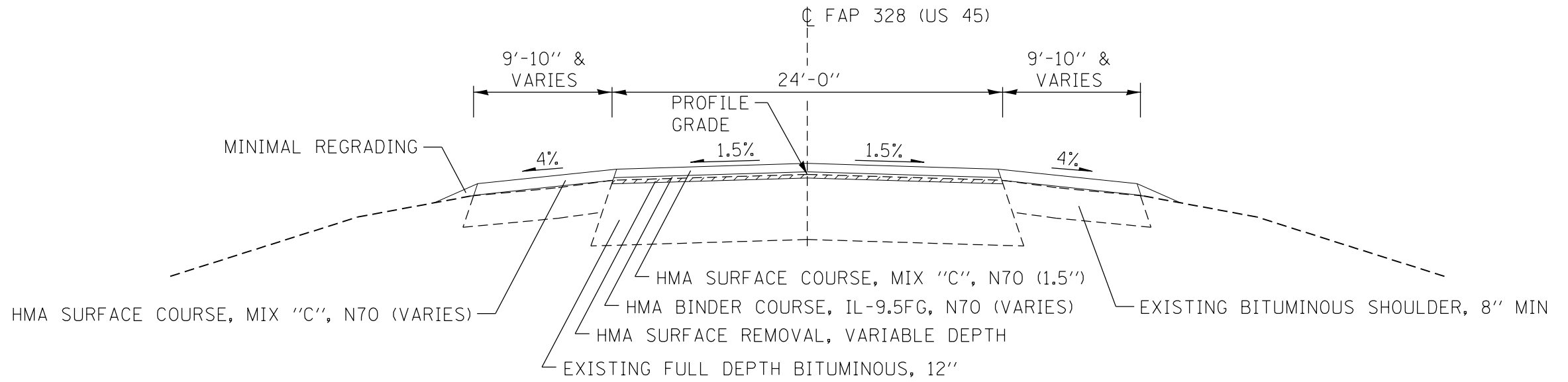
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PLOT DATE = 8/28/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

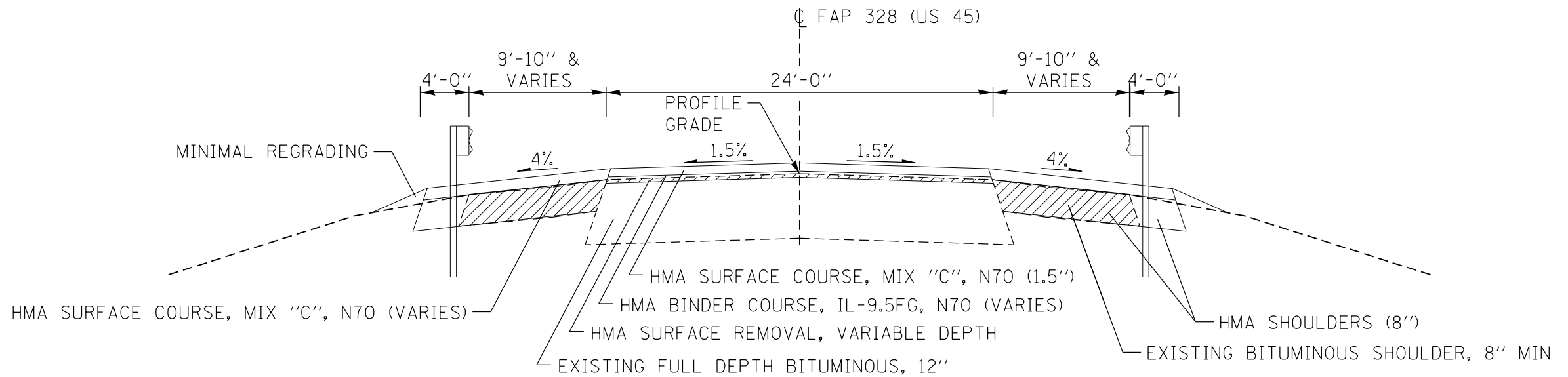
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**SCHEDULES**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	6
CONTRACT NO. 74859				
ILLINOIS		FED. AID PROJECT		



TYPICAL SECTION (AREA OUTSIDE NEW WIDENING)



TYPICAL SECTION (NEW WIDENING AREAS)

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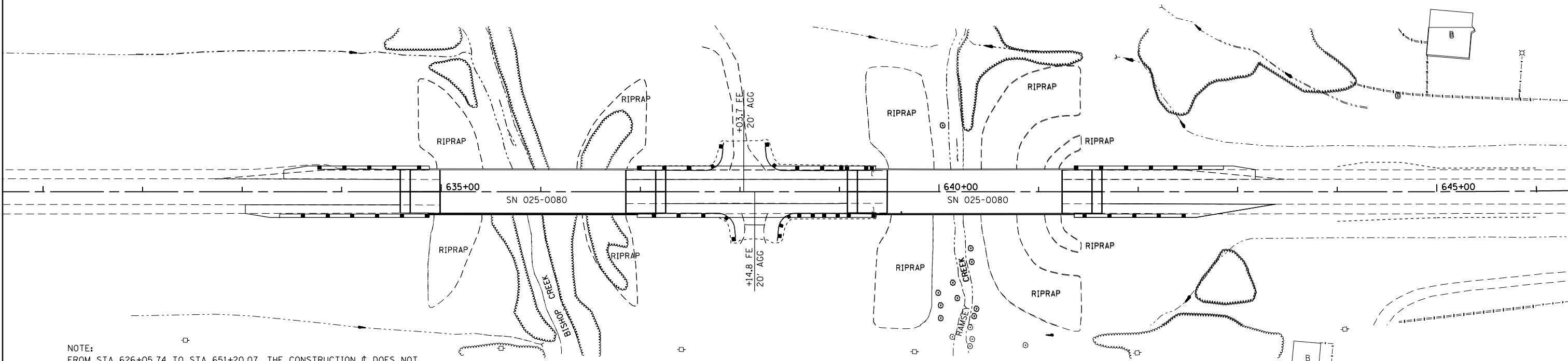
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PLOT DATE = 8/28/2019	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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

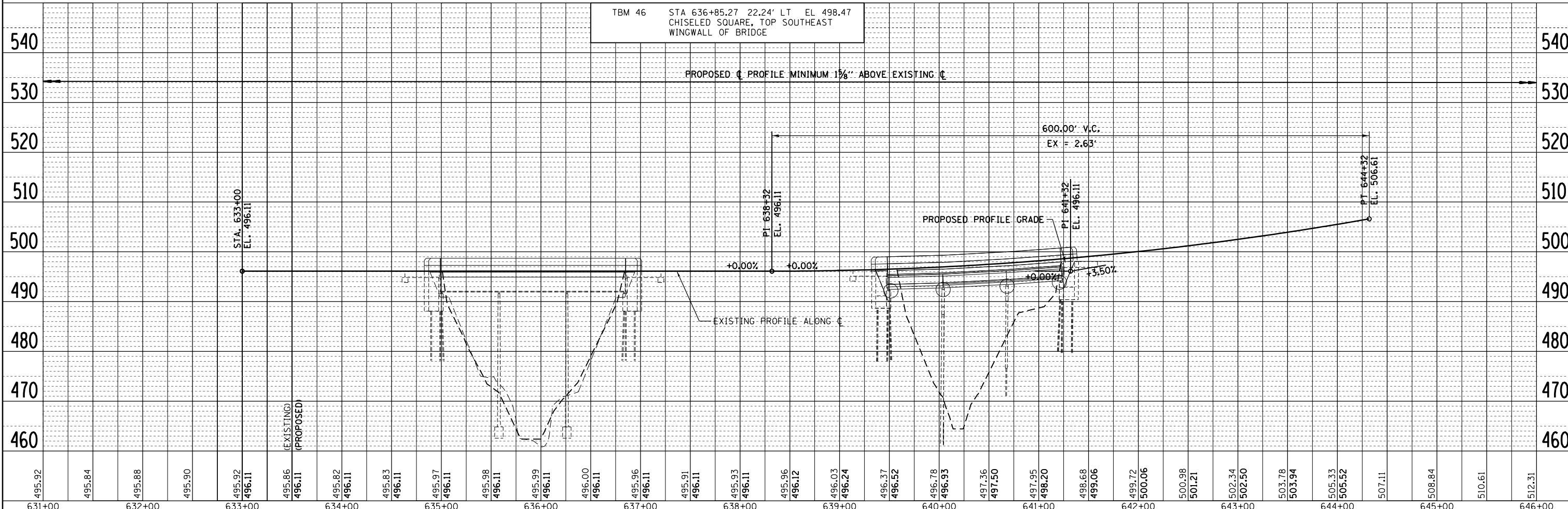
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	7
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNED	
	CHECKED	
	FILED	
NOTE BOOK NO.	FILE NAME	



NOTE:  
 FROM STA 626+05.74 TO STA 651+20.07, THE CONSTRUCTION CL DOES NOT FOLLOW THE CL FAP 328 (CL OF RIGHT-OF-WAY). ALL REFERENCES IN THESE PLANS WITHIN THIS RANGE REFER TO THE CONSTRUCTION CL. CL FAP 328 NOT SHOWN FOR CLARITY. REFER TO RIGHT-OF-WAY PLANS FOR THE LOCATION OF CL FAP 328.

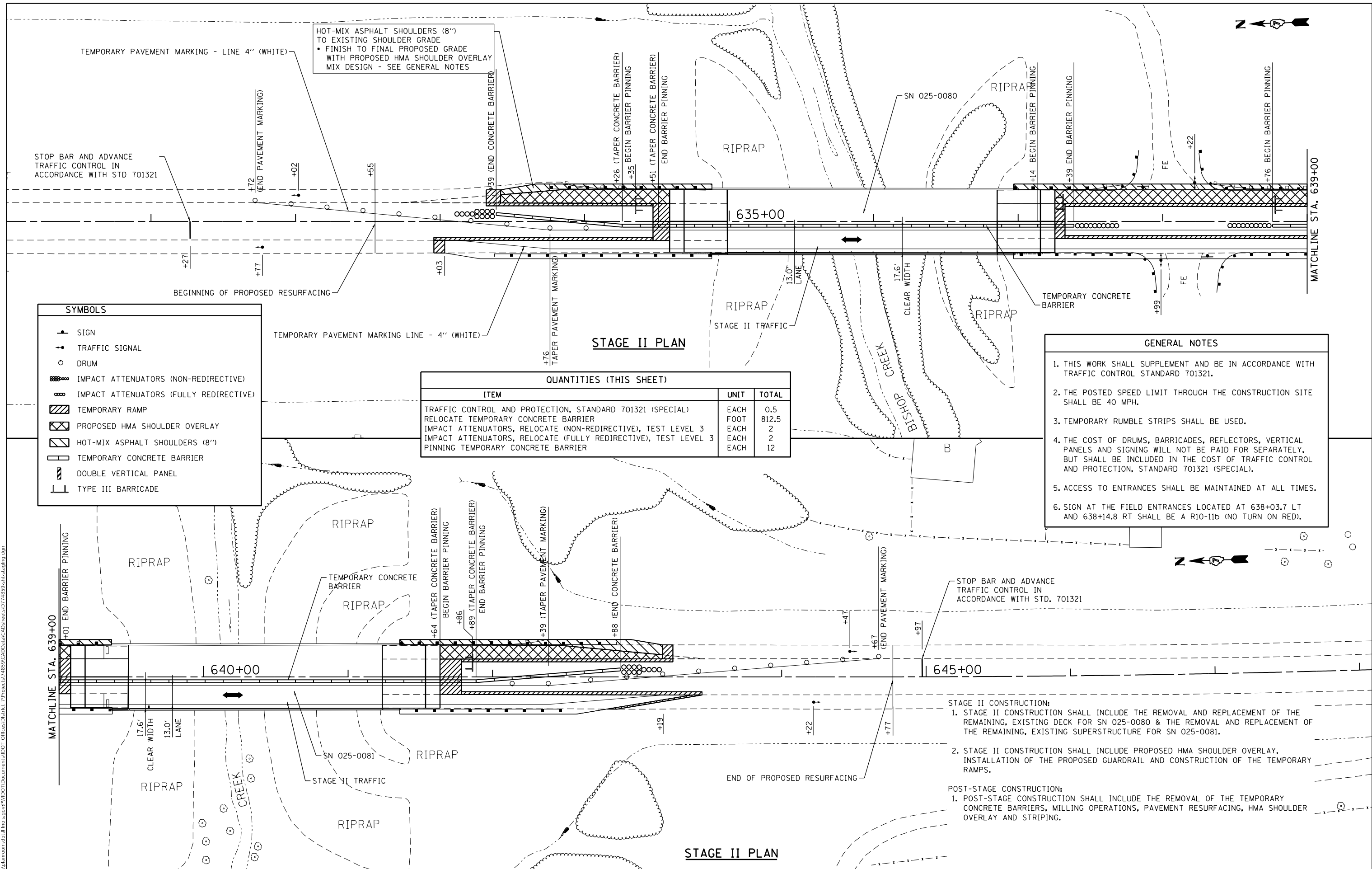
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NOTE BOOK NO.	FILE NAME	



FILE NAME =	USER NAME = steffennk	DESIGNED -	REVISED -	<p align="center"><b>STATE OF ILLINOIS</b>  <b>DEPARTMENT OF TRANSPORTATION</b></p> <p align="center"><b>PLAN &amp; PROFILE SHEET</b></p>	F.A.P. RE. 328A	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 8	
		DRAWN	REVISED		SCALE:	SHEET NO. OF SHEETS		STA. 631+00 TO STA. 646+00	CONTRACT NO. 94467	
		CHECKED	REVISED		ILLINOIS FED. AID PROJECT					
		DATE	REVISED							







**SYMBOLS**

- SIGN
- TRAFFIC SIGNAL
- DRUM
- IMPACT ATTENUATORS (NON-REDIRECTIVE)
- IMPACT ATTENUATORS (FULLY REDIRECTIVE)
- TEMPORARY RAMP
- PROPOSED HMA SHOULDER OVERLAY
- HOT-MIX ASPHALT SHOULDERS (8")
- TEMPORARY CONCRETE BARRIER
- DOUBLE VERTICAL PANEL
- TYPE III BARRICADE

**QUANTITIES (THIS SHEET)**

ITEM	UNIT	TOTAL
TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	0.5
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	812.5
IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2
IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 3	EACH	2
PINNING TEMPORARY CONCRETE BARRIER	EACH	12

**GENERAL NOTES**

- THIS WORK SHALL SUPPLEMENT AND BE IN ACCORDANCE WITH TRAFFIC CONTROL STANDARD 701321.
- THE POSTED SPEED LIMIT THROUGH THE CONSTRUCTION SITE SHALL BE 40 MPH.
- TEMPORARY RUMBLE STRIPS SHALL BE USED.
- THE COST OF DRUMS, BARRICADES, REFLECTORS, VERTICAL PANELS AND SIGNING WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL).
- ACCESS TO ENTRANCES SHALL BE MAINTAINED AT ALL TIMES.
- SIGN AT THE FIELD ENTRANCES LOCATED AT 638+03.7 LT AND 638+14.8 RT SHALL BE A R10-11B (NO TURN ON RED).



- STAGE II CONSTRUCTION:**
- STAGE II CONSTRUCTION SHALL INCLUDE THE REMOVAL AND REPLACEMENT OF THE REMAINING, EXISTING DECK FOR SN 025-0080 & THE REMOVAL AND REPLACEMENT OF THE REMAINING, EXISTING SUPERSTRUCTURE FOR SN 025-0081.
  - STAGE II CONSTRUCTION SHALL INCLUDE PROPOSED HMA SHOULDER OVERLAY, INSTALLATION OF THE PROPOSED GUARDRAIL AND CONSTRUCTION OF THE TEMPORARY RAMPS.
- POST-STAGE CONSTRUCTION:**
- POST-STAGE CONSTRUCTION SHALL INCLUDE THE REMOVAL OF THE TEMPORARY CONCRETE BARRIERS, MILLING OPERATIONS, PAVEMENT RESURFACING, HMA SHOULDER OVERLAY AND STRIPING.

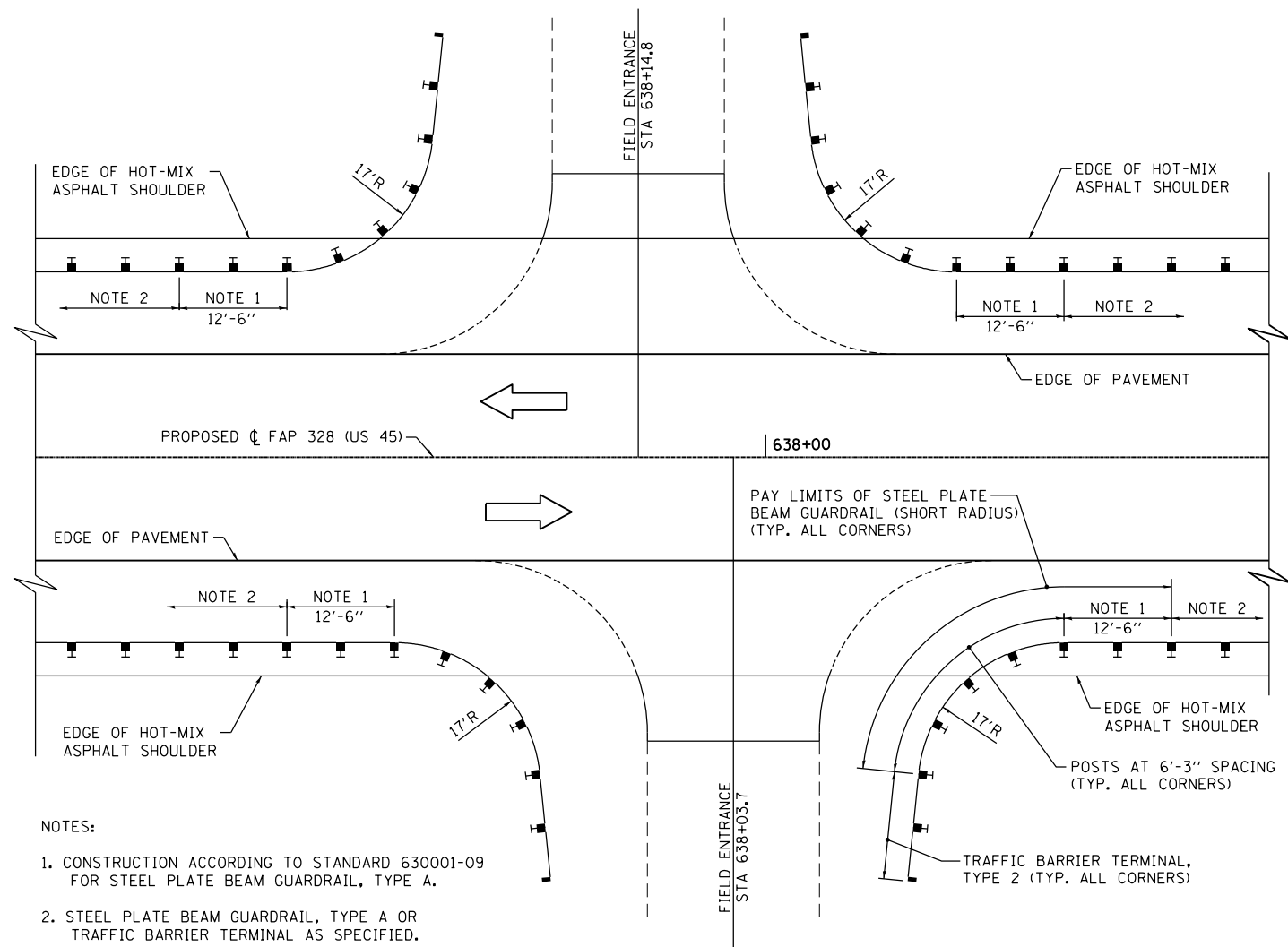
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

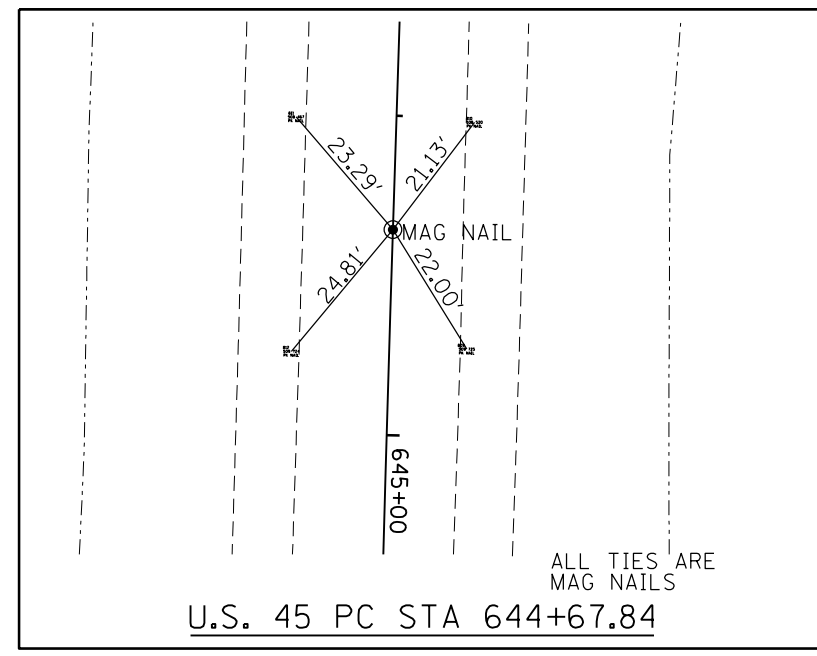
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2, 3BR-3)BR	EFFINGHAM	93	10
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				



- NOTES:
1. CONSTRUCTION ACCORDING TO STANDARD 630001-09 FOR STEEL PLATE BEAM GUARDRAIL, TYPE A.
  2. STEEL PLATE BEAM GUARDRAIL, TYPE A OR TRAFFIC BARRIER TERMINAL AS SPECIFIED.

**STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS) DETAIL - 638+00**  
(NOT TO SCALE)



LOCATION	PERMANENT SURVEY MARKERS, TYPE I
	EACH
STA 634+00.00	1
STA 644+67.84	1
TOTAL	2

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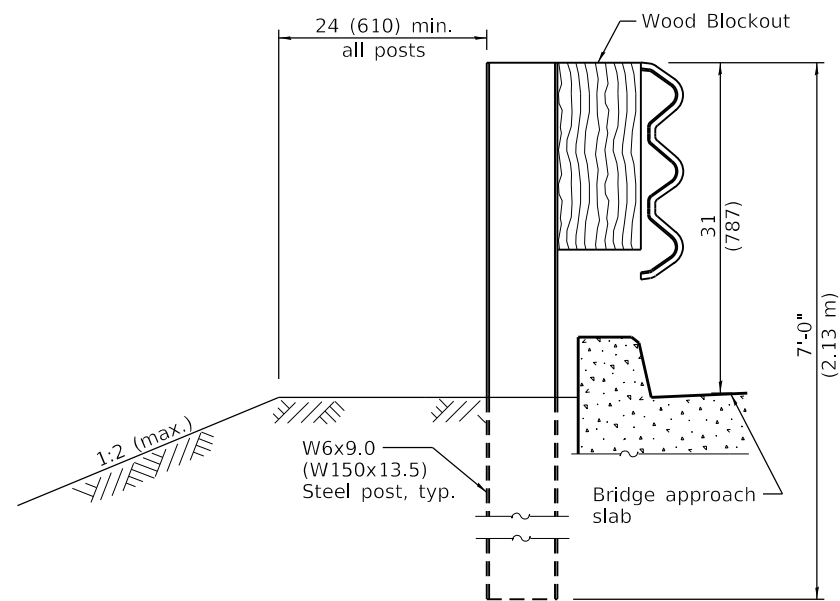
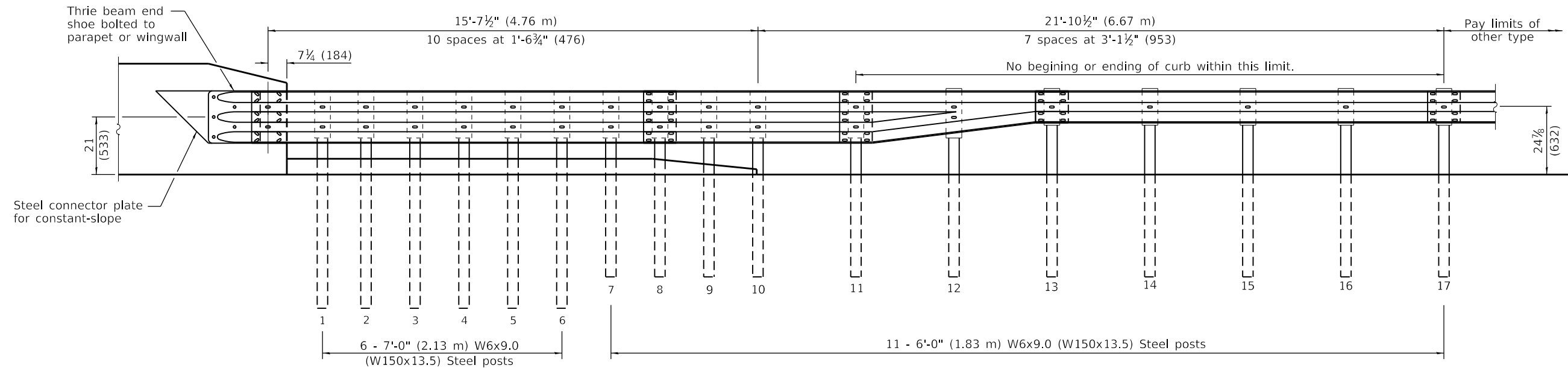
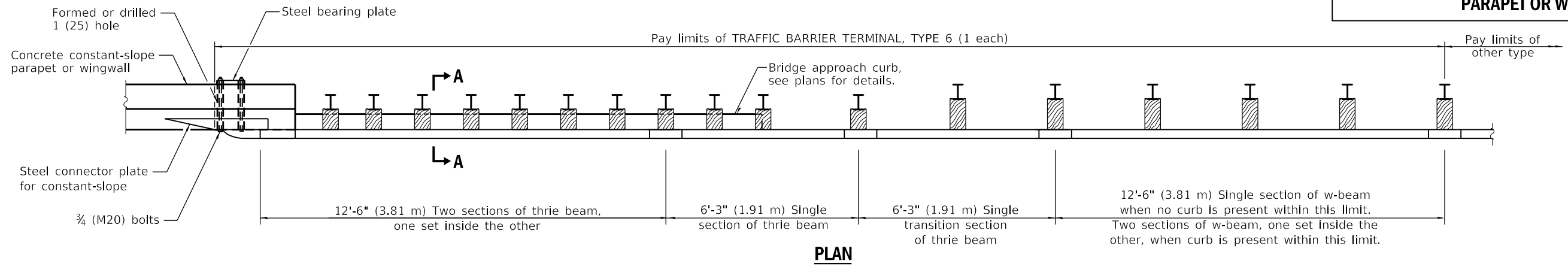
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**RADIUS GUARDRAIL & SURVEY MARKER DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2, 3BR-3)BR	EFFINGHAM	93	11
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

**PARAPET OR WINGWALL**



**GENERAL NOTES**

- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in inches (millimeters) unless otherwise shown.

**TRAFFIC BARRIER TERMINAL, TYPE 6**

(Sheet 1 of 4)

**DETAIL**

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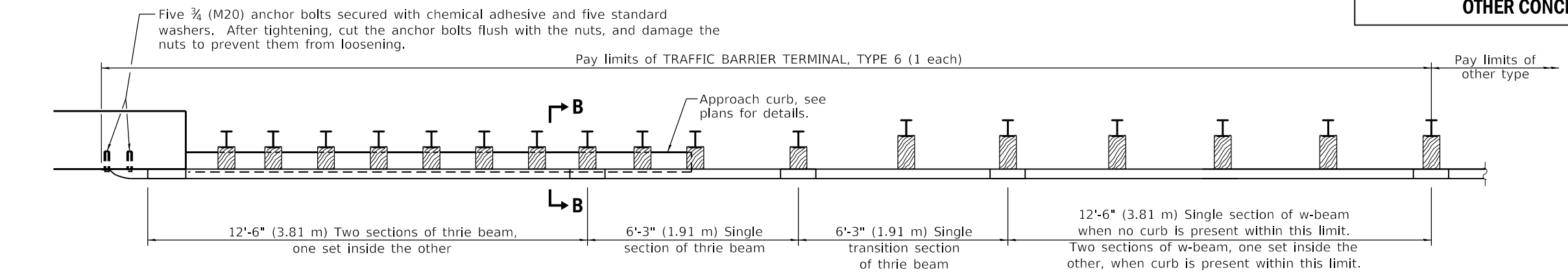
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

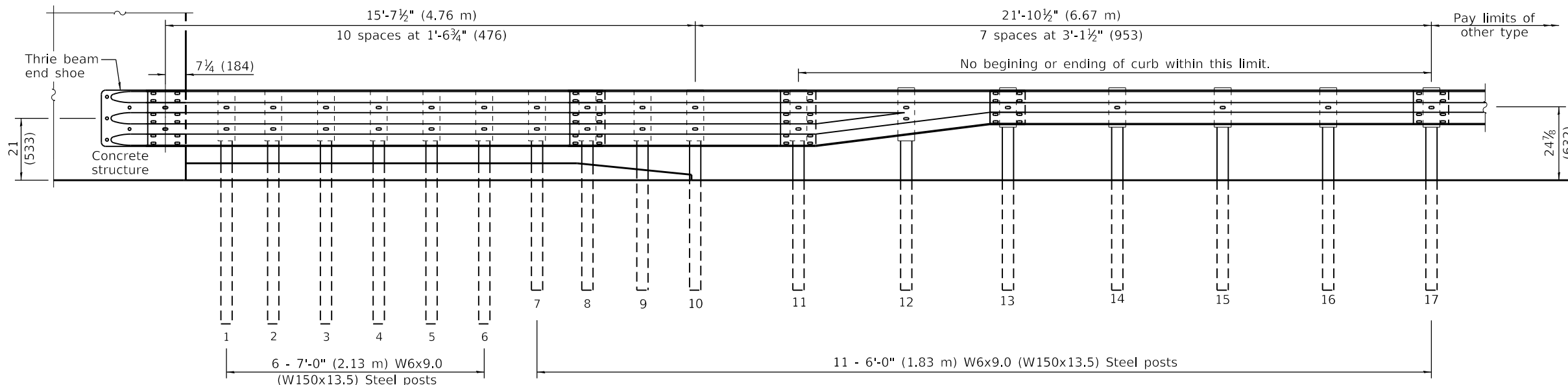
**TRAFFIC BARRIER TERMINAL, TYPE 6  
 DETAIL**

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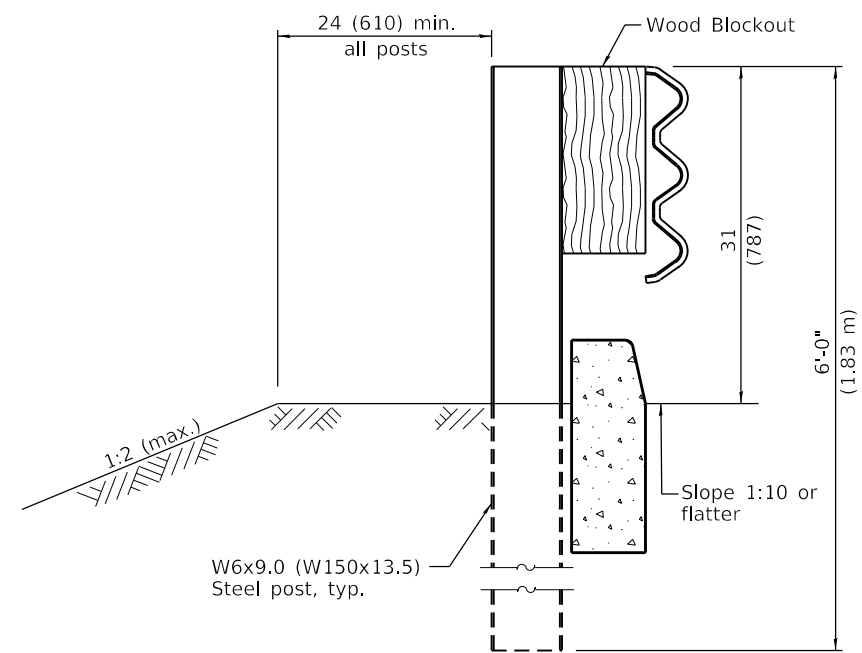
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	11A
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				



PLAN



ELEVATION



SECTION B-B

**TRAFFIC BARRIER TERMINAL, TYPE 6**

(Sheet 2 of 4)

**DETAIL**

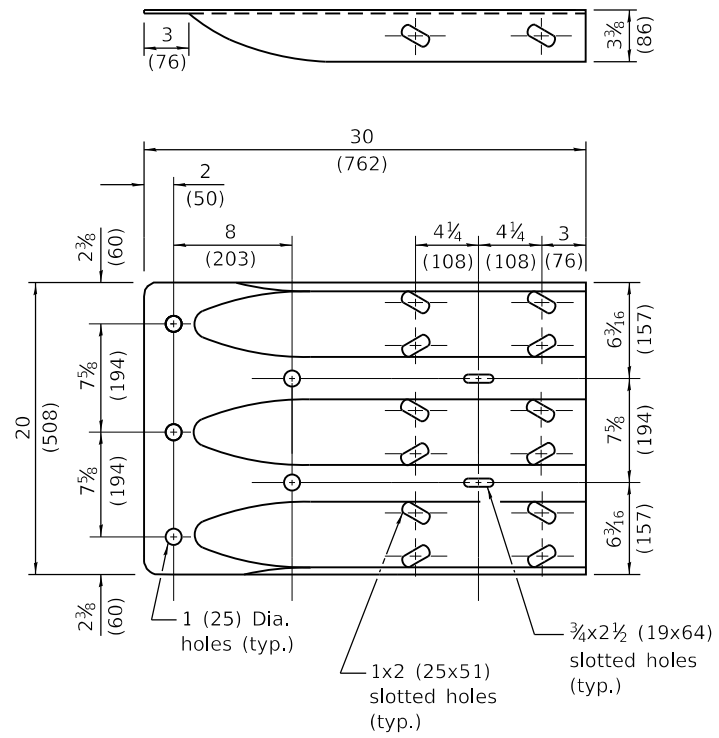
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER TERMINAL, TYPE 6  
DETAIL

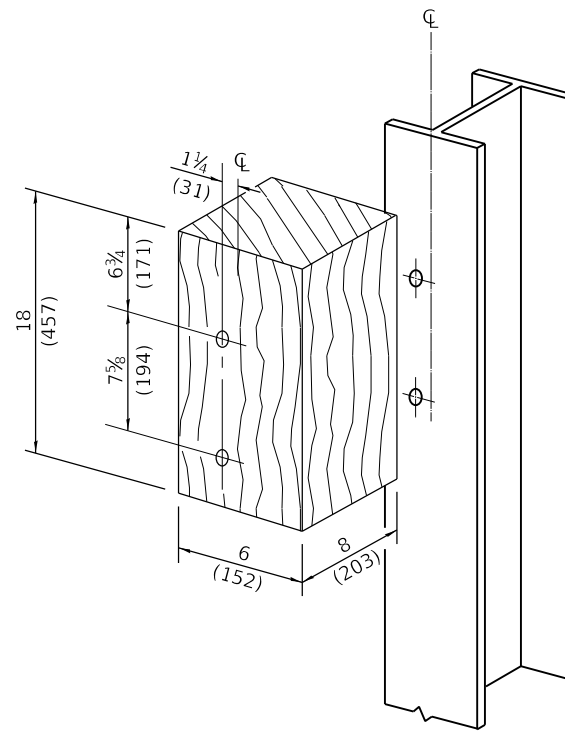
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PLOT DATE = 9/18/2019	DATE -	REVISED -

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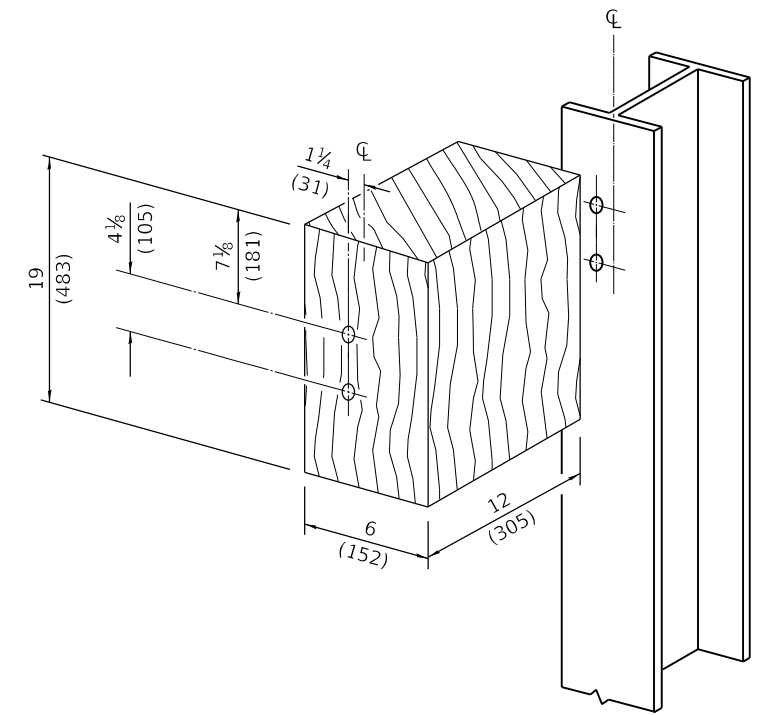
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	11B
CONTRACT NO. 74859				
		ILLINOIS	FED. AID PROJECT	



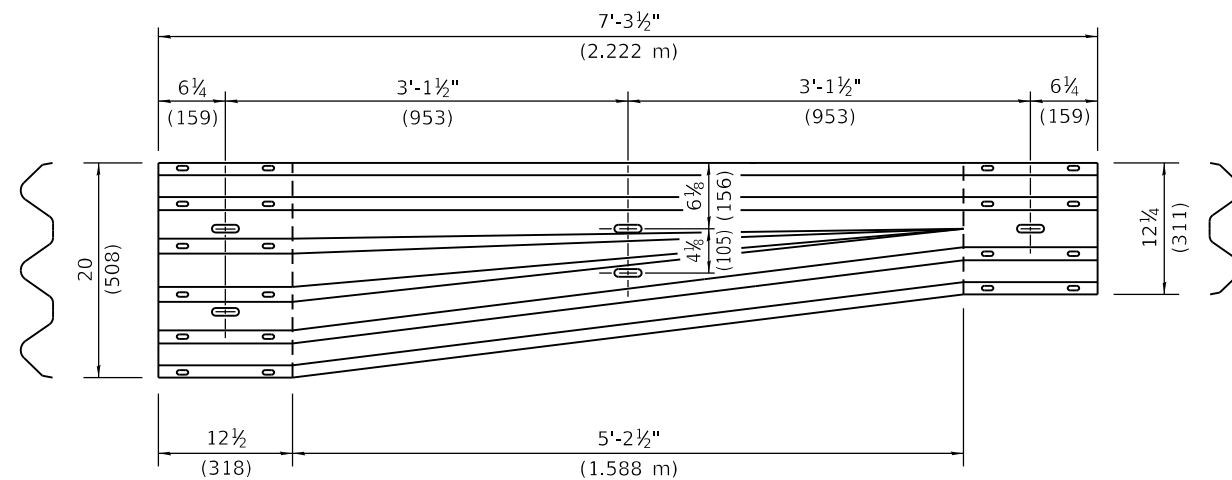
**THRIE BEAM END SHOE DETAIL**



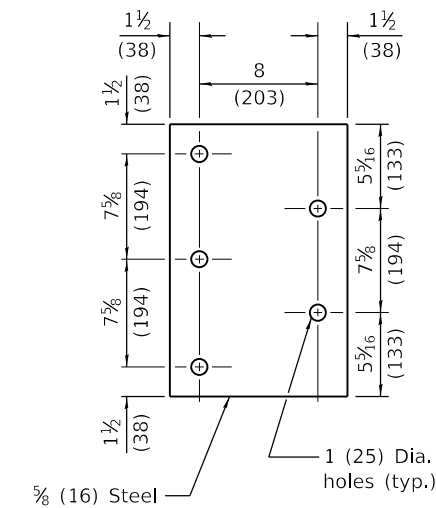
**POSTS 1-11 WOOD BLOCKOUT DETAIL**



**POST 12 WOOD BLOCKOUT DETAIL**  
(See Standard 630001 for post 13-17 blockouts.)



**TRANSITION SECTION**  
(10 gauge (3.4) rail element)



**PARAPET STEEL BEARING PLATE DETAIL**

(5 each individual 5x5x5/8 (125x125x16) steel plates with centered 1 (25) holes may be substituted for the plate shown.)

**TRAFFIC BARRIER  
TERMINAL, TYPE 6**

(Sheet 3 of 4)

**DETAIL**

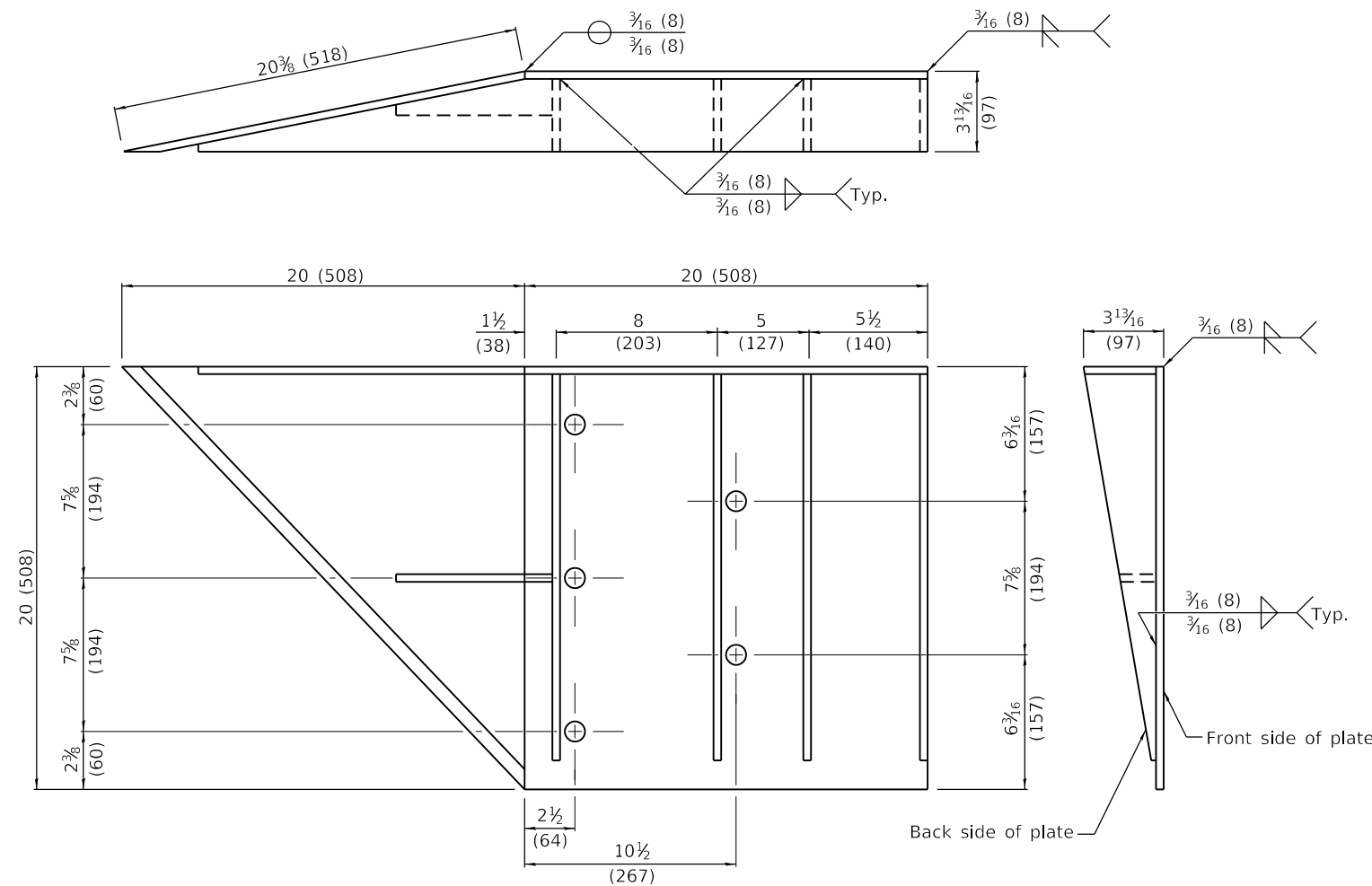
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BARRIER TERMINAL, TYPE 6  
DETAIL**

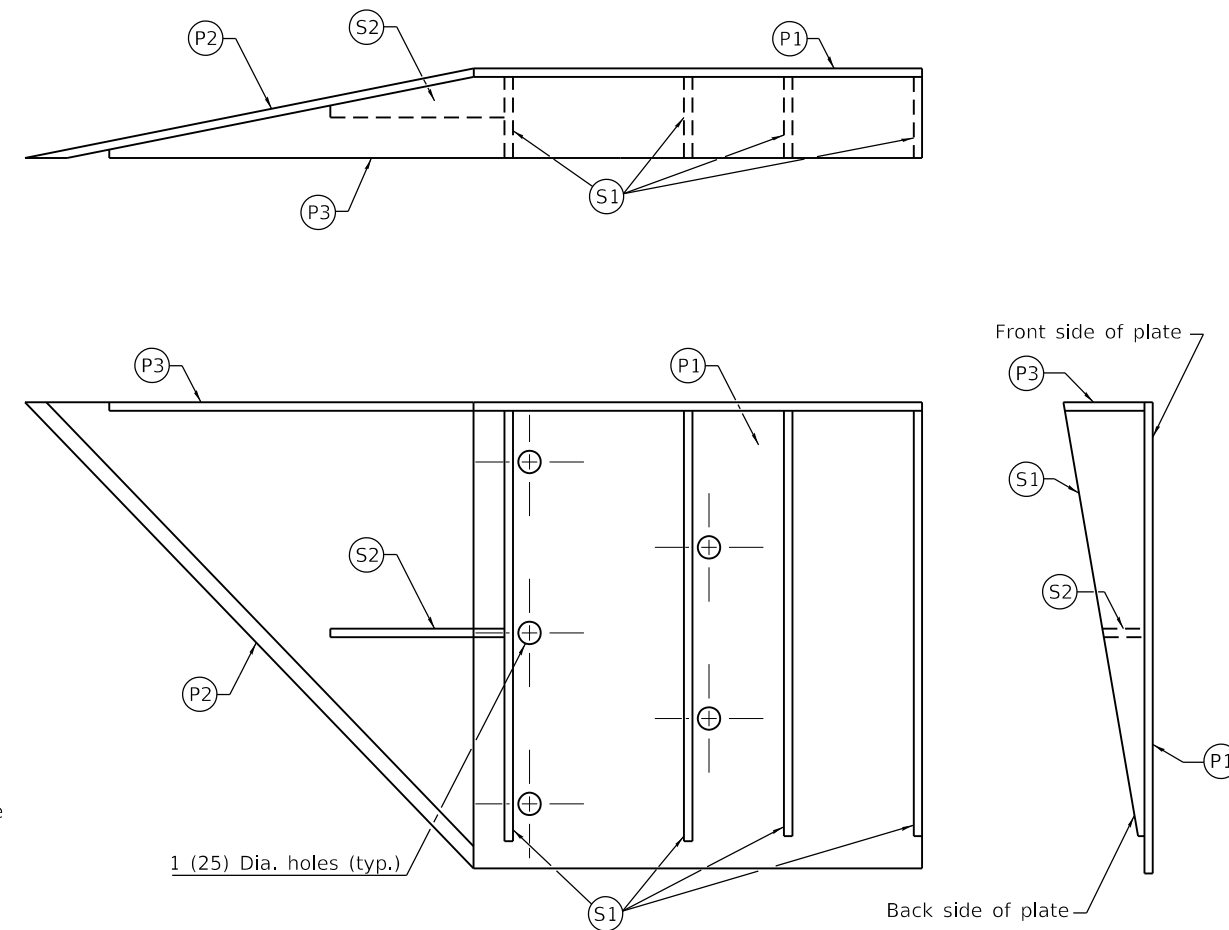
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	11C
CONTRACT NO. 74859				

SCALE: SHEET OF SHEETS STA. TO STA.

ILLINOIS FED. AID PROJECT



**WELDING INSTRUCTION**  
(Back side of plate shown)



**PLATE AND STIFFENER IDENTIFICATION**  
(Back side of plate shown)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE A x B x C x D x E	THICKNESS
P1	1		20 x 20 (508 x 508)	3/8 (10)
P2	1		20 3/8 x 20 x 28 9/16 (518 x 508 x 522)	3/8 (10)
P3	1		36 3/4 x 3 7/16 x 20 x 17 1/16 x 1/4 (933 x 87 x 508 x 433 x 6)	3/8 (10)
S1	4		18 3/8 x 3 7/16 x 18 1/16 x 1/4 (476 x 87 x 475 x 6)	3/8 (10)
S2	1		8 1/16 x 1 1/16 x 1 3/16 x 6 7/8 x 3/8 (205 x 43 x 33 x 175 x 10)	3/8 (10)

**STEEL CONNECTOR PLATE FOR CONSTANT SLOPE**

Steel connector plate shall be fabricated from AASHTO M 270 Grade 36 (M 270M Grade 250) steel and galvanized according to AASHTO M 111.

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

**TRAFFIC BARRIER  
TERMINAL, TYPE 6**

(Sheet 4 of 4)

**DETAIL**

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	DRAWN -	REVISED -
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PLOT DATE = 9/18/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BARRIER TERMINAL, TYPE 6  
DETAIL**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328A	(3BR-2,3BR-3)BR	EFFINGHAM	93	11D
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				



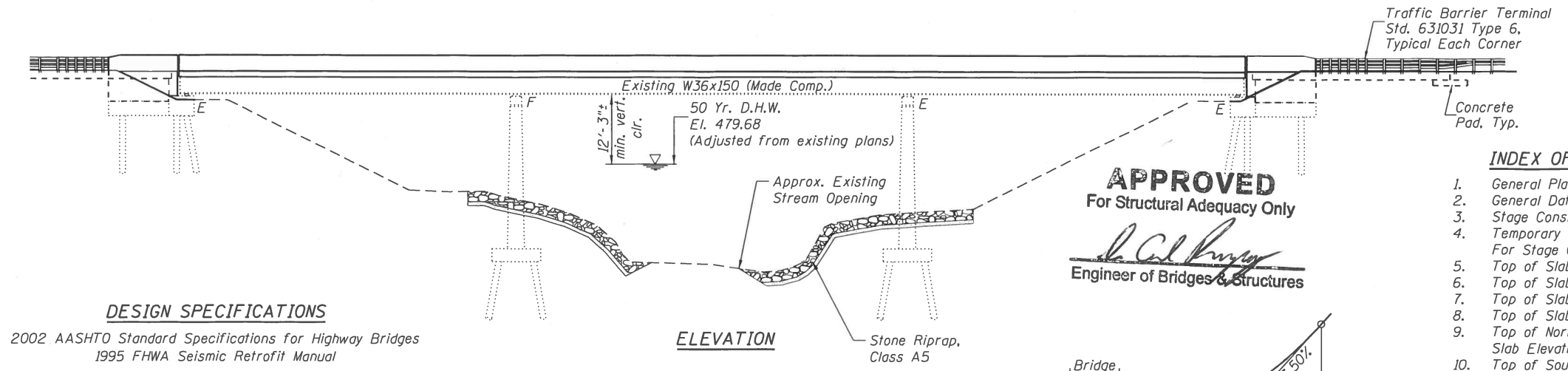


**BENCHMARK:** IDOT TBM 46;  
Chiseled Square, Top of  
Southeast Wingwall of Bridge  
Sta. 636+85.27, 22.24' Lt.  
El. 498.47

**EXISTING STRUCTURE:** SN 025-0080  
Built in 1977 as FA Rte. 26, Section 3BR-2  
consists of a concrete deck supported by steel  
beams on spill thru pile bent abutments and  
solid concrete piers measuring 46'-0" out to  
out of deck and 189'-3" back to back of  
abutments.

The existing roadway will remain open to one lane  
of traffic during the construction period utilizing  
stage construction.

**SALVAGE:** The existing steel beams and substructure  
shall remain.



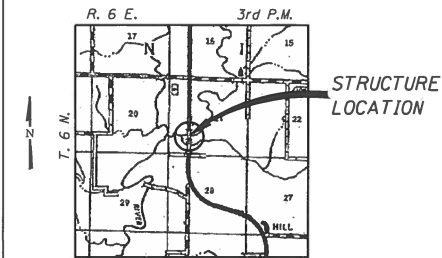
**INDEX OF SHEETS**

1. General Plan & Elevation
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier For Stage Construction
5. Top of Slab Elevations
6. Top of Slab Elevations
7. Top of Slab Elevations
8. Top of Slab Elevations
9. Top of North Approach Slab Elevations
10. Top of South Approach Slab Elevations
11. Superstructure
12. Superstructure Details
13. Diaphragm Details
14. Bridge Approach Slab Details
15. Bridge Approach Slab Details
16. Preformed Joint Strip Seal
17. Structural Steel
18. Steel Details
19. Bearing Details
20. Substructure Repair Details
21. Concrete Removal
22. North Abutment
23. North Abutment Details
24. South Abutment
25. South Abutment Details
26. Bar Splicer Assembly and Mechanical Splicer Details

**DESIGN SPECIFICATIONS**  
2002 AASHTO Standard Specifications for Highway Bridges  
1995 FHWA Seismic Retrofit Manual

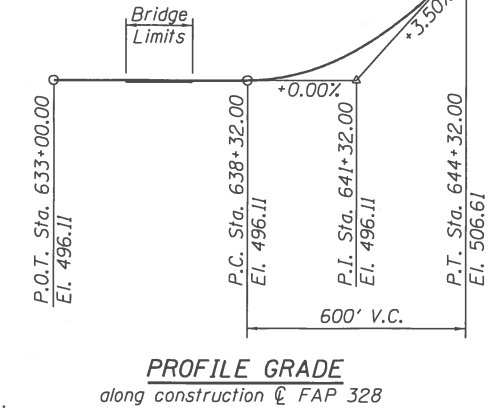
**DESIGN STRESSES**  
**FIELD UNITS (New Construction)**  
f'c = 3,500 psi  
f'c = 4,000 psi (Superstructure Concrete)  
fy = 60,000 psi (Reinforcement)  
**FIELD UNITS (Existing Construction)**  
fy = 50,000 psi (Struct.-M223) Grade 50  
fy = 36,000 psi (Struct. Steel-M183)  
**SUBSTRUCTURE-LOAD FACTOR DESIGN**  
f'c = 3,500 psi (Substructure)  
fy = 60,000 psi (Reinf.-Substructure) Grade 60

**SEISMIC DATA**  
Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 0.077g  
Site Coefficient (S) = 1.5



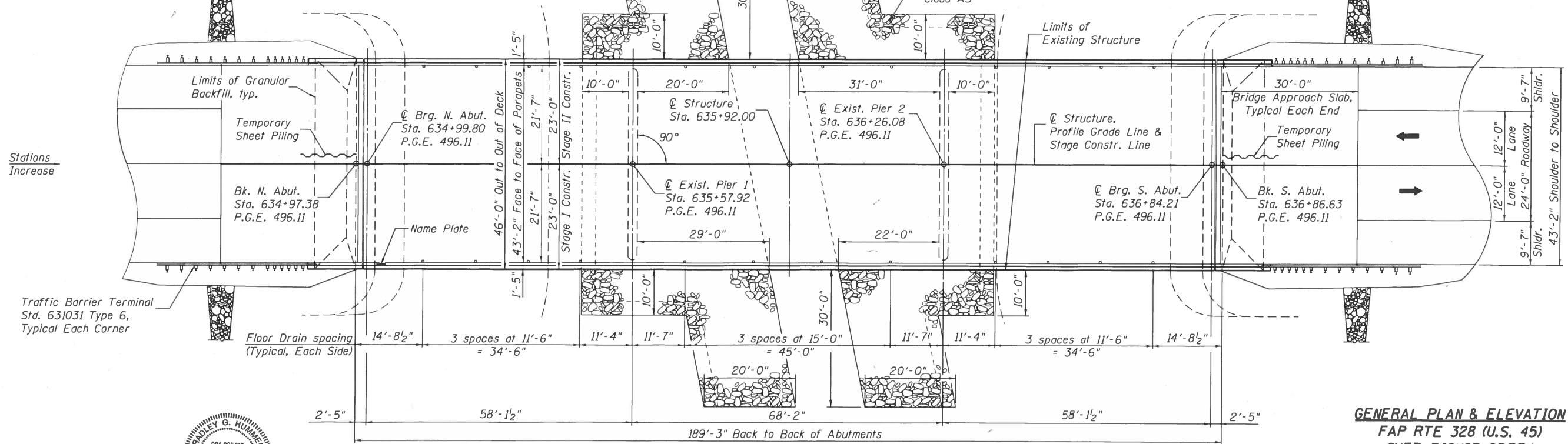
**LOCATION SKETCH**

**LOADING HS20-44**  
Allow 50#/sq. ft. for future wearing surface.



**PROFILE GRADE**  
along construction CL FAP 328

A3 riprap with filter fabric & bedding, typical each side of each approach end. See Roadway Plans.



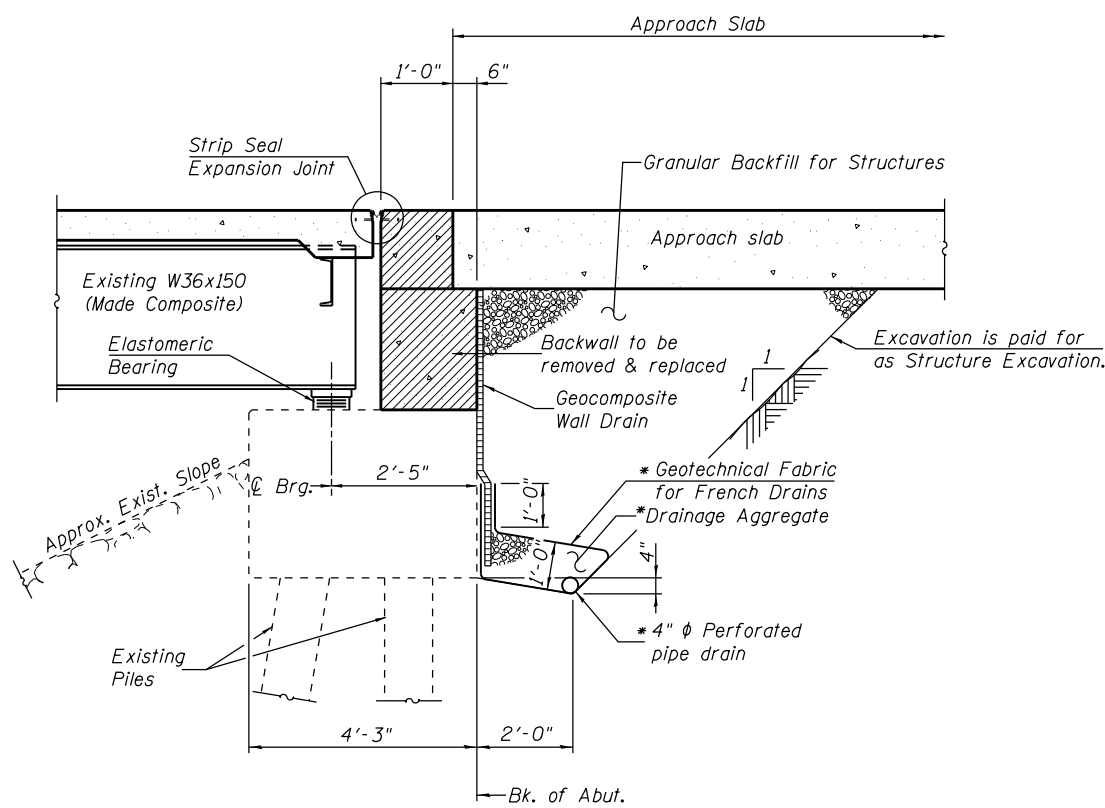
**GENERAL PLAN & ELEVATION**  
FAP RTE 328 (U.S. 45)  
OVER BISHOP CREEK  
SECTION (3BR-2, 3BR-3)BR  
EFFINGHAM COUNTY  
STATION 635+92.00  
SN 025-0080

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Bradley G. Hummert Date: 9/19/19  
Bradley G. Hummert  
Licensed Structural Engineer  
in Illinois No. 081-005428 Expires: November 30, 2020



<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers & Surveyors	USER NAME =	DESIGNED - BIB	REVISED -	<b>STATE OF ILLINOIS</b> DEPARTMENT OF TRANSPORTATION	<b>GENERAL PLAN &amp; ELEVATION</b>	F.A.P. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =	
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PLOT DATE =	DRAWN - KHL	REVISED -		SHEET 1 OF 26 SHEETS		CONTRACT NO. 74859		ILLINOIS FED. AID PROJECT			
	CHECKED - BGH	REVISED -									



**SECTION THRU PILE SUPPORTED**

**STUB ABUTMENT**

(Horiz. dim. @ Rt. L's)

\*Included in the cost of Pipe Underdrains for Structures.  
(See Special Provisions)

**Note:**

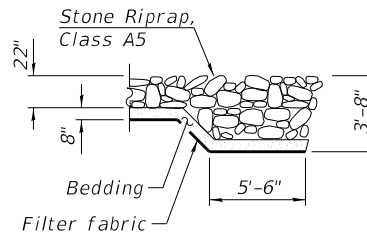
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

STATION 635+92.00  
RE-BUILT 20 BY  
STATE OF ILLINOIS  
FAP RTE 328  
SEC. (3BR-2, 3BR-3)BR  
LOADING HS 20-44  
STRUCTURE NO. 025-0080

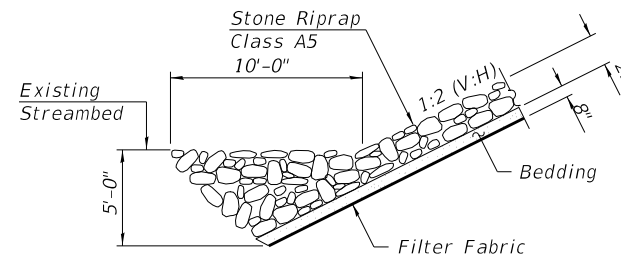
**NAME PLATE**

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate.  
Cost included with Name Plates.



**RIPRAP FLANK DETAIL**



**RIPRAP ANCHOR DETAIL**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUB.	TOTAL
Stone Riprap, Class A5	Sq Yd	755	755	755
Filter Fabric	Sq Yd	755	755	755
Concrete Removal	Cu Yd	4.6	27.6	32.2
Removal of Existing Concrete Deck	Each	1	1	1
Structure Excavation	Cu Yd	156	156	156
Floor Drains	Each	24	24	24
Concrete Structures	Cu Yd	54.1	54.1	54.1
Concrete Superstructure	Cu Yd	283.4	283.4	283.4
Bridge Deck Grooving	Sq Yd	1,133	1,133	1,133
** Protective Coat	Sq Yd	1,395	1,395	1,395
Concrete Superstructure (Approach Slab)	Cu Yd	122.3	122.3	122.3
Stud Shear Connectors	Each	5,310	5,310	5,310
Reinforcement Bars, Epoxy Coated	Pound	118,520	9,660	128,180
Bar Splicers	Each	807	192	999
Name Plates	Each	1	1	1
Preformed Joint Strip Seal	Foot	91	91	91
Elastomeric Bearing Assembly, Type I	Each	12	12	12
Anchor Bolts, 3/4"	Each	24	24	24
Temporary Sheet Piling	Sq Ft	294	294	294
Granular Backfill for Structures	Cu Yd	130	130	130
Concrete Sealer	Sq Ft	393	393	393
Geocomposite Wall Drain	Sq Yd	65	65	65
Jack and Remove Existing Bearings	Each	12	12	12
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1	1	1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1	1	1
Structural Repair of Concrete (depth equal to or less than 5 inches)	Sq Ft	164	164	164
Pipe Underdrains for Structures 4"	Foot	230	230	230
Temporary Shoring and Cribbing	Each	4	4	4

\*\* Quantity includes top of concrete surface of bridge deck and approach slabs end to end and the top and inside vertical faces of the parapets and curbs.

**GENERAL NOTES**

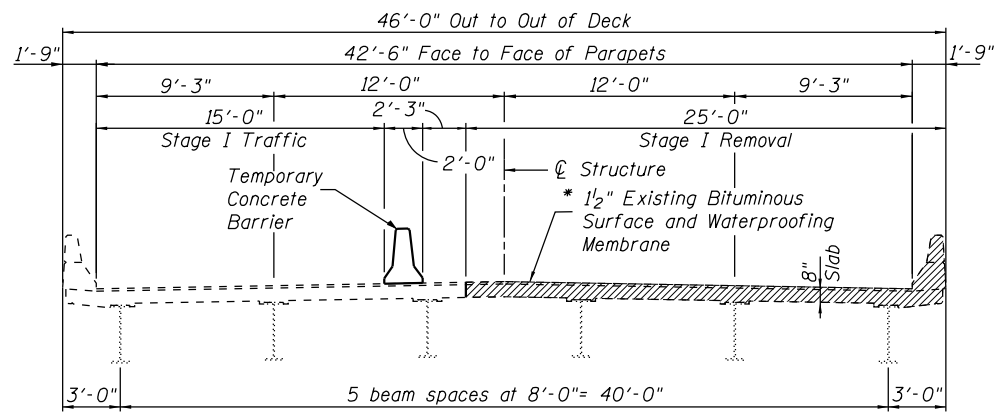
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding 1/4 inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Concrete sealer shall be applied to the designated areas of the abutments.
- Slipforming of the parapets is not allowed.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All existing steel shall be cleaned per Near White Blast Cleaning-SSPC-SP10. All existing steel shall be painted according to the requirements of Paint System 1-OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Gray, Munsell No. 5B 7/1.
- A minimum of one air monitor will be required to monitor abrasive blasting operations at this site. See Special Provisions for "Containment and Disposal of Lead Paint Cleaning Residues".
- The SSPC QP-1 and QP-2 Contractor Certifications are required for this contract.

**SCOPE OF WORK**

- Remove and replace existing concrete deck.
- Make new deck composite in positive and negative moment regions.
- Remove and replace bearings at the abutments.
- Clean, paint and reuse fixed and expansion bearings at the piers.
- Repair the substructures with Structural Repair of Concrete as shown.
- Remove and replace existing backwalls and wingwalls (saving piling, pile caps and noted reinforcement) to accommodate a new Bridge Approach Slab and barrier configuration.
- Remove existing bridge approach pavement as shown and replace with the new Bridge Approach Slab configuration.
- Clean and paint existing structural steel.

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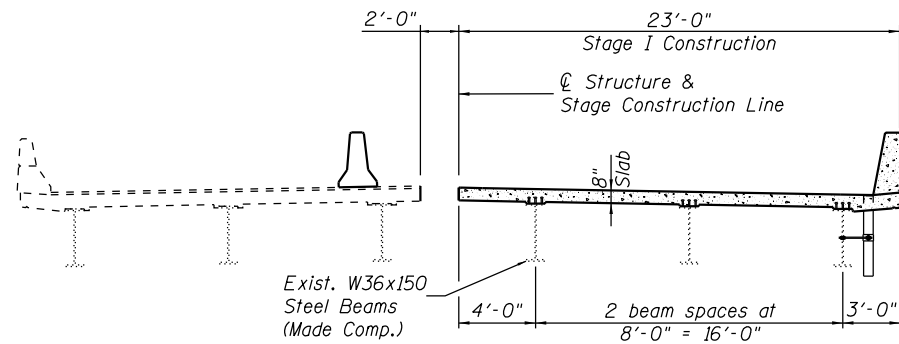
<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	DESIGNED - BIB	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	<b>GENERAL DATA</b> <b>STRUCTURE NO. 025-0080</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE =										



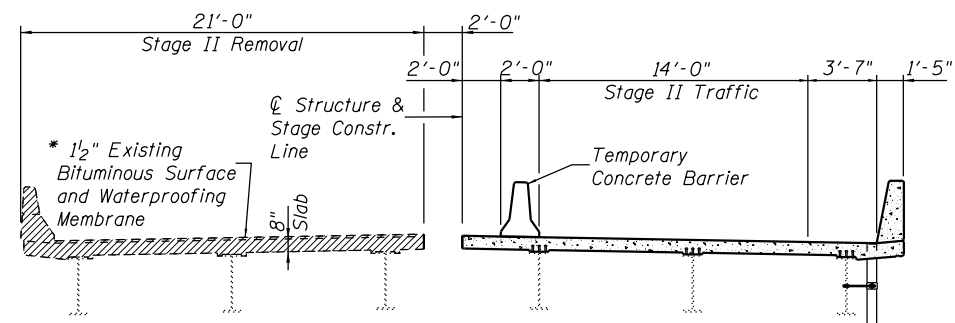
**STAGE I REMOVAL**  
(Looking South)

Removal of Existing Concrete Deck

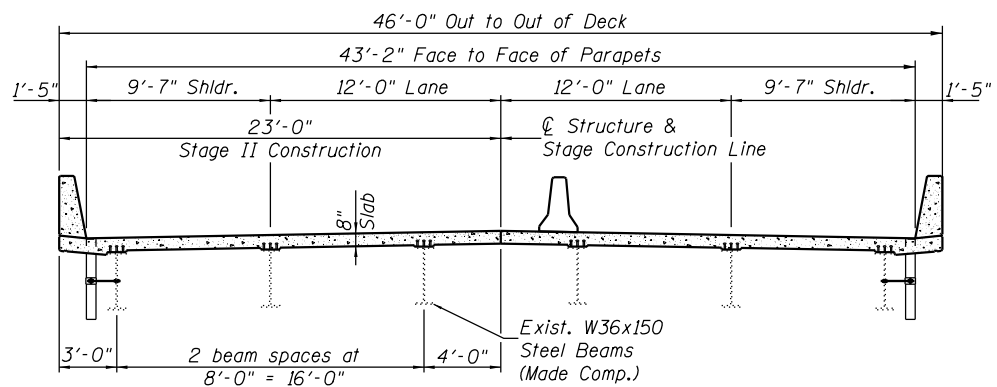
\* Cost of removal included with Removal of Existing Concrete Deck.



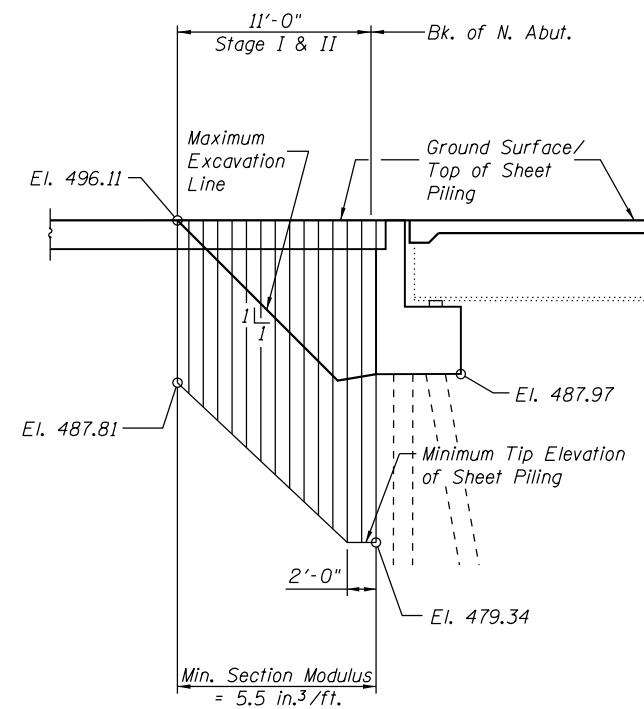
**STAGE I CONSTRUCTION**  
(Looking South)



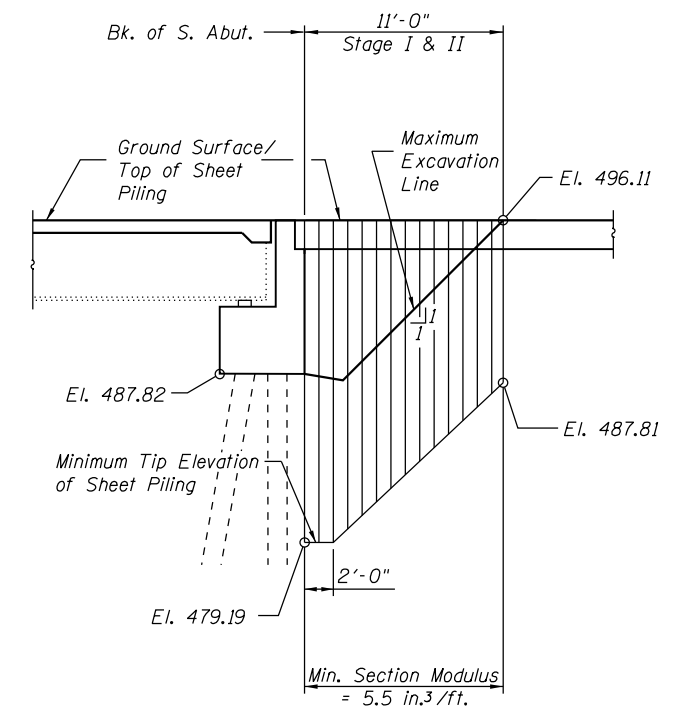
**STAGE II REMOVAL**  
(Looking South)



**STAGE II CONSTRUCTION**  
(Looking South)



**TEMPORARY SHEET PILING ELEVATION**  
**NORTH ABUTMENT**



**TEMPORARY SHEET PILING ELEVATION**  
**SOUTH ABUTMENT**

Notes:

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
2. See sheet 4 of 26 for details of Temporary Concrete Barrier.
3. See Roadway Plans for quantity of Temporary Concrete Barrier.

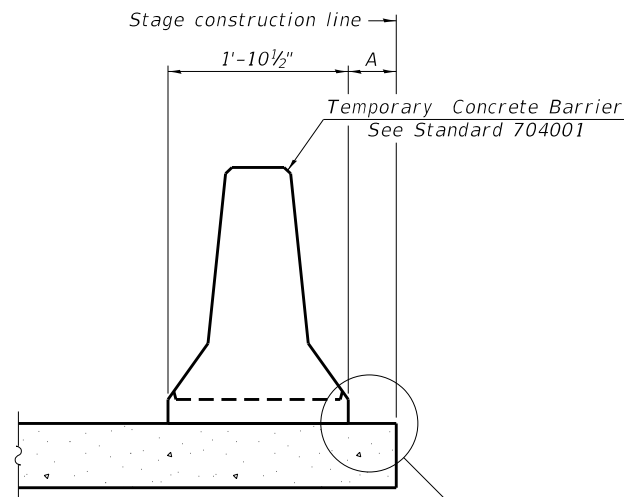
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<b>HMG ENGINEERS, INC.</b> 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME =	DESIGNED - BIB	REVISED -
	PLOT SCALE =	CHECKED - LDG	REVISED -
	PLOT DATE =	DRAWN - KHL	REVISED -
		CHECKED - BGH	REVISED -

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

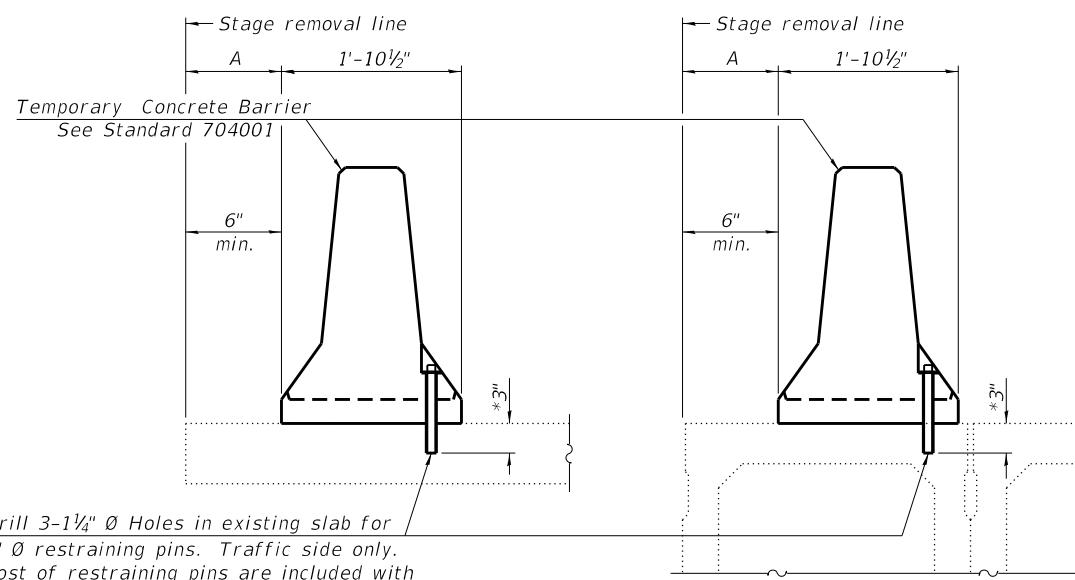
**STAGE CONSTRUCTION DETAILS**  
**STRUCTURE NO. 025-0080**  
 SHEET 3 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	15
CONTRACT NO. 74859				
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



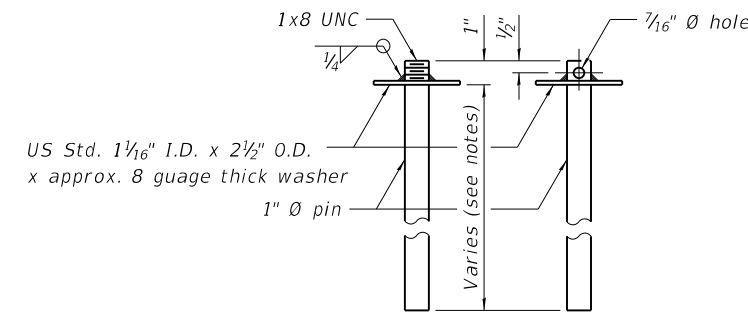
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

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

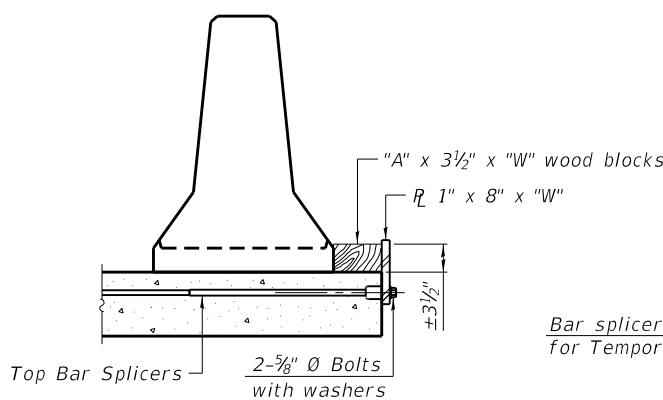
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM



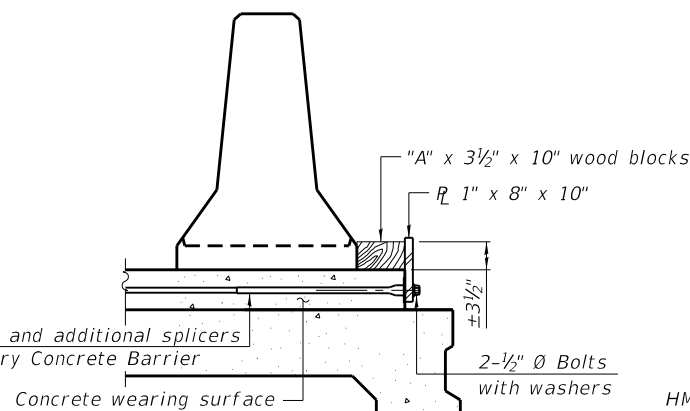
RESTRAINING PIN

US Std. 1 1/16" I.D. x 2 1/2" O.D. x approx. 8 gauge thick washer

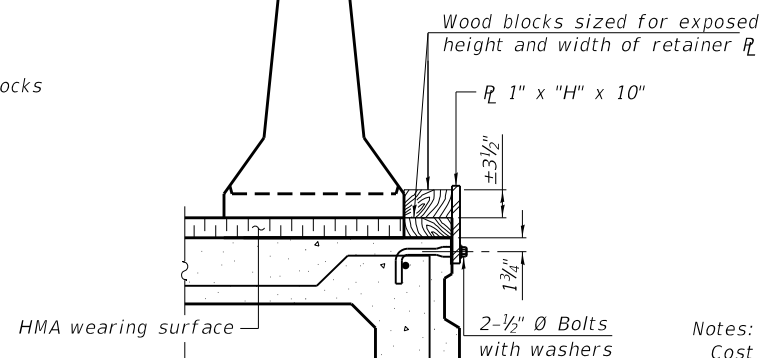


DETAIL I

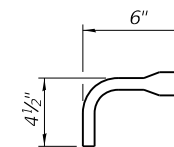
Bar splicers and additional splicers for Temporary Concrete Barrier



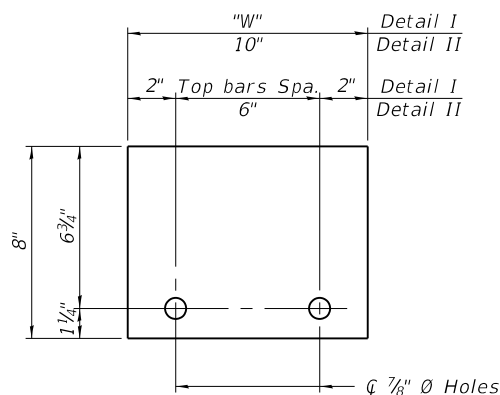
DETAIL II



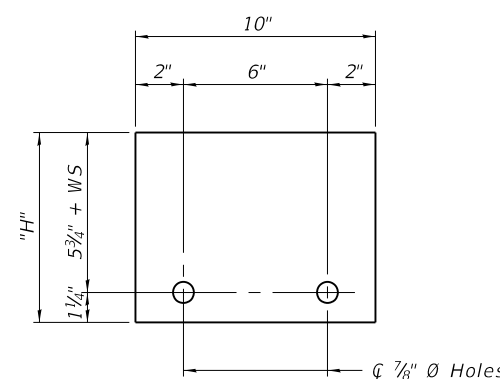
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate center of each temporary concrete barrier.

