F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	1
	ILLINOIS	CONTRACT NO. 68887		

03-09-2018 LETTING ITEM 032

INDEX OF SHEETS:

HIGHWAY STANDARDS

001001–02	701401–11	704001–08
001006	701402–12	781001–04
442201–03	701411–09	821101–02
642001–02	701428–01	830021–02
701201–04	701451–05	701106-02
701400–09	701901–07	

DISTRICT STANDARDS

406101 440001 780001

DESIGN DESIGNATION: INTERSTATE

ADT = 27700
HCV = 3800 (13.72%)
SU = 1050 (3.79)
MU = 2750 (9.93%)

PROJECT BEGINS: STA. 347 + 25
PROJECT ENDS: STA. 394 + 60

100' 200' 300' — 1" = 100'
0 10' 20' 30' — 1" = 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

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 EXCAVATION
1–800–892–0123
OR 811

PROJECT ENGINEER: MIKE LEWIS (309)671–3454
PROJECT MANAGER: SOBHI LABABIDI/RAY SAMARA (309)671–3460

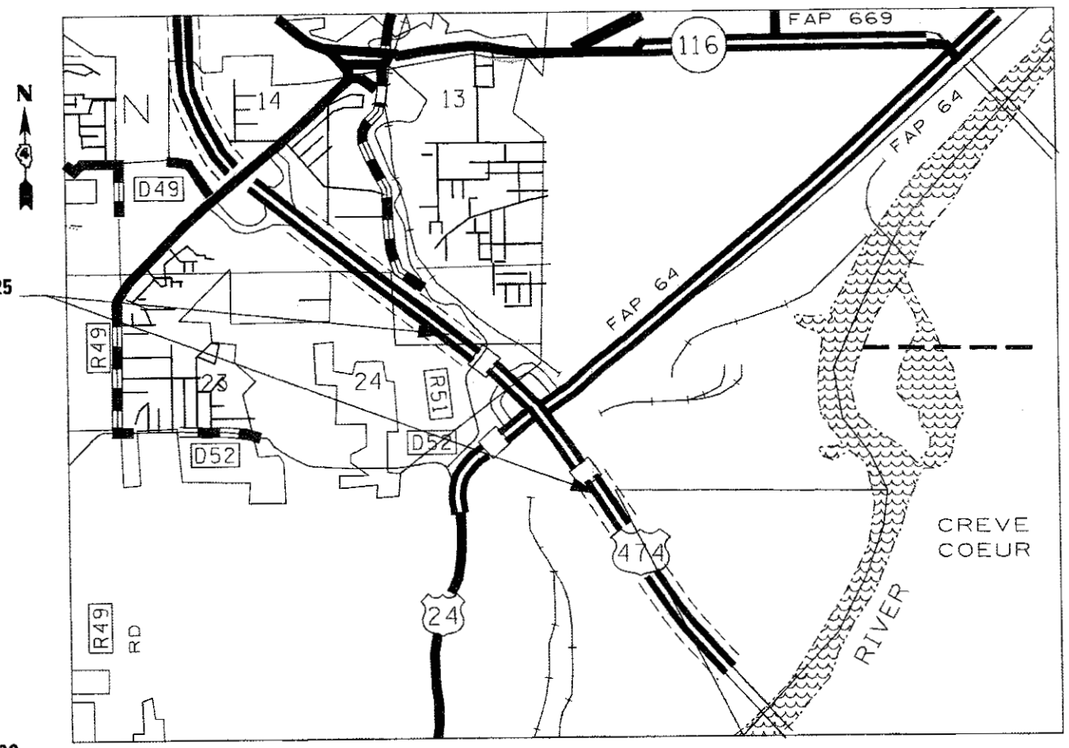
CATALOG # 034231–00D
CONTRACT NO. 68887

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED
HIGHWAY PLANS

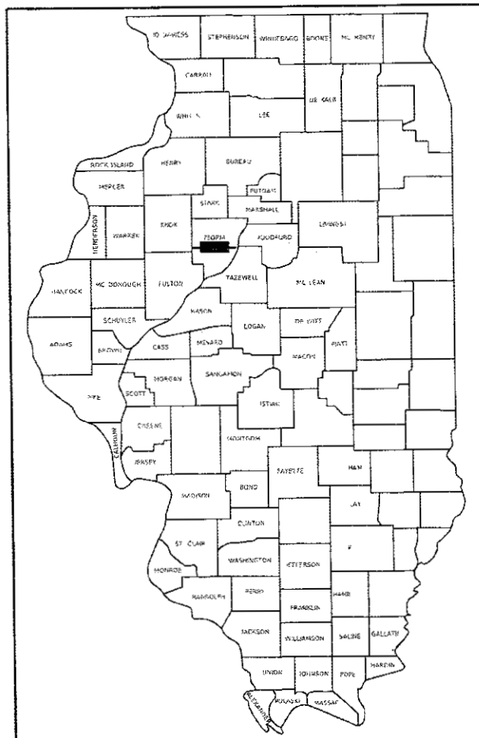
FAI ROUTE 474 (I–474)
FAP ROUTE 317 (US24)
SECTION 72–4(HB,HVB–1,HVB)B–R
PROJECT NHPP–CT03(838)
TYPE of IMPROVEMENT: BRIDGE REHABILITATION
PEORIA COUNTY

C–94–074–09



GROSS LENGTH = 4957.00 FT. = 0.9388 MILE
NET LENGTH = 3021 FT. = 0.5722 MILE

D-94-053-09



LOCATION OF SECTION INDICATED THUS: –

PROJECT DESCRIPTION:

BRIDGE REHABILITATION TO I–474 STRUCTURES:
SN 072–0127, –0128 OVER KICKAPOO CREEK RD & UP RR,
SN 072–0129, –0130 OVER US 24 (ADAMS ST),
SN 072–0131, –0132 OVER KICKAPOO CREEK & TZPR RR,
SOUTH OF PEORIA

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Dec 15 20 17
Kenneth A Garnett (KSD)
REGIONAL ENGINEER
Feb 2 20 18
ENGINEER OF DESIGN AND ENVIRONMENT
Feb 2 20 18
DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

COMMITMENTS

Commitments are not to be altered without the written approval of all parties to which the commitment was made.
NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT

PLAN ELEVATIONS – U. S. G. S. MEAN SEA LEVEL DATUM

All elevations shown on the plans are established from U. S. G. S. mean sea level datum.

PROPERTY OWNER ACCESS REQUIREMENTS

Access must be maintained to all existing properties during construction per Article 107.09 unless arrangements are made in writing by the Contractor with the property owners with a copy to the Engineer for short–term closures.

WINTER SHUTDOWN RESTRICTIONS ON COLD MILLED PROJECTS

Prior to winter shutdown the following steps shall be taken:

* All cold milled surfaces shall be overlaid.

* All lanes shall be reopened to traffic.

* Manholes, where applicable, shall be adjusted to the elevation of the binder course/leveling binder to ease in plowing snow, and re–adjusted to finished grade in the Spring. The initial manhole adjustment will be paid for at the contract unit price and any re–adjustment, as directed by the Engineer, will be paid for in accordance with Article 109.04.

* Temporary or permanent pavement marking shall be placed as applicable.

ENVIRONMENTAL REVIEWS

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run–arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

Prior to any waste materials being removed from the construction site the required environmental resource surveys will need to be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

The required environmental resource documentation shall include the following:

* BDE Form 2289 (Environmental Survey Request)
* BDE Form 2290 (Waste/Use Area Review)
* A location map showing the size limits and location of the use area
* Color photographs depicting the use area
* Borrow Area Entry Agreement form–D4 PI0101

Please note that a minimum of four weeks shall be allowed for the District to obtain the required environmental clearances and six weeks for the required borrow site environmental clearances.

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USER NAME = lababidism	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	COMMITMENTS; GENERAL NOTES; JOB SPECIFICS	
	DRAWN -	REVISED -			
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -			
PLOT DATE = 12/13/2017	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.	

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	2
CONTRACT NO. 68887				
ILLINOIS FED. AID PROJECT				

PAVEMENT STATIONING NUMBERS & PLACEMENT

The Contractor shall provide labor and materials required to imprint pavement station numbers in the finished surface of the pavement and/or overlay. The numbers shall be approximately 3/4 inch (20mm) wide, 5 inches (125 mm) high and 5/8 inch (15 mm) deep.

The pavement station numbers shall be installed as specified herein:

Interval – 200 feet (English stationing) or 100 meters (metric stationing)

Bottom of Numbers – 6 inches (150 mm) from the inside edge of the pavement marking

Location:

* 2,3, & 5 Lane Pavements – right edge of pavement in direction of increasing stations
* Multi–Lane Divided Roadways – outside edge of pavement in both directions
* Ramps – along baseline edge of pavement

Position – stations shall be placed so they can be read from the adjacent shoulder

Format – English (Metric) pavement stations shall use this format "XXX (XX+X00)" where X represents the pavement station

This work will not be paid for separately, but will be considered included in the cost of the associated pavement and/or overlay pay items.

POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) RATES

Surface Type	Residual Rate
Milled (HMA or PCC)	0.08 lb /sq ft
Existing Pavement	0.04 lb /sq ft
Fog Coat (between lifts)	0.04 lb /sq ft

HOT–MIX ASPHALT MIXTURE REQUIREMENTS

Mixture Use(s):	Polymer Surface Course	Polymer Level Binder 1"	Cl D Patch Special (at Pavement Lug – 2.5" lift max.)
AC/PC:	SBS or SBR 76–28	SBS or SBR 76–22	SBS or SBR 76–28
Design Air Voids:	4.0% @ N=70	4.0% @ N=50	4.0% @ N=70
Mixture Composition: (Gradation Mixture):	IL 9.5	IL 4.75	IL 9.5
Friction Aggregate:	Mixture D	N.A.	N.A.
Quality Management Program:	QC /QA	QC /QA	QC /QA

Note: 1) Individual lift thickness of each mix type will be no less than 3 times nominal maximum aggregate size and no more than 6 times nominal maximum aggregate size, unless otherwise approved by the Engineer.

2) For design purposes, mixture weight for all mixes is determined to be 112.0 lb/s.y./in., unless otherwise noted.

3) Sublot sizes for PFP and QCP mixes will be 1000 tons, unless otherwise agreed to by the Engineer and the paving contractor.

BUTT JOINT CUTTING TIME RESTRICTION

Butt joints shall not be milled more than three (3) days prior to placement of the HMA surface course.

PAVING SURFACE COURSE

Continuous paving operations on the main roadway shall be maintained at all times during the construction of the hot–mix asphalt surface. No interruptions for side roads, entrances, turn lanes, etc. will be allowed.

ENGINEERS FIELD OFFICE

Add the following sentence to the end of paragraph 670.02 (i) and 670.04 (e):
All of the telephone lines provided shall have unpublished numbers.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
					SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
				90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL
				10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
				0004	0013	0013	0013	0013	0013	0013	0021
				URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	7607	7607							
40600827	POLYMERIZED LEVELING BINDER (MACHINE METHOD), IL-4.75, N50	TON	449	449							
40600982	HOT - MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	825	825							
40600990	TEMPORARY RAMP	SQ YD	1184	1184							
40603540	POLYMERIZED HOT - MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	663	663							
44000155	HOT - MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	14039	2085			1100	984	4660	5210	
44201803	CLASS D PATCHES, TYPE II, 13 INCH	SQ YD	249	249							
50102400	CONCRETE REMOVAL	CU YD	360.9		86.2	96.7	16.5	14.3	63.3	83.9	
50104650	SLOPE WALL REMOVAL	SQ YD	1246				342	311	296	297	
50300225	CONCRETE STRUCTURES	CU YD	18.6		3.6	3.5			6.1	5.4	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	358.4		85.9	96.8	16.5	14.3	62	82.9	
50300300	PROTECTIVE COAT	SQ YD	12968		239	267	1135	1017	4830	5480	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	36500		6820	10660	1760	1750	4540	10970	
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1		1						

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	4
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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
					SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
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				10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
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				URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
50606702	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 2	L SUM	1			1					
50606703	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 3	L SUM	1				1				
50606704	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 4	L SUM	1					1			
50606705	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 5	L SUM	1						1		
50606706	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 6	L SUM	1							1	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	58760 1		14170	13720	1960	1840	11290	15780	
50800515	BAR SPLICERS	EACH	452		114	114	28	28	76	92	
50800530	MECHANICAL SPLICERS	EACH	1303		469	258			316	260	
51100100	SLOPE WALL 4 INCH	SQ YD	1050				342	311	198	199	
51100300	SLOPE WALL 6 INCH	SQ YD	196						98	98	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	1145		136	324	97	88	211	289	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE 1	EACH	173		24	63			17	69	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE 2	EACH	80		26	6	14	14	20		
52100030	ELASTOMERIC BEARING ASSEMBLY, TYPE 3	EACH	15						8	7	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4GHB,HVB-1,HVBJB-R	PEORIA	196	5
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
					SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
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				URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
52100520	ANCHOR BOLTS, 1"	EACH	538		102	138	28	28	90	152	
63301210	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	25	25							
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	6254	6254							
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	18	18							
67100100	MOBILIZATION	L SUM	1	1							
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	3	3							
70107006	PAVEMENT MARKING BLACKOUT TAPE, 6"	FOOT	725	725							
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	521	521							
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	174	174							
70300904	PAVEMENT MARKING TAPE, TYPE IV 4"	FOOT	56678	56678							
70400100	TEMPORARY CONCRETE BARRIER	FOOT	6137.5	575	1387.5	1325	412.5	412.5	962.5	1062.5	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	18412.5	1725	4162.5	3975	1237.5	1237.5	2887.5	3187.5	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	8	2	1	1	1	1	1	1	
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	8	2	1	1	1	1	1	1	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	6
		CONTRACT NO. 68887		
		ILLINOIS FED. AID PROJECT		

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
						SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
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					10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
					0004	0013	0013	0013	0013	0013	0013	0021
					URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
*	78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	7755	7755							
*	78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	937	937							
*	78008240	POLYUREA PAVEMENT MARKING TYPE I - LINE 8"	FOOT	1692	1692							
*	78008250	POLYUREA PAVEMENT MARKING TYPE I - LINE 12"	FOOT	440	440							
	78100200	TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	EACH	305	305							
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	32	32							
*	81300220	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 6" X 6" X 4"	EACH	8								8
*	83060830	LIGHT POLE, GALVANIZED STEEL, 45FT. M.H., TENON MOUNT	EACH	13								13
	X0323710	REMOVE CONDUIT ATTACHED TO STRUCTURE	FOOT	200								200
	X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	8037	8037							
*	X1400023	CONDUIT, FLEXIBLE, LIQUID TIGHT, METALLIC, 2" DIAMETER	FOOT	45								45
	X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	4983	4983							
	X5017305	PROTECTIVE SHIELD (PERMANENT)	SQ YD	3892				763	617	1218	1294	
	X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	8524				874	706	3409	3535	

* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	7
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	ILLINOIS FED. AID PROJECT			

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	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
						SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
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					10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
					0004	0013	0013	0013	0013	0013	0013	0021
					URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
	X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1							
	X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	18738	18738							
*	X7830070	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	7755	7755							
*	X7830074	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	937	937							
*	X7830076	GROOVING FOR RECESSED PAVEMENT MARKING 9"	FOOT	1692	1692							
*	X7830078	GROOVING FOR RECESSED PAVEMENT MARKING 13"	FOOT	440	440							
*	X8110458	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., STAINLESS STEEL	FOOT	150								150
	Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	221		29	50	14	14	41	73	
	Z0006014	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/2 INCHES	SQ YD	12534				1100	984	5240	5210	
	Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1		1						
	Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1			1					
	Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1				1				
	Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1					1			
	Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1						1		

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* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	8
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

REV

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
					SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
				90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL
				10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
				0004	0013	0013	0013	0013	0013	0013	0021
				URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
Z0007106	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6	L SUM	1							1	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	11954				1100	984	4660	5210	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	3347.3		790	847	77.3		735	898	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	0.9						0.9		
Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	9087				1130	1013	3409	3535	
Z0034390	MODULAR EXPANSION JOINT 6"	FOOT	548		229	164			85	70	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1							
Z0065730	SLOPE WALL SLURRY PUMPING	CU YD	171.9		14.9		19.8	22.2	60	60	
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	48		22	19			4	3	
Ø Z0076600	TRAINEES	HOUR	1000	1000							
Ø Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1000	1000							

Ø 0042

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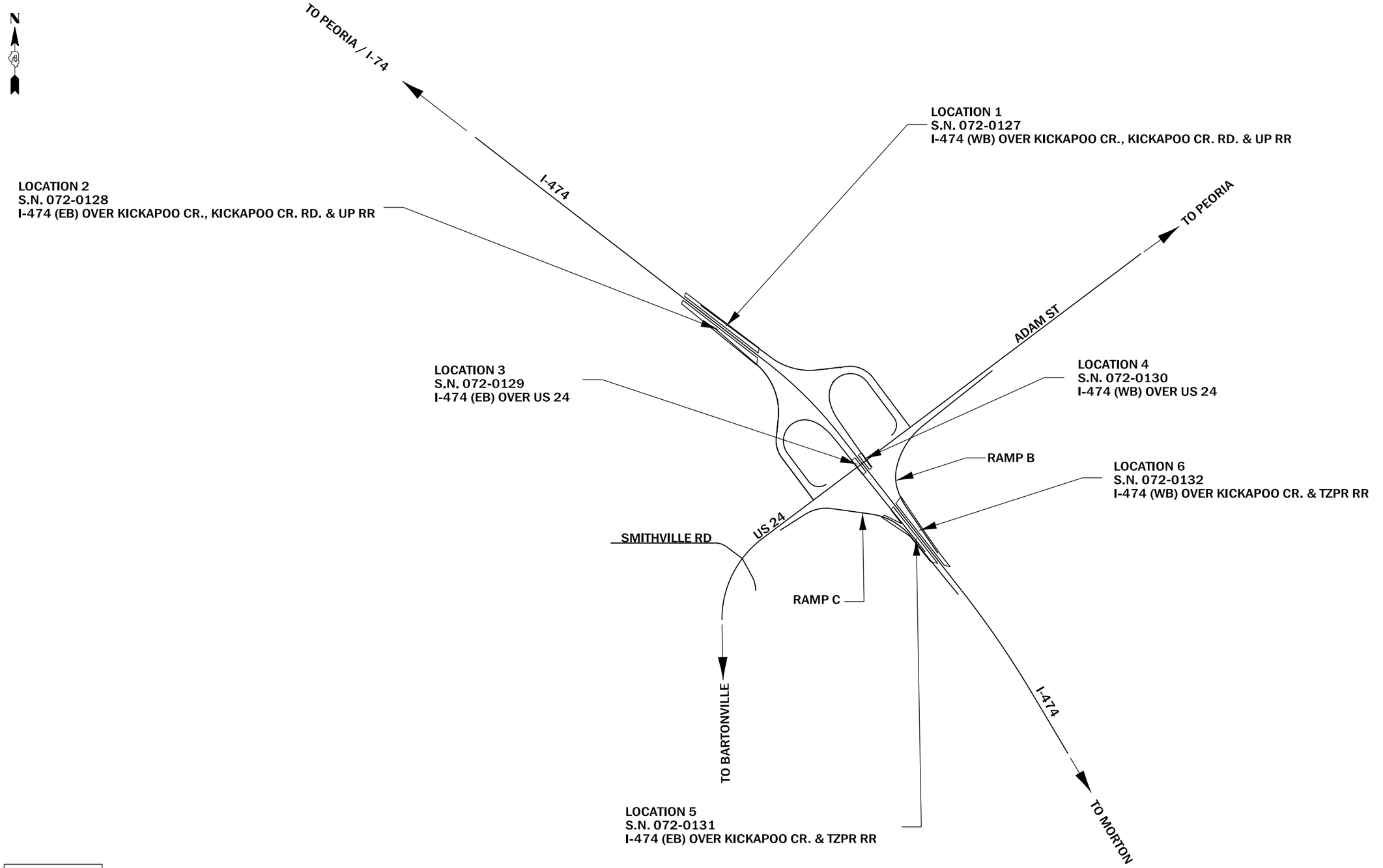
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	9
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

REV

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
					SN 072-0127	SN 072-0128	SN 072-0129	SN 072-0130	SN 072-0131	SN 072-0132	LIGHTING
				90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL	90 % FEDERAL
				10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE	10 % STATE
				0004	0013	0013	0013	0013	0013	0013	0021
				URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN



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COMMITMENTS; GENERAL NOTES; JOB SPECIFICS

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	11
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