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

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

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R-27

2-17-2017

**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
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PLOT DATE =

DESIGNED - BIB  
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CHECKED - BGH

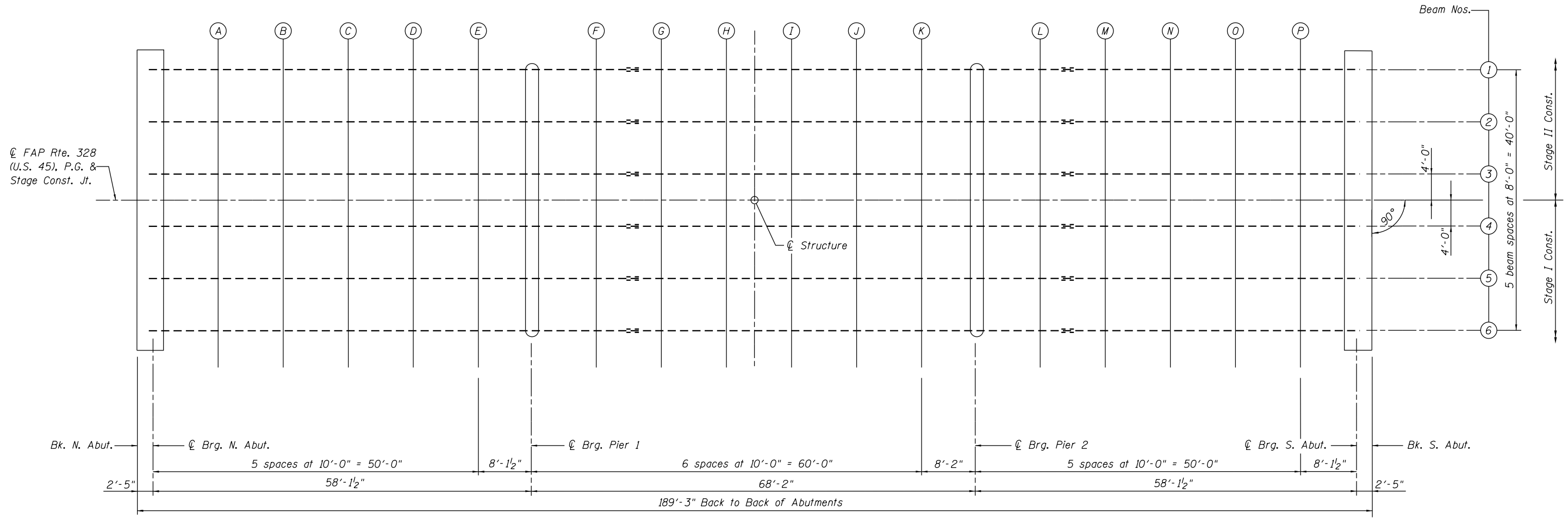
REVISED -  
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

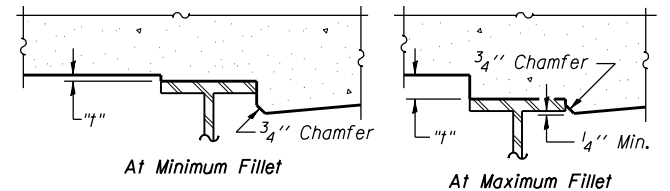
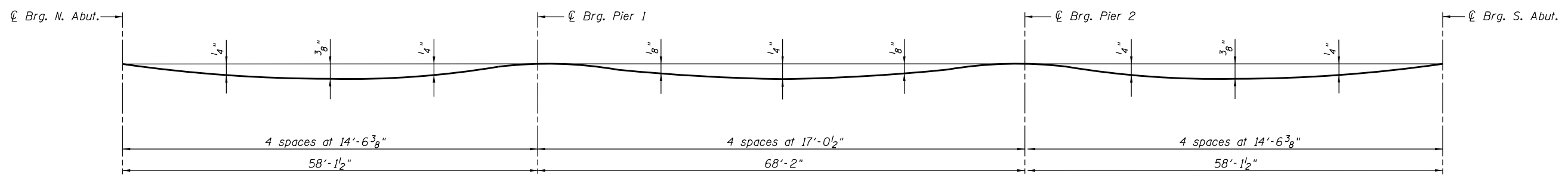
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 025-0080

SHEET 4 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	16
			CONTRACT NO. 74859	
ILLINOIS FED. AID PROJECT				



**PLAN** ← Z →



**FILLET HEIGHTS**

**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections shown on sheets 6 thru 8.

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6 thru 8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

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<b>HMG</b> ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - BIB CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS</b> <b>STRUCTURE NO. 025-0080</b> SHEET 5 OF 26 SHEETS	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM TOTAL SHEETS 93 SHEET NO. 17 CONTRACT NO. 74859	ILLINOIS FED. AID PROJECT

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**BEAM #1**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	-20.00	495.76	495.76
⊘ Brg. N. Abut.	634+99.80	-20.00	495.76	495.76
A	635+09.80	-20.00	495.76	495.78
B	635+19.80	-20.00	495.76	495.79
C	635+29.80	-20.00	495.76	495.79
D	635+39.80	-20.00	495.76	495.78
E	635+49.80	-20.00	495.76	495.76
⊘ Brg. Pier 1	635+57.92	-20.00	495.76	495.76
F	635+67.92	-20.00	495.76	495.76
G	635+77.92	-20.00	495.76	495.77
H	635+87.92	-20.00	495.76	495.78
I	635+97.92	-20.00	495.76	495.78
J	636+07.92	-20.00	495.76	495.77
K	636+17.92	-20.00	495.76	495.76
⊘ Brg. Pier 2	636+26.08	-20.00	495.76	495.76
L	636+36.08	-20.00	495.76	495.76
M	636+46.08	-20.00	495.76	495.78
N	636+56.08	-20.00	495.76	495.79
O	636+66.08	-20.00	495.76	495.79
P	636+76.08	-20.00	495.76	495.77
⊘ Brg. S. Abut.	636+84.21	-20.00	495.76	495.76
Bk. S. Abut.	636+86.63	-20.00	495.76	495.76

**BEAM #2**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	-12.00	495.92	495.92
⊘ Brg. N. Abut.	634+99.80	-12.00	495.92	495.92
A	635+09.80	-12.00	495.92	495.94
B	635+19.80	-12.00	495.92	495.95
C	635+29.80	-12.00	495.92	495.95
D	635+39.80	-12.00	495.92	495.94
E	635+49.80	-12.00	495.92	495.93
⊘ Brg. Pier 1	635+57.92	-12.00	495.92	495.92
F	635+67.92	-12.00	495.92	495.93
G	635+77.92	-12.00	495.92	495.94
H	635+87.92	-12.00	495.92	495.95
I	635+97.92	-12.00	495.92	495.95
J	636+07.92	-12.00	495.92	495.94
K	636+17.92	-12.00	495.92	495.93
⊘ Brg. Pier 2	636+26.08	-12.00	495.92	495.92
L	636+36.08	-12.00	495.92	495.93
M	636+46.08	-12.00	495.92	495.95
N	636+56.08	-12.00	495.92	495.96
O	636+66.08	-12.00	495.92	495.95
P	636+76.08	-12.00	495.92	495.94
⊘ Brg. S. Abut.	636+84.21	-12.00	495.92	495.92
Bk. S. Abut.	636+86.63	-12.00	495.92	495.92

**Notes:**

- Elevations are at Top of Concrete.
- See Sheet 5 for elevation locations.



USER NAME =	DESIGNED - BIB	REVISIONS
PLOT SCALE =	CHECKED - LDG	REVISED -
PLOT DATE =	DRAWN - KHL	REVISED -
	CHECKED - BGH	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
 STRUCTURE NO. 025-0080**

SHEET 6 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	18
ILLINOIS			FED. AID PROJECT	
			CONTRACT NO. 74859	

BEAM #3

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	-4.00	496.05	496.05
☉ Brg. N. Abut.	634+99.80	-4.00	496.05	496.05
A	635+09.80	-4.00	496.05	496.07
B	635+19.80	-4.00	496.05	496.08
C	635+29.80	-4.00	496.05	496.08
D	635+39.80	-4.00	496.05	496.07
E	635+49.80	-4.00	496.05	496.06
☉ Brg. Pier 1	635+57.92	-4.00	496.05	496.05
F	635+67.92	-4.00	496.05	496.05
G	635+77.92	-4.00	496.05	496.06
H	635+87.92	-4.00	496.05	496.07
I	635+97.92	-4.00	496.05	496.07
J	636+07.92	-4.00	496.05	496.06
K	636+17.92	-4.00	496.05	496.05
☉ Brg. Pier 2	636+26.08	-4.00	496.05	496.05
L	636+36.08	-4.00	496.05	496.06
M	636+46.08	-4.00	496.05	496.07
N	636+56.08	-4.00	496.05	496.08
O	636+66.08	-4.00	496.05	496.08
P	636+76.08	-4.00	496.05	496.06
☉ Brg. S. Abut.	636+84.21	-4.00	496.05	496.05
Bk. S. Abut.	636+86.63	-4.00	496.05	496.05

☉ ROADWAY, P.G. AND STAGE CONSTRUCTION LINE

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	0.00	496.11	496.11
☉ Brg. N. Abut.	634+99.80	0.00	496.11	496.11
A	635+09.80	0.00	496.11	496.13
B	635+19.80	0.00	496.11	496.14
C	635+29.80	0.00	496.11	496.14
D	635+39.80	0.00	496.11	496.13
E	635+49.80	0.00	496.11	496.12
☉ Brg. Pier 1	635+57.92	0.00	496.11	496.11
F	635+67.92	0.00	496.11	496.12
G	635+77.92	0.00	496.11	496.13
H	635+87.92	0.00	496.11	496.13
I	635+97.92	0.00	496.11	496.13
J	636+07.92	0.00	496.11	496.12
K	636+17.92	0.00	496.11	496.11
☉ Brg. Pier 2	636+26.08	0.00	496.11	496.11
L	636+36.08	0.00	496.11	496.12
M	636+46.08	0.00	496.11	496.13
N	636+56.08	0.00	496.11	496.14
O	636+66.08	0.00	496.11	496.14
P	636+76.08	0.00	496.11	496.13
☉ Brg. S. Abut.	636+84.21	0.00	496.11	496.11
Bk. S. Abut.	636+86.63	0.00	496.11	496.11

BEAM #4

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	4.00	496.05	496.05
☉ Brg. N. Abut.	634+99.80	4.00	496.05	496.05
A	635+09.80	4.00	496.05	496.07
B	635+19.80	4.00	496.05	496.08
C	635+29.80	4.00	496.05	496.08
D	635+39.80	4.00	496.05	496.07
E	635+49.80	4.00	496.05	496.06
☉ Brg. Pier 1	635+57.92	4.00	496.05	496.05
F	635+67.92	4.00	496.05	496.05
G	635+77.92	4.00	496.05	496.06
H	635+87.92	4.00	496.05	496.07
I	635+97.92	4.00	496.05	496.07
J	636+07.92	4.00	496.05	496.06
K	636+17.92	4.00	496.05	496.05
☉ Brg. Pier 2	636+26.08	4.00	496.05	496.05
L	636+36.08	4.00	496.05	496.06
M	636+46.08	4.00	496.05	496.07
N	636+56.08	4.00	496.05	496.08
O	636+66.08	4.00	496.05	496.08
P	636+76.08	4.00	496.05	496.06
☉ Brg. S. Abut.	636+84.21	4.00	496.05	496.05
Bk. S. Abut.	636+86.63	4.00	496.05	496.05

Notes:

- Elevations are at Top of Concrete.
- See Sheet 5 for elevation locations.

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9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

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	CHECKED - BGH	REVISIONS -

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CHECKED - BGH	REVISIONS -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 025-0080  
SHEET 7 OF 26 SHEETS

F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 19
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 74859

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**BEAM #5**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	12.00	495.92	495.92
⊕ Brg. N. Abut.	634+99.80	12.00	495.92	495.92
A	635+09.80	12.00	495.92	495.94
B	635+19.80	12.00	495.92	495.95
C	635+29.80	12.00	495.92	495.95
D	635+39.80	12.00	495.92	495.94
E	635+49.80	12.00	495.92	495.93
⊕ Brg. Pier 1	635+57.92	12.00	495.92	495.92
F	635+67.92	12.00	495.92	495.93
G	635+77.92	12.00	495.92	495.94
H	635+87.92	12.00	495.92	495.95
I	635+97.92	12.00	495.92	495.95
J	636+07.92	12.00	495.92	495.94
K	636+17.92	12.00	495.92	495.93
⊕ Brg. Pier 2	636+26.08	12.00	495.92	495.92
L	636+36.08	12.00	495.92	495.93
M	636+46.08	12.00	495.92	495.95
N	636+56.08	12.00	495.92	495.96
O	636+66.08	12.00	495.92	495.95
P	636+76.08	12.00	495.92	495.94
⊕ Brg. S. Abut.	636+84.21	12.00	495.92	495.92
Bk. S. Abut.	636+86.63	12.00	495.92	495.92

**BEAM #6**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	634+97.38	20.00	495.76	495.76
⊕ Brg. N. Abut.	634+99.80	20.00	495.76	495.76
A	635+09.80	20.00	495.76	495.78
B	635+19.80	20.00	495.76	495.79
C	635+29.80	20.00	495.76	495.79
D	635+39.80	20.00	495.76	495.78
E	635+49.80	20.00	495.76	495.76
⊕ Brg. Pier 1	635+57.92	20.00	495.76	495.76
F	635+67.92	20.00	495.76	495.76
G	635+77.92	20.00	495.76	495.77
H	635+87.92	20.00	495.76	495.78
I	635+97.92	20.00	495.76	495.78
J	636+07.92	20.00	495.76	495.77
K	636+17.92	20.00	495.76	495.76
⊕ Brg. Pier 2	636+26.08	20.00	495.76	495.76
L	636+36.08	20.00	495.76	495.76
M	636+46.08	20.00	495.76	495.78
N	636+56.08	20.00	495.76	495.79
O	636+66.08	20.00	495.76	495.79
P	636+76.08	20.00	495.76	495.77
⊕ Brg. S. Abut.	636+84.21	20.00	495.76	495.76
Bk. S. Abut.	636+86.63	20.00	495.76	495.76

**Notes:**

- Elevations are at Top of Concrete.
- See Sheet 5 for elevation locations.

 <b>HMG ENGINEERS, INC.</b> 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - BIB CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS</b> <b>STRUCTURE NO. 025-0080</b>	F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 20
	SHEET 8 OF 26 SHEETS						ILLINOIS FED. AID PROJECT			



**EAST CURB LINE**

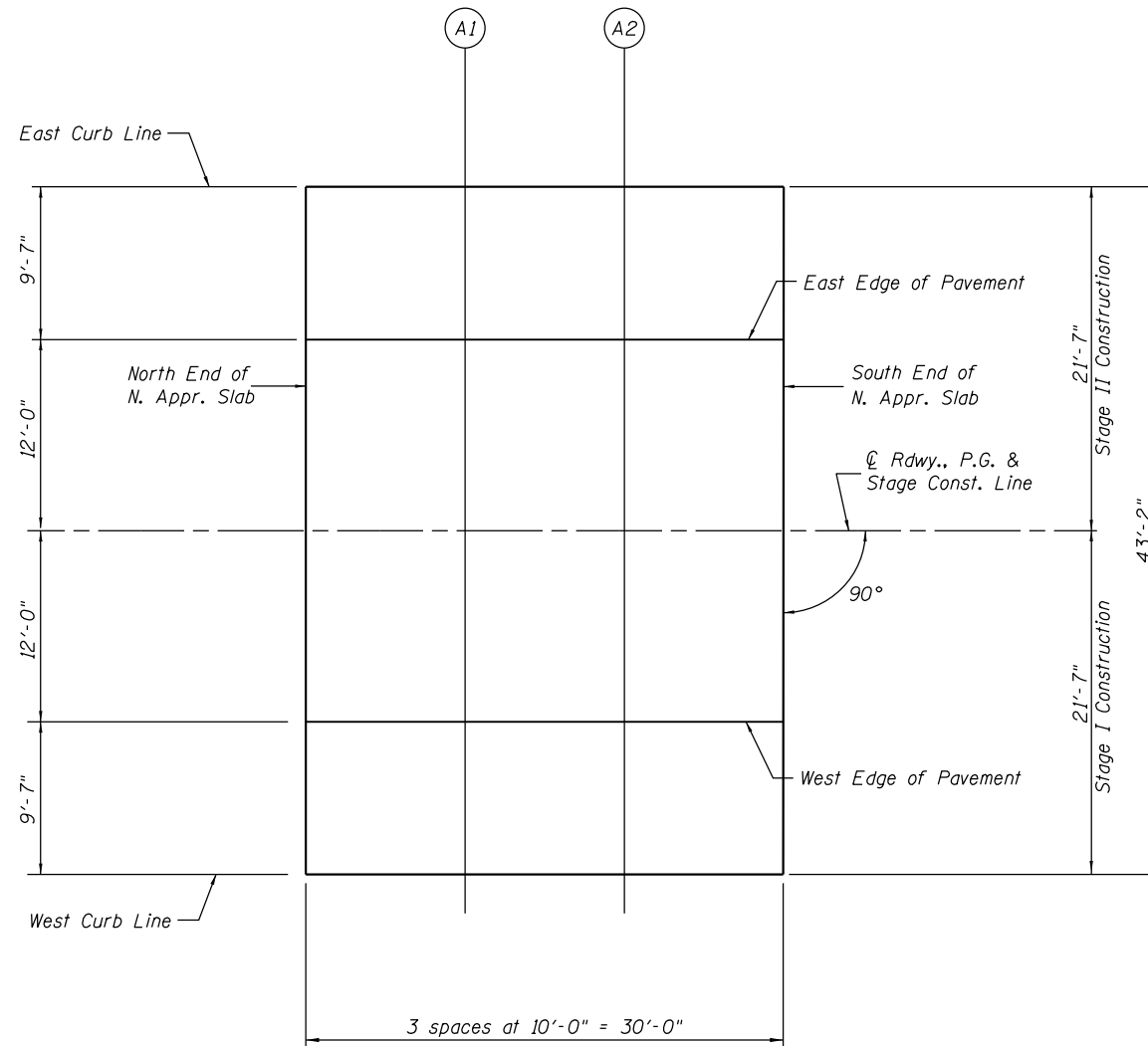
Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	634+67.88	-21.58	495.72
A1	634+77.88	-21.58	495.72
A2	634+87.88	-21.58	495.72
South End of N. Appr. Slab	634+97.88	-21.58	495.72

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	634+67.88	-12.00	495.92
A1	634+77.88	-12.00	495.92
A2	634+87.88	-12.00	495.92
South End of N. Appr. Slab	634+97.88	-12.00	495.92

**☉ ROADWAY, P.G. & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	634+67.88	0.00	496.11
A1	634+77.88	0.00	496.11
A2	634+87.88	0.00	496.11
South End of N. Appr. Slab	634+97.88	0.00	496.11



**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	634+67.88	12.00	495.92
A1	634+77.88	12.00	495.92
A2	634+87.88	12.00	495.92
South End of N. Appr. Slab	634+97.88	12.00	495.92

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	634+67.88	21.58	495.72
A1	634+77.88	21.58	495.72
A2	634+87.88	21.58	495.72
South End of N. Appr. Slab	634+97.88	21.58	495.72

**NORTH APPROACH PLAN** ← Z →

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<b>HMG</b> Engineers + Surveyors	DESIGNED - BIB	REVISD -
	CHECKED - LDG	REVISD -
	DRAWN - KHL	REVISD -
	CHECKED - BGH	REVISD -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 025-0080**

F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 21
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	

**EAST CURB LINE**

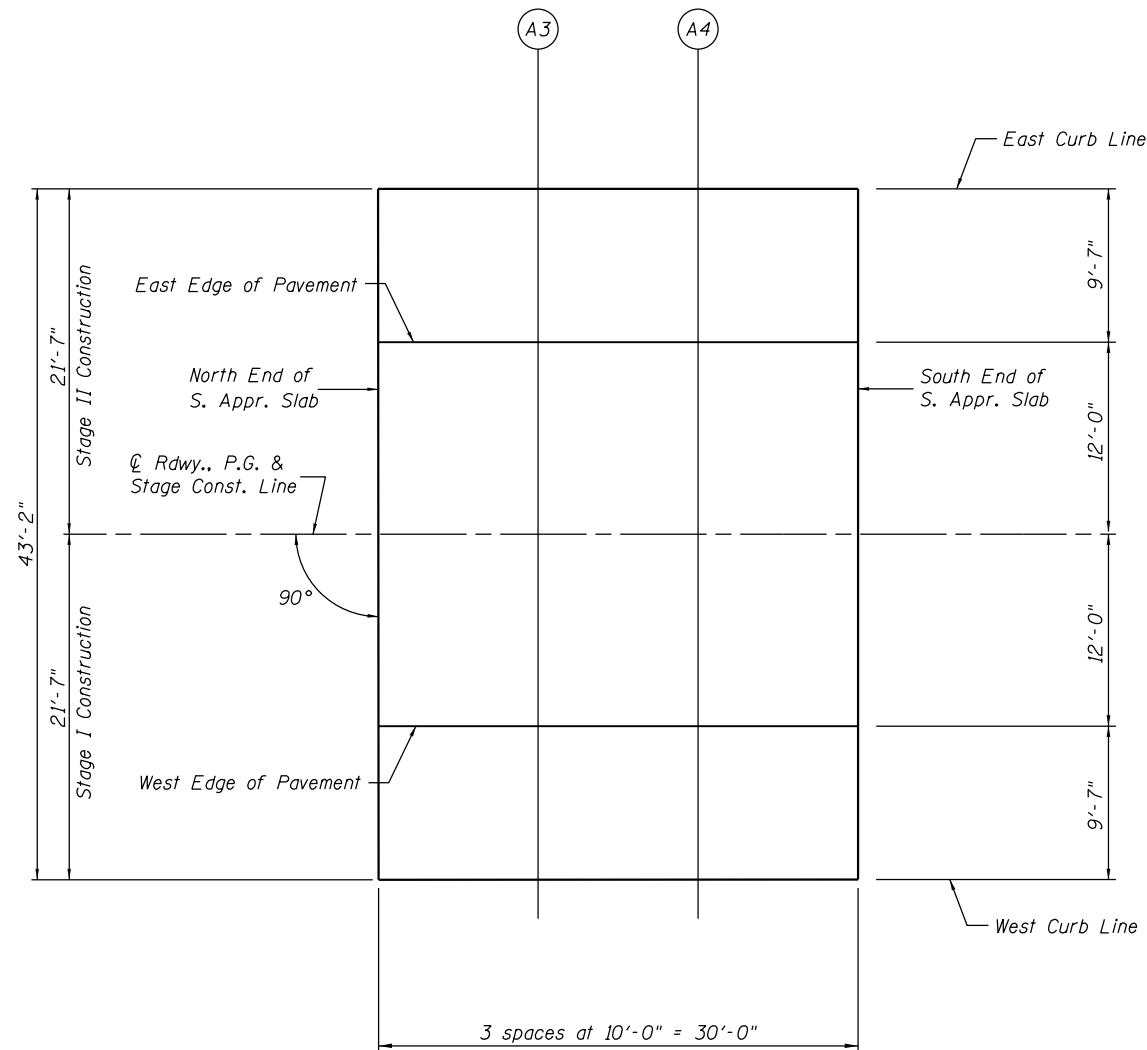
Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	636+86.13	-21.58	495.72
A3	636+96.13	-21.58	495.72
A4	637+06.13	-21.58	495.72
South End of S. Appr. Slab	637+16.13	-21.58	495.72

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	636+86.13	-12.00	495.92
A3	636+96.13	-12.00	495.92
A4	637+06.13	-12.00	495.92
South End of S. Appr. Slab	637+16.13	-12.00	495.92

**☉ ROADWAY, P.G. & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	636+86.13	0.00	496.11
A3	636+96.13	0.00	496.11
A4	637+06.13	0.00	496.11
South End of S. Appr. Slab	637+16.13	0.00	496.11



**SOUTH APPROACH PLAN** ← Z

**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	636+86.13	12.00	495.92
A3	636+96.13	12.00	495.92
A4	637+06.13	12.00	495.92
South End of S. Appr. Slab	637+16.13	12.00	495.92

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	636+86.13	21.58	495.72
A3	636+96.13	21.58	495.72
A4	637+06.13	21.58	495.72
South End of S. Appr. Slab	637+16.13	21.58	495.72

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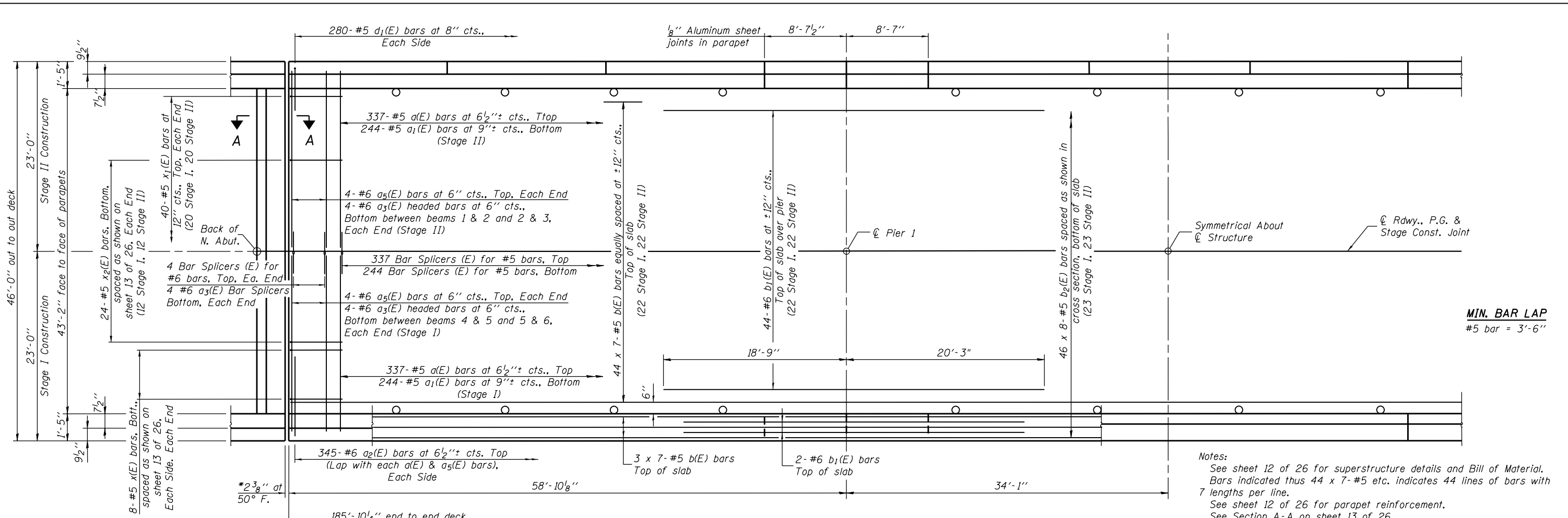
<b>HMG</b> Engineers + Surveyors	HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	DESIGNED - BIB	REVISOR -
	USER NAME =	CHECKED - LDG	REVISIONS -
	PLOT SCALE =	DRAWN - KHL	REVISIONS -
	PLOT DATE =	CHECKED - BGH	REVISIONS -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 025-0080**

SHEET 10 OF 26 SHEETS

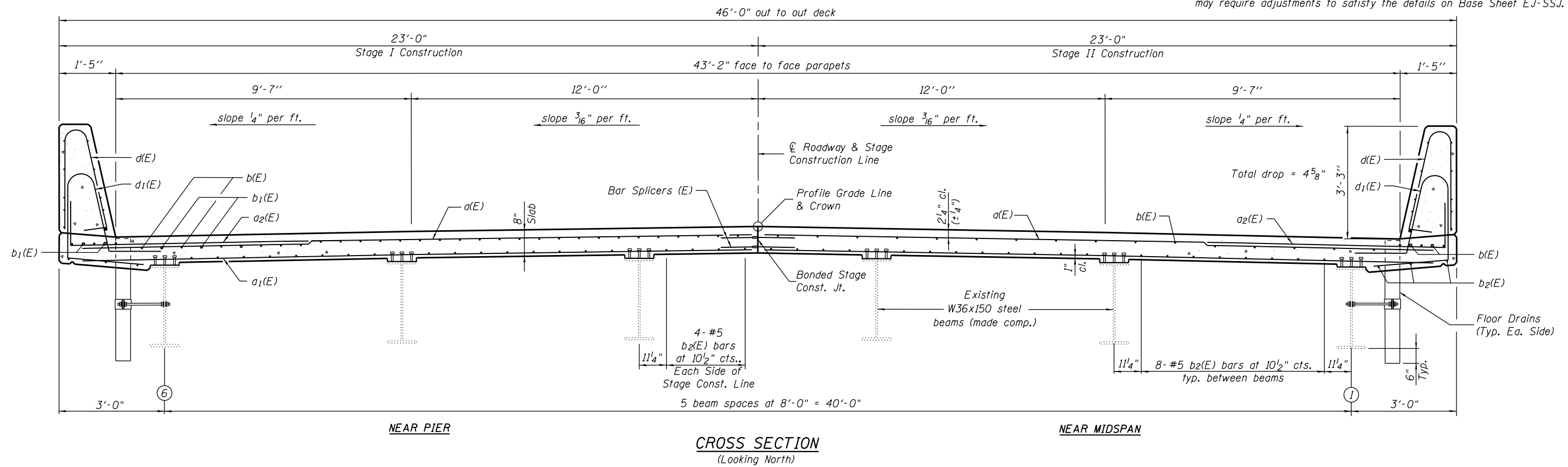
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328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	22
ILLINOIS			FED. AID PROJECT	
			CONTRACT NO. 74859	



**MIN. BAR LAP**  
#5 bar = 3'-6"

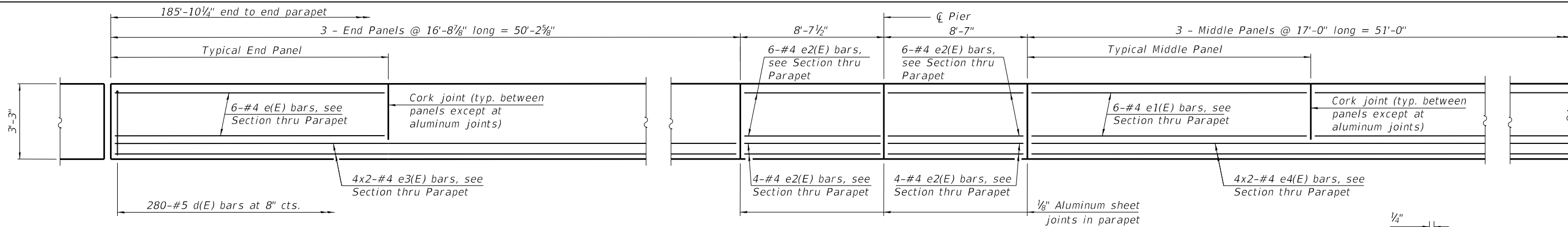
**Notes:**  
See sheet 12 of 26 for superstructure details and Bill of Material.  
Bars indicated thus 44 x 7-#5 etc. indicates 44 lines of bars with 7 lengths per line.  
See sheet 12 of 26 for parapet reinforcement.  
See Section A-A on sheet 13 of 26.  
For Bar Splicer details see sheet 26 of 26.  
Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.

\* Dimension showing Concrete Opening.  
For Joint Opening see sheet 16 of 26.

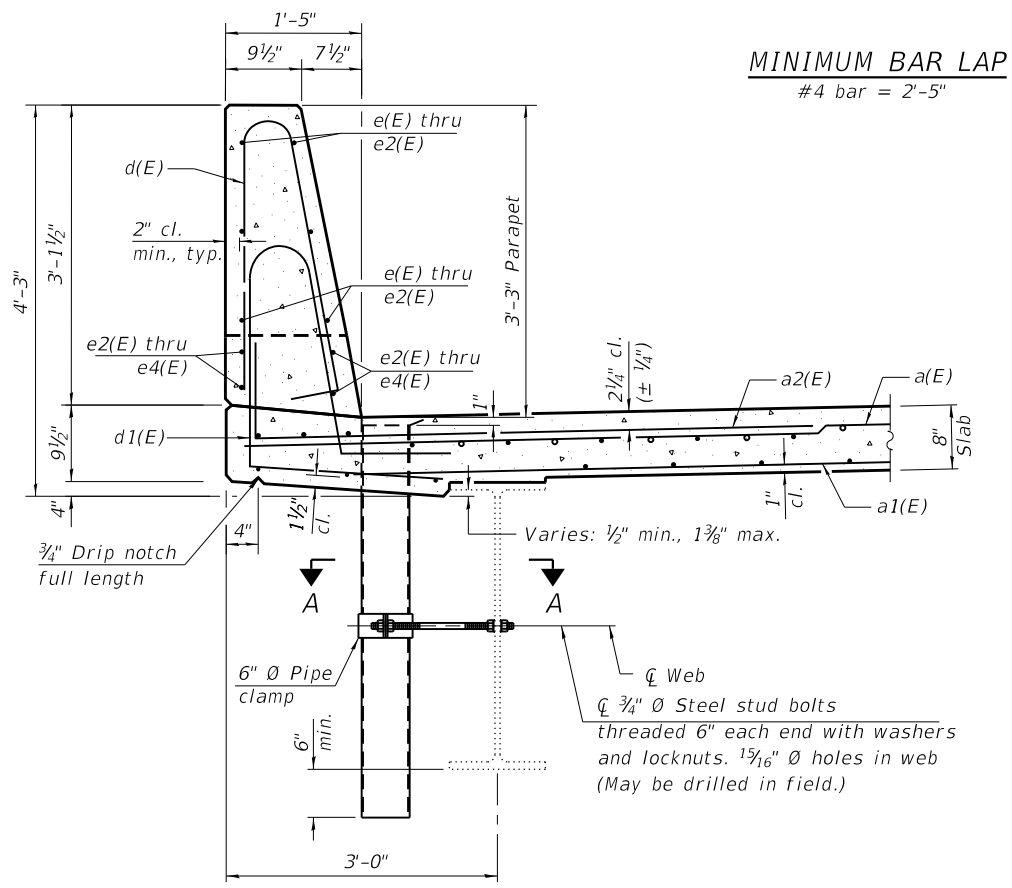


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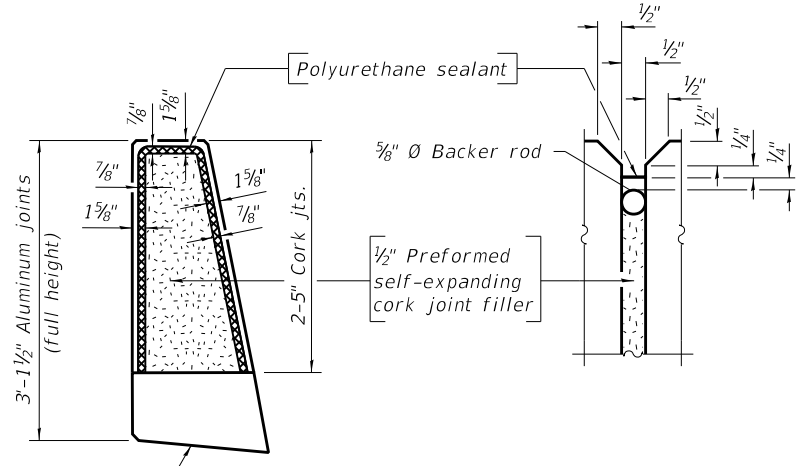
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	PLOT DATE =									



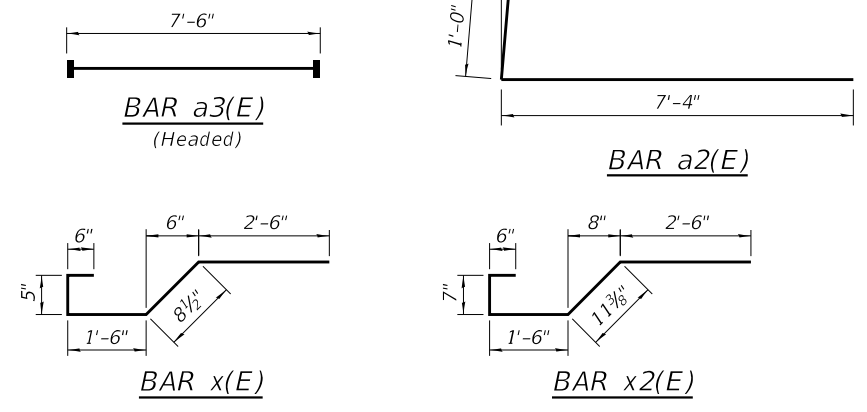
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET



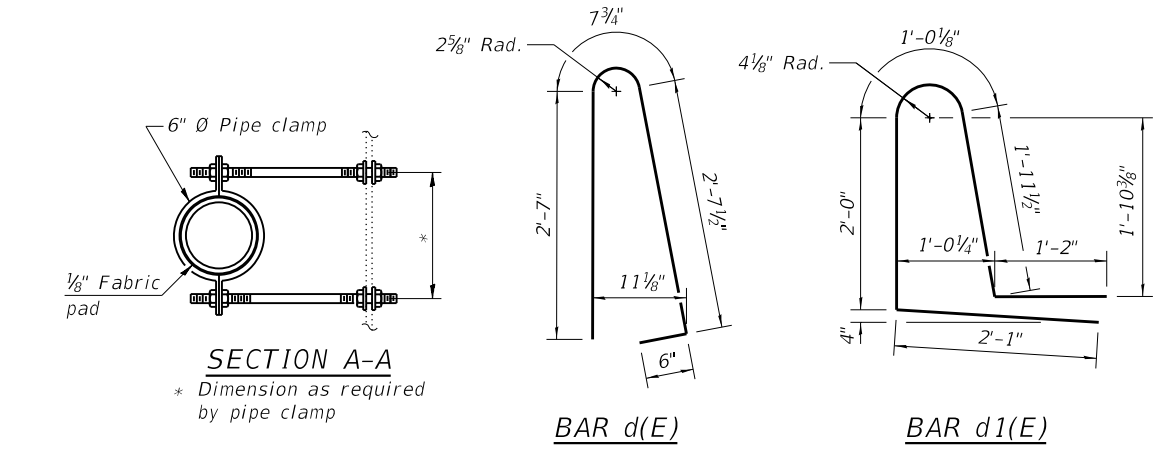
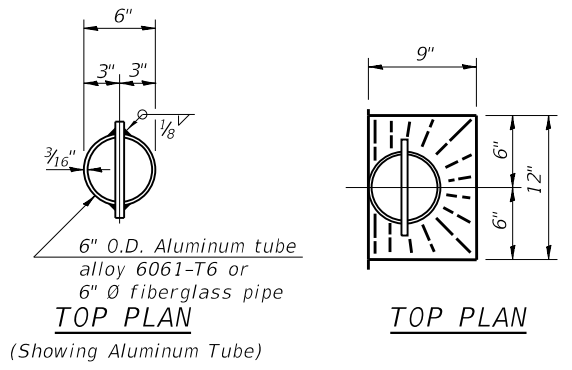
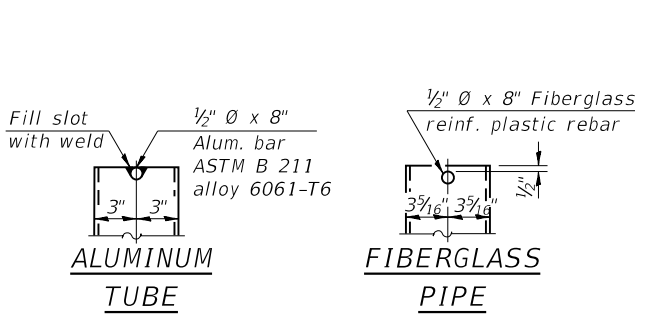
PARAPET JOINT DETAILS



SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	674	#5	22'-8"	—
a1(E)	488	#5	22'-3"	—
a2(E)	690	#6	8'-4"	—
a3(E)	32	#6	7'-6"	—
a5(E)	16	#6	22'-6"	—
b(E)	350	#5	29'-7"	—
b1(E)	96	#6	39'-0"	—
b2(E)	368	#5	26'-4"	—
d(E)	560	#5	6'-5"	—
d1(E)	560	#5	8'-3"	—
e(E)	72	#4	16'-5"	—
e1(E)	36	#4	16'-8"	—
e2(E)	80	#4	8'-4"	—
e3(E)	32	#4	26'-4"	—
e4(E)	16	#4	26'-9"	—
x(E)	32	#5	5'-8"	—
x1(E)	80	#5	4'-0"	—
x2(E)	48	#5	6'-1"	—
Reinforcement Bars, Epoxy Coated		Pound	75,330	
Concrete Superstructure		Cu Yd	283.4	
Floor Drains		Each	24	

Notes:  
 Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
 The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings' Spec. SSPC-SP1 prior to painting.  
 The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete. The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.  
 The 1/8" aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.  
 The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS STRUCTURE NO. 025-0080

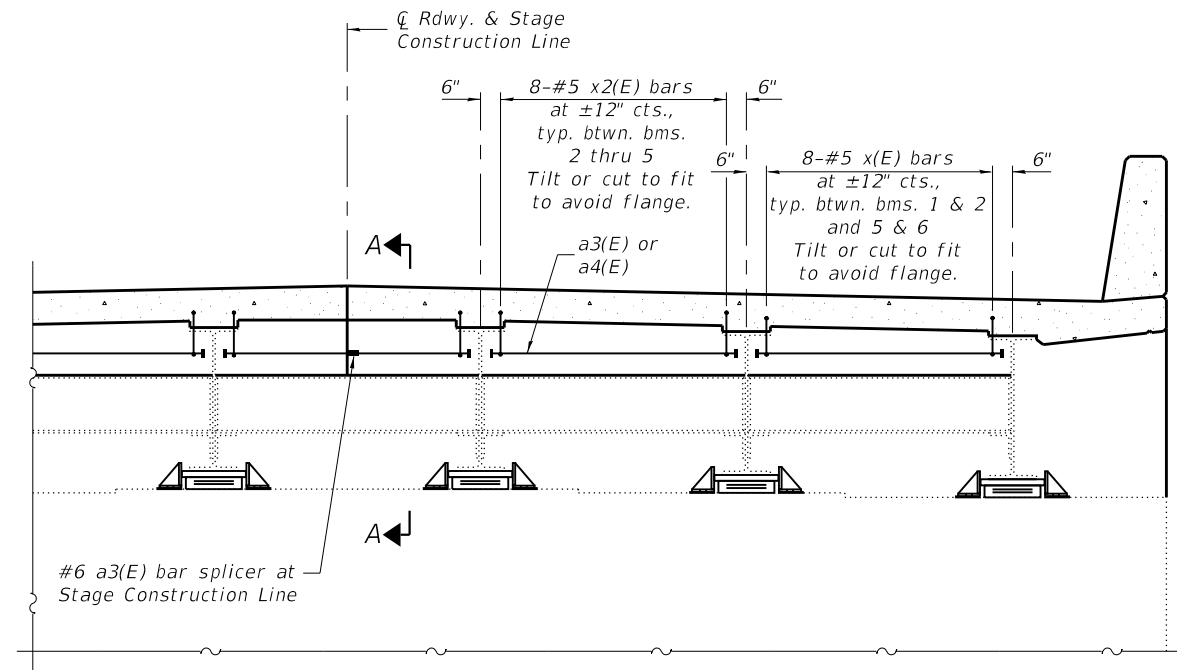
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	24
CONTRACT NO. 74859				

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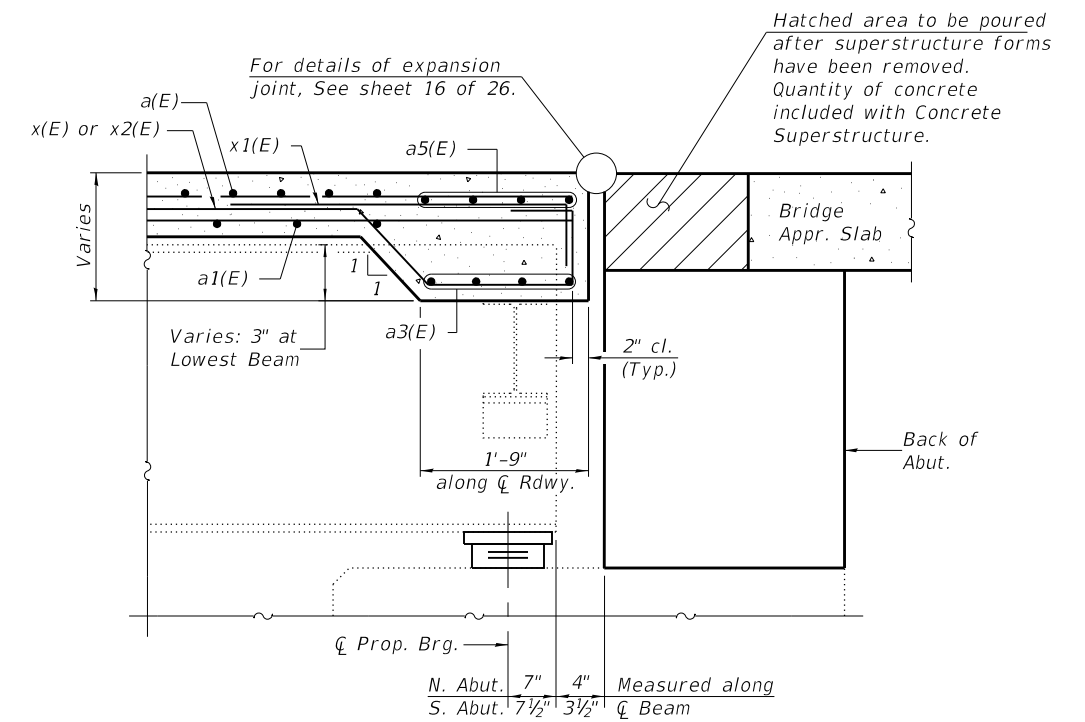
**HMG** ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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DIAPHRAGM AT ABUTMENT



SECTION A-A

Notes:  
See sheet 12 of 26 for superstructure details and Bill of Material.

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =	DESIGNED - BIB
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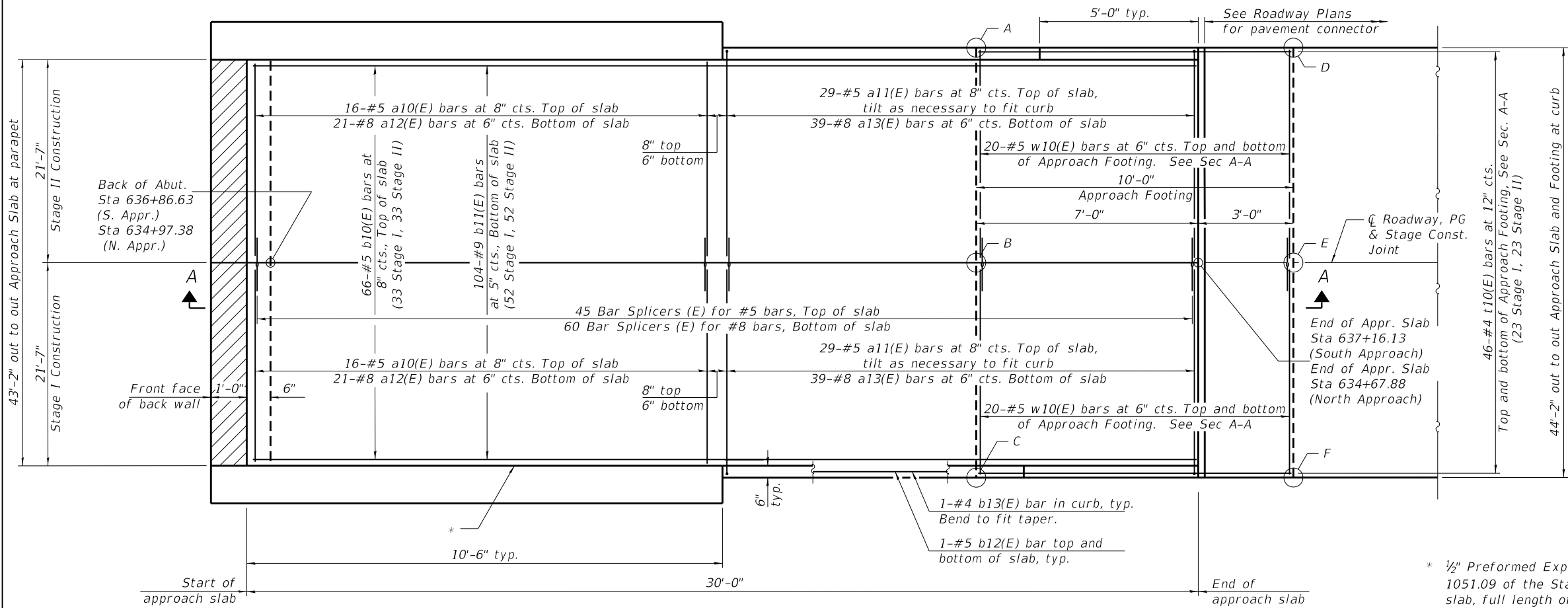
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS  
STRUCTURE NO. 025-0080

SHEET 13 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	25
CONTRACT NO. 74859				

ILLINOIS FED. AID PROJECT

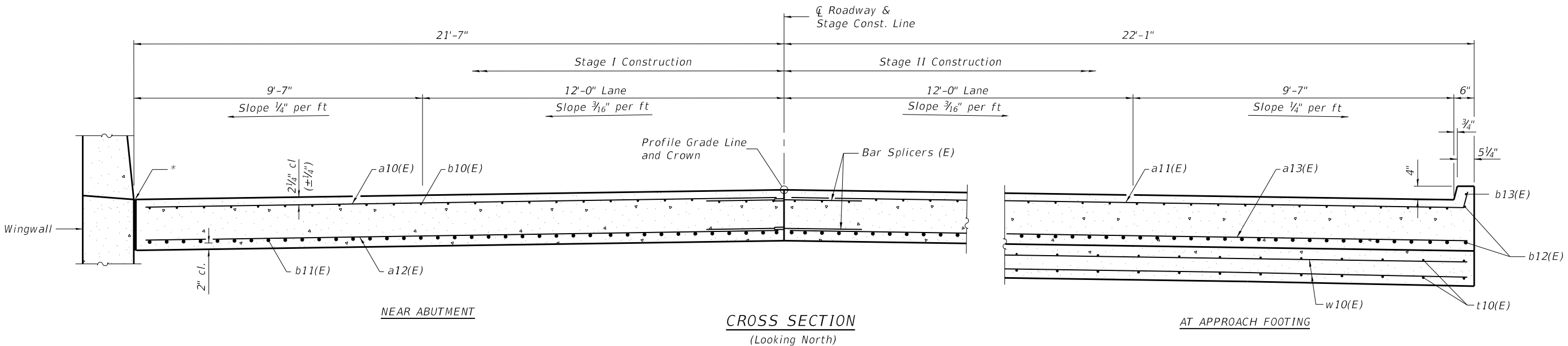


TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A	494.46	493.63	494.46	493.63
B	494.86	494.03	494.86	494.03
C	494.46	493.63	494.46	493.63
D	494.46	493.63	494.46	493.63
E	494.86	494.03	494.86	494.03
F	494.46	493.63	494.46	493.63

\* 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.

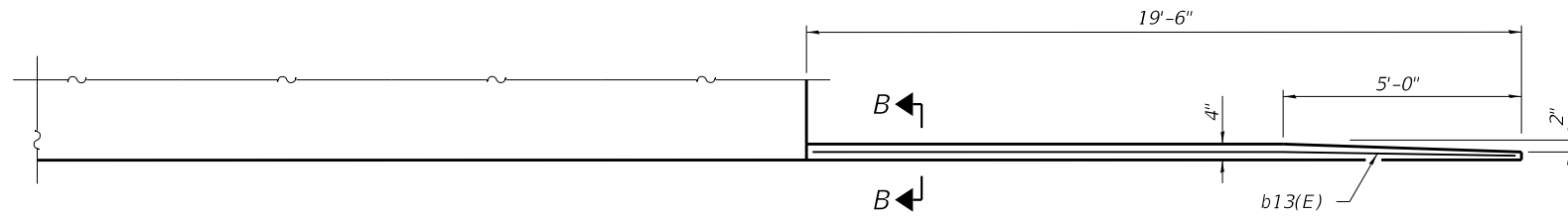
PLAN (South Approach shown, North Approach similar)



(Sheet 1 of 2)

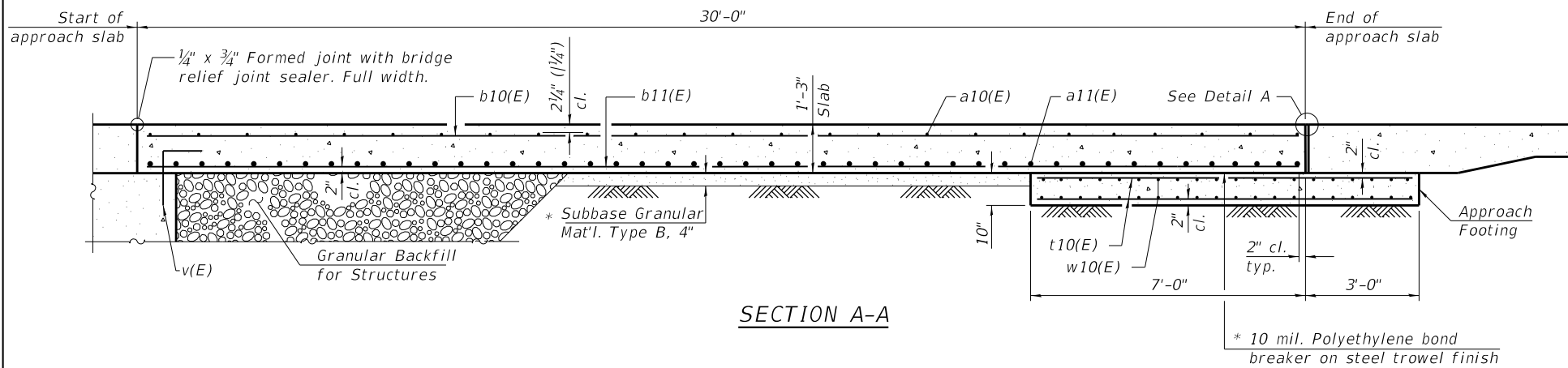
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<p>HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611</p>	DESIGNED - BIB	REVISOR -	<p>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</p>	<p>BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 025-0080</p>	F.A.P. -	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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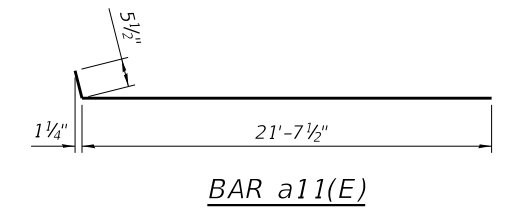


**INSIDE ELEVATION OF PARAPET AND CURB**

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 2 of 26.

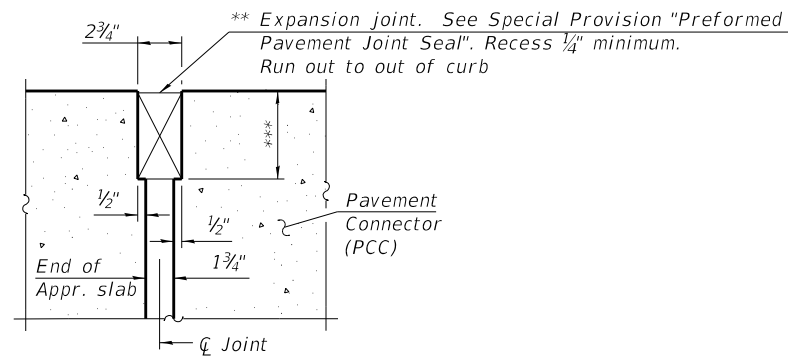


**SECTION A-A**



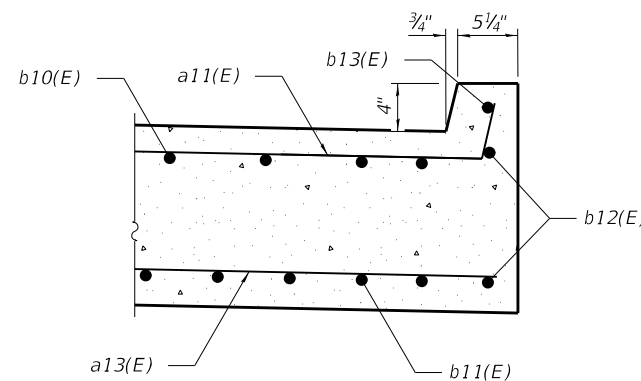
**TWO APPROACHES  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a10(E)	64	#5	21'-3"	—
a11(E)	116	#5	22'-1"	—
a12(E)	84	#8	21'-3"	—
a13(E)	156	#8	21'-9"	—
b10(E)	132	#5	29'-8"	—
b11(E)	208	#9	29'-8"	—
b12(E)	8	#5	19'-2"	—
b13(E)	4	#4	19'-2"	—
t10(E)	184	#4	9'-8"	—
w10(E)	160	#5	21'-9"	—
Concrete Superstructure (Approach Slab)			Cu Yd	122.3
Concrete Structures			Cu Yd	27.3
Reinforcement Bars, Epoxy Coated			Pound	48,010



**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**

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

\*\*\* Per manufacturer recommendations

(Sheet 2 of 2)

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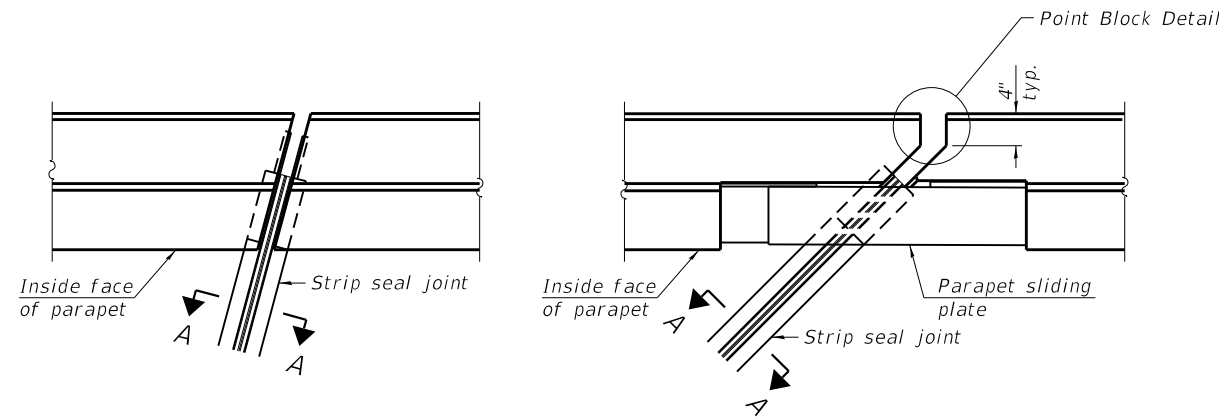
<b>HMG</b> Engineers + Surveyors	HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	DESIGNED - BIB	REVISIONS -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

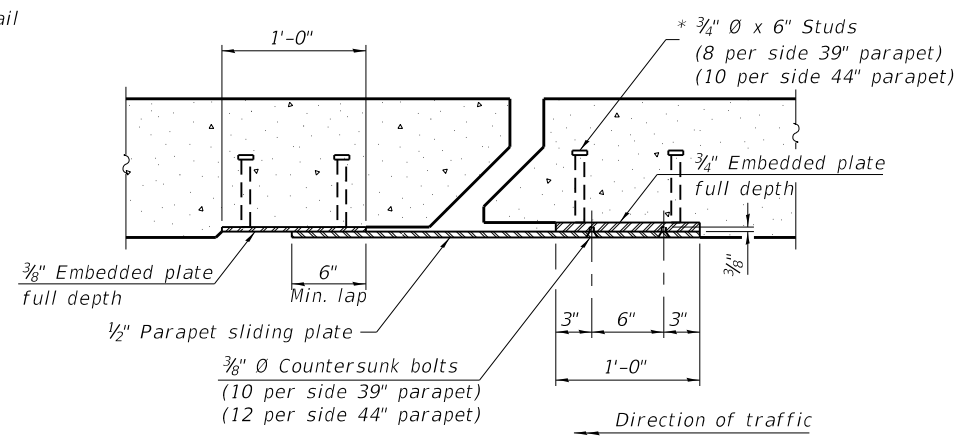
**BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 025-0080**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	27
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	

SHEET 15 OF 26 SHEETS



PLAN AT PARAPET



SECTION B-B

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.

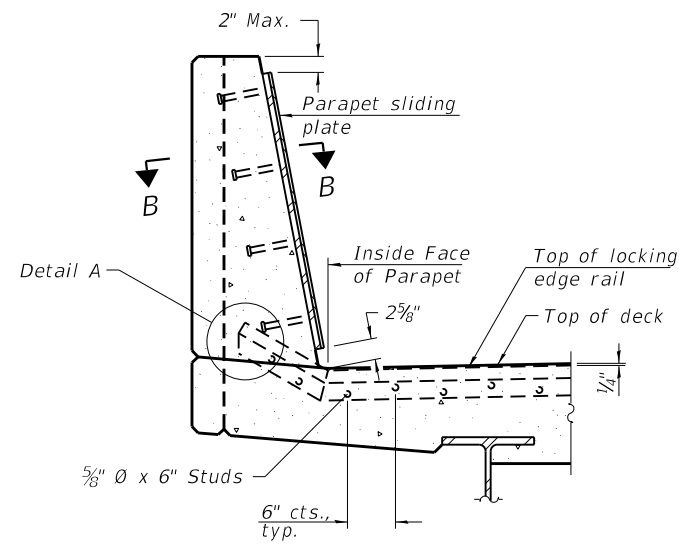
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.

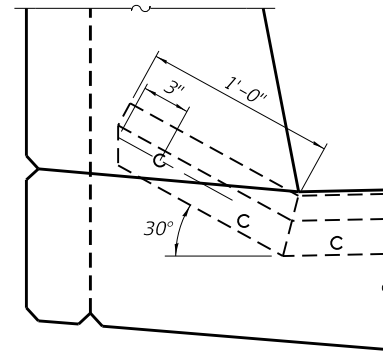
39" constant slope barrier shown, 44" constant slope barrier similar as noted.

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.

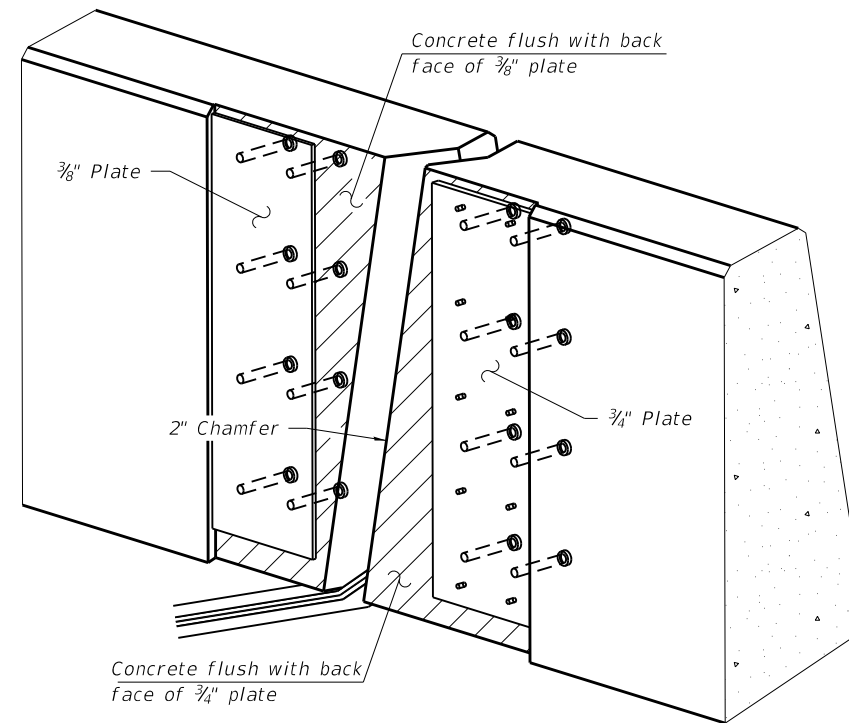


SECTION AT PARAPET

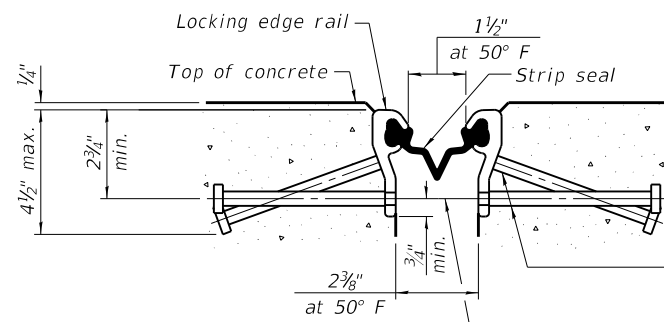
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW (Showing embedded plates only)



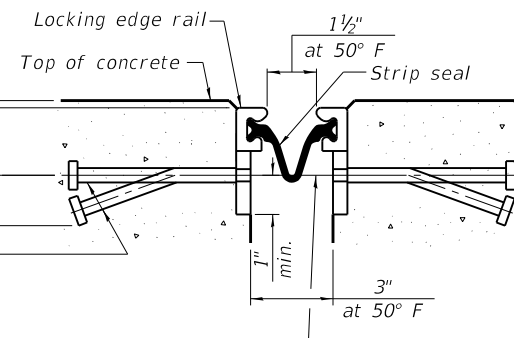
SHOWING ROLLED RAIL JOINT

\* 5/8"  $\emptyset$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

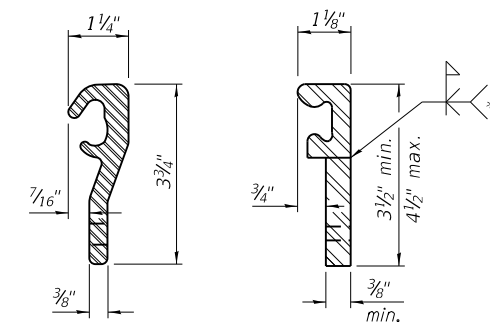
3/8"  $\phi$  threaded rods in 7/16"  $\phi$  holes at  $\pm 4'-0"$  cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

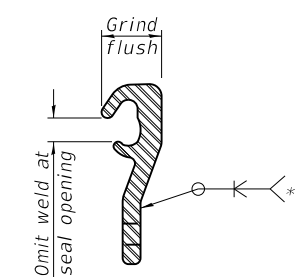


SHOWING WELDED RAIL JOINT



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	Unit	Total
Preformed Joint Strip Seal	Foot	91

FILE NAME: H:\7322\_IDOT\_DT\_Var\7322\_06\_W06\_Bishop\_and\_Ramsey\_Revisions\CAD\_Sheets\74859\_0250080\_Bishop\0250080\_74859\_016\_ex1.dgn

**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

DESIGNED - BIB  
CHECKED - LDG  
DRAWN - KHL  
CHECKED - BGH

REVISED -  
REVISED -  
REVISED -  
REVISED -

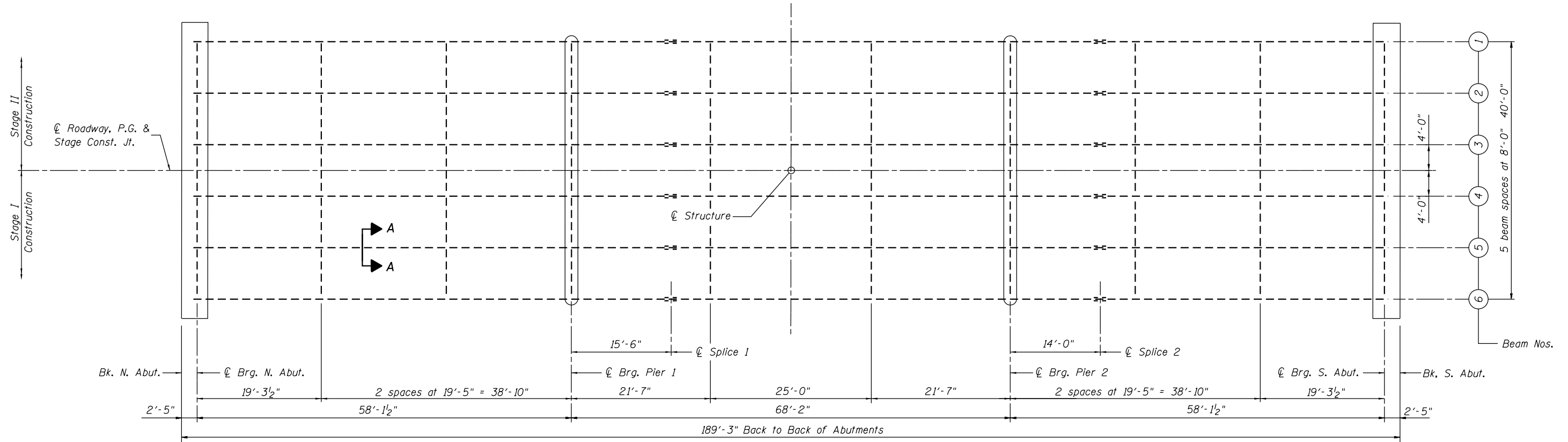
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 025-0080

SHEET 16 OF 26 SHEETS

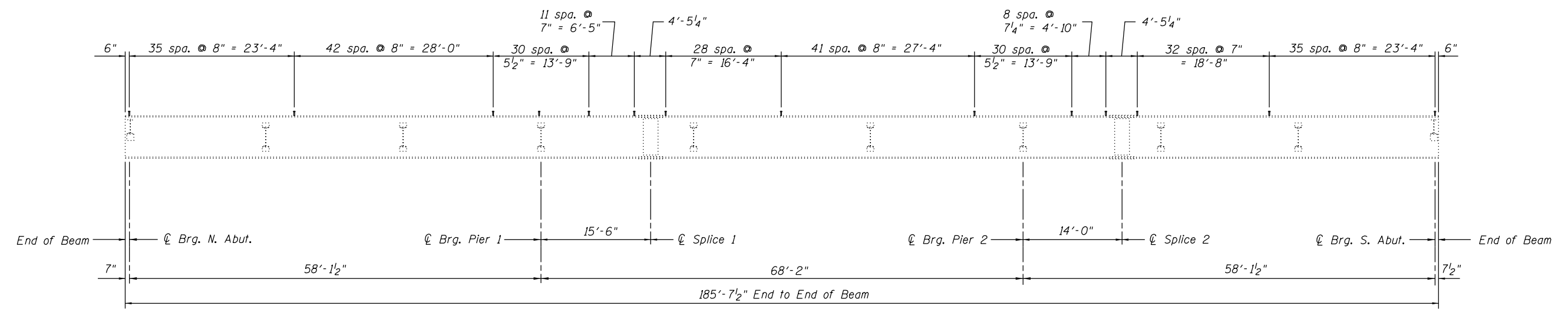
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	28
			CONTRACT NO. 74859	
ILLINOIS FED. AID PROJECT				





**FRAMING PLAN**

Existing Beams are W36x150 and AASHTO M223, Gr. 50.



**BEAM ELEVATION**

MODEL: Default  
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9360 HOLY CROSS LANE  
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PLOT DATE =	DRAWN - KHL
	CHECKED - BGH

REVISOR	REVISION

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL  
STRUCTURE NO. 025-0080**

SHEET 17 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	29
			CONTRACT NO. 74859	
		ILLINOIS	FED. AID PROJECT	

MODEL: Default  
 FILE NAME: H:\7322\_IDOT\_DT\_Vari322\_06\_W06\_Bishop\_and\_Ramsey\_Revisions\CAD\_Sheets\74859\_0250080\_Bishop\0250080\_74859\_018\_frd.dgn

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier	0.5 Sp. 2
$I_s$	(in <sup>4</sup> )	9,040	9,040	9,040
$I_c(n)$	(in <sup>4</sup> )	27,171	---	27,171
$I_c(3n)$	(in <sup>4</sup> )	17,914	---	17,914
$I_c(Cr)$	(in <sup>4</sup> )	---	12,560	---
$S_s$	(in <sup>3</sup> )	504	504	504
$S_c(n)$	(in <sup>3</sup> )	738	---	738
$S_c(3n)$	(in <sup>3</sup> )	670	---	670
$S_c(Cr)$	(in <sup>3</sup> )	---	584	---
$Q$	(k/')	1.0	1.0	1.0
$M_Q$	(k)	245	398	180
$s_Q$	(k/')	0.535	0.535	0.535
$M_s Q$	(k)	131	213	97
$M_L$	(k)	450	361	431
$M_{IM}$	(k)	123	96	112
$^{5/3} [M_L + I]$	(k)	955	762	905
$M_o$	(k)	1,730	1,785	1,537
$M_u$	(k)	3,744	2,422	3,744
$f_s Q$ non-comp	(ksi)	5.8	9.5	4.3
$f_s Q$ (comp)	(ksi)	2.3	4.4	1.7
$f_s ^{5/3} [M_L + M_I]$	(ksi)	15.5	15.7	14.7
$f_s$ (Overload)	(ksi)	23.6	29.6	20.7
VR	(k)	59.6	116.3	51.0

INTERIOR GIRDER REACTION TABLE			
	Abut.	Pier	
$R_Q$	(k)	34.0	107.1
$R_L$	(k)	42.1	53.8
$R_I$	(k)	11.5	14.3
$R_{Total}$	(k)	87.6	175.2

\* Compact section

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total and Overload) due to non-composite dead loads (in.4 and in.3).

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

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

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

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

$M_Q$ : Un-factored moment due to non-composite dead load (kip-ft.).

$s_Q$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s Q$ : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M_L$ : Un-factored live load moment (kip-ft.).

$M_I$ : Un-factored moment due to impact (kip-ft.).

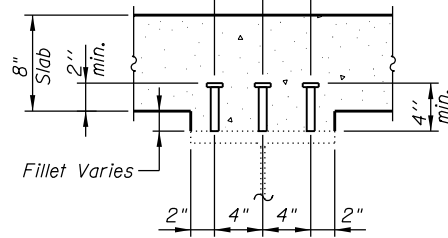
$M_o$ : Factored design moment (kip-ft.).  
 $1.3 [ M_Q + M_s Q + \frac{5}{3} (M_L + M_I) ]$

$M_u$ : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

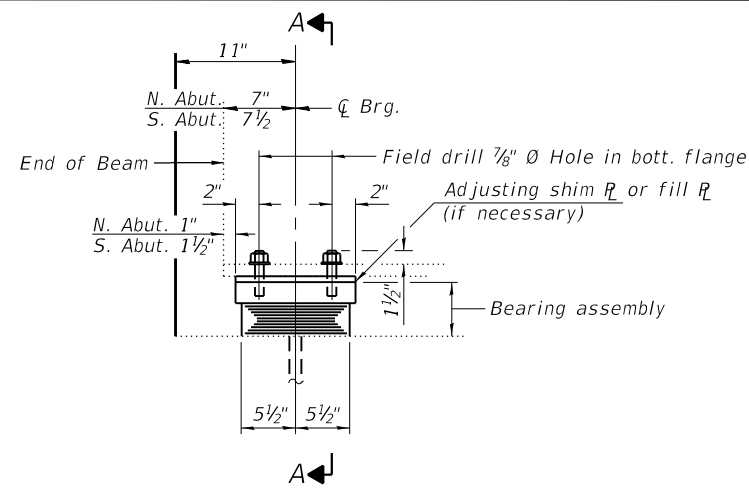
$f_s$  (Overload): Sum of stresses as computed from the moments below (ksi).  
 $M_Q + M_s Q + \frac{5}{3} (M_L + M_I)$

VR: Maximum  $L +$  impact shear range within the composite portion of the span for stud shear connector design (kips).

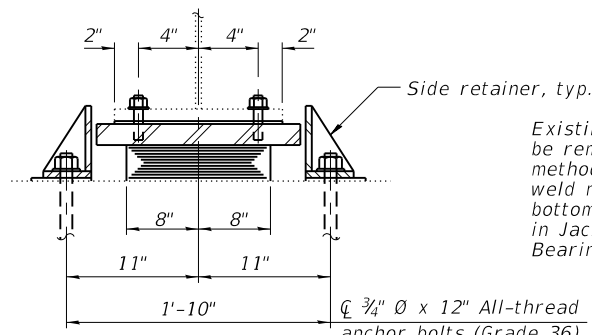
$\frac{3}{4}$ "  $\phi$  Granular or solid flux filled headed studs, automatically end welded to flange. (No. Req'd. = 5,310)



SECTION A-A



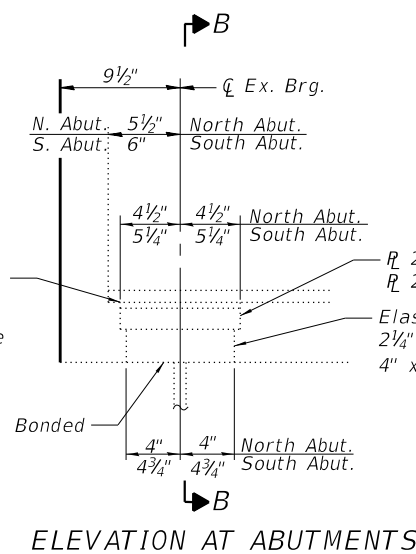
ELEVATION AT ABUT.



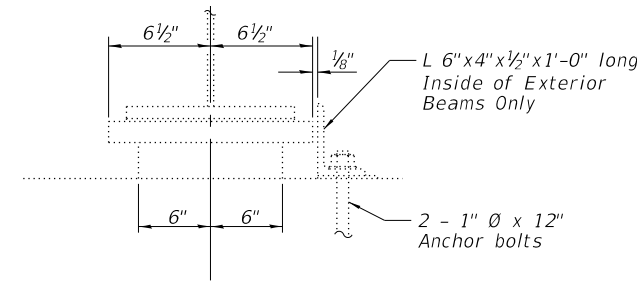
SECTION A-A

Existing Welded Top Plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange. Cost included in Jack and Remove Existing Bearings.

Side retainer, typ.  
 1'-10"  $\frac{3}{4}$ "  $\phi$  x 12" All-thread anchor bolts (Grade 36) with 2" x 2" x  $\frac{5}{16}$ "  $\phi$  washer under nut. (See Notes)



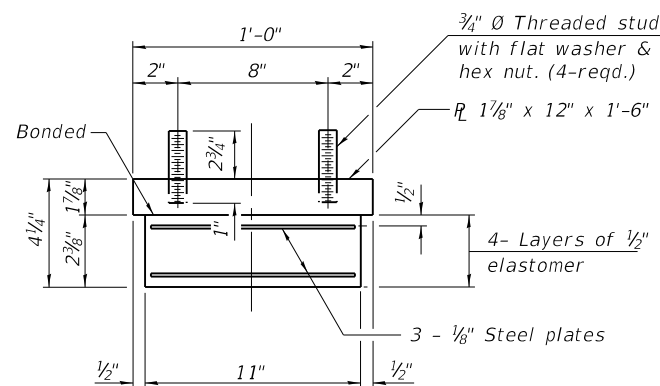
ELEVATION AT ABUTMENTS



SECTION B-B

**TYPE I ELASTOMERIC EXP. BRG.**

Note: Cost of field drilling included in Elastomeric Bearing Assembly Type I.



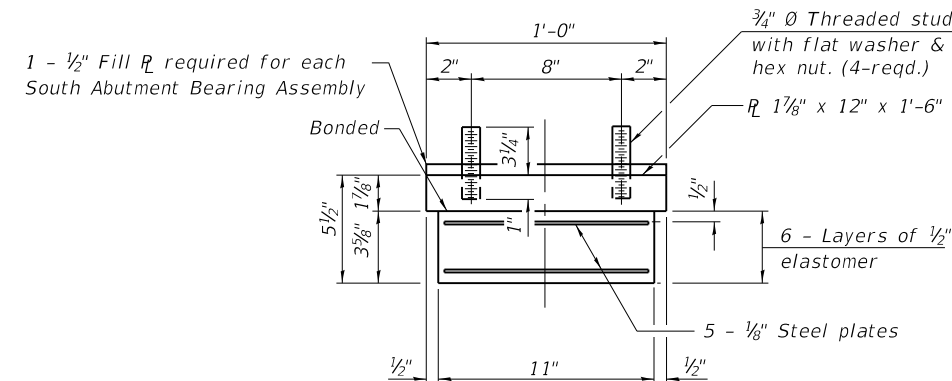
PROPOSED NORTH ABUTMENT BEARING ASSEMBLY (6 Req'd.)

Note: Shim plates shall not be placed under bearing assembly.

Notes:  
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
 Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
 Anchor bolts for side retainers shall be installed in holes drilled before or after members are in place.  
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
 The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270, Grade 50.  
 Two  $\frac{1}{8}$  in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

**EXISTING BEARINGS AT ABUTMENTS**

Note:  
 Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy. Cost included in Jack and Remove Existing Bearings.

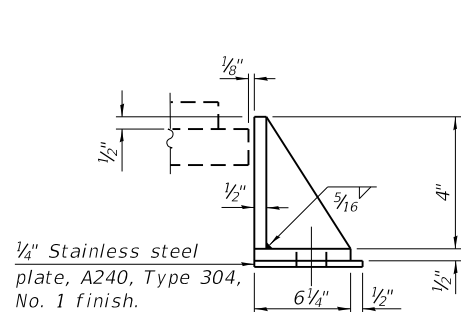


PROPOSED SOUTH ABUTMENT BEARING ASSEMBLY (6 Req'd.)

Note: Shim and fill plates shall not be placed under bearing assembly.

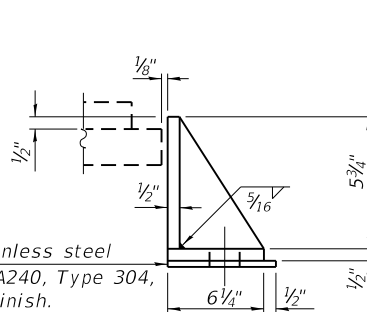
**JACK AND REMOVE EXISTING BEARINGS PROCEDURE**

- The Contractor shall submit, for approval by the Engineer, plans for jacking and removing the existing bearings at the abutments prior to commencing any related work.
- In each stage, jacking and removal of existing bearings shall be done after the existing concrete deck is removed and prior to pouring the new concrete deck.
- The maximum dead load reaction per beam (weight of steel only) at each abutment is 4k. The minimum jack capacity is 8k per girder.
- The new bearings shall be in place and the jacks lowered prior to pouring the new concrete deck in each stage.
- See Special Provisions for Jack and Remove Existing Bearings.



PROPOSED NORTH ABUTMENT SIDE RETAINER

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



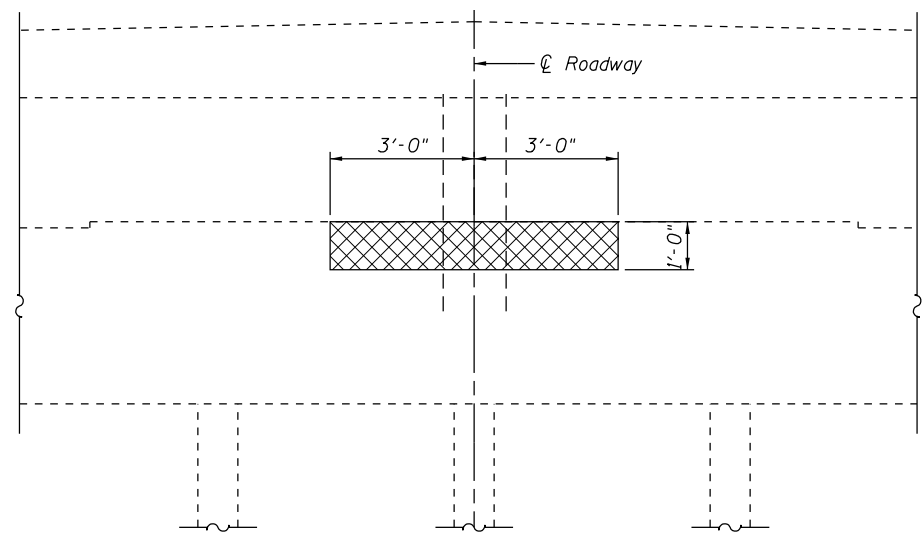
PROPOSED SOUTH ABUTMENT SIDE RETAINER

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

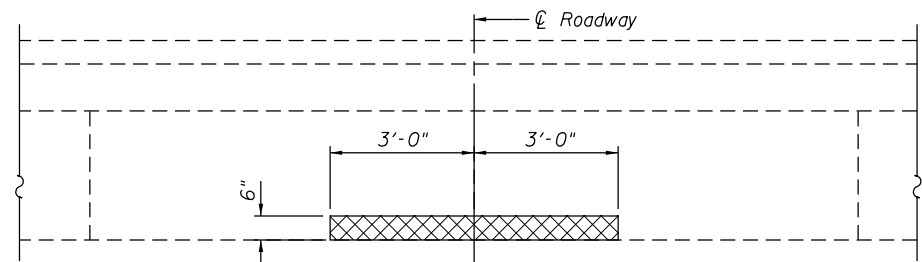
**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, $\frac{3}{4}$ "	Each	24
Jack and Remove Existing Bearings	Each	12

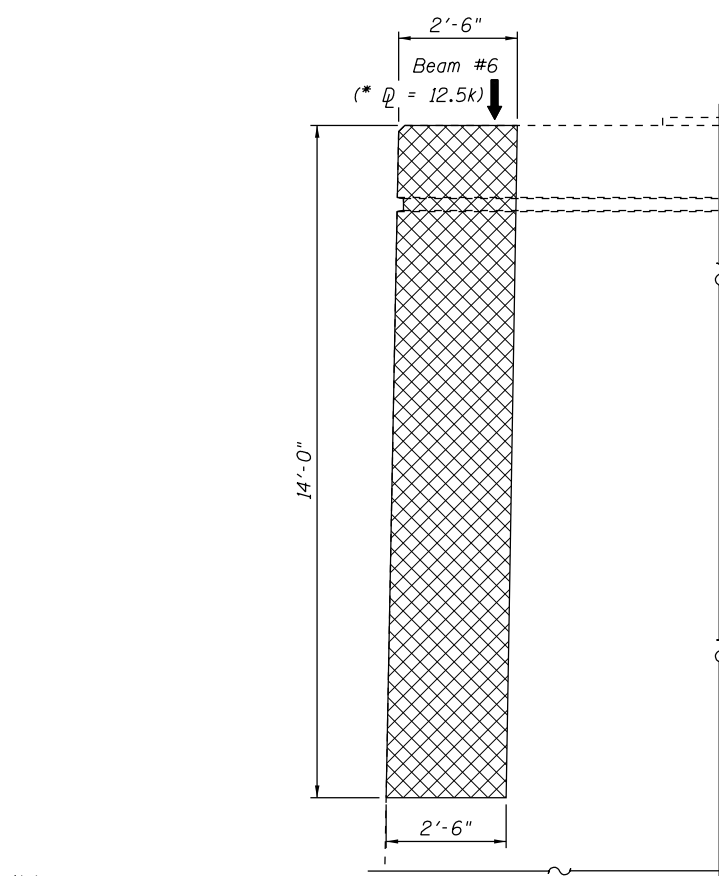
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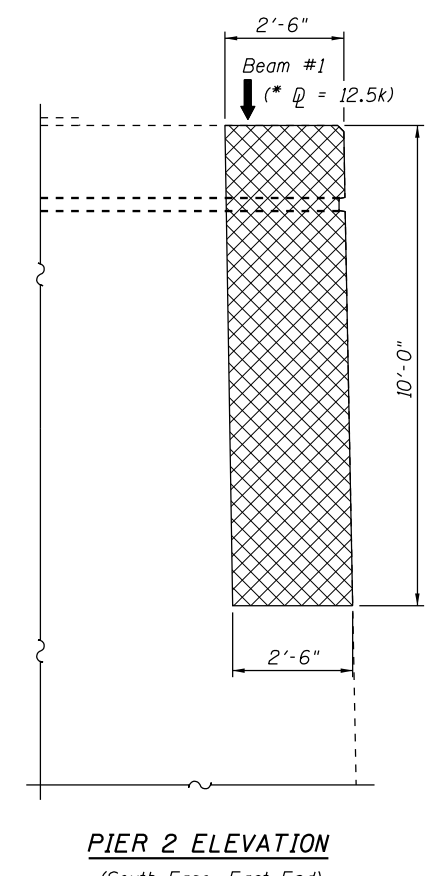
**NORTH ABUTMENT - ELEVATION**



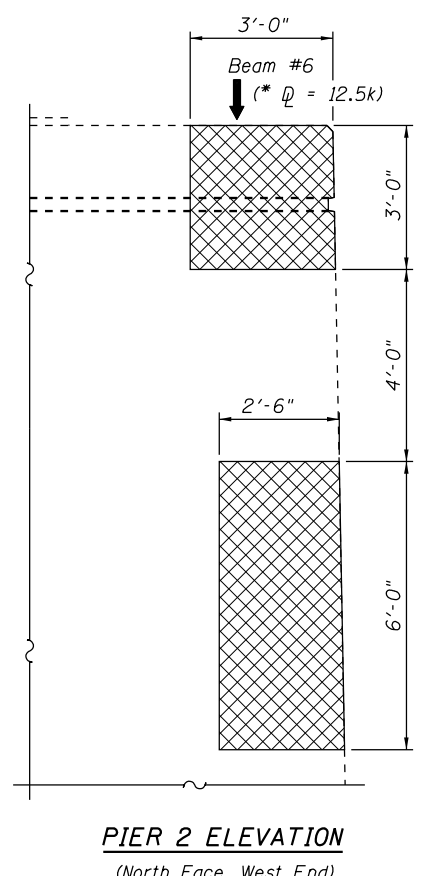
**NORTH ABUTMENT - TOP VIEW**



**PIER 2 ELEVATION**  
(South Face, West End)

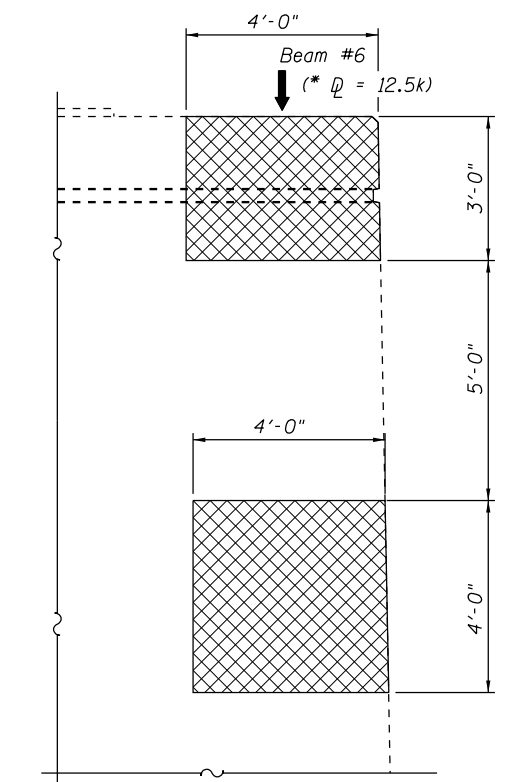


**PIER 2 ELEVATION**  
(South Face, East End)

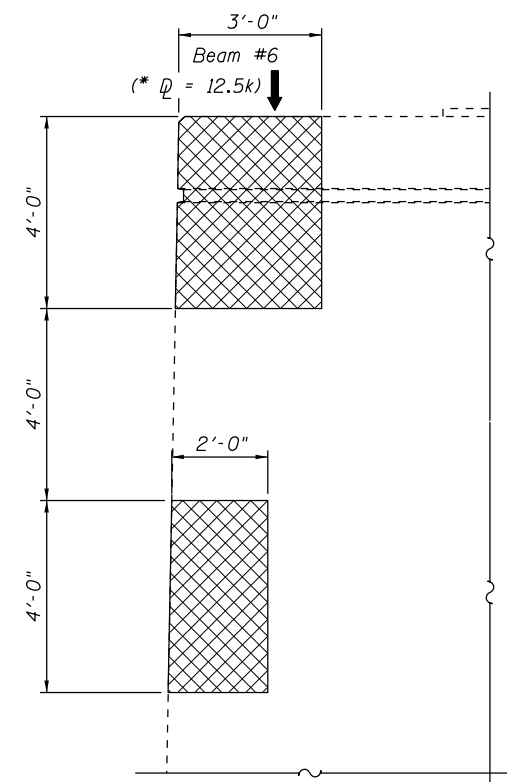


**PIER 2 ELEVATION**  
(North Face, West End)

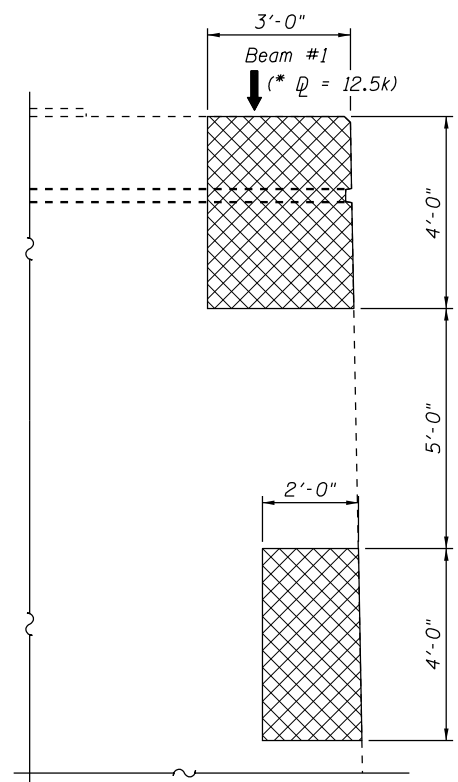
Note:  
\* Q shown at temporary shoring and cribbing locations is the service dead load for the steel only, without deck.



**PIER 1 ELEVATION**  
(North Face, East End)



**PIER 1 ELEVATION**  
(South Face, West End)



**PIER 1 ELEVATION**  
(South Face, East End)

**LEGEND**

- Structural Repair of Concrete  
(Depth equal to or less than 5 inches)
- Temporary Shoring and Cribbing

**REPAIR SCHEDULE**

	Structural Repair of Concrete (Depth equal to or less than 5 inches)
	Sq. Ft.
North Abutment	9
Pier 1	71
Pier 2	84

Note:  
Quantities are estimated. Actual quantities to be determined by the Resident Engineer.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq Ft	164
Temporary Shoring and Cribbing	Each	4

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9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

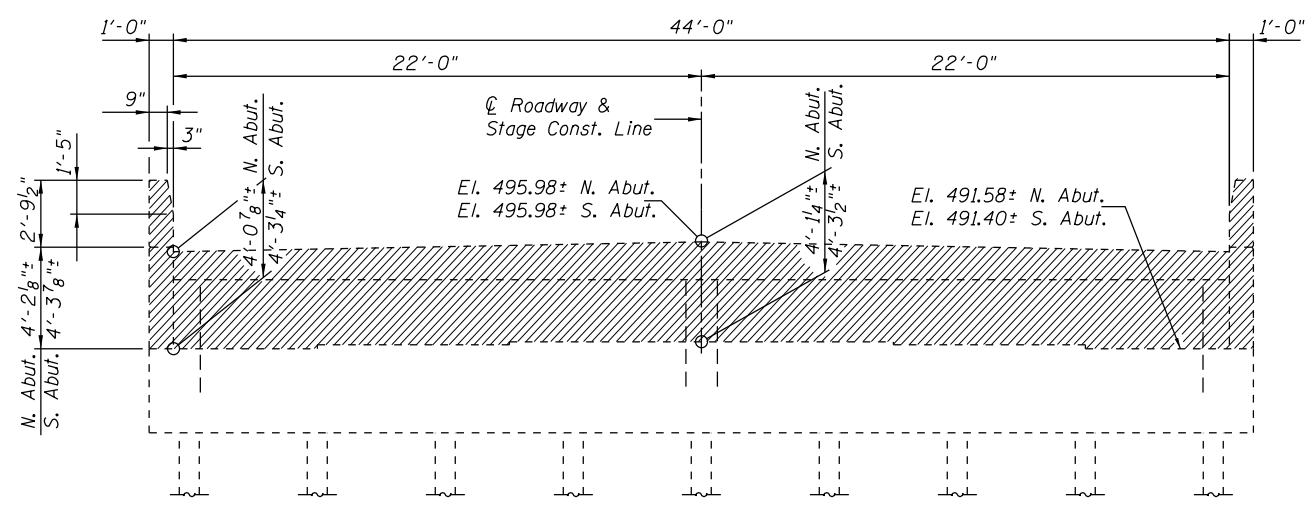
**SUBSTRUCTURE REPAIR DETAILS  
STRUCTURE NO. 025-0080**

SHEET 20 OF 26 SHEETS

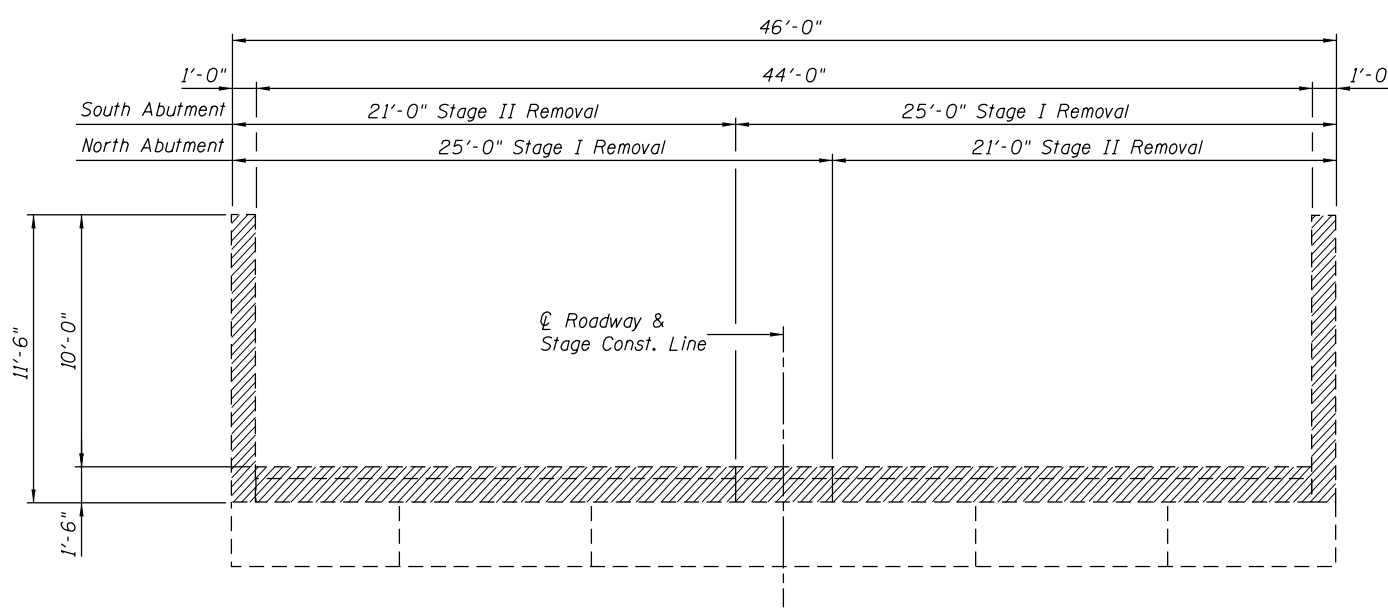
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	32
CONTRACT NO. 74859				

ILLINOIS FED. AID PROJECT

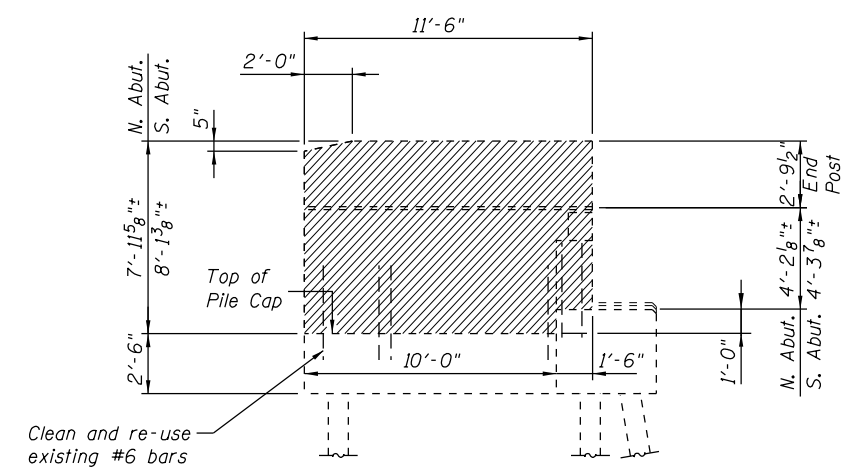
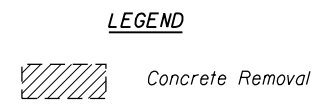
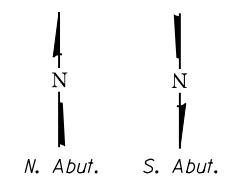
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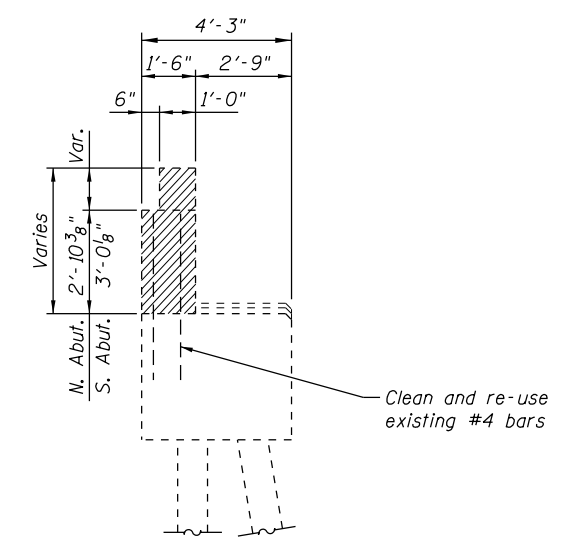
**ABUTMENT ELEVATION**



**ABUTMENT PLAN**



**ABUTMENT WINGWALL ELEVATION**



**ABUTMENT SECTION**

**SCHEDULE OF CONCRETE REMOVAL**

Concrete Removal	Cu. Yd.
North Abutment	15.8
South Abutment	16.4

**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu Yd	32.2

**NOTES**

- Concrete removal shall be according to Section 501 of the Standard Specifications.
- Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

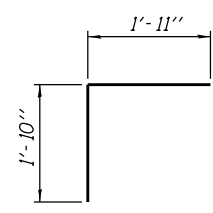
**CONCRETE REMOVAL  
 STRUCTURE NO. 025-0080**

SHEET 21 OF 26 SHEETS

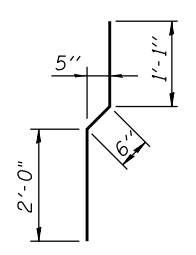
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328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	33
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

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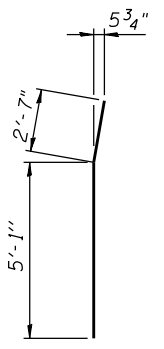
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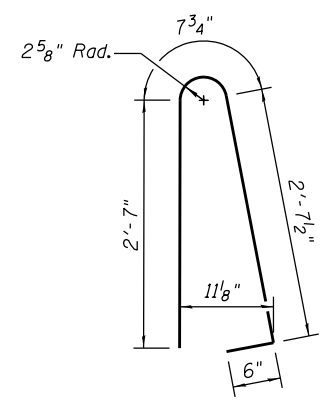
BAR v(E)



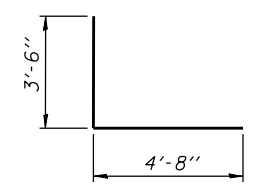
BAR v1(E)



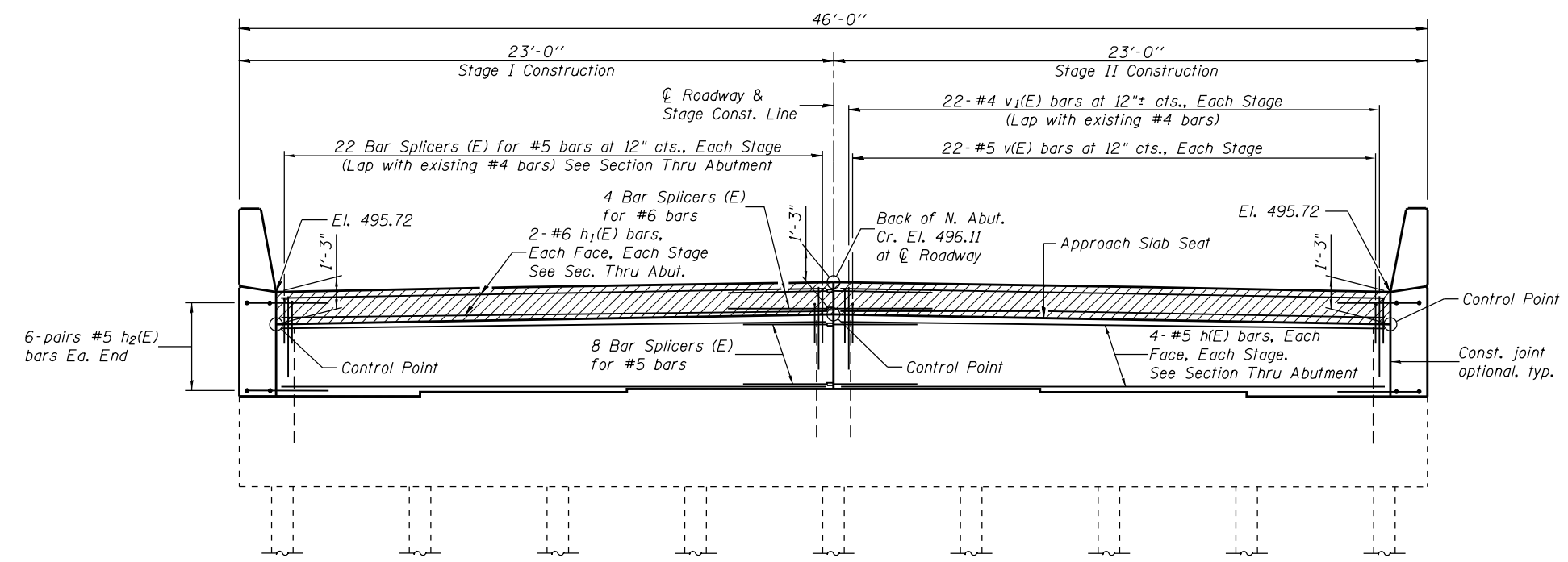
BAR v4(E)



BAR v3(E)

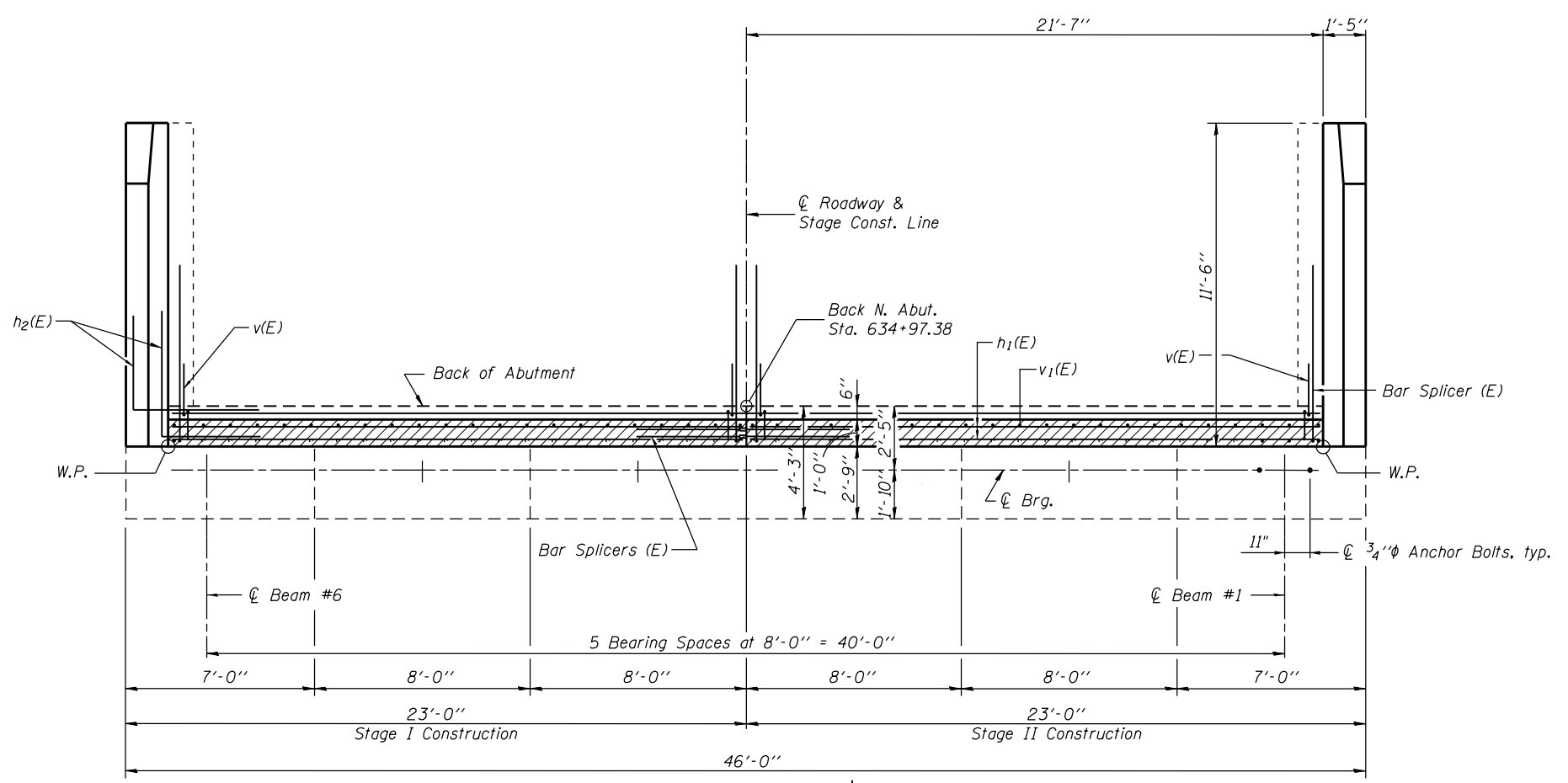


BAR h2(E)



ELEVATION

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



TOP VIEW

NORTH ABUTMENT  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	21'-4"	—
h1(E)	8	#6	21'-4"	—
h2(E)	24	#5	8'-2"	L
h3(E)	36	#4	11'-3"	—
h4(E)	4	#4	9'-9"	—
v(E)	44	#5	3'-9"	Γ
v1(E)	44	#4	3'-7"	—
v2(E)	26	#6	8'-1"	—
v3(E)	26	#5	6'-5"	—
v4(E)	26	#6	7'-8"	—
v5(E)	26	#6	6'-0"	—
Concrete Structures			Cu. Yd.	12.9
Reinforcement Bars, Epoxy Coated			Pound	2,420
Structure Excavation			Cu. Yd.	78
Concrete Sealer			Sq. Ft.	192

Concrete Sealer shall be applied to inside face of new backwall.  
For details of Bar Splicers, see sheet 26 of 26.

MODEL: Default  
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**HMG ENGINEERS, INC.**  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

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PLOT DATE =

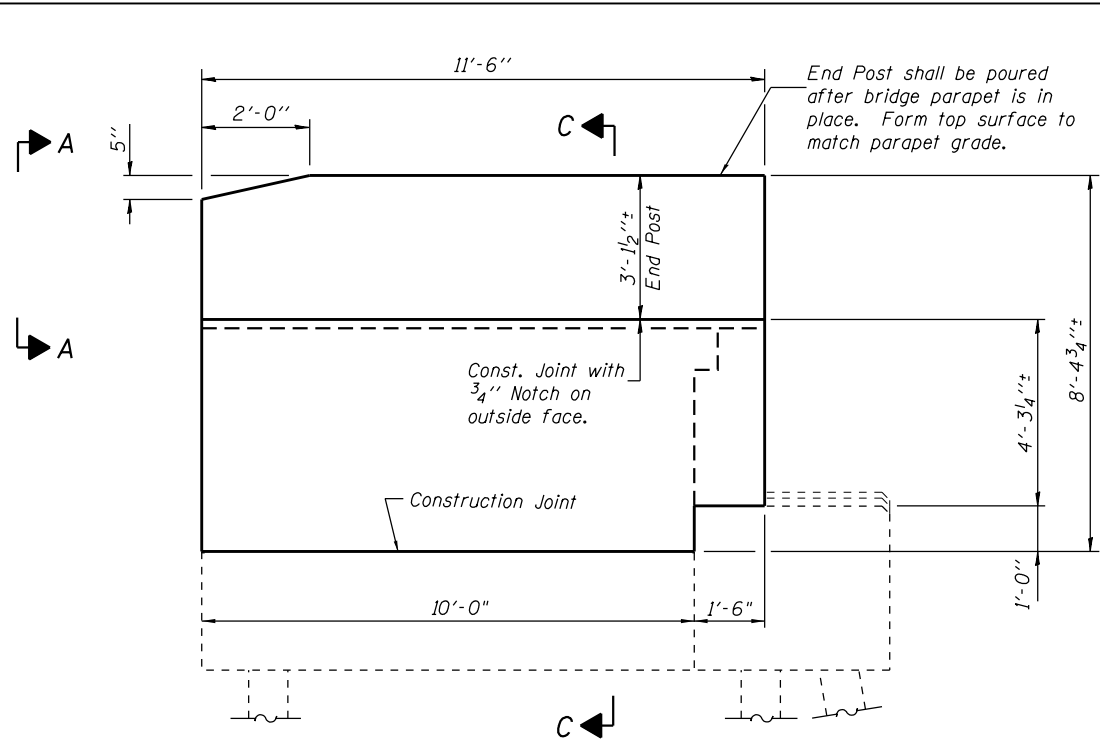
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

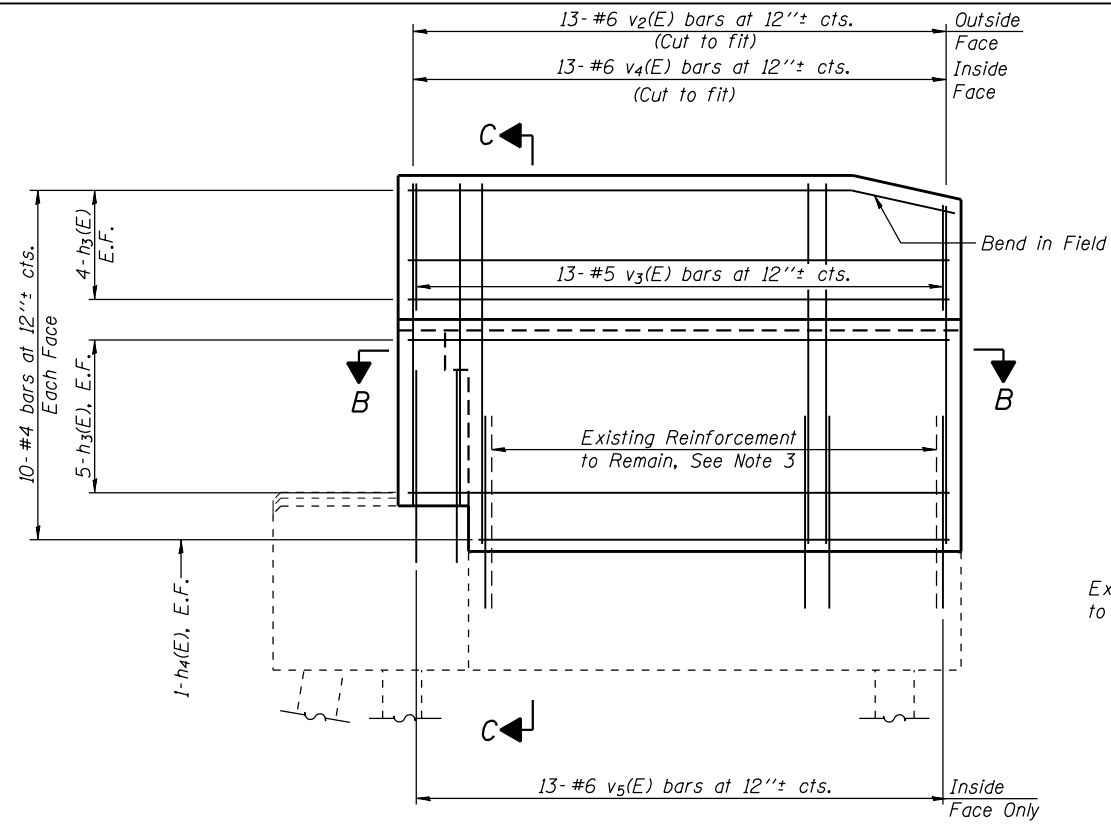
NORTH ABUTMENT  
STRUCTURE NO. 025-0080  
SHEET 22 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	34
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	

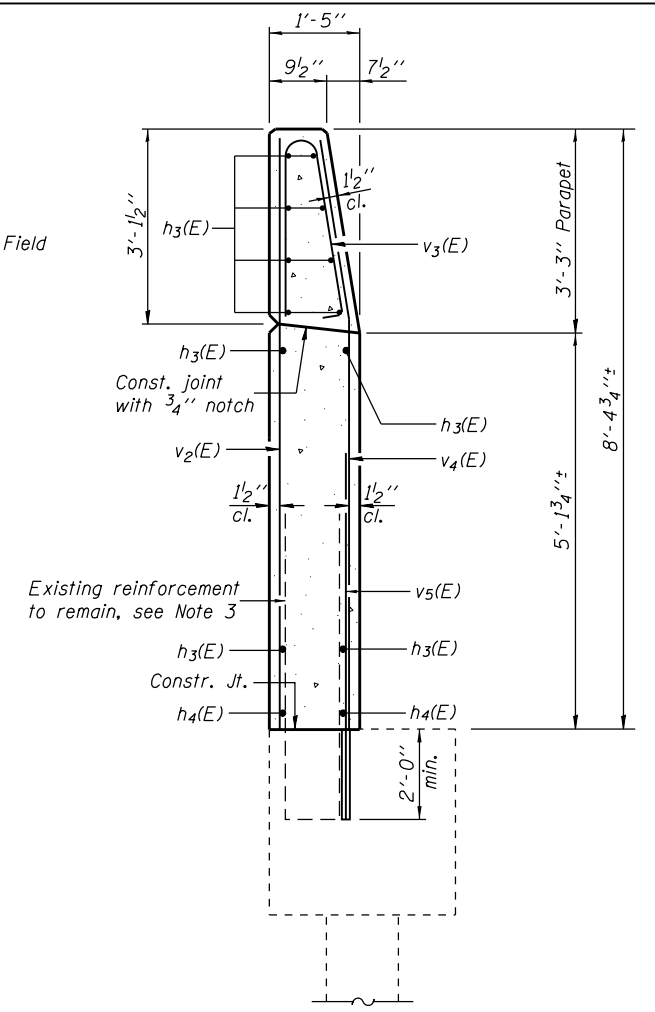
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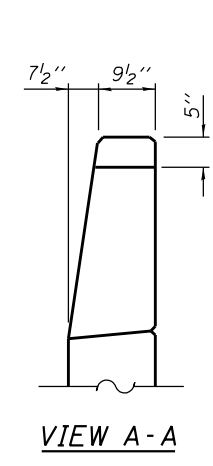
**WING WALL ELEVATION**  
Showing Dimensions



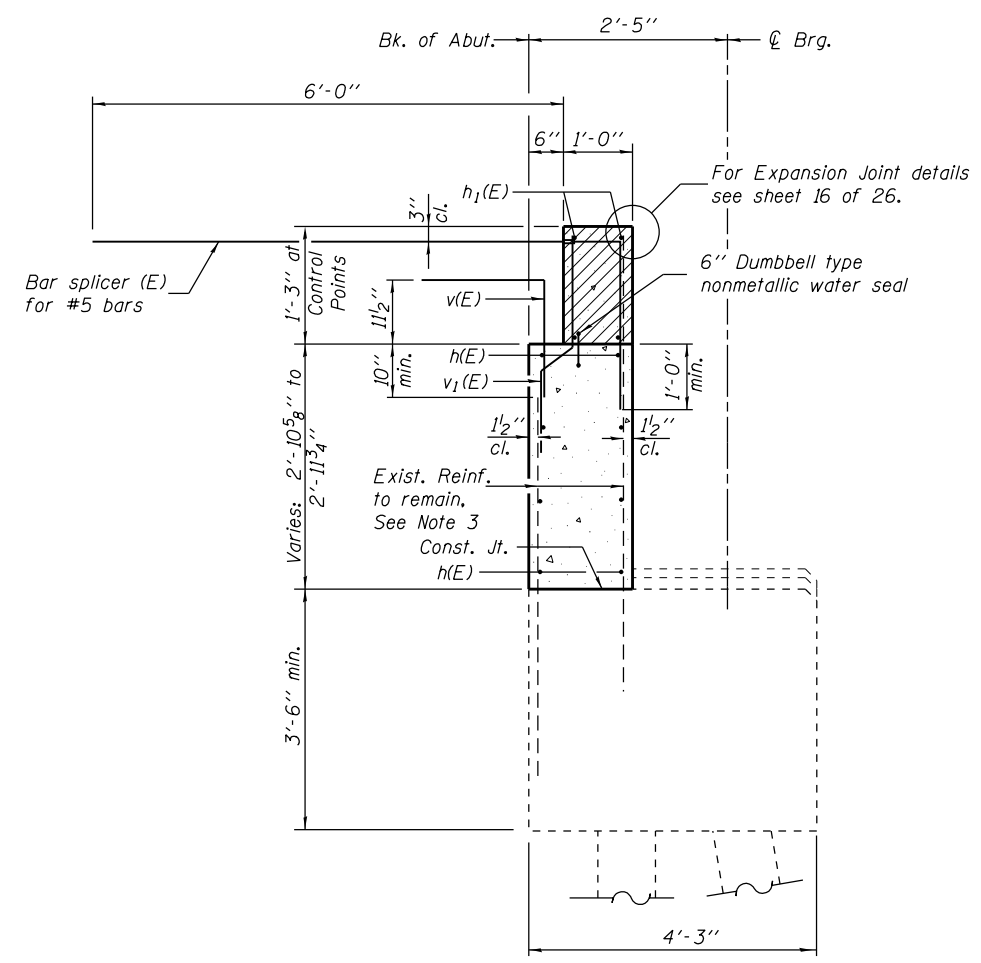
**WING WALL ELEVATION**  
Showing Reinforcement



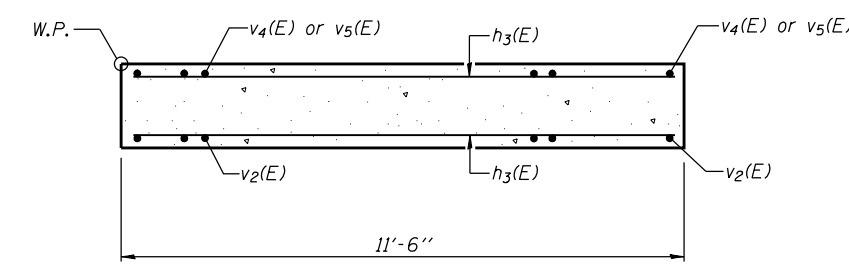
**SECTION C-C**



**VIEW A-A**



**SECTION THRU ABUTMENT**



**SECTION B-B**

**Notes:**

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Quantity of concrete in end post included with Concrete Superstructure on sheet 12 of 26.
3. Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.
4. Drill 2'-0" (min.) deep holes into existing concrete for v5(E) bars. Drill with care taken to avoid existing reinforcement. The v5(E) bars are to be epoxy grouted into the drilled holes. This work shall be performed in accordance with Article 584 of the Standard Specifications. Cost of drilling and grouting shall be included in Reinforcement Bars, Epoxy Coated.
5. See sheet 21 of 26 for Concrete Removal details.

**HMG** ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

USER NAME =	DESIGNED - BIB
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PLOT DATE =	DRAWN - KHL
	CHECKED - BGH

REVISOR	REVISION

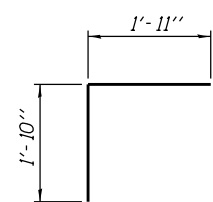
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT DETAILS**  
**STRUCTURE NO. 025-0080**

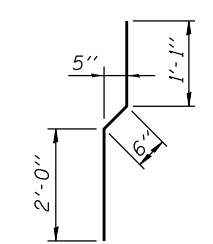
SHEET 23 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	35
CONTRACT NO. 74859				

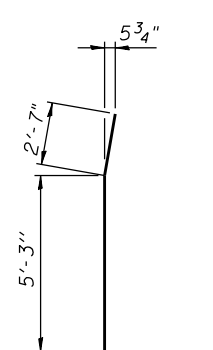
ILLINOIS FED. AID PROJECT



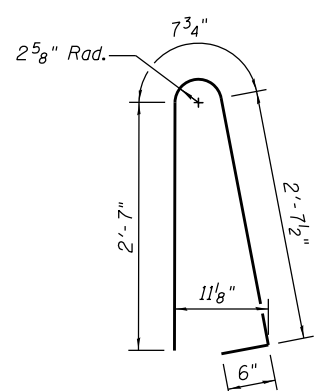
BAR v(E)



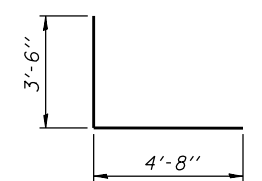
BAR v1(E)



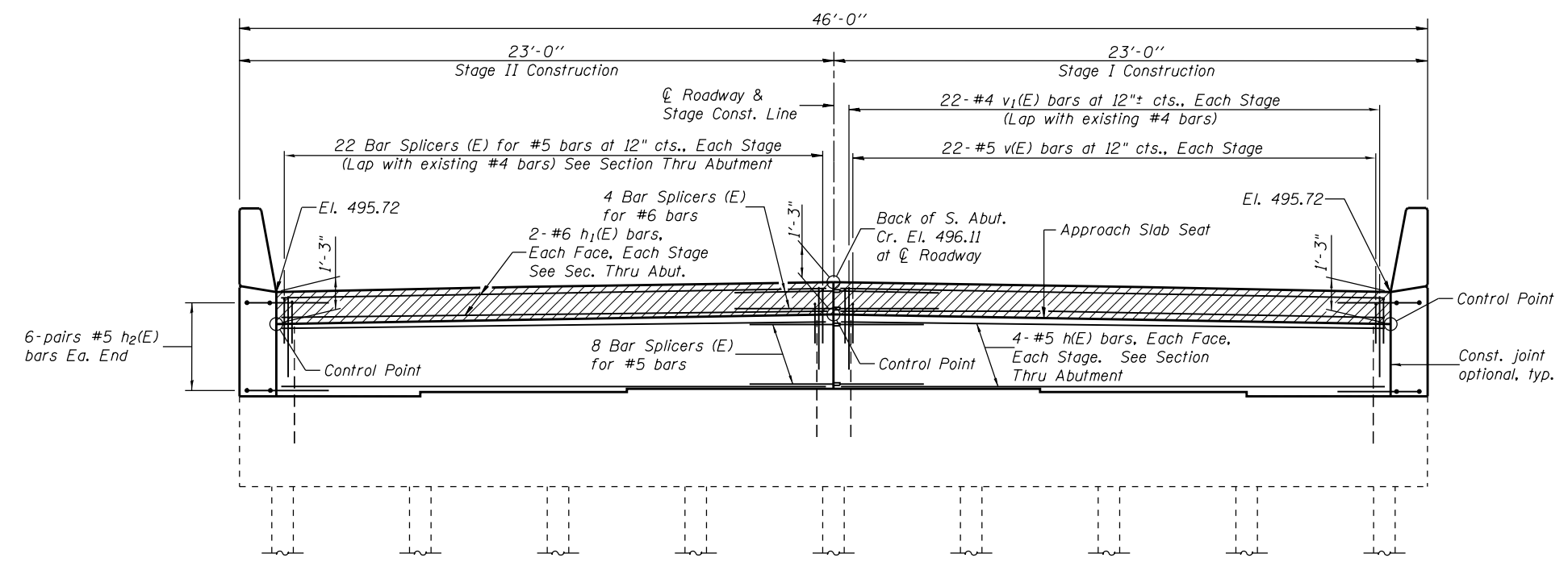
BAR v4(E)



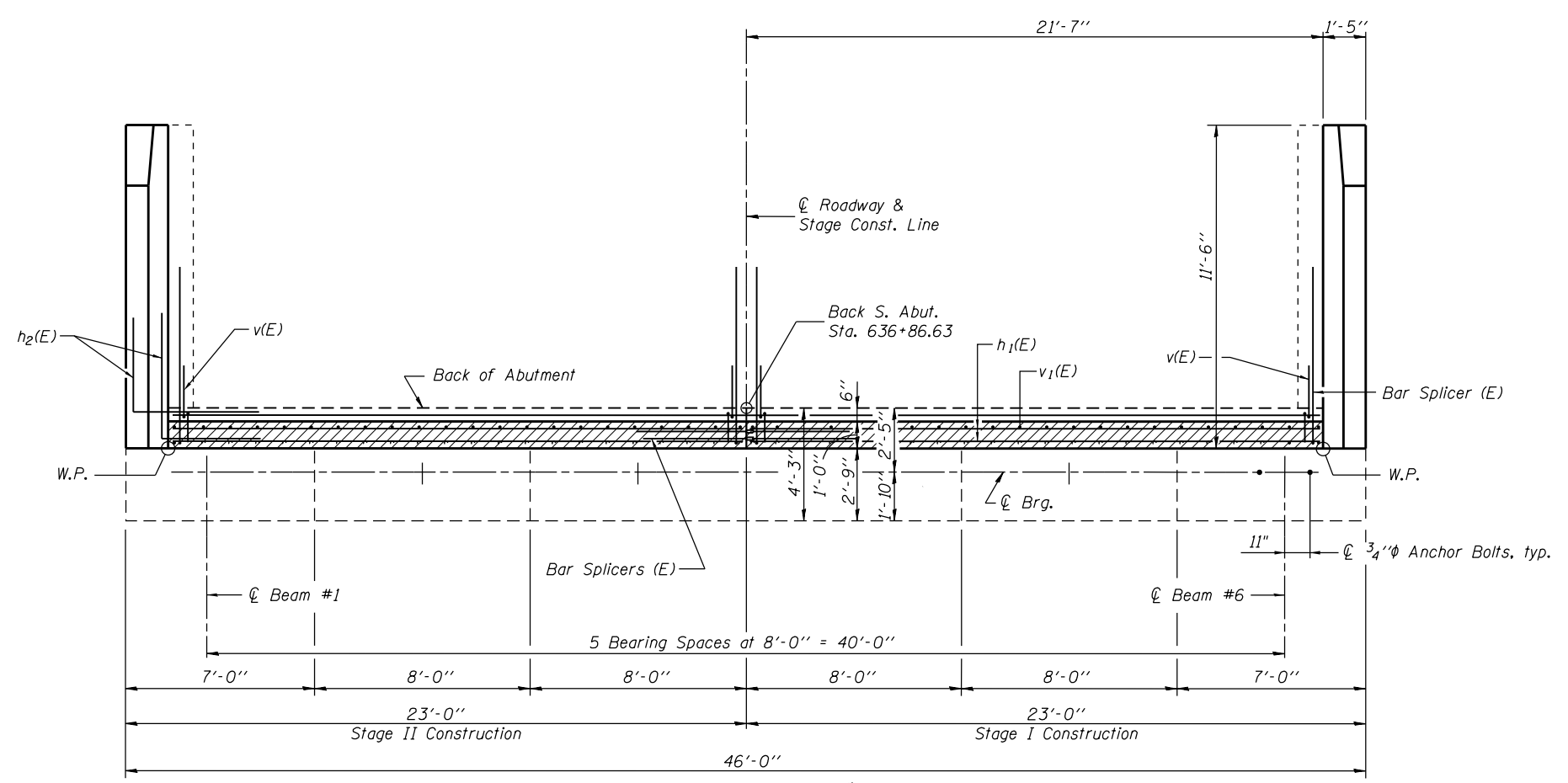
BAR v3(E)



BAR h2(E)



ELEVATION



TOP VIEW

**SOUTH ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	16	#5	21'-4"	—
h1(E)	8	#6	21'-4"	—
h2(E)	24	#5	8'-2"	L
h3(E)	36	#4	11'-3"	—
h4(E)	4	#4	9'-9"	—
v(E)	44	#5	3'-9"	Γ
v1(E)	44	#4	3'-7"	—
v2(E)	26	#6	8'-1"	—
v3(E)	26	#5	6'-5"	—
v4(E)	26	#6	7'-10"	—
v5(E)	26	#6	6'-0"	—
Concrete Structures			Cu. Yd.	13.9
Reinforcement Bars, Epoxy Coated			Pound	2,420
Structure Excavation			Cu. Yd.	78
Concrete Sealer			Sq. Ft.	201

Concrete Sealer shall be applied to inside face of new backwall. For details of Bar Splicers, see sheet 26 of 26.

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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers + Surveyors	DESIGNED - BIB	REVISD -
	CHECKED - LDG	REVISD -
	DRAWN - KHL	REVISD -
	CHECKED - BGH	REVISD -

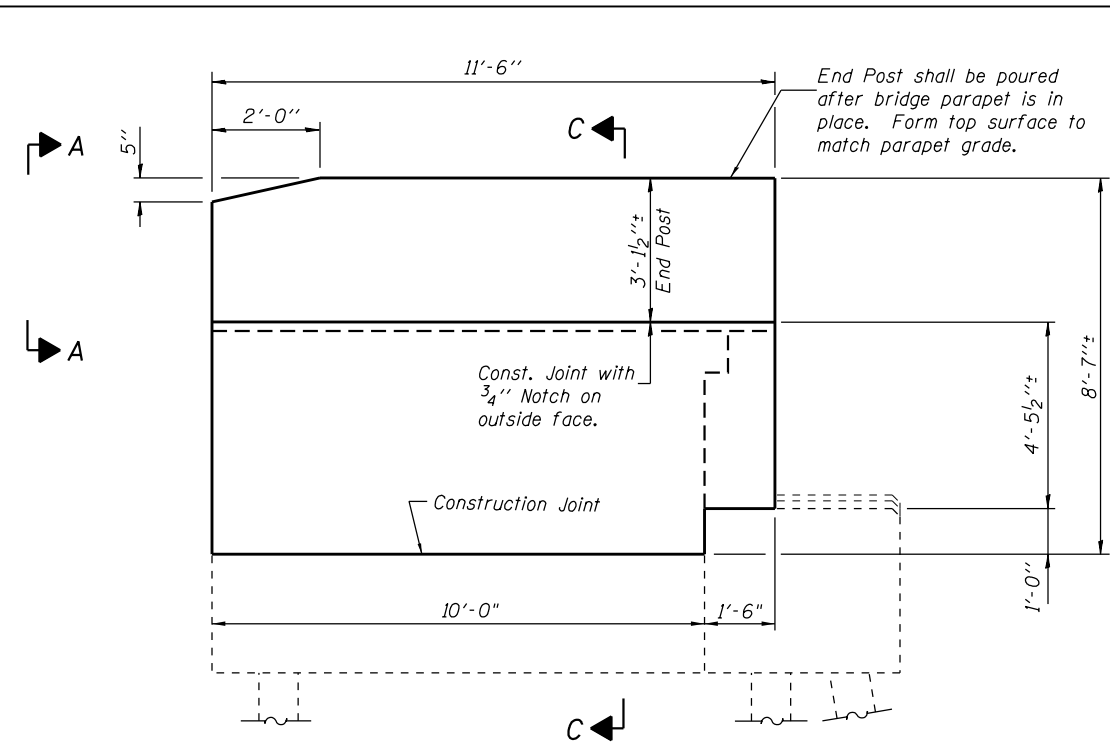
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT  
STRUCTURE NO. 025-0080**  
SHEET 24 OF 26 SHEETS

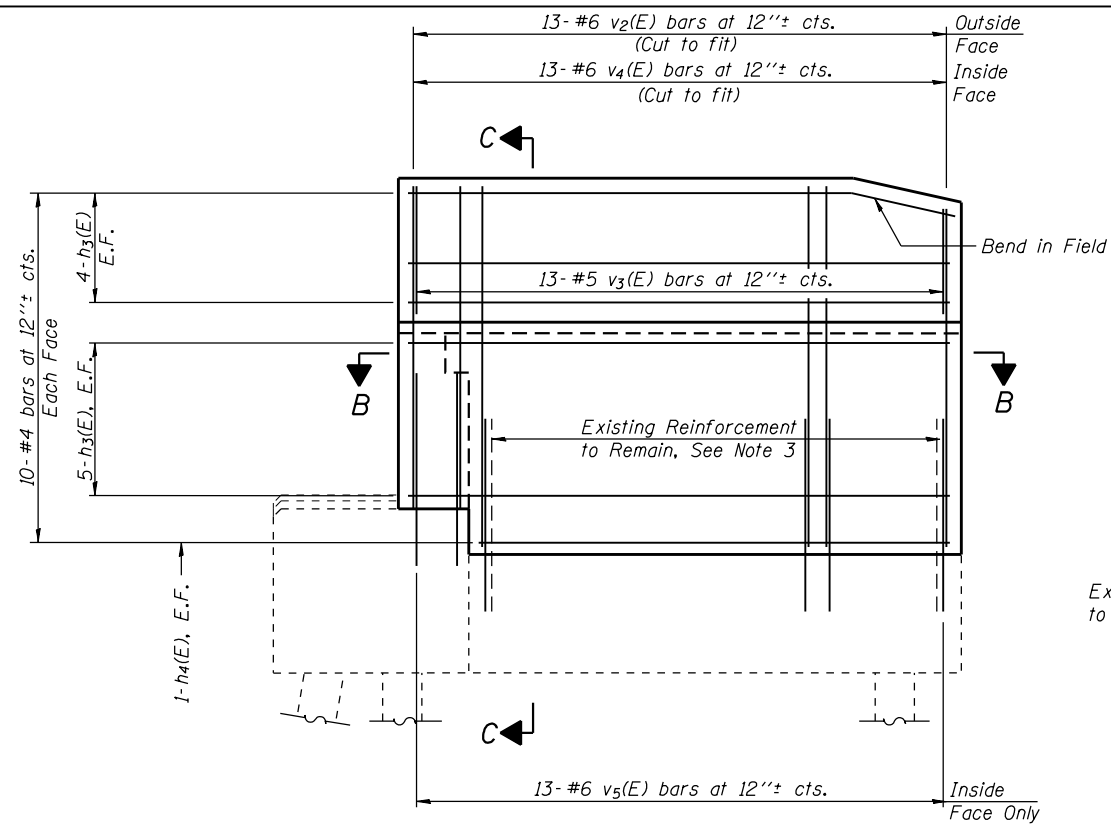
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	36
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	



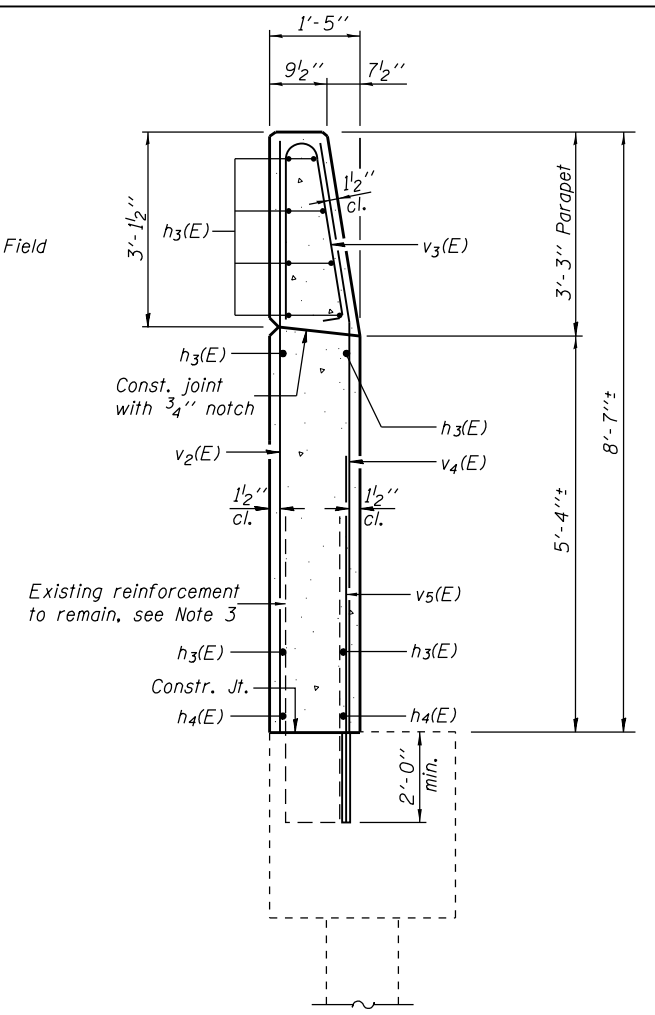
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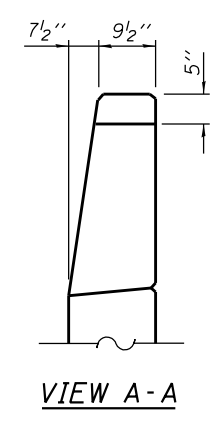
**WING WALL ELEVATION**  
Showing Dimensions



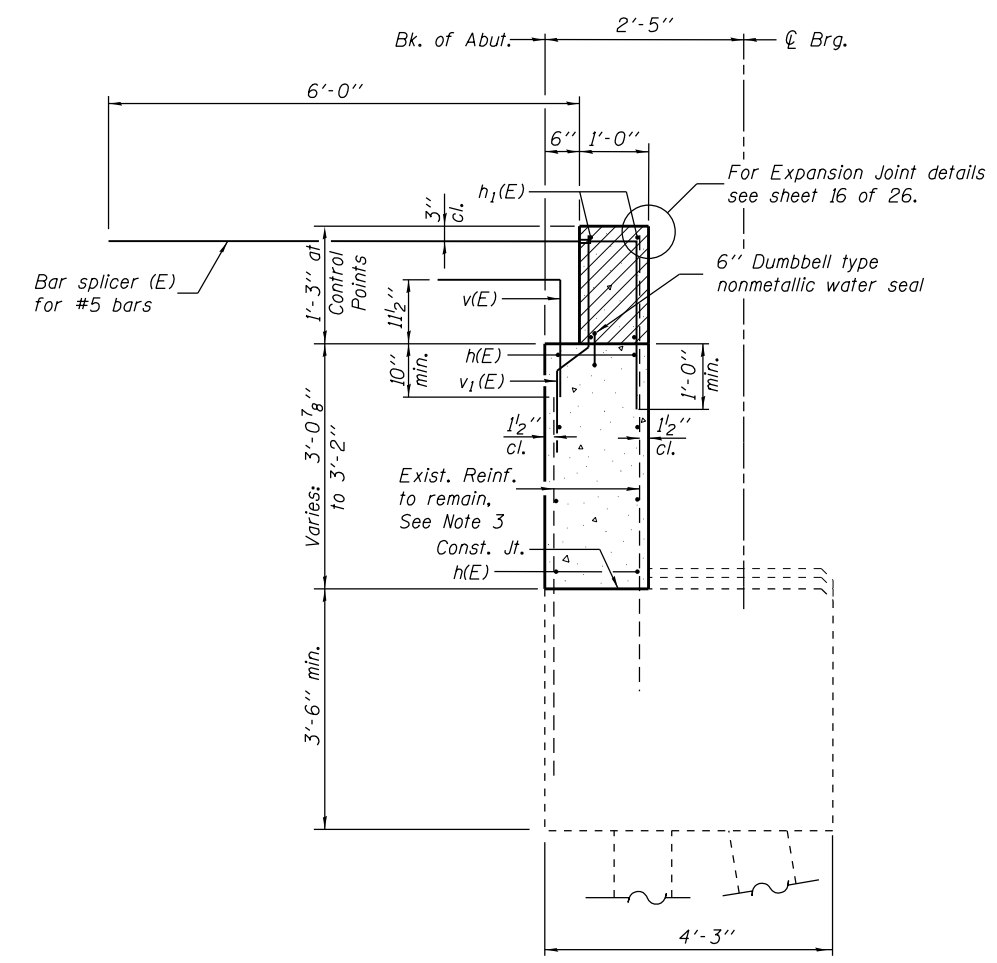
**WING WALL ELEVATION**  
Showing Reinforcement



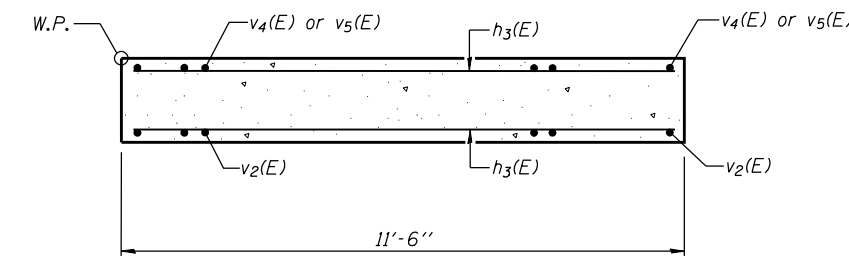
**SECTION C-C**



**VIEW A-A**



**SECTION THRU ABUTMENT**



**SECTION B-B**

**Notes:**

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Quantity of concrete in end post included with Concrete Superstructure on sheet 12 of 26.
3. Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.
4. Drill 2'-0" (min.) deep holes into existing concrete for v5(E) bars. Drill with care taken to avoid existing reinforcement. The v5(E) bars are to be epoxy grouted into the drilled holes. This work shall be performed in accordance with Article 584 of the Standard Specifications. Cost of drilling and grouting shall be included in Reinforcement Bars, Epoxy Coated.
5. See sheet 21 of 26 for Concrete Removal details.

**HMG** ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
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PLOT DATE =	DRAWN - KHL
	CHECKED - BGH

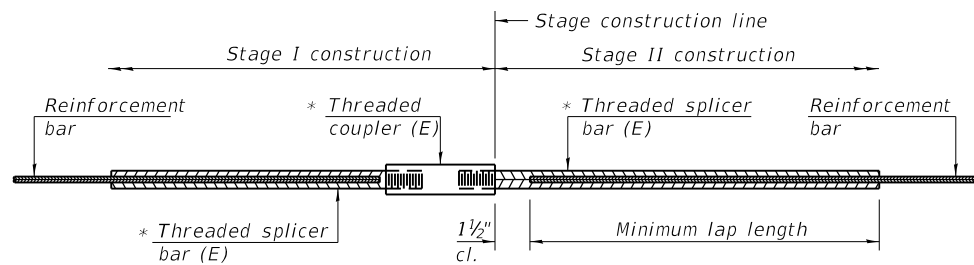
REVISOR	REVISION

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

**SOUTH ABUTMENT DETAILS**  
**STRUCTURE NO. 025-0080**

SHEET 25 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	37
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	

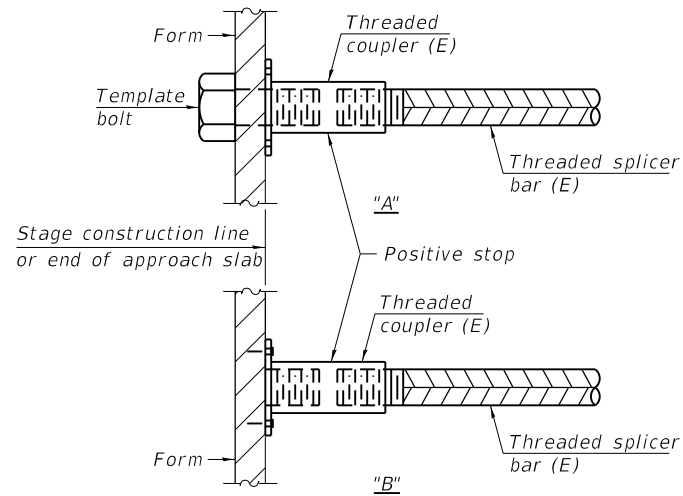


**STANDARD BAR SPLICER ASSEMBLY**

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
DECK	#5	581	3'-6"
DECK	#6	8	4'-5"
APPROACHES	#5	90	3'-6"
APPROACHES	#8	120	4'-9"
APPROACH FTGS.	#5	80	3'-6"
ABUTMENTS	#5	16	3'-6"
ABUTMENTS	#6	8	4'-5"

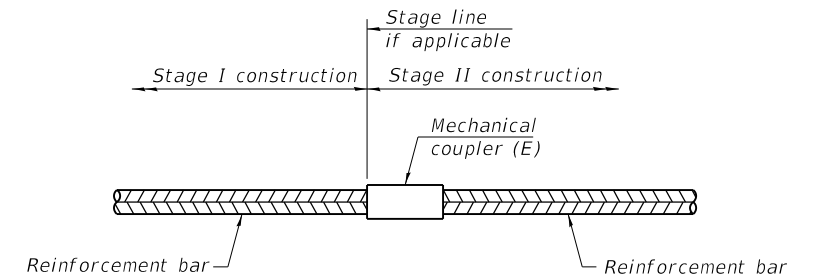


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

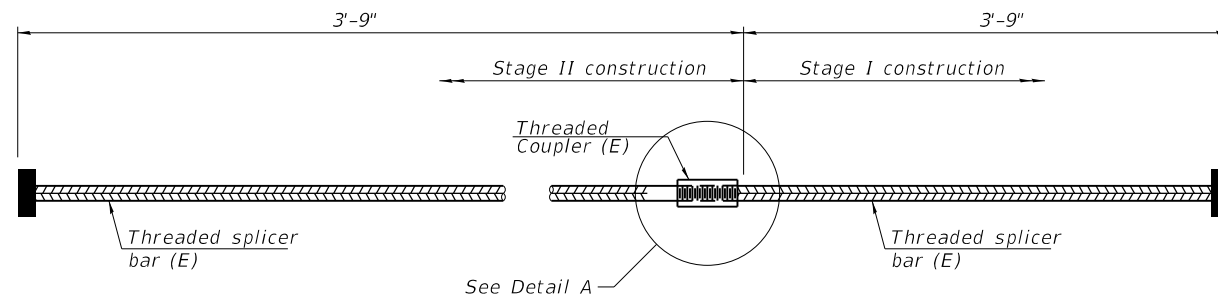
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



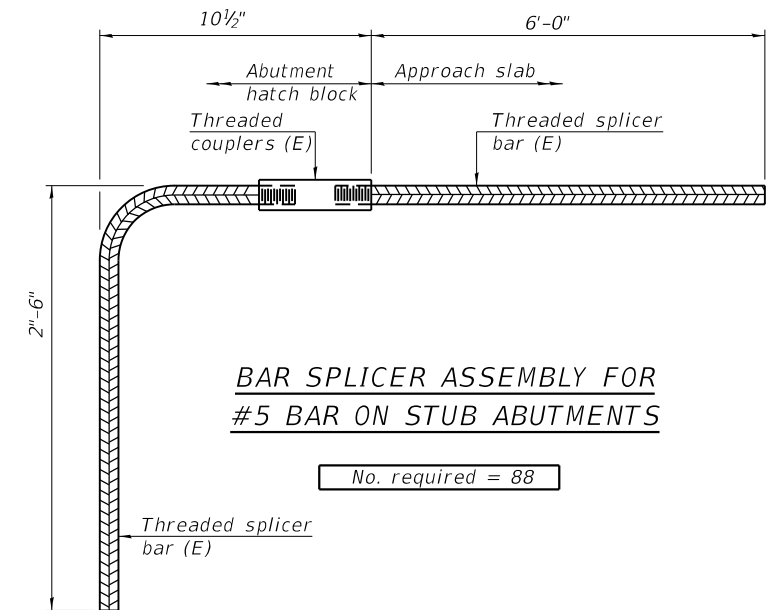
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



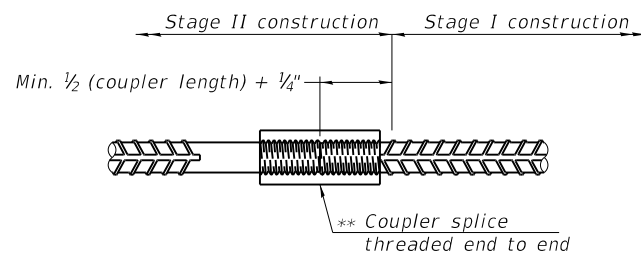
**#6 a 3 (E) BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT (HEADED)**

No. required = 8



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 88



**DETAIL A**

\*\* The bar splicer assembly shall allow completion of the splice without turning of the headed bars. The stage II splice bar shall be threaded such that the entire coupler can be threaded onto the splicer bar.

**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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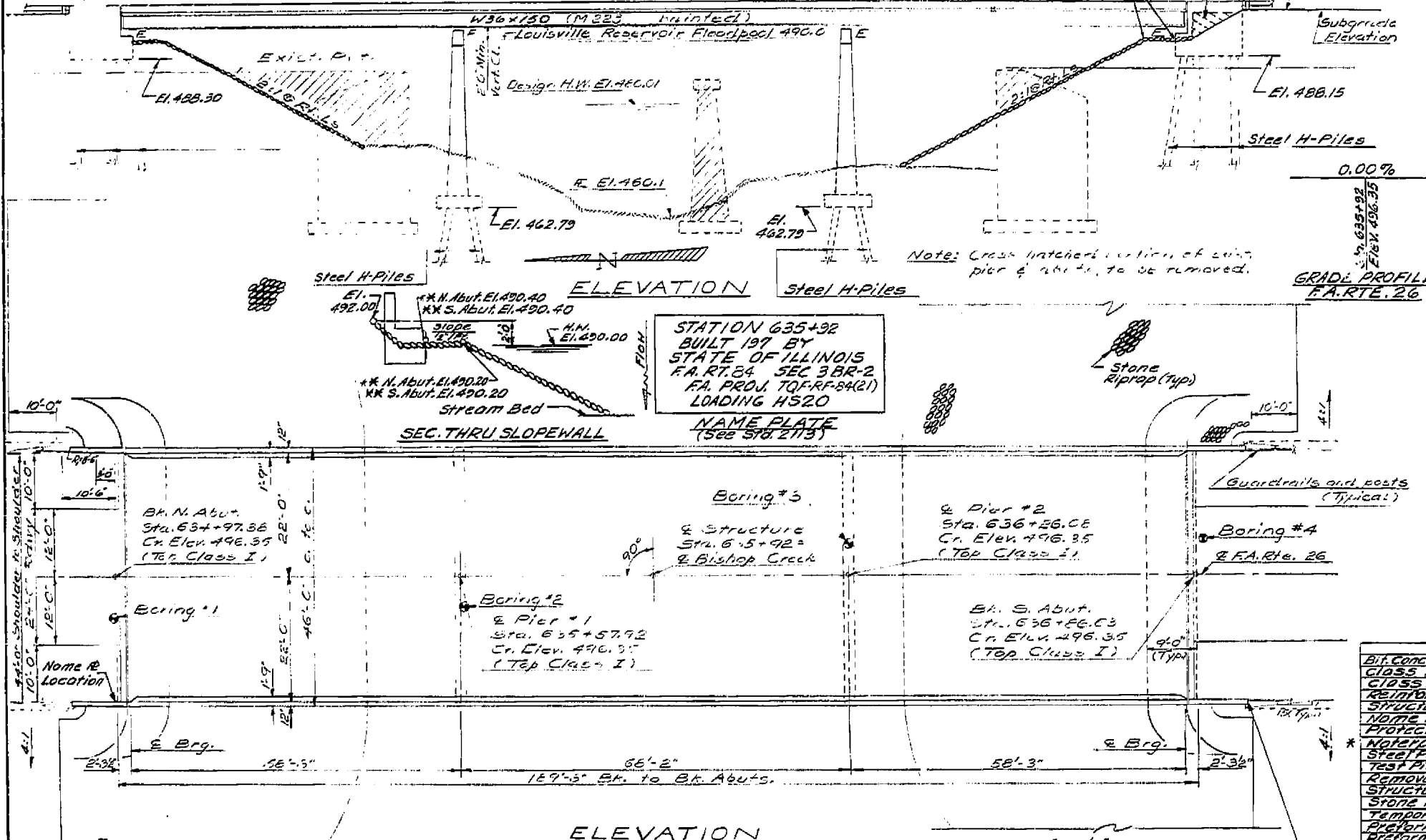
<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME =	DESIGNED - BIB	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS</b> <b>STRUCTURE NO. 025-0080</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - LDG	REVISED -			328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	38
	PLOT DATE =	DRAWN - KHL	REVISED -			CONTRACT NO. 74859				
		CHECKED - BGH	REVISED -			ILLINOIS   FED. AID PROJECT				
SHEET 26 OF 26 SHEETS										

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE	BY	REVISION	NO.	DATE	BY	REVISION	NO.

SHEET NO. 1  
OF 11 SHEETS

BM #2-Chiseled "D" on top S.E. Wing Bridge over Bishop Creek Sta. 636+00 elev. 464.36.  
Existing structure built as S.B.I. Rt. 25, Sec 3B, Sta. 636-00, in 1921 2-span, @ 50' R.C. Through Curbs on solid pier and closed abutments. Contractor shall remove existing structure upon completion of detour. A temporary bridge 120' East of exist structure with an opening of 760' is required. Plans by Contractor - No change.



**GENERAL NOTES**

Calculated weight of Structural Steel: M223-M, 810, M183-24, 220 Lbs.  
Fasteners shall be high strength bolts. Bolts 7/8" open holes 1 1/16" unless otherwise noted.  
For Boring Data see the proposal.  
The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.  
Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting diaphragms over supports.  
The contractor shall drive one steel test pile each in a permanent location at Pier 1 and S. Abut. as directed by the Engineer before ordering the remainder of piles.  
Layout of Riprap may be varied in the field to suit ground conditions as directed by the Engineer.  
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.  
The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Standard Concrete.  
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane Sys. is applied.  
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ± 1/8". Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims (Pier 2 only).  
The main load carrying members of steel bridges subjected to tensile stresses shall conform to the Supplemental requirements for Notch Toughness.  
All structural steel shall conform to AASHTO designation M-183 except M-36+150 beams and all flange and web splice plates which shall conform to AASHTO designation M-223, Gr. 50.

**TOTAL BILL OF MATERIAL**

ITEM	Unit	Super	Sub.	Total
Bit. Concrete Surface Course, Class X	Tons	73	73	73
Class X Concrete	Cu. Yds.	267.3	89.3	356.6
Class A Concrete	Cu. Yds.	271.6	271.6	271.6
Reinforcement Bars	LBS.	43710	23850	67560
Structural Steel	LBS.	1	1	1
Name Plates	Each	1	1	1
Protective Coat	Sq. Yds.	169	169	169
Waterproofing Membrane System	Sq. Yds.	877	877	877
Steel Piles HPI 42	Lin. Ft.	1742	1742	1742
Test Piles Steel NPI 42	Each	2	2	2
Removal of Existing Structures	Each	259.0	259.0	259.0
Structure Excavation	Cu. Yds.	3120	3120	3120
Stone Riprap	Sq. Yds.	3120	3120	3120
Temporary Bridge Complete	Each	46	46	46
Preformed Jt. Sealer (2")	Lin. Ft.	46	46	46
Preformed Jt. Sealer (4")	Lin. Ft.	46	46	46

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: Leona Heeren  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]  
DIRECTOR OF HIGHWAYS

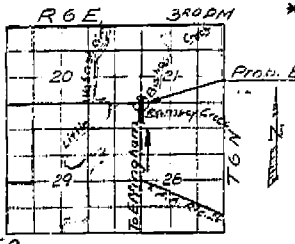
JULY 9 1975

**WATERWAY INFORMATION**

Drainage Area --- 50.4 Sq. Mi.  
Design Discharge (50 Yr.) --- 9700 c.f.s.  
Existing Opening (below 50 Yr. HWE) --- 1450 Sq. Ft.  
Required Opening (below 50 Yr. HWE) --- 1900 Sq. Ft.  
Proposed Opening (below existing 50 Yr. HWE) --- 1900 Sq. Ft.  
Proposed Opening (Reservoir Flood Pool) --- 1490 Sq. Ft.  
100-Year Discharge --- 11,830 c.f.s.  
Design HWE (Existing Conditions) = 480.01 Ft.  
100-Year HWE (Existing Conditions) = 484.00 Ft.  
Future Reservoir Flood Pool --- 490.00 Ft.

**DESIGN STRESSES**

$f_c$  = 1200 psi (Deck slab)  
 $f_c$  = 1400 psi (Curb, Parapet)  
 $f_s$  = 27,000 psi (Struct.-M223) Grade 50  
 $f_s$  = 20,000 psi (Struct. steel M-183)  
 $f_s$  = 20,000 psi (Reinf. Deck slab, curb & Parapet)  
 $n$  = 10  
Substructure-Load Factor Design  
 $f_c$  = 3500 psi (substructure)  
 $f_y$  = 60,000 psi (Reinf.-Substructure) Grade 60  
Loading HS 20-44  
Allow 25% Future H.S.

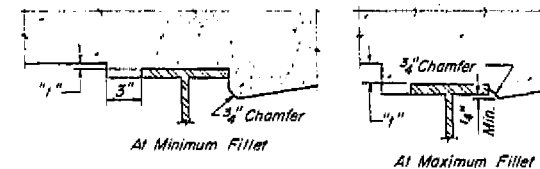


**GENERAL PLAN & ELEVATION**  
PROJECT TQF-RF-84(21)  
F.A. RTE. 26 (S.B.I. RTE 25) OVER  
BISHOP CREEK  
F.A. RTE. 26 SECTION 3BR-2  
EFFINGHAM COUNTY  
STA. 635+92.00

FOR INFORMATION ONLY

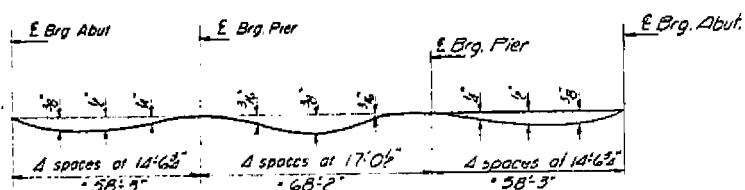
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
025-0080	3BR-2, 3BR-3	04	10

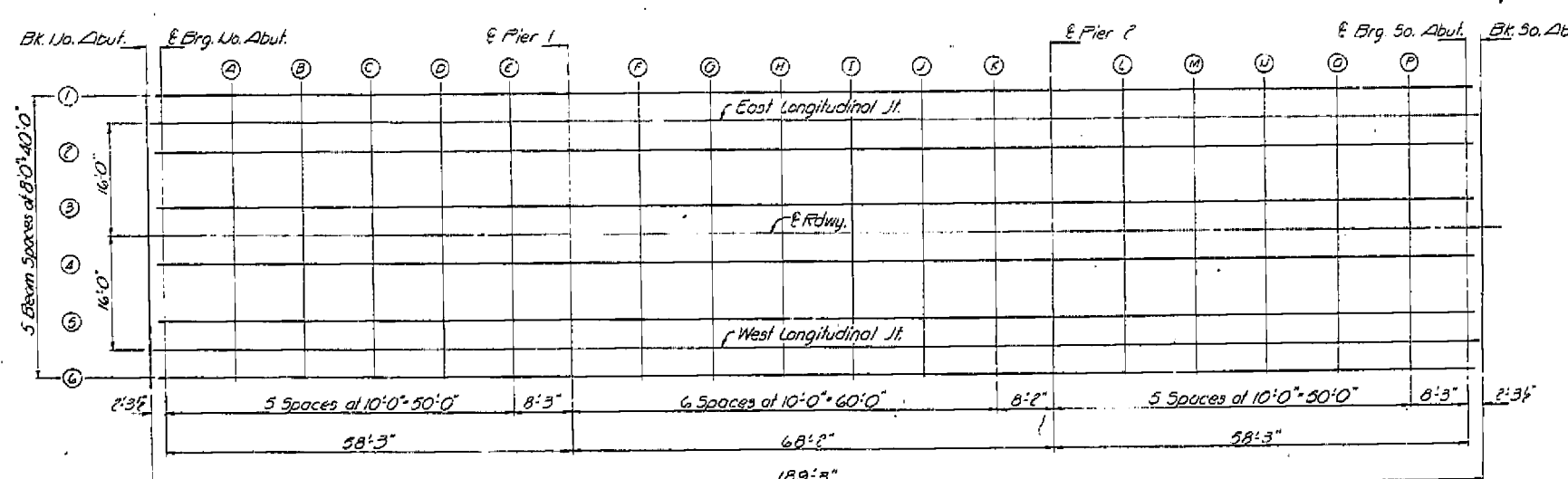
SHEET NO. 4  
OF 10 SHEETS



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete and Class I only)  
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

E BEAM 1					EAST LONGITUDINAL JOINT					E BEAM 2					E BEAM 3				
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection	Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. No. Abut.	63497.380	-20.000	495.871	495.871	Bk. No. Abut.	63497.380	-16.000	495.954	495.954	Bk. No. Abut.	63497.380	-17.000	496.038	496.038	Bk. No. Abut.	63497.380	-4.000	496.163	496.163
E Brg. No. Abut.	63499.672	-20.000	495.871	495.871	E Brg. No. Abut.	63499.672	-16.000	495.954	495.954	E Brg. No. Abut.	63499.672	-17.000	496.038	496.038	E Brg. No. Abut.	63499.672	-4.000	496.163	496.163
A	63509.672	-20.000	495.871	495.894	A	63509.672	-16.000	495.954	495.977	A	63509.672	-12.000	496.038	496.060	A	63509.672	-4.000	496.163	496.185
B	63519.672	-20.000	495.871	495.906	B	63519.672	-16.000	495.954	495.970	B	63519.672	-12.000	496.038	496.073	B	63519.672	-4.000	496.163	496.190
C	63529.672	-20.000	495.871	495.910	C	63529.672	-16.000	495.954	495.993	C	63529.672	-12.000	496.038	496.076	C	63529.672	-4.000	496.163	496.201
D	63539.672	-20.000	495.871	495.946	D	63539.672	-16.000	495.954	495.979	D	63539.672	-12.000	496.038	496.063	D	63539.672	-4.000	496.163	496.188
E	63549.672	-20.000	495.871	495.883	E	63549.672	-16.000	495.954	495.966	E	63549.672	-12.000	496.038	496.049	E	63549.672	-4.000	496.163	496.174
E Pier 1	63557.922	-20.000	495.871	495.871	E Pier 1	63557.922	-16.000	495.954	495.954	E Pier 1	63557.922	-12.000	496.038	496.038	E Pier 1	63557.922	-4.000	496.163	496.163
F	63567.922	-20.000	495.871	495.880	F	63567.922	-16.000	495.954	495.964	F	63567.922	-12.000	496.038	496.047	F	63567.922	-4.000	496.163	496.172
G	63577.922	-20.000	495.871	495.889	G	63577.922	-16.000	495.954	495.973	G	63577.922	-12.000	496.038	496.056	G	63577.922	-4.000	496.163	496.181
H	63587.922	-20.000	495.871	495.898	H	63587.922	-16.000	495.954	495.981	H	63587.922	-12.000	496.038	496.064	H	63587.922	-4.000	496.163	496.188
I	63597.922	-20.000	495.871	495.896	I	63597.922	-16.000	495.954	495.979	I	63597.922	-12.000	496.038	496.063	I	63597.922	-4.000	496.163	496.188
J	63607.922	-20.000	495.871	495.888	J	63607.922	-16.000	495.954	495.971	J	63607.922	-12.000	496.038	496.054	J	63607.922	-4.000	496.163	496.179
K	63617.922	-20.000	495.871	495.879	K	63617.922	-16.000	495.954	495.962	K	63617.922	-12.000	496.038	496.045	K	63617.922	-4.000	496.163	496.170
E Pier 2	63626.088	-20.000	495.871	495.871	E Pier 2	63626.088	-16.000	495.954	495.954	E Pier 2	63626.088	-12.000	496.038	496.038	E Pier 2	63626.088	-4.000	496.163	496.163
L	63636.088	-20.000	495.871	495.885	L	63636.088	-16.000	495.954	495.968	L	63636.088	-12.000	496.038	496.051	L	63636.088	-4.000	496.163	496.175
M	63646.088	-20.000	495.871	495.899	M	63646.088	-16.000	495.954	495.982	M	63646.088	-12.000	496.038	496.065	M	63646.088	-4.000	496.163	496.190
N	63656.088	-20.000	495.871	495.911	N	63656.088	-16.000	495.954	495.994	N	63656.088	-12.000	496.038	496.077	N	63656.088	-4.000	496.163	496.202
O	63666.088	-20.000	495.871	495.904	O	63666.088	-16.000	495.954	495.989	O	63666.088	-12.000	496.038	496.072	O	63666.088	-4.000	496.163	496.197
P	63676.088	-20.000	495.871	495.890	P	63676.088	-16.000	495.954	495.973	P	63676.088	-12.000	496.038	496.050	P	63676.088	-4.000	496.163	496.181
E Brg. So. Abut.	63684.338	-20.000	495.871	495.871	E Brg. So. Abut.	63684.338	-16.000	495.954	495.954	E Brg. So. Abut.	63684.338	-12.000	496.038	496.038	E Brg. So. Abut.	63684.338	-4.000	496.163	496.163
Bk. So. Abut.	63686.630	-20.000	495.871	495.871	Bk. So. Abut.	63686.630	-16.000	495.954	495.954	Bk. So. Abut.	63686.630	-12.000	496.038	496.038	Bk. So. Abut.	63686.630	-4.000	496.163	496.163



DESIGNED *James O'Connell*  
CHECKED *John Muller*  
DRAWN *P.G. Barnett*  
CHECKED *QJB*  
E-S 8-1-65

EXAMINED *[Signature]*  
PASSED  
APPROVED *[Signature]*  
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS  
E.A. RT. 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+92.00

FOR INFORMATION ONLY

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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers + Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - BIB CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0080	SHEET 2 OF 11 SHEETS	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM CONTRACT NO. 74859	TOTAL SHEETS 93 SHEET NO. 40 ILLINOIS FED. AID PROJECT
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	41
CONTRACT NO. 74859			ILLINOIS / FED. AID PROJECT	

ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	63497.380	0.0	496.225	496.225
E Brg. W. Abut.	63499.672	0.0	496.225	496.225
A	63509.672	0.0	496.225	496.247
B	63519.672	0.0	496.225	496.260
C	63529.672	0.0	496.225	496.264
D	63539.672	0.0	496.225	496.258
E	63549.672	0.0	496.225	496.236
E Pier 1	63557.922	0.0	496.225	496.225
F	63567.922	0.0	496.225	496.234
G	63577.922	0.0	496.225	496.243
H	63587.922	0.0	496.225	496.252
I	63597.922	0.0	496.225	496.250
J	63607.922	0.0	496.225	496.242
K	63617.922	0.0	496.225	496.233
E Pier 2	63626.088	0.0	496.225	496.225
L	63636.088	0.0	496.225	496.239
M	63646.088	0.0	496.225	496.253
N	63656.088	0.0	496.225	496.264
O	63666.088	0.0	496.225	496.259
P	63676.088	0.0	496.225	496.244
E Brg. So. Abut.	63684.338	0.0	496.225	496.225
Bk. So. Abut.	63686.630	0.0	496.225	496.225

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	63497.380	4.000	496.163	496.163
E Brg. W. Abut.	63499.672	4.000	496.163	496.163
A	63509.672	4.000	496.163	496.185
B	63519.672	4.000	496.163	496.198
C	63529.672	4.000	496.163	496.201
D	63539.672	4.000	496.163	496.188
E	63549.672	4.000	496.163	496.174
E Pier 1	63557.922	4.000	496.163	496.163
F	63567.922	4.000	496.163	496.172
G	63577.922	4.000	496.163	496.181
H	63587.922	4.000	496.163	496.189
I	63597.922	4.000	496.163	496.188
J	63607.922	4.000	496.163	496.179
K	63617.922	4.000	496.163	496.170
E Pier 2	63626.088	4.000	496.163	496.163
L	63636.088	4.000	496.163	496.176
M	63646.088	4.000	496.163	496.190
N	63656.088	4.000	496.163	496.202
O	63666.088	4.000	496.163	496.197
P	63676.088	4.000	496.163	496.181
E Brg. So. Abut.	63684.338	4.000	496.163	496.163
Bk. So. Abut.	63686.630	4.000	496.163	496.163

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	63497.380	12.000	496.038	496.038
E Brg. W. Abut.	63499.672	12.000	496.038	496.038
A	63509.672	12.000	496.038	496.060
B	63519.672	12.000	496.038	496.073
C	63529.672	12.000	496.038	496.076
D	63539.672	12.000	496.038	496.063
E	63549.672	12.000	496.038	496.049
E Pier 1	63557.922	12.000	496.038	496.038
F	63567.922	12.000	496.038	496.047
G	63577.922	12.000	496.038	496.056
H	63587.922	12.000	496.038	496.064
I	63597.922	12.000	496.038	496.063
J	63607.922	12.000	496.038	496.054
K	63617.922	12.000	496.038	496.045
E Pier 2	63626.088	12.000	496.038	496.038
L	63636.088	12.000	496.038	496.051
M	63646.088	12.000	496.038	496.065
N	63656.088	12.000	496.038	496.077
O	63666.088	12.000	496.038	496.072
P	63676.088	12.000	496.038	496.056
E Brg. So. Abut.	63684.338	12.000	496.038	496.038
Bk. So. Abut.	63686.630	12.000	496.038	496.038

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	63497.380	20.000	495.871	495.871
E Brg. W. Abut.	63499.672	20.000	495.871	495.871
A	63509.672	20.000	495.871	495.894
B	63519.672	20.000	495.871	495.906
C	63529.672	20.000	495.871	495.910
D	63539.672	20.000	495.871	495.896
E	63549.672	20.000	495.871	495.883
E Pier 1	63557.922	20.000	495.871	495.871
F	63567.922	20.000	495.871	495.880
G	63577.922	20.000	495.871	495.889
H	63587.922	20.000	495.871	495.898
I	63597.922	20.000	495.871	495.896
J	63607.922	20.000	495.871	495.888
K	63617.922	20.000	495.871	495.879
E Pier 2	63626.088	20.000	495.871	495.871
L	63636.088	20.000	495.871	495.885
M	63646.088	20.000	495.871	495.899
N	63656.088	20.000	495.871	495.911
O	63666.088	20.000	495.871	495.906
P	63676.088	20.000	495.871	495.890
E Brg. So. Abut.	63684.338	20.000	495.871	495.871
Bk. So. Abut.	63686.630	20.000	495.871	495.871

Note:  
Elevations shown are at top of concrete slab.  
Top of Class 1 is 0.125' higher.