RESURFACING QUANTITIES

LOCATION				REMARKS	LENGTH	WIDTH	AREA	TEMPORARY RAMP	HOT – MIX ASPHALT SURFACE REMOVAL – BUTT JOINT	HOT–MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH*	HOT–MIX ASPHALT SURFACE REMOVAL, 1.5″	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)		POLY ** LEVELING BINDER M.M. IL–4.75, N50 (0.5″–1.25″)	POLYMERIZED ** HOT – MIX ASPHALT SURFACE COURSE, MIX "D", N70 (NOMINAL 1.5″)	SHOULDER RUMBLE STRIPS, 16 INCH
	STA.	TO	STA.		FT	FT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	LB	LB	TON	TON	FT
I–474 EBL																
SN 072–0128																
STA. 348 + 85		TO	STA. 351 + 29	BRIDGE APPROCH	244	24	650.67	80.00	53.33	597.33		468.48	234.24	54.66	54.66	
STA. 361 + 03		TO	STA. 362 + 48	BRIDGE DEPARTURE	145	24	386.67	80.00	53.33	333.33		278.40	139.20	32.48	32.48	
SN 072–0129																
STA. 375 + 93		TO	STA. 377 + 39	BRIDGE APPROCH	146	42	681.33	140.00	93.33	588.00		490.56	245.28	57.23	57.23	
STA. 379 + 51		TO	STA. 380 + 66	BRIDGE DEPARTURE	115	33	421.67	110.00	73.33	348.33		303.60	151.80	35.42	35.42	
SN 072–0131																
STA. 383 + 80		TO	STA. 384 + 96	BRIDGE APPROCH	116	27	348.00	90.00	60.00	288.00		250.56	125.28	29.23	29.23	
STA. 392 + 57		TO	STA. 394 + 08	BRIDGE DEPARTURE	151	36	604.00	120.00	80.00	524.00		434.88	217.44	50.74	50.74	
RAMP C																
STA. 12 + 38		TO	STA. 13 + 58		120	16	213.33	26.67	35.56	177.78		153.60	0.00	0.00	17.92	
RUMBLE STRIPS REMOVAL AND REPLACEMENT					3,127	3	1,042.33				1,042.33	750.48			87.56	3,127.00
I–474 WBL																
SN 072–0132																
STA. 393 + 29		TO	STA. 394 + 73	BRIDGE APPROCH	144	24	384.00	80.00	53.33	330.67		276.48	138.24	32.26	32.26	
STA. 383 + 57		TO	STA. 384 + 73	BRIDGE DEPARTURE	116	24	309.33	80.00	53.33	256.00		222.72	111.36	25.98	25.98	
SN 072–0130																
STA. 379 + 51		TO	STA. 380 + 66	BRIDGE APPROCH	115	24	306.67	80.00	53.33	253.33		220.80	110.40	25.76	25.76	
STA. 375 + 93		TO	STA. 377 + 39	BRIDGE DEPARTURE	146	33	535.33	110.00	73.33	462.00		385.44	192.72	44.97	44.97	
SN 072–0127																
STA. 360 + 19		TO	STA. 361 + 35	BRIDGE APPROCH	116	24	309.33	80.00	53.33	256.00		222.72	111.36	25.98	25.98	
STA. 346 + 14		TO	STA. 347 + 67	BRIDGE DEPARTURE	153	24	408.00	80.00	53.33	354.67		293.76	146.88	34.27	34.27	
RAMP B																
STA. 08 + 00		TO	STA. 09 + 40		140	16	248.89	26.67	35.56	213.33		179.20	0.00	0.00	20.91	
RUMBLE STRIPS REMOVAL AND REPLACEMENT					3,127	3	1,042.33				1,042.33	750.48			87.56	3,127.00
TOTAL								1,184	825	4,983	2,085	7,607		449	663	6,254

* MILL TO BARE CONCRETE (EXISTING OVERLAY VARY 1 1⁄2″–3 1⁄2″)

** QUANTITIES ARE ESTIMATED; FINAL TONNAGE IS TO BE DETERMINED IN THE FIELD

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	12
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

CLASS D PATCHES, TYPE II 13"

LOCATION				DRIVING LANE			PASSING LANE			RAMP		
				WIDTH	LENGTH	AREA	WIDTH	LENGTH	AREA	WIDTH	LENGTH	AREA
				FT	FT	SQ. YD	FT	FT	SQ. YD	FT	FT	SQ. YD
I–474 EBL												
	SN 072–0128											
	STA. 348 + 95	TO	STA. 349 + 01	12	6	8.00	12	6	8.00			
	STA. 362 + 32	TO	STA. 362 + 38	12	6	8.00	12	6	8.00			
	SN 072–0129											
	STA. 376 + 03	TO	STA. 376 + 09	12	6	8.00	12	6	8.00	18	6	12.00
	STA. 380 + 50	TO	STA. 380 + 56	12	6	8.00	12	6	8.00	9	6	6.00
	SN 072–0131											
	STA. 383 + 64	TO	STA. 383 + 70	12	6	8.00	12	6	8.00	3	6	2.00
	STA. 393 + 92	TO	STA. 393 + 98	12	6	8.00	12	6	8.00	12	6	8.00
	RAMP C											
	STA. 12 + 48	TO	STA. 12 + 54							16	6	10.67
I–474 WBL												
	SN 072–0132											
	STA. 359 + 60	TO	STA. 359 + 66	12	6	8.00	12	6	8.00			
	STA. 394 + 57	TO	STA. 394 + 63	12	6	8.00	12	6	8.00			
	SN 072–0130											
	STA. 379 + 35	TO	STA. 379 + 41	12	6	8.00	12	6	8.00			
	STA. 377 + 23	TO	STA. 377 + 29	12	6	8.00	12	6	8.00	11	6	7.33
	SN 072–0127											
	STA. 360 + 29	TO	STA. 360 + 35	12	6	8.00	12	6	8.00			
	STA. 347 + 51	TO	STA. 347 + 57	12	6	8.00	12	6	8.00			
	RAMP B											
	STA. 09 + 04	TO	STA. 09 + 10							16	6	10.67
SUB TOTAL						96			96			57
TOTAL				249								

* EXISTING EXPANSION JOINT TO BE REMOVED AND REPLACED; WORK WILL BE PAID FOR AS " CLASS D PATCHES TYPE II 13"

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	13
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

PAVEMENT MARKING											
GROOVING FOR RECESSED PAVEMENT MARKING					5″		7″	9″	13″	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
POLYUREA PAVEMENT MARKING TYPE I					4″		6″	8″	12″		
LOCATION					WHITE	YELLOW	WHITE	WHITE	WHITE		
		STA.	TO	STA.	FT		FT	FT	FT	EACH	
EBL											
	SN 072–0128										
		STA. 348 + 85	TO	STA. 351 + 29	244.00	244.00	61.00			4.00	
		STA. 361 + 03	TO	STA. 362 + 48		145.00	36.25	145.00	220.00	2.00	
	SN 072–0129										
		STA. 375 + 93	TO	STA. 377 + 51	158.00	158.00	39.50	47.40		2.00	
		STA. 377 + 51	TO	STA. 379 + 51	200.00	200.00	50.00	60.00		6.00	
		STA. 379 + 51	TO	STA. 380 + 66	115.00	115.00	28.75	34.50		2.00	
	SN 072–0131										
		STA. 383 + 80	TO	STA. 384 + 96	116.00	116.00	29.00	34.80		2.00	
		STA. 384 + 96	TO	STA. 392 + 57	761.00	761.00	190.25	406.80			
		STA. 392 + 57	TO	STA. 394 + 08	151.00	151.00	37.75	45.30		2.00	
	RAMP C										
		STA. 12 + 38	TO	STA. 13 + 58	120.00	120.00					
WBL											
	SN 072–0132										
		STA. 383 + 57	TO	STA. 384 + 73	116.00	116.00	29.00			2.00	
		STA. 384 + 73	TO	STA. 393 + 29	856.00	856.00	214.00	638.30	220.00		
		STA. 393 + 29	TO	STA. 394 + 73	144.00	144.00	36.00			2.00	
	SN 072–0130										
		STA. 375 + 93	TO	STA. 377 + 39	146.00	146.00	36.50	100.10		2.00	
		STA. 377 + 39	TO	STA. 379 + 51	212.00	212.00	53.00	63.60			
		STA. 379 + 51	TO	STA. 380 + 66	115.00	115.00	28.75			2.00	
	SN 072–0127										
		STA. 346 + 14	TO	STA. 347 + 67	153.00	153.00	38.25			2.00	
		STA. 360 + 19	TO	STA. 361 + 35		116.00	29.00	116.00		2.00	
	RAMP B										
		STA. 08 + 00	TO	STA. 09 + 40	140.00	140.00					
TOTAL					7,755		937	1,692	440	32	

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SCHEDULE OF QUANTITIES

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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	14
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

SHORT TERM PAVEMENT MARKING

LOCATION					LENGTH	SKIP DASH	SHOULDER DIAGONALS	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL
		STA.	TO	STA.	FT	FT	FT	FT	SQ FT
EBL									
	SN 072–0128								
		STA. 348 + 85	TO	STA. 351 + 29	244.00	24.40		24.40	8.13
		STA. 361 + 03	TO	STA. 362 + 48	145.00	14.50		14.50	4.83
	SN 072–0129								
		STA. 375 + 93	TO	STA. 377 + 51	158.00	15.80		15.80	5.27
		STA. 377 + 51	TO	STA. 379 + 51	200.00	20.00	16.00	36.00	12.00
		STA. 379 + 51	TO	STA. 380 + 66	115.00	11.50		11.50	3.83
	SN 072–0131								
		STA. 383 + 80	TO	STA. 384 + 96	116.00	11.60		11.60	3.87
		STA. 384 + 96	TO	STA. 392 + 57	761.00	76.10	60.88	136.98	45.66
		STA. 392 + 57	TO	STA. 394 + 08	151.00	15.10		15.10	5.03
WBL									
	SN 072–0132								
		STA. 383 + 57	TO	STA. 384 + 73	116.00	11.60		11.60	3.87
		STA. 384 + 73	TO	STA. 393 + 29	856.00	85.60	68.48	154.08	51.36
		STA. 393 + 29	TO	STA. 394 + 73	144.00	14.40		14.40	4.80
	SN 072–0130								
		STA. 375 + 93	TO	STA. 377 + 39	146.00	14.60		14.60	4.87
		STA. 377 + 39	TO	STA. 379 + 51	212.00	21.20		21.20	7.07
		STA. 379 + 51	TO	STA. 380 + 66	115.00	11.50		11.50	3.83
	SN 072–0127								
		STA. 346 + 14	TO	STA. 347 + 67	153.00	15.30		15.30	5.10
		STA. 360 + 19	TO	STA. 361 + 35	116.00	11.60		11.60	3.87
TOTAL								521	174

ENGINEER'S FIELD OFFICE, TYPE A	
LOCATION	CAL MO
JOB SITE	18
TOTAL	18

MOBILIZATION	
LOCATION	L SUM
JOB SITE	1
TOTAL	1

TRAINEES	
LOCATION	HOURS
JOB SITE	1000
TOTAL	1000

TRAINEES TRAINING PROGRAM GRADUATE	
LOCATION	HOURS
JOB SITE	1000
TOTAL	1000

TRAFFIC CONTROL SURVEILLANCE	
LOCATION	CAL DAY
JOB SITE	3
TOTAL	3

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SCHEDULE OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	15
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

STAGING FOR STRUCTURES IMPROVEMENT

LOCATION		TEMPORARY CONCRETE BARRIER	RELOCATE * TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON–REDIRECTIVE), TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON–REDIRECTIVE), TEST LEVEL 3	TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	PAVEMENT MARKING TAPE. TYPE IV 4"	TEMPORARY PAVEMENT MARKING REMOVAL	PAVEMENT MARKING BLACKOUT TAPE, 6"	PAVEMENT MARKING REMOVAL – WATER BLASTING
STRUCTURE NO.	STAGE	FT	FT	EACH	EACH	EACH	FT	SQ FT	FT	SQ FT
I–474 EBL										
SN 072–0128	STAGE I	1325		1						
	STAGE II		3975		1					
SN 072–0129	STAGE I	412.5		1						
	STAGE II		1237.5		1					
SN 072–0131	STAGE I	962.5		1						
	STAGE II		2887.5		1					
I–474 WBL						305	48,278	15,938	0	8,037
SN 072–0132	STAGE I	1062.5		1						
	STAGE II		3187.5		1					
SN 072–0130	STAGE I	412.5		1						
	STAGE II		1237.5		1					
SN 072–0127	STAGE I	1387.5		1						
	STAGE II		4162.5		1					
ADAM'S ST.										
UNDER SN 072–0129 & SN 072–0130		575	1725	2	2	0	8,400	2,800	725	0
TOTAL		6,138	18,413	8	8	305	56,678	18,738	725	8,037

*** ONE RELOCATE FOR STAGE II AND TWO RELOCATES FOR WINTER SHUT DOWN**

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STATE OF ILLINOIS
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SCHEDULE OF QUANTITIES

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

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	16
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

REMOVE AND RE–ERECT STEEL PLATE BEAM GUARD RAIL, TYPE A	
LOCATION	FT
KICKAPOO CREEK ROAD SN 072–0127 & SN 072–0128	25
TOTAL	25

RAILROAD PROTECTIVE LIABILITY INSURANCE	
LOCATION	L SUM
JOB SITE	1
TOTAL	1

TRAFFIC CONTROL AND PROTECTION, STANDARD SPECIAL	
LOCATION	L SUM
JOB SITE	1
TOTAL	1

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STATE OF ILLINOIS
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SCHEDULE OF QUANTITIES

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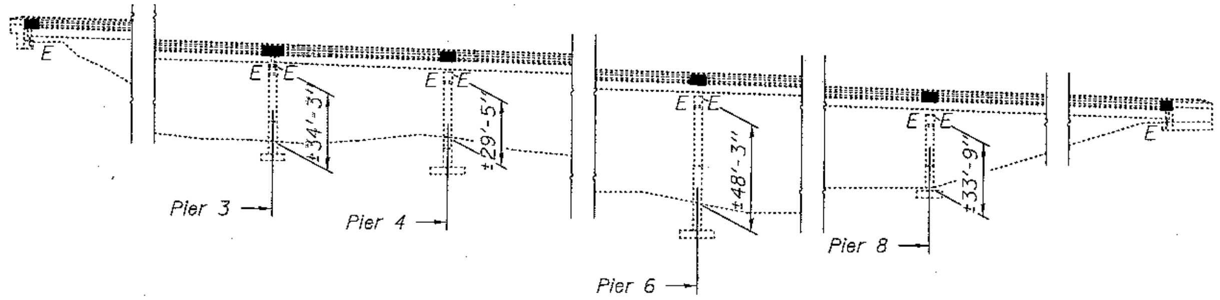
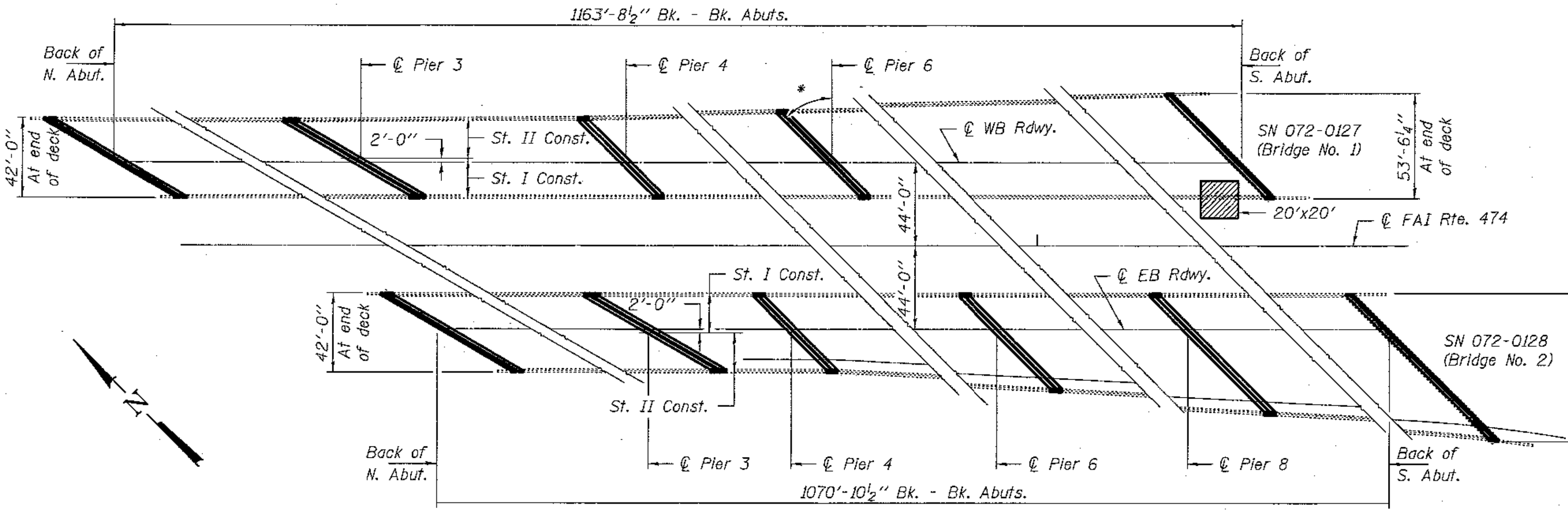
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	17
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		



ELEVATION



* 60° (N. Abut. & Pier 3)
45° (Piers 4, 6, 8 & S. Abut.)

PLAN

Hatched areas indicate
Slopewall Slurry Pumping.

GENERAL NOTES

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

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.

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.

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

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

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

Fasteners shall be high strength bolts. Bolts ¾"ϕ, open holes 13/16"ϕ, unless otherwise noted.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". Areas to be cleaned and painted shall consist of all beam ends, end diaphragms and steel components of the steel bearings at the abutments and expansion piers.
Beam end painting shall extend 5 feet from the ends of the beams longitudinally. Also included shall be the exterior surface and the bottom of the bottom flange of fascia beams for the entire length of the structure. This surface preparation shall be accomplished according to the requirements of Near-White Metal Blast Cleaning SSPC-SP 10. The paint system shall be applied as specified for System 1 OZ/E/U. The color of the final finish coat shall be Warm Gray, Munsell No. 2.5Y 5/1.

Containment and disposal as specified shall follow the special provision for "Containment and Disposal of Lead Paint Cleaning Residue". The use of two air monitors will be required to monitor abrasive blasting operations.

The painting contractor shall be SSPC-QP 1 and SSPC-QP 2 certified for this project and shall maintain certification throughout the duration of the project.

Care shall be taken not to damage rubber bearing or joint components during the blasting and cleaning operations. Any damage to these components shall be repaired at the contractor's expense.

Surface preparation at the construction joints shall be performed using high-pressurized water spray, using equipment capable of producing a minimum water pressure of 5000 psi.

Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at those locations.

The steel components for the Modular Expansion Joints shall be hot-dip galvanized. See Special Provision for "Hot Dip Glavanizing for Structural Steel."

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
** Protective Coat	Sq. Yd.	506
Concrete Removal	Cu. Yd.	183.0
Concrete Structures	Cu. Yd.	7.1
Concrete Superstructure	Cu. Yd.	182.7
Furnishing and Erecting Structural Steel	Pound	17480
Reinforcement Bars, Epoxy Coated	Pound	27890
Bar Splicers	Each	228
Mechanical Splicers	Each	727
Preformed Joint Strip Seal	Foot	460
Elastomeric Bearing Assembly, Type I	Each	87
Elastomeric Bearing Assembly, Type II	Each	32
Anchor Bolts 1"ϕ	Each	240
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1
Containment and Disposal of Lead Paint Cleaning Residues No. 2	L. Sum	1
Jack and Remove Existing Bearings	Each	79
Temporary Shoring and Cribbing	Each	40
Cleaning and Painting Steel Bridge No. 1	L. Sum	1
Cleaning and Painting Steel Bridge No. 2	L. Sum	1
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	1637
Modular Expansion Joint 6"	Foot	393
Slopewall Slurry Pumping	Cu. Yd.	14.9

** On new concrete adjacent to joints only.

LICENSED STRUCTURAL ENGINEER
DAVID CARL PUZEY
081-005470
SPRINGFIELD ILLINOIS
STATE OF ILLINOIS

EXPIRES 11-30-2018

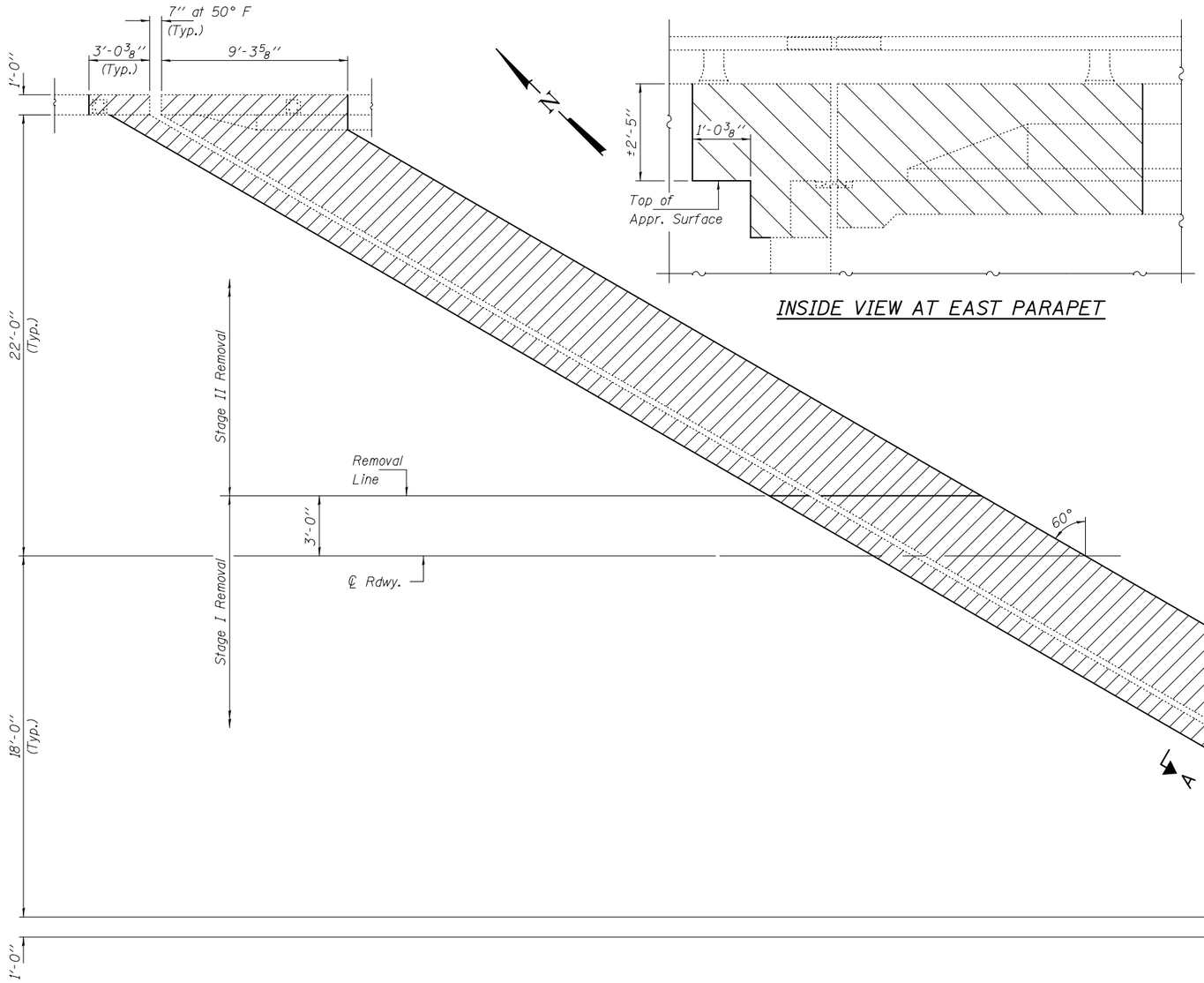
DESIGNED		EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE	JANUARY 31, 2018
CHECKED					
DRAWN	daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED	JSB SMR			REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