WEST LONGITUDINAL JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	63497.380	16.000	495.954	495.954
E Brg. W. Abut.	63499.672	16.000	495.954	495.954
A	63509.672	16.000	495.954	495.977
B	63519.672	16.000	495.954	495.990
C	63529.672	16.000	495.954	495.993
D	63539.672	16.000	495.954	495.979
E	63549.672	16.000	495.954	495.966
E Pier 1	63557.922	16.000	495.954	495.954
F	63567.922	16.000	495.954	495.964
G	63577.922	16.000	495.954	495.973
H	63587.922	16.000	495.954	495.981
I	63597.922	16.000	495.954	495.979
J	63607.922	16.000	495.954	495.971
K	63617.922	16.000	495.954	495.962
E Pier 2	63626.088	16.000	495.954	495.954
L	63636.088	16.000	495.954	495.968
M	63646.088	16.000	495.954	495.982
N	63656.088	16.000	495.954	495.994
O	63666.088	16.000	495.954	495.989
P	63676.088	16.000	495.954	495.973
E Brg. So. Abut.	63684.338	16.000	495.954	495.954
Bk. So. Abut.	63686.630	16.000	495.954	495.954

TOP OF SLAB ELEVATIONS  
I-24 RT. 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+92.00

FOR INFORMATION ONLY

DESIGNED <i>James Oppert</i>	EXAMINED <i>[Signature]</i> JUN 9 1965
CHECKED <i>[Signature]</i>	PASSED
DRAWN <i>P.G. Barnett</i>	APPROVED
CHECKED <i>[Signature]</i>	DIRECTOR OF HIGHWAYS

E-S 8-1-65

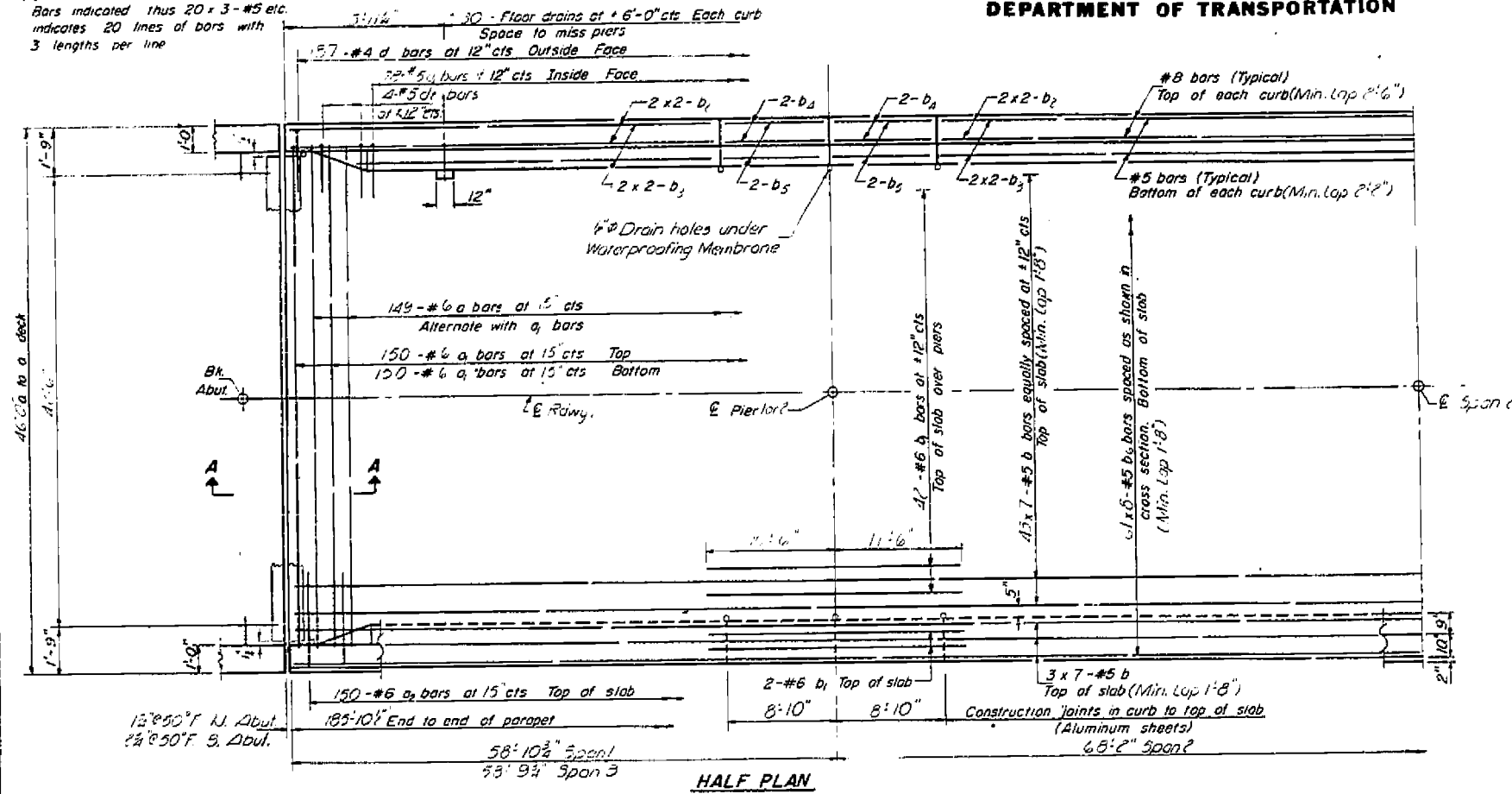
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

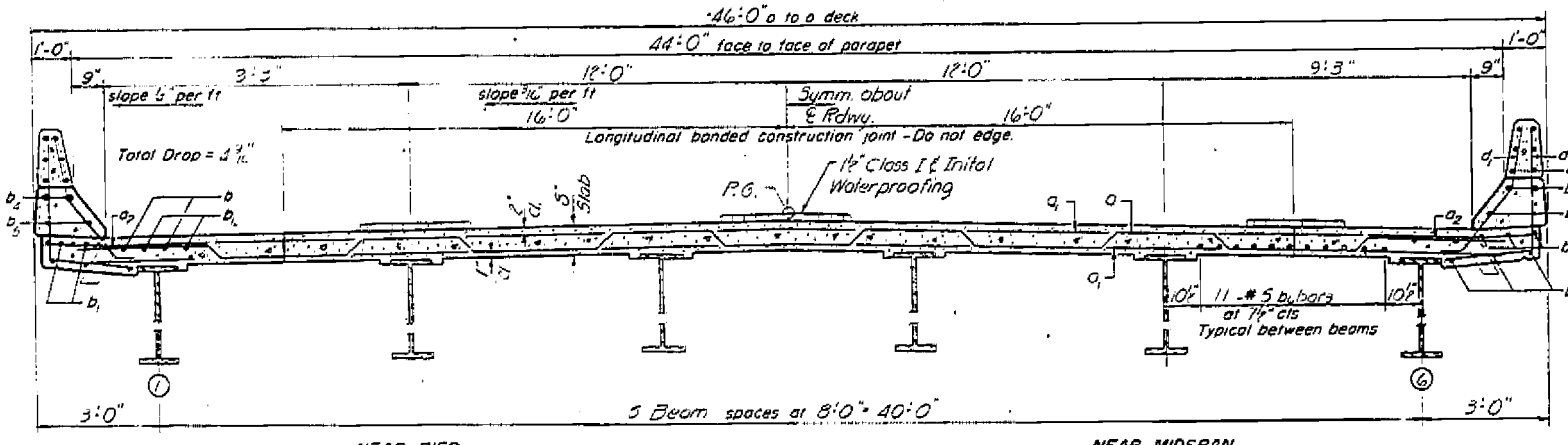
DATE	BY	REVISION	SHEET NO.
			11 SHEETS

Note

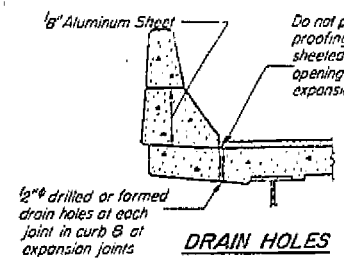
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line



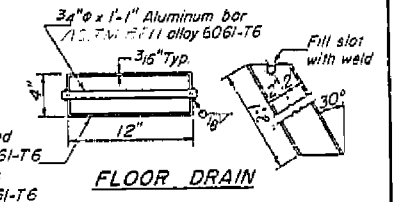
HALF PLAN



CROSS SECTION  
LOOKING SOUTH



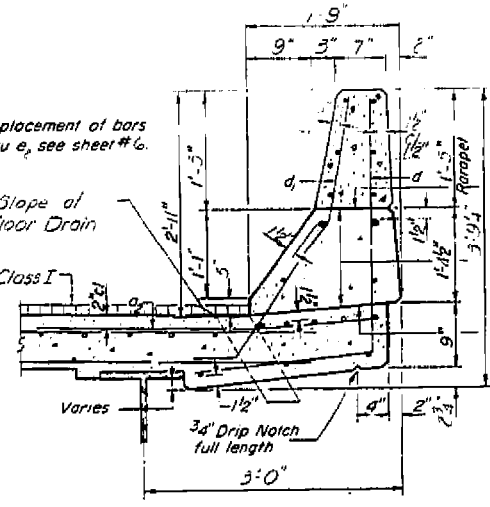
DRAIN HOLES



FLOOR DRAIN

BILL OF MATERIAL

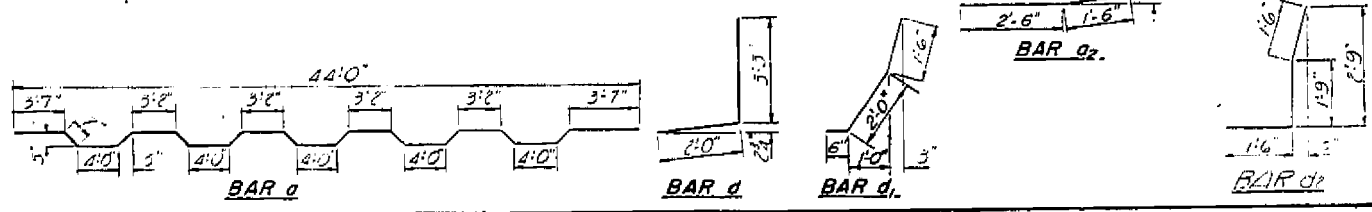
Bar	No	Size	Length	Shape
a	149	#6	45'8"	~
a <sub>1</sub>	300	#6	44'0"	~
a <sub>2</sub>	300	#6	4'0"	~
b	343	#5	28'0"	~
b <sub>1</sub>	92	#6	22'0"	~
b <sub>2</sub>	24	#6	26'6"	~
b <sub>3</sub>	24	#5	26'3"	~
b <sub>4</sub>	16	#8	8'7"	~
b <sub>5</sub>	16	#5	8'7"	~
b <sub>6</sub>	488	#5	24'9"	~
c	374	#4	5'3"	~
d	356	#5	4'0"	~
e	16	#2	4'9"	~
Reinforcement Bars				LBS. 63,350
Class X Concrete				Cu Yds 25.7



CURB SECTION

Cost of Aluminum Sheets & Floor Drains shall be incidental to Class X Concrete

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN	APPROVED
CHECKED	



FOR INFORMATION ONLY

Note: See on "5 for Sec. 214.1.

The lengths and quantities of longitudinal reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet "6.

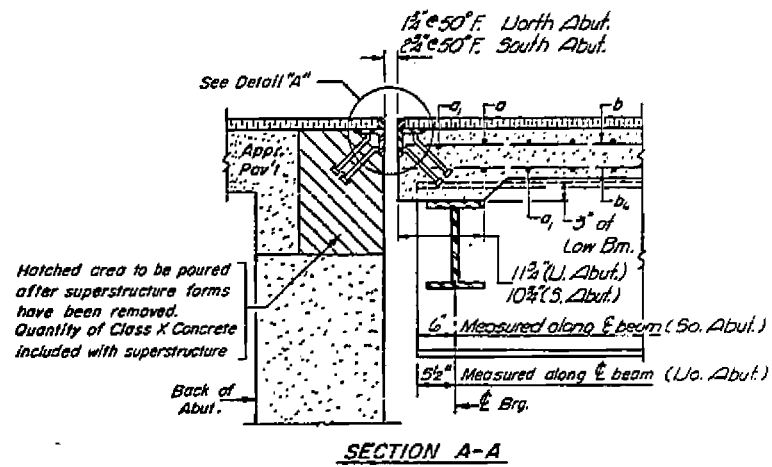
SUPERSTRUCTURE  
FA. RT. C6 SEC. 3BR?  
EFFINGHAM COUNTY  
STA. 635+92.00

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

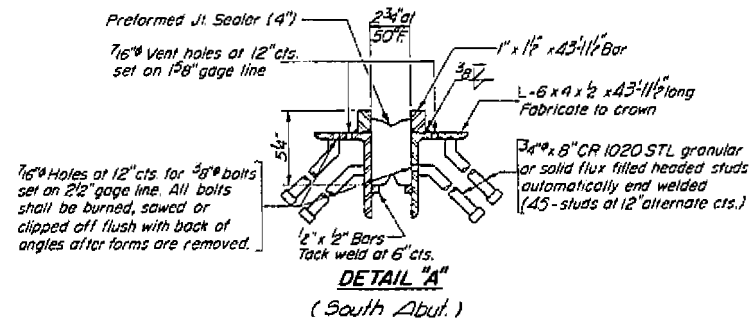
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10/1/19	REVISED	J.D.	1	

SHEET NO. 5  
// SHEETS

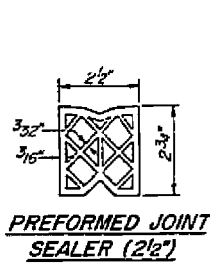


Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included with superstructure.

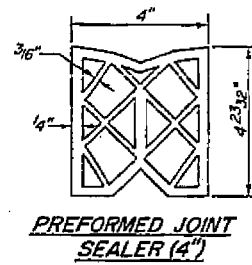
SECTION A-A



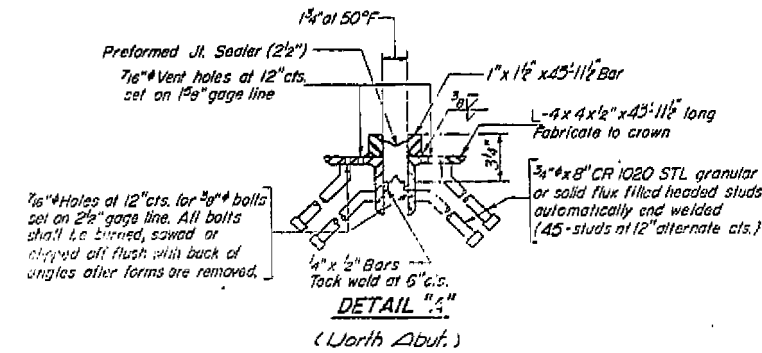
DETAIL "A"  
(South Abut.)



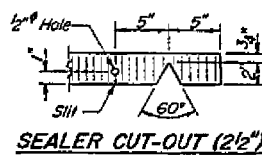
PREFORMED JOINT SEALER (2 1/2")



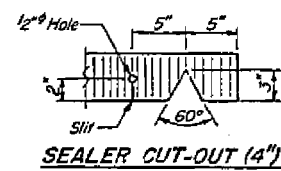
PREFORMED JOINT SEALER (4")



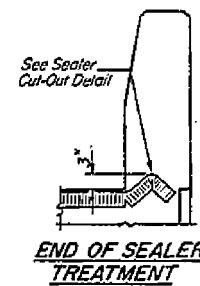
DETAIL "A"  
(North Abut.)



SEALER CUT-OUT (2 1/2")



SEALER CUT-OUT (4")



END OF SEALER TREATMENT

DESIGNED <i>James Oppert</i>	EXAMINED <i>[Signature]</i>
CHECKED <i>[Signature]</i>	PAIRED
DRAWN J.D.	APPROVED
CHECKED <i>[Signature]</i>	

SUPERSTRUCTURE DETAILS  
F.A. RT. 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+92.00

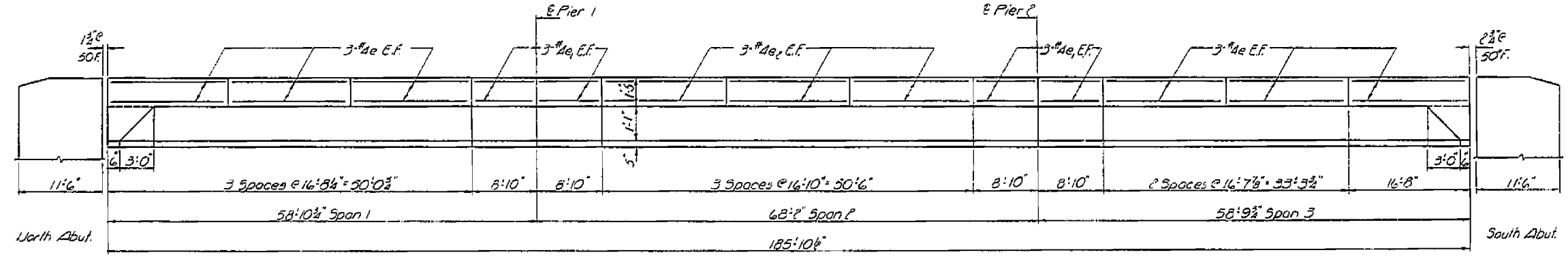
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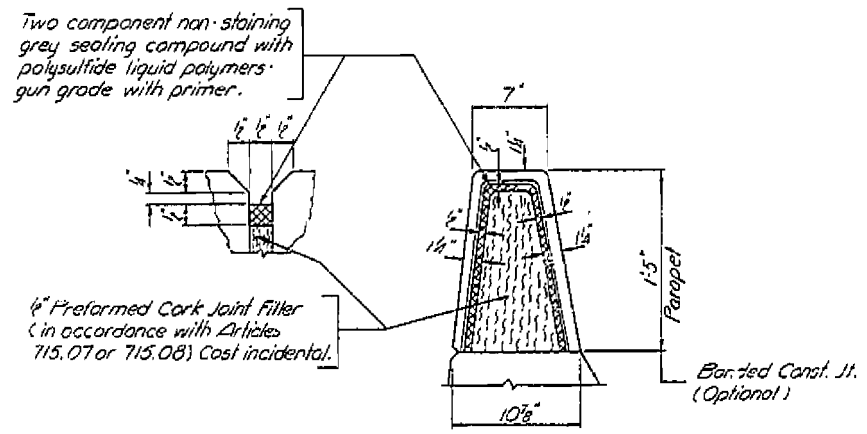
<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - BIB CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0080	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM TOTAL SHEETS 93 SHEET NO. 43 CONTRACT NO. 74859	SHEET 5 OF 11 SHEETS ILLINOIS FED. AID PROJECT
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA. RT. 26 SEC. 3 BR. 2	EFFINGHAM	ILLINOIS	11	6
CONTRACT NO. 74859				



**ELEVATION**  
All dimensions along inside face



**BILL OF MATERIAL**

Bar	Lbs.	Size	Length	Shape
e	72	#4	16'-3"	---
e <sub>1</sub>	28	#4	8'-7"	---
e <sub>2</sub>	56	#4	16'-7"	---
Reinforcement Bars	Lbs.		1460	
Class X Concrete	Cu. Yds.		14.6	

**PARAFET**  
FA. RT. 26 SEC. 3 BR. 2  
EFFINGHAM COUNTY  
STA. 635+92.00

DESIGNED	<i>Ken as Compt</i>	EXAMINED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>	PASSED	
DRAWN	J.D.	APPROVED	
CHECKED	<i>[Signature]</i>		

**PARAFET JOINT DETAIL**  
FOR INFORMATION ONLY

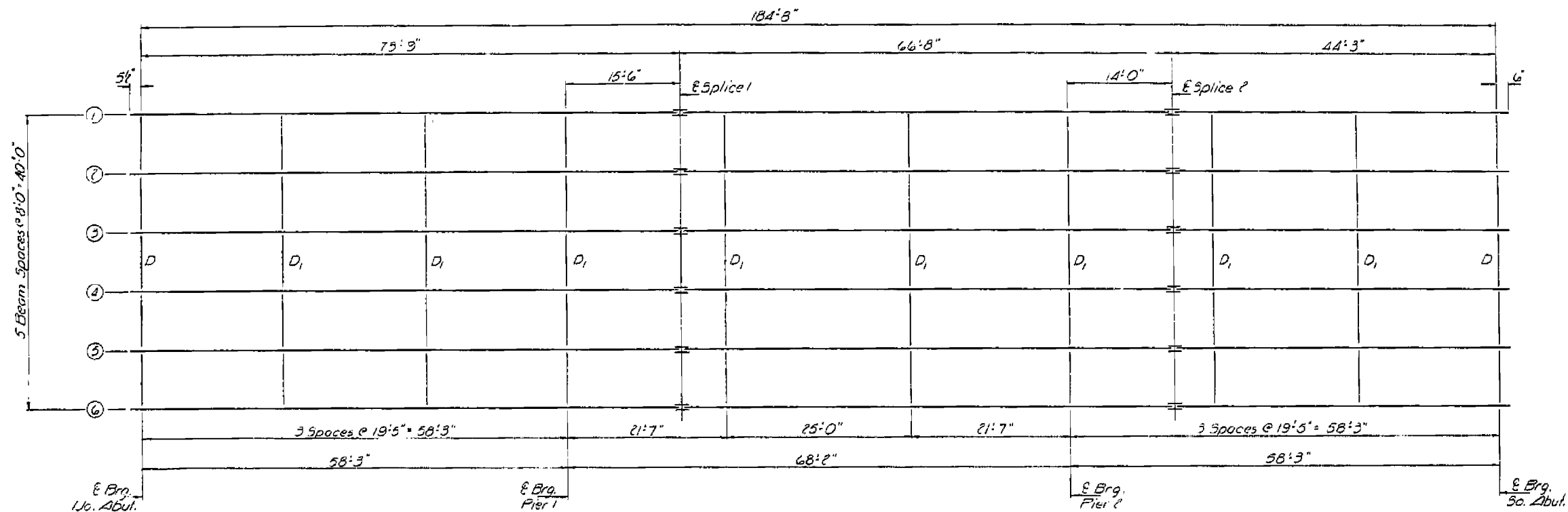
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<b>HMG</b> ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	DESIGNED - BIB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-080	F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 44
	CHECKED - LDG	REVISED -			CONTRACT NO. 74859			ILLINOIS	FED. AID PROJECT
	DRAWN - KHL	REVISED -	SHEET 6 OF 11 SHEETS						
	CHECKED - BGH	REVISED -							

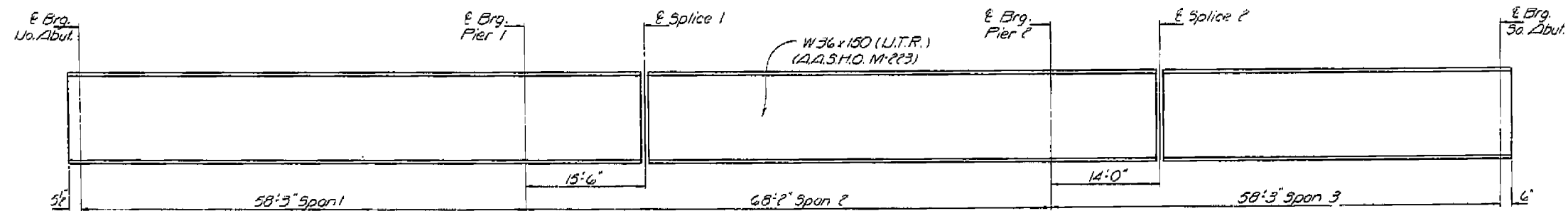


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
388-2	EFFINGHAM COUNTY	EFFINGHAM	114	15
SHEET NO. 7 // SHEETS				



**FRAMING PLAN**  
(All beams W36 x 150)



**ELEVATION**

Note:  
U.T.R. requires that the designated member conform to the supplemental requirements for Notch Toughness.

DESIGNED	James August	EXAMINED	June 9 1975
CHECKED	Charles Blitzer	PASSED	
DRAWN	J.D.	APPROVED	
CHECKED	G.L.B.		

**STRUCTURAL STEEL**  
FA. RT. 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+92.00

FOR INFORMATION ONLY

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME	=	DESIGNED	-	BIB	REVISED	-
PLOT SCALE	=	CHECKED	-	LDG	REVISED	-
PLOT DATE	=	DRAWN	-	KHL	REVISED	-
		CHECKED	-	BGH	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0080

SHEET 7 OF 11 SHEETS

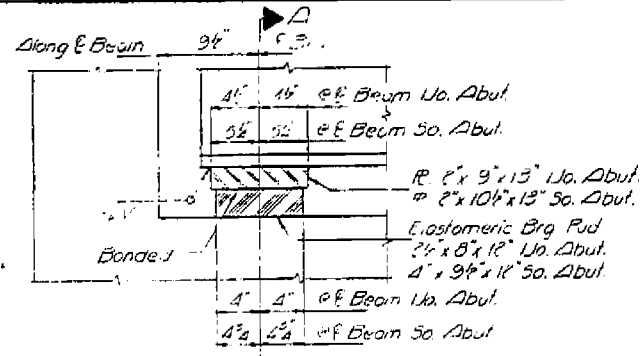
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328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	45
CONTRACT NO. 74859				

ILLINOIS FED. AID PROJECT

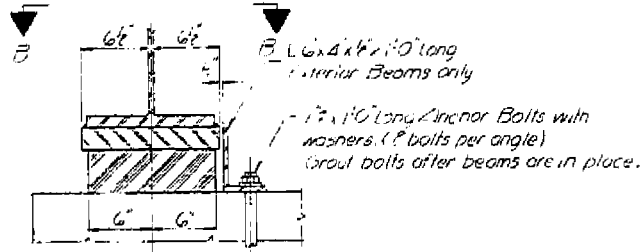
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DESIGNED BY	CHECKED BY	DRAWN BY	DATE	PROJECT
EXAMINED BY	PASSED	APPROVED BY		

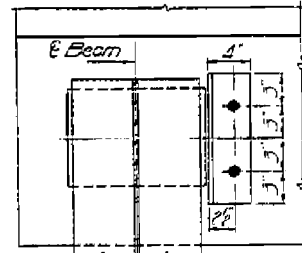
SHEET NO. 8  
11 SHEETS



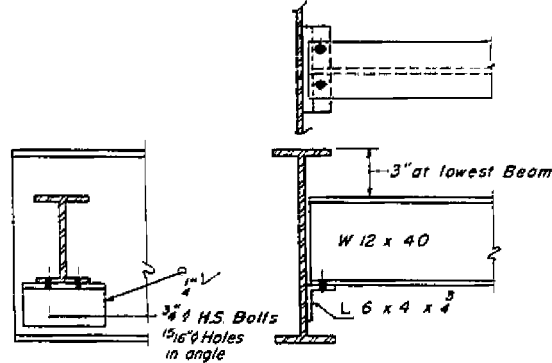
SECTION AT ABUTS.



SECTION A-A



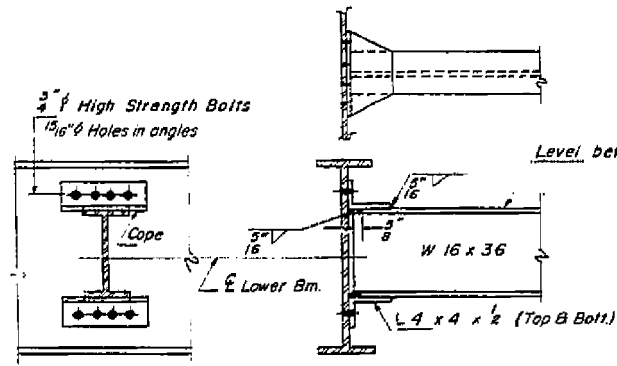
VIEW B-B



DIAPHRAGM D

10 Required

Note: Hardened washers shall be required over 1/4\"/>



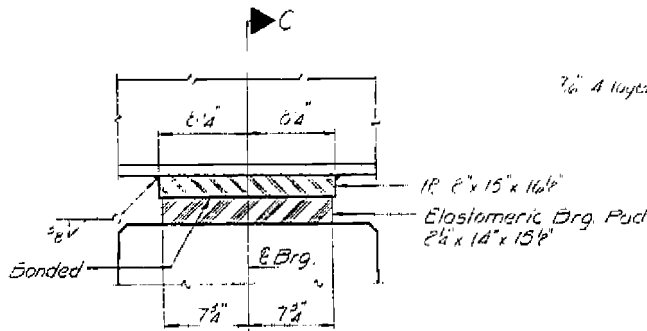
DIAPHRAGM D1

40 Required

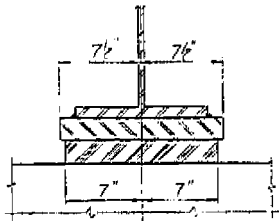
\*\* TOP OF FLANGE ELEVATIONS

	Beams 1 & 2	Beams 3 & 4	Beams 5 & 6
E Brg. Uo. Abut.	495.14	495.51	495.43
E Brg. Pier 1	495.14	495.31	495.43
E Splice #1	495.14	495.31	495.43
E Brg. Pier 2	495.14	495.31	495.43
E Splice #2	495.14	495.31	495.43
E Brg. So. Abut.	495.14	495.31	495.43

\*\* For fabrication only.



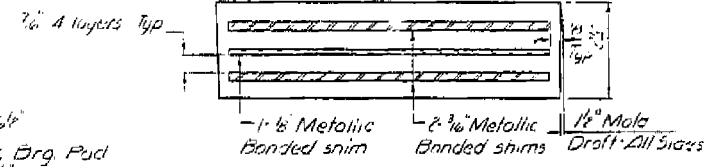
SECTION AT PIER 1



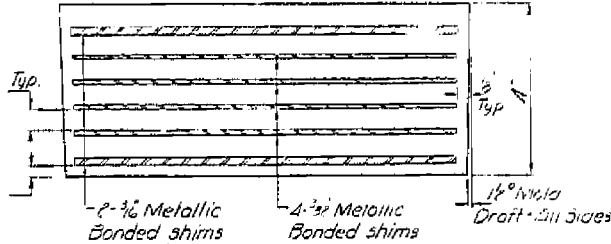
SECTION C-C

\* ELASTOMERIC BEARING DETAIL

UO. ABUT.  
(24\"/>

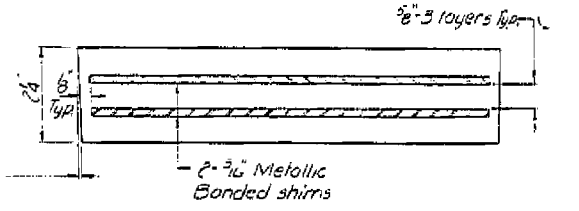


\* Cost of Elastomeric Brgs. is incidental.



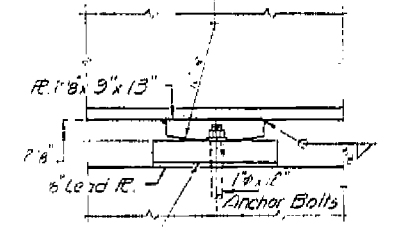
\* ELASTOMERIC BEARING DETAIL

SO. ABUT.  
(24\"/>

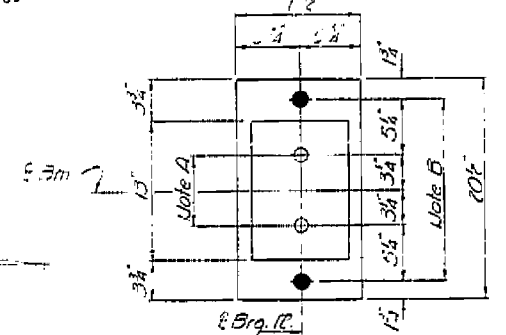


\* ELASTOMERIC BEARING DETAIL

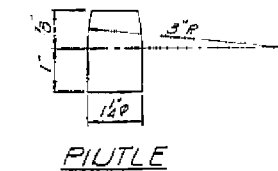
PIER 2  
(24\"/>



ELEVATION



PLAN AT PIER 1

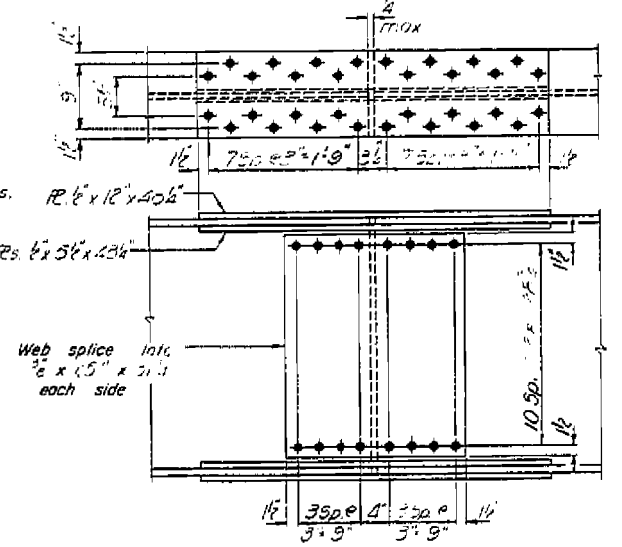


PIETLE

	0.45p for 3	Pier for 2	0.35 p for 2
A (in <sup>2</sup> )	9030	9030	9030
E (K)	1503	1503	1503
M <sub>E</sub> (K)	371.1	602.1	270.9
M <sub>T</sub> (K)	452.0	361.8	431.4
Imp. (K)	123.5	96.2	111.7
M TOTAL (K)	946.6	1060.1	814.0
I <sub>s</sub> (K <sup>2</sup> )	22.54	25.24	19.38

Note A:  
1/8\"/>

Note B:  
1\"/>



FIELD SPICE

All bolts 3/8\"/>

	Abut.	Pier
RP (K)	33.4	105.3
PL (K)	42.1	53.8
Imp. (K)	11.5	14.3
R TOTAL (K)	87.0	173.4

STRUCTURAL STEEL DETAILS  
F.A.R.T. 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+98.00

DESIGNED	James Crum
CHECKED	John Stricker
DRAWN	J.D.
CHECKED	486

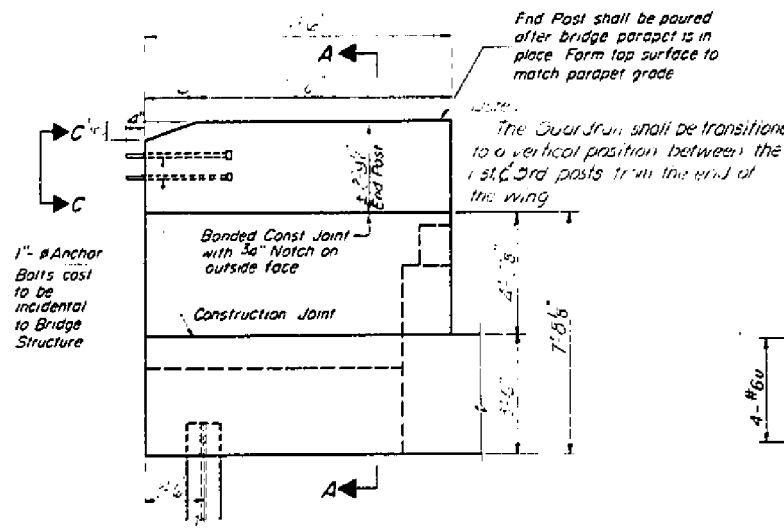
EXAMINED	[Signature]
PASSED	
APPROVED	

I-2-D 4-15-73

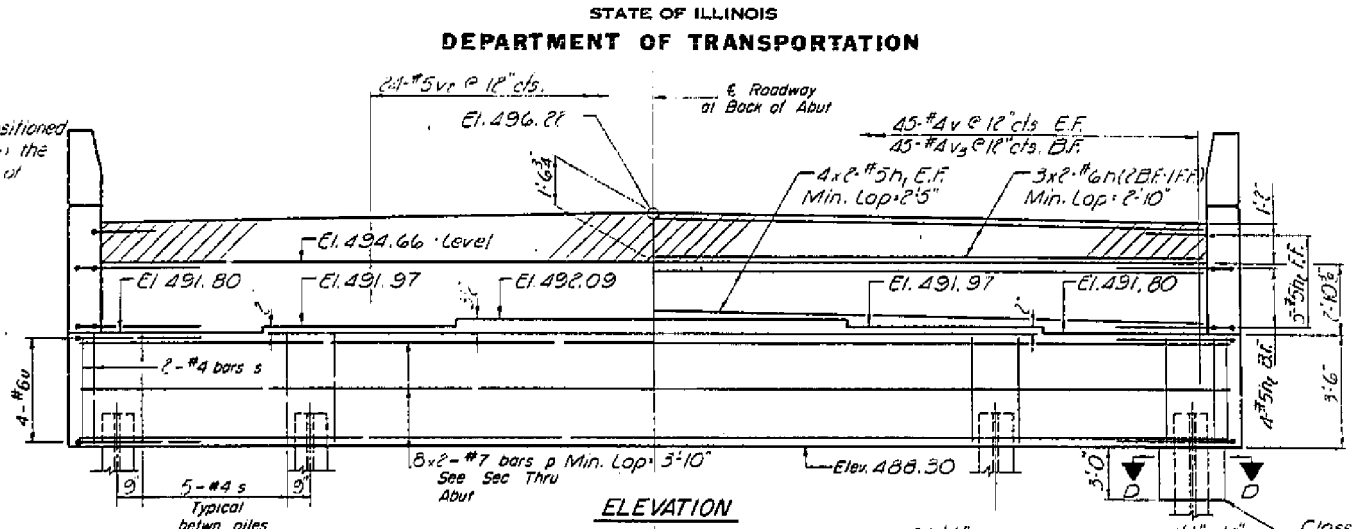
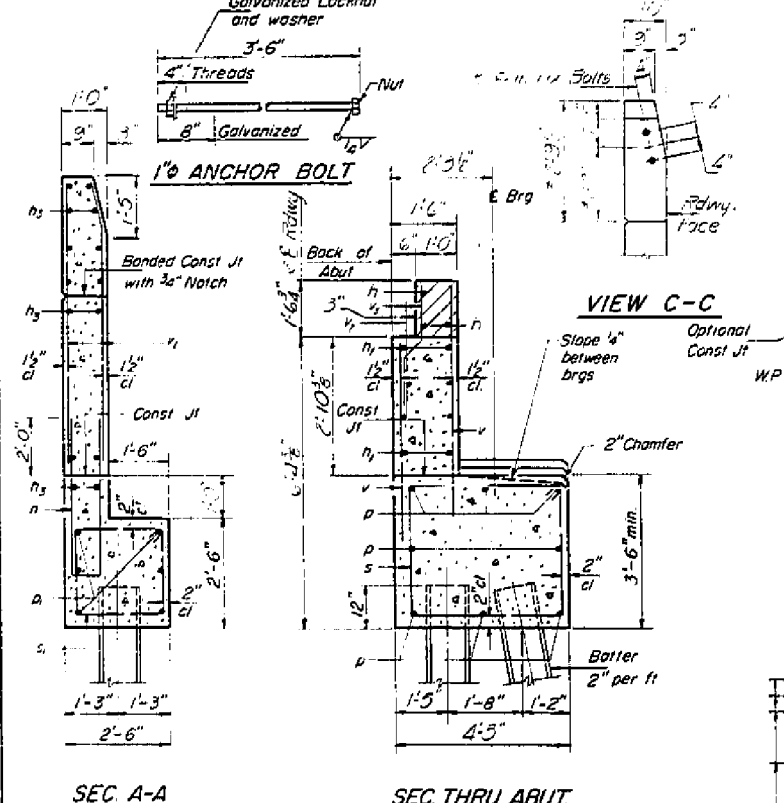
FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

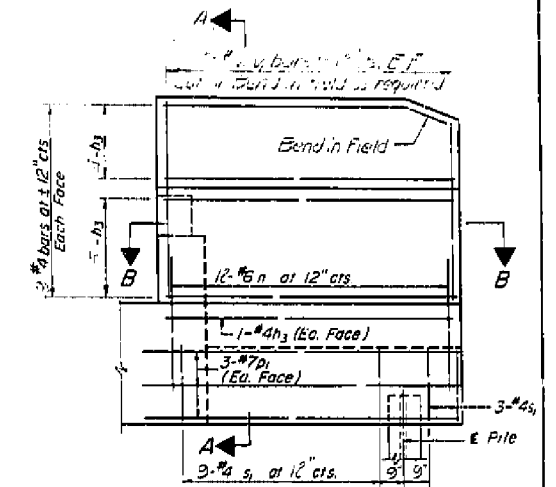
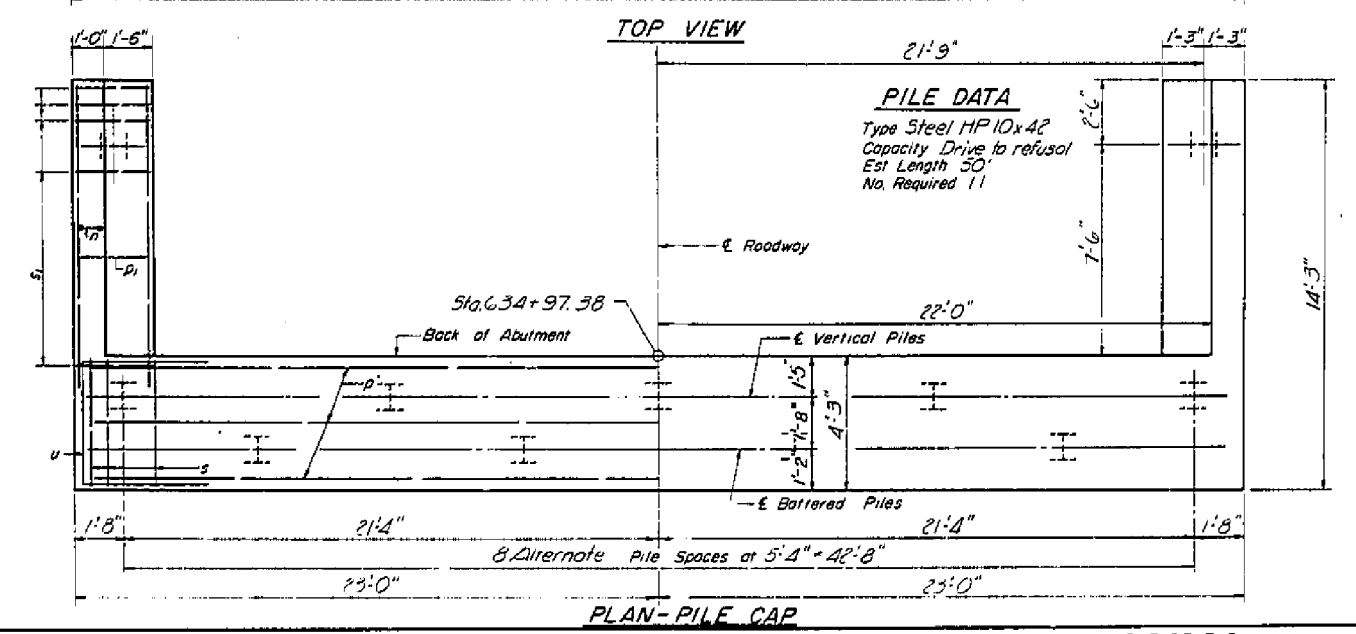
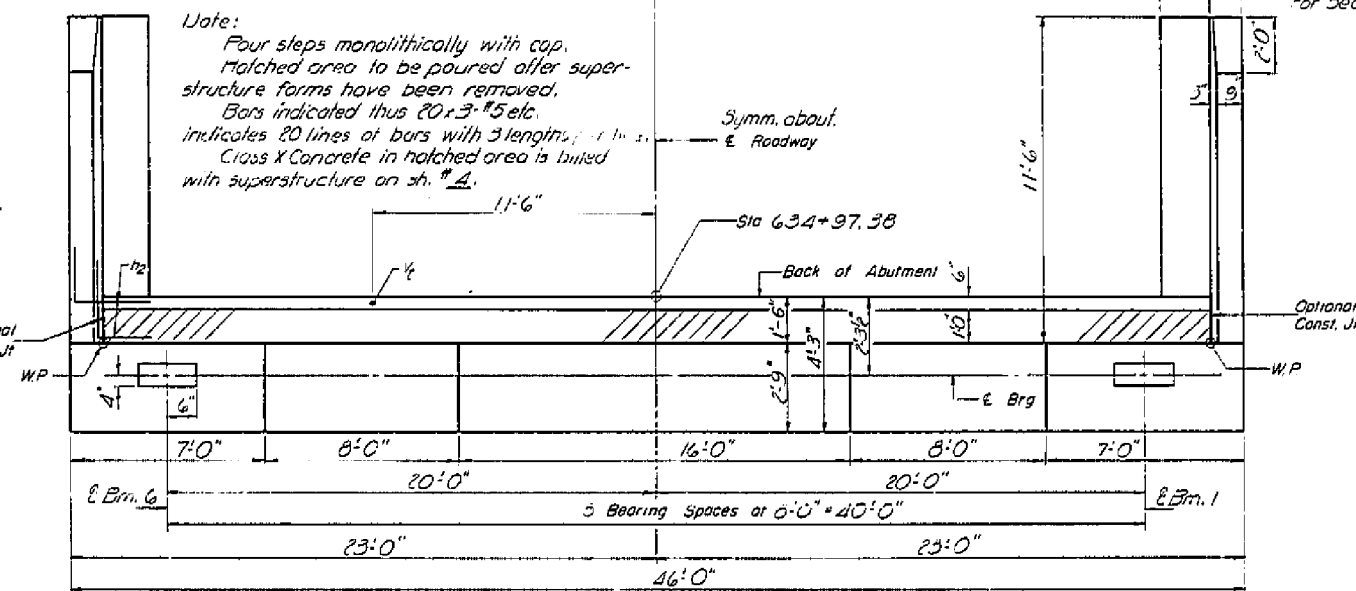
SHEET NO.		11 SHEETS	
PROJECT NO.	SECTION	DATE	SCALE
328	(3BR-2, 3BR-3)BR		
CONTRACT NO. 74859			



WING WALL ELEVATION



Note:  
Four steps monolithically with cap. Matched area to be poured after superstructure forms have been removed. Bars indicated thus 20x3" #5 etc. indicates 20 lines of bars with 3 lengths. Class X Concrete in hatched area is built with superstructure on sh. #4.



WING WALL ELEVATION Reinforcement

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n	6	#6	23'-6"	U
n1	16	#5	23'-3"	U
n2	18	#5	5'-0"	U
n3	40	#4	11'-3"	U
p	24	#6	9'-3"	U
p1	16	#7	23'-0"	U
p2	12	#7	11'-6"	U
s	44	#4	14'-11"	U
s1	24	#4	9'-3"	U
u	8	#6	9'-10"	U
v	90	#4	6'-0"	U
v1	48	#6	6'-10"	U
v2	24	#5	2'-6"	U
v3	45	#4	3'-8"	U
Class X Concrete			Cu Yds.	44.4
Reinforcement Bars			Lbs.	4160
Steel Piles HP 10x42			Lm. Ft.	550

NORTH ABUTMENT  
RA RT 26 SEC. 3BR-2  
EFFINGHAM COUNTY  
STA. 635+97.00

DESIGNED: [Signature]

CHECKED: [Signature]

DRAWN: J.D.

CHECKED: [Signature]

EXAMINED: [Signature]

PASSED: [Signature]

APPROVED: [Signature]

DATE: 3-23-71

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0080

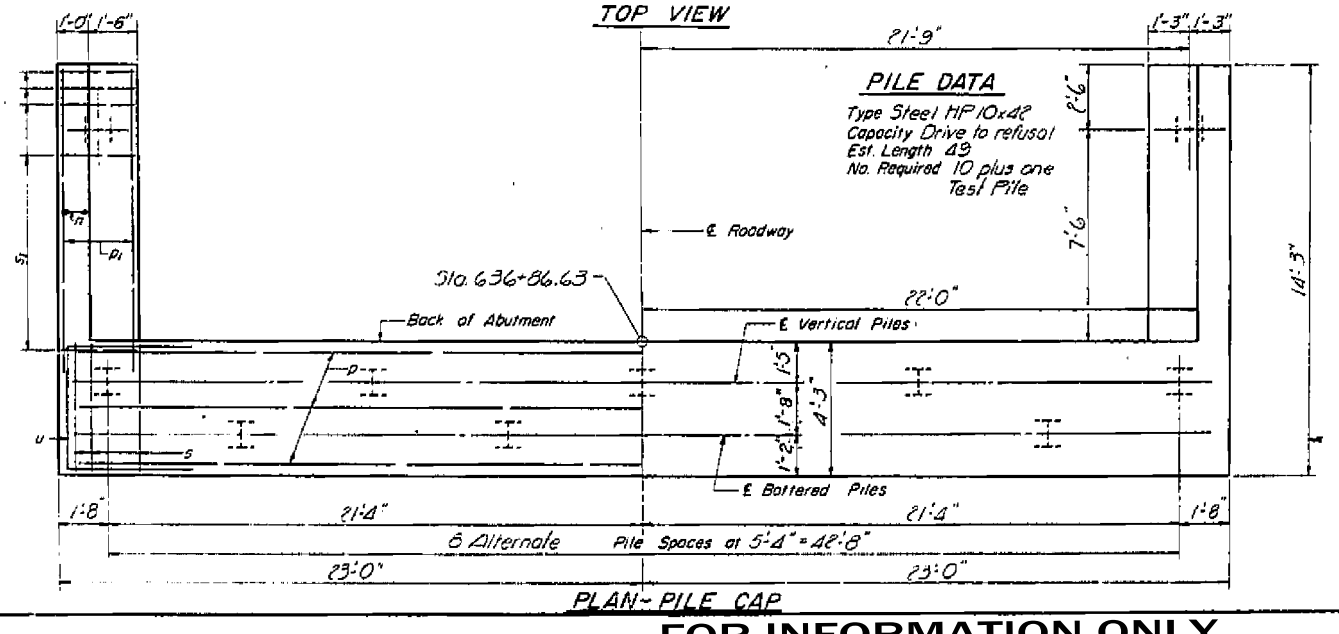
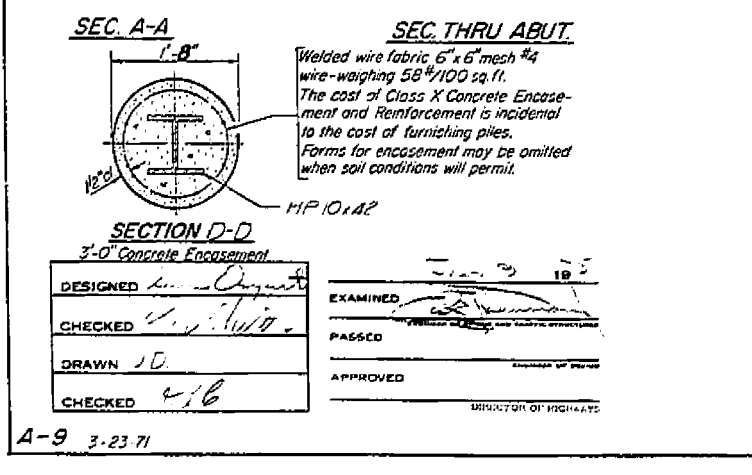
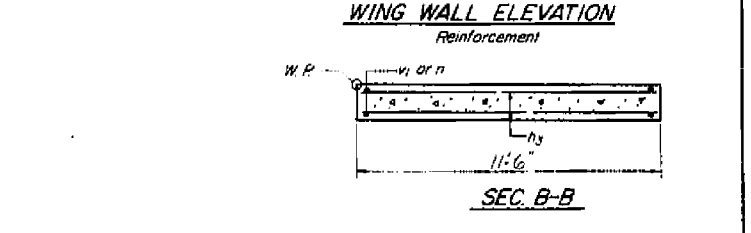
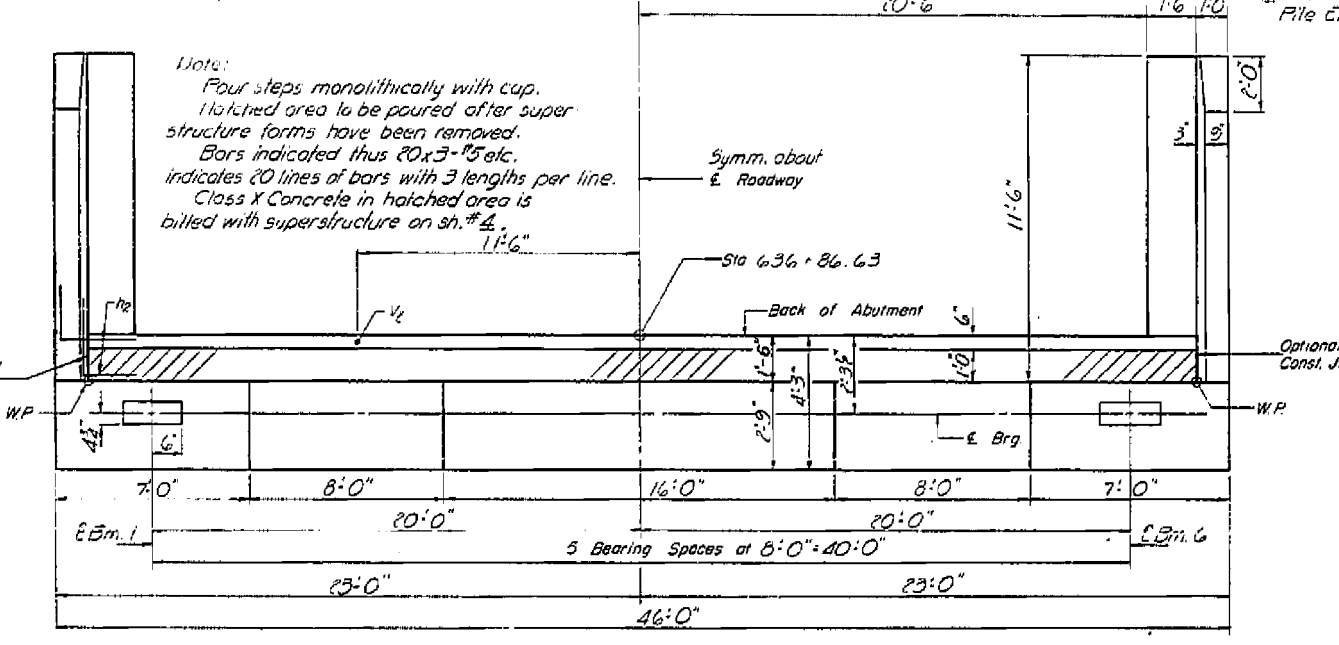
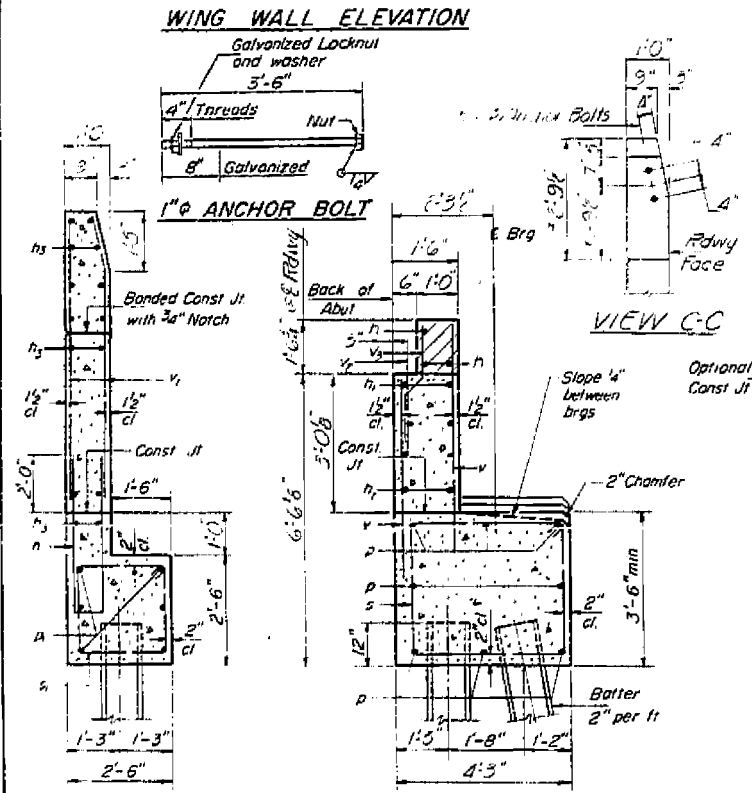
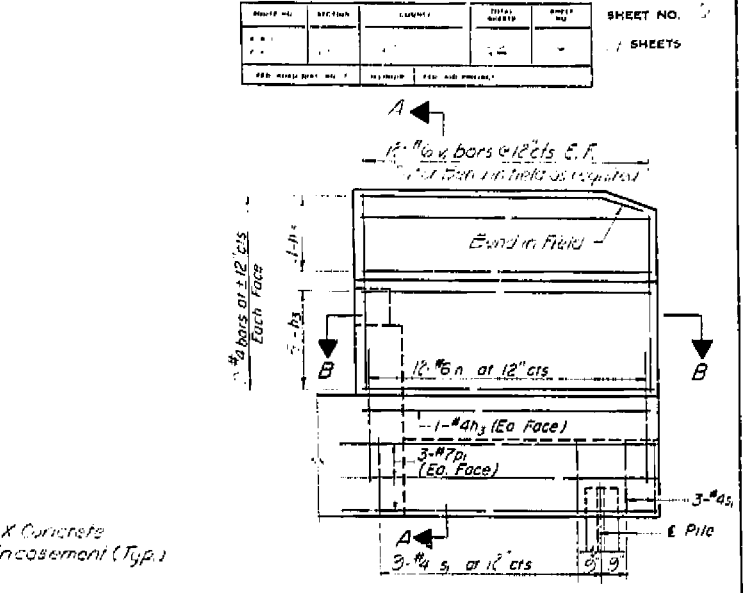
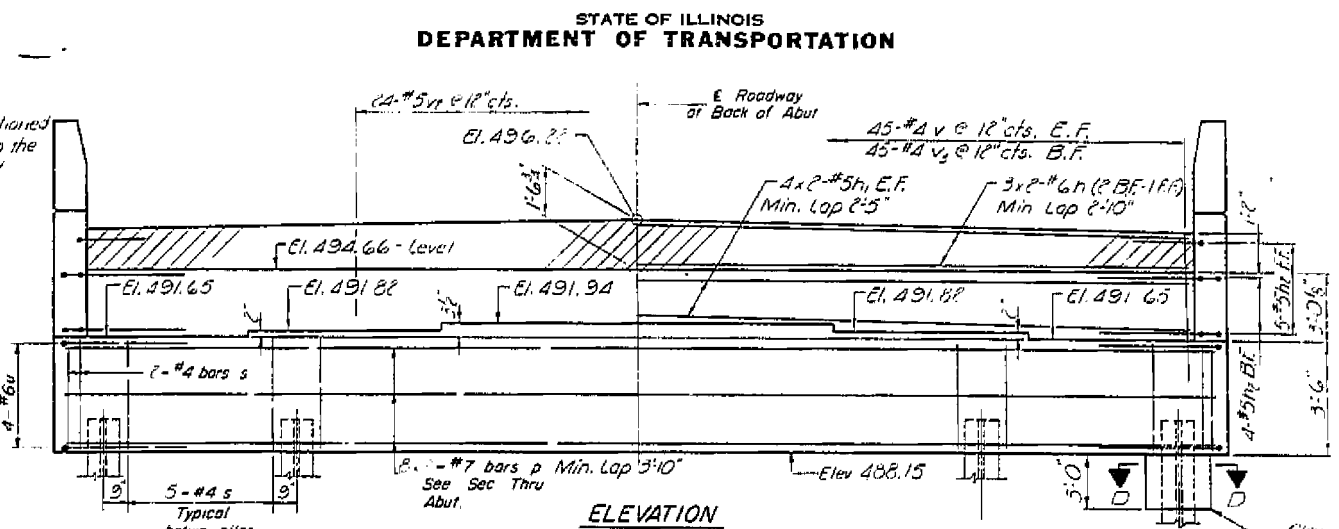
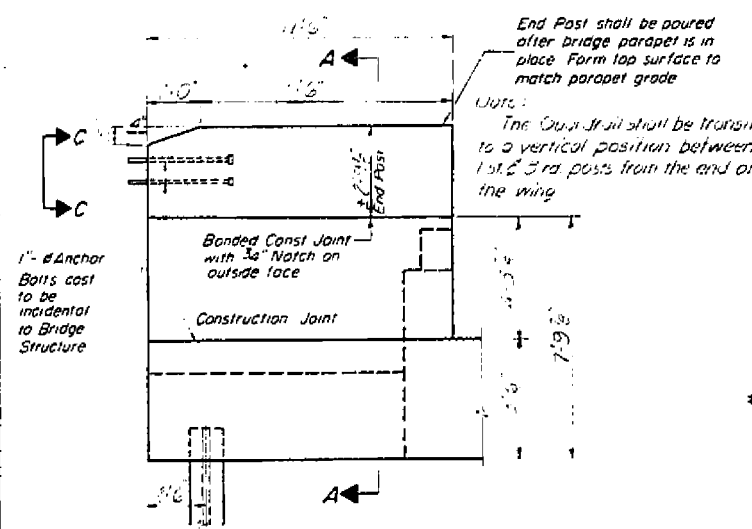
DESIGNED - BIB	REVISIONS
CHECKED - LDG	REVISED -
DRAWN - KHL	REVISED -
CHECKED - BGH	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	47
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

MODEL: Default  
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10/1/2019 3:13:20 PM

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO.	1
TOTAL SHEETS	11



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
n	6	#6	23'-6"	—
h <sub>1</sub>	16	#5	23'-3"	—
h <sub>2</sub>	18	#5	5'-0"	—
h <sub>3</sub>	20	#4	11'-3"	—
n	24	#6	9'-5"	U
p	16	#7	25'-0"	—
p <sub>1</sub>	12	#7	11'-6"	—
s	44	#4	14'-11"	□
s <sub>1</sub>	24	#4	9'-5"	□
u	8	#6	9'-10"	U
v	90	#4	6'-0"	—
v <sub>1</sub>	48	#5	6'-10"	—
v <sub>2</sub>	24	#5	2'-6"	—
v <sub>3</sub>	45	#4	3'-8"	—

Class X Concrete Cu Yds. 44.9  
Reinforcement Bars Lbs. 4160  
Steel Piles HP10x42 Lm. Ft. 497  
Test Piles Steel HP10x42 Ea. 1

**SOUTH ABUTMENT PART. #6 SEC. 3BR-2 EFFINGHAM COUNTY STA. 635+92.00**

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: [Signature]  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

DESIGNER: BIB  
CHECKER: LDG  
DRAWN: KHL  
CHECKER: BGH

DATE: 3-23-71

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0080

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	48
CONTRACT NO. 74859			ILLINOIS FED. AID PROJECT	

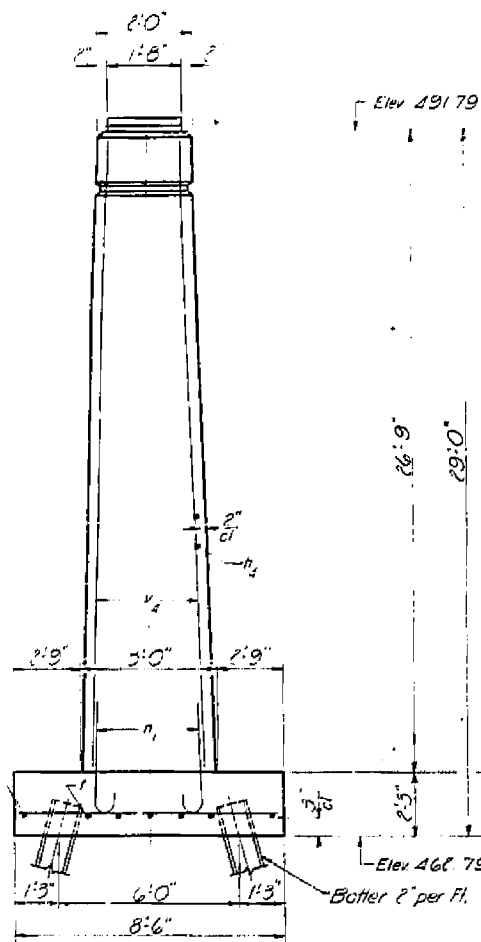
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

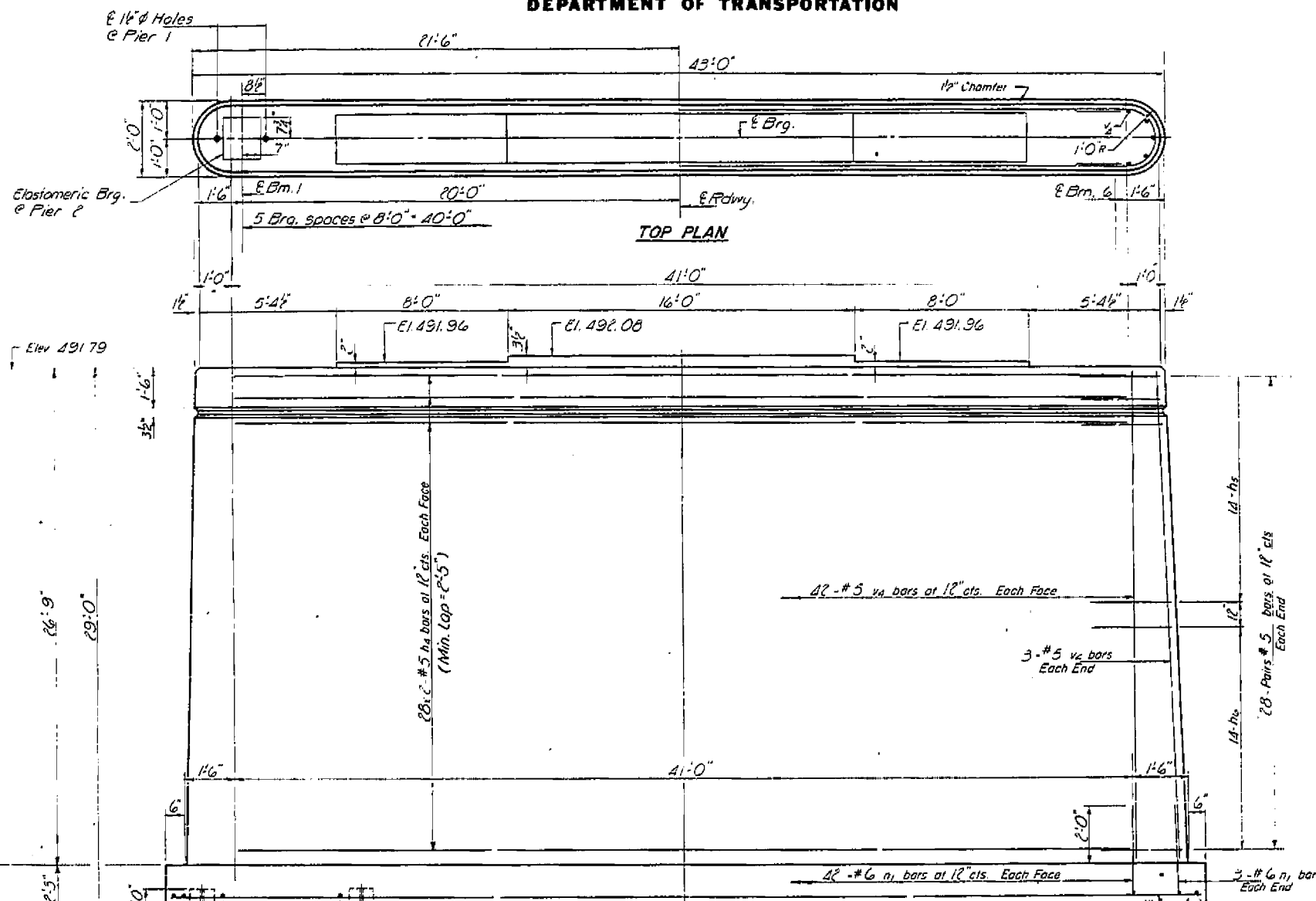
**PILE DATA**

Type Steel HP10x42  
Capacity Drive to refusal  
Est Length 26'  
No Reqd 27 plus one permanent  
Test Pile at Pier 1

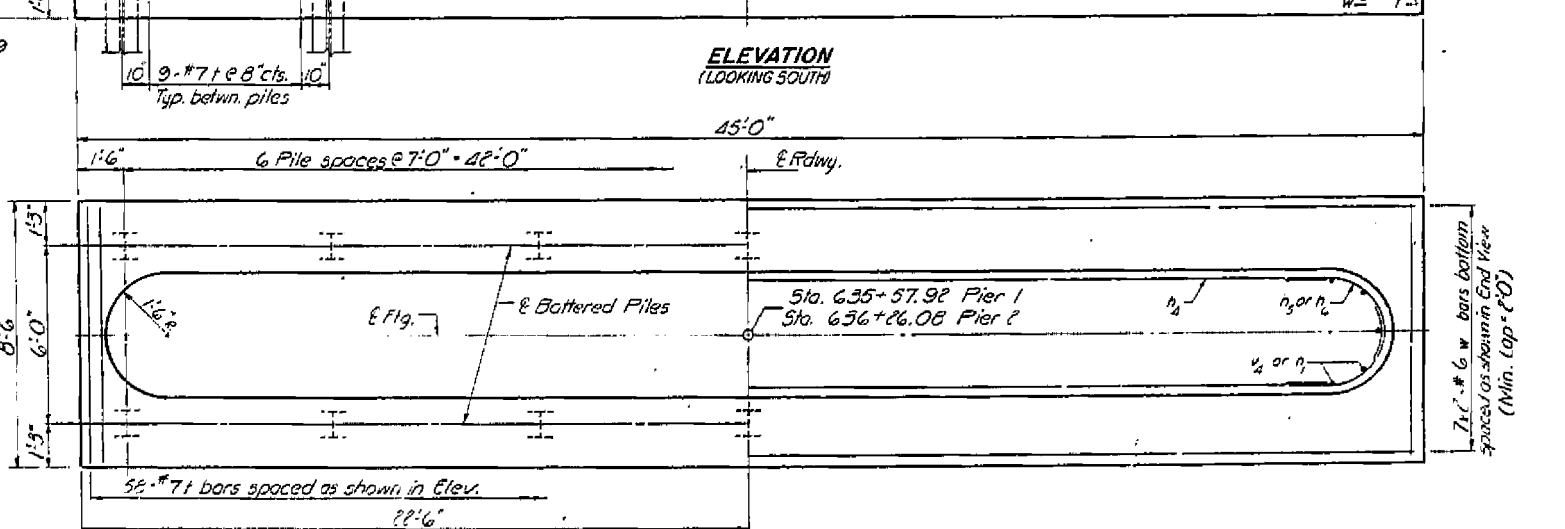
Note:  
Bars indicated thus 20x3-#5 etc.  
indicates 20 lines of bars with 3 lengths  
per line.



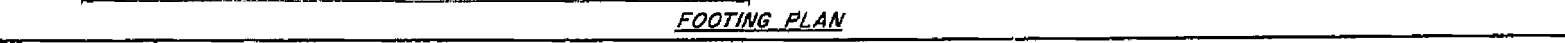
END VIEW



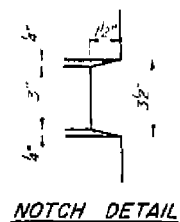
TOP PLAN



ELEVATION  
(LOOKING SOUTH)



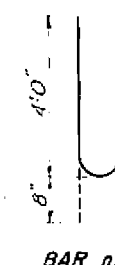
FOOTING PLAN



NOTCH DETAIL

Bar No.	R	A
n <sub>2</sub>	1'-1"	2'-11"
n <sub>5</sub>	1'-2"	3'-4"

DETAIL OF BARS  
h<sub>2</sub>, c, h<sub>2</sub>



BAR n1

**TWO PIERS  
BILL OF MATERIAL**

Bar No.	Size	Length	Shape
n <sub>2</sub>	#5	21'-3"	—
n <sub>5</sub>	#5	5'-2"	—
n <sub>6</sub>	#5	5'-9"	—
n <sub>1</sub>	#6	4'-8"	—
1	#7	8'-3"	—
1/2	#5	26'-6"	—
w	#6	23'-6"	—
Class 2 Concrete		Cu. Yds	277.6
Reinforcement Bars		Lbs	15560
Steel Piles (HP10x42)		Lin. Ft.	70?
Test Piles (HP10x42)		Each	1

PIERS 1E?  
FA RT. 26 SEC. 3BR?  
EFFINGHAM COUNTY  
STA. 6.35+92.00

DESIGNED	<i>[Signature]</i>	EXAMINED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>	PASSED	<i>[Signature]</i>
DRAWN	J.D.	APPROVED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>		

P-1 6-1-73

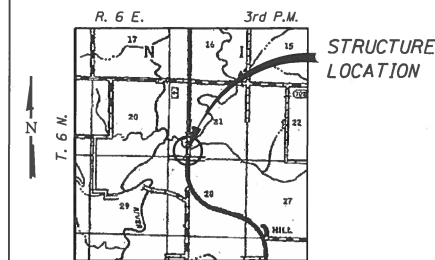
FOR INFORMATION ONLY

**BENCHMARK:** IDOT TBM 46; Chiseled Square, Top of Southeast Wingwall of Bridge  
Sta. 636+85.27, 22.24' Lt.  
El. 498.47

**EXISTING STRUCTURE:** SN 025-0081  
Built in 1977 as FA Rte. 26, Section 3BR-3 consists of a concrete deck supported by three simple spans of P.P.C. I beams on spill thru pile bent abutments and solid concrete hammerhead piers measuring 46'-0" out to out of deck and 178'-8" back to back of abutments.

The existing roadway will remain open to one lane of traffic during the construction period utilizing stage construction.

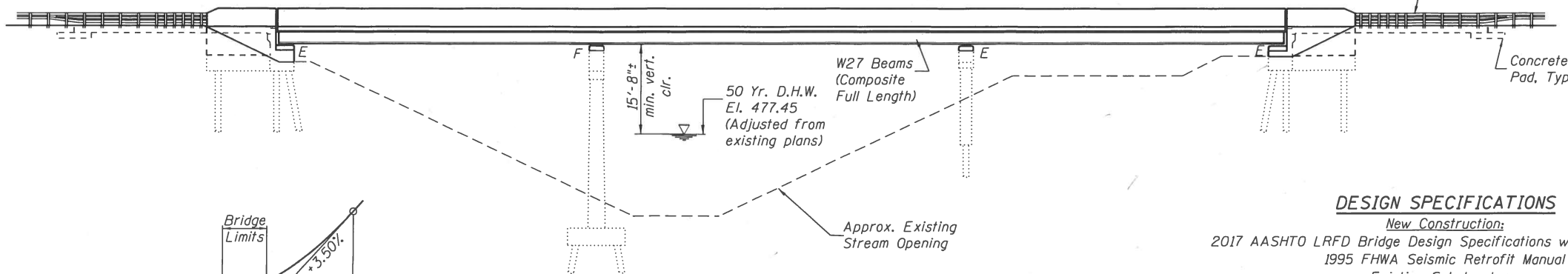
**SALVAGE:** The substructure shall remain.



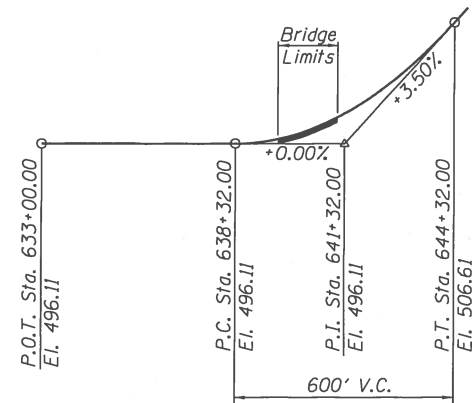
LOCATION SKETCH

**INDEX OF SHEETS**

1. General Plan & Elevation
2. General Data
3. Stage Construction Details
4. Temporary Concrete Barrier for Stage Construction
5. Top of Slab Elevations
6. Top of Slab Elevations
7. Top of Slab Elevations
8. Top of Slab Elevations
9. Top of North Approach Slab Elevations
10. Top of South Approach Slab Elevations
11. Superstructure
12. Superstructure Details
13. Diaphragm Details
14. Bridge Approach Slab Details
15. Bridge Approach Slab Details
16. Preformed Joint Strip Seal
17. Drainage Scupper, DS-II
18. Structural Steel
19. Steel Details
20. Bearing Details - Abutments
21. Bearing Details - Piers
22. Substructure Repair Details
23. Concrete Removal
24. North Abutment
25. North Abutment Details
26. South Abutment
27. South Abutment Details
28. Pier 1
29. Pier 2
30. Bar Splicer Assembly and Mechanical Splicer Details
31. Blank Sheet



ELEVATION



PROFILE GRADE

along construction @ FAP 328

**APPROVED**  
For Structural Adequacy Only

*Bradley G. Hummet*  
Engineer of Bridges & Structures

**DESIGN SPECIFICATIONS**

**New Construction:**  
2017 AASHTO LRFD Bridge Design Specifications with 2018 Interim  
1995 FHWA Seismic Retrofit Manual  
**Existing Substructure:**  
2002 AASHTO Standard Specifications

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**  
f'c = 3,500 psi  
f'c = 4,000 psi (Superstructure Concrete)  
fy = 60,000 psi (Reinforcement)  
fy = 50,000 psi (Structural Steel)

**SEISMIC DATA**

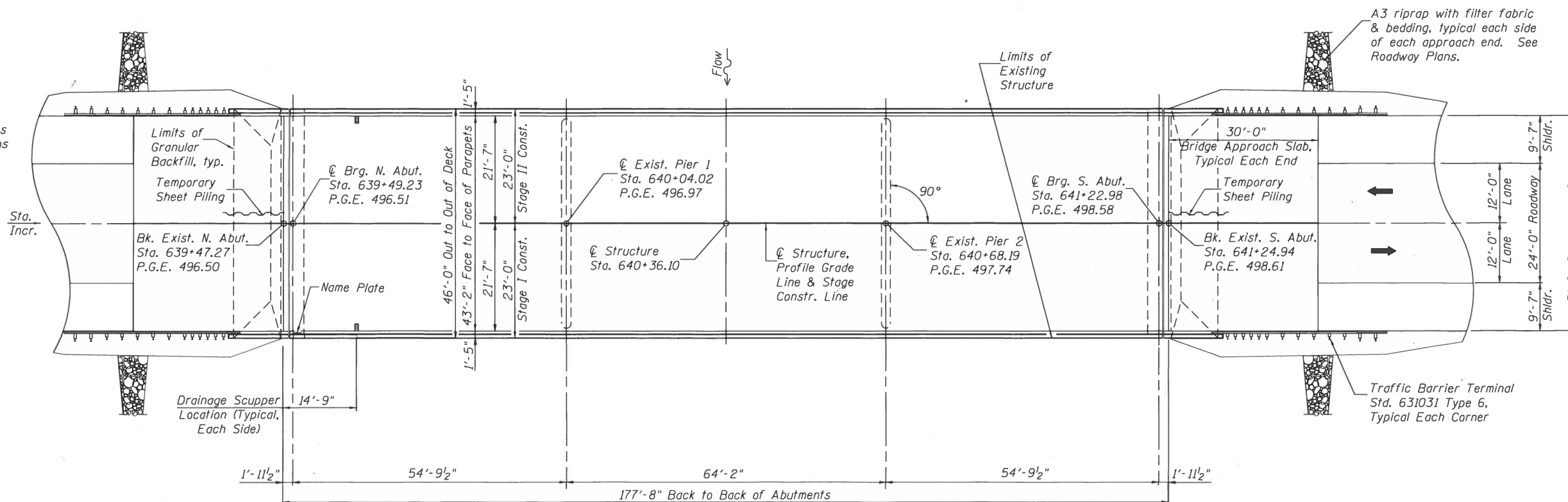
Seismic Performance Category (SPC) = B  
Bedrock Acceleration Coefficient (A) = 0.077g  
Site Coefficient (S) = 1.5

**FIELD UNITS (Existing Construction)**

f'c = 3,500 psi (Substructure)  
fy = 40,000 psi (Reinforcement)

**LOADING HL-93 (NEW CONST.)**

Allow 50#/sq. ft. for future wearing surface.



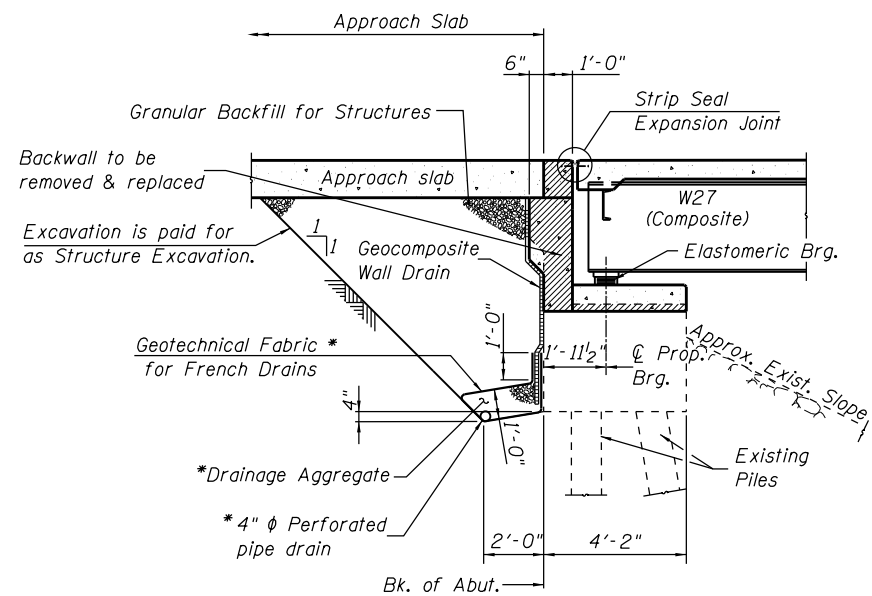
PLAN

**GENERAL PLAN & ELEVATION**  
FAP RTE 328 (U.S. 45)  
OVER RAMSEY CREEK  
SECTION (3BR-2, 3BR-3)BR  
EFFINGHAM COUNTY  
STATION 640+36.10  
SN 025-0081

*Bradley G. Hummet* Date: 9/19/19  
Bradley G. Hummet  
Licensed Structural Engineer  
in Illinois No. 081-005428 Expires: November 30, 2020



<b>HMG</b> Engineers & Surveyors HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - KMM CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> DEPARTMENT OF TRANSPORTATION	<b>GENERAL PLAN &amp; ELEVATION</b> SHEET 1 OF 31 SHEETS	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM ILLINOIS	TOTAL SHEETS 93 SHEET NO. 50	CONTRACT NO. 74859 FED. AID PROJECT
	10/27/2019 1:28:05 PM							



**SECTION THRU PILE SUPPORTED  
STUB ABUTMENT**

(Horiz. dim. @ Rt. L's)

\*Included in the cost of Pipe Underdrains for Structures.  
(See Special Provisions)

**Note:**

All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

STATION 640+36.10  
RE-BUILT 201 BY  
STATE OF ILLINOIS  
FAP RTE 328  
SEC. (3BR-2, 3BR-3)BR  
LOADING HL 93  
STRUCTURE NO. 025-0081

**NAME PLATE**

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to New Name Plate. Cost included with Name Plates.

**GENERAL NOTES**

- Fasteners shall be ASTM F3125, Grade 325, Type 1, High Strength, Hot Dipped Galvanized Bolts 3/4"φ, holes 15/16"φ, unless otherwise noted.
- Calculated weight of Structural Steel = 12,700 lbs. (M 270, Grade 36)  
= 168,780 lbs. (M 270, Grade 50)
- Structural Steel shall be galvanized in accordance with the Special Provisions.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to the designated areas of the abutments & piers.
- Slipforming of the parapets is not allowed.
- The finishing machine rails shall be placed on the top flange of the exterior beams.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUB.	TOTAL
Removal of Existing Superstructures	Each	1	—	1
Concrete Removal	Cu Yd	10.2	22.7	32.9
Structure Excavation	Cu Yd	—	148	148
Concrete Structures	Cu Yd	—	71.7	71.7
Concrete Superstructure	Cu Yd	267.7	—	267.7
Bridge Deck Grooving	Sq Yd	1,090	—	1,090
** Protective Coat	Sq Yd	1,334	—	1,334
Concrete Superstructure (Approach Slab)	Cu Yd	122.0	—	122.0
Furnishing and Erecting Structural Steel	L. Sum	1	—	1
Stud Shear Connectors	Each	5,256	—	5,256
Reinforcement Bars, Epoxy Coated	Pound	118,180	13,110	131,290
Bar Splicers	Each	831	220	1,051
Name Plates	Each	1	—	1
Preformed Joint Strip Seal	Foot	91	—	91
Elastomeric Bearing Assembly, Type I	Each	18	—	18
Anchor Bolts, 3/4"	Each	—	24	24
Anchor Bolts, 1 1/4"	Each	—	24	24
Temporary Sheet Piling	Sq Ft	—	291	291
Granular Backfill for Structures	Cu Yd	—	127	127
Concrete Sealer	Sq Ft	—	968	968
Geocomposite Wall Drain	Sq Yd	—	65	65
Structural Repair of Concrete (depth equal to or less than 5 inches)	Sq Ft	—	104	104
Drainage Scuppers, DS-11	Each	2	—	2
Pipe Underdrains for Structures 4"	Foot	—	236	236

\*\* Quantity includes top of concrete surface of bridge deck and approach slabs end to end and the top and inside vertical faces of the parapets and curbs.

**SCOPE OF WORK**

- Remove and replace existing deck and PPC I-beams with a composite WF-steel beam and reinforced concrete deck superstructure.
- Remove and replace existing fixed and expansion bearings.
- Reconfigure concrete beam seats on abutment and pier caps as indicated on drawings.
- Remove and replace existing backwalls and wingwalls (saving piling, pile caps and noted vertical reinforcement) to accommodate a new Bridge Approach Slab and barrier configuration.
- Remove existing bridge approach pavement and shoulder, as shown, and replace with the new Bridge Approach Slab configuration.
- Repair areas indicated on drawings with Structural Repair Of Concrete.

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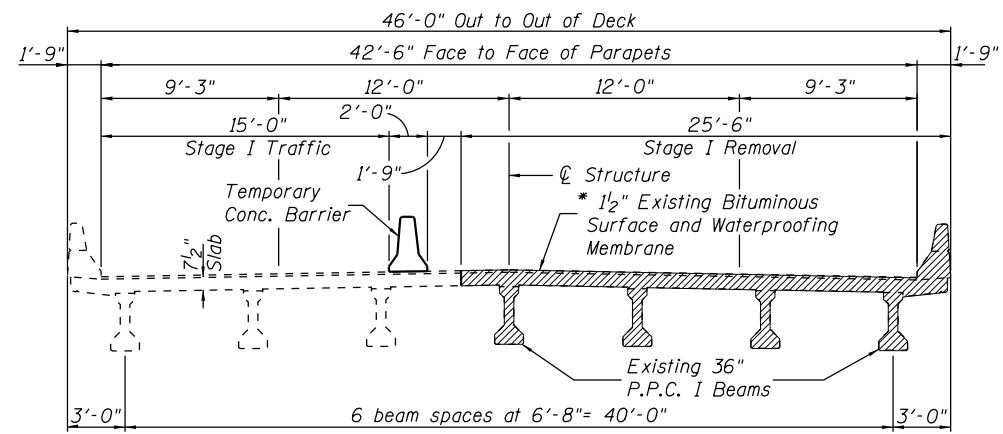
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
STRUCTURE NO. 025-0081**

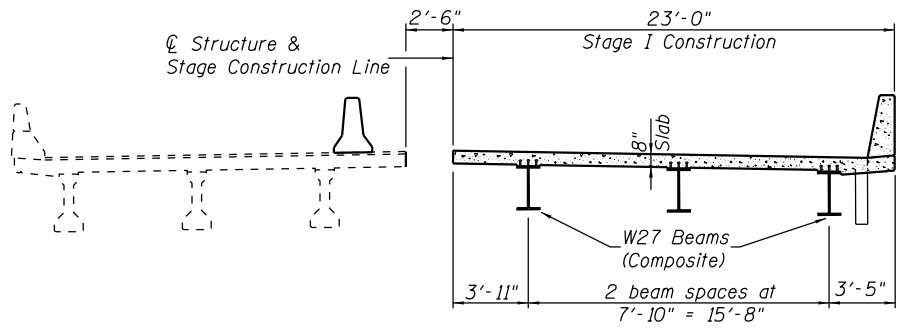
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328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	51
			CONTRACT NO. 74859	
		ILLINOIS	FED. AID PROJECT	



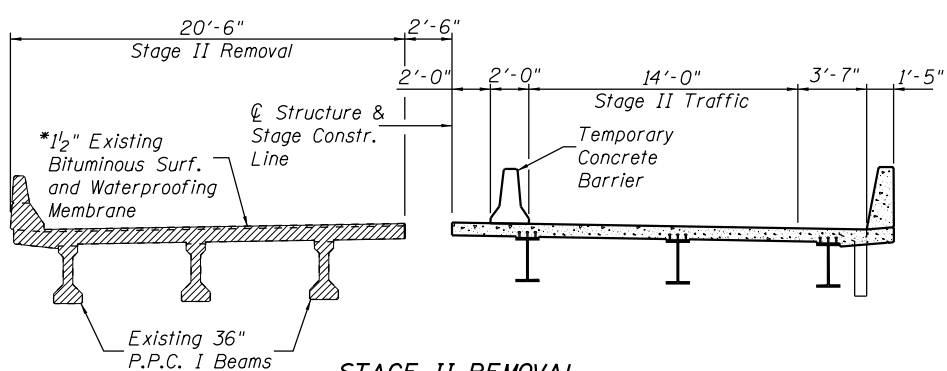
**STAGE I REMOVAL**  
(Looking South)

Removal of Existing Superstructure

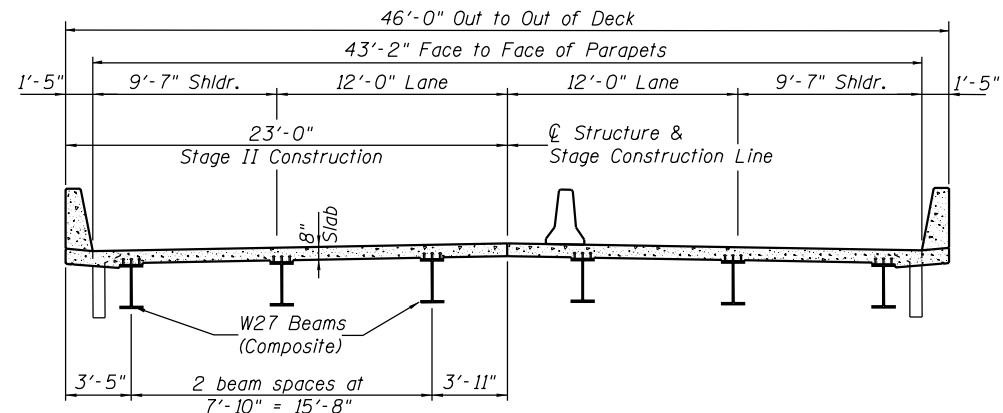
\* Cost of removal included with Removal of Existing Superstructure.



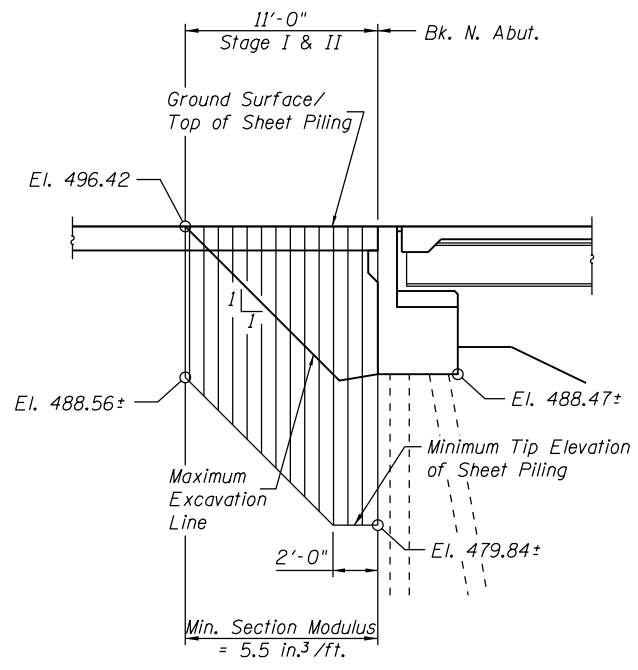
**STAGE I CONSTRUCTION**  
(Looking South)



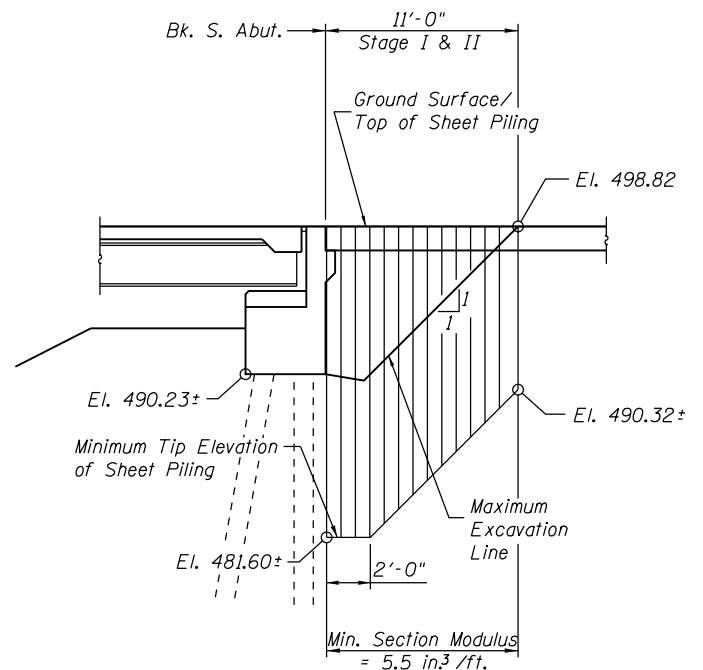
**STAGE II REMOVAL**  
(Looking South)



**STAGE II CONSTRUCTION**  
(Looking South)



**NORTH ABUTMENT**



**SOUTH ABUTMENT**

**TEMPORARY SHEET PILING ELEVATION**

Notes:

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
2. See sheet 4 of 31 for details of Temporary Concrete Barrier.
3. See Roadway Plans for quantity of Temporary Concrete Barrier.

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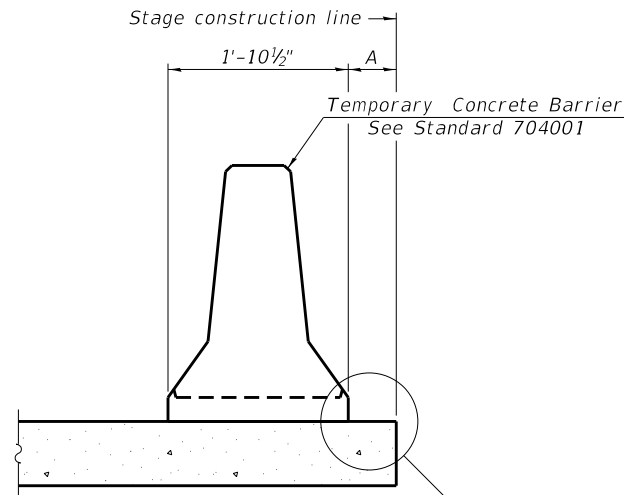
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	PLOT SCALE =	DRAWN - KHL	REVISED -
	PLOT DATE =	CHECKED - BGH	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS  
STRUCTURE NO. 025-0081**  
SHEET 3 OF 31 SHEETS

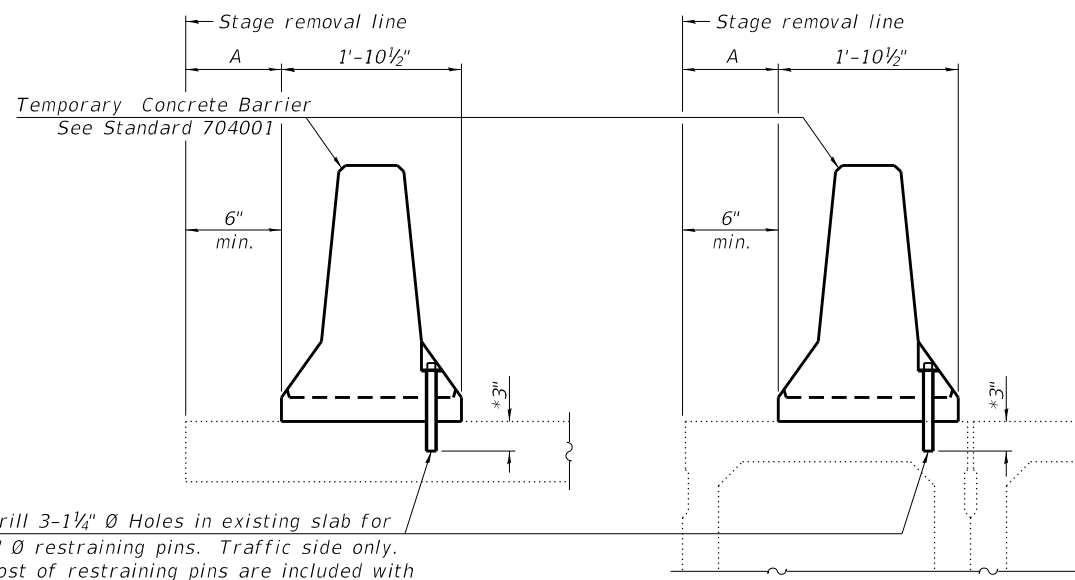
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328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	52
CONTRACT NO. 74859				
ILLINOIS		FED. AID PROJECT		





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



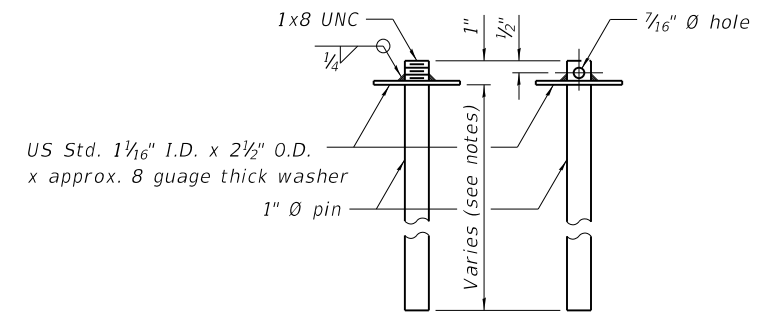
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

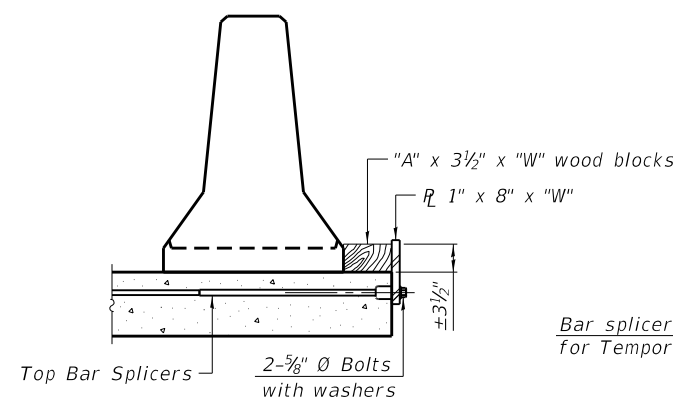
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

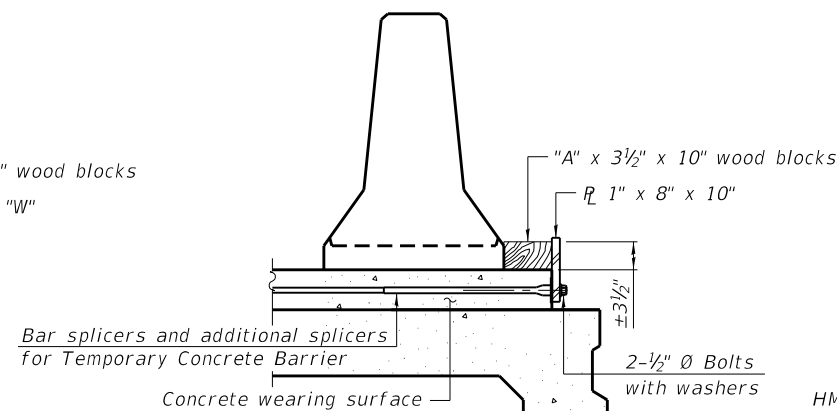
SECTIONS THRU SLAB OR DECK BEAM



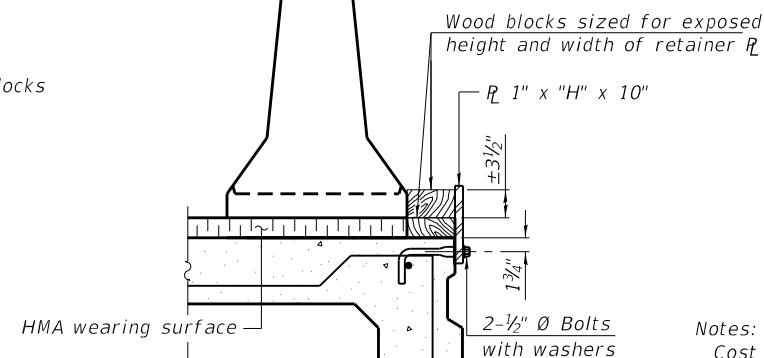
RESTRAINING PIN



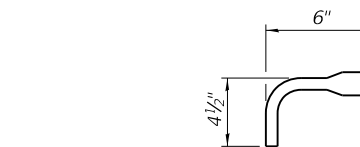
DETAIL I



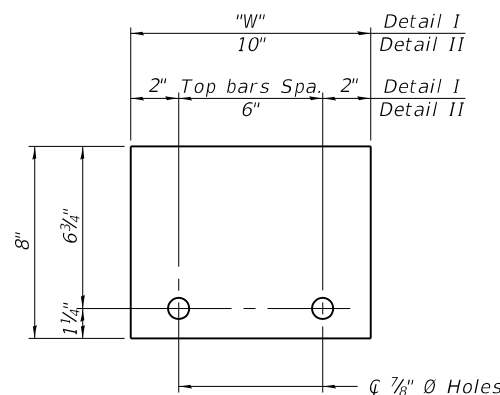
DETAIL II



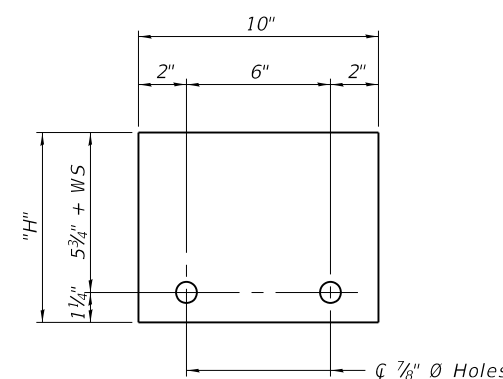
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

Notes:  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate  $\frac{1}{2}$  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.

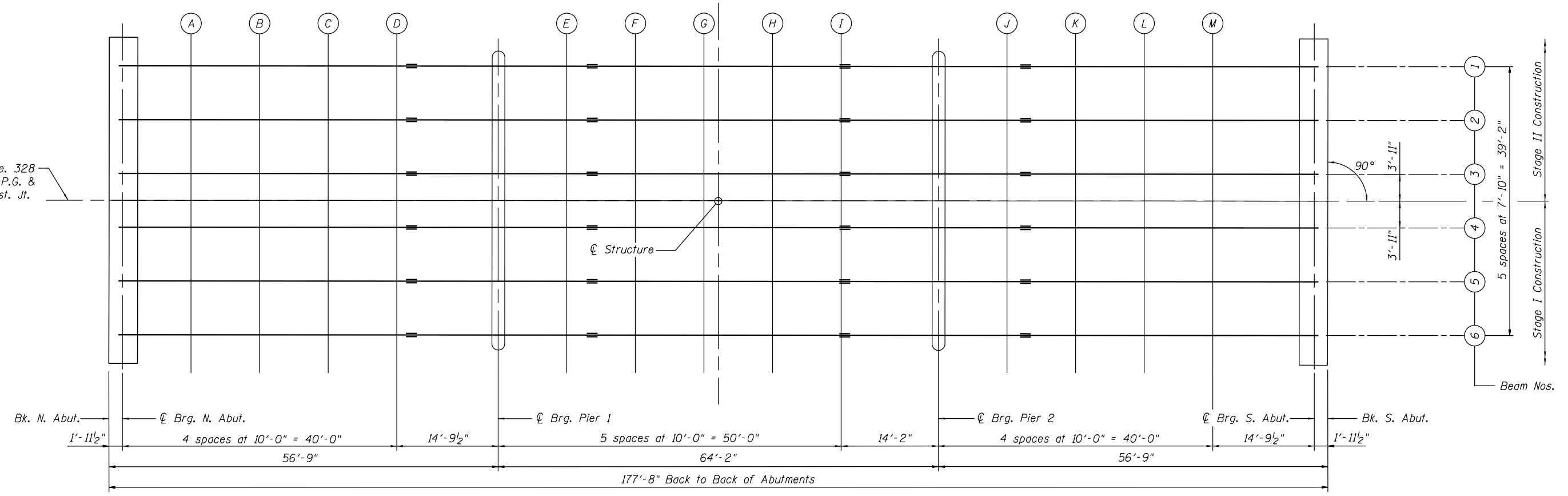
Detail I - Installation for a new bridge deck or bridge slab.  
 Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate 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.

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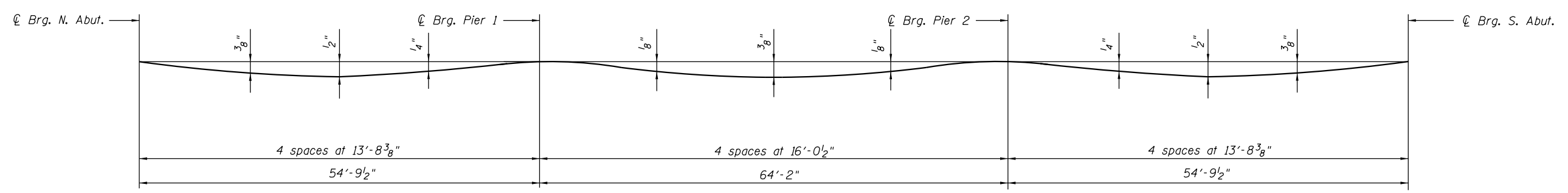
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<b>HMG</b> ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	USER NAME =	DESIGNED - KMM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 025-0081	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE =	DRAWN - KHL	CHECKED - BGH	REVISED -	SHEET 4 OF 31 SHEETS		ILLINOIS		FED. AID PROJECT		

☉ FAP Rte. 328  
(U.S. 45), P.G. &  
Stage Const. Jt.

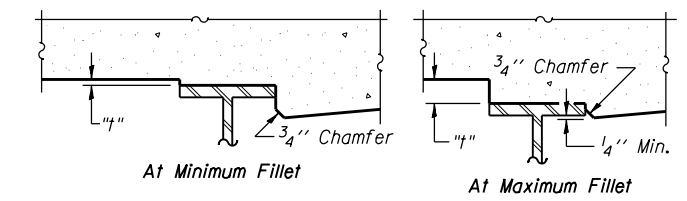


**PLAN** ← Z →



**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete only.)

**Note:**  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections shown on sheets 6 thru 8.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6 thru 8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**

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PLOT SCALE	=
PLOT DATE	=

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DRAWN	-	KHL	REVISED	-
CHECKED	-	BGH	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 025-0081**

SHEET 5 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	54
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 74859

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**BEAM #1**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	-19.58	496.15	496.15
⊕ Brg. N. Abut.	639+49.23	-19.58	496.17	496.17
A	639+59.23	-19.58	496.24	496.26
B	639+69.23	-19.58	496.31	496.35
C	639+79.23	-19.58	496.40	496.43
D	639+89.23	-19.58	496.49	496.51
⊕ Brg. Pier 1	640+04.02	-19.58	496.63	496.63
E	640+14.02	-19.58	496.73	496.74
F	640+24.02	-19.58	496.84	496.86
G	640+34.02	-19.58	496.95	496.98
H	640+44.02	-19.58	497.08	497.10
I	640+54.02	-19.58	497.20	497.22
⊕ Brg. Pier 2	640+68.19	-19.58	497.39	497.39
J	640+78.19	-19.58	497.53	497.55
K	640+88.19	-19.58	497.68	497.71
L	640+98.19	-19.58	497.83	497.87
M	641+08.19	-19.58	497.99	498.02
⊕ Brg. S. Abut.	641+22.98	-19.58	498.23	498.23
Bk. S. Abut.	641+24.94	-19.58	498.27	498.27

**BEAM #2**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	-11.75	496.31	496.31
⊕ Brg. N. Abut.	639+49.23	-11.75	496.33	496.33
A	639+59.23	-11.75	496.40	496.42
B	639+69.23	-11.75	496.48	496.51
C	639+79.23	-11.75	496.56	496.60
D	639+89.23	-11.75	496.65	496.67
⊕ Brg. Pier 1	640+04.02	-11.75	496.79	496.79
E	640+14.02	-11.75	496.89	496.90
F	640+24.02	-11.75	497.00	497.02
G	640+34.02	-11.75	497.12	497.15
H	640+44.02	-11.75	497.24	497.26
I	640+54.02	-11.75	497.36	497.38
⊕ Brg. Pier 2	640+68.19	-11.75	497.55	497.55
J	640+78.19	-11.75	497.69	497.71
K	640+88.19	-11.75	497.84	497.87
L	640+98.19	-11.75	497.99	498.03
M	641+08.19	-11.75	498.15	498.18
⊕ Brg. S. Abut.	641+22.98	-11.75	498.40	498.40
Bk. S. Abut.	641+24.94	-11.75	498.43	498.43

*Notes:*  
 1. Elevations are at Top of Concrete.  
 2. See Sheet 5 for elevation locations.

	DESIGNED - KMM	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS</b> <b>STRUCTURE NO. 025-0081</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE =	CHECKED - BGH	REVISED -	CONTRACT NO. 74859					

BEAM #3

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	-3.92	496.44	496.44
☉ Brg. N. Abut.	639+49.23	-3.92	496.45	496.45
A	639+59.23	-3.92	496.52	496.55
B	639+69.23	-3.92	496.60	496.64
C	639+79.23	-3.92	496.68	496.72
D	639+89.23	-3.92	496.77	496.79
☉ Brg. Pier 1	640+04.02	-3.92	496.91	496.91
E	640+14.02	-3.92	497.02	497.02
F	640+24.02	-3.92	497.12	497.15
G	640+34.02	-3.92	497.24	497.27
H	640+44.02	-3.92	497.36	497.39
I	640+54.02	-3.92	497.49	497.50
☉ Brg. Pier 2	640+68.19	-3.92	497.68	497.68
J	640+78.19	-3.92	497.82	497.83
K	640+88.19	-3.92	497.96	497.99
L	640+98.19	-3.92	498.12	498.16
M	641+08.19	-3.92	498.27	498.31
☉ Brg. S. Abut.	641+22.98	-3.92	498.52	498.52
Bk. S. Abut.	641+24.94	-3.92	498.55	498.55

☉ ROADWAY, P.G. AND STAGE CONSTRUCTION LINE

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	0.00	496.50	496.50
☉ Brg. N. Abut.	639+49.23	0.00	496.51	496.51
A	639+59.23	0.00	496.58	496.61
B	639+69.23	0.00	496.66	496.70
C	639+79.23	0.00	496.74	496.78
D	639+89.23	0.00	496.83	496.85
☉ Brg. Pier 1	640+04.02	0.00	496.97	496.97
E	640+14.02	0.00	497.08	497.08
F	640+24.02	0.00	497.19	497.21
G	640+34.02	0.00	497.30	497.33
H	640+44.02	0.00	497.42	497.45
I	640+54.02	0.00	497.55	497.56
☉ Brg. Pier 2	640+68.19	0.00	497.74	497.74
J	640+78.19	0.00	497.88	497.89
K	640+88.19	0.00	498.02	498.06
L	640+98.19	0.00	498.18	498.22
M	641+08.19	0.00	498.33	498.37
☉ Brg. S. Abut.	641+22.98	0.00	498.58	498.58
Bk. S. Abut.	641+24.94	0.00	498.61	498.61

BEAM #4

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	3.92	496.44	496.44
☉ Brg. N. Abut.	639+49.23	3.92	496.45	496.45
A	639+59.23	3.92	496.52	496.55
B	639+69.23	3.92	496.60	496.64
C	639+79.23	3.92	496.68	496.72
D	639+89.23	3.92	496.77	496.79
☉ Brg. Pier 1	640+04.02	3.92	496.91	496.91
E	640+14.02	3.92	497.02	497.02
F	640+24.02	3.92	497.12	497.15
G	640+34.02	3.92	497.24	497.27
H	640+44.02	3.92	497.36	497.39
I	640+54.02	3.92	497.49	497.50
☉ Brg. Pier 2	640+68.19	3.92	497.68	497.68
J	640+78.19	3.92	497.82	497.83
K	640+88.19	3.92	497.96	497.99
L	640+98.19	3.92	498.12	498.16
M	641+08.19	3.92	498.27	498.31
☉ Brg. S. Abut.	641+22.98	3.92	498.52	498.52
Bk. S. Abut.	641+24.94	3.92	498.55	498.55

Notes:

- Elevations are at Top of Concrete.
- See Sheet 5 for elevation locations.

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9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611  
Engineers + Surveyors

USER NAME =	DESIGNED - KMM	REVISIONS
PLOT SCALE =	CHECKED - LDG	REVISIONS
PLOT DATE =	DRAWN - KHL	REVISIONS
	CHECKED - BGH	REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 025-0081

SHEET 7 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 74859	
		ILLINOIS	FED. AID PROJECT	

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**BEAM #5**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	11.75	496.31	496.31
⊕ Brg. N. Abut.	639+49.23	11.75	496.33	496.33
A	639+59.23	11.75	496.40	496.42
B	639+69.23	11.75	496.48	496.51
C	639+79.23	11.75	496.56	496.60
D	639+89.23	11.75	496.65	496.67
⊕ Brg. Pier 1	640+04.02	11.75	496.79	496.79
E	640+14.02	11.75	496.89	496.90
F	640+24.02	11.75	497.00	497.02
G	640+34.02	11.75	497.12	497.15
H	640+44.02	11.75	497.24	497.26
I	640+54.02	11.75	497.36	497.38
⊕ Brg. Pier 2	640+68.19	11.75	497.55	497.55
J	640+78.19	11.75	497.69	497.71
K	640+88.19	11.75	497.84	497.87
L	640+98.19	11.75	497.99	498.03
M	641+08.19	11.75	498.15	498.18
⊕ Brg. S. Abut.	641+22.98	11.75	498.40	498.40
Bk. S. Abut.	641+24.94	11.75	498.43	498.43

**BEAM #6**

Location	Station	Offset from Ctrline	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
Bk. N. Abut.	639+47.27	19.58	496.15	496.15
⊕ Brg. N. Abut.	639+49.23	19.58	496.17	496.17
A	639+59.23	19.58	496.24	496.26
B	639+69.23	19.58	496.31	496.35
C	639+79.23	19.58	496.40	496.43
D	639+89.23	19.58	496.49	496.51
⊕ Brg. Pier 1	640+04.02	19.58	496.63	496.63
E	640+14.02	19.58	496.73	496.74
F	640+24.02	19.58	496.84	496.86
G	640+34.02	19.58	496.95	496.98
H	640+44.02	19.58	497.08	497.10
I	640+54.02	19.58	497.20	497.22
⊕ Brg. Pier 2	640+68.19	19.58	497.39	497.39
J	640+78.19	19.58	497.53	497.55
K	640+88.19	19.58	497.68	497.71
L	640+98.19	19.58	497.83	497.87
M	641+08.19	19.58	497.99	498.02
⊕ Brg. S. Abut.	641+22.98	19.58	498.23	498.23
Bk. S. Abut.	641+24.94	19.58	498.27	498.27

*Notes:*  
 1. Elevations are at Top of Concrete.  
 2. See Sheet 5 for elevation locations.

 <b>HMG ENGINEERS, INC.</b> 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers + Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - KMM CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS          DEPARTMENT OF TRANSPORTATION</b>	<b>TOP OF SLAB ELEVATIONS          STRUCTURE NO. 025-0081</b>	F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 57
	SHEET 8 OF 31 SHEETS						ILLINOIS FED. AID PROJECT			

**EAST CURB LINE**

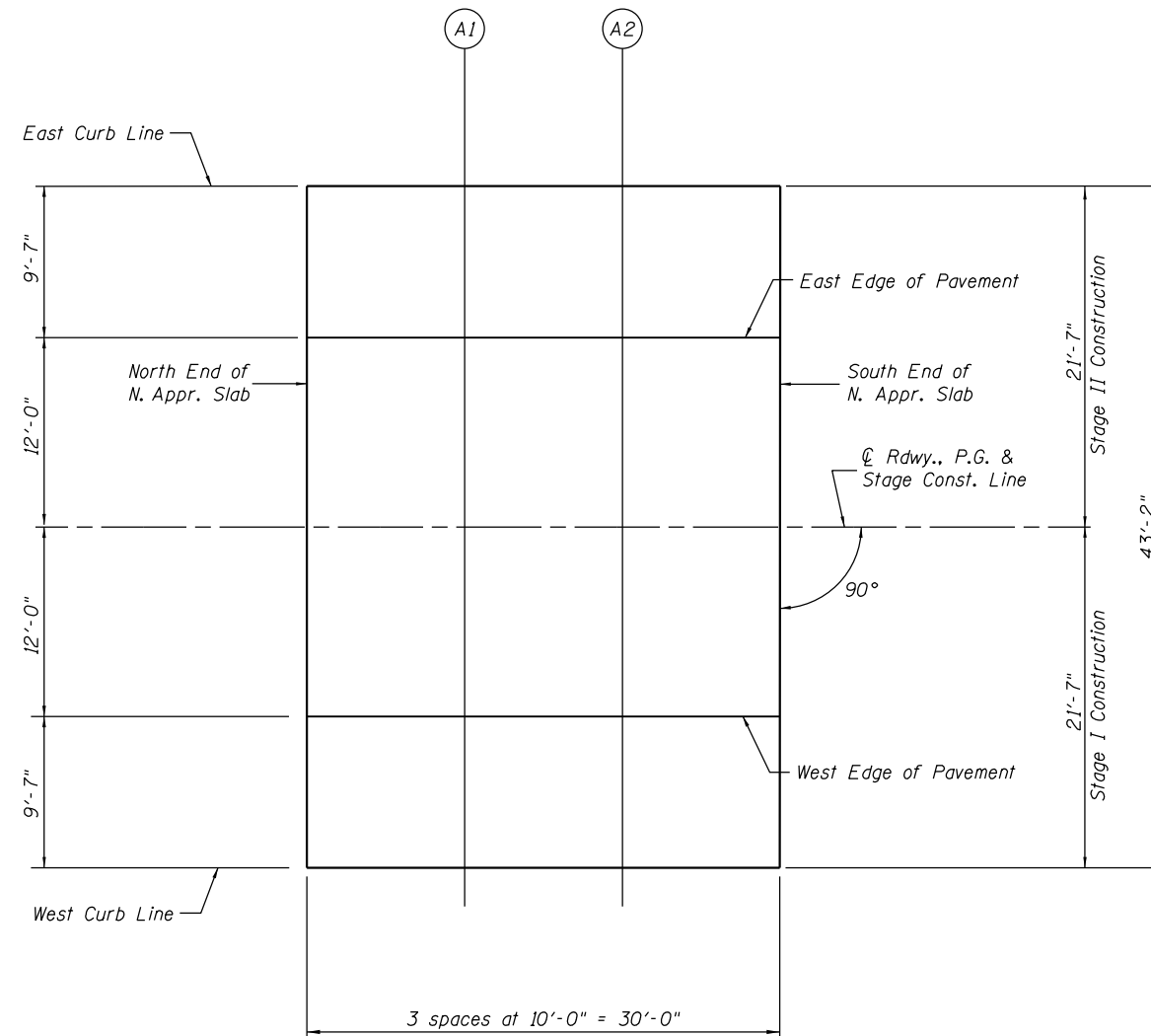
Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	639+17.27	-21.58	495.93
A1	639+27.27	-21.58	495.99
A2	639+37.27	-21.58	496.05
South End of N. Appr. Slab	639+47.27	-21.58	496.11

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	639+17.27	-12.00	496.13
A1	639+27.27	-12.00	496.19
A2	639+37.27	-12.00	496.25
South End of N. Appr. Slab	639+47.27	-12.00	496.31

**☉ ROADWAY, P.G. & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	639+17.27	0.00	496.32
A1	639+27.27	0.00	496.37
A2	639+37.27	0.00	496.43
South End of N. Appr. Slab	639+47.27	0.00	496.50



**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	639+17.27	12.00	496.13
A1	639+27.27	12.00	496.19
A2	639+37.27	12.00	496.25
South End of N. Appr. Slab	639+47.27	12.00	496.31

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of N. Appr. Slab	639+17.27	21.58	495.93
A1	639+27.27	21.58	495.99
A2	639+37.27	21.58	496.05
South End of N. Appr. Slab	639+47.27	21.58	496.11

**NORTH APPROACH PLAN** ← Z →

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<b>HMG</b> Engineers + Surveyors	DESIGNED - KMM	REVISOR -
	CHECKED - LDG	REVISIONS -
	DRAWN - KHL	REVISIONS -
	CHECKED - BGH	REVISIONS -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 025-0081**

F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 58
ILLINOIS			FED. AID PROJECT	

**EAST CURB LINE**

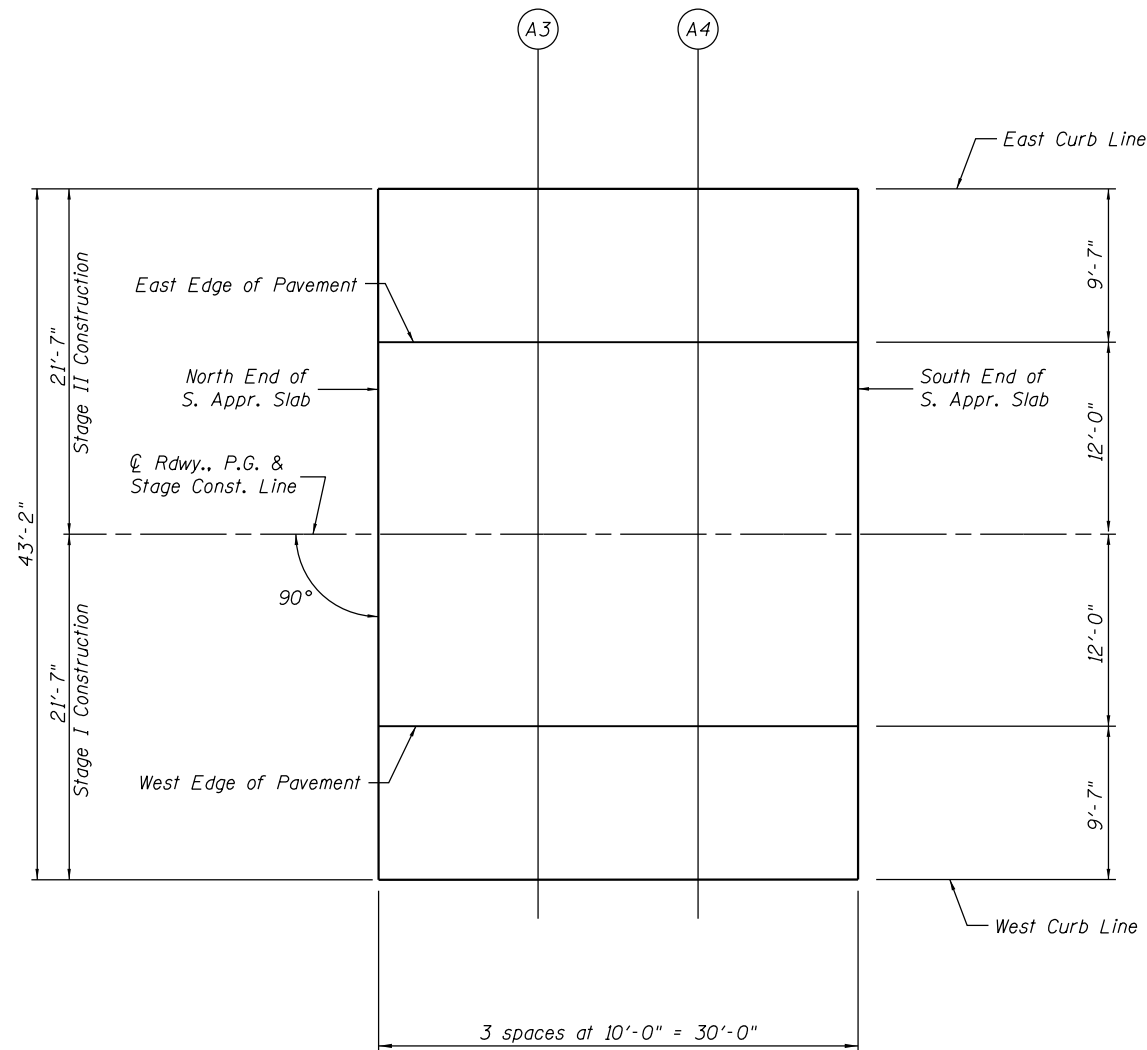
Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	641+24.94	-21.58	498.23
A3	641+34.94	-21.58	498.40
A4	641+44.94	-21.58	498.58
South End of S. Appr. Slab	641+54.94	-21.58	498.76

**EAST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	641+24.94	-12.00	498.43
A3	641+34.94	-12.00	498.60
A4	641+44.94	-12.00	498.78
South End of S. Appr. Slab	641+54.94	-12.00	498.96

**☉ ROADWAY, P.G. & STAGE CONSTRUCTION LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	641+24.94	0.00	498.61
A3	641+34.94	0.00	498.79
A4	641+44.94	0.00	498.97
South End of S. Appr. Slab	641+54.94	0.00	499.15



**WEST EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	641+24.94	12.00	498.43
A3	641+34.94	12.00	498.60
A4	641+44.94	12.00	498.78
South End of S. Appr. Slab	641+54.94	12.00	498.96

**WEST CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
North End of S. Appr. Slab	641+24.94	21.58	498.23
A3	641+34.94	21.58	498.40
A4	641+44.94	21.58	498.58
South End of S. Appr. Slab	641+54.94	21.58	498.76

**SOUTH APPROACH PLAN**

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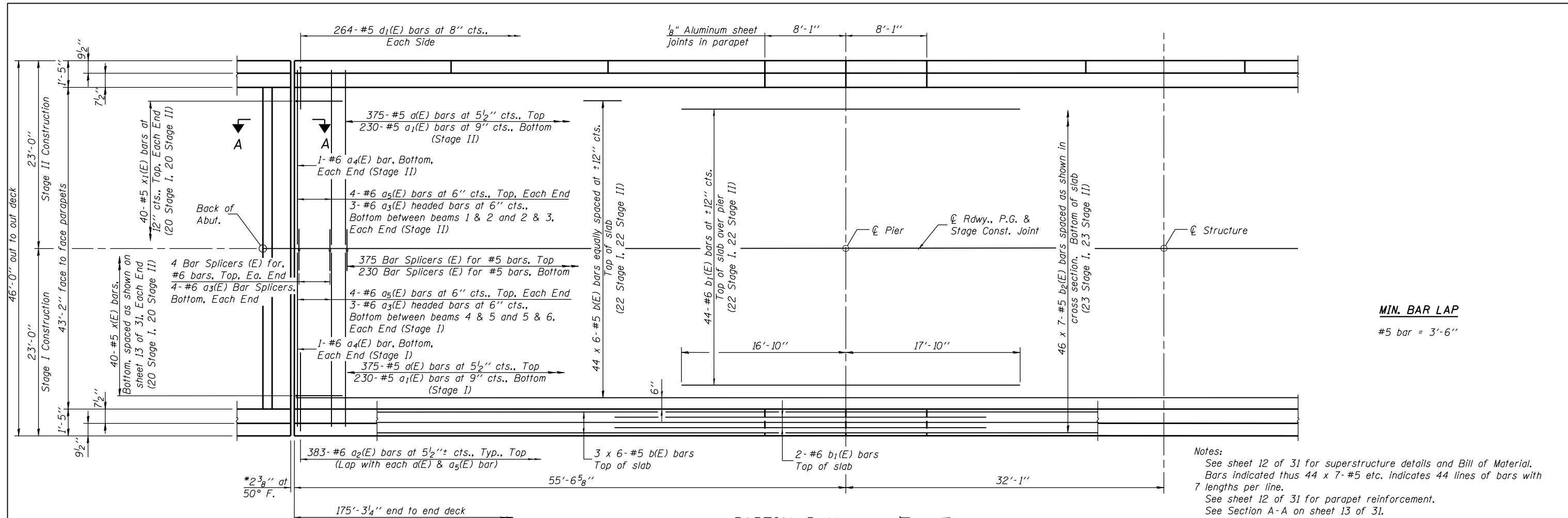
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	CHECKED - LDG	REVISIONS -
	DRAWN - KHL	DATE -
	CHECKED - BGH	DATE -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 025-0081**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	59
ILLINOIS			FED. AID PROJECT	

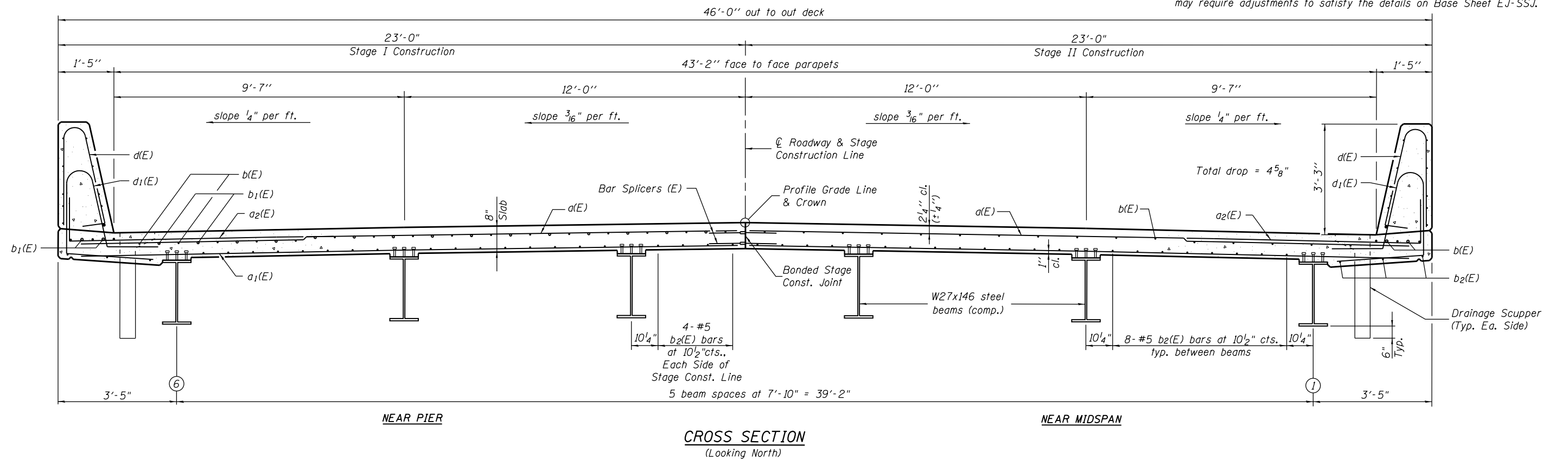
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**MIN. BAR LAP**  
 #5 bar = 3'-6"

**Notes:**  
 See sheet 12 of 31 for superstructure details and Bill of Material.  
 Bars indicated thus 44 x 7-#5 etc. indicates 44 lines of bars with 7 lengths per line.  
 See sheet 12 of 31 for parapet reinforcement.  
 See Section A-A on sheet 13 of 31.  
 For Bar Splicer details see sheet 30 of 31.  
 Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet E-J-SSJ.

\* Dimension showing concrete opening.  
 See sheet 16 of 31 for joint details.



**CROSS SECTION**  
 (Looking North)

**HMG ENGINEERS, INC.**  
 9360 HOLY CROSS LANE  
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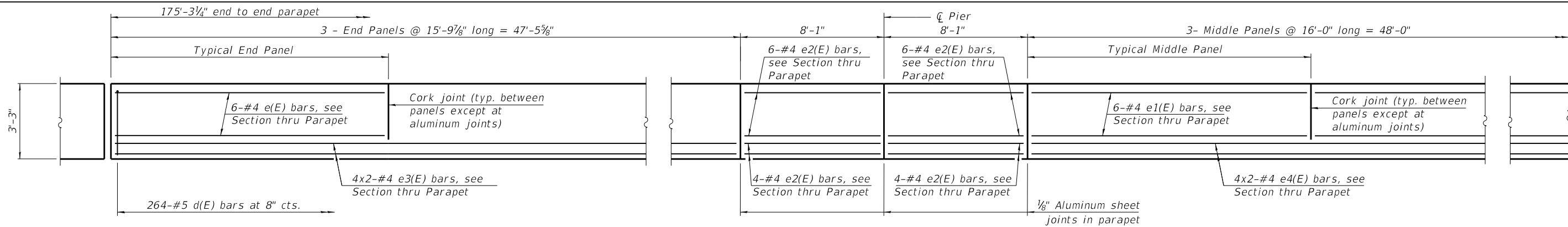
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REVIS	-

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

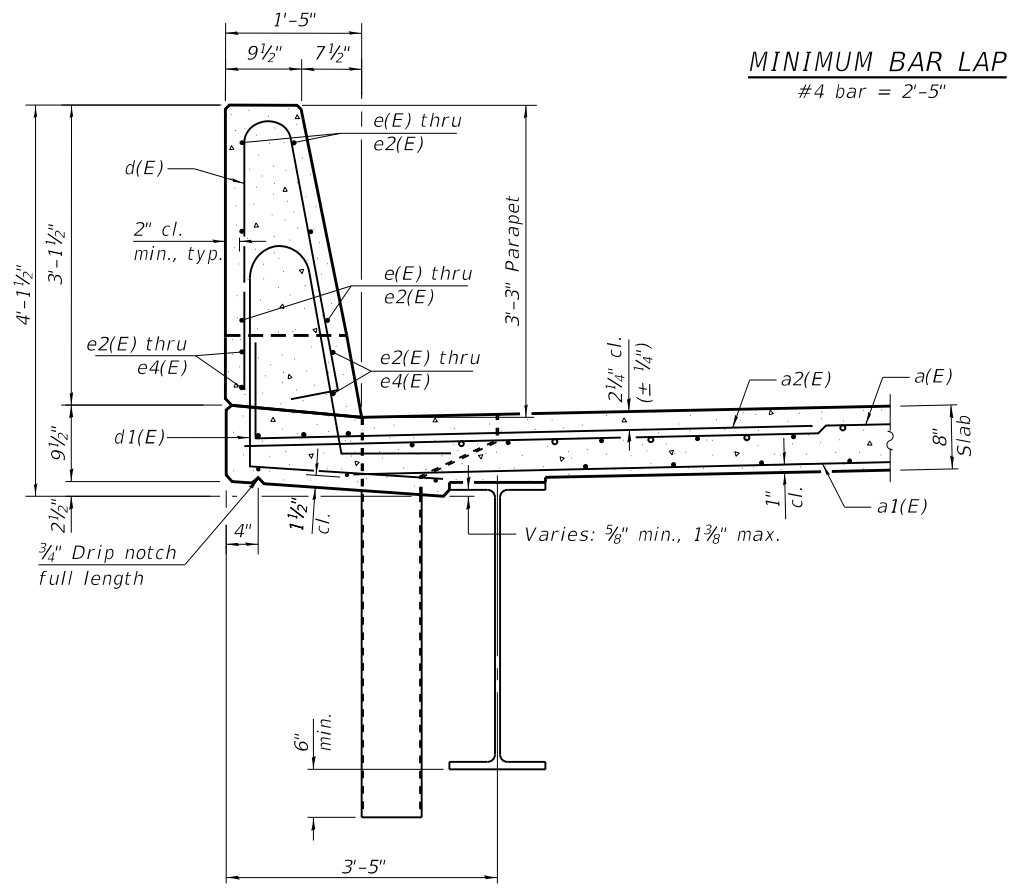
**SUPERSTRUCTURE**  
**STRUCTURE NO. 025-0081**  
 SHEET 11 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	60
ILLINOIS			FED. AID PROJECT	

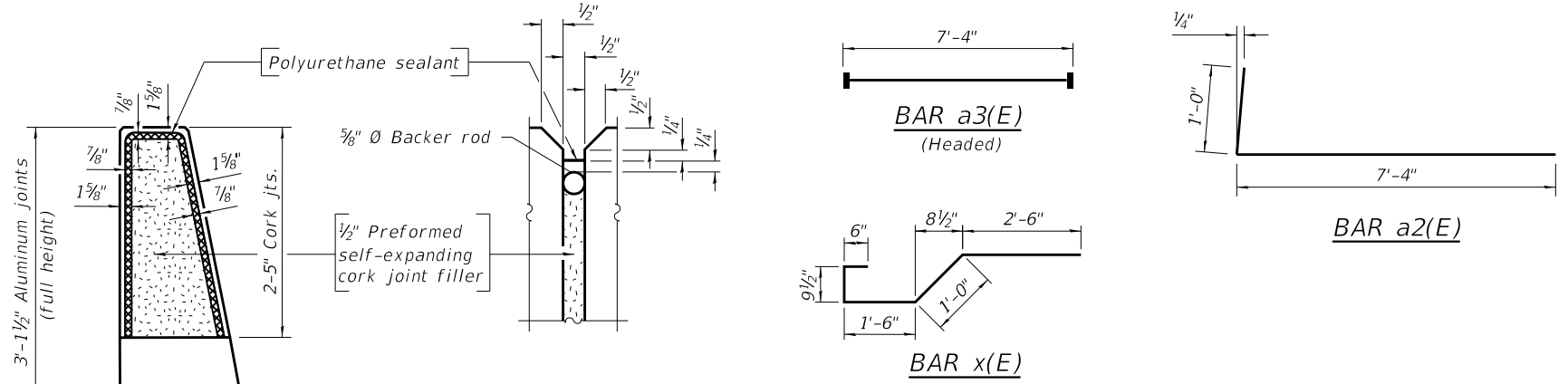




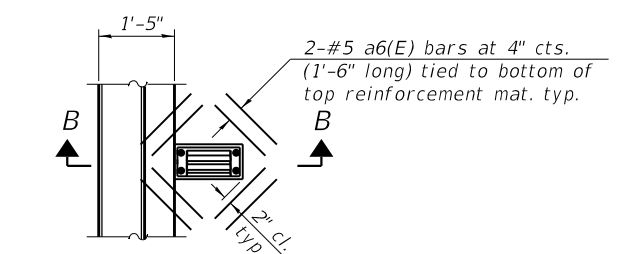
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

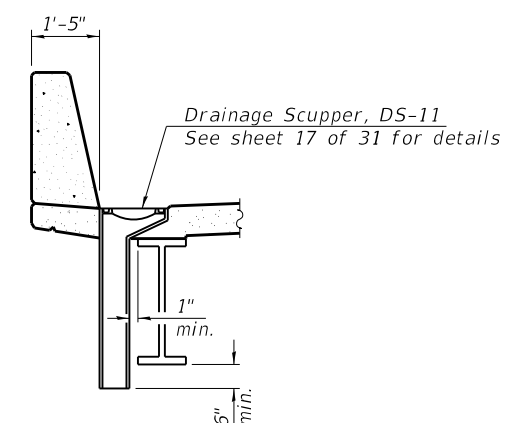


PARAPET JOINT DETAILS



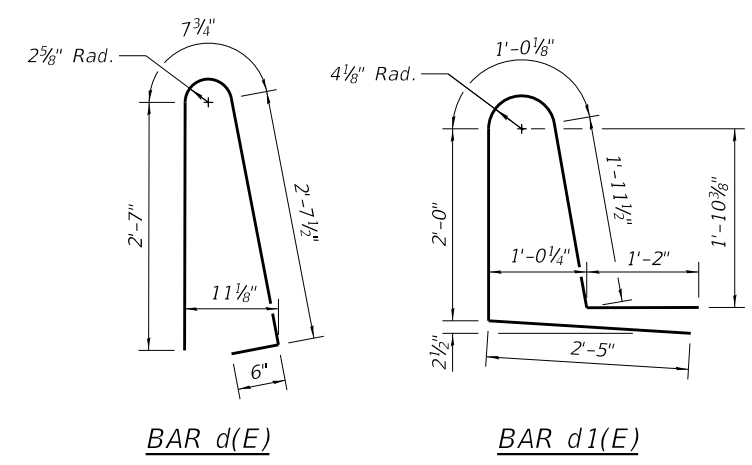
SCUPPER PLAN

Note:  
Cut longitudinal reinforcement to clear drainage scuppers.



SECTION B-B

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



BAR d(E)

BAR d1(E)

SUPERSTRUCTURE  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	750	#5	22'-8"	—	
a1(E)	460	#5	22'-3"	—	
a2(E)	766	#6	8'-4"	—	
a3(E)	24	#6	7'-4"	—	
a4(E)	4	#6	19'-9"	—	
a5(E)	16	#6	22'-6"	—	
a6(E)	16	#5	1'-6"	—	
b(E)	300	#5	32'-2"	—	
b1(E)	96	#6	34'-8"	—	
b2(E)	322	#5	28'-1"	—	
d(E)	528	#5	6'-5"	⌒	
d1(E)	528	#5	8'-7"	⌒	
e(E)	72	#4	15'-6"	—	
e1(E)	36	#4	15'-8"	—	
e2(E)	80	#4	7'-10"	—	
e3(E)	32	#4	25'-0"	—	
e4(E)	16	#4	25'-3"	—	
x(E)	80	#5	6'-4"	⌒	
x1(E)	80	#5	4'-0"	⌒	
Reinforcement Bars, Epoxy Coated				Pound	75,000
Concrete Superstructure				Cu Yd	267.7

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

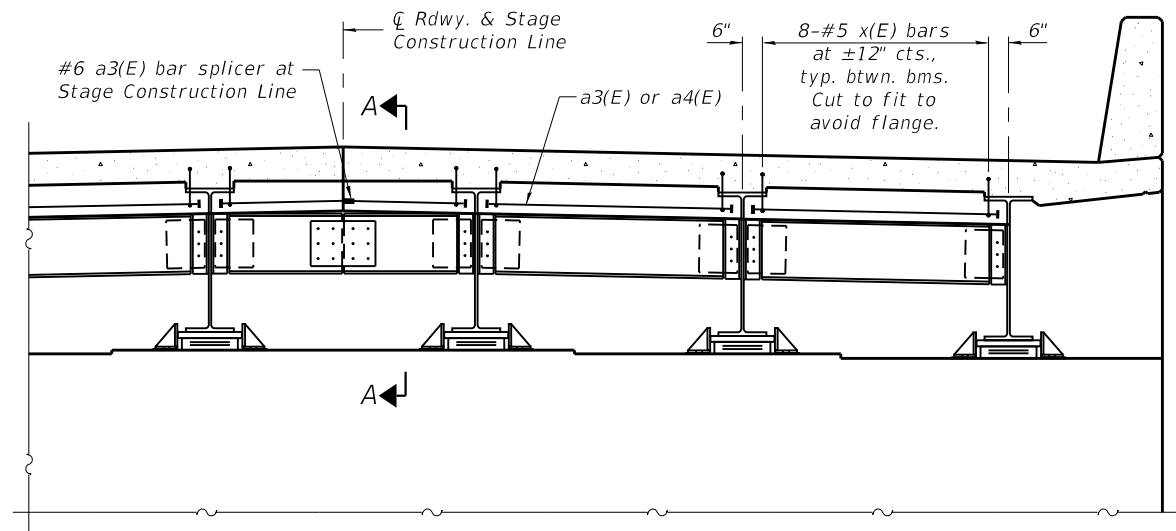
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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers + Surveyors	DESIGNED - KMM	REVISIONS -
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	DRAWN - KHL	REVISIONS -
	CHECKED - BGH	REVISIONS -
USER NAME =		
PLOT SCALE =		
PLOT DATE =		

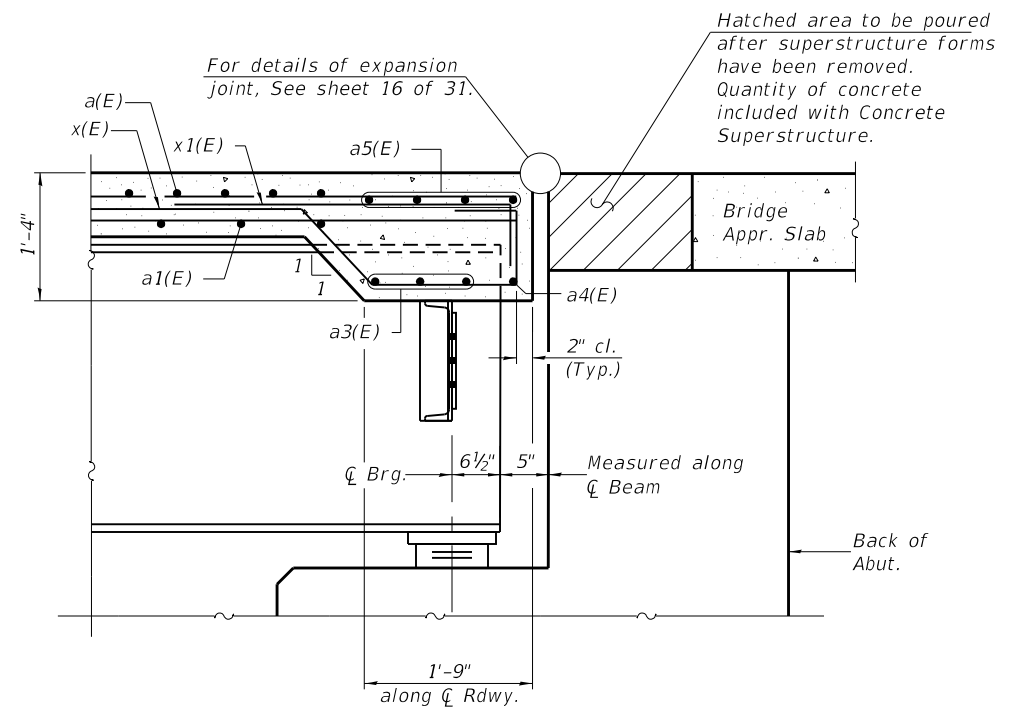
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 025-0081  
SHEET 12 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	61
CONTRACT NO. 74859				
ILLINOIS / FED. AID PROJECT				



DIAPHRAGM AT ABUTMENT



SECTION A-A

Notes:  
See sheet 12 of 31 for superstructure details and Bill of Material.

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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME =	DESIGNED - KMM	REVISED -
	PLOT SCALE =	CHECKED - LDG	REVISED -
	PLOT DATE =	DRAWN - KHL	REVISED -
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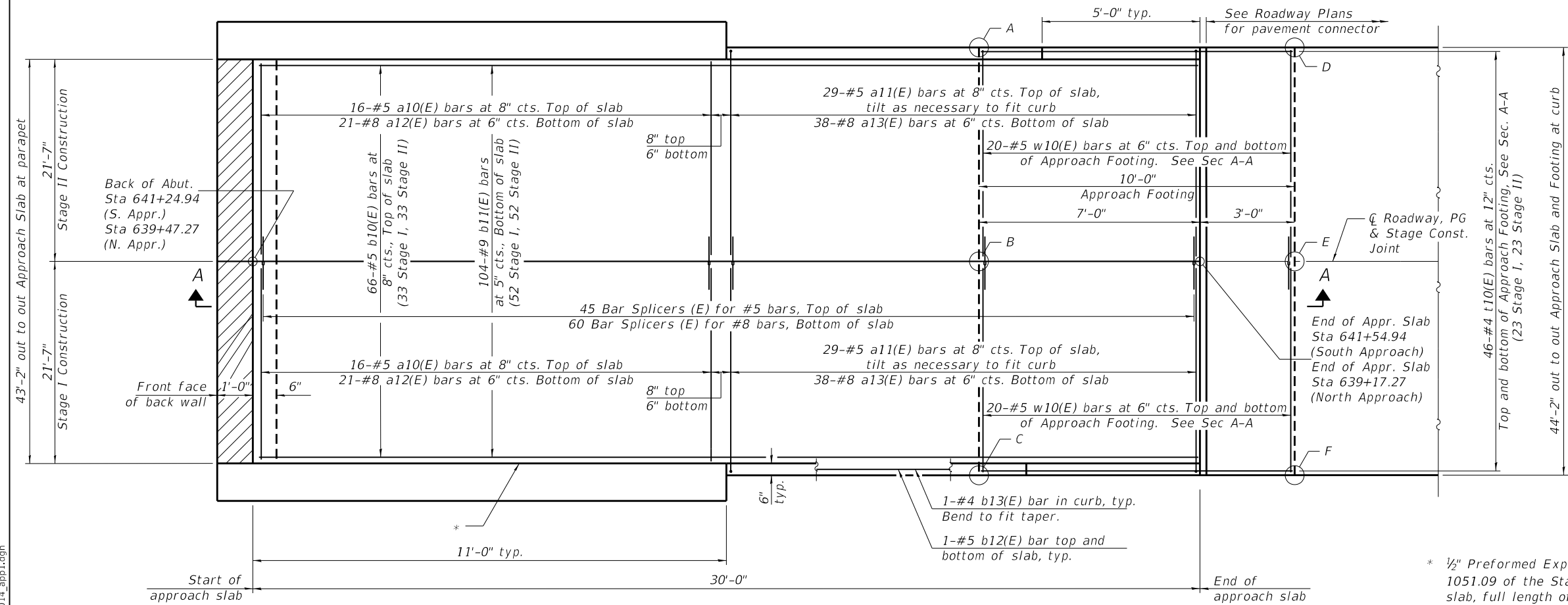
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS  
STRUCTURE NO. 025-0081

SHEET 13 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	62
			CONTRACT NO. 74859	
		ILLINOIS	FED. AID PROJECT	

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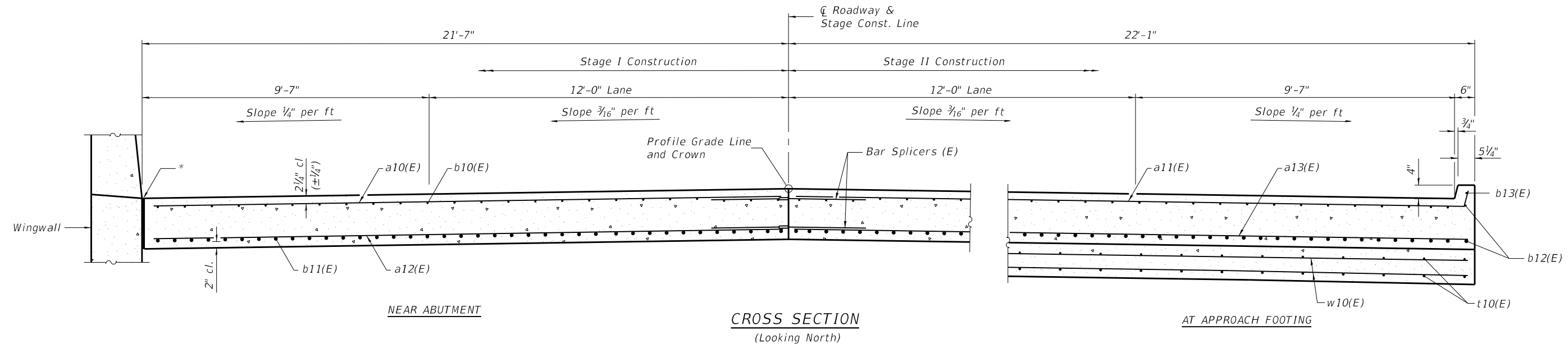


**PLAN**  
 (South Approach shown, North Approach similar)

**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

Point	North Approach		South Approach	
	Top	Bottom	Top	Bottom
A	494.71	493.88	497.37	496.54
B	495.11	494.28	497.77	496.94
C	494.71	493.88	497.37	496.54
D	494.66	493.83	497.56	496.73
E	495.06	494.23	497.96	497.13
F	494.66	493.83	497.56	496.73

\* 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.



**CROSS SECTION**  
 (Looking North)

(Sheet 1 of 2)

**HMG** ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

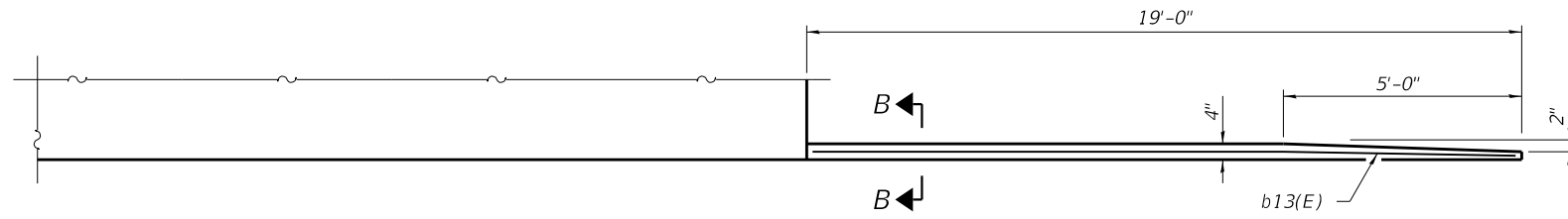
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REVIS	REVISED -
REVIS	REVISED -
REVIS	REVISED -
REVIS	REVISED -

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

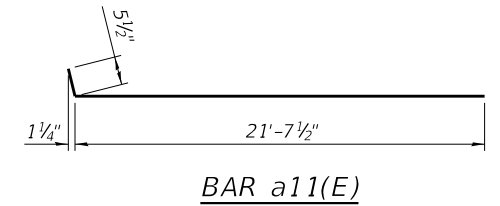
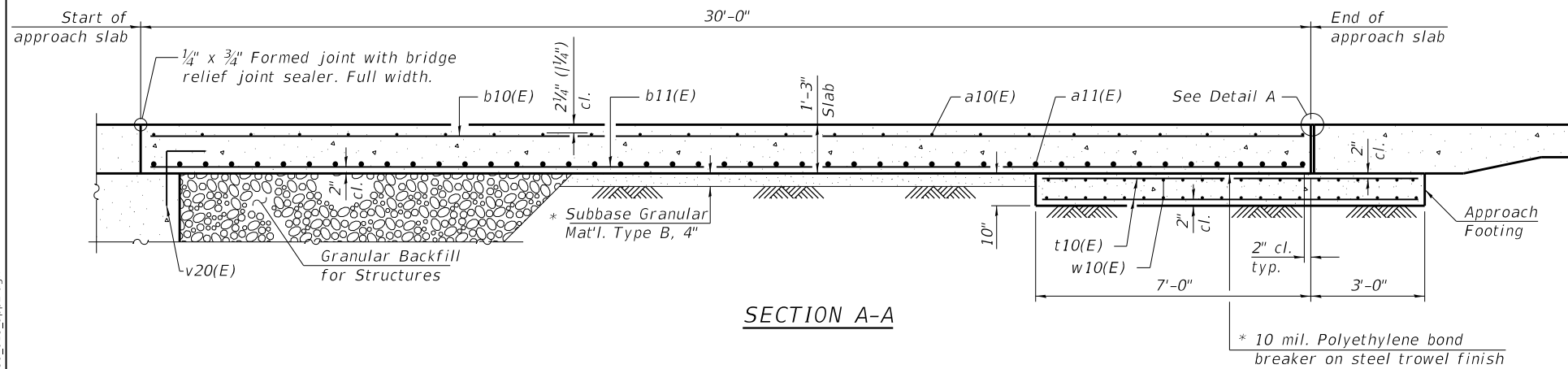
**BRIDGE APPROACH SLAB DETAILS**  
**STRUCTURE NO. 025-0081**  
 SHEET 14 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	63
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				



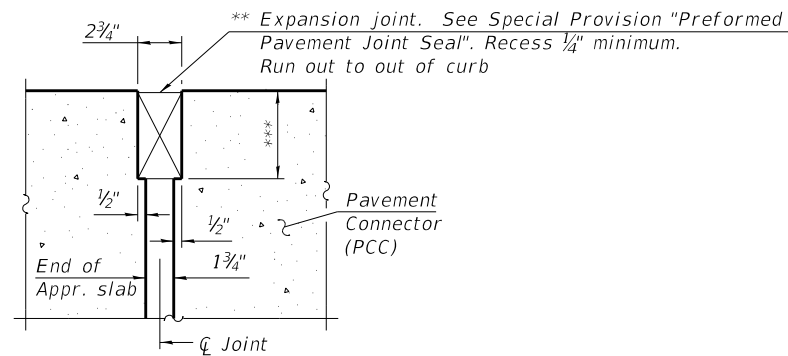
Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 31.