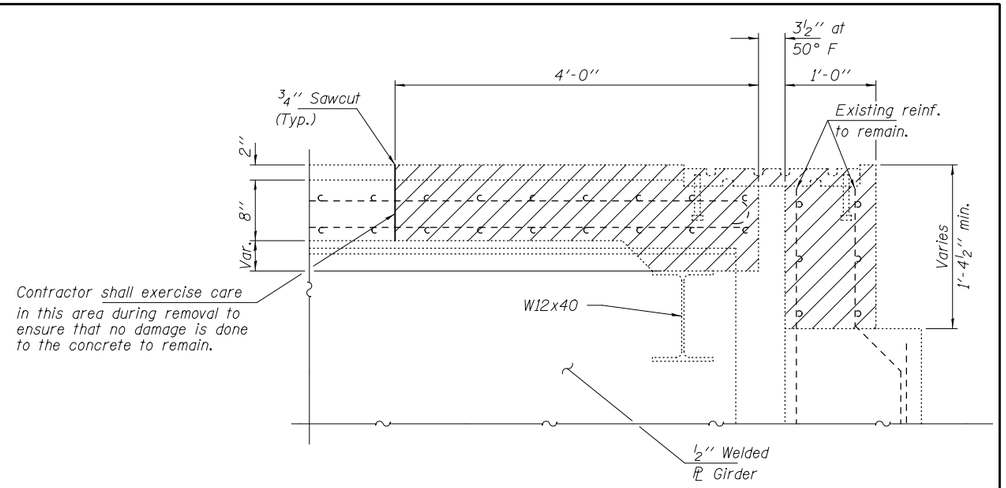
PLAN AND ELEVATION
FAI 474 OVER CHICAGO & NORTHWESTERN RR
SN 072-0127 (WB) & 072-0128 (EB)
SHEET NO. 1 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUBIB-R	PEORIA	196	18

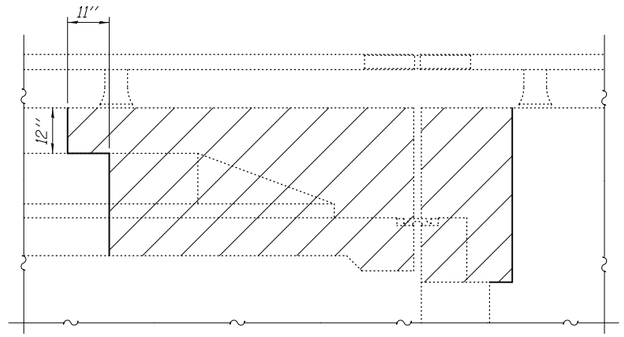
CONTRACT NO. 68887
ILLINOIS FED. AID PROJECT



INSIDE VIEW AT EAST PARAPET



SECTION A-A



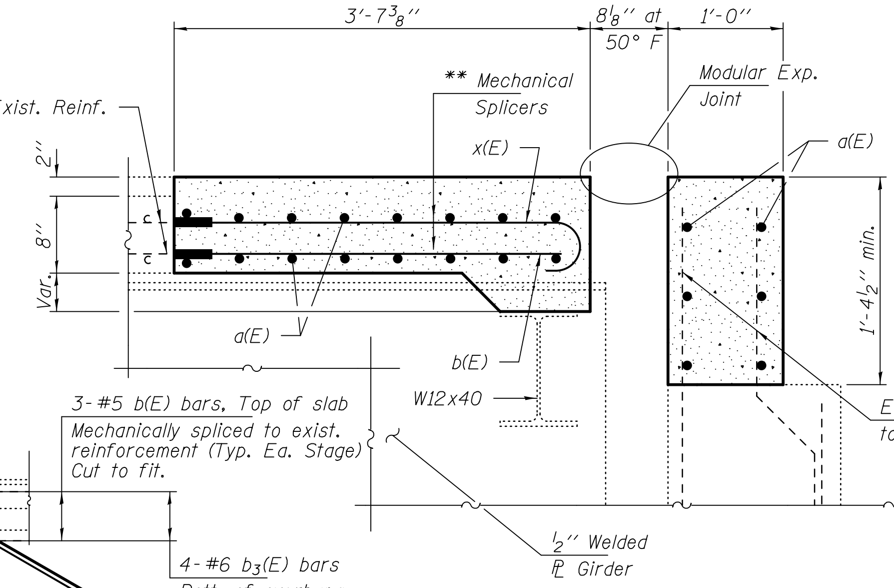
INSIDE VIEW AT WEST PARAPET

CONCRETE REMOVAL DETAILS

North Abutment

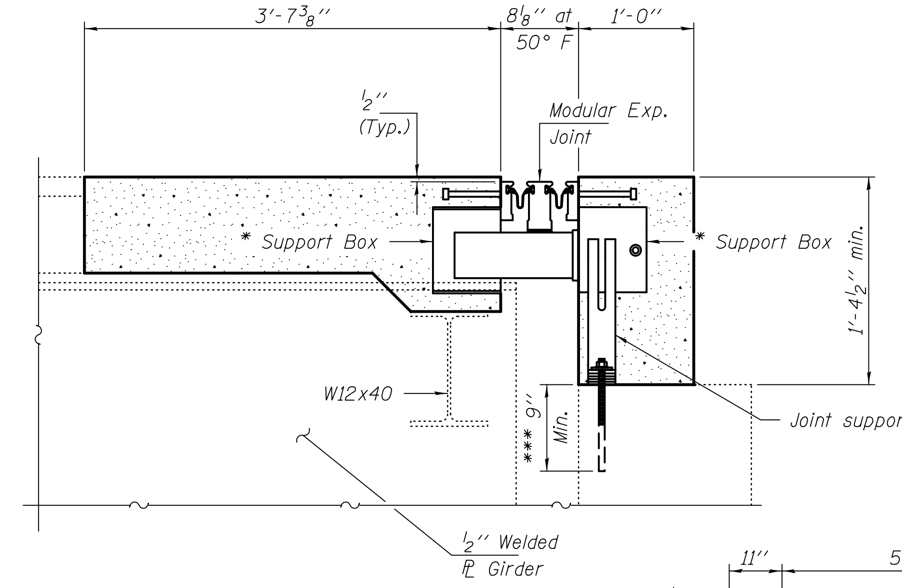
Note:
Hatched areas indicate
Concrete Removal.

DESIGNED JSB	EXAMINED	Timothy A. Sahlstrom	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – NORTH ABUTMENT SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	19
DRAWN daburdell	PASSED	S. Carl Toenjes	REVISED		SHEET NO. 2 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS FED. AID PROJECT		



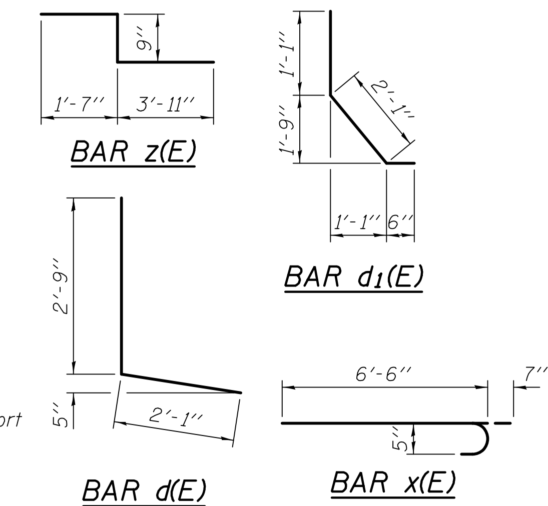
SECTION B-B

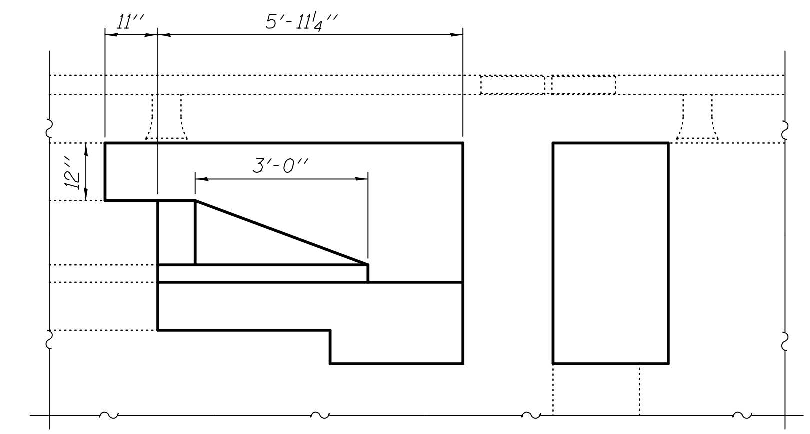
(Modular Joint not shown for clarity)



SECTION B-B

(Reinforcement not shown for clarity)

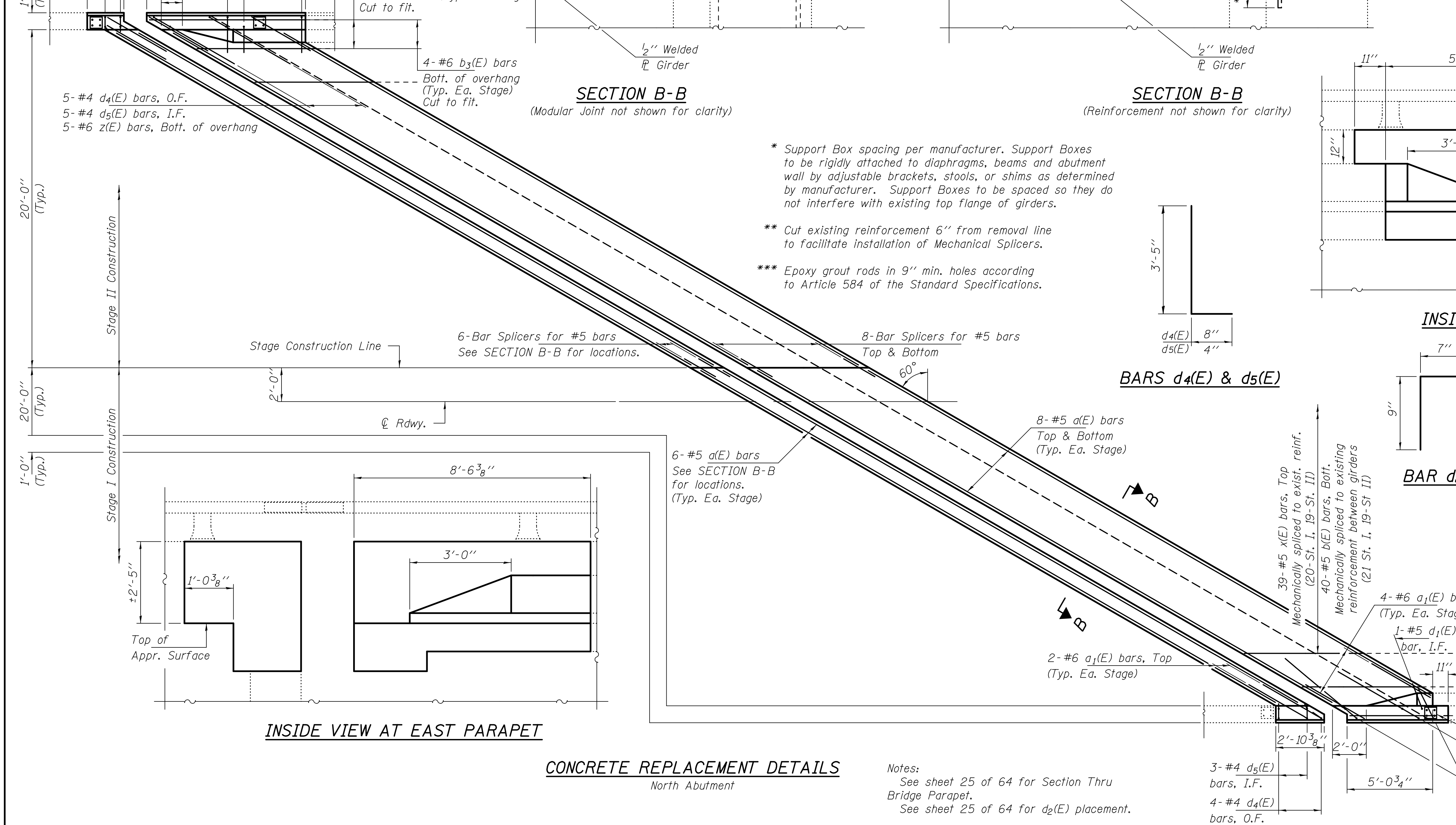




INSIDE VIEW AT WEST PARAPET

BARS $d_4(E)$ & $d_5(E)$

BAR $d_2(E)$



* Support Box spacing per manufacturer. Support Boxes to be rigidly attached to diaphragms, beams and abutment wall by adjustable brackets, stools, or shims as determined by manufacturer. Support Boxes to be spaced so they do not interfere with existing top flange of girders.

** Cut existing reinforcement 6" from removal line to facilitate installation of Mechanical Splicers.

*** Epoxy grout rods in 9" min. holes according to Article 584 of the Standard Specifications.

INSIDE VIEW AT EAST PARAPET

CONCRETE REPLACEMENT DETAILS

North Abutment

Notes:
See sheet 25 of 64 for Section Thru Bridge Parapet.
See sheet 25 of 64 for $d_2(E)$ placement.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	44	#5	40'-2"	—
$a_1(E)$	12	#6	4'-0"	—
b(E)	46	#5	6'-6"	—
$b_3(E)$	8	#6	6'-6"	—
d(E)	7	#4	4'-10"	L
$d_1(E)$	6	#5	3'-8"	L
$d_2(E)$	6	#4	2'-1"	Π
$d_4(E)$	16	#4	4'-1"	L
$d_5(E)$	15	#4	3'-9"	L
x(E)	39	#5	7'-1"	⊂
z(E)	10	#6	6'-3"	⌐
Concrete Removal		Cu. Yd.	18.9	
Concrete Superstructure		Cu. Yd.	18.5	
Bar Splicers		Each	22	
Mechanical Splicers		Each	85	
Reinforcement Bars, Epoxy Coated		Pound	2840	

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR			
DRAWN daburdell	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR		REVISED	

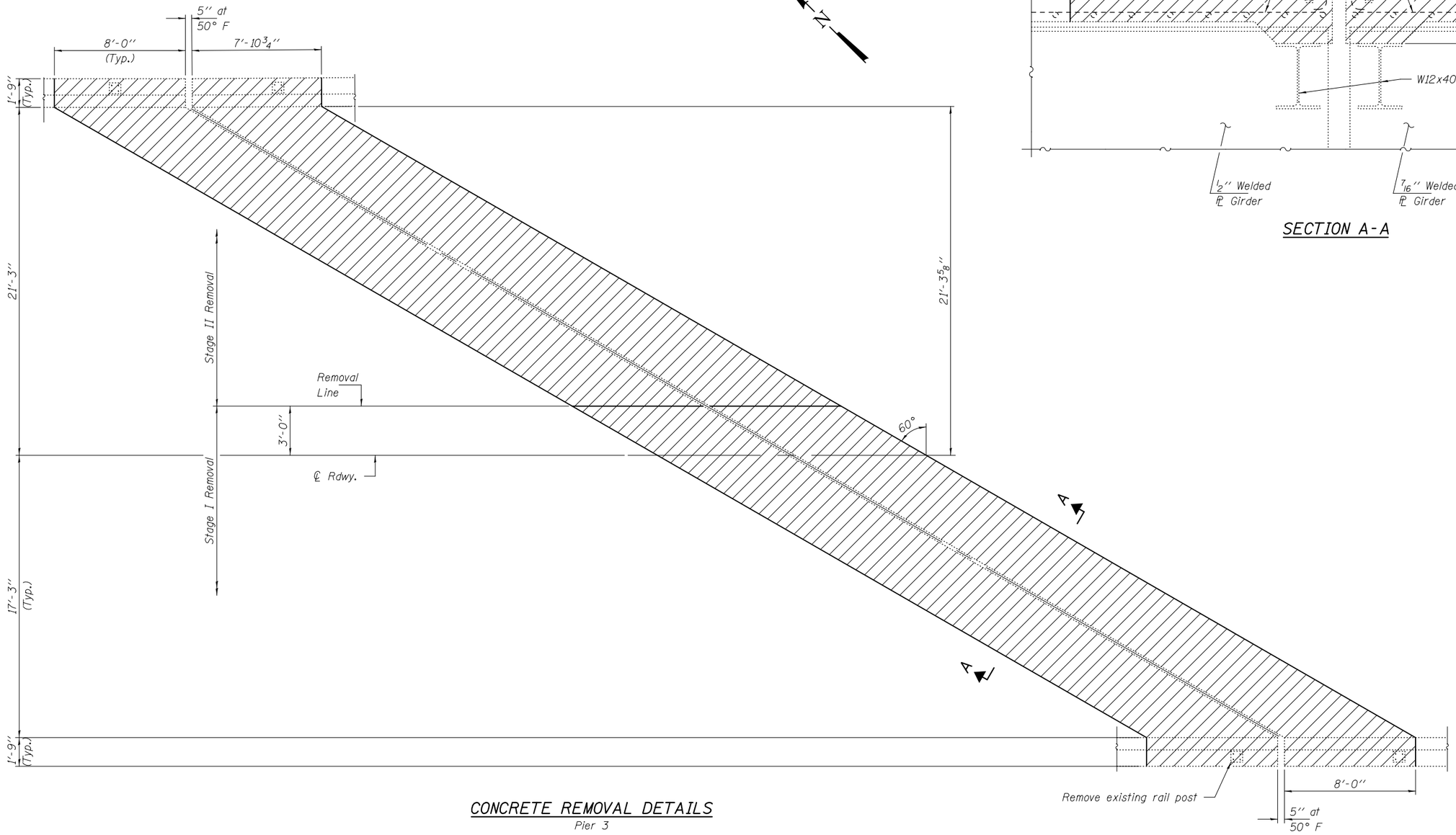
JOINT REPLACEMENT DETAILS – NORTH ABUTMENT
SN 072–0127 (WB)

SHEET NO. 3 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	20

CONTRACT NO. 68887

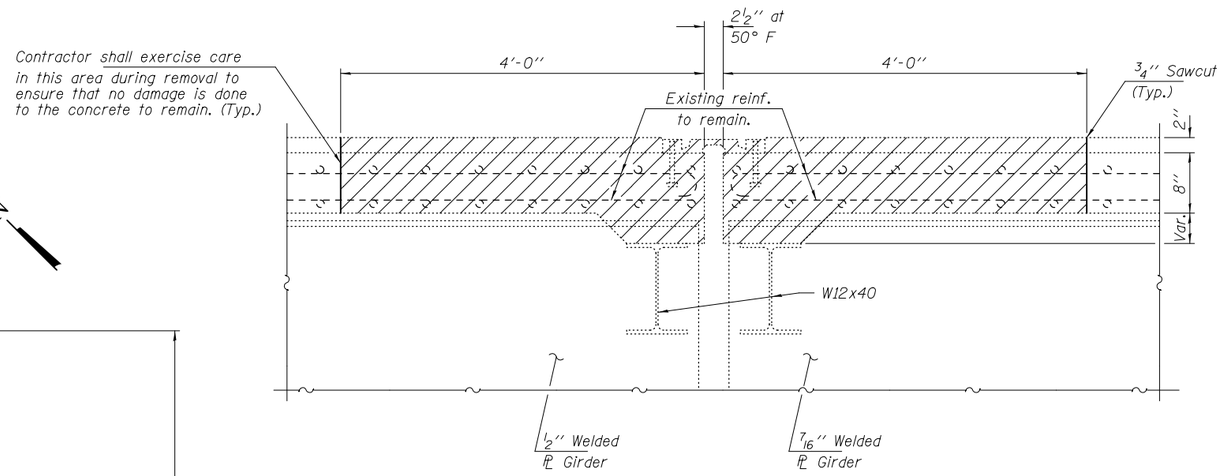
ILLINOIS FED. AID PROJECT



CONCRETE REMOVAL DETAILS

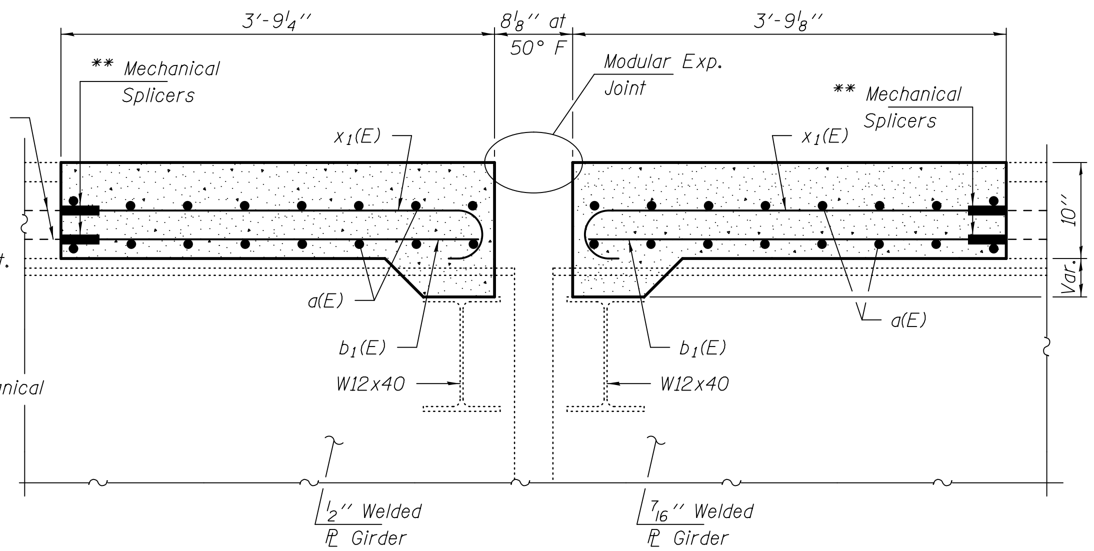
Pier 3

Note:
Hatched areas indicate
Concrete Removal.

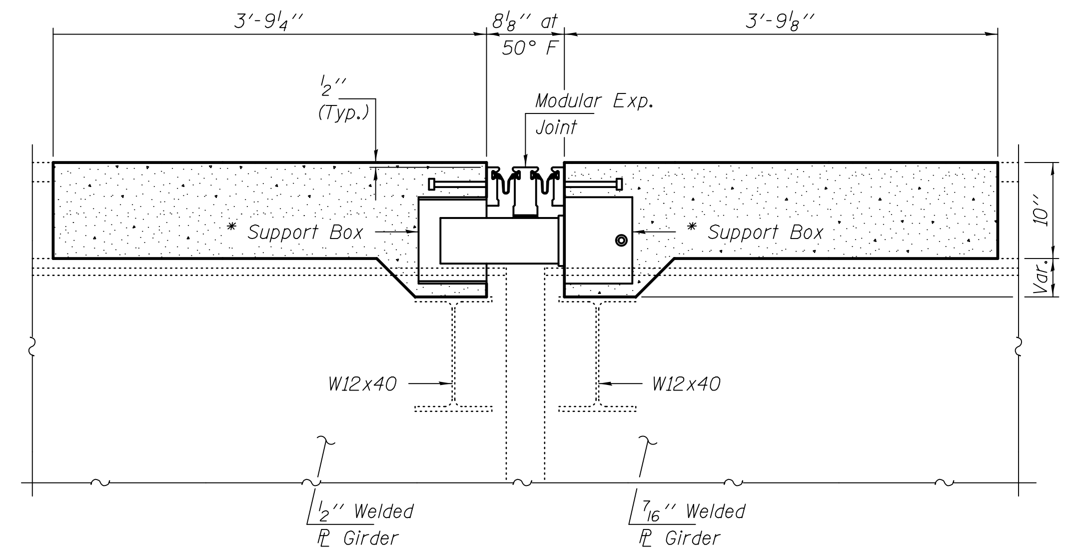


SECTION A-A

DESIGNED JSB	EXAMINED	Timothy A. Ahlgrim	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – PIER 3 SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4HB,HUB-1,HUBIB-R	PEORIA	196	21
DRAWN daburdell	PASSED	N Carl Hungerford	REVISED		SHEET NO. 4 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS	FED. AID PROJECT	



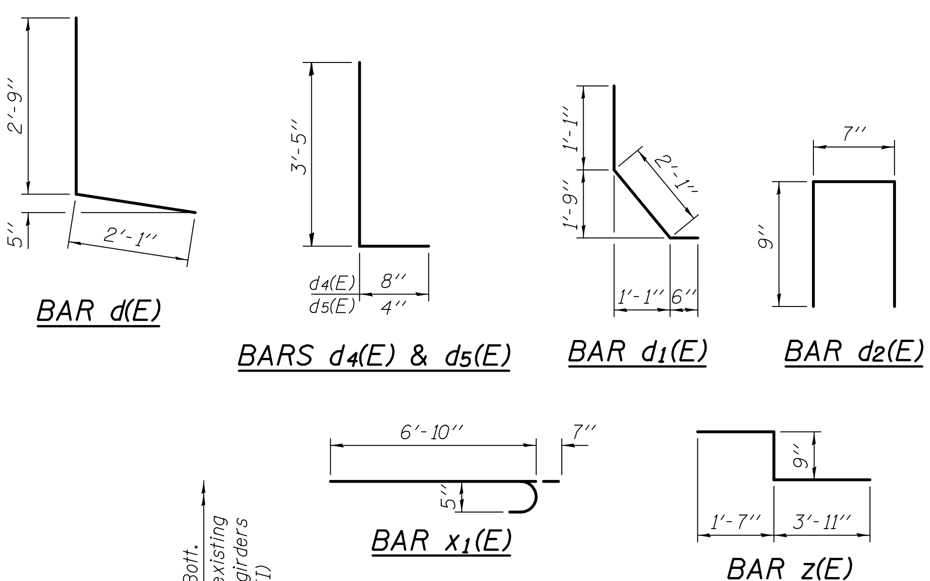
SECTION B-B
(Modular Joint not shown for clarity)

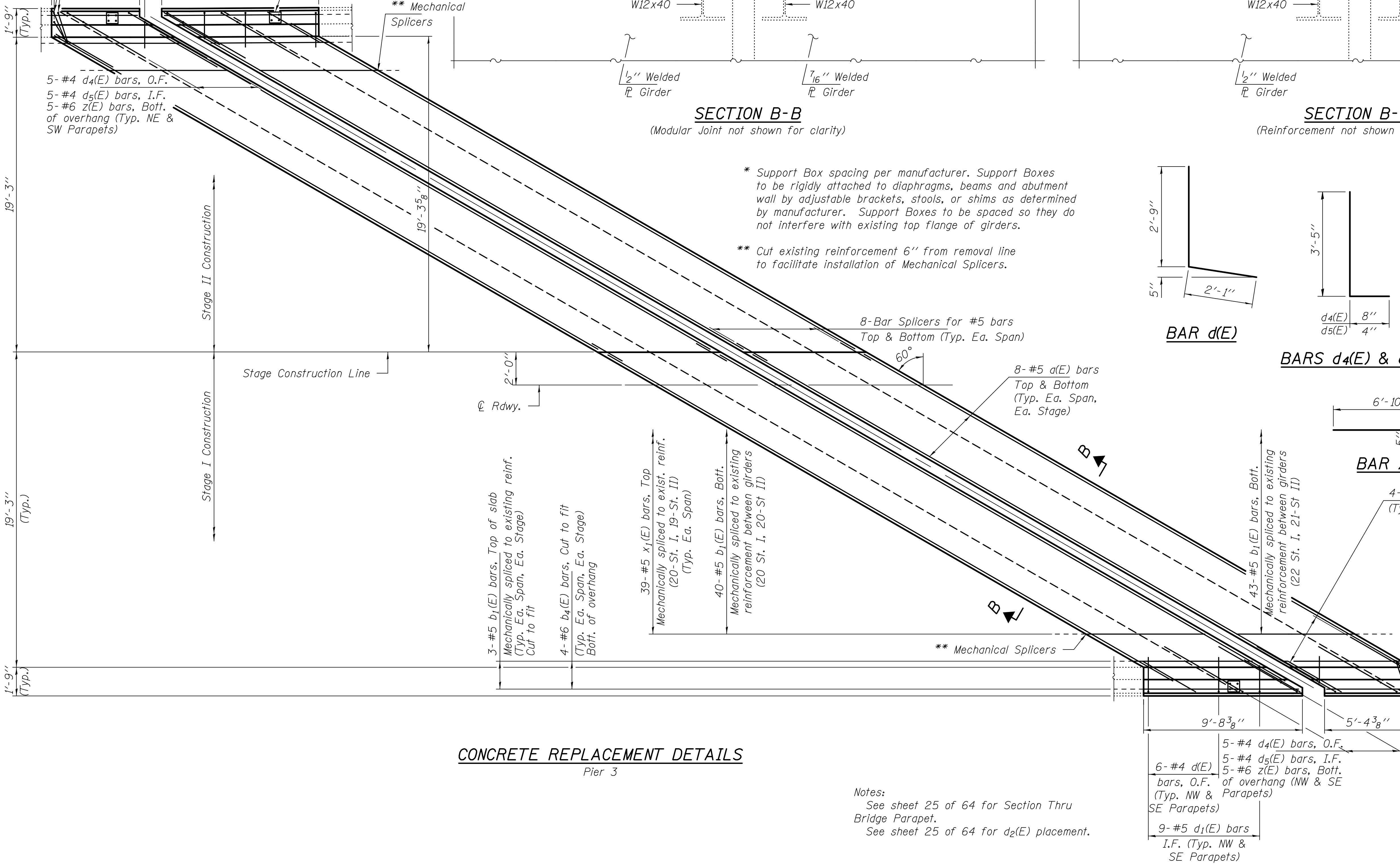


SECTION B-B
(Reinforcement not shown for clarity)

* Support Box spacing per manufacturer. Support Boxes to be rigidly attached to diaphragms, beams and abutment wall by adjustable brackets, stools, or shims as determined by manufacturer. Support Boxes to be spaced so they do not interfere with existing top flange of girders.

** Cut existing reinforcement 6" from removal line to facilitate installation of Mechanical Splicers.





CONCRETE REPLACEMENT DETAILS
Pier 3

Notes:
See sheet 25 of 64 for Section Thru Bridge Parapet.
See sheet 25 of 64 for $d_2(E)$ placement.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	64	#5	40'-2"	——
a1(E)	16	#6	4'-0"	——
b1(E)	95	#5	6'-10"	——
b4(E)	16	#6	6'-10"	——
d(E)	16	#4	4'-10"	L
d1(E)	32	#5	3'-8"	L
d2(E)	6	#4	2'-1"	⊓
d4(E)	20	#4	4'-1"	L
d5(E)	20	#4	3'-9"	L
x1(E)	79	#5	7'-5"	⊂——
z(E)	20	#6	6'-3"	_┌—
Concrete Removal			Cu. Yd.	26.0
Concrete Superstructure			Cu. Yd.	26.0
Bar Splicers			Each	32
Mechanical Splicers			Each	173
Reinforcement Bars, Epoxy Coated			Pound	4650

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN daburdell		REVISED	
CHECKED JSB SMR			

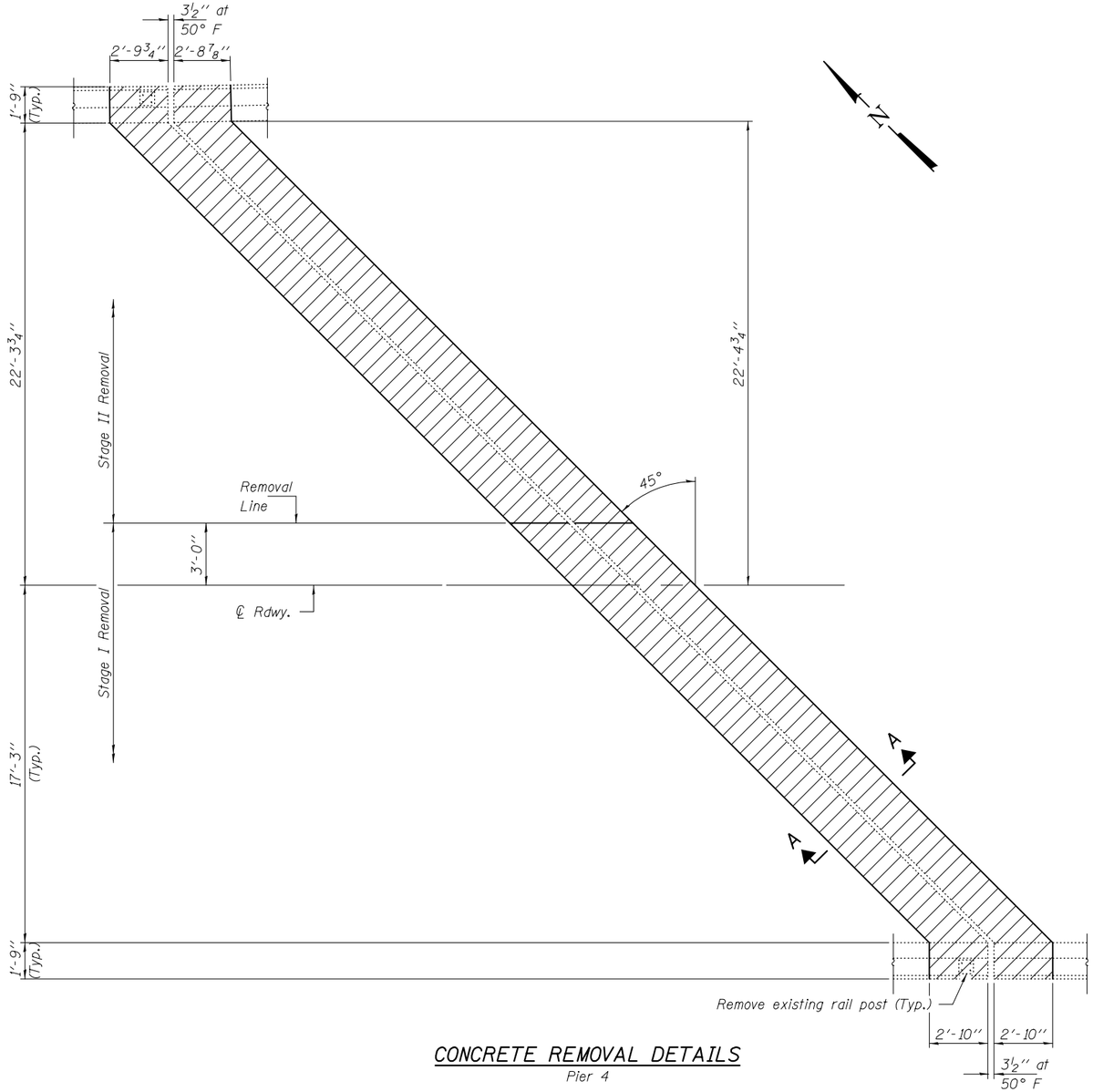
JOINT REPLACEMENT DETAILS – PIER 3
SN 072–0127 (WB)

SHEET NO. 5 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	22

CONTRACT NO. 68887

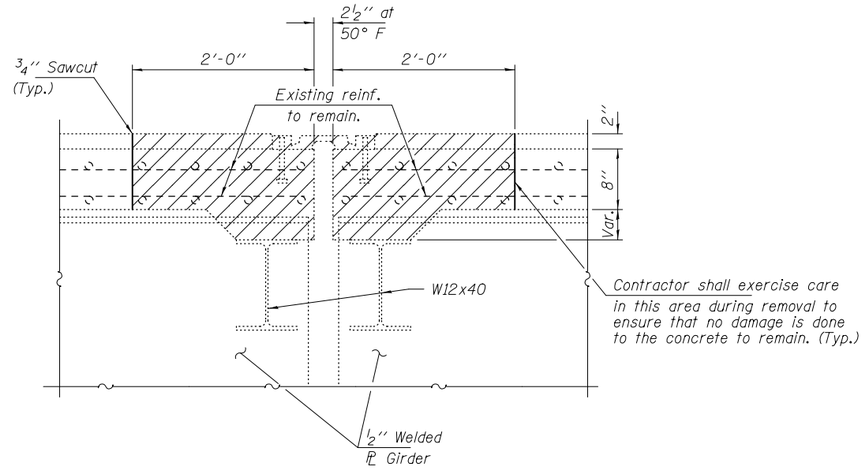
ILLINOIS FED. AID PROJECT



CONCRETE REMOVAL DETAILS

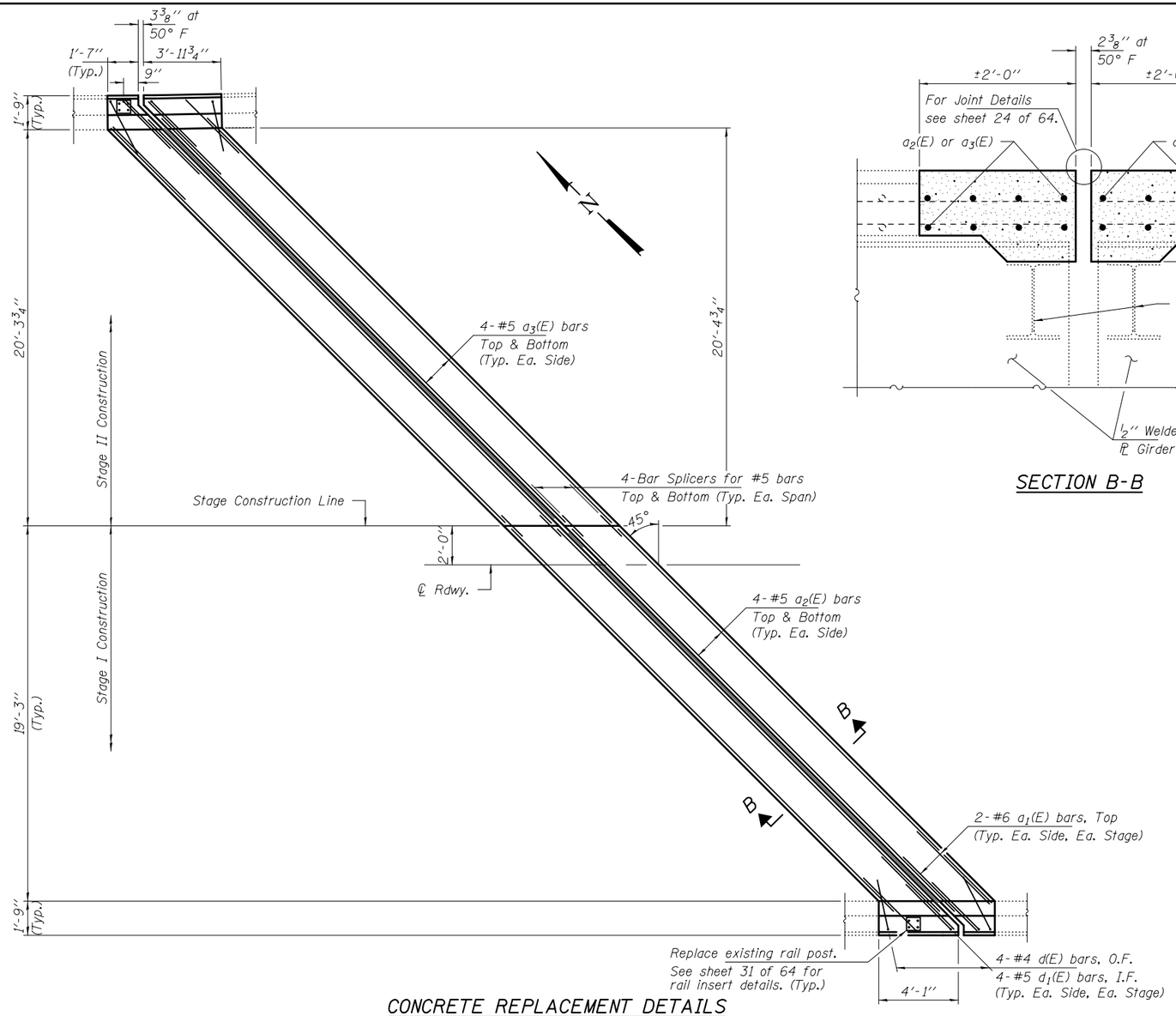
Pier 4

Note:
Hatched areas indicate
Concrete Removal.



SECTION A-A

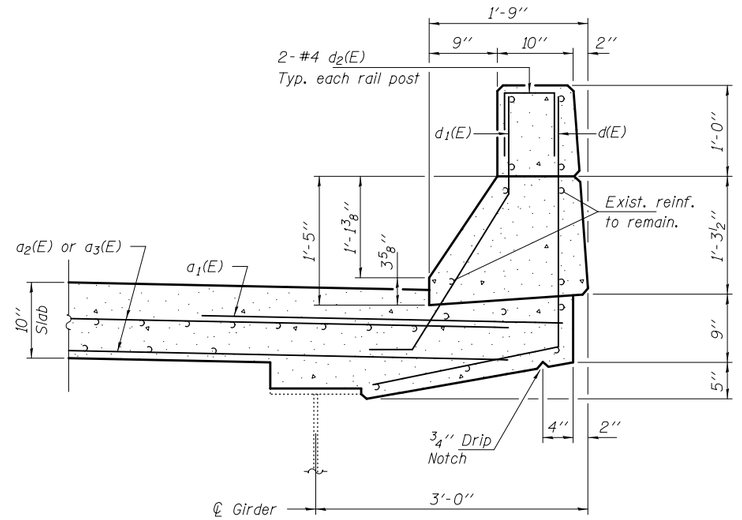
DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**JOINT REMOVAL DETAILS – PIER 4 SN 072–0127 (WB)**	F.A.I. RTE. 474
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES				SECTION 72-4(HB,HUB-1,HUB)B-R
DRAWN daburdell	PASSED	REVISED			COUNTY PEORIA
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 6 OF 64 SHEETS	TOTAL SHEETS 196
					SHEET NO. 23
					CONTRACT NO. 68887
					ILLINOIS FED. AID PROJECT



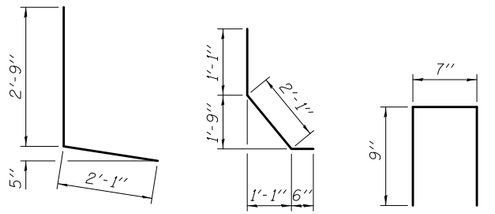
CONCRETE REPLACEMENT DETAILS

Pier 4

SECTION B-B



TYPICAL SECTION THRU BRIDGE PARAPET



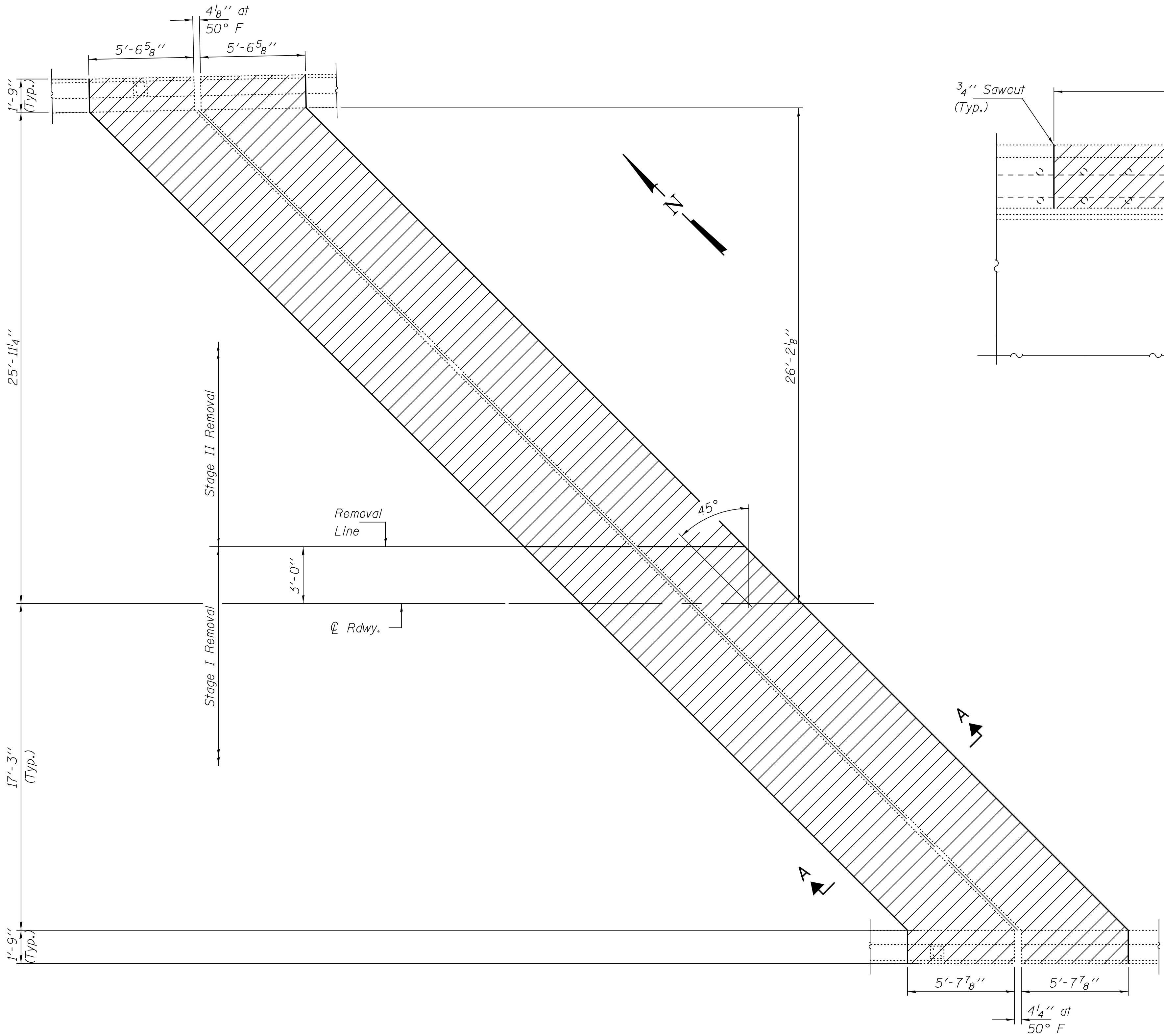
BAR d(E) BAR d_1(E) BAR d_2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_1(E)	8	#6	4'-0"	—
a_2(E)	16	#5	28'-4"	—
a_3(E)	16	#5	29'-10"	—
d(E)	16	#4	4'-10"	L
d_1(E)	16	#5	3'-8"	⌊
d_2(E)	4	#4	2'-1"	⊓
Concrete Removal			Cu. Yd.	10.1
Concrete Superstructure			Cu. Yd.	10.1
Bar Splicers			Each	16
Reinforcement Bars, Epoxy Coated			Pound	1140