INSIDE ELEVATION OF PARAPET AND CURB

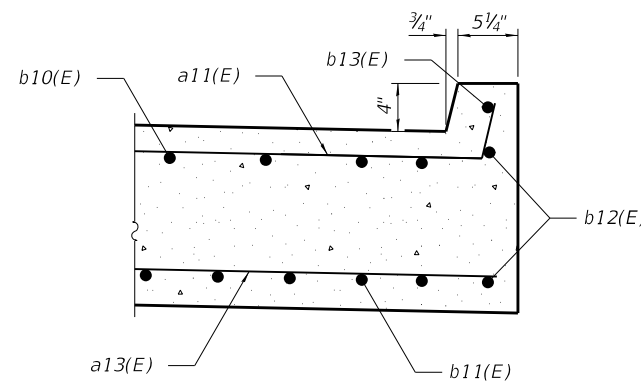


TWO APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a10(E)	64	#5	21'-3"	—	
a11(E)	116	#5	22'-1"	—	
a12(E)	88	#8	21'-3"	—	
a13(E)	152	#8	21'-9"	—	
b10(E)	132	#5	29'-8"	—	
b11(E)	208	#9	29'-8"	—	
b12(E)	8	#5	18'-8"	—	
b13(E)	4	#4	18'-8"	—	
t10(E)	184	#4	9'-8"	—	
w10(E)	160	#5	21'-9"	—	
Concrete Superstructure (Approach Slab)				Cu Yd	122.0
Concrete Structures				Cu Yd	27.3
Reinforcement Bars, Epoxy Coated				Pound	48,000



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

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

\*\*\* Per manufacturer recommendations

(Sheet 2 of 2)

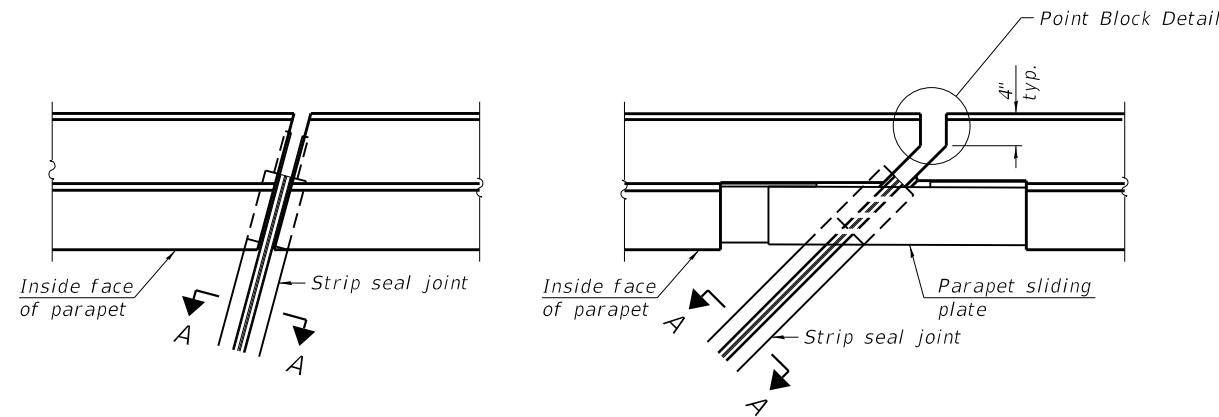
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	DRAWN - KHL	REVISIONS
	CHECKED - BGH	REVISIONS

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

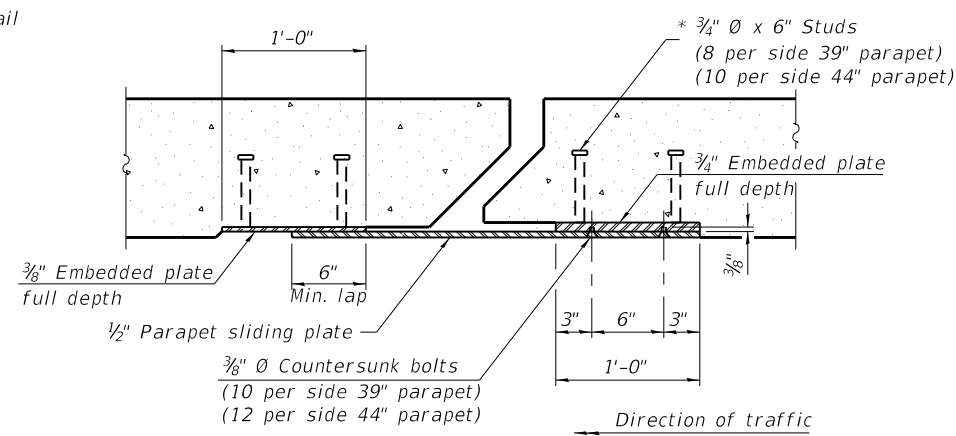
**BRIDGE APPROACH SLAB DETAILS**  
**STRUCTURE NO. 025-0081**  
 SHEET 15 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	64
				CONTRACT NO. 74859
ILLINOIS FED. AID PROJECT				

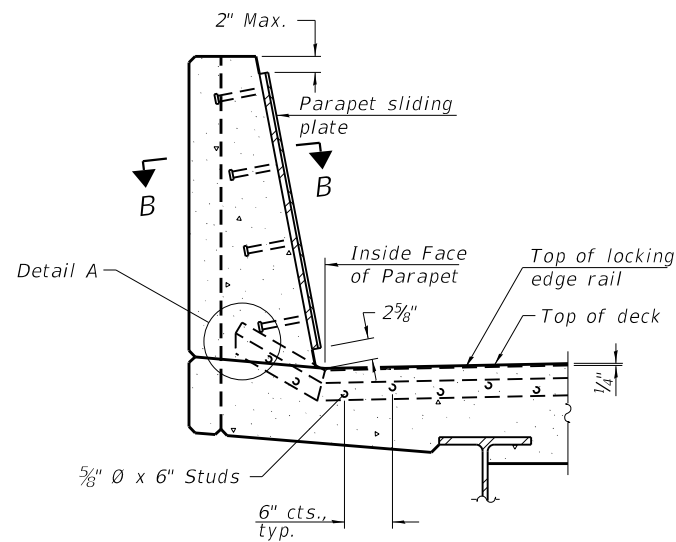


FOR SKEWS  $\leq 30^\circ$

PLAN AT PARAPET

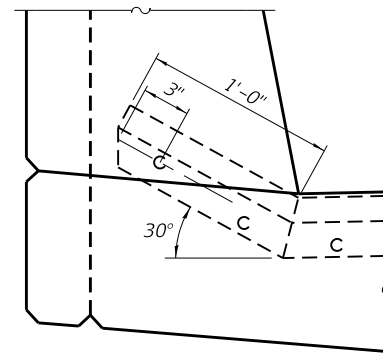


SECTION B-B

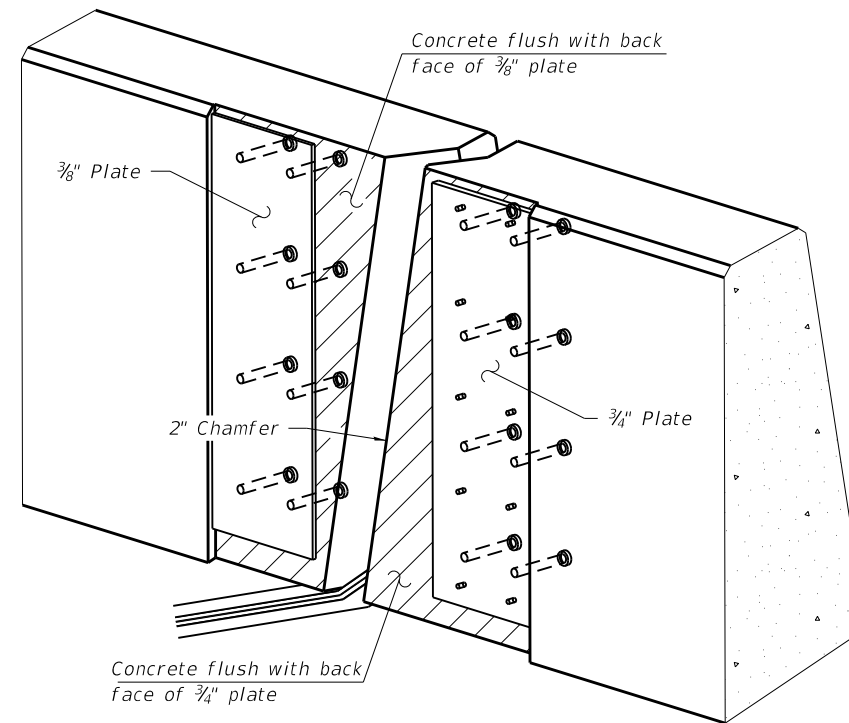


SECTION AT PARAPET

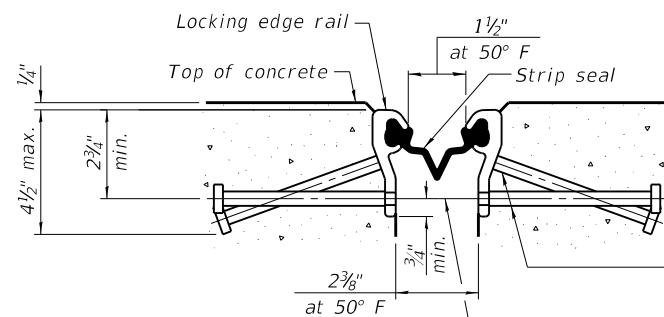
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)



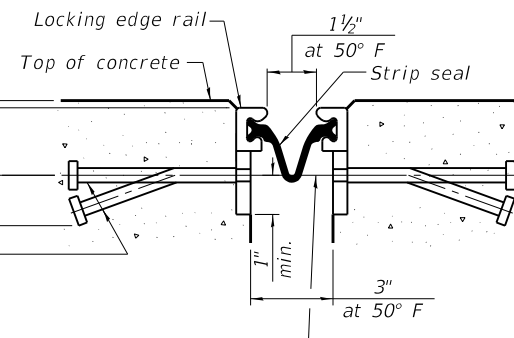
SHOWING ROLLED RAIL JOINT

\*  $5/8$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

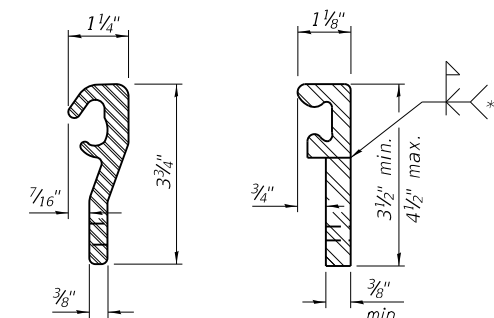
$3/8$ "  $\phi$  threaded rods in  $7/16$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



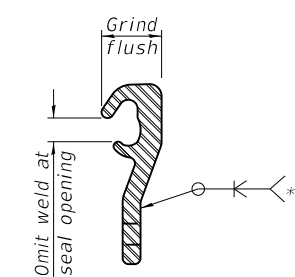
SHOWING WELDED RAIL JOINT



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	Unit	Total
Preformed Joint Strip Seal	Foot	91

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

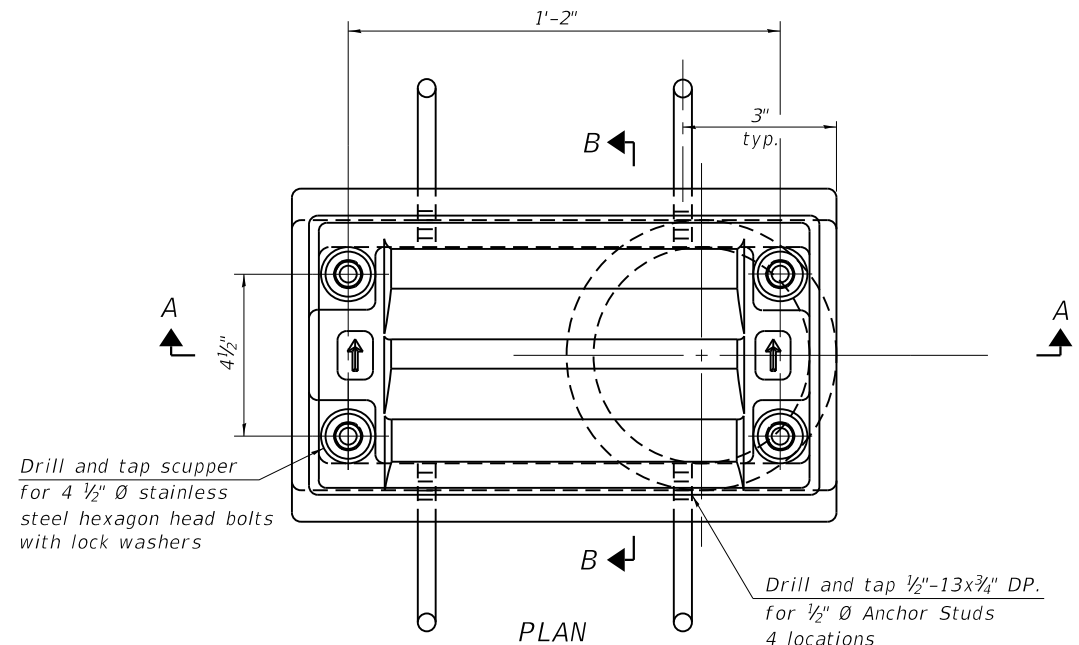
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CHECKED - LDG  
DRAWN - KHL  
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REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

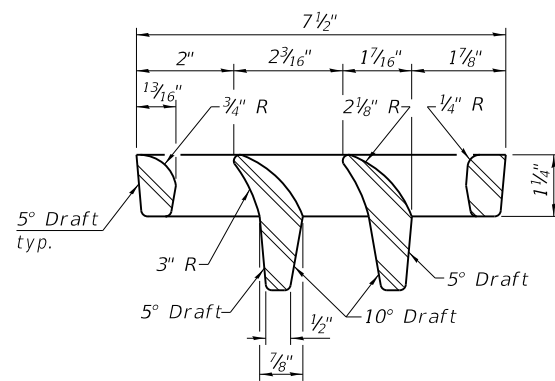
PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 025-0081

SHEET 16 OF 31 SHEETS

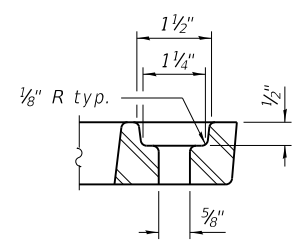
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	65
			CONTRACT NO. 74859	
ILLINOIS FED. AID PROJECT				



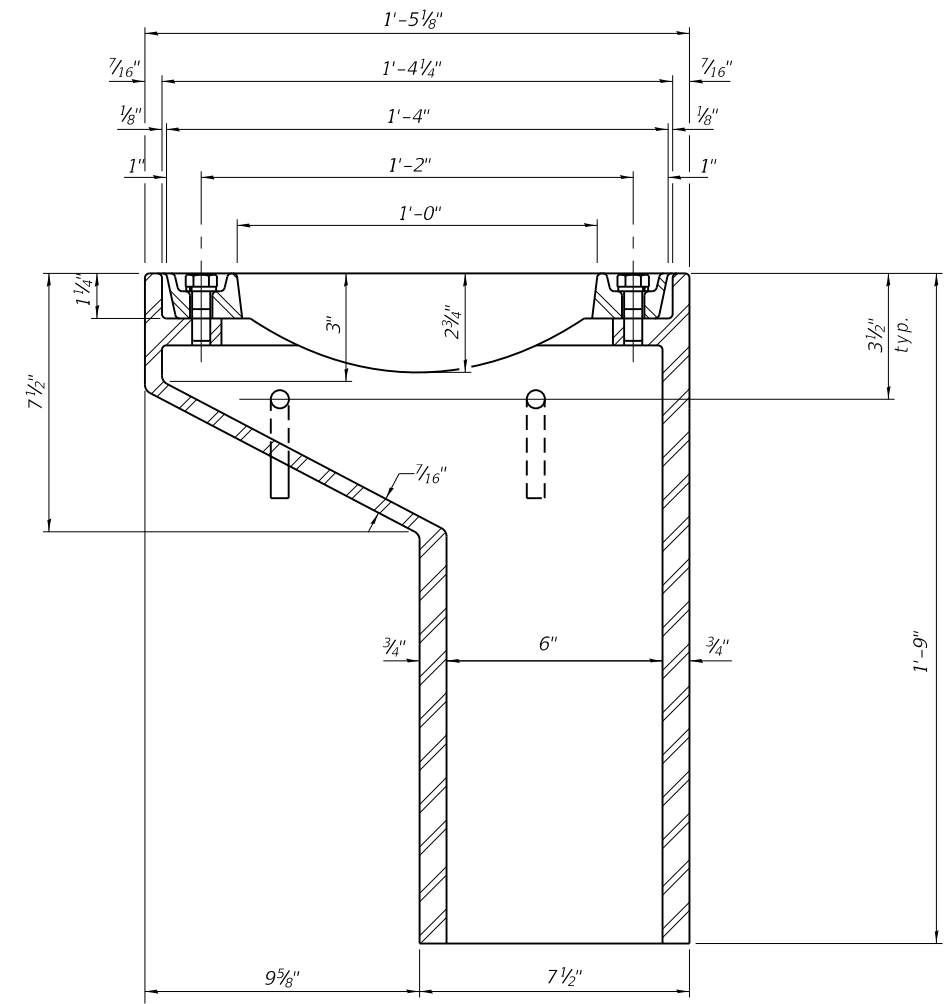
PLAN



VANE GRATE DETAIL

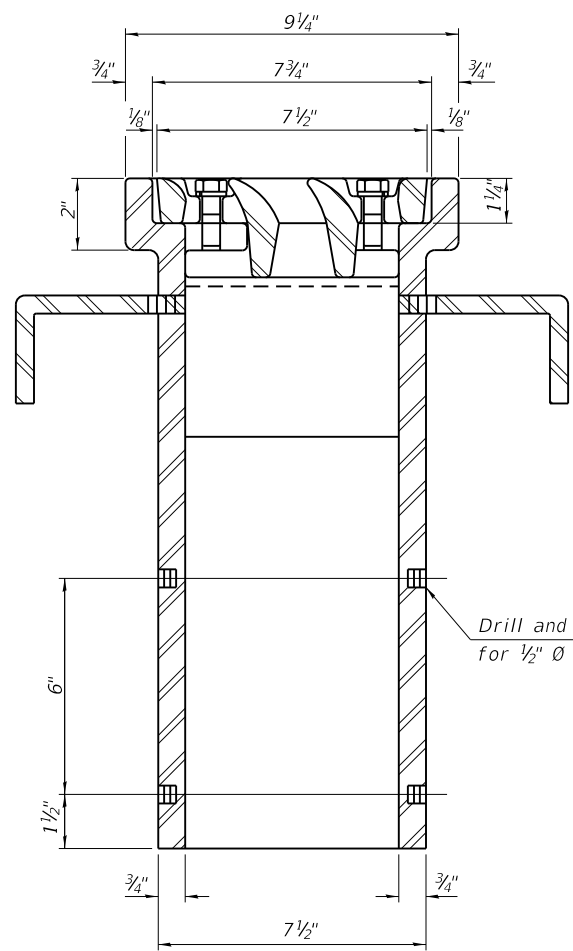


BOLT HOLE DETAIL

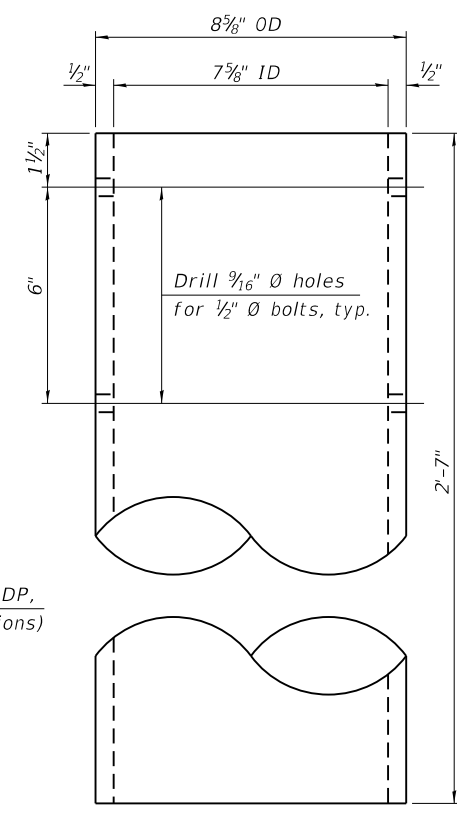


SECTION A-A

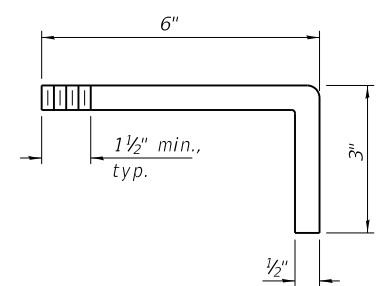
See sheet 12 of 31 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DS-11

2-17-2017

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
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PLOT DATE =

DESIGNED - KMM  
CHECKED - LDG  
DRAWN - KHL  
CHECKED - BGH

REVISED -  
REVISED -  
REVISED -  
REVISED -

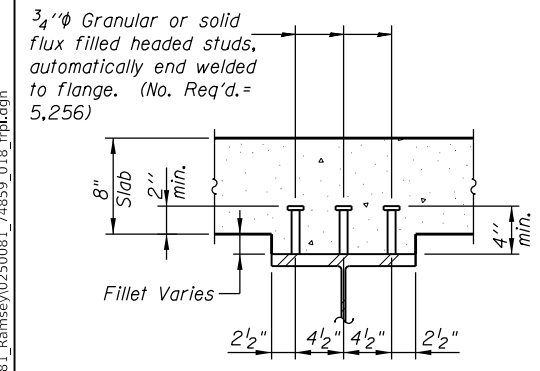
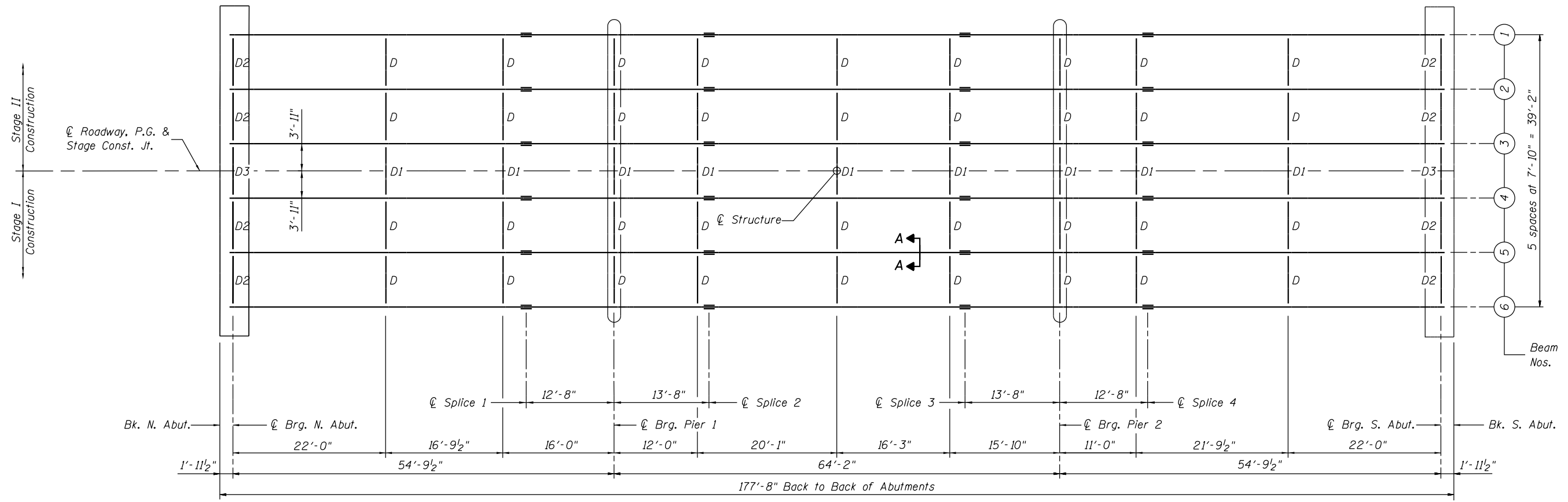
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11  
STRUCTURE NO. 025-0081

SHEET 17 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	66
CONTRACT NO. 74859				

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**TOP OF BEAM ELEVATIONS**  
(For Fabrication Only)

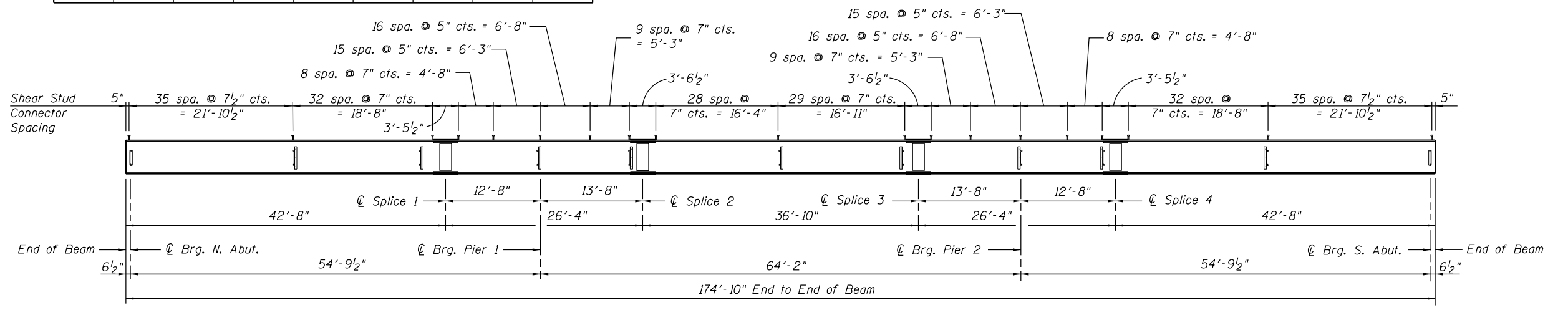
Beam No.	℄ Brg. N. Abut.	℄ Splice 1	℄ Brg. Pier 1	℄ Splice 2	℄ Splice 3	℄ Brg. Pier 2	℄ Splice 4	℄ Brg. S. Abut.
1	495.415	495.714	495.841	495.979	496.418	496.605	496.780	497.484
2	495.577	495.876	496.003	496.141	496.580	496.767	496.942	497.646
3	495.700	495.999	496.125	496.264	496.702	496.889	497.065	497.768
4	495.700	495.999	496.125	496.264	496.702	496.889	497.065	497.768
5	495.577	495.876	496.003	496.141	496.580	496.767	496.942	497.646
6	495.415	495.714	495.841	495.979	496.418	496.605	496.780	497.484

**FRAMING PLAN**

All Beams are W27x146 (CVN) and AASHTO M270, Gr. 50. All Steel shall be galvanized. (See Special Provisions)

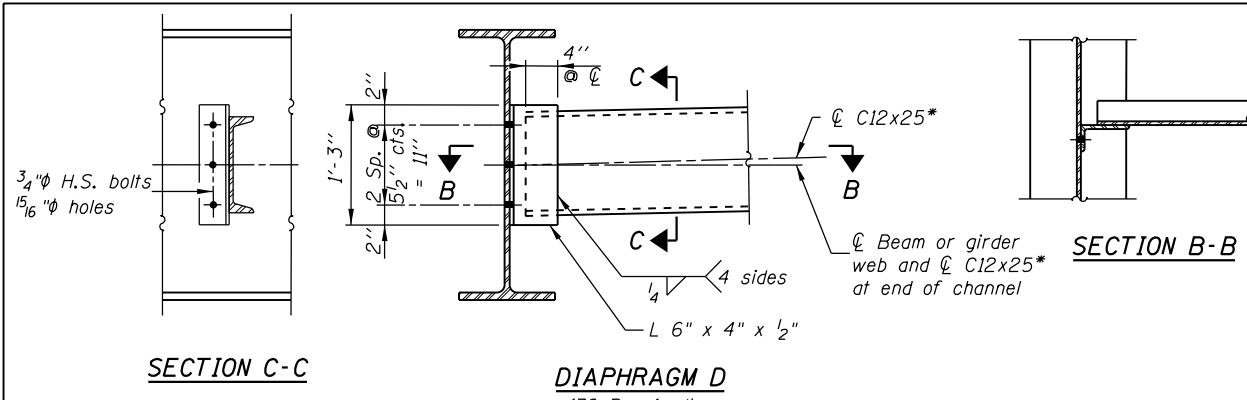
Note: Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.

**SECTION A-A**



**BEAM ELEVATION**

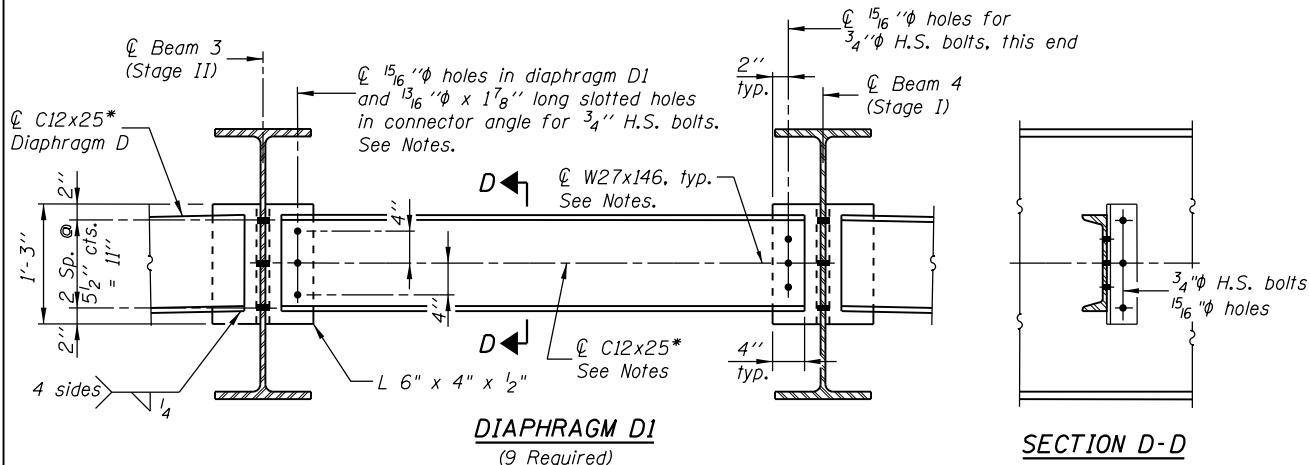
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SECTION C-C

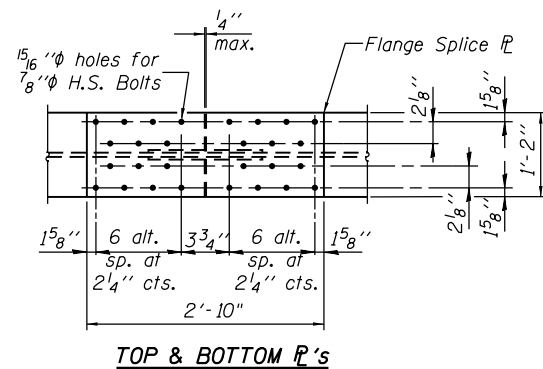
DIAPHRAGM D  
(36 Required)

\* Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.

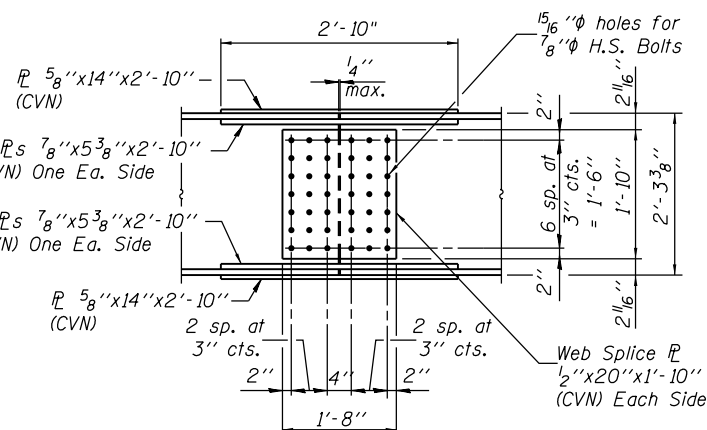


SECTION D-D

DIAPHRAGM D1  
(9 Required)



TOP & BOTTOM PLATES

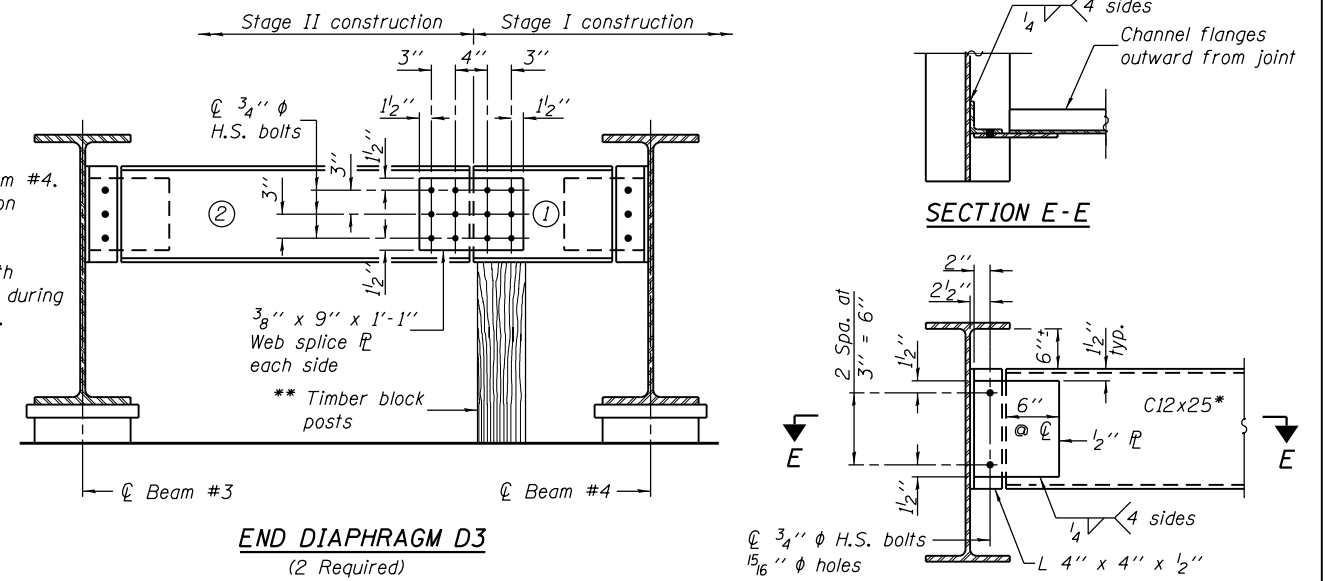


ELEVATION  
FIELD SPLICE DETAILS  
(24 Required)

END DIAPHRAGM D3 STAGE CONSTRUCTION SEQUENCE

1. Order diaphragm in two sections.
2. Attach section ① of diaphragm to beam #4.
3. Place timber block posts between section ① of diaphragm and abutment bearing section.
4. Attach section ② of diaphragm to both beam #3 and section ① of diaphragm during stage II construction with splice plates.
5. Remove timber block posts.

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



END DIAPHRAGM D3  
(2 Required)

END DIAPHRAGM D2  
(8 Required)

	INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2	
$I_s$	(in <sup>4</sup> ) 5,660	5,660	5,660	
$I_c(n)$	(in <sup>4</sup> ) 15,797	----	15,797	
$I_c(3n)$	(in <sup>4</sup> ) 11,868	----	11,868	
$I_c(cr)$	(in <sup>4</sup> ) ----	7,801	----	
$S_s$	(in <sup>3</sup> ) 413	413	413	
$S_c(n)$	(in <sup>3</sup> ) 603	----	603	
$S_c(3n)$	(in <sup>3</sup> ) 551	----	551	
$S_c(cr)$	(in <sup>3</sup> ) ----	471	----	
DC1	(k/')	0.97	0.97	
M <sub>DC1</sub>	(k)	211	343	
DC2	(k/')	0.175	0.175	
M <sub>DC2</sub>	(k)	39	62	
DW	(k/')	0.36	0.36	
M <sub>DW</sub>	(k)	78	127	
M <sub>DL + IM</sub>	(k)	660	659	
M <sub>u</sub> (Strength I)	(k)	1,585	1,850	
$\phi_r M_n$	(k)	3,064	1,911	
$f_s$ DC1	(ksi)	6.1	10.0	
$f_s$ DC2	(ksi)	0.8	1.6	
$f_s$ DW	(ksi)	1.7	3.2	
$f_s$ (DL + IM)	(ksi)	13.1	16.8	
$f_s$ (Service II)	(ksi)	25.6	36.6	
0.95R <sub>n</sub> F <sub>yf</sub>	(ksi)	47.5	47.5	
V <sub>r</sub>	(k)	25.4	26.5	

	INTERIOR GIRDER REACTION TABLE	
	Abut.	Pier
R <sub>DC1</sub>	(k) 20.2	63.8
R <sub>DC2</sub>	(k) 3.7	11.5
R <sub>DW</sub>	(k) 7.5	23.5
R <sub>DL + IM</sub>	(k) 73.8	131.7
R <sub>Total</sub>	(k) 105.2	230.5

Notes:

- Two hardened washers required for each set of oversized holes.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "CVN" shall conform to the Charpy-V-Notch Impact Energy Requirements, Zone 2.
- Bolts in slots shall be finger tight until the second stage pour is complete. Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load allowing maximum displacement without laterally stressing main members. All holes shall have appropriate hardened or plate washers.
- Channel and beam web will line up after Stage II deck pour.

- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections, due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>DL + IM</sub>: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
- M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>DL + IM</sub>
- $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- $f_s$  DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
M<sub>DC1</sub> / S<sub>nc</sub>
- $f_s$  DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
M<sub>DC2</sub> / S<sub>c(3n)</sub> or M<sub>DC2</sub> / S<sub>c(cr)</sub> as applicable.
- $f_s$  DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
M<sub>DW</sub> / S<sub>c(3n)</sub> or M<sub>DW</sub> / S<sub>c(cr)</sub> as applicable.
- $f_s$  (DL + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).  
M<sub>DL + IM</sub> / S<sub>c(n)</sub> or M<sub>DL + IM</sub> / S<sub>c(cr)</sub> as applicable.
- $f_s$  (Service II): Sum of stresses as computed below (ksi).  
 $f_s$  DC1 +  $f_s$  DC2 +  $f_s$  DW + 1.3  $f_s$  (DL + IM)
- 0.95R<sub>n</sub>F<sub>yf</sub>: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- V<sub>r</sub>: Maximum factored shear range in span computed according to Article 6.10.10.

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9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

DESIGNED - KMM  
CHECKED - LDG  
DRAWN - KHL  
CHECKED - BGH  
REVISED -  
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REVISED -

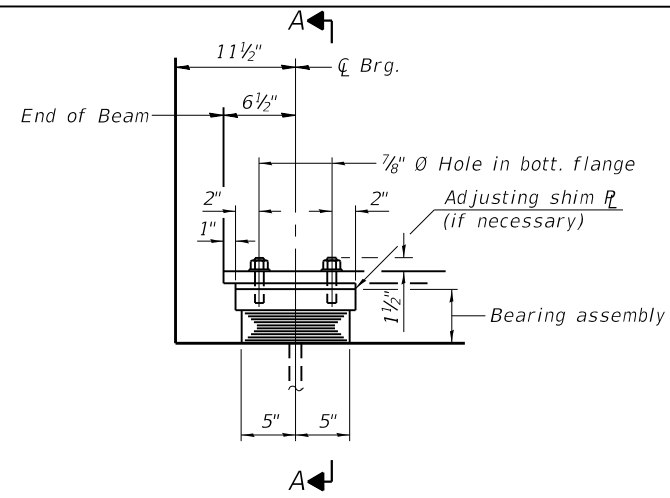
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS  
STRUCTURE NO. 025-0081

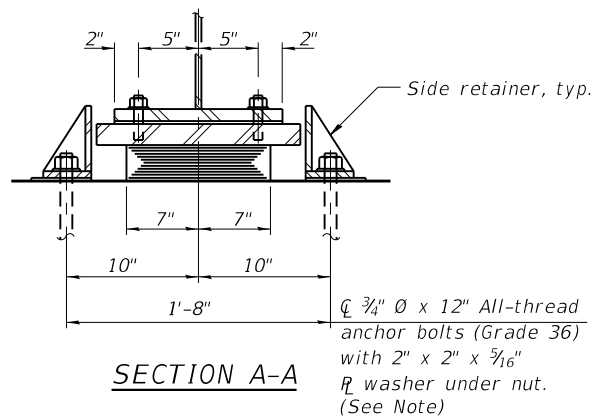
SHEET 19 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	68
			CONTRACT NO. 74859	
			ILLINOIS / FED. AID PROJECT	



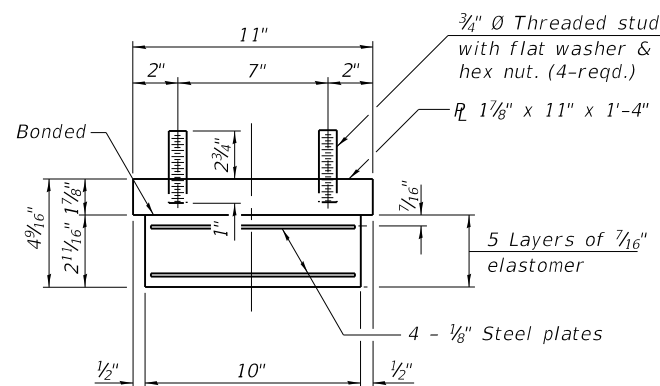


ELEVATION AT ABUT.



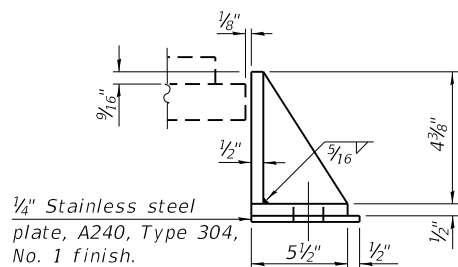
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

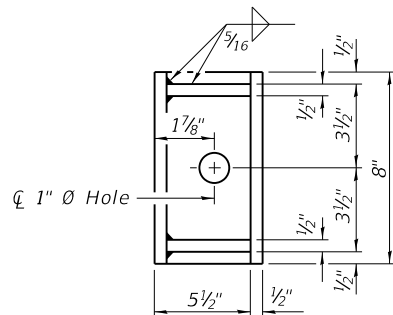


BEARING ASSEMBLY - NORTH ABUTMENT  
(6 Required)

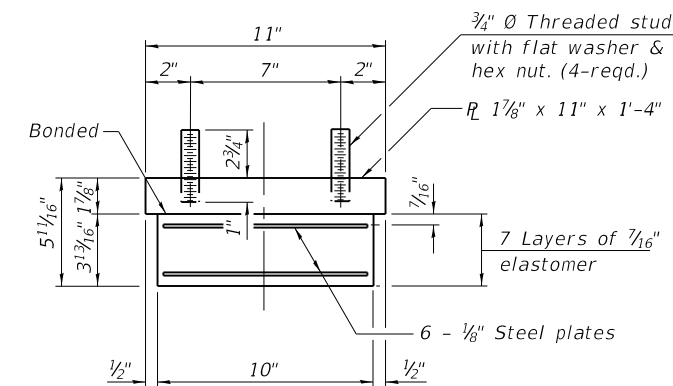
Note:  
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER- NORTH ABUTMENT  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

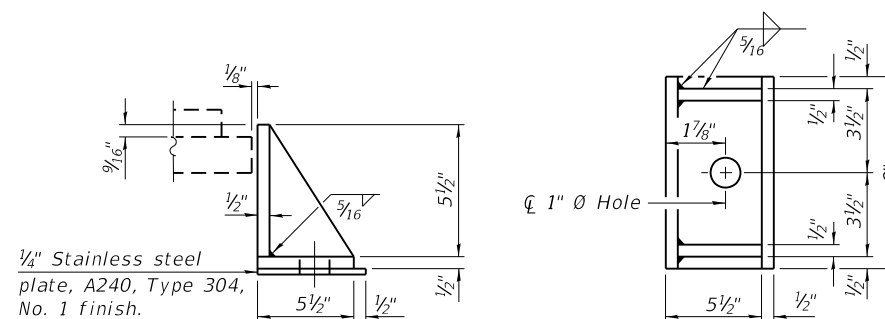


Notes:  
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
Anchor bolts for side retainers shall be installed in holes drilled before or after members are in place.  
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.  
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



BEARING ASSEMBLY - SOUTH ABUTMENT  
(6 Required)

Note:  
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER- SOUTH ABUTMENT  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 3/4"	Each	24

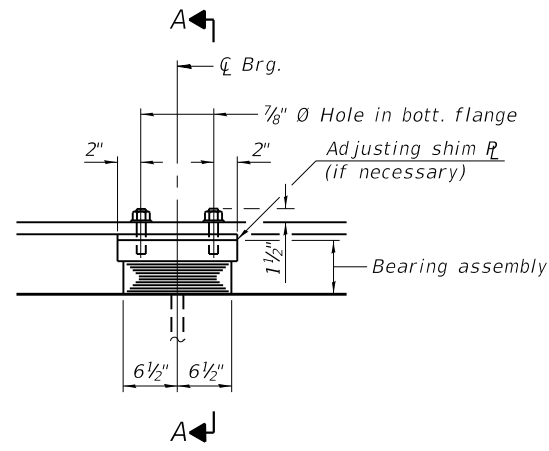
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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	DESIGNED - KMM	REVISOR -
	CHECKED - LDG	REVISIONS -
	DRAWN - KHL	REVISIONS -
	CHECKED - BGH	REVISIONS -

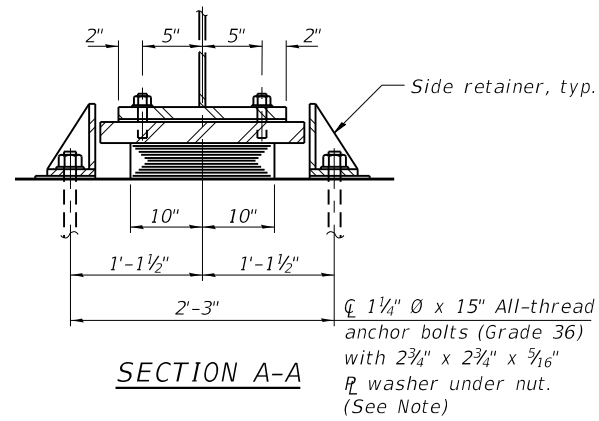
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - ABUTMENTS  
STRUCTURE NO. 025-0081  
SHEET 20 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	69
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

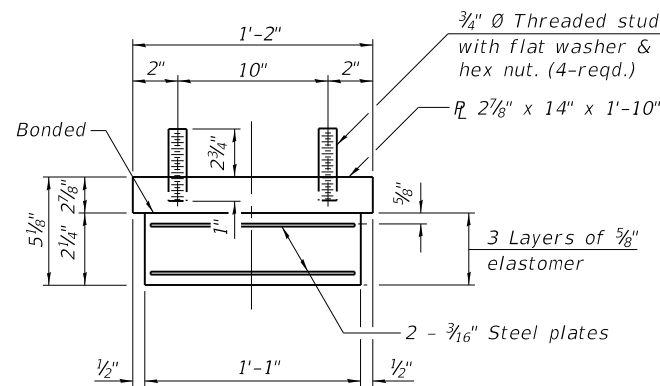


ELEVATION AT PIER



SECTION A-A

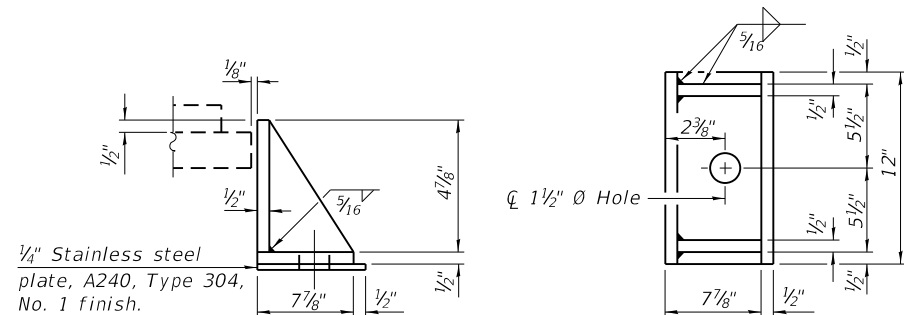
**TYPE I ELASTOMERIC EXP. BRG. - PIER 2**



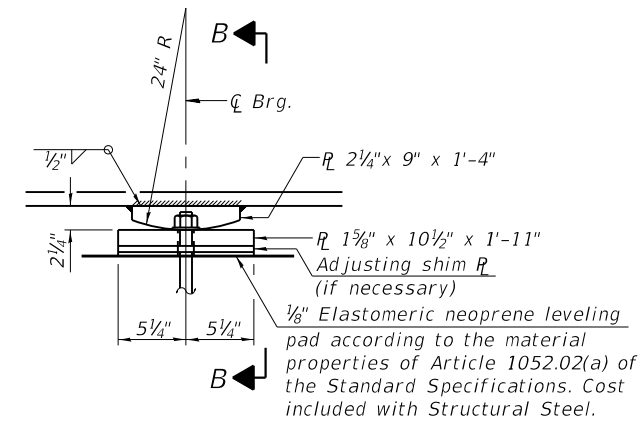
**BEARING ASSEMBLY - PIER 2**  
(6 Required)

Note:  
Shim plates shall not be placed under bearing assembly.

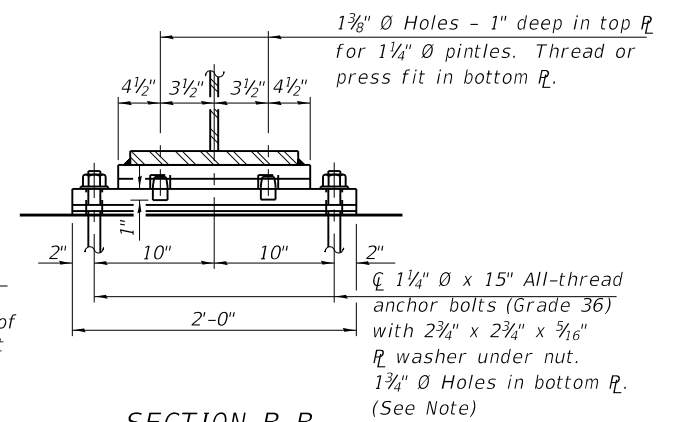
Notes:  
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
Anchor bolts at fixed bearings shall be installed in holes drilled after the supported member is in place.  
Anchor bolts for side retainers shall be installed in holes drilled before or after members are in place.  
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.  
The structural steel plates and pintles of the Fixed Bearing shall conform to the requirements of AASHTO M 270 Grade 50.  
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



**SIDE RETAINER-PIER 2**  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

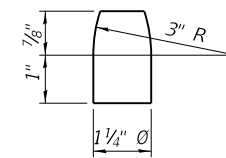


ELEVATION AT PIER



SECTION B-B

**FIXED BEARING - PIER 1**  
(6 Required)



PINTLE

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Anchor Bolts, 1 1/4"	Each	24

MODEL: Default  
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I-2E-1

1-14-2019 (Modified)

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BREESE, ILLINOIS 62230  
(618) 526-9611

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REVISED -  
REVISED -

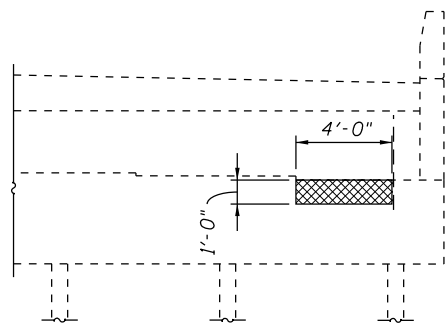
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS - PIERS  
STRUCTURE NO. 025-0081

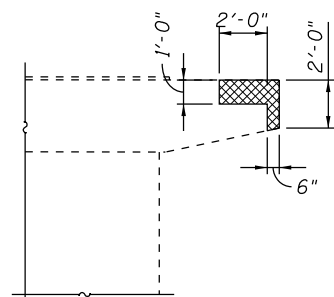
SHEET 21 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	70
CONTRACT NO. 74859				

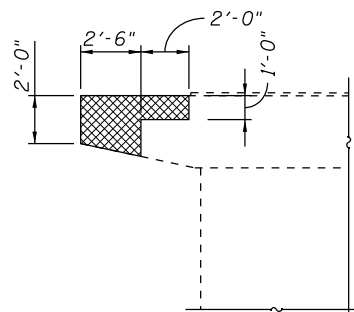
ILLINOIS FED. AID PROJECT



**SOUTH ABUTMENT ELEVATION**



**PIER 2  
SOUTHEAST ELEVATION**

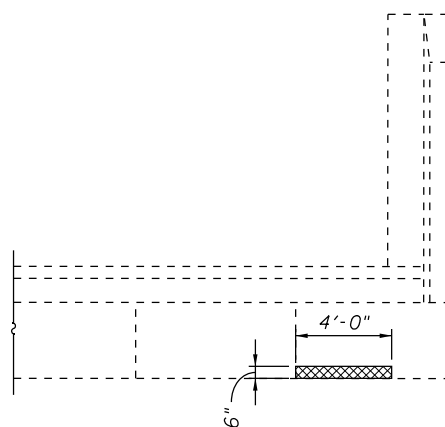


**PIER 2  
SOUTHWEST ELEVATION**

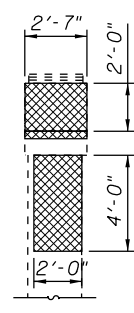
**REPAIR SCHEDULE**

	Structural Repair of Concrete (Depth equal to or less than 5 inches) Sq. Ft.
North Abutment	14
Pier 1	44
Pier 2	40
South Abutment	6

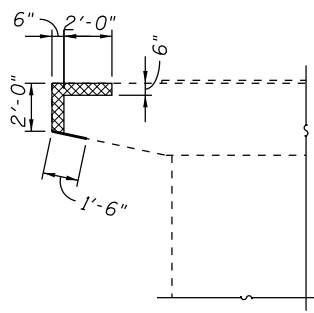
Note:  
Quantities are estimated. Actual quantities to be determined by the Resident Engineer.



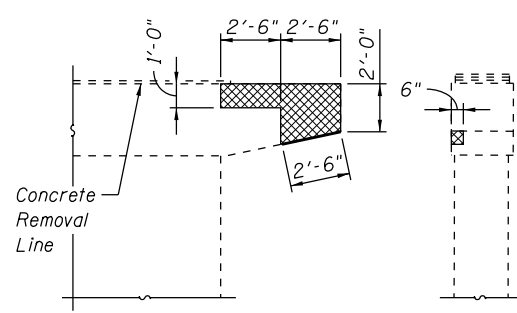
**SOUTH ABUTMENT PLAN**



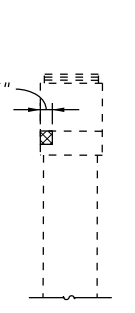
**PIER 2  
EAST END**



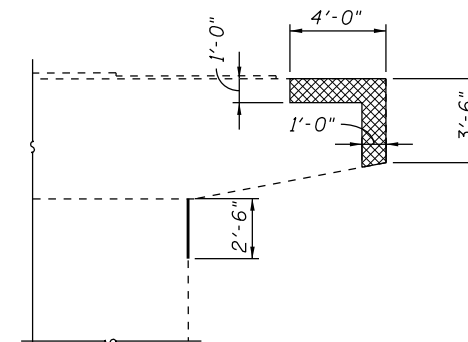
**PIER 2  
NORTHEAST ELEVATION**



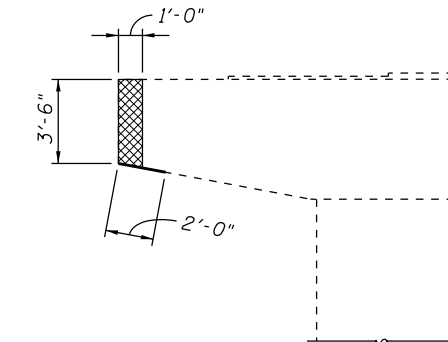
**PIER 2  
NORTHWEST ELEVATION**



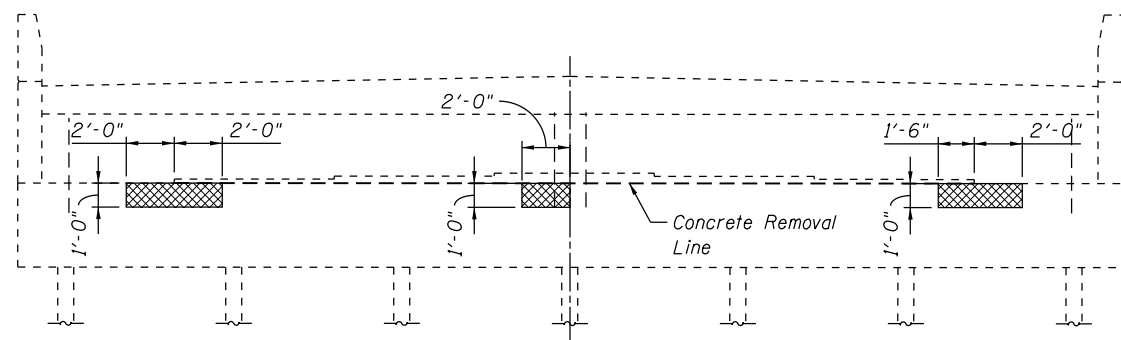
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EAST END**



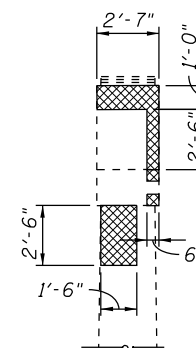
**PIER 1  
SOUTHEAST ELEVATION**



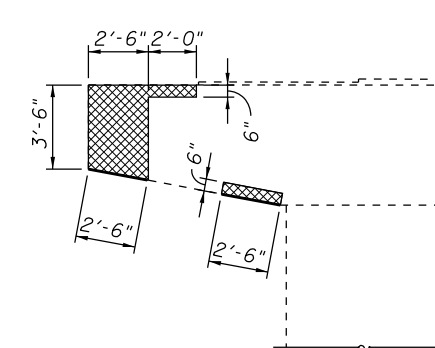
**PIER 1  
SOUTHWEST ELEVATION**



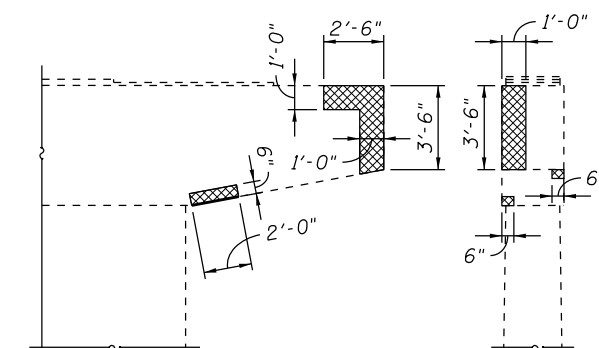
**NORTH ABUTMENT ELEVATION**



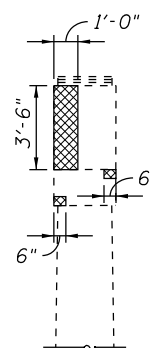
**PIER 1  
EAST END**



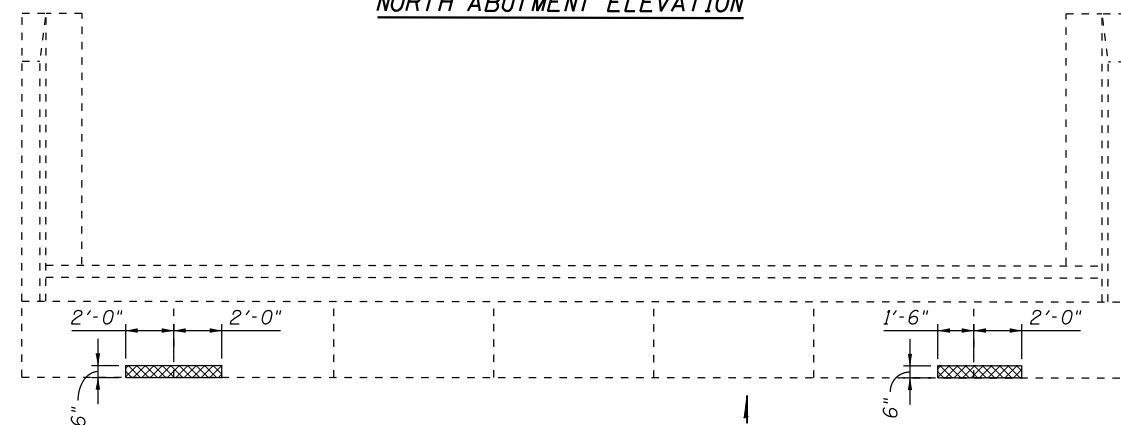
**PIER 1  
NORTHEAST ELEVATION**



**PIER 1  
NORTHWEST ELEVATION**



**PIER 1  
WEST END**



**NORTH ABUTMENT PLAN**

**LEGEND**

Structural Repair of concrete  
(Depth equal to or less than 5 inches)

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	104

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

DESIGNED - KMM  
CHECKED - LDG  
DRAWN - KHL  
CHECKED - BGH

REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

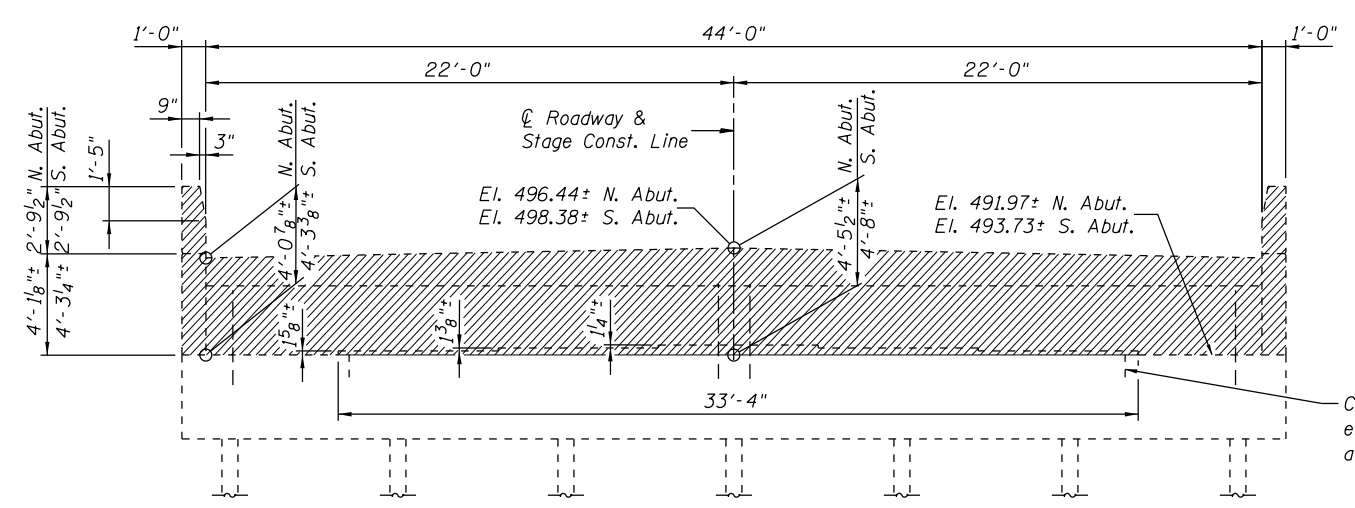
**SUBSTRUCTURE REPAIR DETAILS  
STRUCTURE NO. 025-0081**

SHEET 22 OF 31 SHEETS

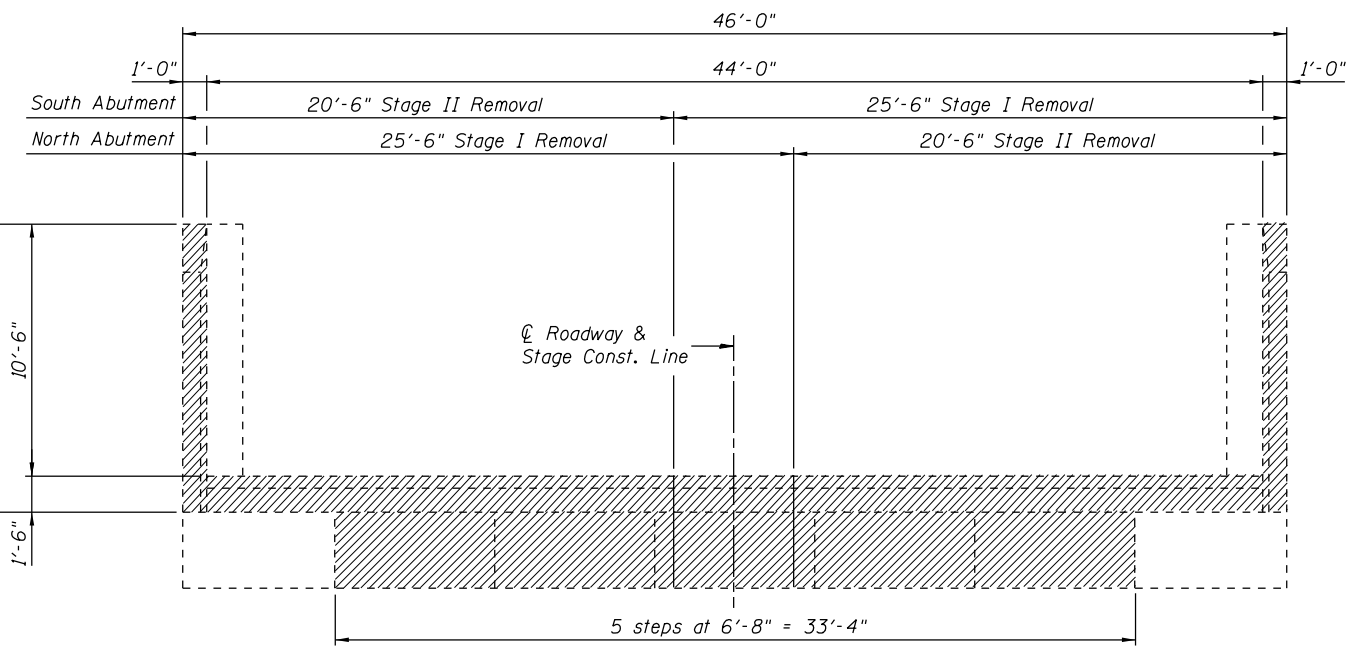
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	71
CONTRACT NO. 74859				

ILLINOIS FED. AID PROJECT

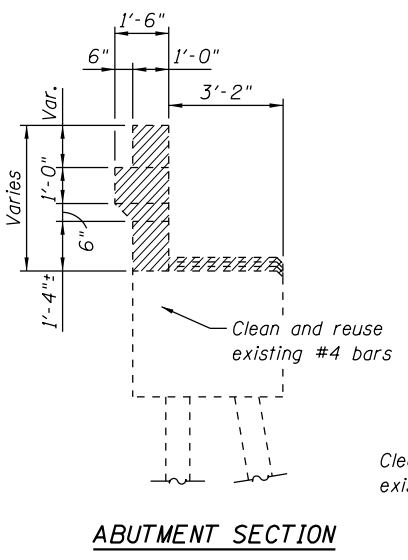
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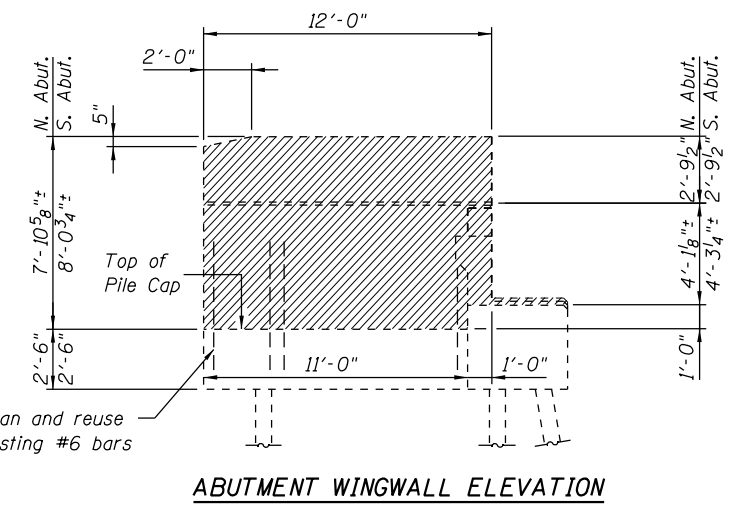
**ABUTMENT ELEVATION**



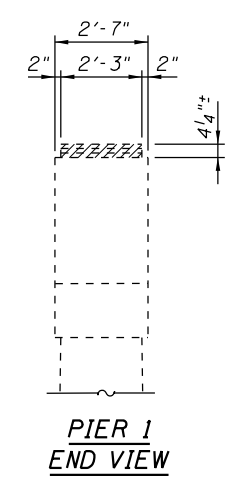
**ABUTMENT PLAN**



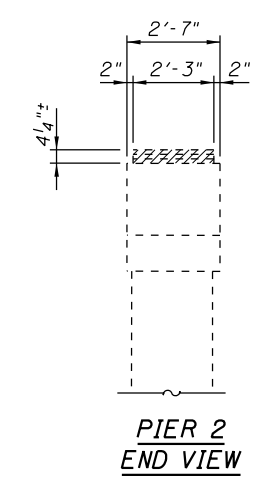
**ABUTMENT SECTION**



**ABUTMENT WINGWALL ELEVATION**



**PIER 1 END VIEW**



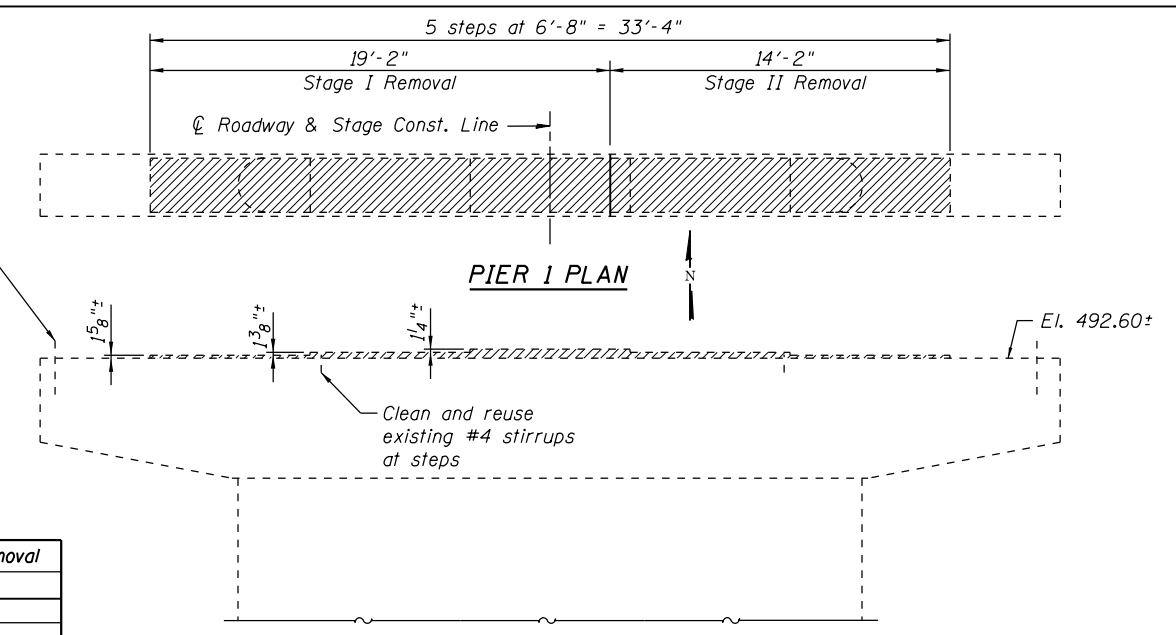
**PIER 2 END VIEW**

**REMOVAL SCHEDULE**

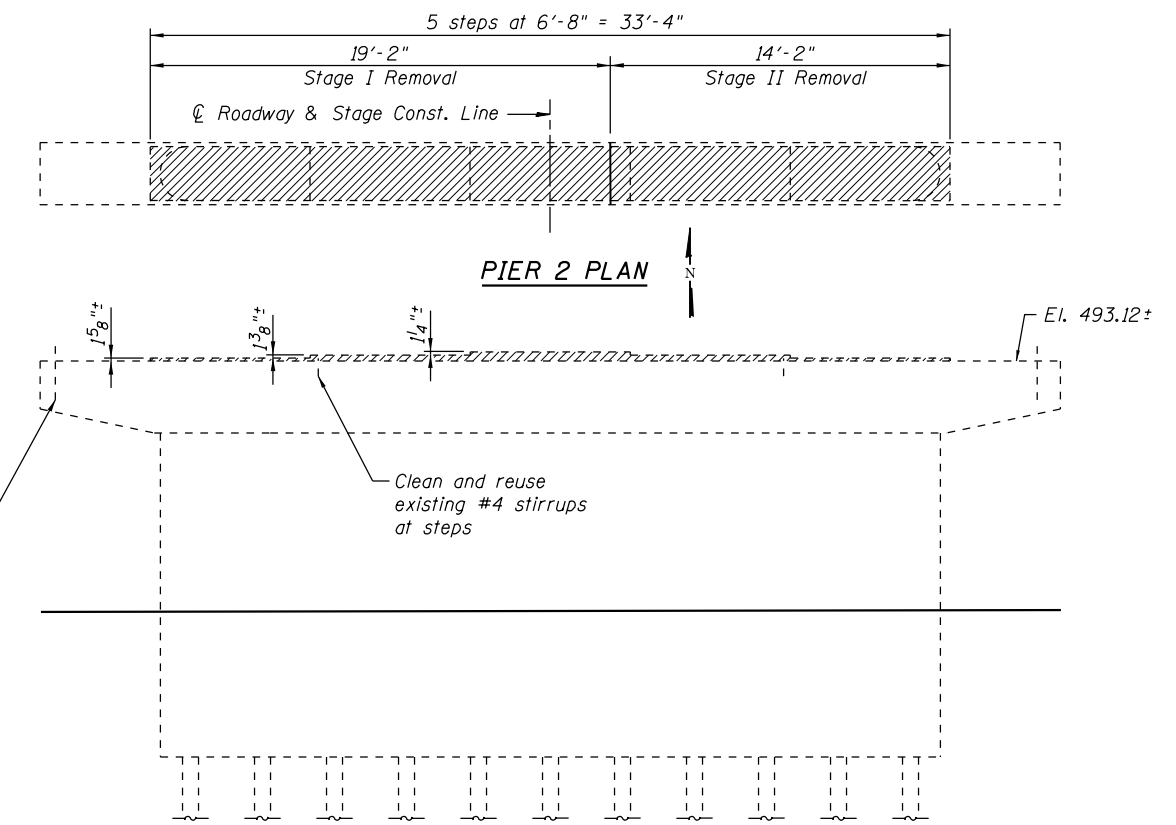
	Concrete Removal Cu. Yd.
North Abutment	15.6
Pier 1	0.6
Pier 2	0.6
South Abutment	16.1

**LEGEND**

	Concrete Removal
--	------------------



**PIER 1 PLAN**  
(Looking North)



**PIER 2 PLAN**  
(Looking North)

- NOTES**
- Remove concrete to elevation:  
 491.97± North Abutment  
 492.60± Pier 1  
 493.12± Pier 2  
 493.73± South Abutment
  - Prior to removal of concrete, a 3/4" deep saw cut shall be made along all boundaries of removal areas to remain in place.
  - Concrete removal shall be according to Section 501 of the Standard Specifications.
  - Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu Yd	32.9

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CONCRETE REMOVAL  
 STRUCTURE NO. 025-0081**

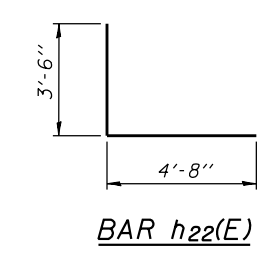
SHEET 23 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	72
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

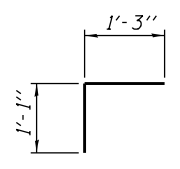
**HMG ENGINEERS, INC.**  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

DESIGNED - KMM	REVISOR -
CHECKED - LDG	REVISOR -
DRAWN - KHL	REVISOR -
CHECKED - BGH	REVISOR -

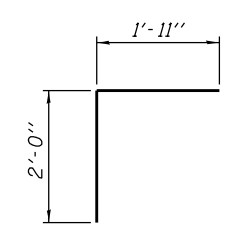
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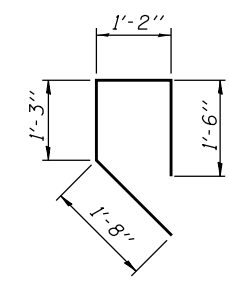
BAR h22(E)



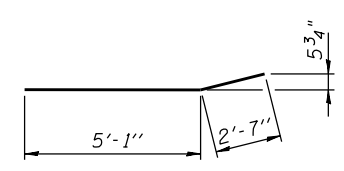
BAR v27(E)



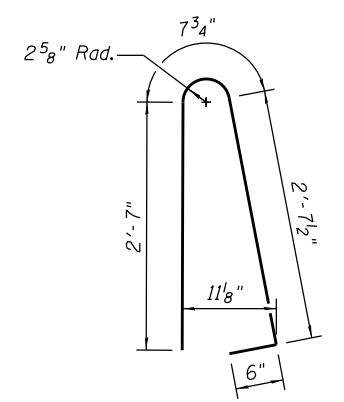
BAR v20(E)



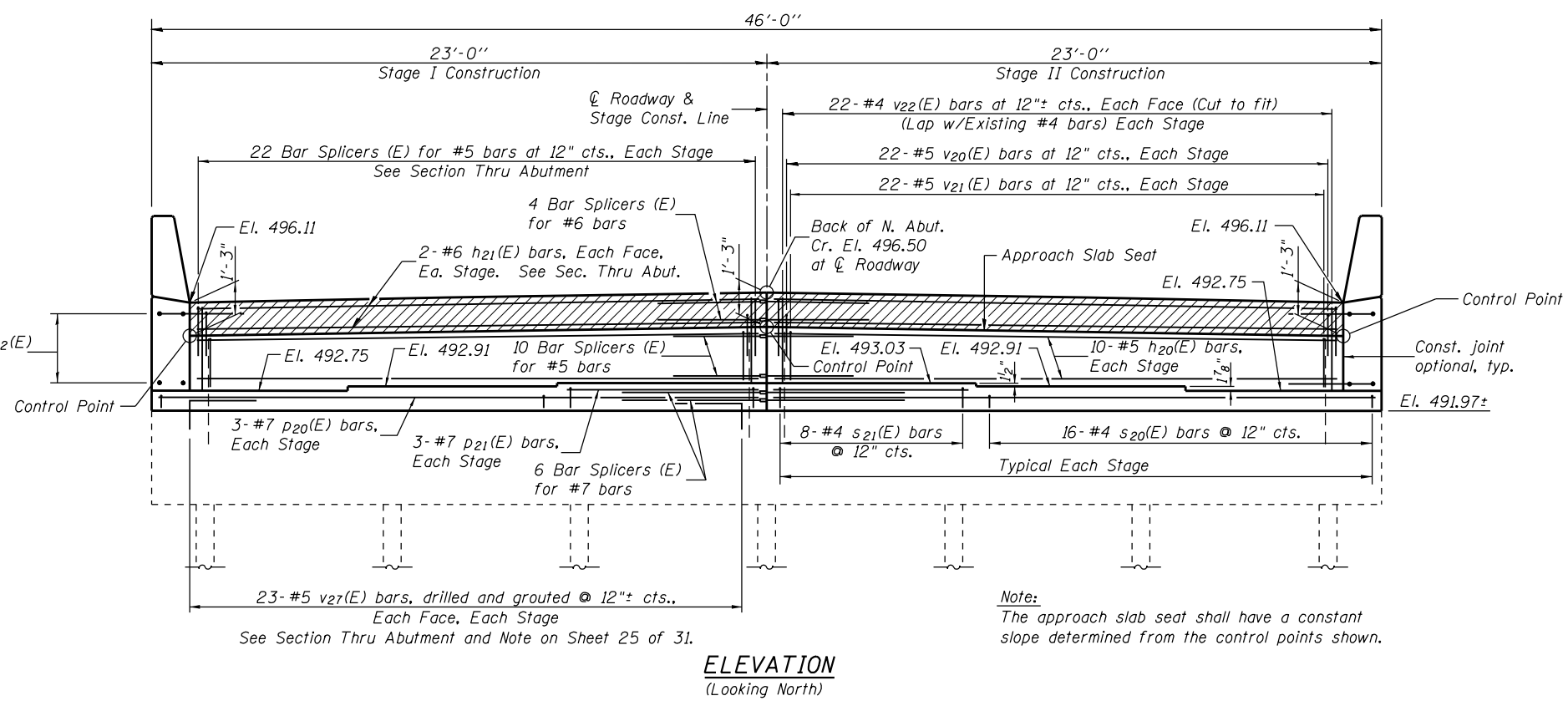
BAR v21(E)



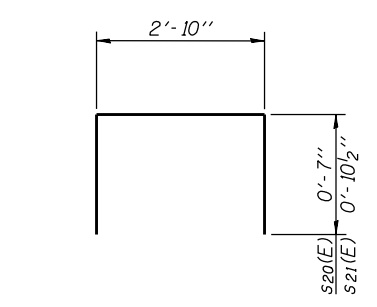
BAR v23(E)



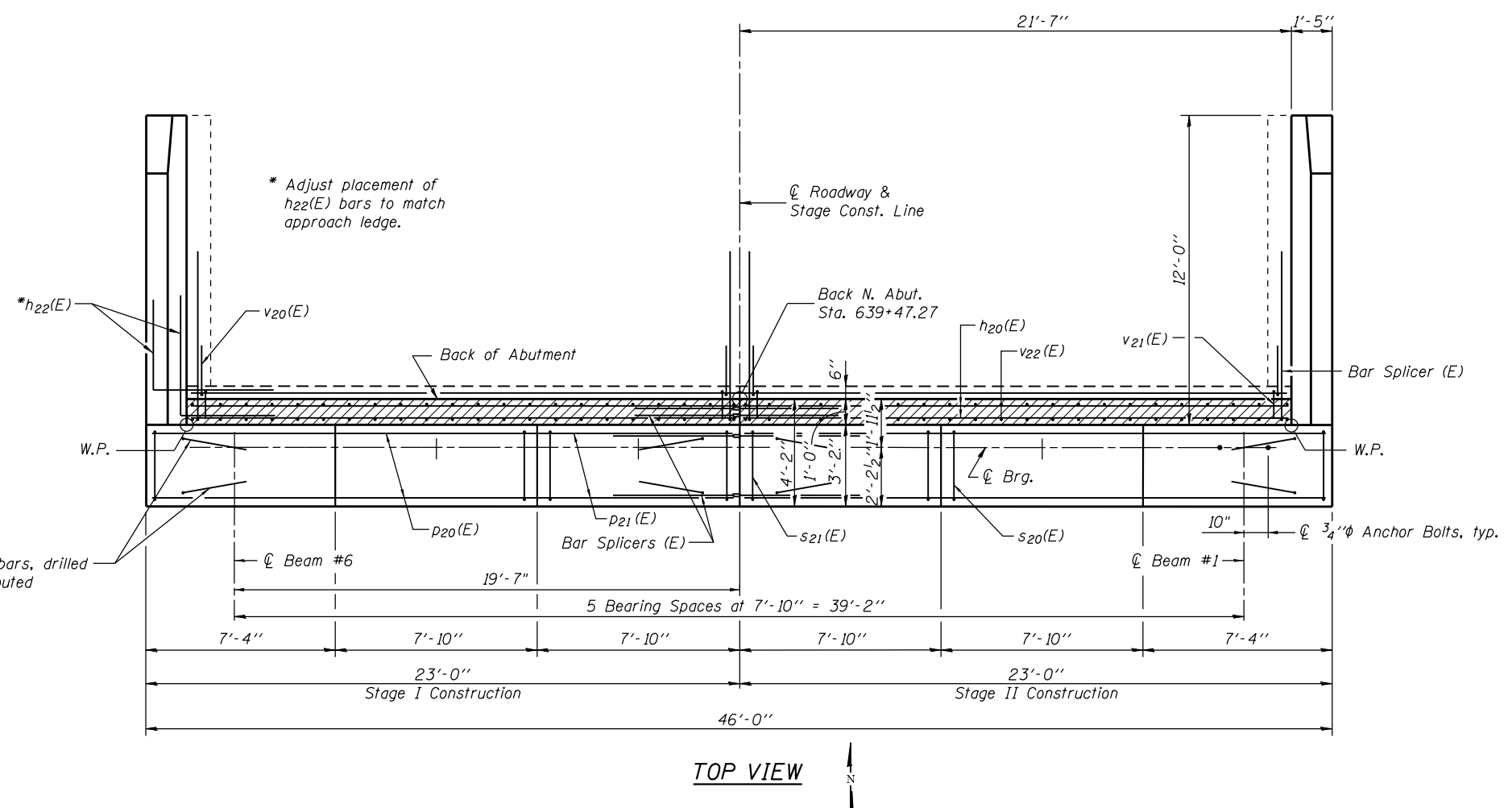
BAR v24(E)



ELEVATION  
(Looking North)



BARS s20(E) & s21(E)



TOP VIEW

NORTH ABUTMENT  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	20	#5	21'-4"	—
h21(E)	8	#6	21'-4"	—
h22(E)	24	#5	8'-2"	└
h23(E)	36	#4	11'-9"	—
h24(E)	4	#4	10'-9"	—
p20(E)	6	#7	22'-9"	—
p21(E)	6	#7	7'-7"	—
s20(E)	32	#4	4'-0"	□
s21(E)	16	#4	4'-7"	□
v20(E)	44	#5	3'-11"	┌
v21(E)	44	#5	5'-7"	└
v22(E)	88	#4	4'-5"	—
v23(E)	26	#6	7'-8"	—
v24(E)	26	#5	6'-5"	└
v25(E)	26	#6	6'-0"	—
v26(E)	26	#6	8'-1"	—
v27(E)	92	#5	2'-4"	┌
Concrete Structures		Cu Yd	17.9	
Reinforcement Bars, Epoxy Coated		Pound	3,670	
Structure Excavation		Cu Yd	71	
Concrete Sealer		Sq Ft	346	

For details of Bar Splicers, see sheet 30 of 31.  
 Apply Concrete Sealer to all exposed surfaces of backwalls, bridge seats and front faces of pile caps.  
 Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

**HMG ENGINEERS, INC.**  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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 CHECKED - BGH

USER NAME =  
 PLOT SCALE =  
 PLOT DATE =

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 REVISED -

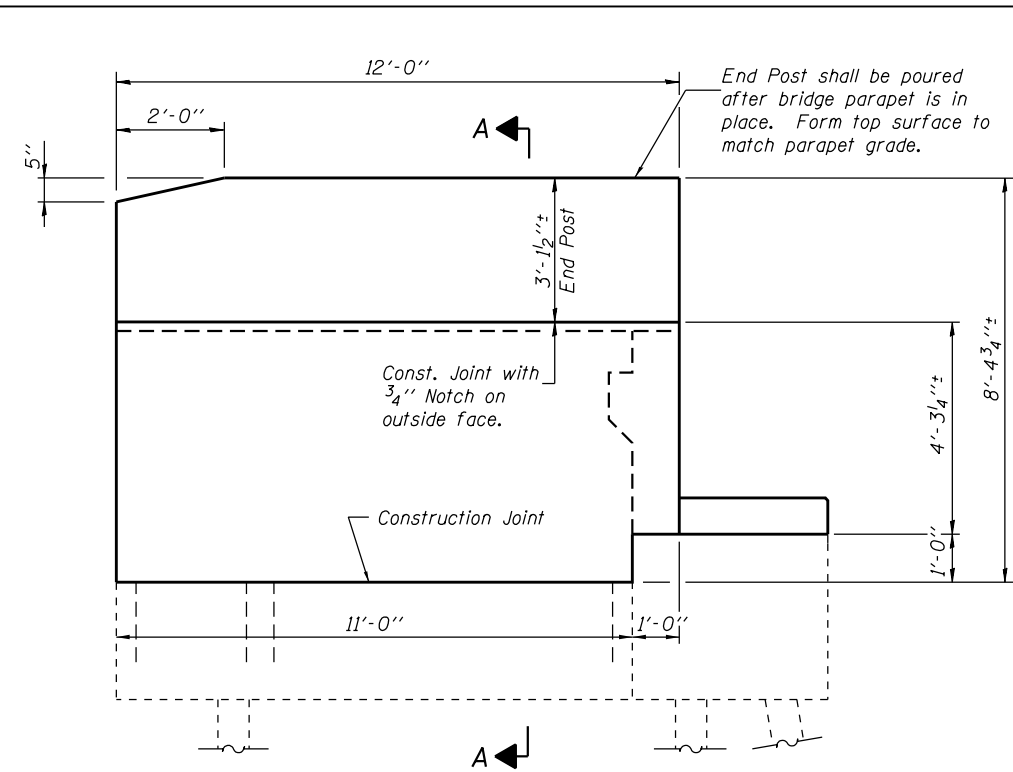
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT  
STRUCTURE NO. 025-0081

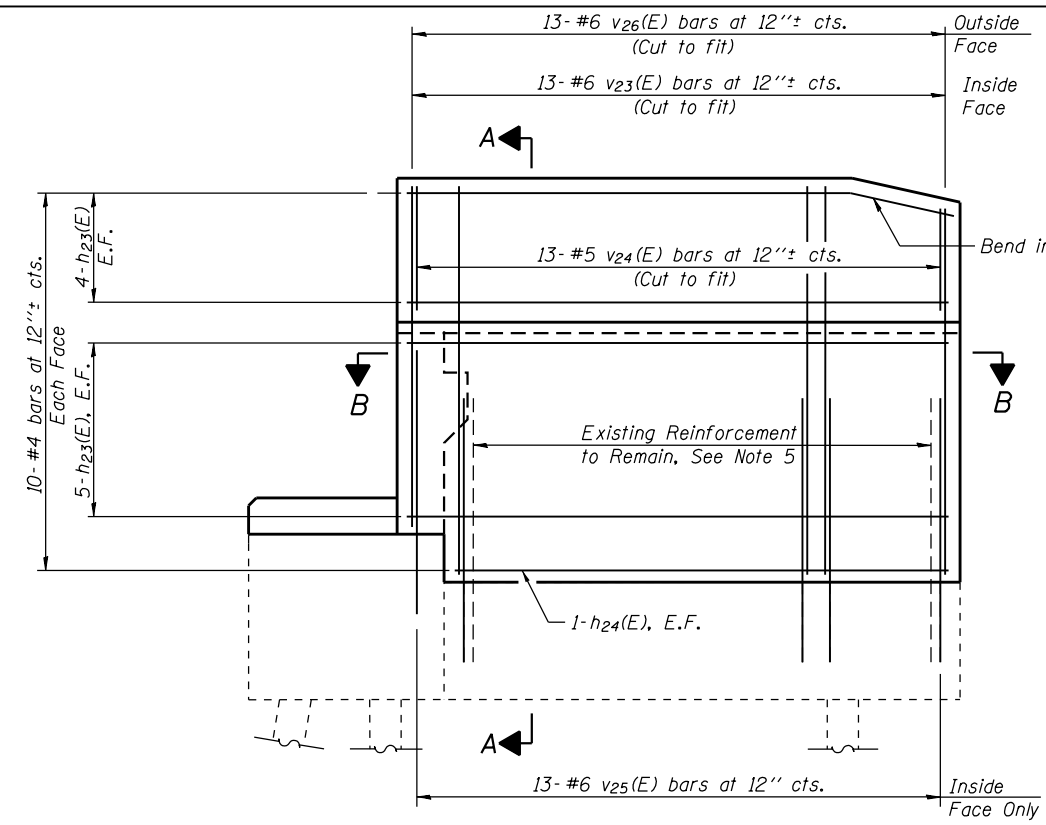
SHEET 24 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	73
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

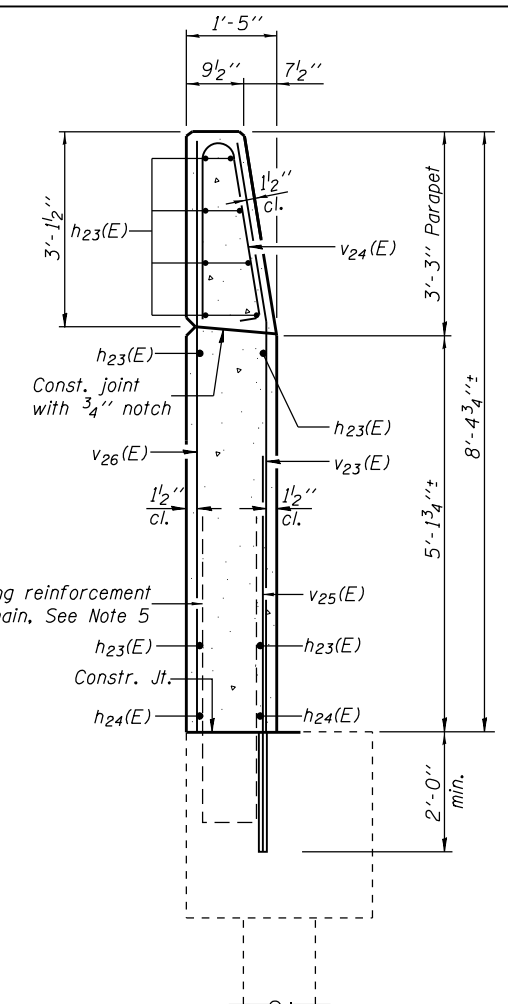
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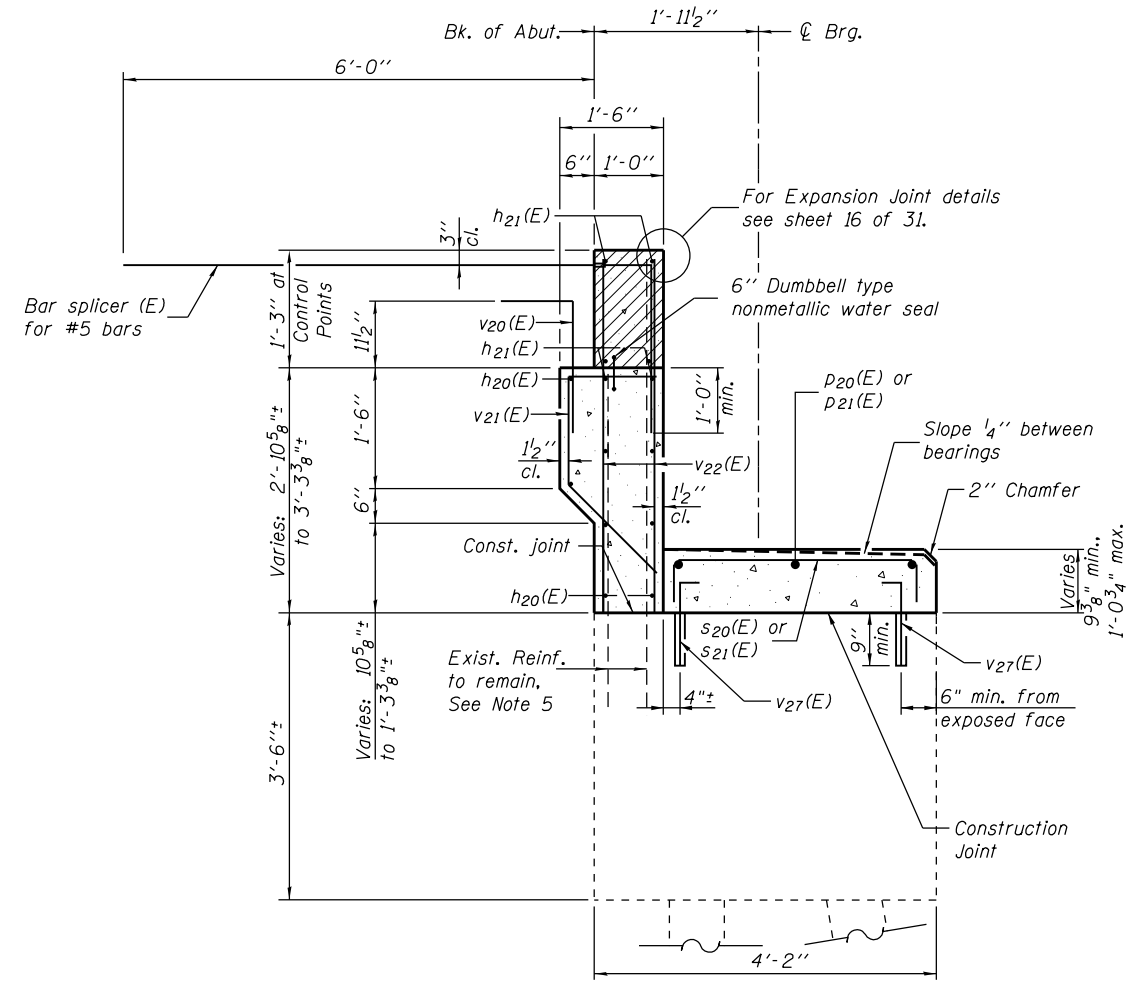
**WING WALL ELEVATION**  
Showing Dimensions



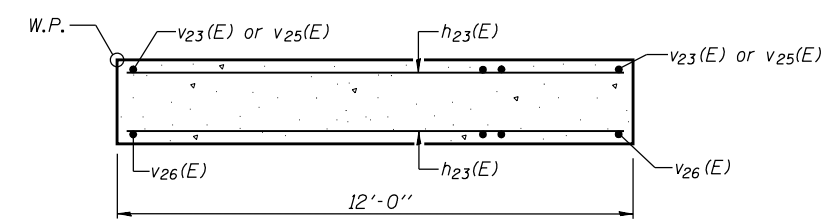
**WING WALL ELEVATION**  
Showing Reinforcement



**SECTION A-A**



**SECTION THRU ABUTMENT**



**SECTION B-B**

- Notes:**
1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
  2. Space reinforcement in cap to miss anchor bolts.
  3. Pour steps monolithically with cap.
  4. Quantity of concrete in end post included with Concrete Superstructure on sheet 12 of 31.
  5. Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.
  6. Drill holes (minimum of 9" deep, unless noted otherwise) into existing concrete for v25(E) & v27(E) bars. Drill with care taken to avoid existing reinforcement. The v25(E) & v27(E) bars are to be epoxy grouted into the drilled holes. This work shall be performed in accordance with Article 584 of the Standard Specifications. Cost of drilling and grouting shall be included in Reinforcement Bars, Epoxy Coated.
  7. See sheet 23 of 31 for Concrete Removal details.

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 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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DRAWN -	KHL
CHECKED -	BGH

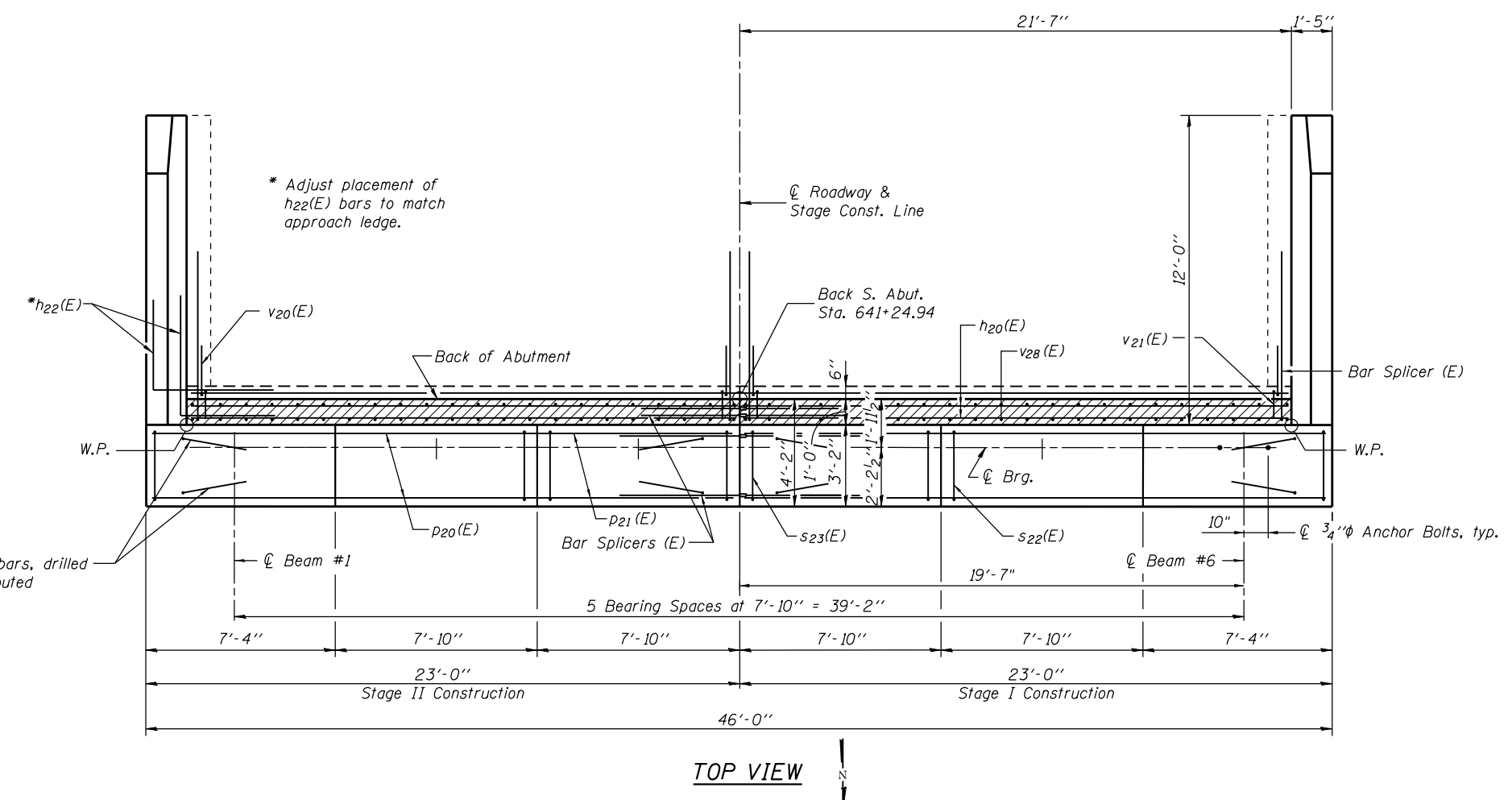
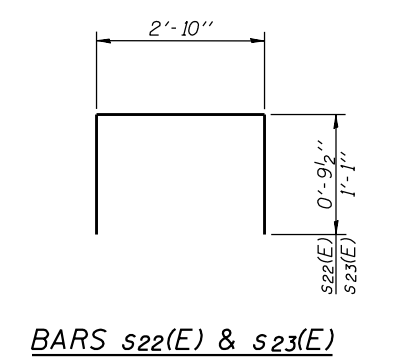
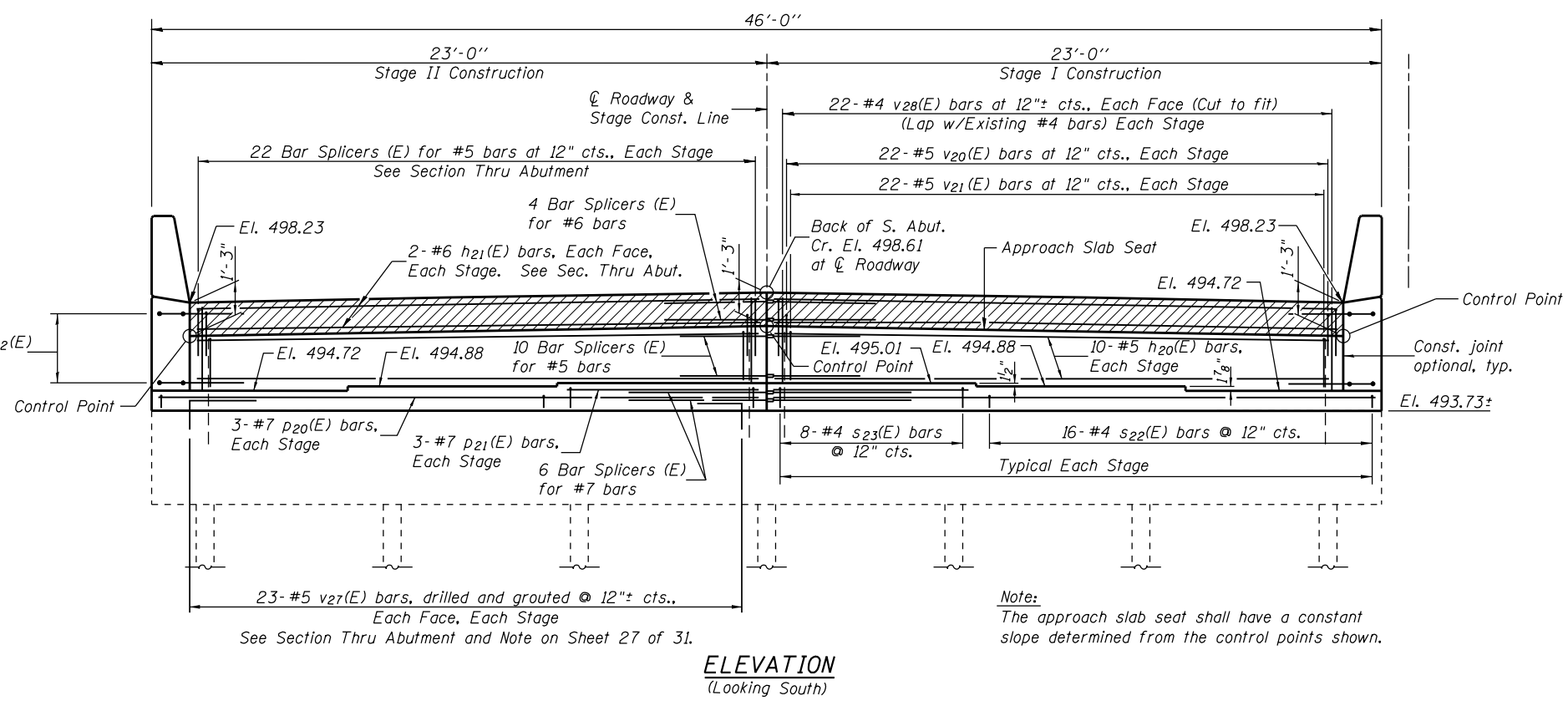
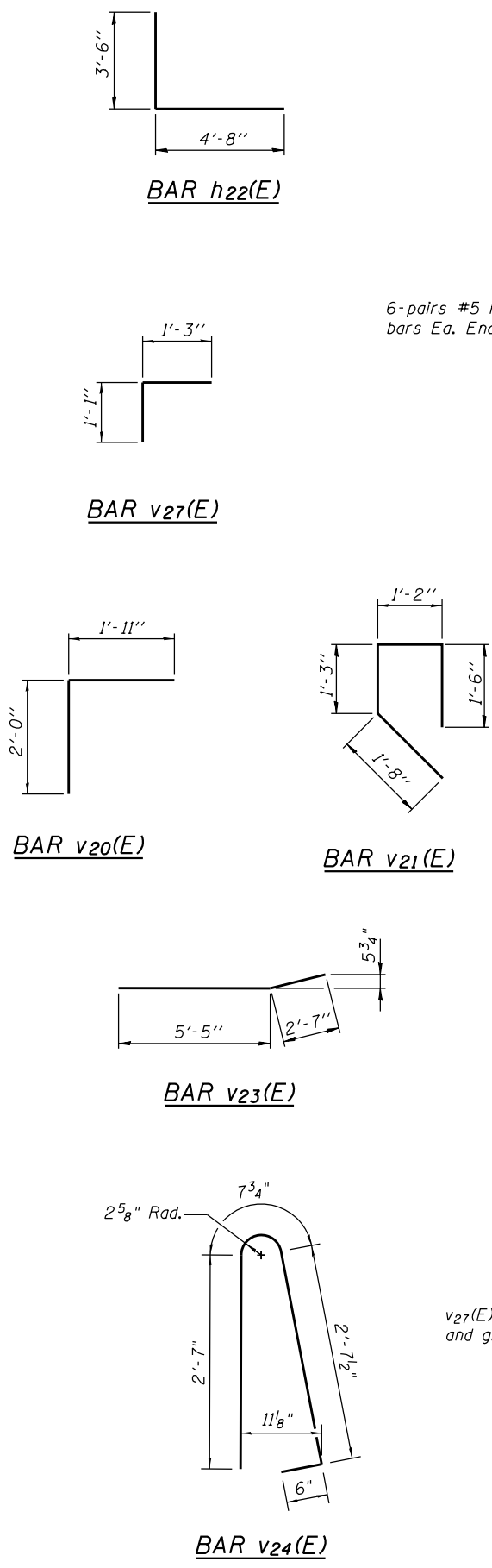
REVISOR -	
REVISOR -	
REVISOR -	
REVISOR -	

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

**NORTH ABUTMENT DETAILS**  
**STRUCTURE NO. 025-0081**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	74
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

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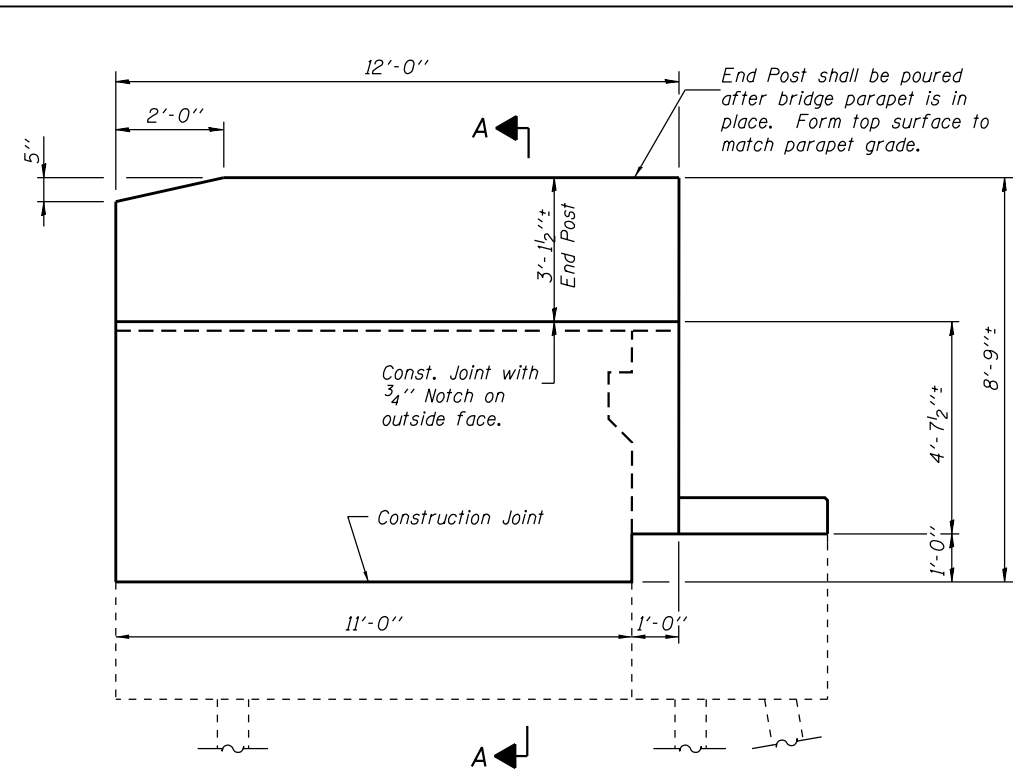


**SOUTH ABUTMENT  
 BILL OF MATERIAL**

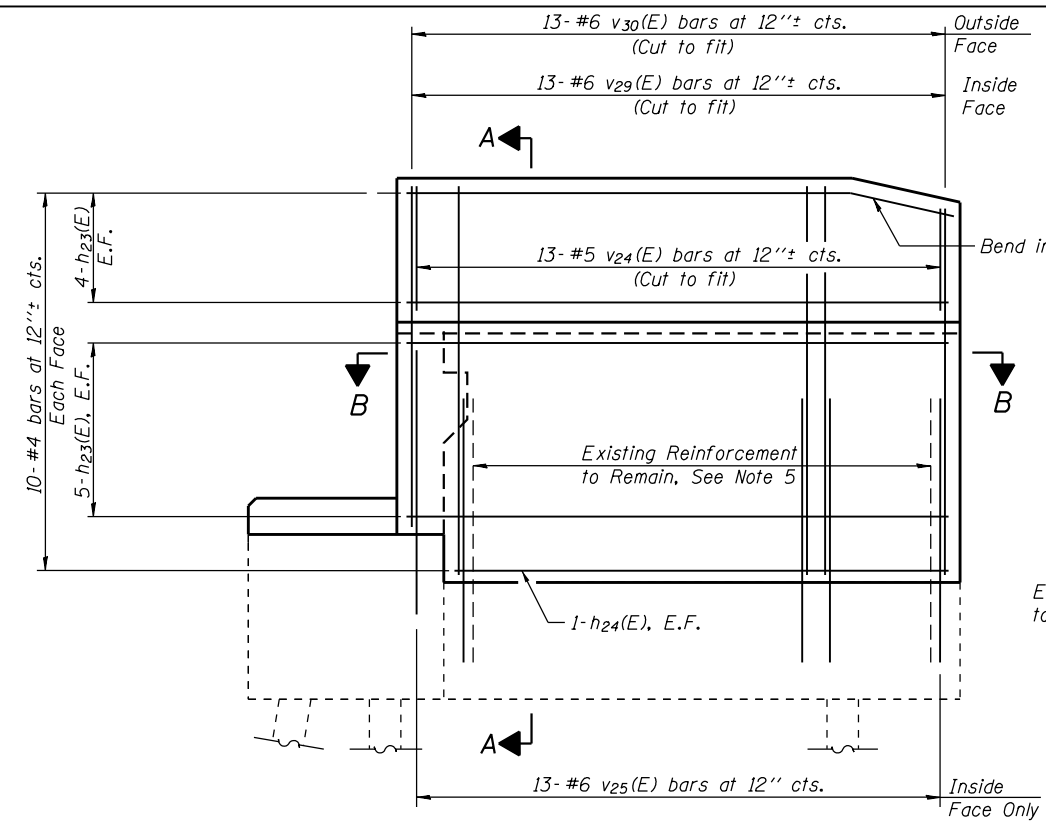
Bar	No.	Size	Length	Shape
h20(E)	20	#5	21'-4"	—
h21(E)	8	#6	21'-4"	—
h22(E)	24	#5	8'-2"	L
h23(E)	36	#4	11'-9"	—
h24(E)	4	#4	10'-9"	—
p20(E)	6	#7	22'-9"	—
p21(E)	6	#7	7'-7"	—
s22(E)	32	#4	4'-5"	□
s23(E)	16	#4	5'-0"	□
v20(E)	44	#5	3'-11"	Γ
v21(E)	44	#5	5'-7"	Γ
v24(E)	26	#5	6'-5"	Γ
v25(E)	26	#6	6'-0"	—
v27(E)	92	#5	2'-4"	Γ
v28(E)	88	#4	4'-8"	—
v29(E)	26	#6	8'-0"	—
v30(E)	26	#6	8'-5"	—
Concrete Structures		Cu Yd	19.9	
Reinforcement Bars, Epoxy Coated		Pound	3,720	
Structure Excavation		Cu Yd	77	
Concrete Sealer		Sq Ft	363	

For details of Bar Splicers, see sheet 30 of 31.  
 Apply Concrete Sealer to all exposed surfaces of backwalls, bridge seats and front faces of pile caps.  
 Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

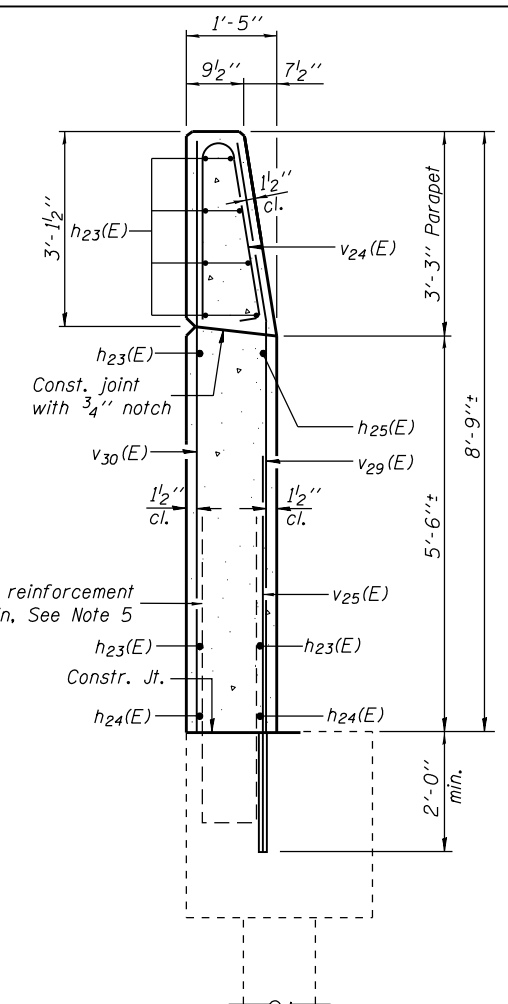
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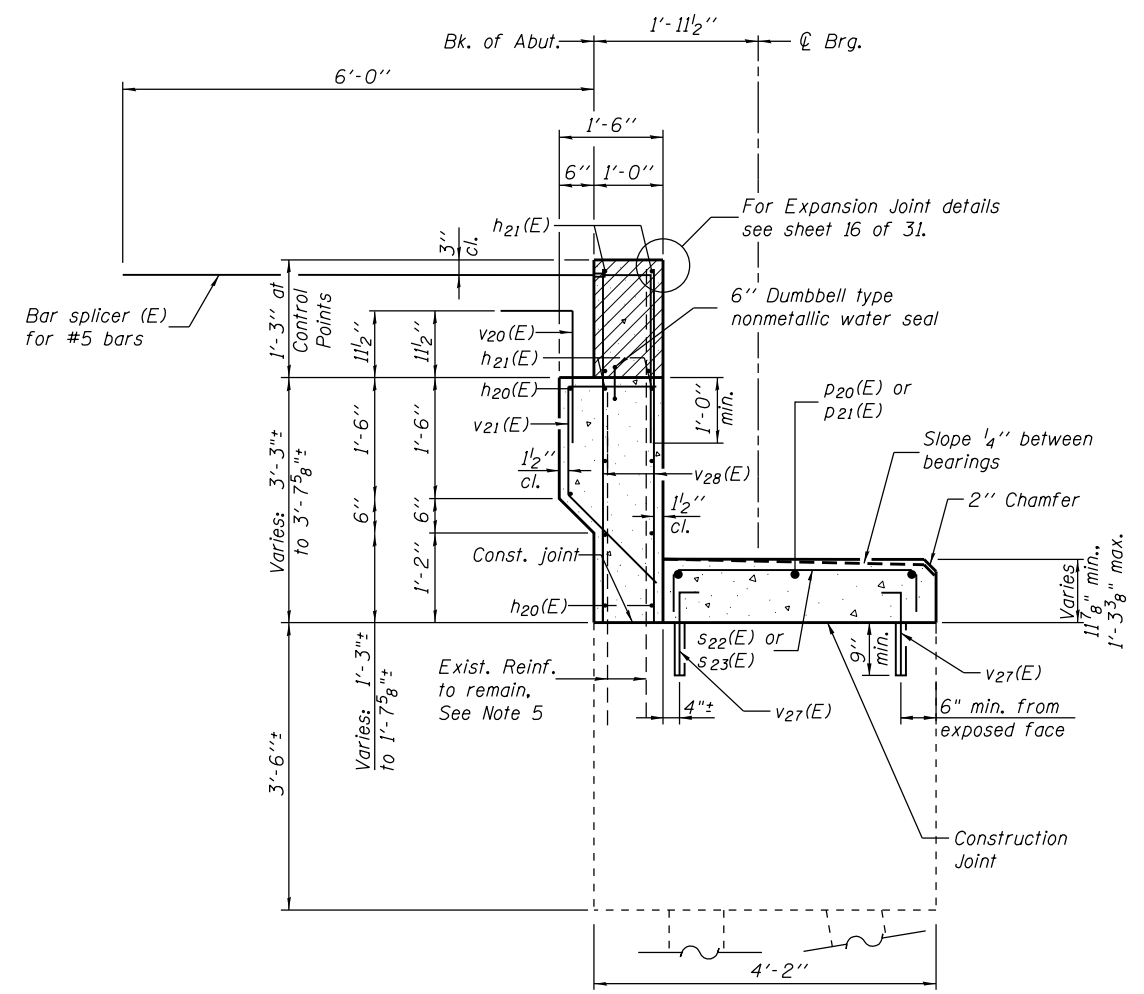
**WING WALL ELEVATION**  
 Showing Dimensions



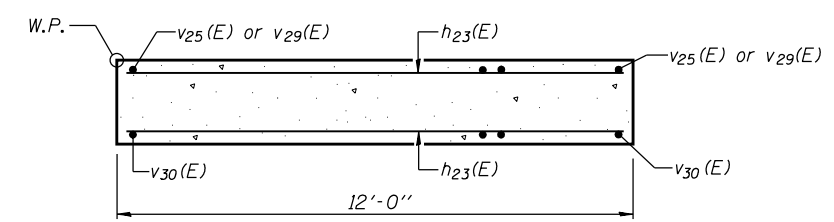
**WING WALL ELEVATION**  
 Showing Reinforcement



**SECTION A-A**



**SECTION THRU ABUTMENT**



**SECTION B-B**

**Notes:**

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. Quantity of concrete in end post included with Concrete Superstructure on sheet 12 of 31.
5. Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.
6. Drill holes (minimum of 9" deep, unless noted otherwise) into existing concrete for v25(E) & v27(E) bars. Drill with care taken to avoid existing reinforcement. The v25(E) & v27(E) bars are to be epoxy grouted into the drilled holes. This work shall be performed in accordance with Article 584 of the Standard Specifications. Cost of drilling and grouting shall be included in Reinforcement Bars, Epoxy Coated.
7. See sheet 23 of 31 for Concrete Removal details.

**HMG** ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
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DRAWN -	KHL
CHECKED -	BGH

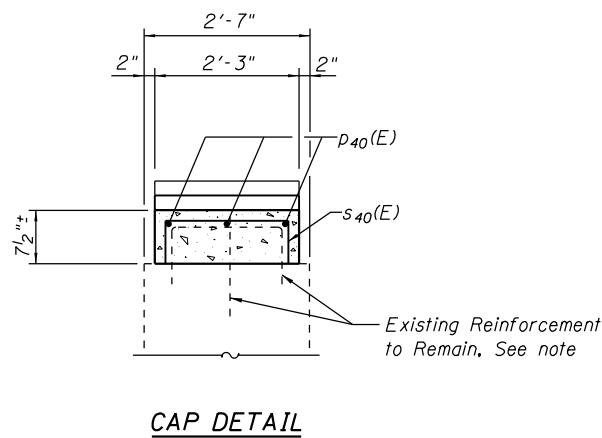
REVIS	NO.	DATE	DESCRIPTION

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

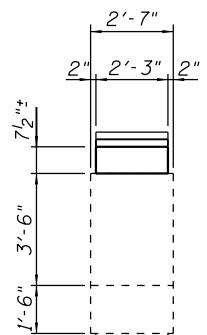
**SOUTH ABUTMENT DETAILS**  
**STRUCTURE NO. 025-0081**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	76
CONTRACT NO. 74859				
ILLINOIS FED. AID PROJECT				

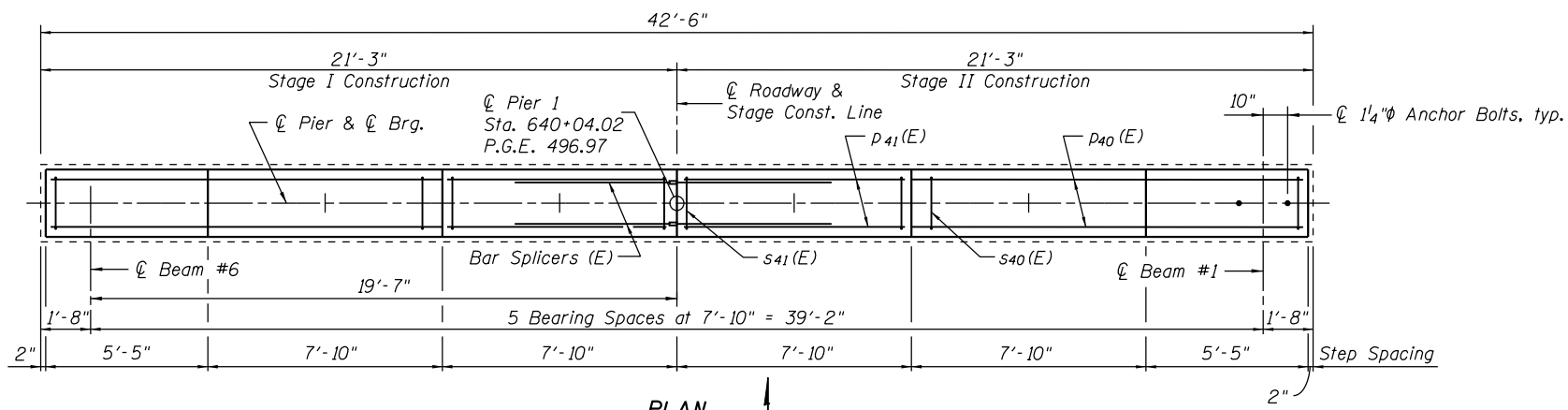




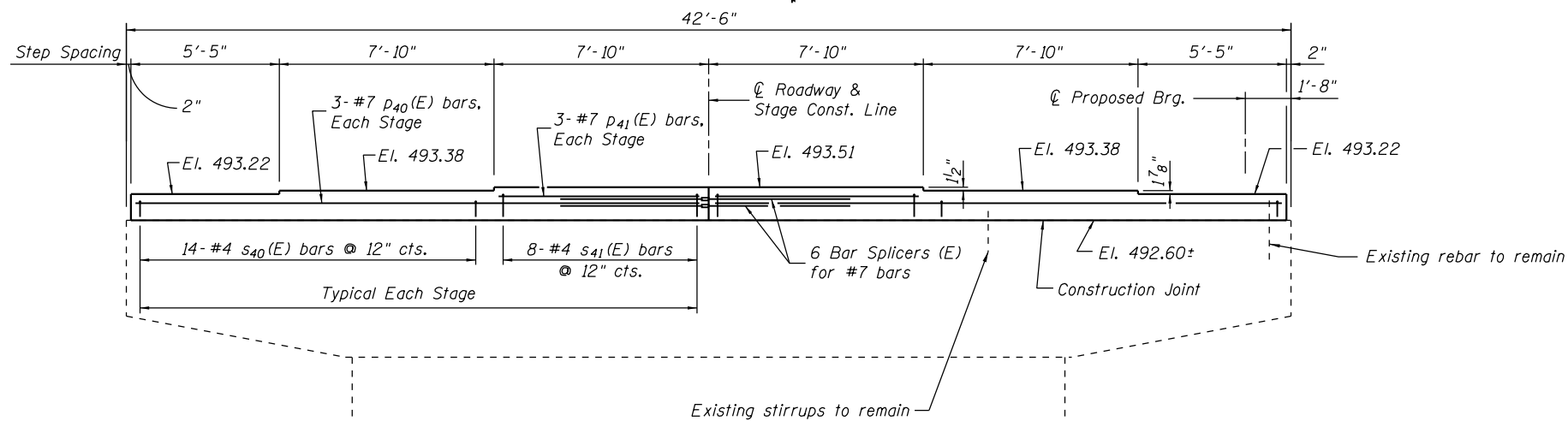
**CAP DETAIL**



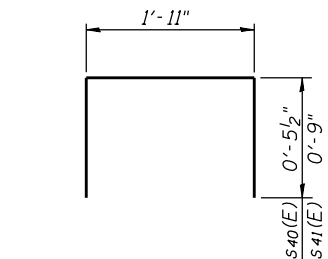
**END VIEW**



**PLAN**



**ELEVATION**  
(Looking North)



**BARS s40(E) & s41(E)**

**PIER 1**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
p40(E)	6	#7	20'-10"	—
p41(E)	6	#7	7'-7"	—
s40(E)	28	#4	2'-10"	□
s41(E)	16	#4	3'-5"	□
Concrete Structures			Cu. Yd.	3.1
Reinforcement Bars, Epoxy Coated			Pound	450
Concrete Sealer			Sq. Ft.	127

For details of Bar Splicers, see sheet 30 of 31.

Apply Concrete Sealer to all exposed surfaces of new concrete.

Space reinforcement to miss anchor bolts.

Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

MODEL: Default  
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10/1/2019 3:52:00 PM

**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

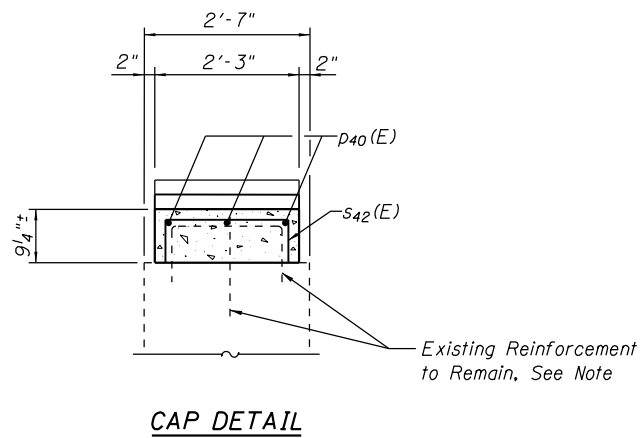
DESIGNED - KMM  
CHECKED - LDG  
DRAWN - KHL  
CHECKED - BGH  
REVISED -  
REVISED -  
REVISED -  
REVISED -

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

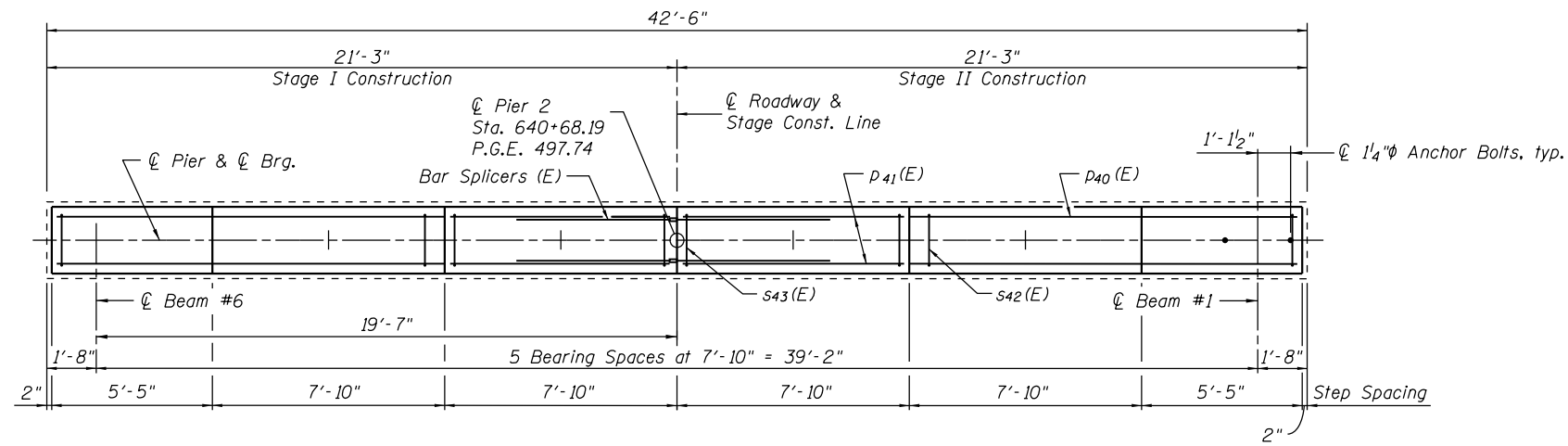
**PIER 1**  
**STRUCTURE NO. 025-0081**

SHEET 28 OF 31 SHEETS

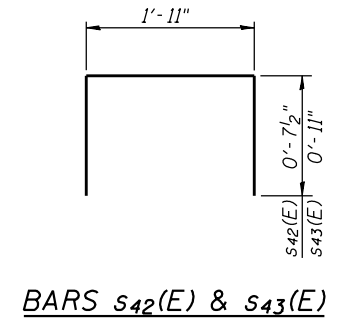
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	77
			CONTRACT NO. 74859	
		ILLINOIS	FED. AID PROJECT	



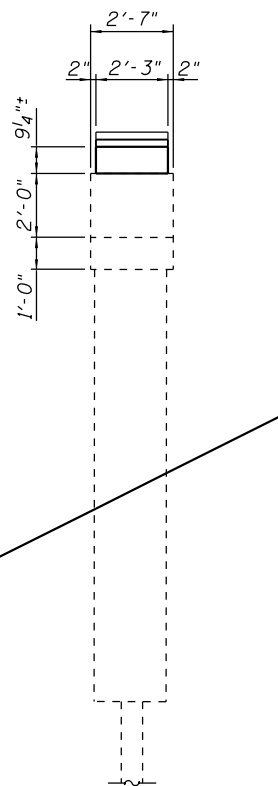
**CAP DETAIL**



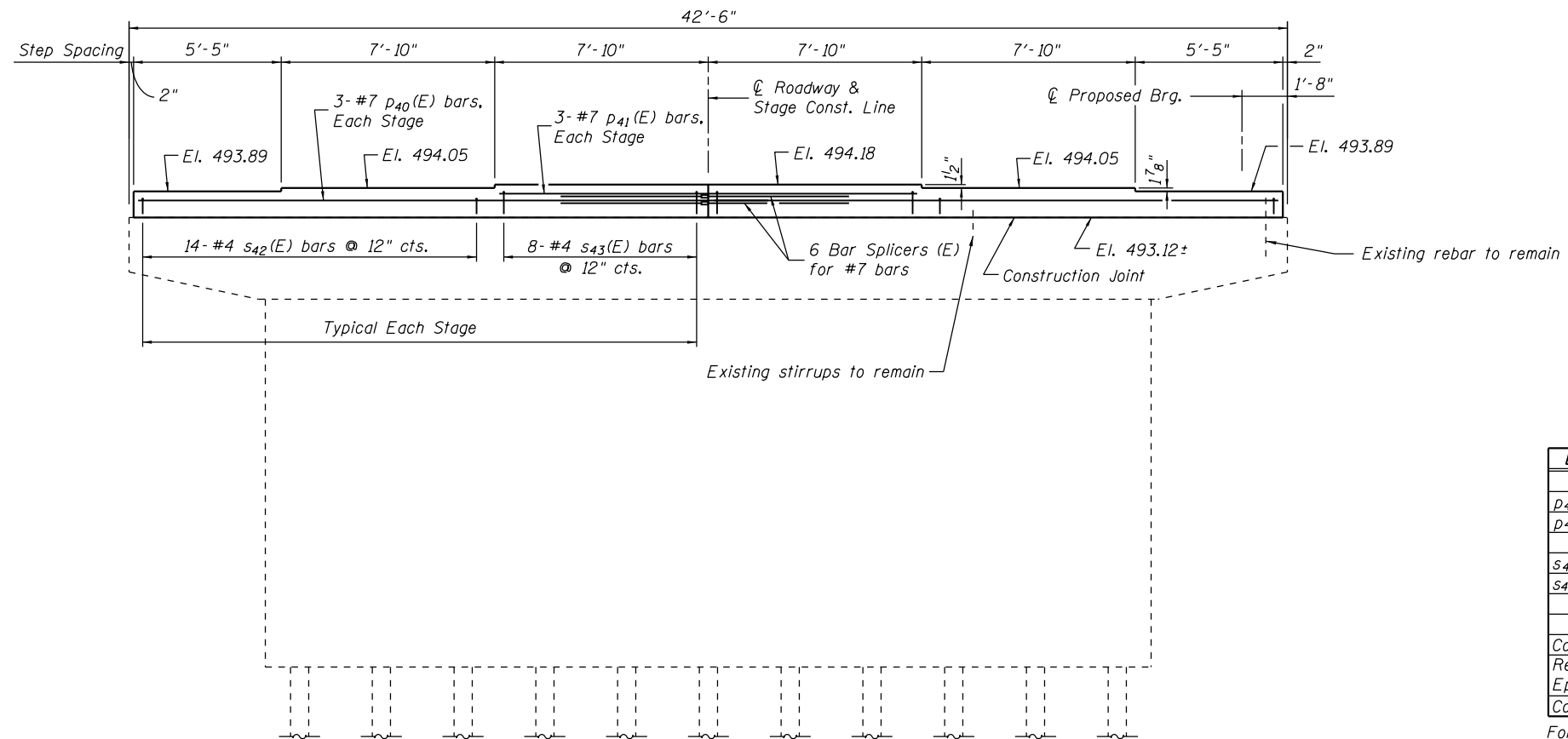
**PLAN**



**BARS s42(E) & s43(E)**



**END VIEW**



**ELEVATION**  
(Looking North)

**PIER 2**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
p40(E)	6	#7	20'-10"	—
p41(E)	6	#7	7'-7"	—
s42(E)	28	#4	3'-2"	□
s43(E)	16	#4	3'-9"	□
Concrete Structures			Cu. Yd.	3.5
Reinforcement Bars, Epoxy Coated			Pound	450
Concrete Sealer			Sq. Ft.	132

For details of Bar Splicers, see sheet 30 of 31.

Apply Concrete Sealer to all exposed surfaces of new concrete.

Space reinforcement to miss anchor bolts.

Existing reinforcement shall be cleaned and incorporated into the new construction as required. Cost included with Concrete Removal.

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<b>HMG</b> Engineers + Surveyors	HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	DESIGNED - KMM	REVISOR -
	USER NAME =	CHECKED - LDG	REVISIONS -
	PLOT SCALE =	DRAWN - KHL	REVISIONS -
	PLOT DATE =	CHECKED - BGH	REVISIONS -

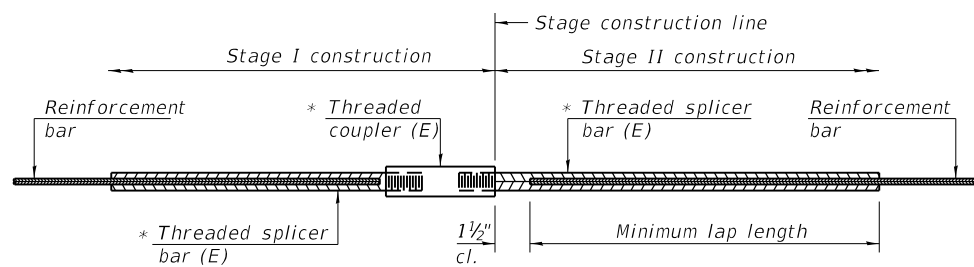
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER 2**  
**STRUCTURE NO. 025-0081**

SHEET 29 OF 31 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	78
CONTRACT NO. 74859				

ILLINOIS FED. AID PROJECT

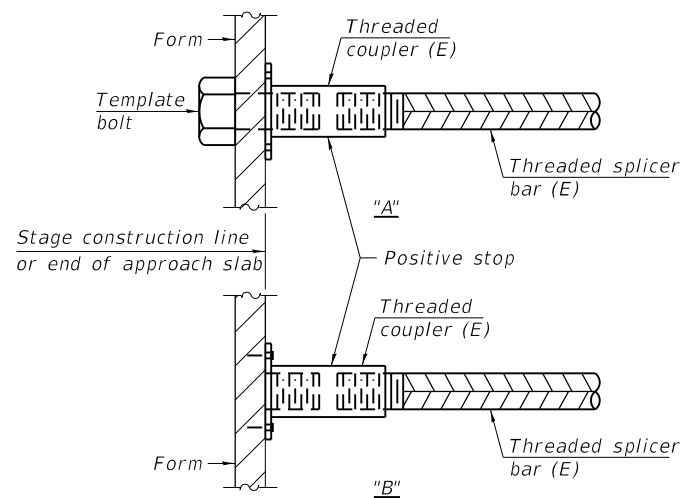


**STANDARD BAR SPLICER ASSEMBLY**

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

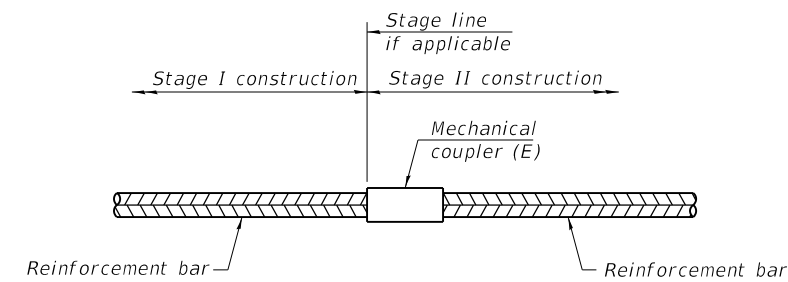
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Deck	#5	605	3'-6"
Deck	#6	8	4'-5"
Approaches	#5	90	3'-6"
Approaches	#8	120	4'-9"
Approach Ftgs.	#5	80	3'-6"
Abutments	#5	20	3'-6"
Abutments	#6	8	4'-5"
Abutments	#7	12	4'-8"
Piers	#7	12	4'-8"



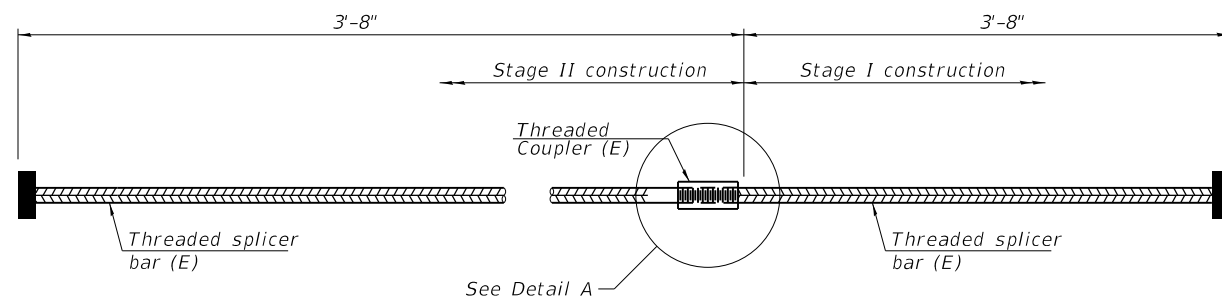
**INSTALLATION AND SETTING METHODS**

"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.



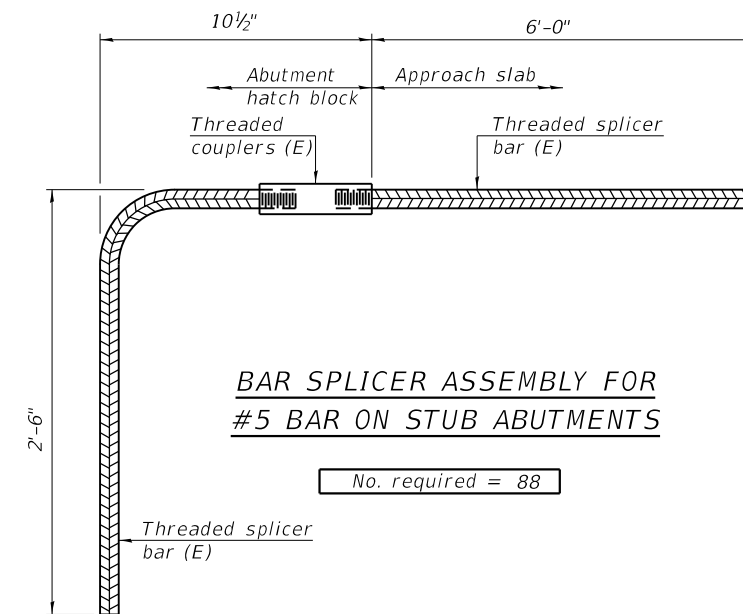
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



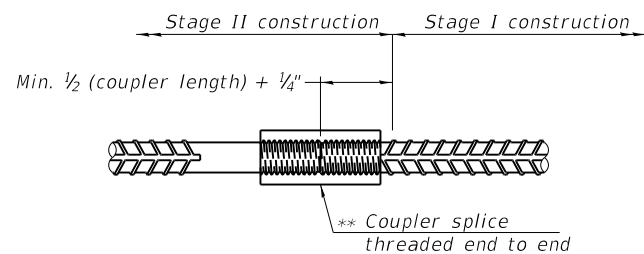
**#6 a 3 (E) BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT (HEADED)**

No. required = 8



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 88



**DETAIL A**

\*\* The bar splicer assembly shall allow completion of the splice without turning of the headed bars. The stage II splice bar shall be threaded such that the entire coupler can be threaded onto the splicer bar.

**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: Default  
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 10/1/2019 3:53:29 PM

<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - KMM CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS</b> <b>STRUCTURE NO. 025-0081</b>	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM TOTAL SHEETS 93 SHEET NO. 79	CONTRACT NO. 74859 ILLINOIS FED. AID PROJECT
	SHEET 30 OF 31 SHEETS						

SHEET INTENTIONALLY LEFT BLANK

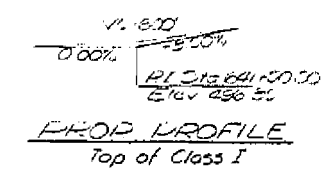
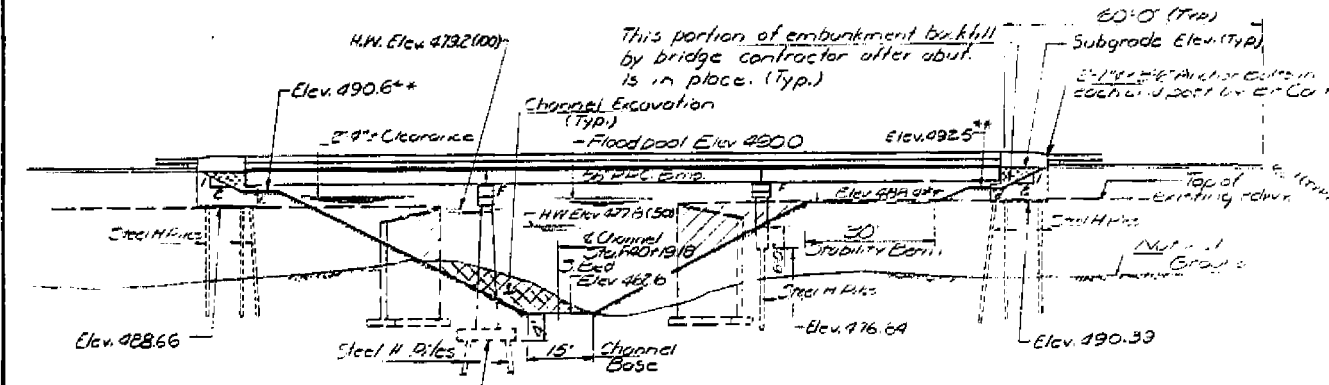
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 <b>HMG ENGINEERS, INC.</b> 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 <small>Engineers • Surveyors</small>	USER NAME =	DESIGNED - KMM	REVISED -	<b>STATE OF ILLINOIS          DEPARTMENT OF TRANSPORTATION</b>	<b>STRUCTURE NO. 025-0081</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	PLOT SCALE =	CHECKED - LDG	REVISED -			328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	80	
	PLOT DATE =	DRAWN - KHL	REVISED -					CONTRACT NO. 74859			
		CHECKED - BGH	REVISED -			SHEET 31 OF 31 SHEETS		ILLINOIS		FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET
328	(3BR-2, 3BR-3)	EFFINGHAM	93	81	1

B.M. "C" Checked in Top S.E. Wing Bridge over Bishop Creek Sta. 626+00 Elev. 482.35  
Existing Structure Built on S.B.I. 23 Sec. 26, Sta. 640+19.18, 1921  
Superstr. 2C thru Order, Substr. 2C Flooded Area  
Contractor shall remove existing structure and construct within completion of details

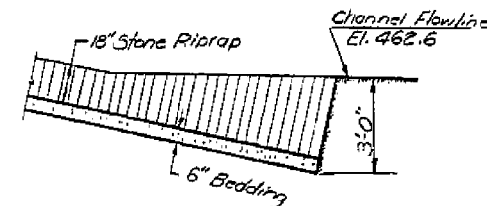


GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.  
All structural steel shall be shop pointed with two coats of basic lead silico chromate paint.  
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.  
The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.  
Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.  
For Boring Data see the Proposal.  
The Contractor shall drive one steel (HPBx36) test pile each at the North Abutment and the South Abutment. Test piles shall be driven in permanent locations as directed by the Engineer before ordering the remainder of piles.  
Limits of Pavement Removal are back of existing abutments to 52+0 beyond back of proposed abutments at each end of structure.  
Layout of Rip-Rap may be varied in the field to suit ground conditions as directed by the Engineer.  
Calculated weight of Structural Steel = 1840 Lbs.

STATION 640+19.18  
BUILT BY  
STATE OF ILLINOIS  
F.A. RTE. 26 SEC. 3BR-3  
PROJ. RF-23(11)  
LOADING H520

NAME PLATE  
(See Std. 2113)



SECTION A-A

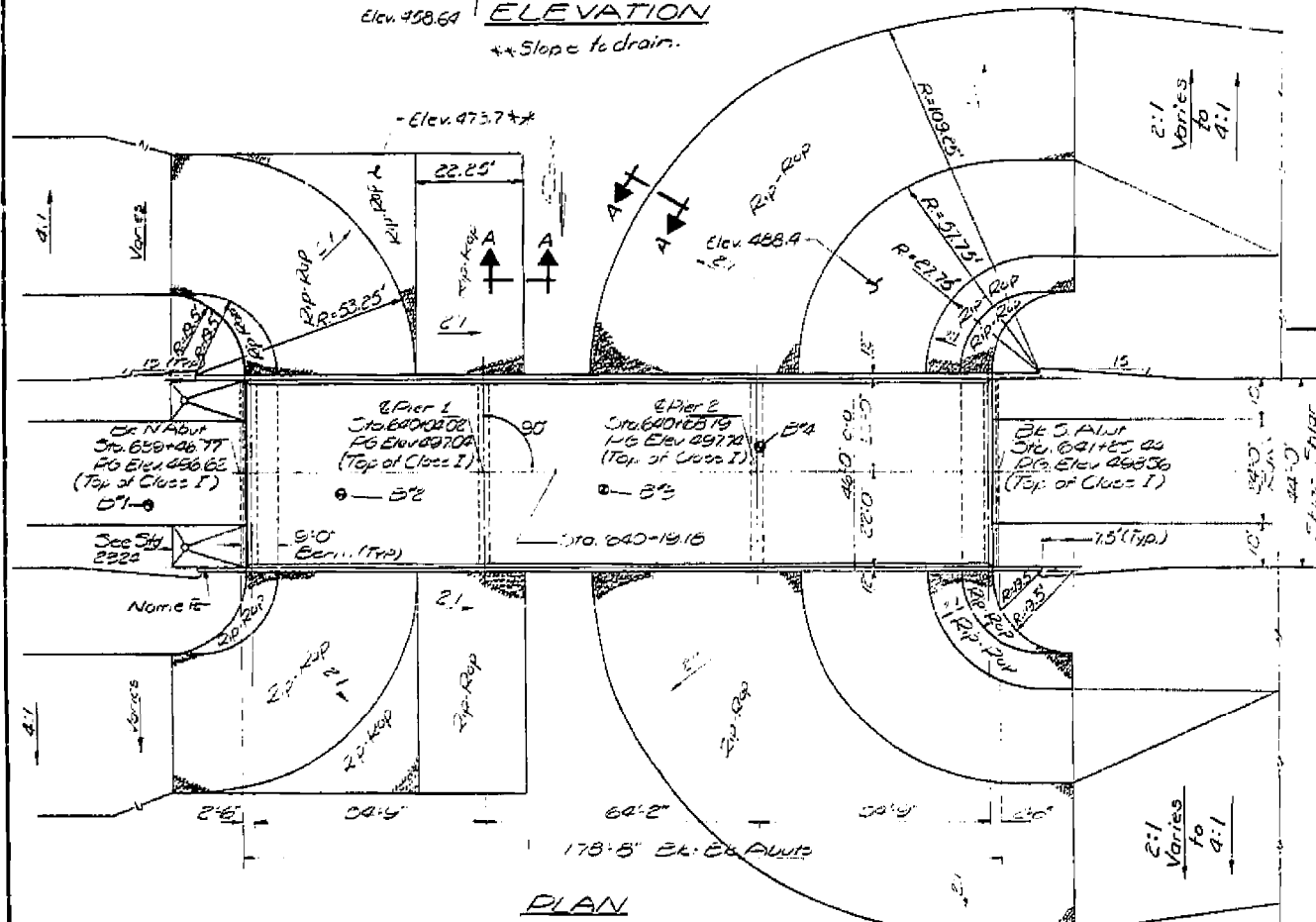
WATERWAY INFORMATION

Drainage Area: 13.250 Miles  
Character: Rolling, Cultivated, Timber Pasture  
Proposed Opening: 600 Sq. Ft.  
Road Opening: 660 Sq. Ft.  
Proposed Opening: 660 Sq. Ft.  
Below Elev. 477.78 (50 Yr. Flood)  
H.M. Elev. 477.78  
H.M. Elev. 479.20 (100 Yr. Flood)  
Riprap Louisville Reservoir Flood Pool Elev. 490.0  
Q(50) = 4455 cfs.  
Q(100) = 5435 cfs.  
Created Head = 0.8'

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Removal of Existing Structures	Each			1
Bituminous Concrete Surface Course, Class I	Tons	70		70
Channel Excavation	Cu. Yd.		1000	1000
Structure Excavation	Cu. Yd.		180	180
Protective Coat	Sq. Yd.	160		160
Class X Concrete	Cu. Yd.	270.1	246.6	516.7
Furnishing and Erecting Precast Prestressed Concrete T-Beams (36" Depth)	Lin. Ft.	1221		1221
Structural Steel	L. Sum	1		1
Reinforcement Bars	Pound	59130	21640	80770
Steel Piles (HPBx36)	Lin. Ft.		1224	1224
Test Piles (Steel HPBx36)	Each		2	2
Name Plates	Each	1		1
Waterproofing Membrane System*	Sq. Yd.	830		830
Preformed Joint Sealer (2")	Lin. Ft.	46		46
Neoprene Expansion Joint (2")*	Lin. Ft.	45		45
Stone Rip-Rap	Sq. Yd.		3600	3600

\* See Special Provisions.



PLAN

DESIGN STRESSES

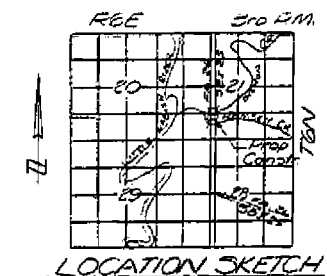
FIELD UNITS  
fc = 12000 psi (Deck Slab)  
fc = 14000 psi (Curb, Parapet & Sills)  
fc = 20000 psi (Piers)  
fc = 75 psi (Riprap)  
n = 10

PRECAST PRESTRESSED UNITS

f'c = 6000 psi  
f'c = 3000 psi  
f's = 270000 psi (5/8" Strands)  
f's = 189,000 psi (3/4" Strands)  
Allow 80 Lbs./Sq. Ft. for Fat. W.S.  
Design Specifications 1973 & Interim 1974 (as applicable)

LOADING H520-44

DESIGNED	John Wang	EXAMINED	June 25 1975
CHECKED	John A. Morris	PASSED	
DRAWN	R. Doty	APPROVED	
CHECKED	W.S. Jam		



LOCATION SKETCH

PROJ. RF-23(11)  
GENERAL PLAN and ELEVATION  
F.A. RTE. 26 over RAMSEY CREEK  
F.A. RTE. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STATION 640+19.18 (Channel)

FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0081

SHEET 1 OF 13 SHEETS

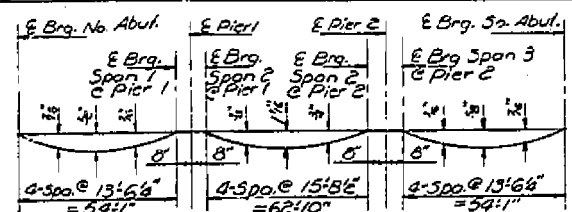
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)	EFFINGHAM	93	81

ILLINOIS FED. AID PROJECT  
CONTRACT NO. 74859

DESIGNED -	KMM	REVISED -	
CHECKED -	LDG	REVISED -	
DRAWN -	KHL	REVISED -	
CHECKED -	BGH	REVISED -	

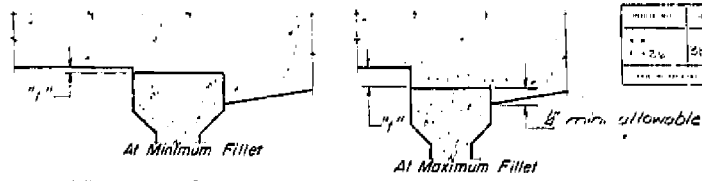
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
1-36	3BR-3	2	3 SHEETS



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete slab, curbs, parapets & initial deck surf. only.)  
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.



**FILLET HEIGHTS**

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63946.170	-21.000	496.154	496.154
E Brg. No. Abut.	63946.170	-20.000	496.154	496.154
A B C D	63946.170	-20.000	496.154	496.154
	63946.170	-20.000	496.154	496.154
	63946.170	-20.000	496.154	496.154
	63946.170	-20.000	496.154	496.154
E Brg. Span 1 <sup>st</sup> Pier 1	64004.320	-20.000	496.154	496.154
E Pier 1	64004.320	-20.000	496.154	496.154
E Brg. Span 2 <sup>nd</sup> Pier 1	64062.470	-20.000	496.154	496.154
E F G H	64062.470	-20.000	496.154	496.154
	64062.470	-20.000	496.154	496.154
	64062.470	-20.000	496.154	496.154
	64062.470	-20.000	496.154	496.154
E Brg. Span 2 <sup>nd</sup> Pier 2	64120.620	-20.000	496.154	496.154
E Pier 2	64120.620	-20.000	496.154	496.154
E Brg. Span 3 <sup>rd</sup> Pier 2	64178.770	-20.000	496.154	496.154
J K L M	64178.770	-20.000	496.154	496.154
	64178.770	-20.000	496.154	496.154
	64178.770	-20.000	496.154	496.154
	64178.770	-20.000	496.154	496.154
E Brg. So. Abut.	64236.920	-20.000	496.154	496.154
Bk. of So. Abut.	64295.070	-20.000	496.154	496.154

**EAST LONGITUDINAL BONDED CONST. JT.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63946.170	-10.000	496.214	496.214
E Brg. No. Abut.	63946.170	-10.000	496.214	496.214
A B C D	63946.170	-10.000	496.214	496.214
	63946.170	-10.000	496.214	496.214
	63946.170	-10.000	496.214	496.214
	63946.170	-10.000	496.214	496.214
E Brg. Span 1 <sup>st</sup> Pier 1	64004.320	-10.000	496.214	496.214
E Pier 1	64004.320	-10.000	496.214	496.214
E Brg. Span 2 <sup>nd</sup> Pier 1	64062.470	-10.000	496.214	496.214
E F G H	64062.470	-10.000	496.214	496.214
	64062.470	-10.000	496.214	496.214
	64062.470	-10.000	496.214	496.214
	64062.470	-10.000	496.214	496.214
E Brg. Span 2 <sup>nd</sup> Pier 2	64120.620	-10.000	496.214	496.214
E Pier 2	64120.620	-10.000	496.214	496.214
E Brg. Span 3 <sup>rd</sup> Pier 2	64178.770	-10.000	496.214	496.214
J K L M	64178.770	-10.000	496.214	496.214
	64178.770	-10.000	496.214	496.214
	64178.770	-10.000	496.214	496.214
	64178.770	-10.000	496.214	496.214
E Brg. So. Abut.	64236.920	-10.000	496.214	496.214
Bk. of So. Abut.	64295.070	-10.000	496.214	496.214

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63946.170	-15.000	496.214	496.214
E Brg. No. Abut.	63946.170	-15.000	496.214	496.214
A B C D	63946.170	-15.000	496.214	496.214
	63946.170	-15.000	496.214	496.214
	63946.170	-15.000	496.214	496.214
	63946.170	-15.000	496.214	496.214
E Brg. Span 1 <sup>st</sup> Pier 1	64004.320	-15.000	496.214	496.214
E Pier 1	64004.320	-15.000	496.214	496.214
E Brg. Span 2 <sup>nd</sup> Pier 1	64062.470	-15.000	496.214	496.214
E F G H	64062.470	-15.000	496.214	496.214
	64062.470	-15.000	496.214	496.214
	64062.470	-15.000	496.214	496.214
	64062.470	-15.000	496.214	496.214
E Brg. Span 2 <sup>nd</sup> Pier 2	64120.620	-15.000	496.214	496.214
E Pier 2	64120.620	-15.000	496.214	496.214
E Brg. Span 3 <sup>rd</sup> Pier 2	64178.770	-15.000	496.214	496.214
J K L M	64178.770	-15.000	496.214	496.214
	64178.770	-15.000	496.214	496.214
	64178.770	-15.000	496.214	496.214
	64178.770	-15.000	496.214	496.214
E Brg. So. Abut.	64236.920	-15.000	496.214	496.214
Bk. of So. Abut.	64295.070	-15.000	496.214	496.214

**BEAM 3**

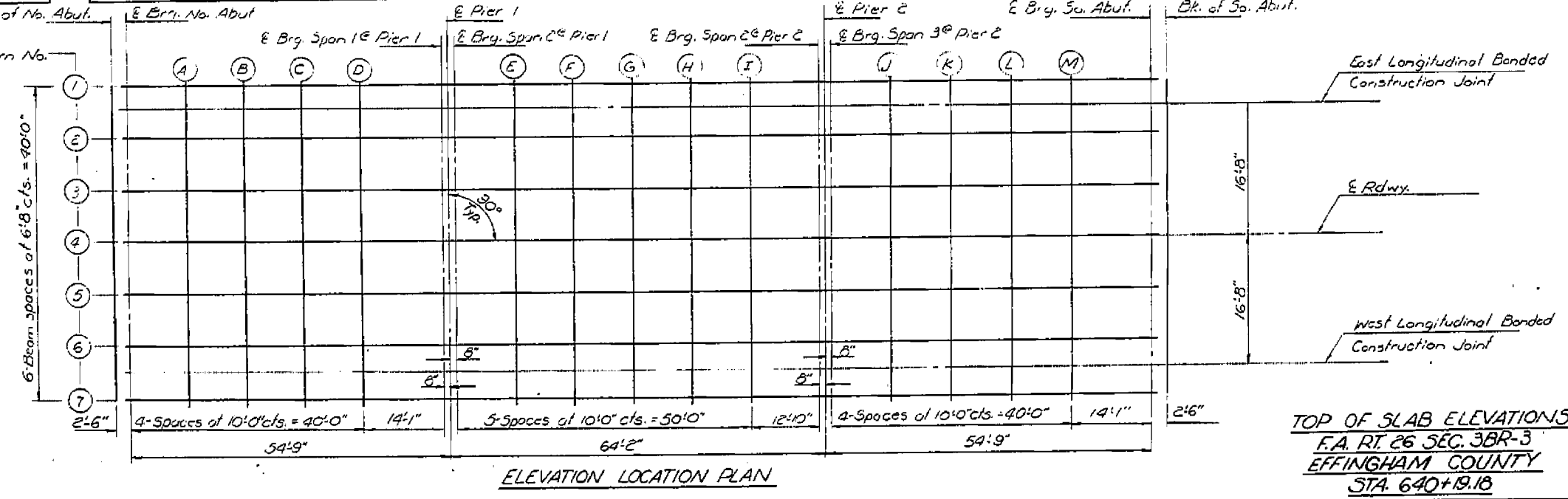
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63946.170	-6.000	496.304	496.304
E Brg. No. Abut.	63946.170	-6.000	496.304	496.304
A B C D	63946.170	-6.000	496.304	496.304
	63946.170	-6.000	496.304	496.304
	63946.170	-6.000	496.304	496.304
	63946.170	-6.000	496.304	496.304
E Brg. Span 1 <sup>st</sup> Pier 1	64004.320	-6.000	496.304	496.304
E Pier 1	64004.320	-6.000	496.304	496.304
E Brg. Span 2 <sup>nd</sup> Pier 1	64062.470	-6.000	496.304	496.304
E F G H	64062.470	-6.000	496.304	496.304
	64062.470	-6.000	496.304	496.304
	64062.470	-6.000	496.304	496.304
	64062.470	-6.000	496.304	496.304
E Brg. Span 2 <sup>nd</sup> Pier 2	64120.620	-6.000	496.304	496.304
E Pier 2	64120.620	-6.000	496.304	496.304
E Brg. Span 3 <sup>rd</sup> Pier 2	64178.770	-6.000	496.304	496.304
J K L M	64178.770	-6.000	496.304	496.304
	64178.770	-6.000	496.304	496.304
	64178.770	-6.000	496.304	496.304
	64178.770	-6.000	496.304	496.304
E Brg. So. Abut.	64236.920	-6.000	496.304	496.304
Bk. of So. Abut.	64295.070	-6.000	496.304	496.304

NOTE:  
Elevations shown are of top of concrete slab.  
Top of Class I is .125' higher.  
Work this sheet with sheet #3.



DESIGNED	John A. Motin	EXAMINED	[Signature]
CHECKED	John A. Motin	PASSED	[Signature]
DRAWN	P.G. Barnett R. Doty	APPROVED	[Signature]
CHECKED	[Signature]		

DATE: June 25 1975  
DIRECTOR OF HIGHWAYS



**ELEVATION LOCATION PLAN**

**TOP OF SLAB ELEVATIONS**  
F.A. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STA. 640+19.18

**FOR INFORMATION ONLY**

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	3BR-3	EFFINGHAM	93	83

SHEET NO. 3  
13 SHEETS

BEAM 4 & E RDWY.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63740.770	0.000	496.211	496.211
E Brg. No. Abut.	63740.270	0.000	496.217	496.217
A B C D	63740.775	3.000	496.273	496.268
	63740.275	0.000	496.293	496.288
	63740.275	10.000	496.712	496.707
	63740.775	0.000	496.711	496.706
E Brg. Span 1 <sup>st</sup> Pier 1	64003.350	0.000	496.411	496.411
E Pier 1	64004.375	0.000	496.487	496.487
E Brg. Span 2 <sup>nd</sup> Pier 1	64004.000	0.000	496.923	496.923
E F G H I	64014.050	0.000	497.116	497.116
	64024.050	0.000	497.115	497.115
	64034.050	0.000	497.223	497.223
	64044.050	0.000	497.391	497.391
	64054.050	0.000	497.447	497.447
E Brg. Span 2 <sup>nd</sup> Pier 2	64057.527	0.000	497.635	497.635
E Pier 2	64058.145	0.000	497.614	497.614
E Brg. Span 3 <sup>rd</sup> Pier 2	64074.000	0.000	497.522	497.522
J K L M	64074.000	0.000	497.753	497.753
	64084.000	0.000	497.357	497.357
	64094.000	0.000	497.151	497.151
	64104.000	0.000	496.175	496.175
E Brg. So. Abut.	64122.940	0.000	496.244	496.244
Bk. of So. Abut.	64120.440	0.000	496.453	496.453

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63740.770	0.000	496.217	496.217
E Brg. No. Abut.	63740.270	0.000	496.437	496.437
A B C D	63740.275	0.000	496.437	496.437
	63740.275	0.000	496.437	496.437
	63740.275	0.000	496.437	496.437
	63740.275	0.000	496.437	496.437
E Brg. Span 1 <sup>st</sup> Pier 1	64014.050	0.000	497.116	497.116
E Pier 1	64024.050	0.000	497.115	497.115
E Brg. Span 2 <sup>nd</sup> Pier 1	64034.050	0.000	497.223	497.223
E F G H	64044.050	0.000	497.391	497.391
	64054.050	0.000	497.447	497.447
	64057.527	0.000	497.635	497.635
	64058.145	0.000	497.614	497.614
E Brg. Span 3 <sup>rd</sup> Pier 2	64074.000	0.000	497.522	497.522
J K L M	64074.000	0.000	497.753	497.753
	64084.000	0.000	497.357	497.357
	64094.000	0.000	497.151	497.151
	64104.000	0.000	496.175	496.175
E Brg. So. Abut.	64122.940	0.000	496.244	496.244
Bk. of So. Abut.	64120.440	0.000	496.453	496.453

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63740.770	0.000	496.217	496.217
E Brg. No. Abut.	63740.270	0.000	496.217	496.217
A B C D	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
E Brg. Span 1 <sup>st</sup> Pier 1	64014.050	0.000	497.116	497.116
E Pier 1	64024.050	0.000	497.115	497.115
E Brg. Span 2 <sup>nd</sup> Pier 1	64034.050	0.000	497.223	497.223
E F G H	64044.050	0.000	497.391	497.391
	64054.050	0.000	497.447	497.447
	64057.527	0.000	497.635	497.635
	64058.145	0.000	497.614	497.614
E Brg. Span 3 <sup>rd</sup> Pier 2	64074.000	0.000	497.522	497.522
J K L M	64074.000	0.000	497.753	497.753
	64084.000	0.000	497.357	497.357
	64094.000	0.000	497.151	497.151
	64104.000	0.000	496.175	496.175
E Brg. So. Abut.	64122.940	0.000	496.244	496.244
Bk. of So. Abut.	64120.440	0.000	496.453	496.453

WEST LONGITUDINAL BONDED CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63740.770	0.000	496.217	496.217
E Brg. No. Abut.	63740.270	0.000	496.217	496.217
A B C D	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
E Brg. Span 1 <sup>st</sup> Pier 1	64014.050	0.000	497.116	497.116
E Pier 1	64024.050	0.000	497.115	497.115
E Brg. Span 2 <sup>nd</sup> Pier 1	64034.050	0.000	497.223	497.223
E F G H	64044.050	0.000	497.391	497.391
	64054.050	0.000	497.447	497.447
	64057.527	0.000	497.635	497.635
	64058.145	0.000	497.614	497.614
E Brg. Span 3 <sup>rd</sup> Pier 2	64074.000	0.000	497.522	497.522
J K L M	64074.000	0.000	497.753	497.753
	64084.000	0.000	497.357	497.357
	64094.000	0.000	497.151	497.151
	64104.000	0.000	496.175	496.175
E Brg. So. Abut.	64122.940	0.000	496.244	496.244
Bk. of So. Abut.	64120.440	0.000	496.453	496.453

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of No. Abut.	63740.770	0.000	496.217	496.217
E Brg. No. Abut.	63740.270	0.000	496.217	496.217
A B C D	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
	63740.275	0.000	496.217	496.217
E Brg. Span 1 <sup>st</sup> Pier 1	64014.050	0.000	497.116	497.116
E Pier 1	64024.050	0.000	497.115	497.115
E Brg. Span 2 <sup>nd</sup> Pier 1	64034.050	0.000	497.223	497.223
E F G H	64044.050	0.000	497.391	497.391
	64054.050	0.000	497.447	497.447
	64057.527	0.000	497.635	497.635
	64058.145	0.000	497.614	497.614
E Brg. Span 3 <sup>rd</sup> Pier 2	64074.000	0.000	497.522	497.522
J K L M	64074.000	0.000	497.753	497.753
	64084.000	0.000	497.357	497.357
	64094.000	0.000	497.151	497.151
	64104.000	0.000	496.175	496.175
E Brg. So. Abut.	64122.940	0.000	496.244	496.244
Bk. of So. Abut.	64120.440	0.000	496.453	496.453

NOTE:  
Elevations shown are of top of concrete slab.  
Top of Class I is .125' higher.  
Work this sheet with sheet #2.

TOP OF SLAB ELEVATIONS  
F.A. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STA. 640+19.18

DESIGNED	John C. Frary	EXAMINED	[Signature]
CHECKED	John A. Manno	PASSED	[Signature]
DRAWN	P.G. Barnett R. Doty	APPROVED	[Signature]
CHECKED	[Signature]	DIRECTOR OF HIGHWAYS	[Signature]

JUN 25 1965

E-5 8-1-65

FOR INFORMATION ONLY

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**HMG** HMG ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =  
PLOT SCALE =  
PLOT DATE =

DESIGNED - KMM	REVISED -
CHECKED - LDG	REVISED -
DRAWN - KHL	REVISED -
CHECKED - BGH	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0081

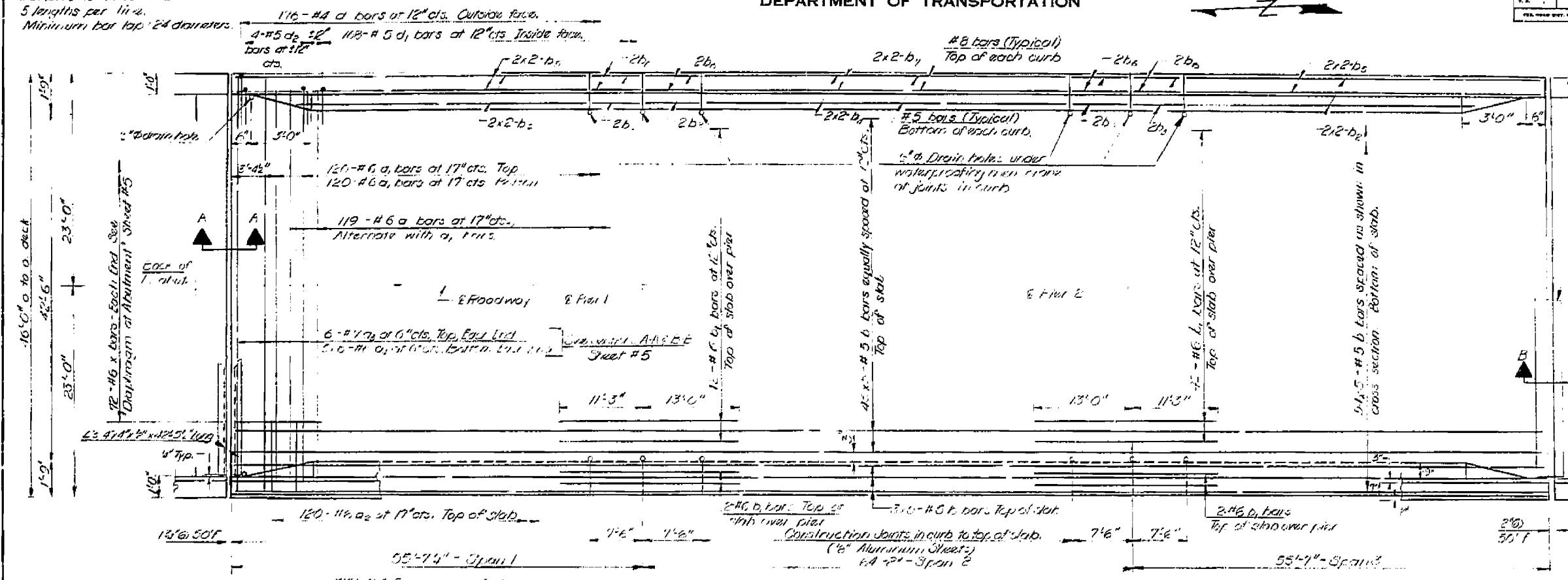
SHEET 3 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	83
CONTRACT NO. 74859			ILLINOIS / FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
025-0081	3BR-3	4	13

1 Note:  
Bars indicated thus #3-#5 etc.  
indicates #3 lines of bars with  
5 lengths per line.  
Minimum bar lap 24 diameters.

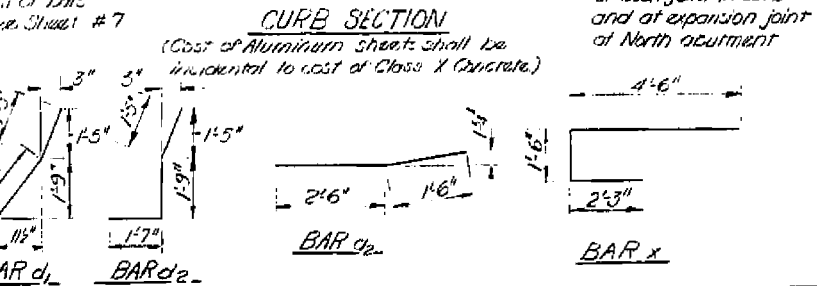
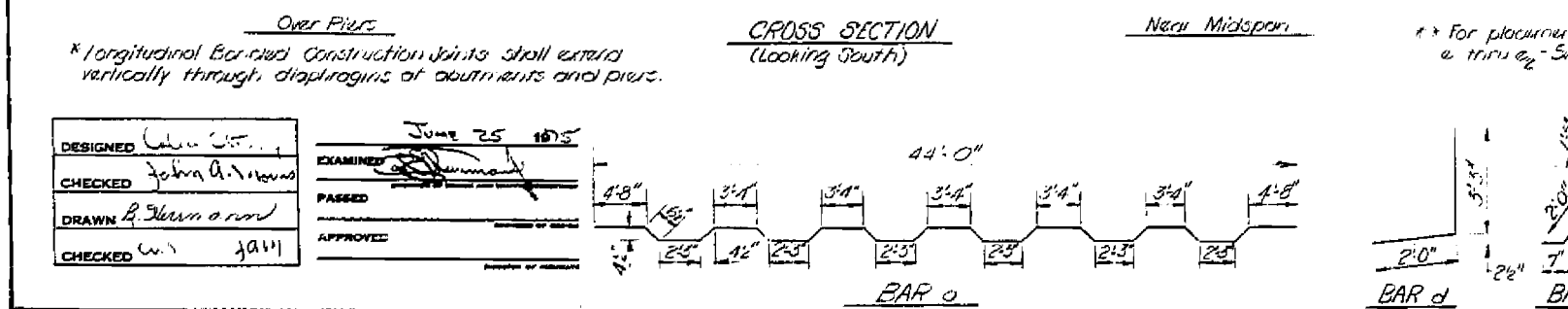
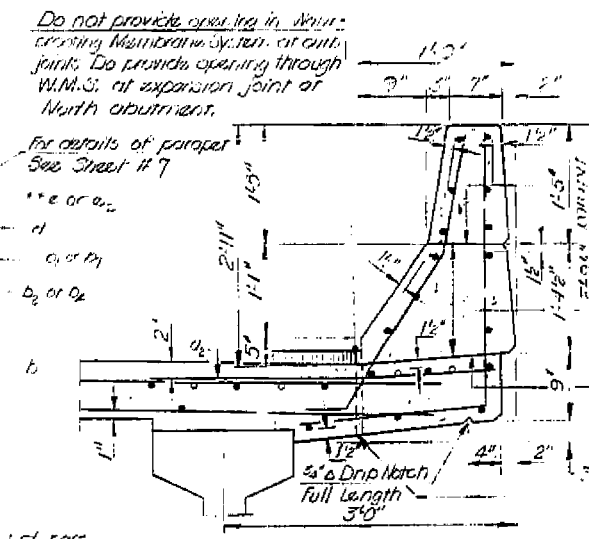
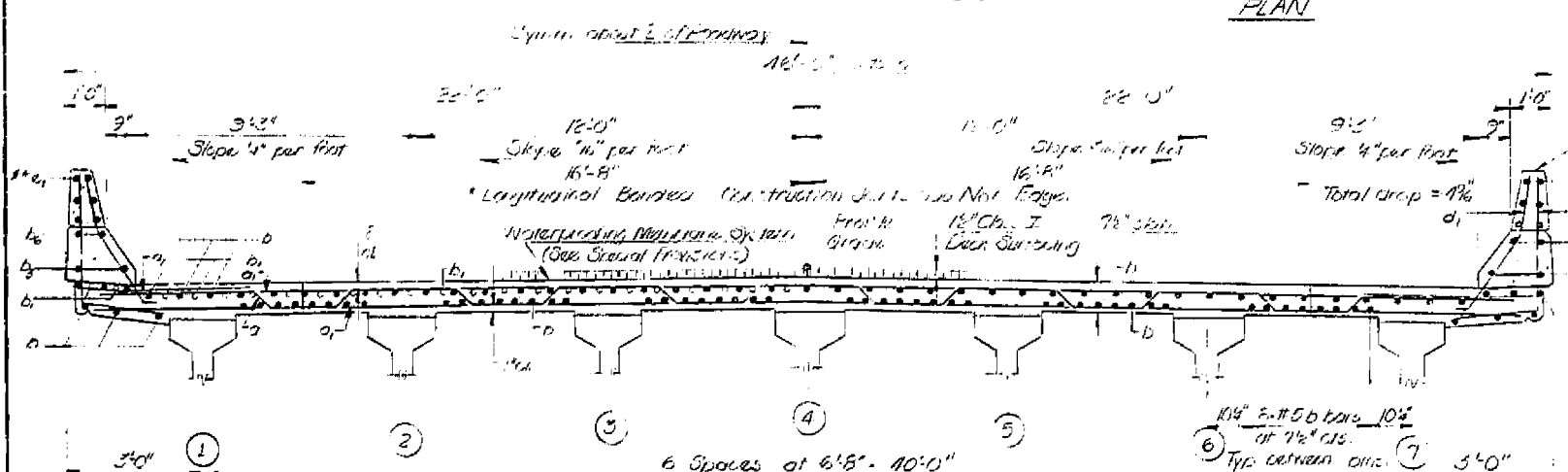


Neoprene Expansion Joint  
See Detail #6

**BILL OF MATERIAL**

Bar	Size	Length	Shape
1	#6	46'-0"	U
1 <sub>1</sub>	#6	44'-0"	U
1 <sub>2</sub>	#6	4'-0"	U
2	#7	45'-3"	U
3	#6	5'-11"	U
4	#5	36'-0"	U
5	#6	24'-3"	U
6	#5	24'-6"	U
7	#5	7'-3"	U
8	#5	25'-3"	U
9	#8	25'-0"	U
10	#8	7'-3"	U
11	#8	25'-6"	U
12	#4	5'-3"	U
13	#5	4'-0"	U
14	#5	4'-9"	U
15	#4	5'-11"	U
16	#6	4'-11"	U
17	#4	9'-4"	U
18	#6	8'-3"	U

Class X Concrete Curb 2563  
Reinforcement Bars Lb. 57,60



12" drilled or  
punch drain holes  
at each joint in curb  
and at expansion joint  
at North abutment

**SUPERSTRUCTURE**  
FA. RT. 26 - SECTION 3BR-3  
EFFINGHAM COUNTY  
STATION 640+19.18

DESIGNED	John A. ...	EXAMINED	June 25 1975
CHECKED	John A. ...	PASSED	
DRAWN	R. ...	APPROVED	
CHECKED	W. ...		