DESIGNED JSB	EXAMINED Timothy A. Ball ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED A Carl Puntney ENGINEER OF BRIDGES AND STRUCTURES	REVISED	JOINT REPLACEMENT DETAILS – PIER 4 SN 072–0127 (WB)
DRAWN daburdell		REVISED	SHEET NO. 7 OF 64 SHEETS
CHECKED JSB SMR			

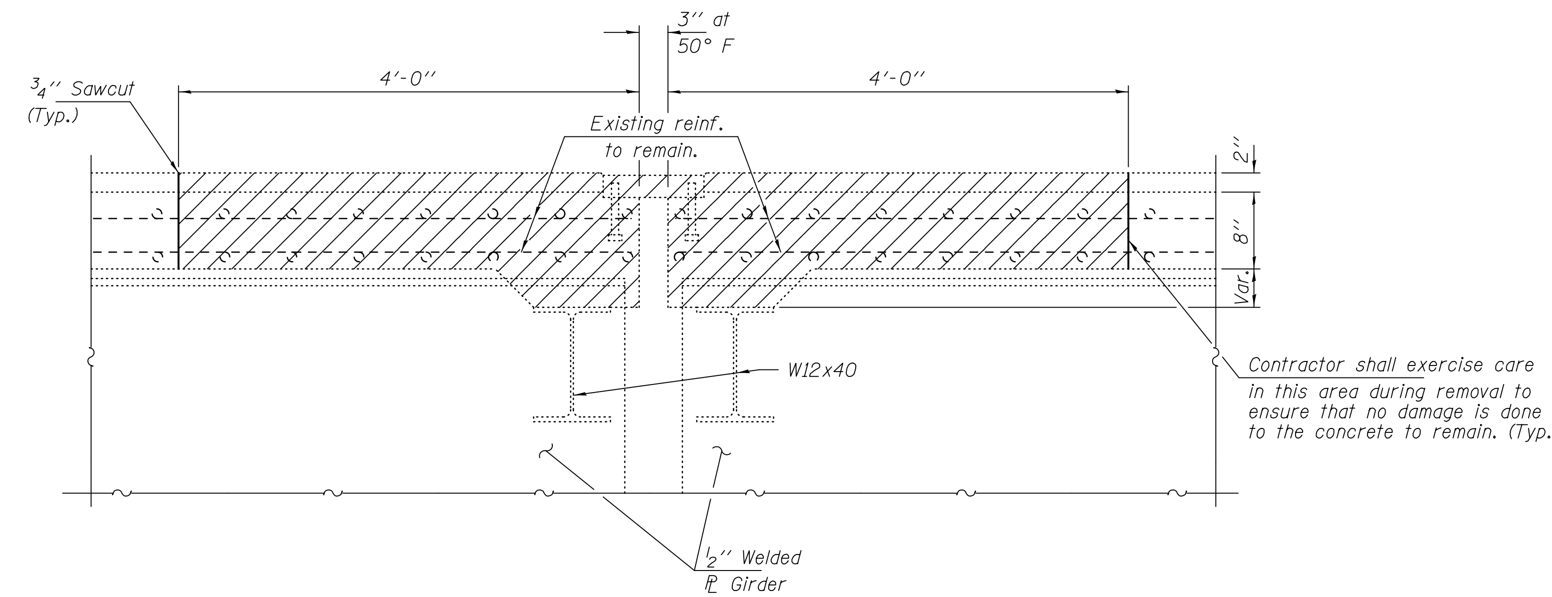
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	24
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



CONCRETE REMOVAL DETAILS

Pier 6

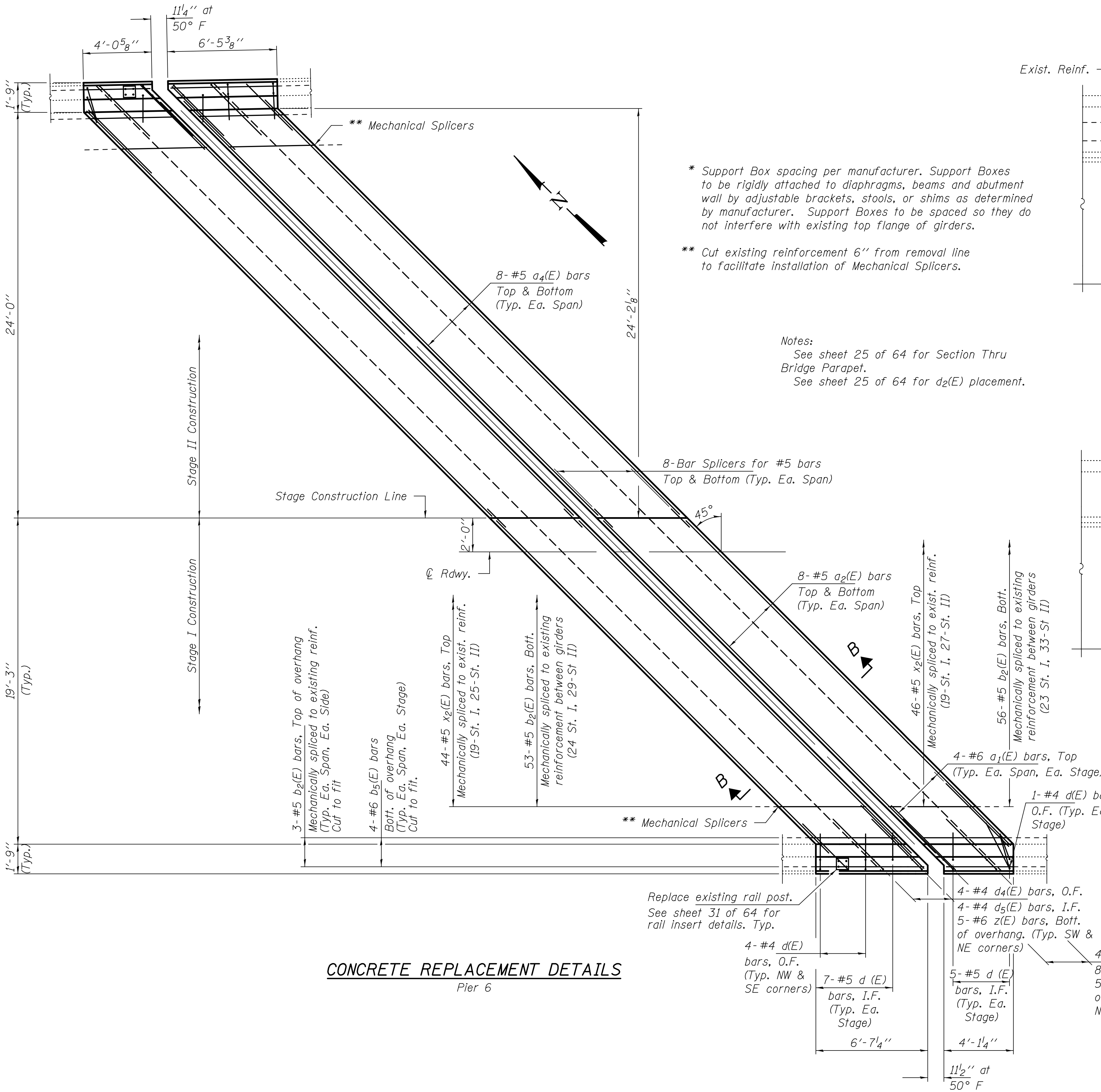
Note:
Hatched areas indicate
Concrete Removal.



SECTION A-A

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – PIER 6 SN 072–0127 (WB)
CHECKED SMR					
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		
CHECKED JSB SMR			REVISED		SHEET NO. 8 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	25
CONTRACT NO. 68887				
ILLINOIS FED. AID PROJECT				



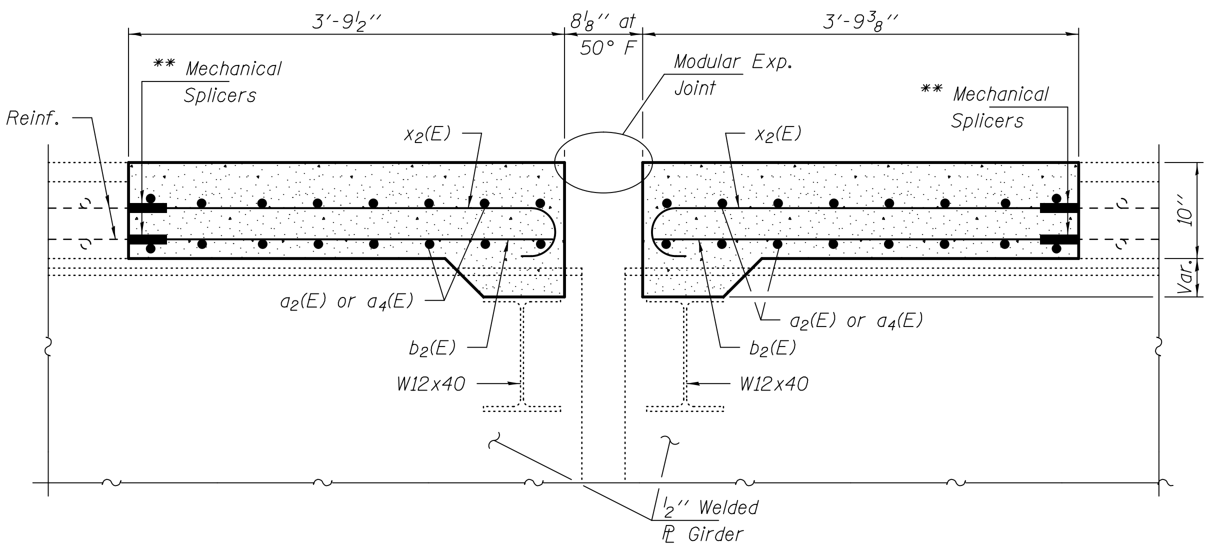
* Support Box spacing per manufacturer. Support Boxes to be rigidly attached to diaphragms, beams and abutment wall by adjustable brackets, stools, or shims as determined by manufacturer. Support Boxes to be spaced so they do not interfere with existing top flange of girders.

** Cut existing reinforcement 6″ from removal line to facilitate installation of Mechanical Splicers.

Notes:
See sheet 25 of 64 for Section Thru Bridge Parapet.
See sheet 25 of 64 for $d_2(E)$ placement.

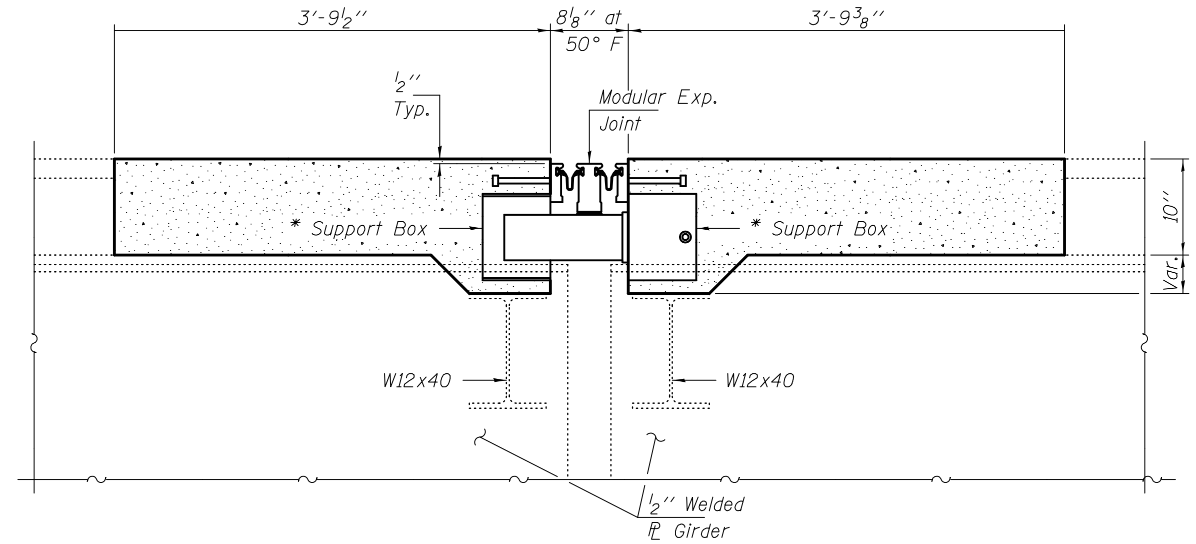
CONCRETE REPLACEMENT DETAILS

Pier 6



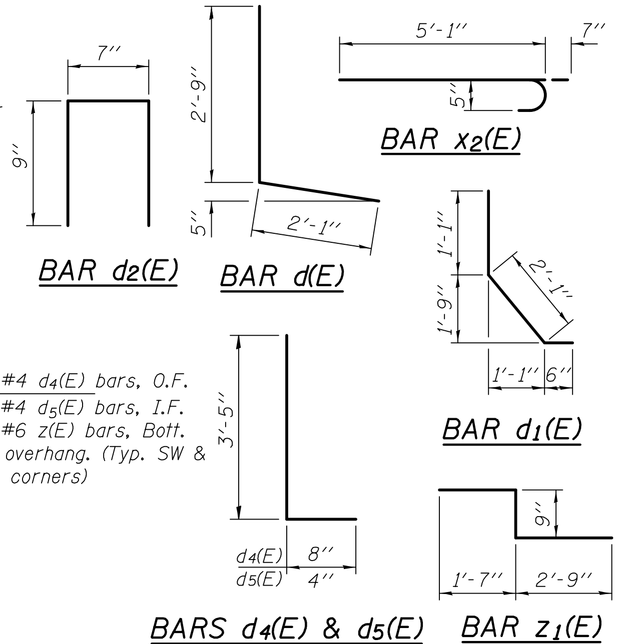
SECTION B-B

(Modular Joint not shown for clarity)



SECTION B-B

(Reinforcement not shown for clarity)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_1(E)$	16	#6	4′-0″	——
$a_2(E)$	32	#5	28′-4″	——
$a_4(E)$	32	#5	35′-1″	——
$b_2(E)$	121	#5	5′-1″	——
$b_5(E)$	16	#6	5′-1″	——
$d(E)$	10	#4	4′-10″	L
$d_1(E)$	24	#5	3′-8″	⌊
$d_2(E)$	4	#4	2′-1″	⊓
$d_4(E)$	16	#4	4′-1″	L
$d_5(E)$	16	#4	3′-9″	L
$x_2(E)$	90	#5	5′-8″	⊂
$z_1(E)$	20	#6	5′-1″	⌐
Concrete Removal			Cu. Yd.	20.4
Concrete Superstructure			Cu. Yd.	20.1
Bar Splicers			Each	32
Mechanical Splicers			Each	211
Reinforcement Bars, Epoxy Coated			Pound	3870

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN daburdell		REVISED	
CHECKED JSB SMR			

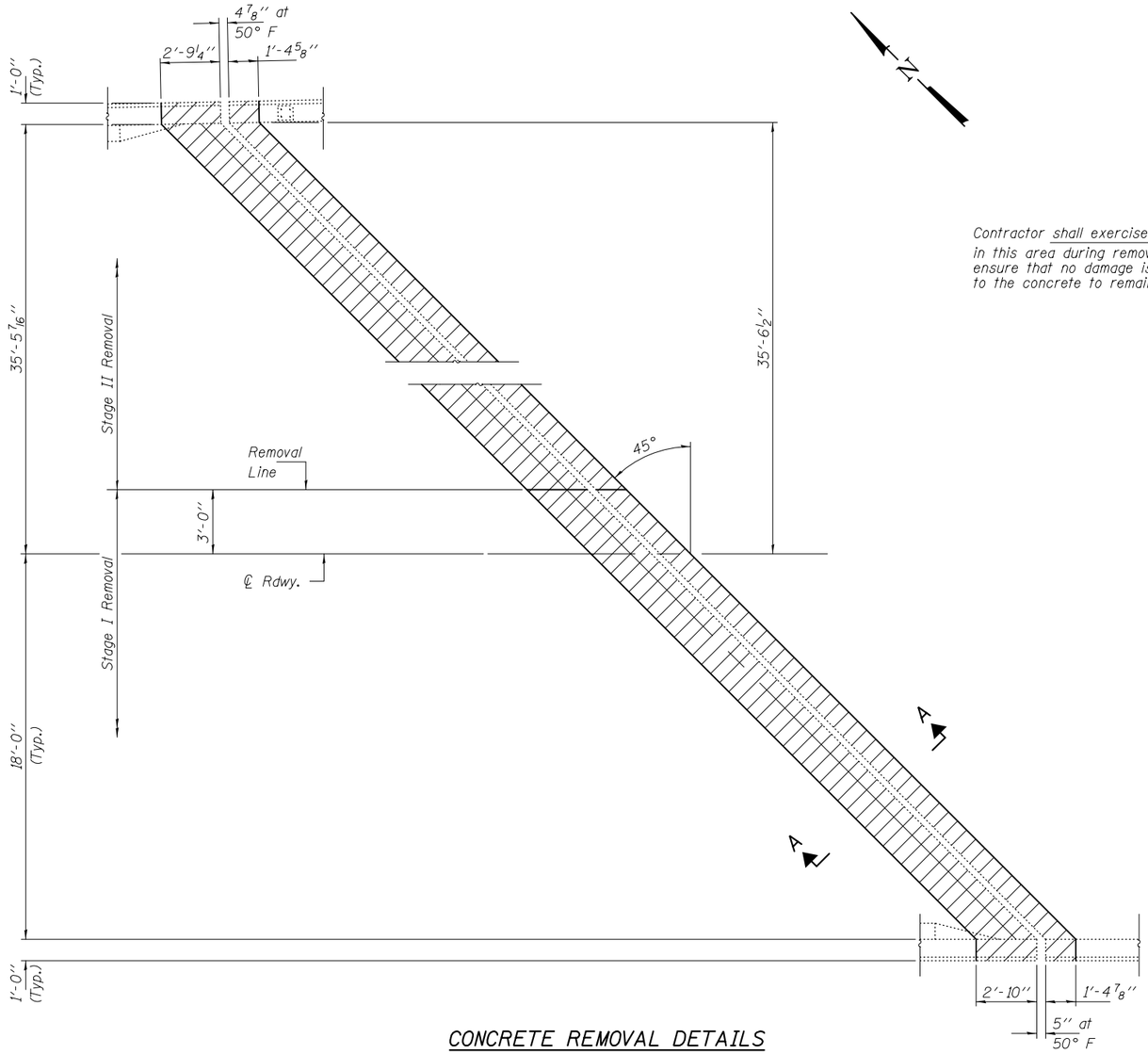
JOINT REPLACEMENT DETAILS – PIER 6
SN 072-0127 (WB)

SHEET NO. 9 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	26

CONTRACT NO. 68887

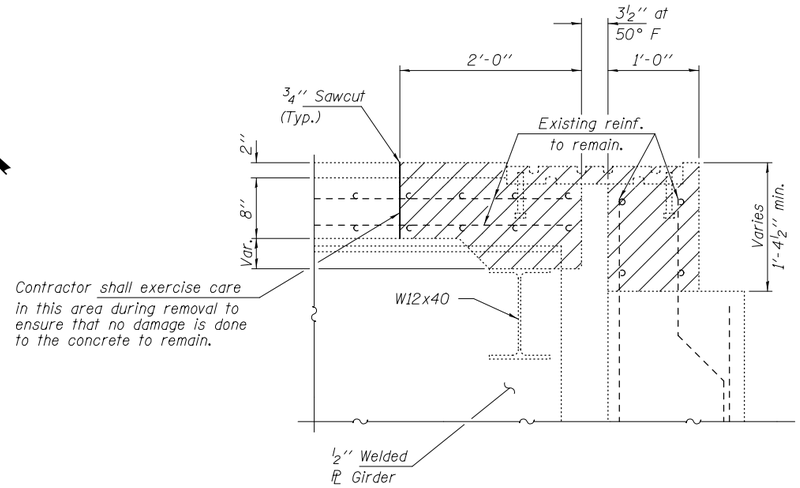
ILLINOIS FED. AID PROJECT



CONCRETE REMOVAL DETAILS

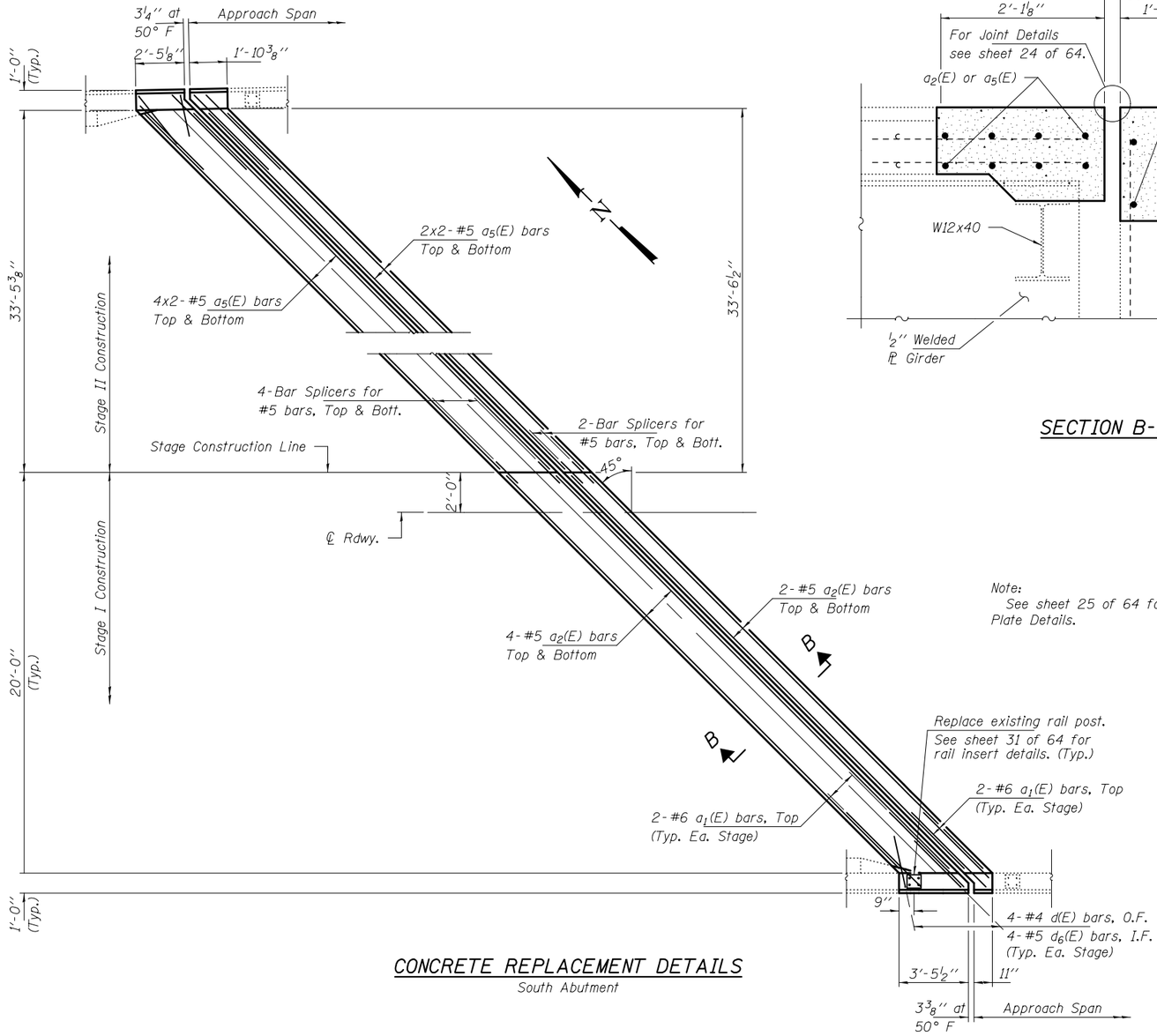
South Abutment

Note:
Hatched areas indicate
Concrete Removal.



SECTION A-A

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – SOUTH ABUTMENT SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR						474	72-4HB,HUB-1,HUBIB-R	PEORIA	196	27
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 10 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR			REVISED					ILLINOIS	FED. AID PROJECT	

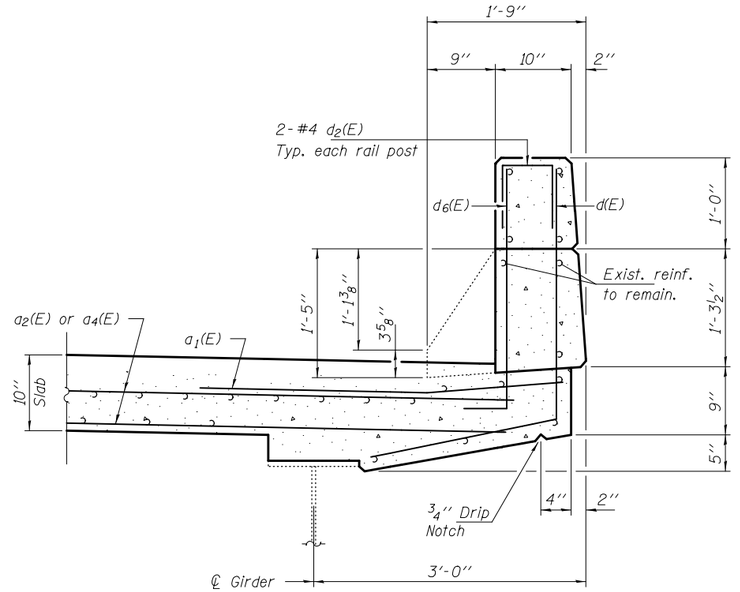


CONCRETE REPLACEMENT DETAILS

South Abutment

SECTION B-B

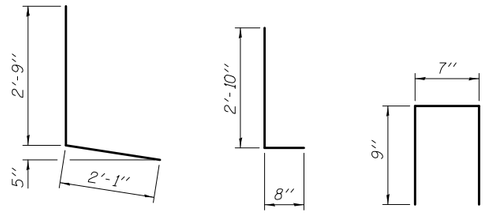
Note:
See sheet 25 of 64 for Sliding Plate Details.



TYPICAL SECTION THRU BRIDGE PARAPET AT ABUTMENT

MIN. BAR LAPS

#5 Bars = 3'-6''



BAR d(E) BAR d6(E) BAR d2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	8	#6	4'-0''	———
a2(E)	12	#5	28'-4''	———
a5(E)	24	#5	25'-5''	———
d(E)	8	#4	4'-10''	L
d2(E)	2	#4	2'-1''	⊓
d6(E)	8	#5	3'-6''	L
Concrete Removal			Cu. Yd.	10.9
Concrete Superstructure			Cu. Yd.	11.2
Bar Splicers			Each	12
Reinforcement Bars, Epoxy Coated			Pound	1100

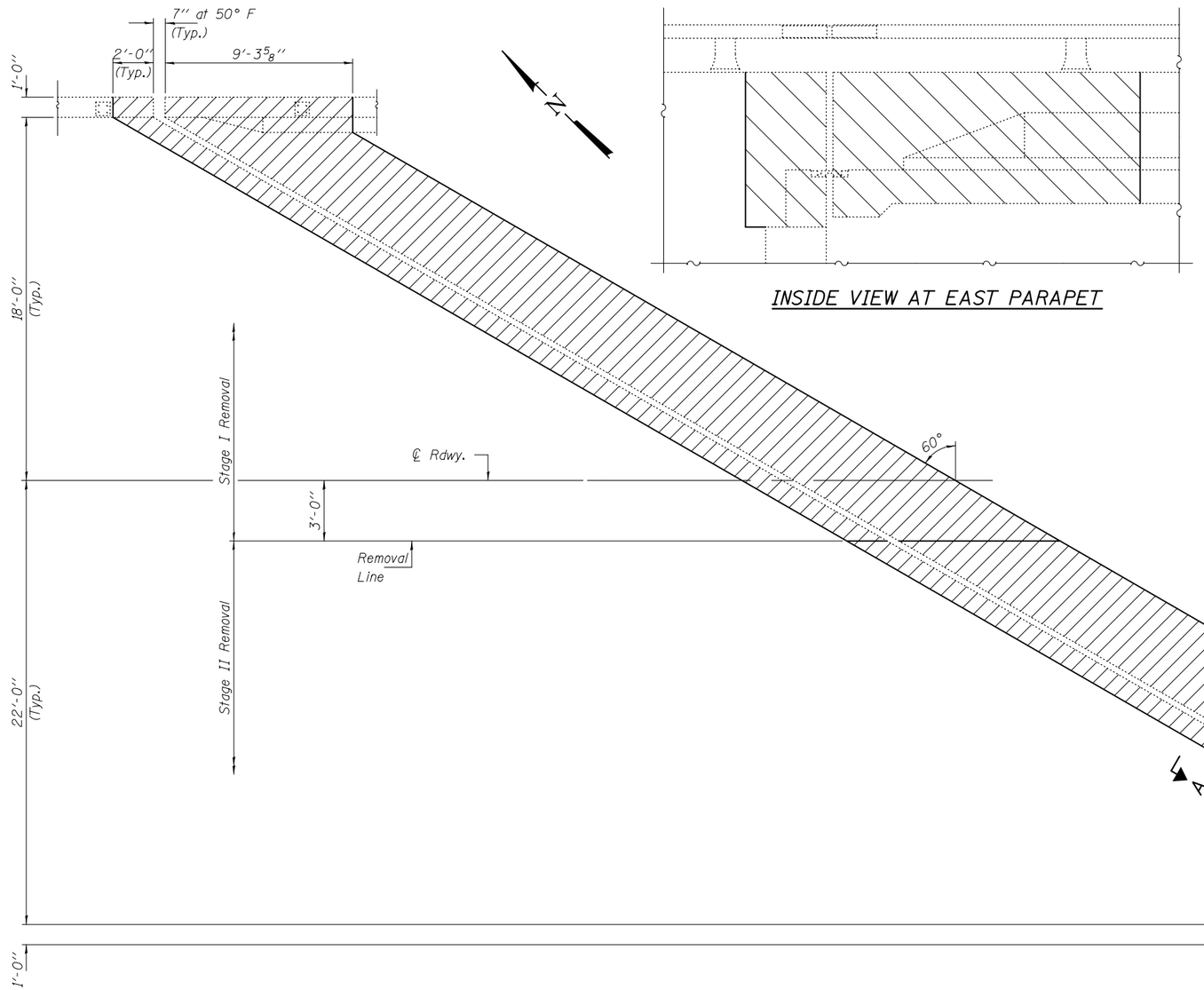
DESIGNED	JSB		
CHECKED	SMR		
DRAWN	daburdell		
CHECKED	JSB SMR		

EXAMINED Timothy A. Sheldahl
ACTING ENGINEER OF STRUCTURAL SERVICES
PASSED Carl Puzey
ENGINEER OF BRIDGES AND STRUCTURES
DATE JANUARY 31, 2018
REVISED
REVISED

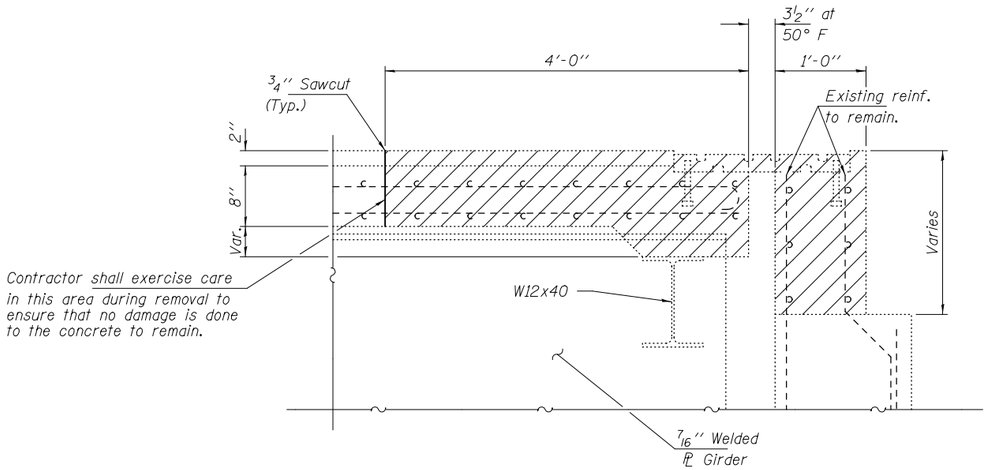
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS – SOUTH ABUTMENT
SN 072–0127 (WB)
SHEET NO. 11 OF 64 SHEETS

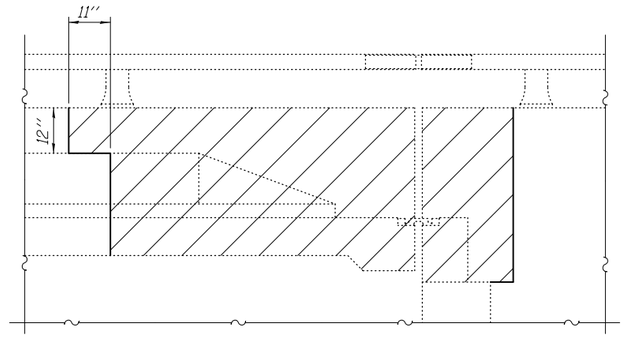
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUB3B-R	PEORIA	196	28
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



INSIDE VIEW AT EAST PARAPET



SECTION A-A



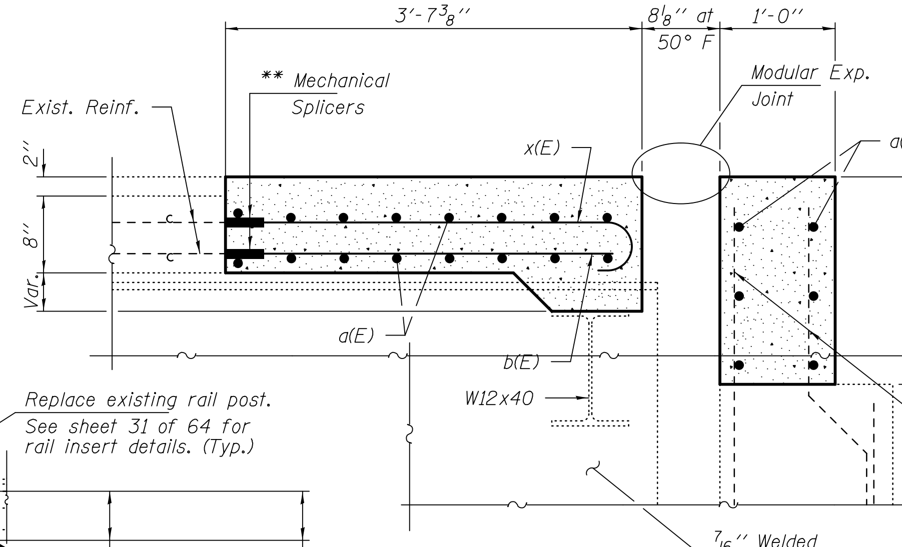
INSIDE VIEW AT WEST PARAPET

CONCRETE REMOVAL DETAILS

North Abutment

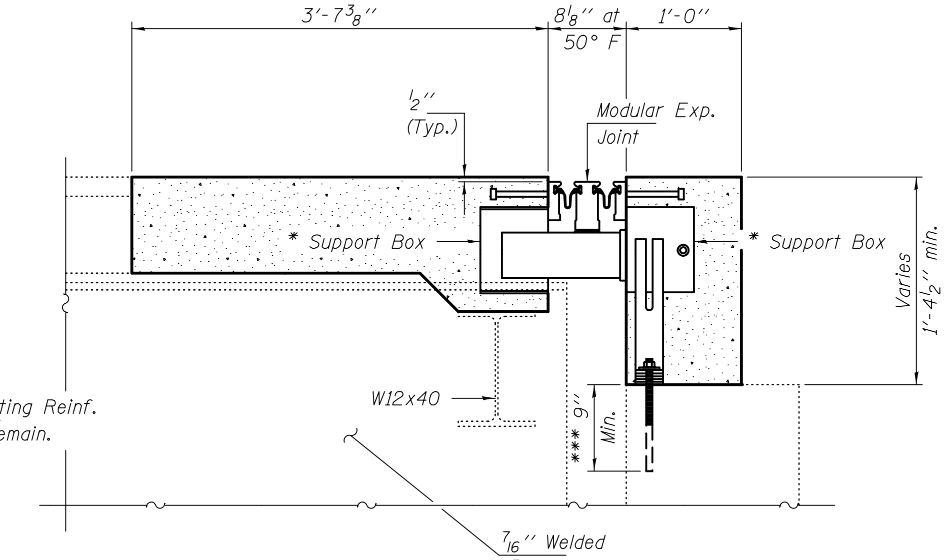
Note:
Hatched areas indicate
Concrete Removal.

DESIGNED JSB	EXAMINED	Timothy A. Sahlstrom	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – NORTH ABUTMENT SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	29
DRAWN daburdell	PASSED	D. Carl Thorpe	REVISED		SHEET NO. 12 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS FED. AID PROJECT		



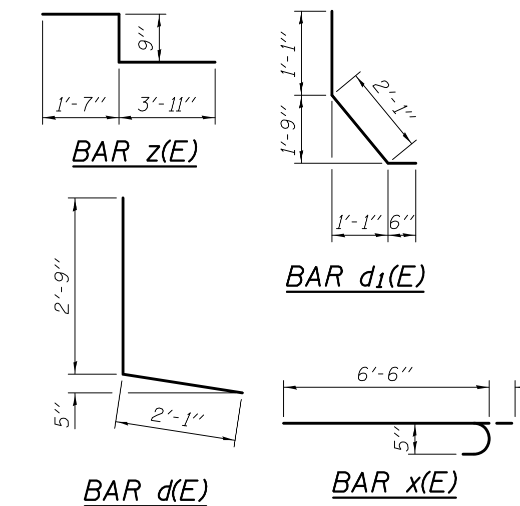
SECTION B-B

(Modular Joint not shown for clarity)



SECTION B-B

(Reinforcement not shown for clarity)

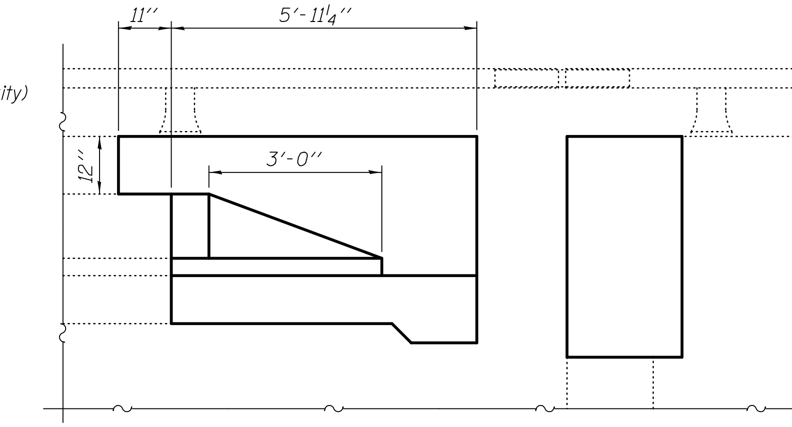


* Support Box spacing per manufacturer. Support Boxes to be rigidly attached to diaphragms, beams and abutment wall by adjustable brackets, stools, or shims as determined by manufacturer. Support Boxes to be spaced so they do not interfere with existing top flange of girders.

** Cut existing reinforcement 6'' from removal line to facilitate installation of Mechanical Splicers.

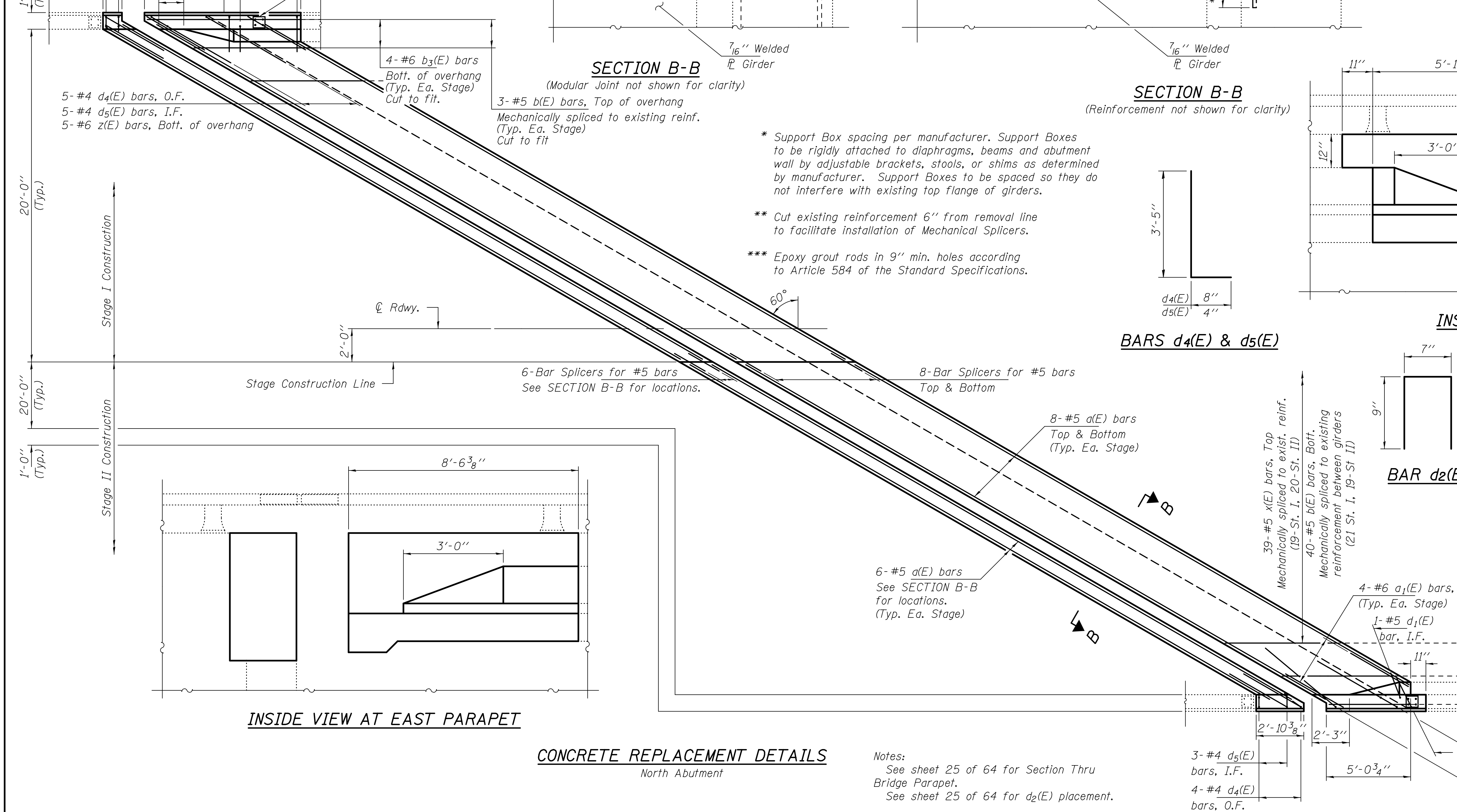
*** Epoxy grout rods in 9'' min. holes according to Article 584 of the Standard Specifications.