FOR INFORMATION ONLY

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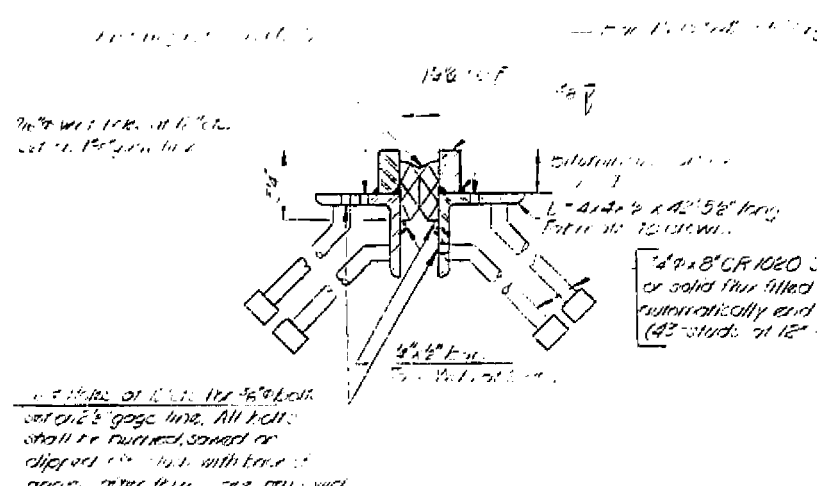
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	SHEET 4 OF 13 SHEETS		ILLINOIS FED. AID PROJECT			



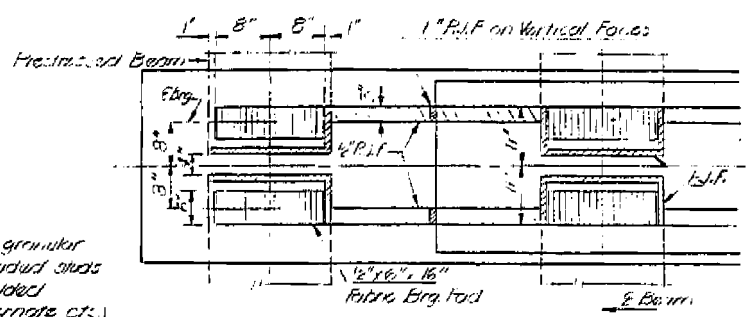
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

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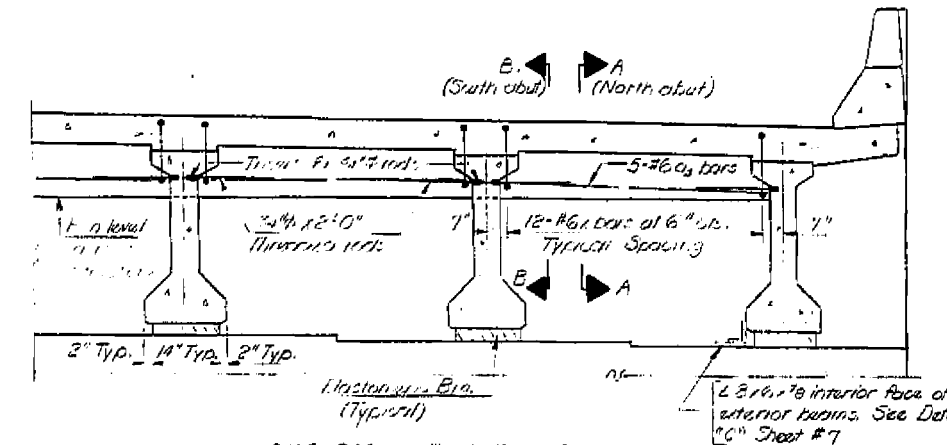
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13 SHEETS



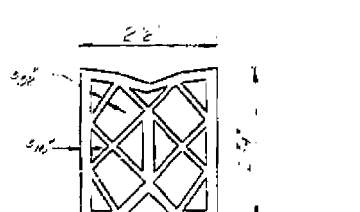
DETAIL "A"



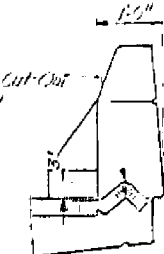
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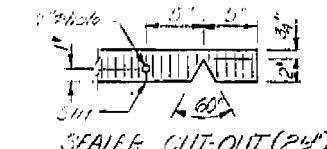
DIAPHRAGM AT ABUTMENT



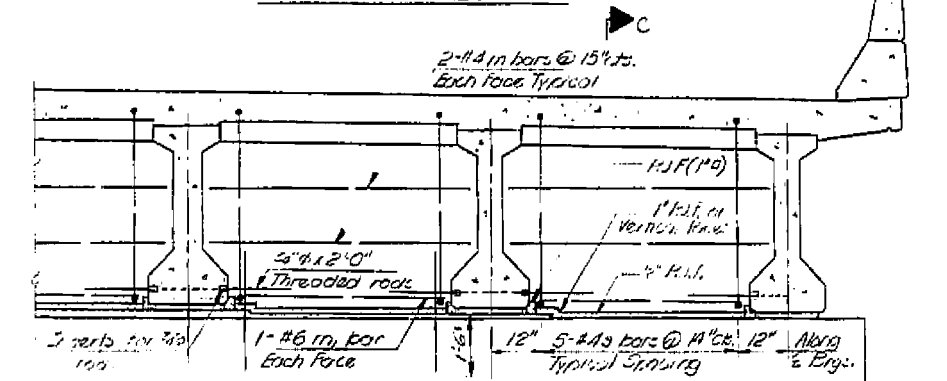
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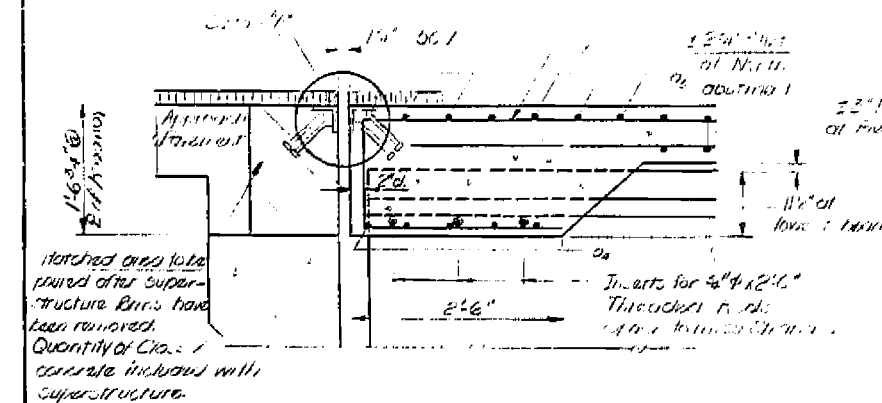
END OF SEALER TREATMENT



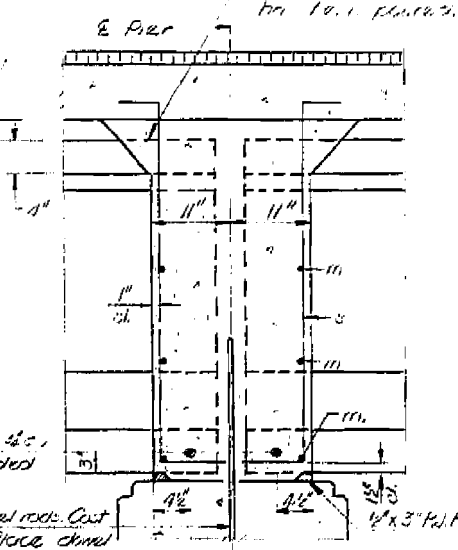
SEALER CUT-OUT (2")



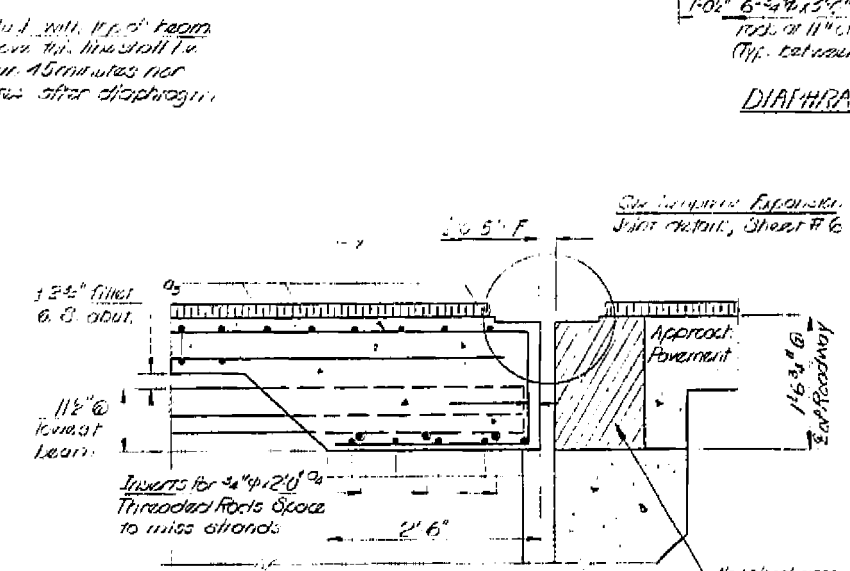
DIAPHRAGM AT PIERS



SECTION A-A



SECTION C-C



SECTION B-B

NOTE: Reinforcement bars shown on this sheet are included in Bill of Material on Sheet #4

DIAPHRAGM DETAILS  
F.A. RT. 26 - SEC. 3BR-3  
EFFINGHAM COUNTY  
STA. 640+19.18

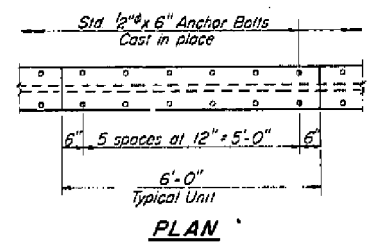
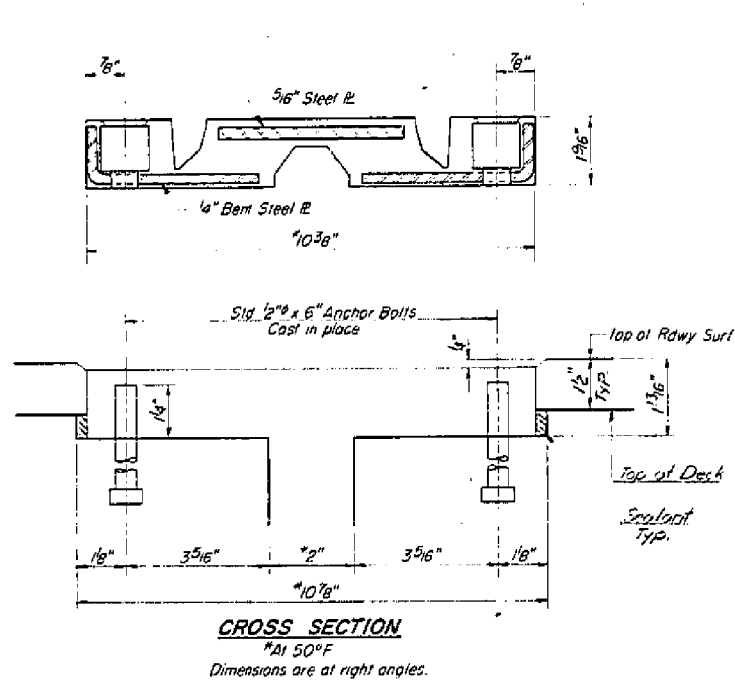
DESIGNED	John A. Mann	EXAMINED	John A. Mann
CHECKED	John A. Mann	PASSED	John A. Mann
DRAWN	B. Mann	APPROVED	John A. Mann
CHECKED	John A. Mann		

FOR INFORMATION ONLY

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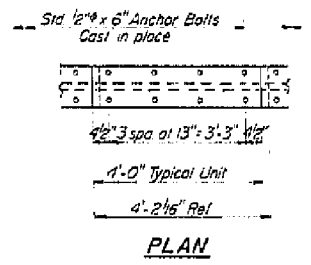
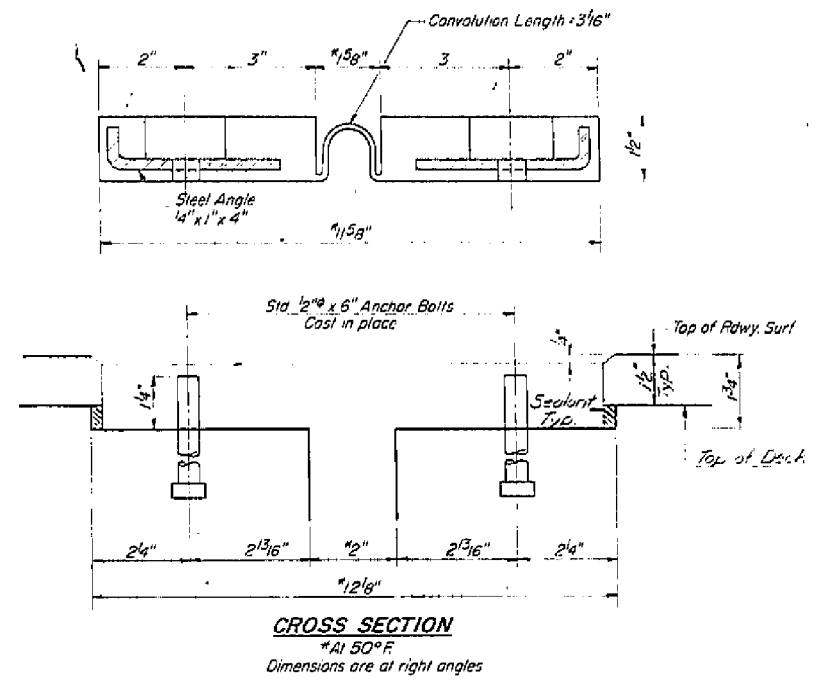
<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers • Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - KMM CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0081	SHEET 5 OF 13 SHEETS	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM TOTAL SHEETS 93 SHEET NO. 85 CONTRACT NO. 74859	ILLINOIS FED. AD PROJECT
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ROUTE NO.	SECTION	SUBMIT	TOTAL SHEETS	SHEET NO.	SHEET NO.
					13 SHEETS
F.A. PROJECT NO. 2		ILLINOIS	FED. AID PROJECT		



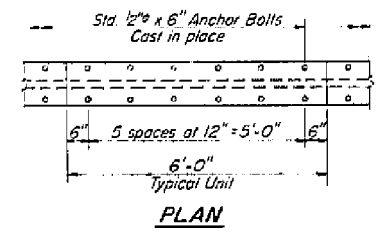
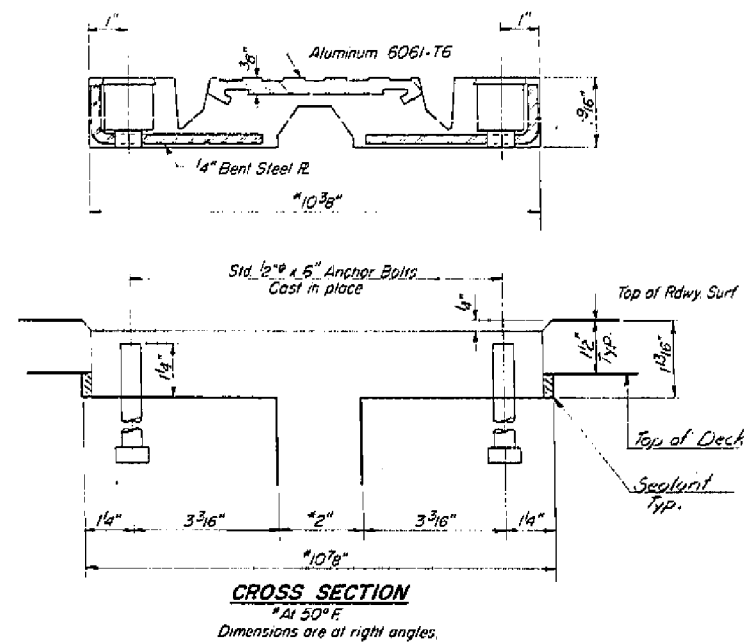
**TRANSFLEX MODEL 200A**  
(Structural Rubber Products Co.)

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.



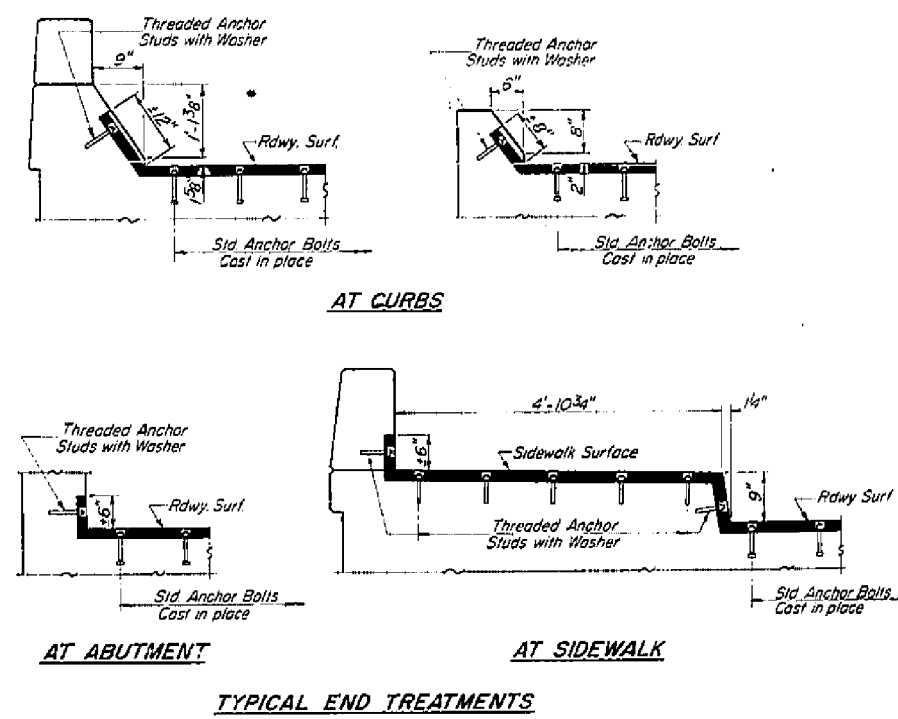
**FEL-SPAN MODEL T-30**  
(Fel-Pro Building Products Inc.)

Note: Anchor bolts require a flat washer and locknut.



**WABOFLEX MODEL SR 2**  
(Watson-Bowman Associates Inc.)

Note: Anchor bolts require a clipped washer, lockwasher and hex nut.



NOTE: Joint openings shall be adjusted in accordance with Article 503.07 (c) of the Std Specs when the deck is poured at an ambient temperature other than 50°F

**NEOPRENE EXPANSION JOINTS (2")**  
FOR EXPANSION LENGTH OF DECK = 0 to 160 ft.

**F.A. RT. 26 SEC. 3BR-3**  
**EFFINGHAM COUNTY**  
**STATION 640+19.18**

DESIGNED	<i>[Signature]</i>	EXAMINED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>	PASSED	<i>[Signature]</i>
DRAWN	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>
CHECKED	<i>[Signature]</i>	DIRECTOR OF HIGHWAYS	

JUN 25 1975

EJ-1 1-15-74

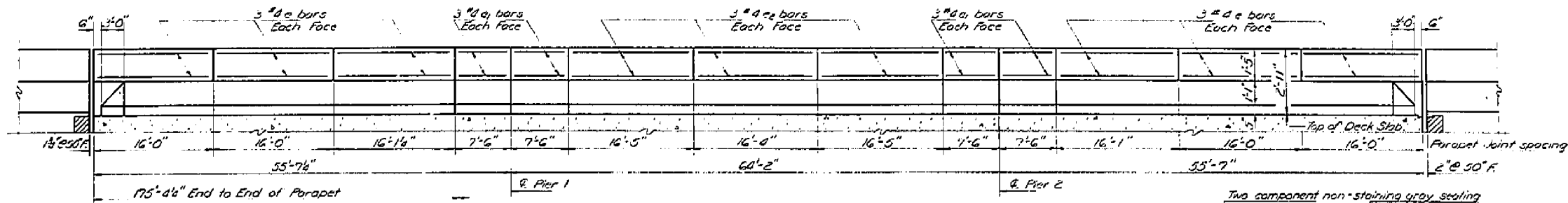
FOR INFORMATION ONLY

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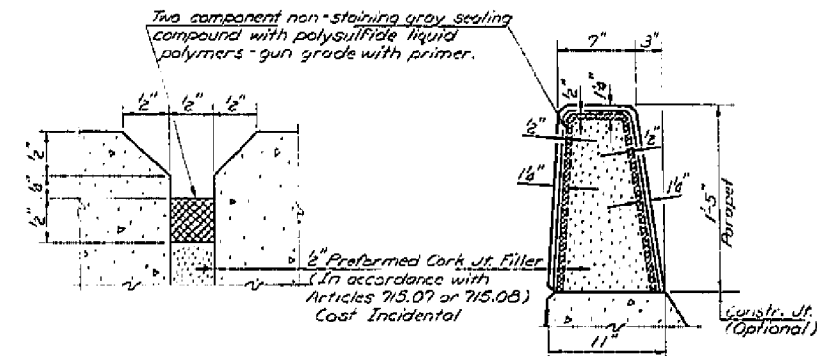
<b>HMG</b> ENGINEERS + SURVEYORS 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611	USER NAME =	DESIGNED - KMM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0081	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED - LDG	REVISED -			328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	86
PLOT DATE =	DRAWN - KHL	REVISED -		SHEET 6 OF 13 SHEETS		CONTRACT NO. 74859		ILLINOIS FED. AID PROJECT		
	CHECKED - BGH	REVISED -								

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

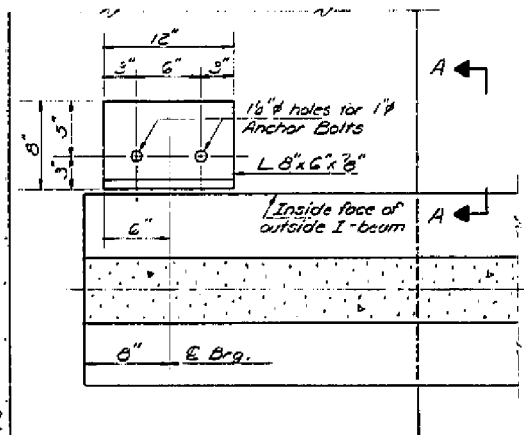
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13	3BR-2	EFFINGHAM	93	87
SHEET NO. 7 13 SHEETS				



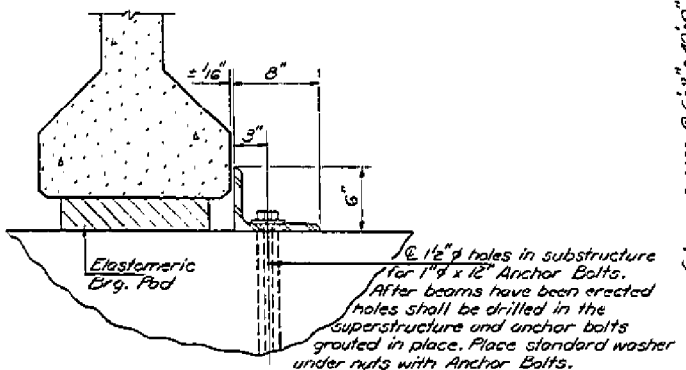
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Showing inside face of East Parapet  
West Parapet similar



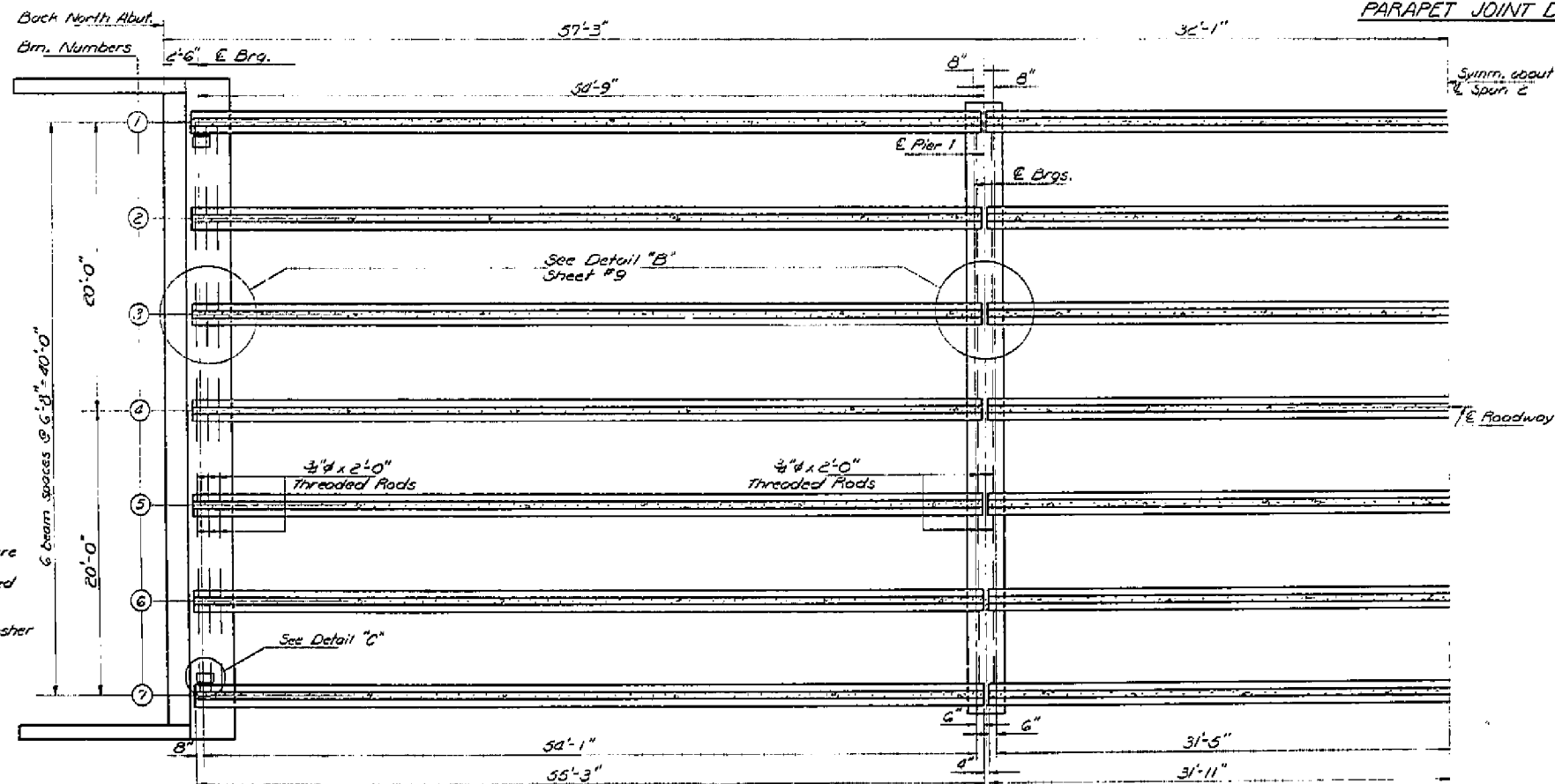
**PARAPET JOINT DETAILS**



**DETAIL "C"**



**SEC. A-A**



**HALF FRAMING PLAN**

**BILL OF MATERIAL**

Bar	No	Size	Length	Shape
e	72	#4	15'-9"	
e1	28	#4	7'-3"	
e2	36	#4	16'-0"	
Class X Concrete			Cu. Yd.	13.8
Reinforcement Bars			Pound	1370

DESIGNED	John Strang	EXAMINED	[Signature]
CHECKED	John A. Morris	PASSED	
DRAWN	Joe Sutherland	APPROVED	
CHECKED	Luca [Signature]		

JUNE 25 2015

**PARAPET AND FRAMING DETAILS**  
F.A. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STATION 640+19.18

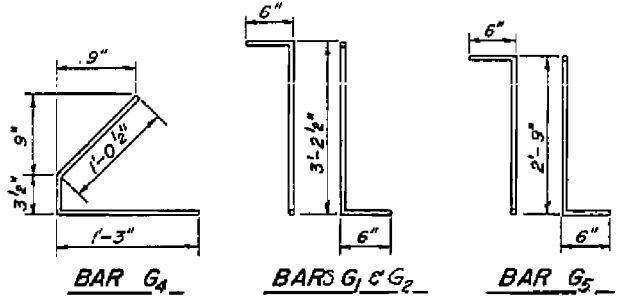
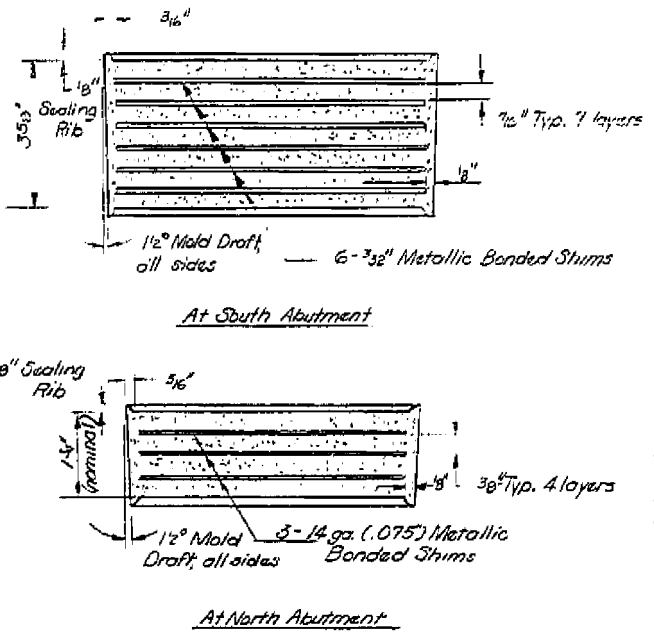
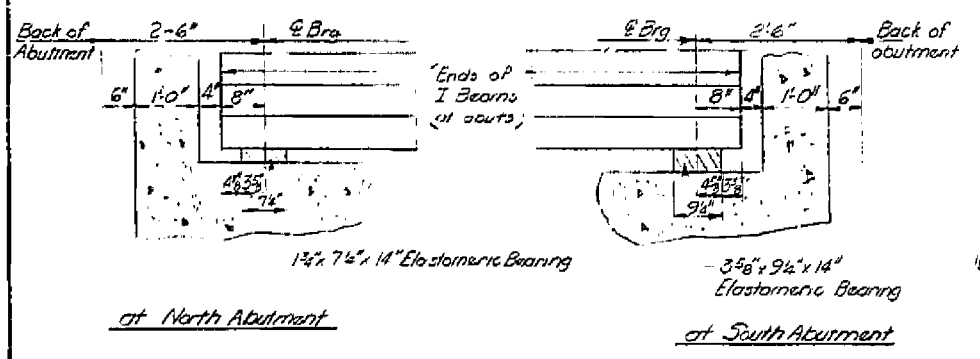
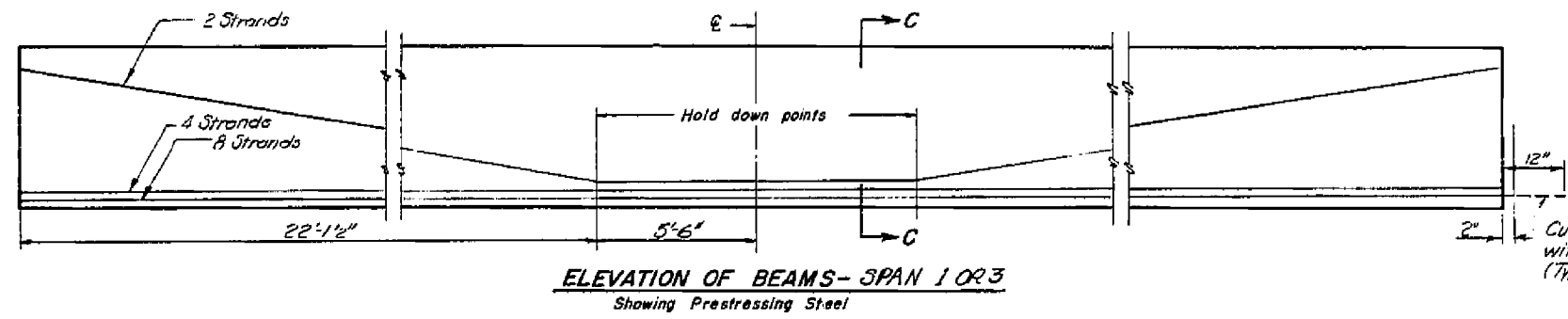
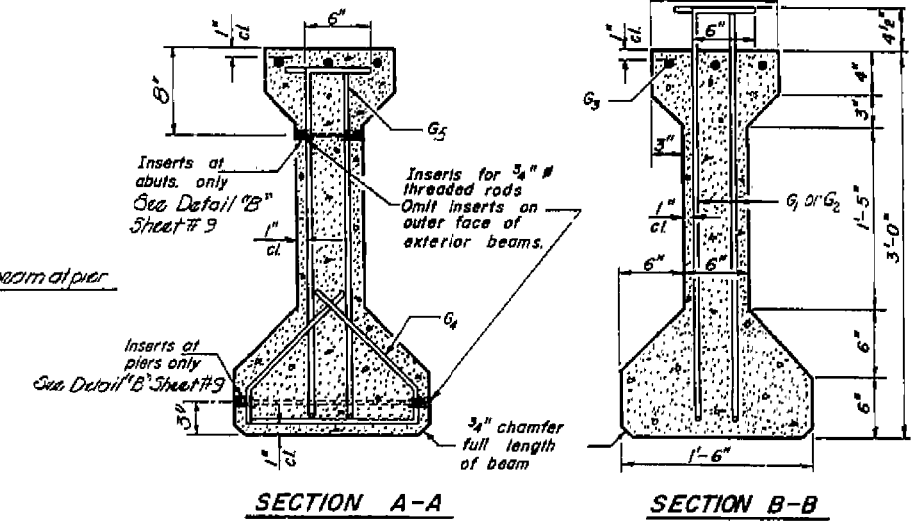
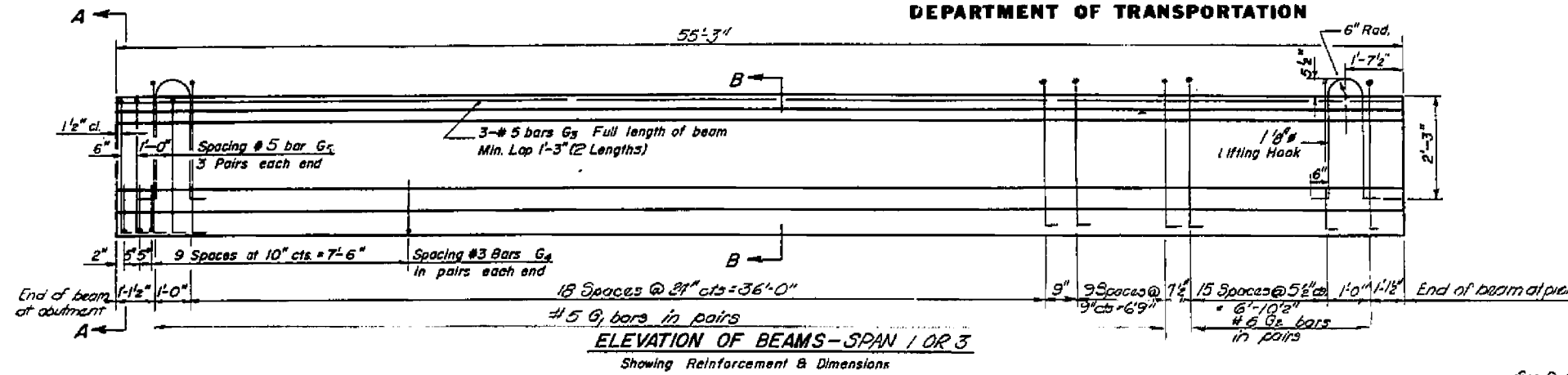
FOR INFORMATION ONLY

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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers + Surveyors	DESIGNED - KMM	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0081	F.A.P. RTE. 328	SECTION (3BR-2, 3BR-3)BR	COUNTY EFFINGHAM	TOTAL SHEETS 93	SHEET NO. 87
	CHECKED - LDG	REVISD -			CONTRACT NO. 74859				
PLOT SCALE -	DRAWN - KHL	REVISD -	SHEET 7 OF 13 SHEETS		ILLINOIS FED. AID PROJECT				
PLOT DATE -	CHECKED - BGH	REVISD -							

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DISTRICT	DIVISION	SCALE	SHEET NO.	TOTAL SHEETS
				77	13 SHEETS



**\* BAR LIST**

Bar	No.	Size	Length	Shape
G1	60	#5	4'-2 1/2"	7L
G2	34	#6	4'-2 1/2"	7L
G3	6	#5	28'-3"	—
G4	48	#3	2'-7"	L
G5	12	#5	3'-9"	7L

\* For one beam only.

**NOTES**

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 36 In."

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	774

Prestressing Steel shall have a nominal diameter of 1/2".

Inserts for 3/4" threaded rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.

Steel for lifting hooks shall be non-deformed bars. fy=40,000 psi.

GFAM DETAILS  
SPANS 1 & 3  
F.A.P.T. 20, SEC. 3 BR-3  
EFFINGHAM COUNTY  
STA. 640 + 19.18

DESIGNED	John A. Alonzo	EXAMINED	John A. Alonzo
CHECKED	John A. Alonzo	PASSED	John A. Alonzo
DRAWN	A. Stannmann	APPROVED	John A. Alonzo
CHECKED	John A. Alonzo	DIRECTOR OF HIGHWAYS	John A. Alonzo

PI-4-36 9-15-72

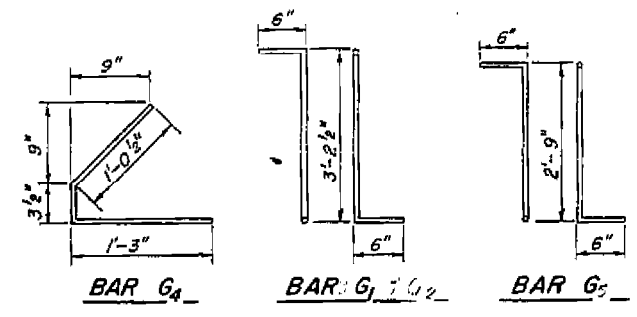
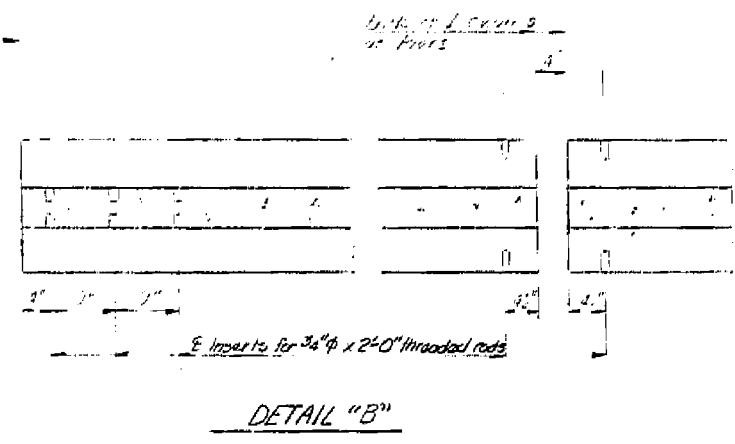
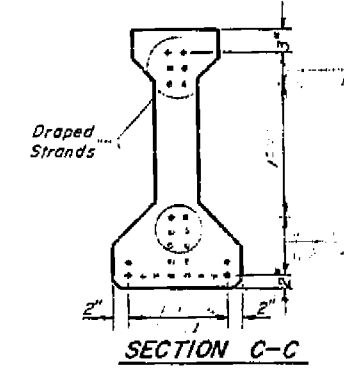
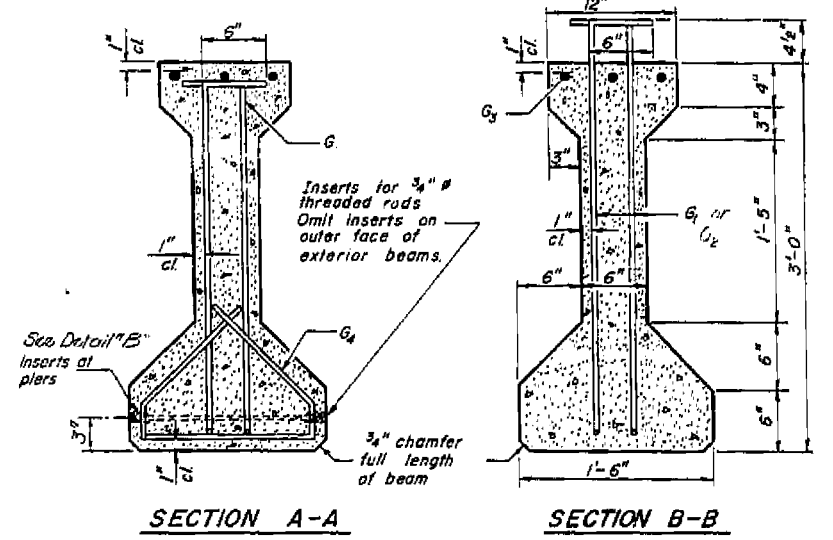
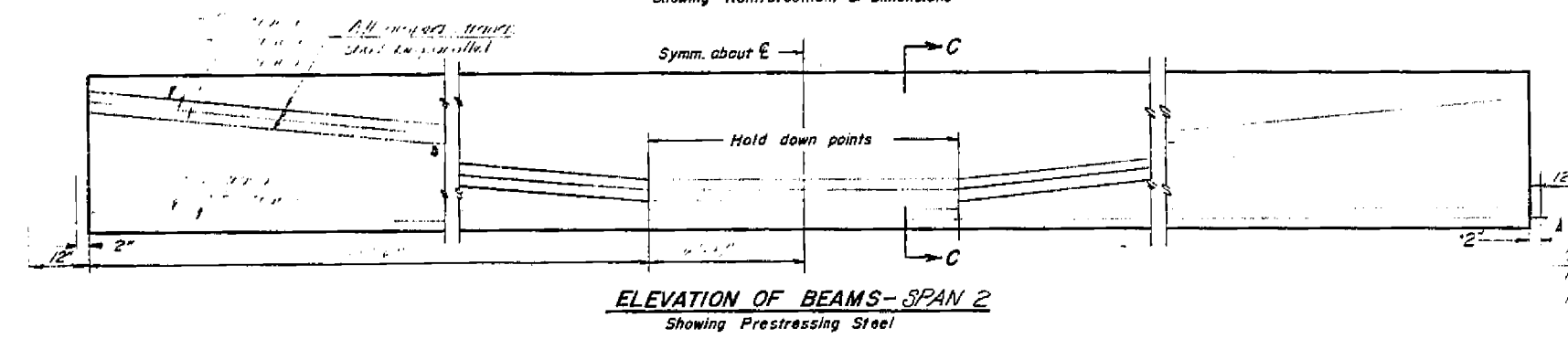
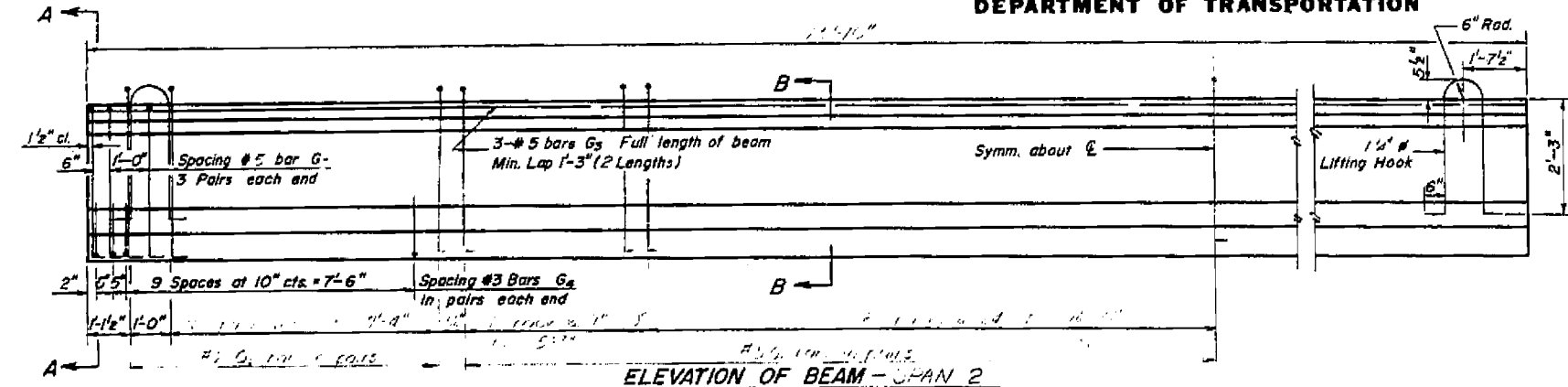
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<b>HMG</b> HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230 (618) 526-9611 Engineers & Surveyors	USER NAME = PLOT SCALE = PLOT DATE =	DESIGNED - KMM CHECKED - LDG DRAWN - KHL CHECKED - BGH	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 025-0081	F.A.P. RTE. 328 SECTION (3BR-2, 3BR-3)BR COUNTY EFFINGHAM CONTRACT NO. 74859	TOTAL SHEETS 93 SHEET NO. 88 ILLINOIS FED. AID PROJECT
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10/1/2019	3BR-2	EFFINGHAM	93	89
CONTRACT NO. 74859				13 SHEETS



**\* BAR LIST**

Bar	No.	Size	Length	Shape
G1	12	#5	4'-2 1/2"	TL
G2	12	#6	4'-2 1/2"	TL
G3	12	#5	3'-2 1/2"	TL
G4	4	#3	2'-7"	L
G5	12	#3	3'-9"	L

\* For one beam only.

**NOTES**

All inserts and threaded rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing And Erecting Precast Prestressed Concrete I-Beams, 36 in."

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 36"	Lin. Ft.	117

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: [Signature]  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

DATE: 10/25/19

FOR INFORMATION ONLY

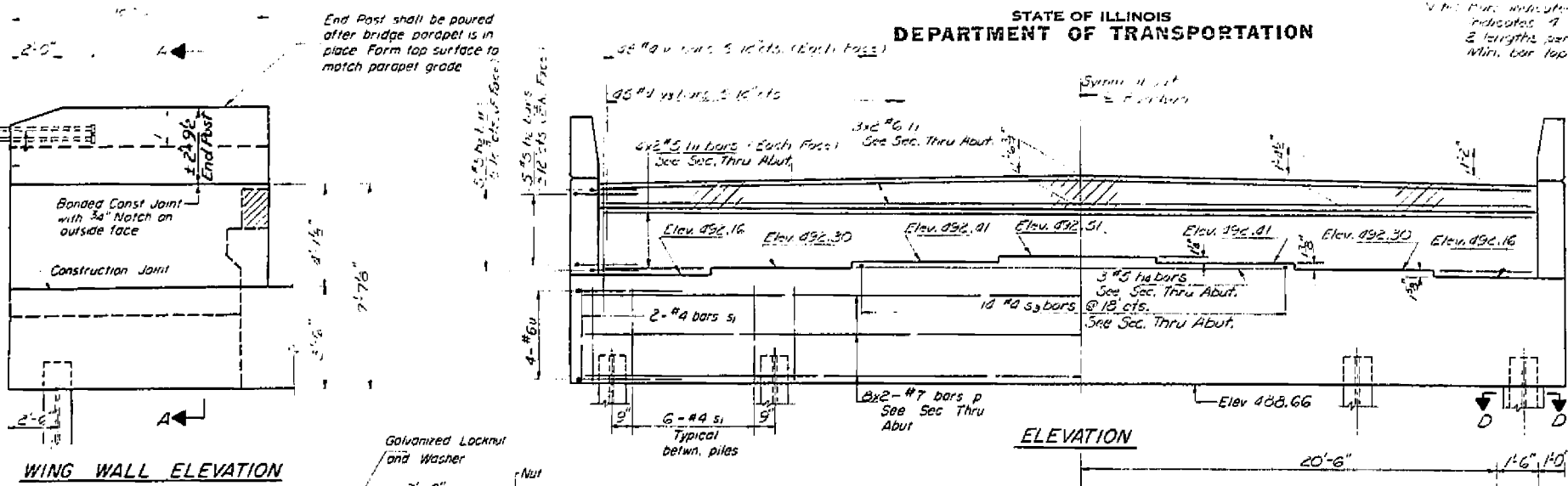
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Prestressing Steel shall have a nominal diameter of 1/2"  
Inserts for 3/4" threaded rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams  
Steel for lifting hooks shall be non-deformed bars.

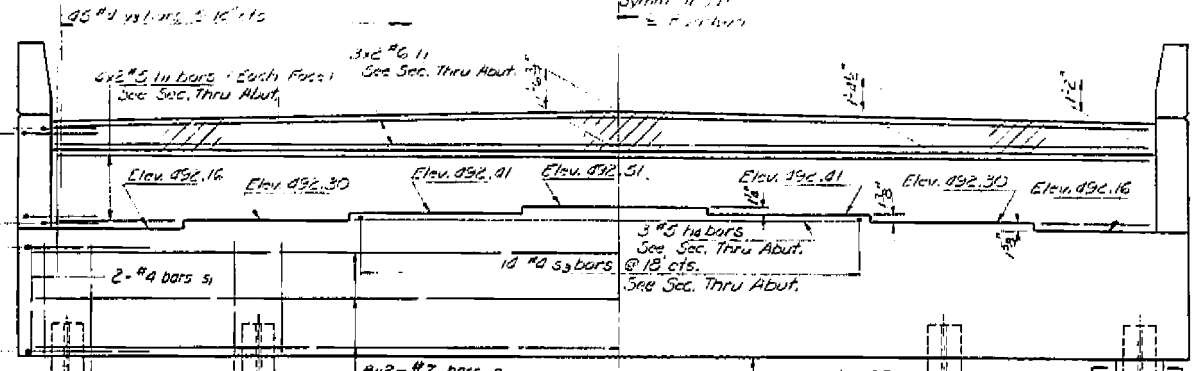
SECTION 2  
SECTION 2  
EFFINGHAM COUNTY  
STA 6+00 TO 6+100

4. This dimension indicates 1 x 2" s.c. indicates 4 wires in bars with 2 lengths per bar. Min. bar length = 24" dia.

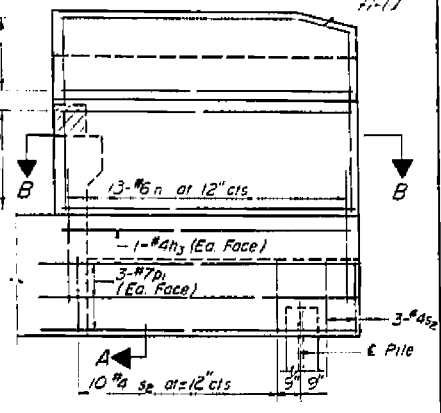
PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	90



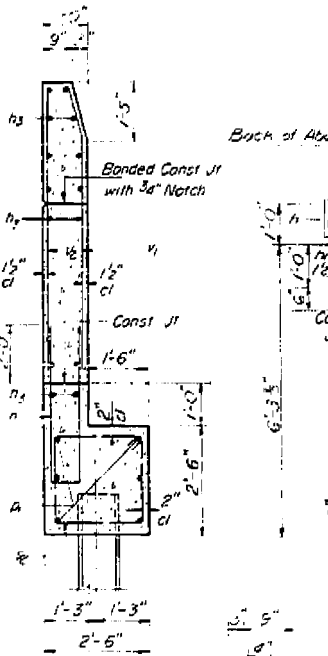
**WING WALL ELEVATION**



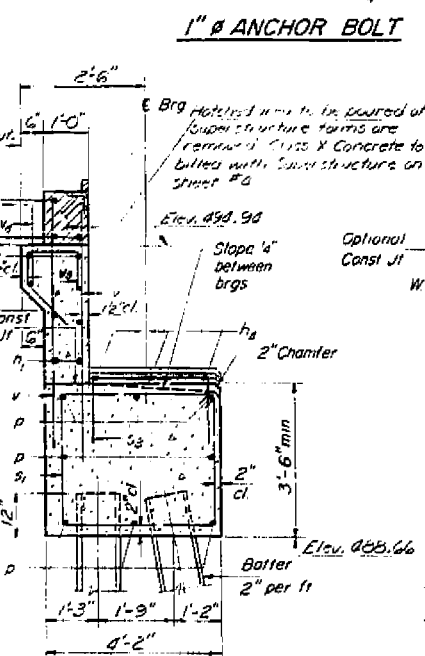
**ELEVATION**



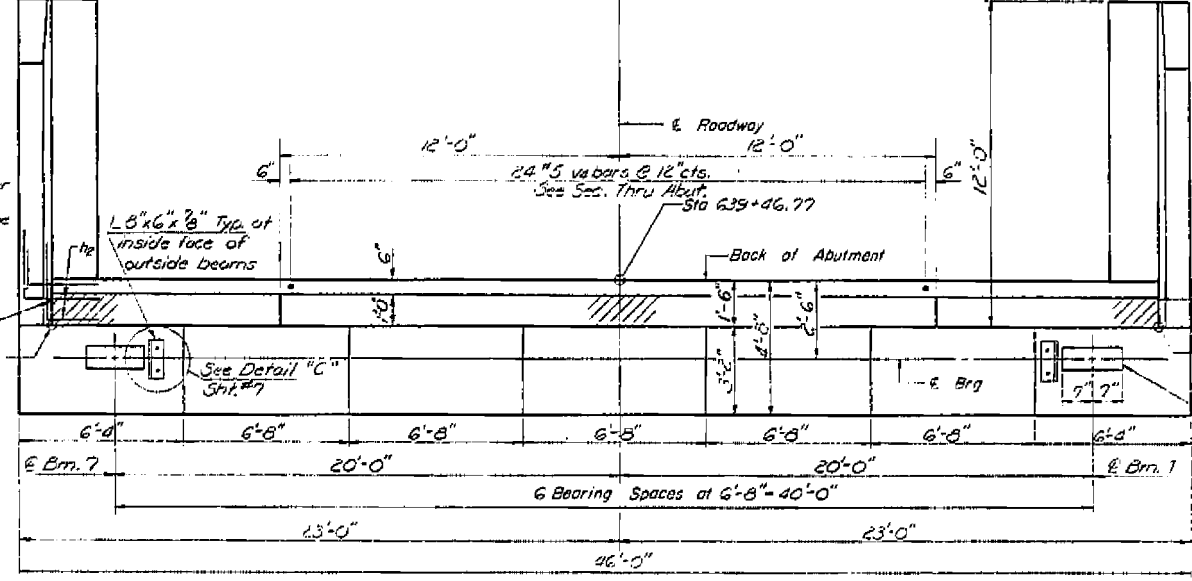
**WING WALL ELEVATION Reinforcement**



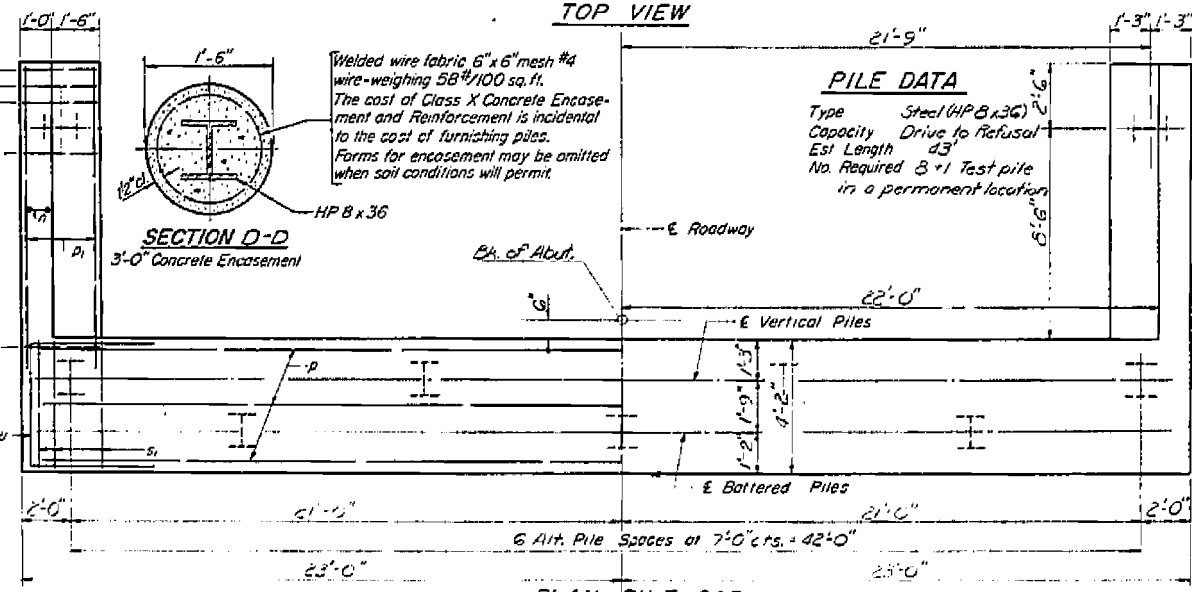
**SEC A-A**



**SEC THRU ABUT.**

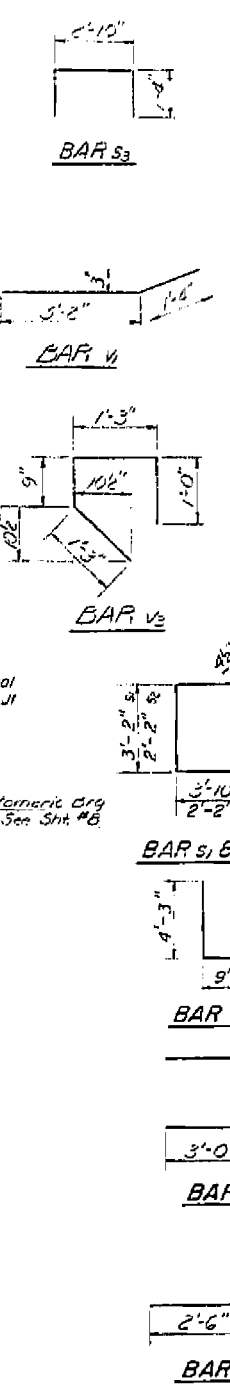


**TOP VIEW**



**PLAN - PILE CAP**

FOR INFORMATION ONLY



**BILL OF MATERIAL**

Bar	No	Size	Length	Shape
h	6	#6	22'-9"	—
h1	16	#5	22'-6"	—
h2	20	#5	11'-0"	U
h3	40	#4	11'-9"	—
h4	3	#5	19'-9"	—
n	26	#6	9'-3"	U
p	16	#7	23'-9"	—
p1	12	#7	12'-9"	—
s1	40	#4	10'-9"	□
s2	26	#4	9'-5"	□
s3	18	#6	5'-6"	□
u	8	#6	9'-9"	□
v	90	#4	5'-6"	—
v1	26	#6	6'-6"	—
v2	26	#6	6'-6"	—
v3	45	#4	4'-3"	—
v4	24	#5	2'-0"	—

Class X Concrete Cu. Yds. 43.1  
Reinforcement Bars Lbs. 4630  
Steel Piles (HPB x36) Lin. Ft. 340  
Test Piles (Steel HPB x36) Ea. 1

NORTH ABUTMENT  
FA. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STATION 640-191E

MODEL: Default FILE NAME: HV7322\_IDOT\_D7\_Var7322\_06\_W06\_Bishop\_and\_Ramsey\_Revisions\CAD\_Sheets\74859\_0250081\_74859\_041\_exp110.dgn

**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

DESIGNED	KMM	REVISED	
CHECKED	LDG	REVISED	
DRAWN	KHL	REVISED	
CHECKED	BGH	REVISED	

DESIGNED -	KMM	REVISED -	
CHECKED -	LDG	REVISED -	
DRAWN -	KHL	REVISED -	
CHECKED -	BGH	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0081  
SHEET 10 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	90

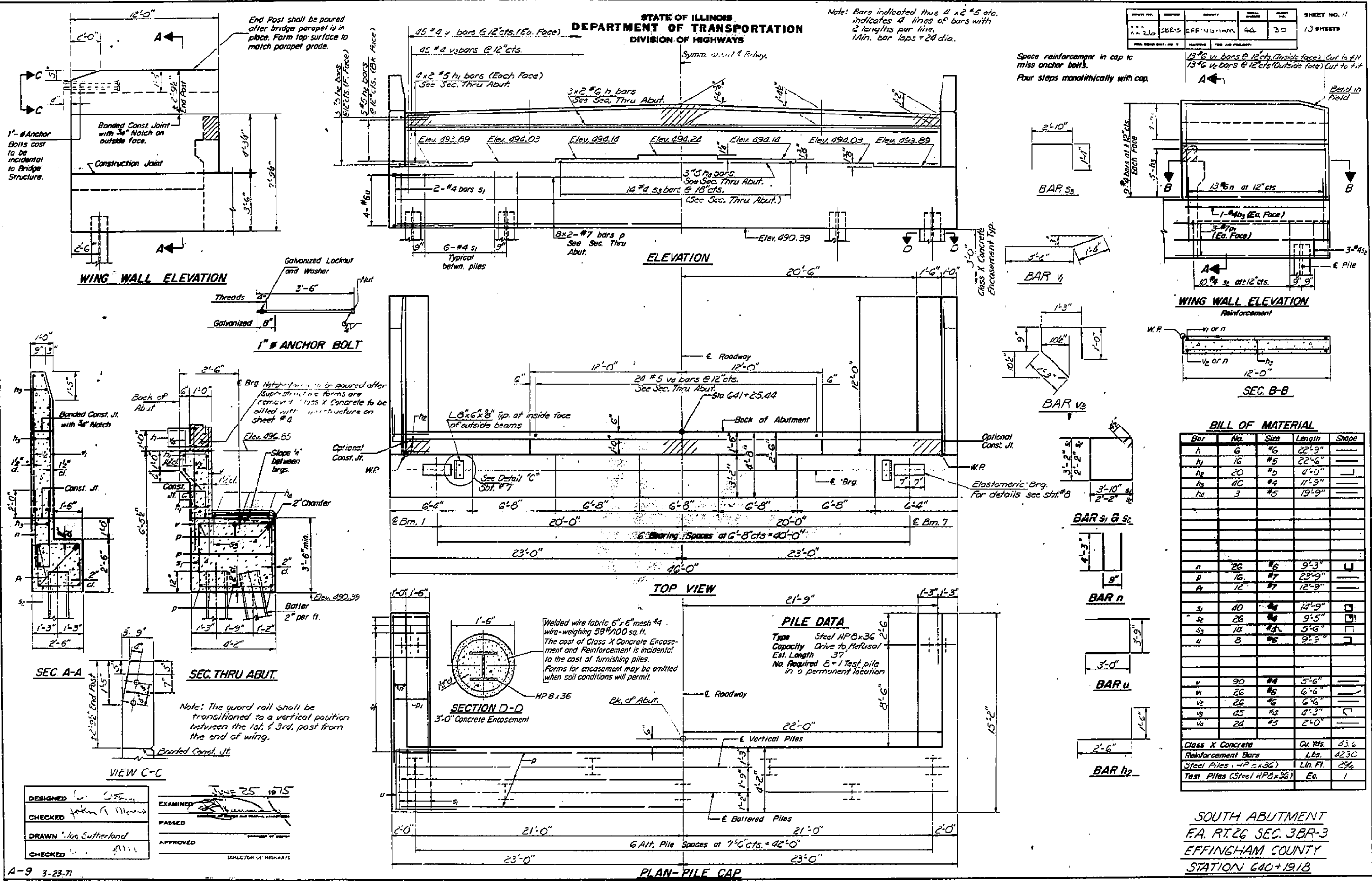
CONTRACT NO. 74859

ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

Note: Bars indicated thus 4 x 2 #5 etc. indicates 4 lines of bars with 2 lengths per line. Min. bar laps = 24 dia.

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	3BR-3	EFFINGHAM	93	13
CONTRACT NO. 74859				



DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: Joe Sutherland  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

JUNE 25 1975

DESIGNER OF HIGHWAYS

SOUTH ABUTMENT  
F.A. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STATION 640+19.18

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS  
STRUCTURE NO. 025-0081

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)BR	EFFINGHAM	93	91
CONTRACT NO. 74859				

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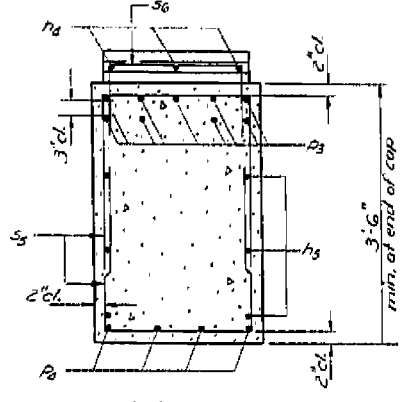
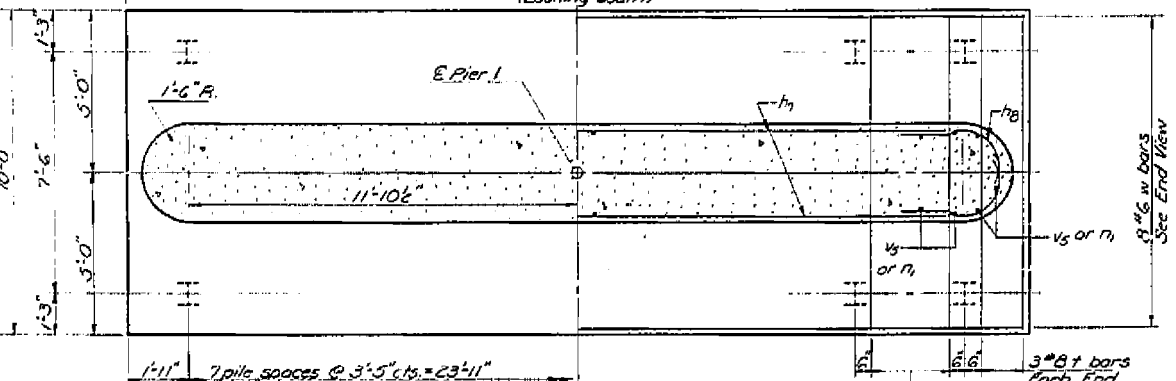
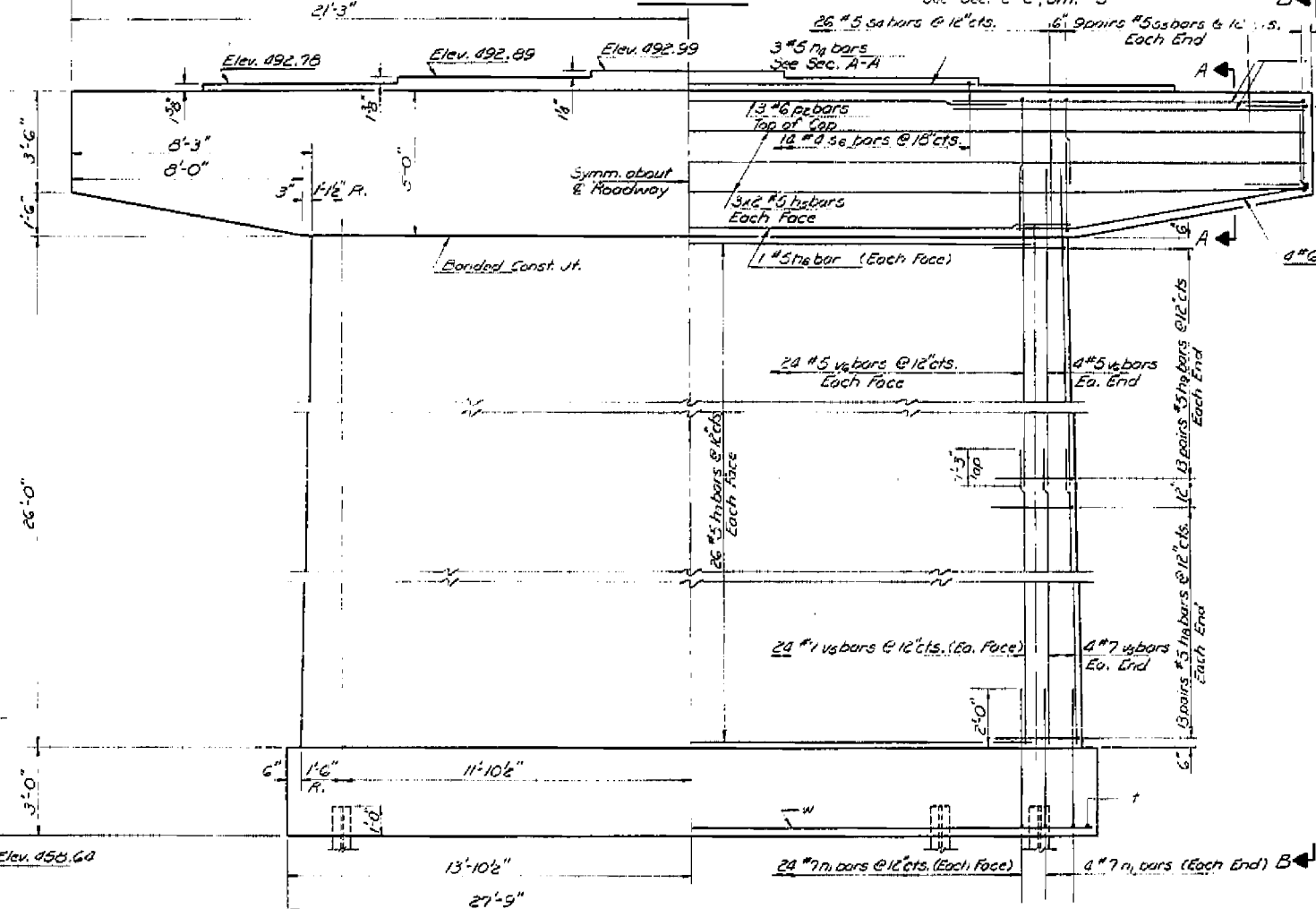
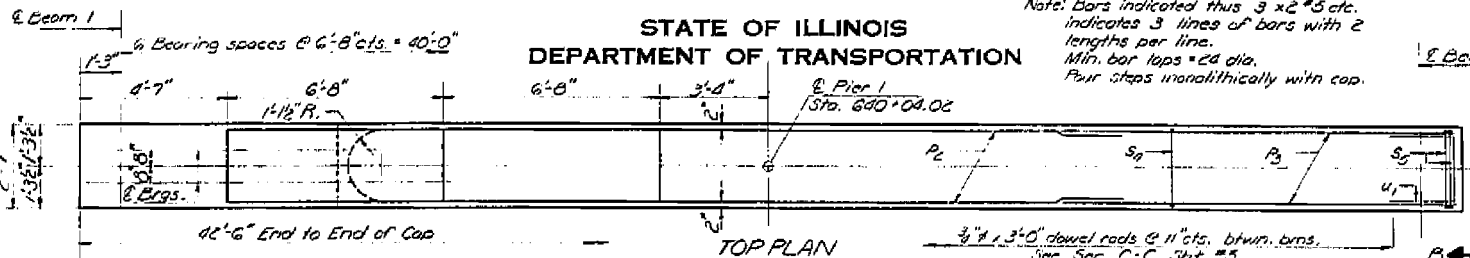
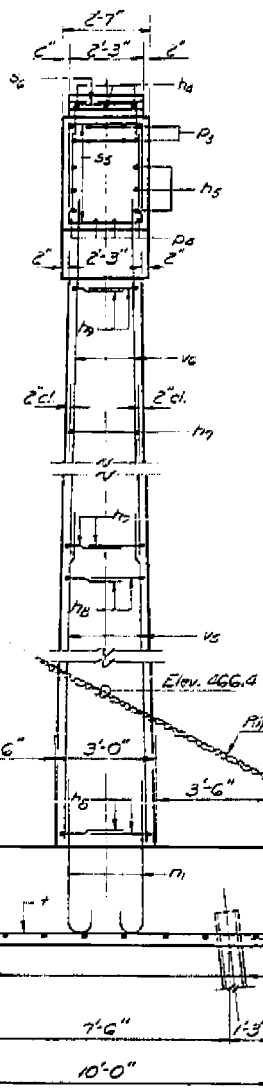
Type: Steel (HPB x 36)  
 Capacity: Driven to Refusal  
 Est. Length: 9'-0"  
 No. Req'd: 16

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

Note: Bars indicated thus 3 x 2 #5 etc. indicates 3 lines of bars with 2 lengths per line. Min. bar laps = 2d dia. Bars staggered with cap.

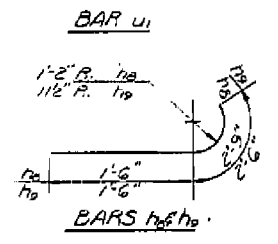
REVISE NO.	SECTION	SHEET	TOTAL SHEETS	SHEET NO.
1	3BR-3	EFFINGHAM CO.	21	12

13 SHEETS



**A/B DIMENSIONS**

Bar	A	B
S <sub>2</sub>	2'-3"	4'-8"
S <sub>3</sub>	2'-3"	3'-0"
S <sub>6</sub>	1'-11"	1'-5"



**BARS S<sub>2</sub>, S<sub>3</sub>, S<sub>6</sub>**

Bar	No	Size	Length	Shops
h <sub>2</sub>	3	#5	19'-9"	
h <sub>3</sub>	12	#5	21'-9"	
h <sub>4</sub>	2	#5	26'-6"	
h <sub>5</sub>	32	#5	23'-9"	
h <sub>6</sub>	32	#5	8'-3"	
h <sub>7</sub>	32	#5	8'-0"	
n <sub>1</sub>	32	#7	5'-7"	
p <sub>2</sub>	3	#6	20'-6"	
p <sub>3</sub>	18	#11	12'-6"	
p <sub>4</sub>	8	#6	9'-6"	
s <sub>2</sub>	26	#5	11'-7"	
s <sub>3</sub>	36	#5	8'-3"	
s <sub>6</sub>	18	#8	4'-9"	
t	81	#8	9'-9"	
u <sub>1</sub>	8	#6	7'-0"	
v <sub>5</sub>	36	#7	15'-0"	
v <sub>6</sub>	36	#5	18'-9"	
w	8	#6	27'-6"	

Class X Concrete Cu. Yd. 115.9  
 Reinforcement Bars Round 2890  
 Steel Piles (HPB x 36) Lin. Ft. 144

DESIGNED: *John A. Mans*  
 CHECKED: *John A. Mans*  
 DRAWN: *Joe Sutherland*  
 CHECKED: *John A. Mans*

EXAMINED: *John A. Mans*  
 PASSED: *John A. Mans*  
 APPROVED: *John A. Mans*

JUN 25 1975

PIER 1  
 F.A. RT. 26 SEC. 3BR-3  
 EFFINGHAM COUNTY  
 STATION 640+19.18

FOR INFORMATION ONLY

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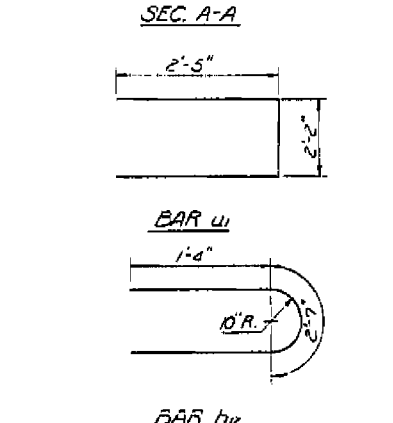
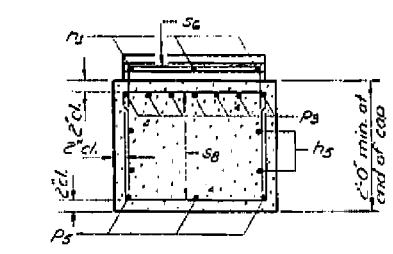
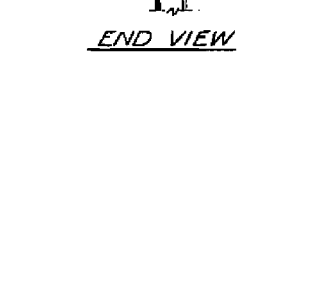
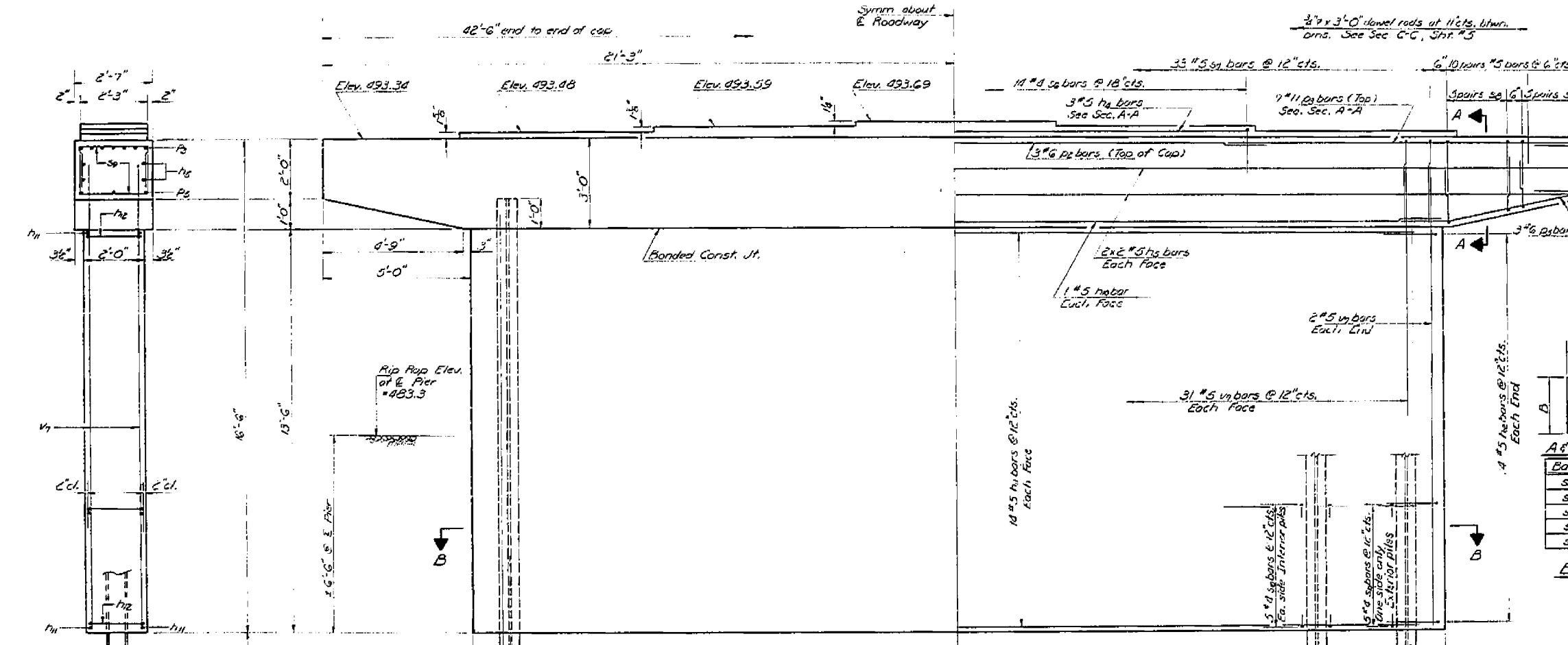
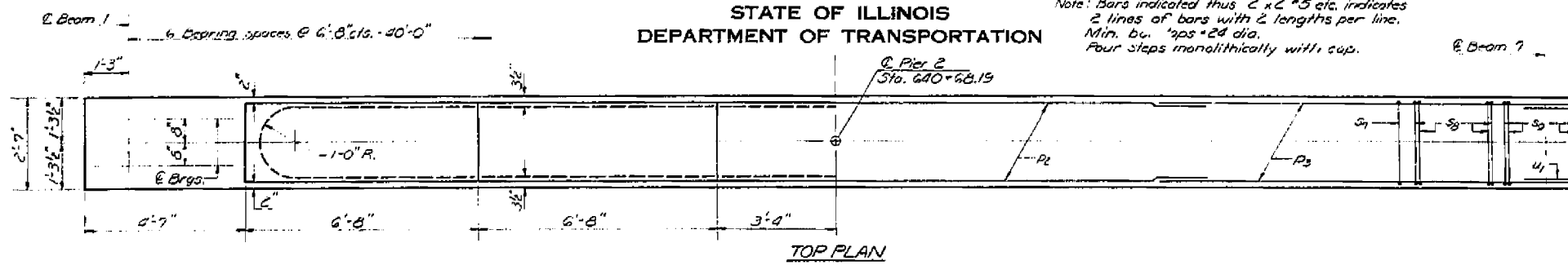


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Note: Bars indicated thus 2 x 2 #5 etc. indicates  
2 lines of bars with 2 lengths per line.  
Min. bu. 2ps = 2d dia.  
Four steps monolithically with cup.

ROUTE NO.	SECTION	SHEET NO.	TOTAL SHEETS	SHEET NO.
328	(3BR-2, 3BR-3)	44	13	13

**FILE DATA**  
Type: Steel (HPB x 36)  
Capacity: Driven to Refusal  
Est. Length: 40  
No. Req'd.: 11



**A & B DIMENSIONS**

Bar	A	B
S1	1'-11"	1'-5"
S2	2'-3"	2'-8"
S3	2'-3"	2'-0"
S4	2'-3"	1'-9"
S5	1'-9"	0'-3 1/2"

**BILL OF MATERIAL**

Bar	No	Size	Length	Shape
h1	3	#5	19'-9"	U
h2	8	#5	21'-9"	U
h3	2	#5	33'-0"	U
h11	28	#5	30'-6"	U
h12	28	#5	3'-9"	U
P1	3	#6	20'-6"	U
P2	11	#11	12'-6"	U
P3	6	#6	6'-3"	U
S1	14	#4	4'-9"	U
S2	33	#5	7'-7"	U
S3	20	#5	6'-3"	U
S4	20	#5	5'-9"	U
S5	100	#4	2'-6"	U
U1	6	#6	7'-0"	U
V1	66	#5	15'-6"	U

**PIER 2**  
FA. RT. 26 SEC. 3BR-3  
EFFINGHAM COUNTY  
STATION 640+19.18

DESIGNED: [Signature]  
CHECKED: John A. Williams  
DRAWN: Joe Sutherland  
CHECKED: [Signature]

EXAMINED: [Signature]  
APPROVED: [Signature]

JUNE 25, 1975

FOR INFORMATION ONLY

MODEL: Default  
FILE NAME: H:\7322\_IDOT\_D7\_Var\7322\_06\_W06\_Bishop\_and\_Ramsey\_Revisions\CAD\_Sheets\74859\_0250081\_74859\_044\_exp13.dgn  
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