BARS $d_4(E)$ & $d_5(E)$



INSIDE VIEW AT WEST PARAPET

BAR $d_2(E)$



N
Approach Span
1'-4 1/4'' at 50° F (Typ.)
1'-1 5/8''
9'-4 3/4''
2-#4 d4(E) bars, O.F.
2-#4 d5(E) bars, I.F.
6-#4 d(E) bars, O.F.
5-#5 d1(E) bars, I.F.
1'-6''
Replace existing rail post. See sheet 31 of 64 for rail insert details. (Typ.)
1'-0'' (Typ.)
4-#6 b3(E) bars Bott. of overhang (Typ. Ea. Stage) Cut to fit.
5-#4 d4(E) bars, O.F.
5-#4 d5(E) bars, I.F.
5-#6 z(E) bars, Bott. of overhang
3-#5 b(E) bars, Top of overhang Mechanically spliced to existing reinf. (Typ. Ea. Stage) Cut to fit
20'-0'' (Typ.)
Stage I Construction
℄ Rdwy.
60°
2'-0''
Stage Construction Line
6-Bar Splicers for #5 bars See SECTION B-B for locations.
8-Bar Splicers for #5 bars Top & Bottom
20'-0'' (Typ.)
1'-0'' (Typ.)
Stage II Construction
8-#5 a(E) bars Top & Bottom (Typ. Ea. Stage)
39-#5 x(E) bars, Top Mechanically spliced to exist. reinf. (19-St. I, 20-St. II)
40-#5 b(E) bars, Bott. Mechanically spliced to existing reinforcement between girders (21 St. I, 19-St II)
B
B
6-#5 a(E) bars See SECTION B-B for locations. (Typ. Ea. Stage)
4-#6 a1(E) bars, Top (Typ. Ea. Stage)
1-#5 d1(E) bar, I.F.
11''
2'-10 3/8''
2'-3''
1-#4 d(E) bar, O.F.
3-#4 d5(E) bars, I.F.
4-#4 d4(E) bars, O.F.
5'-0 3/4''
5-#4 d4(E) bars, O.F.
5-#5 d5(E) bars, I.F.
5-#6 z(E) bars, Bott. of overhang See sheet 25 of 64.

INSIDE VIEW AT EAST PARAPET

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	44	#5	40'-2''	——
a1(E)	12	#6	4'-0''	——
b(E)	46	#5	6'-6''	——
b3(E)	8	#6	6'-6''	——
d(E)	7	#4	4'-10''	L
d1(E)	6	#5	3'-8''	L
d2(E)	4	#4	2'-1''	⊓
d4(E)	16	#4	4'-1''	L
d5(E)	15	#4	3'-9''	L
x(E)	39	#5	7'-1''	⊂
z(E)	10	#6	6'-3''	⌐
Concrete Removal		Cu. Yd.	18.8	
Concrete Superstructure		Cu. Yd.	18.4	
Bar Splicers		Each	22	
Mechanical Splicers		Each	85	
Reinforcement Bars, Epoxy Coated		Pound	2840	

CONCRETE REPLACEMENT DETAILS

North Abutment

Notes:

See sheet 25 of 64 for Section Thru Bridge Parapet.

See sheet 25 of 64 for $d_2(E)$ placement.

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR		REVISED	
DRAWN daburdell	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR			

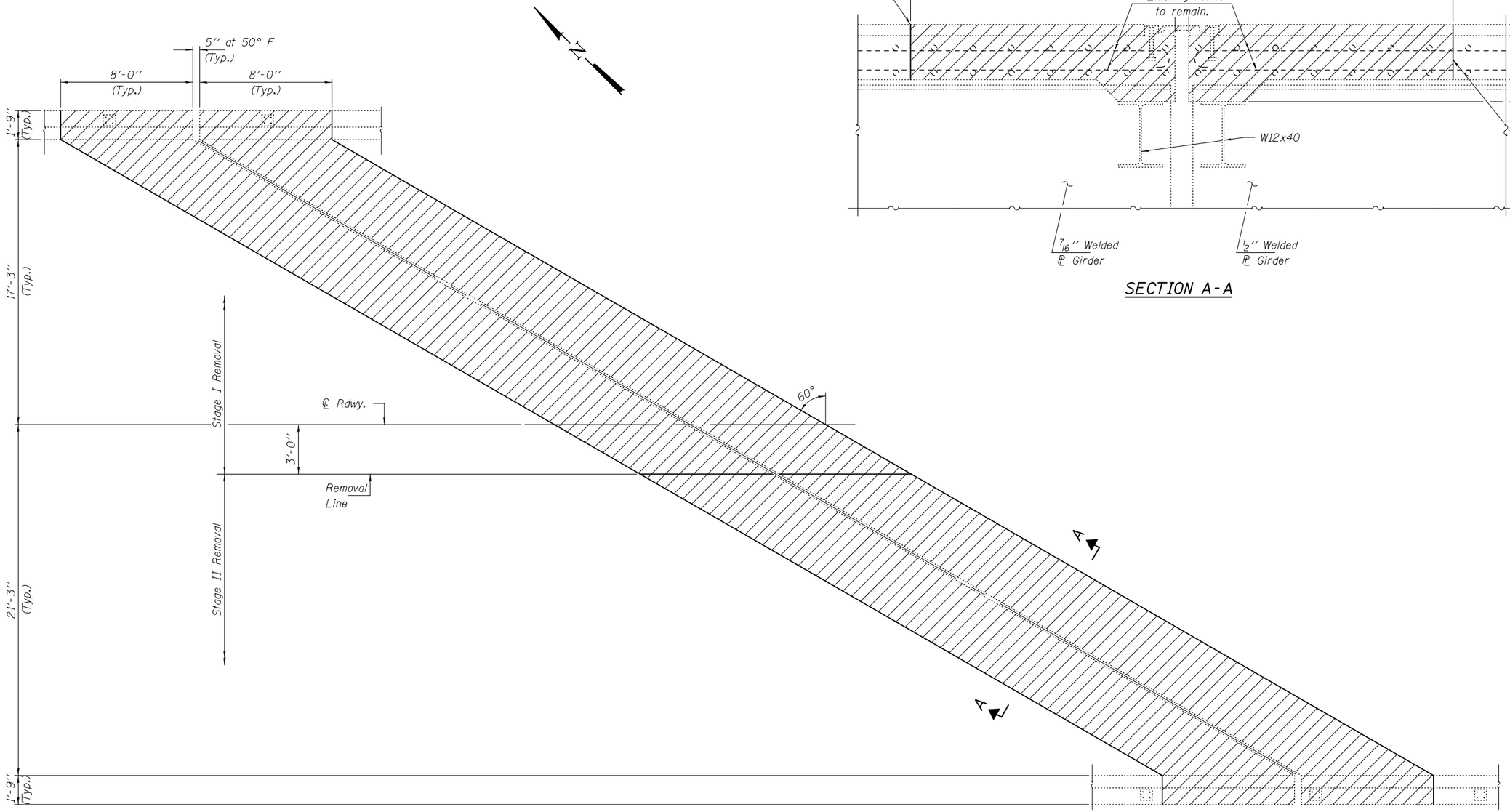
JOINT REPLACEMENT DETAILS – NORTH ABUTMENT
SN 072–0128 (EB)

SHEET NO. 13 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	30

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



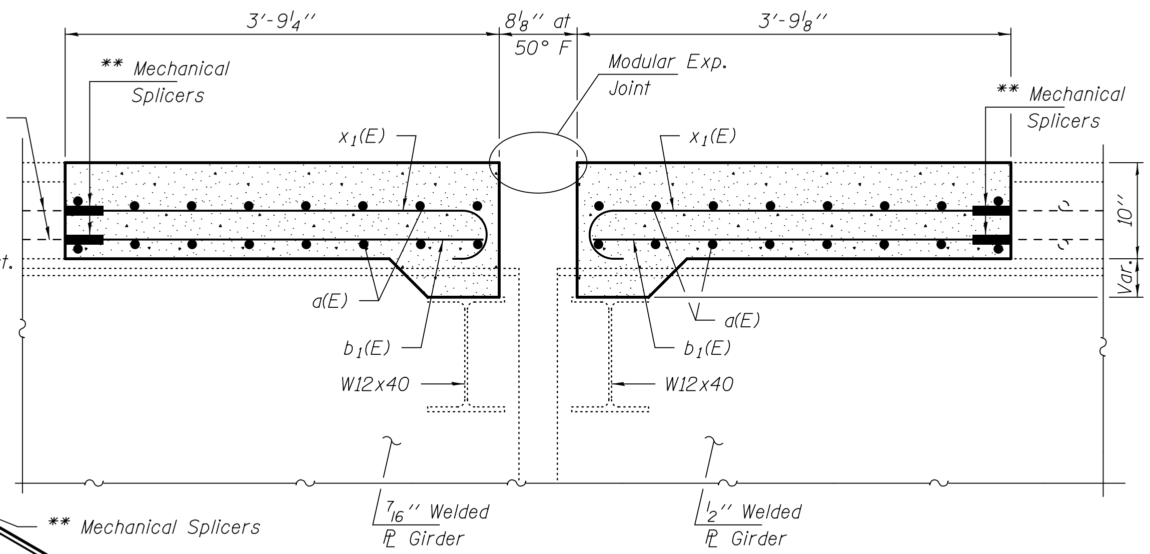
CONCRETE REMOVAL DETAILS

Pier 3

SECTION A-A

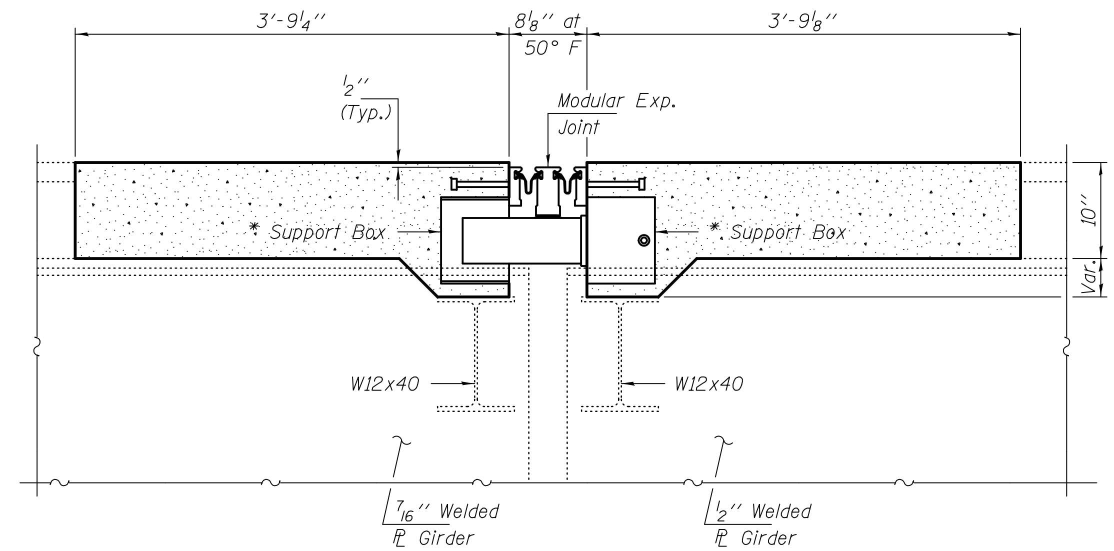
Note:
Hatched areas indicate
Concrete Removal.

DESIGNED JSB	EXAMINED	Timothy A. Sandgren	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – PIER 3 SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	31
DRAWN daburdell	PASSED	H. Carl Tunzy	REVISED		SHEET NO. 14 OF 64 SHEETS			CONTRACT NO. 68887		
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED				ILLINOIS FED. AID PROJECT			



SECTION B-B

(Modular Joint not shown for clarity)

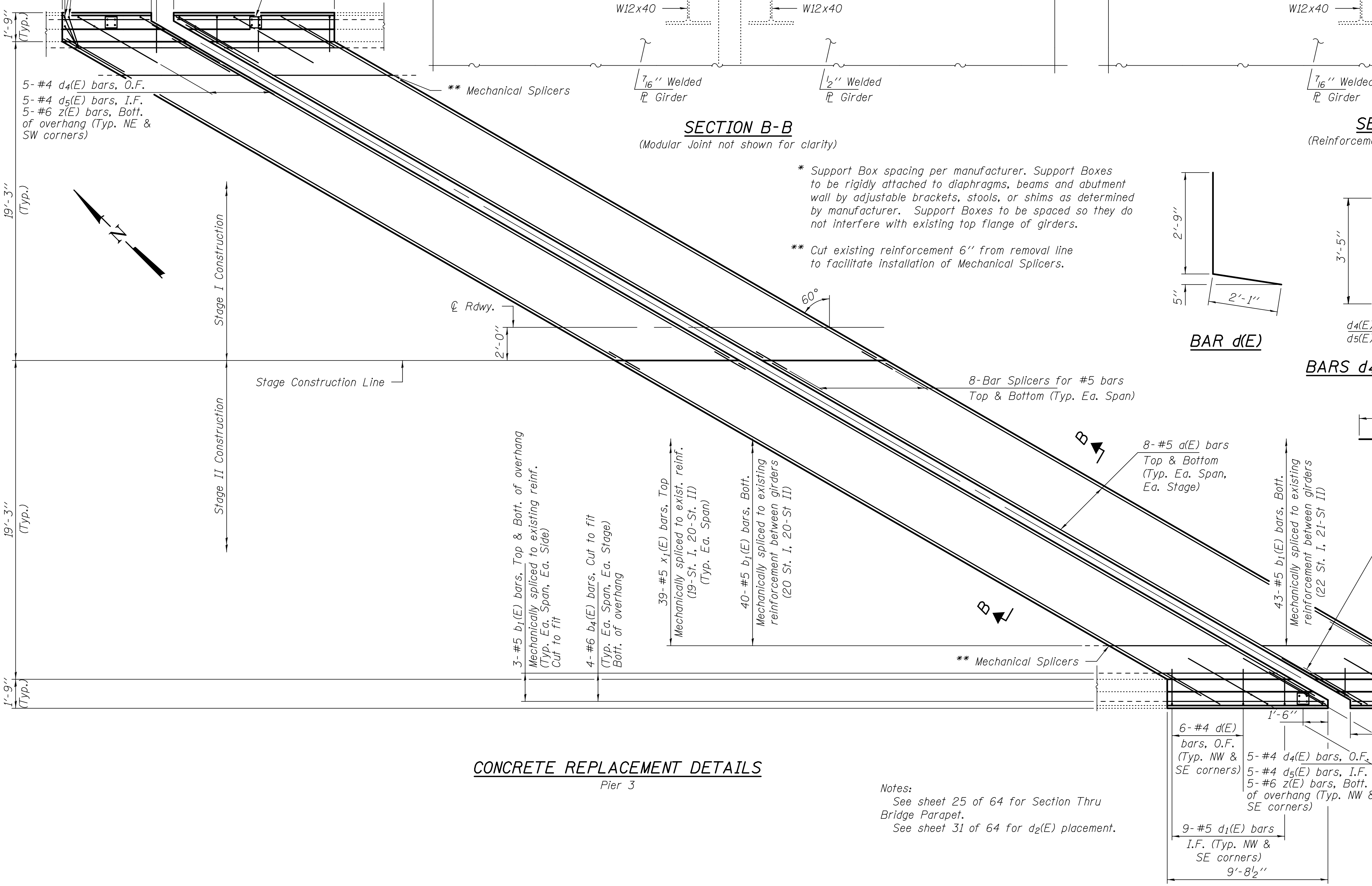


SECTION B-B

(Reinforcement not shown for clarity)

* Support Box spacing per manufacturer. Support Boxes to be rigidly attached to diaphragms, beams and abutment wall by adjustable brackets, stools, or shims as determined by manufacturer. Support Boxes to be spaced so they do not interfere with existing top flange of girders.

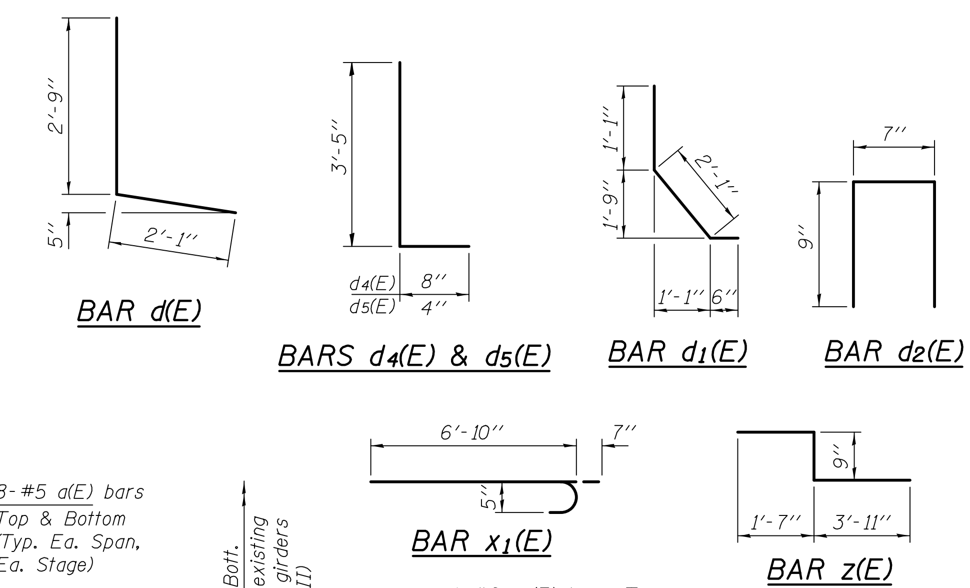
** Cut existing reinforcement 6" from removal line to facilitate installation of Mechanical Splicers.



CONCRETE REPLACEMENT DETAILS

Pier 3

Notes:
See sheet 25 of 64 for Section Thru Bridge Parapet.
See sheet 31 of 64 for $d_2(E)$ placement.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	64	#5	40'-2"	——
a1(E)	16	#6	4'-0"	——
b1(E)	95	#5	6'-10"	——
b4(E)	16	#6	6'-10"	——
d(E)	16	#4	4'-10"	L
d1(E)	32	#5	3'-8"	L
d2(E)	6	#4	2'-1"	⊓
d4(E)	20	#4	4'-1"	L
d5(E)	20	#4	3'-9"	L
x1(E)	79	#5	7'-5"	⊂—
z(E)	20	#6	6'-3"	_⌐‾
Concrete Removal			Cu. Yd.	26.0
Concrete Superstructure			Cu. Yd.	26.0
Bar Splicers			Each	32
Mechanical Splicers			Each	173
Reinforcement Bars, Epoxy Coated			Pound	4650

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
DRAWN daburdell			REVISED
CHECKED JSB SMR			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

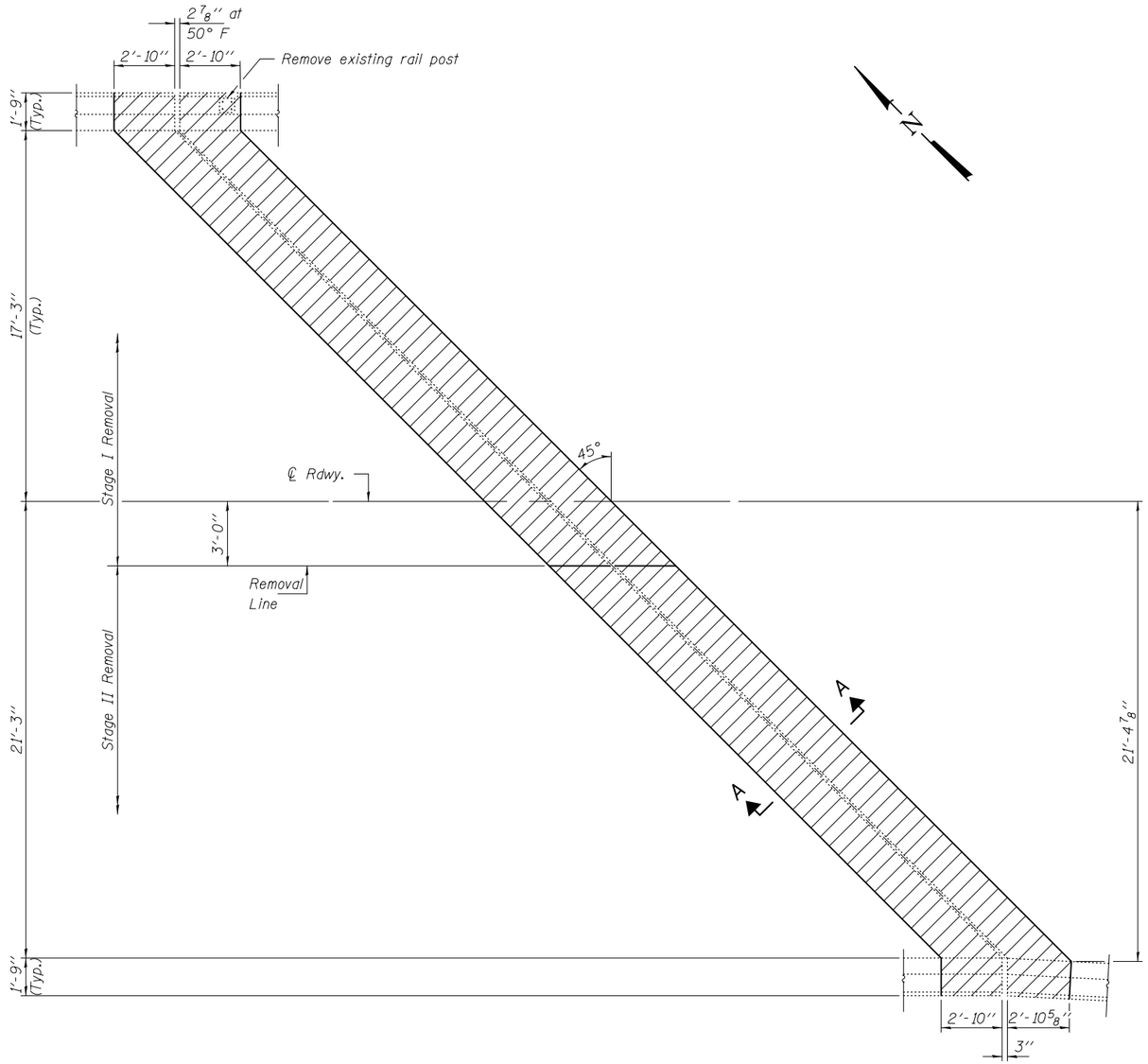
JOINT REPLACEMENT DETAILS – PIER 3
SN 072–0128 (EB)

SHEET NO. 15 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	32

CONTRACT NO. 68887

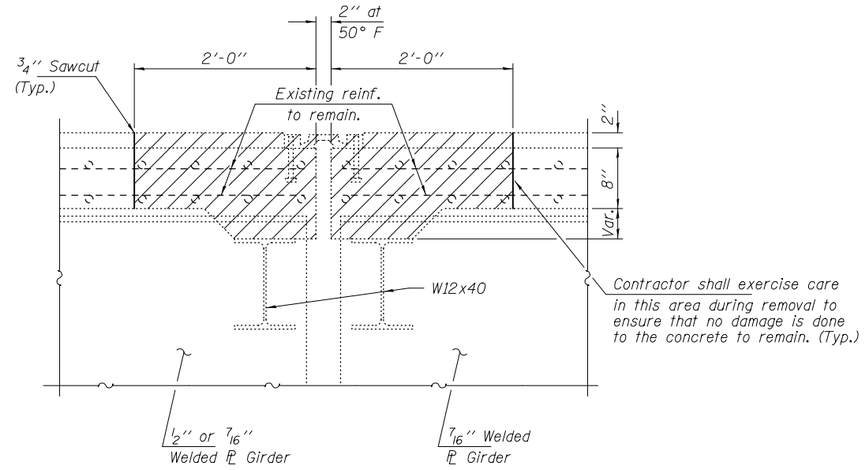
ILLINOIS FED. AID PROJECT



CONCRETE REMOVAL DETAILS

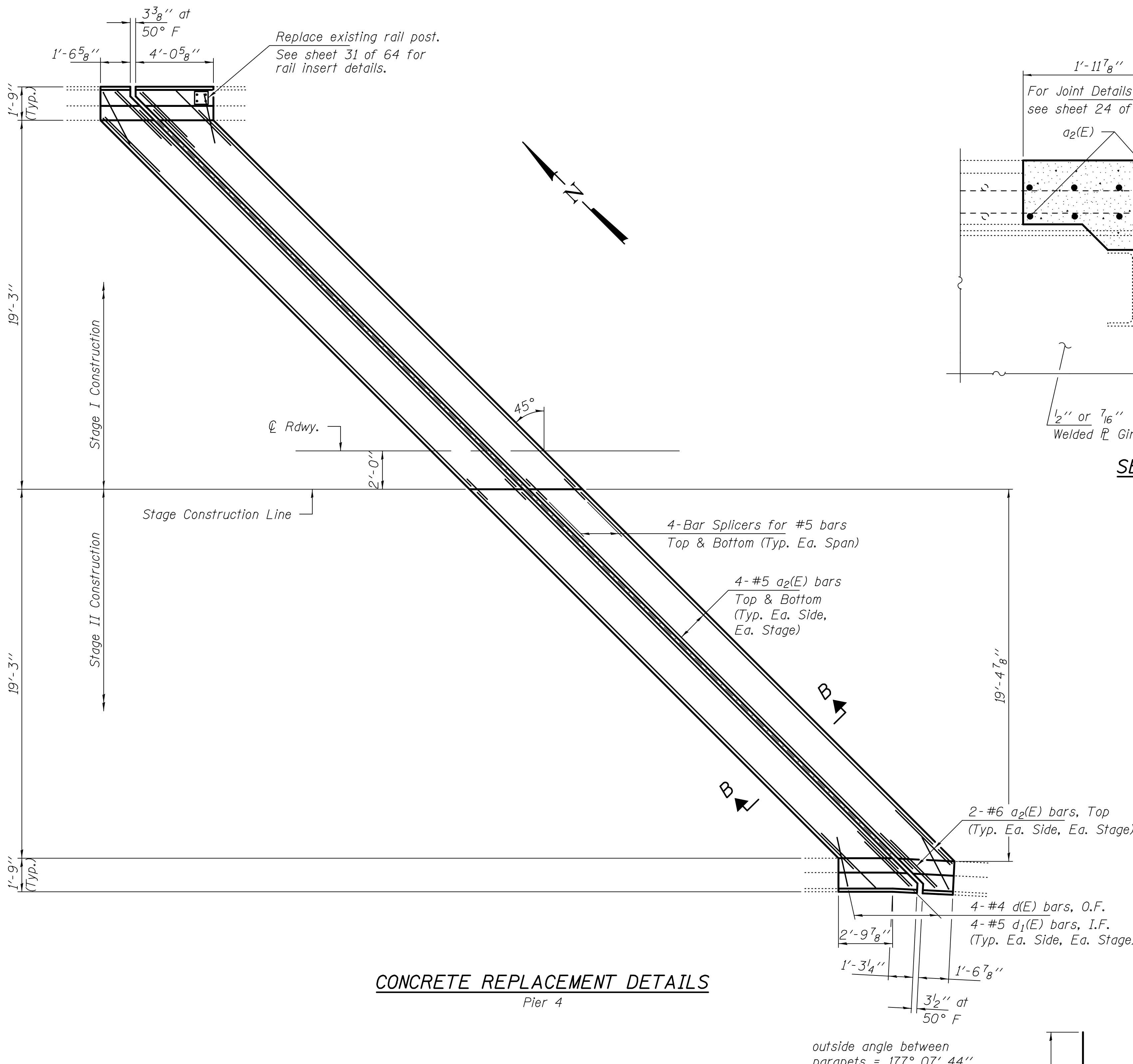
Pier 4

Note:
Hatched areas indicate
Concrete Removal.



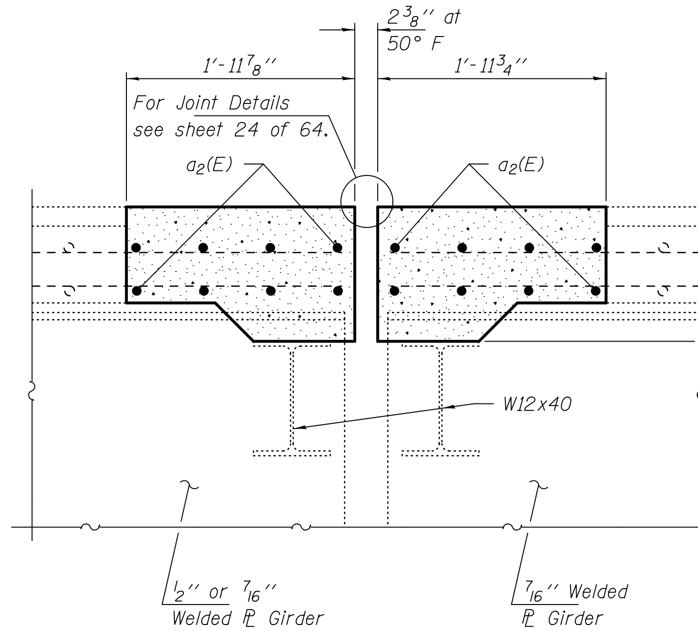
SECTION A-A

DESIGNED JSB	EXAMINED	Timothy A. Sandgathe	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – PIER 4 SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	33
DRAWN daburdell	PASSED	A. Carl Kruger	REVISED		SHEET NO. 16 OF 64 SHEETS			CONTRACT NO. 68887		
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED				ILLINOIS FED. AID PROJECT			

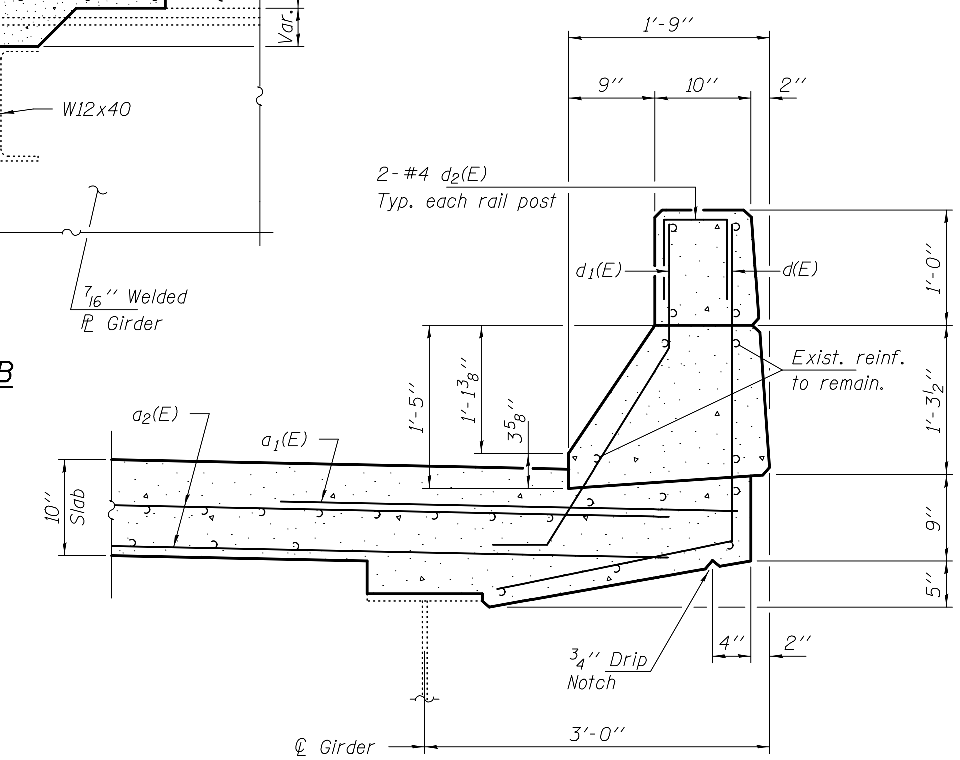


CONCRETE REPLACEMENT DETAILS

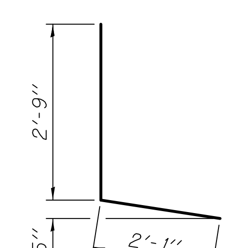
Pier 4



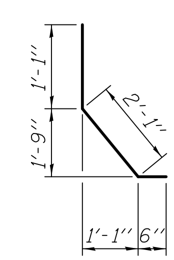
SECTION B-B



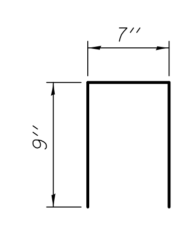
TYPICAL SECTION THRU BRIDGE PARAPET



BAR d(E)



BAR $d_1(E)$



BAR $d_2(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_1(E)$	8	#6	4′-0″	———
$a_2(E)$	32	#5	28′-4″	———
$d(E)$	16	#4	4′-10″	L
$d_1(E)$	16	#5	3′-8″	L
$d_2(E)$	2	#4	2′-1″	⊓
Concrete Removal			Cu. Yd.	9.9
Concrete Superstructure			Cu. Yd.	9.9
Bar Splicers			Each	16
Reinforcement Bars, Epoxy Coated			Pound	1110

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR			
DRAWN daburdell	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR		REVISED	

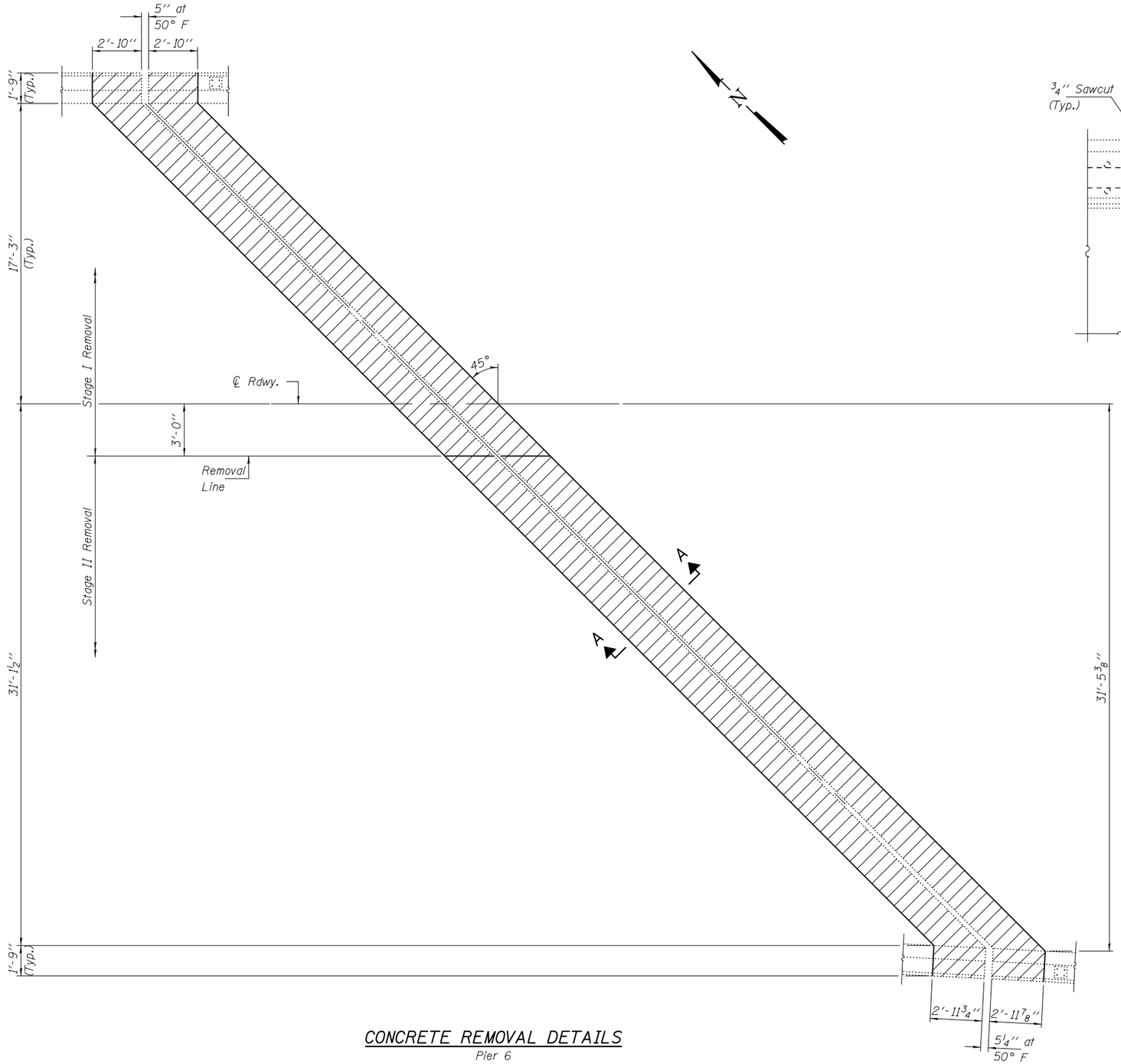
JOINT REPLACEMENT DETAILS – PIER 4
SN 072–0128 (EB)

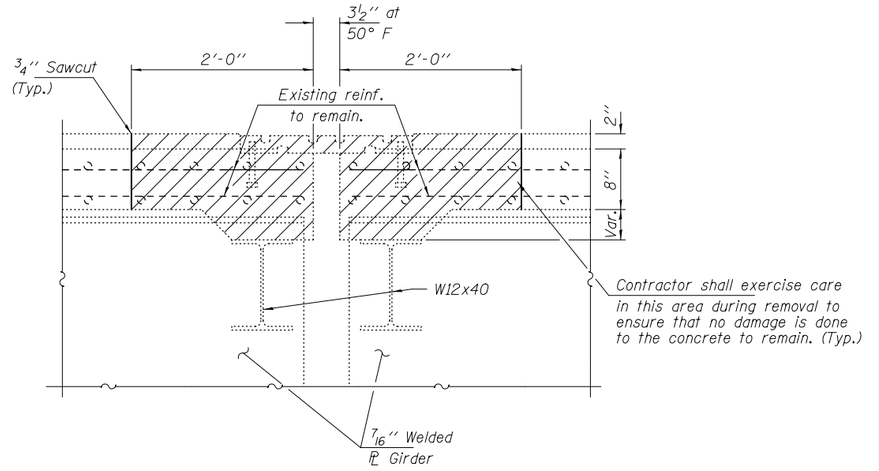
SHEET NO. 17 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	34

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT





SECTION A-A

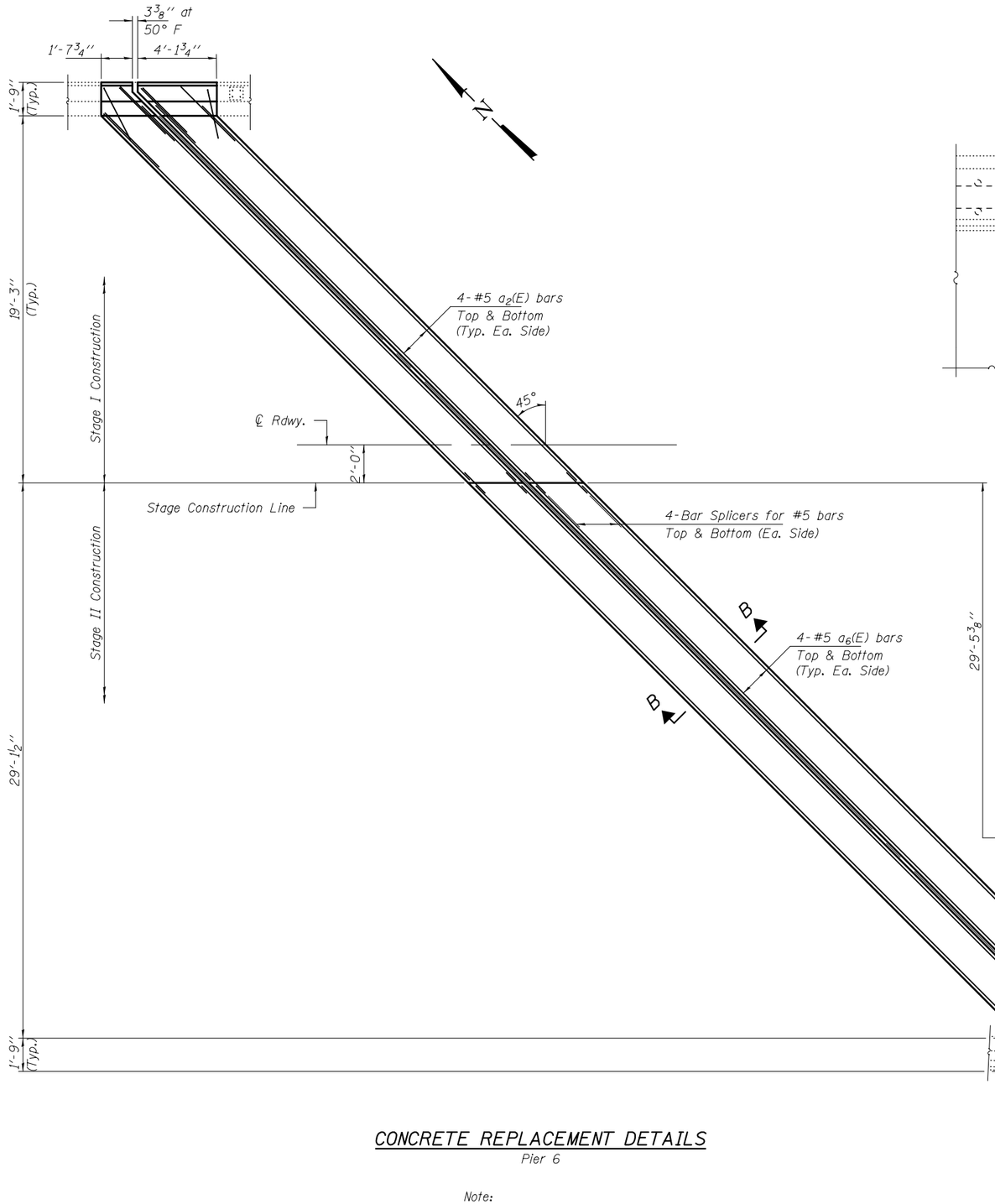
CONCRETE REMOVAL DETAILS

Pier 6

Note:
Hatched areas indicate
Concrete Removal.

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – PIER 6 SN 072–0128 (EB)	
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES				
DRAWN daburdell	PASSED	REVISED		SHEET NO. 18 OF 64 SHEETS	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED			

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	35
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

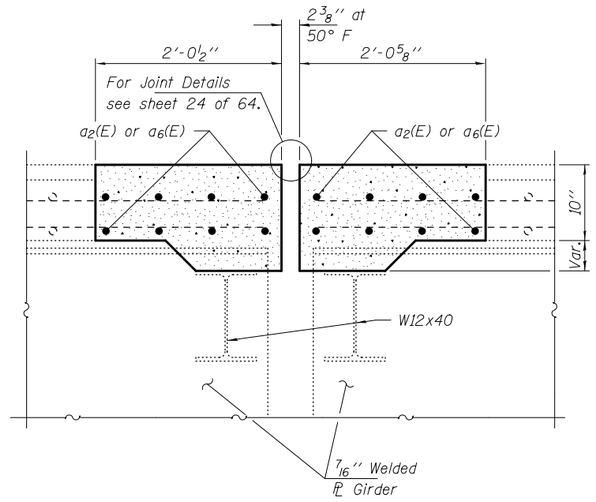


CONCRETE REPLACEMENT DETAILS

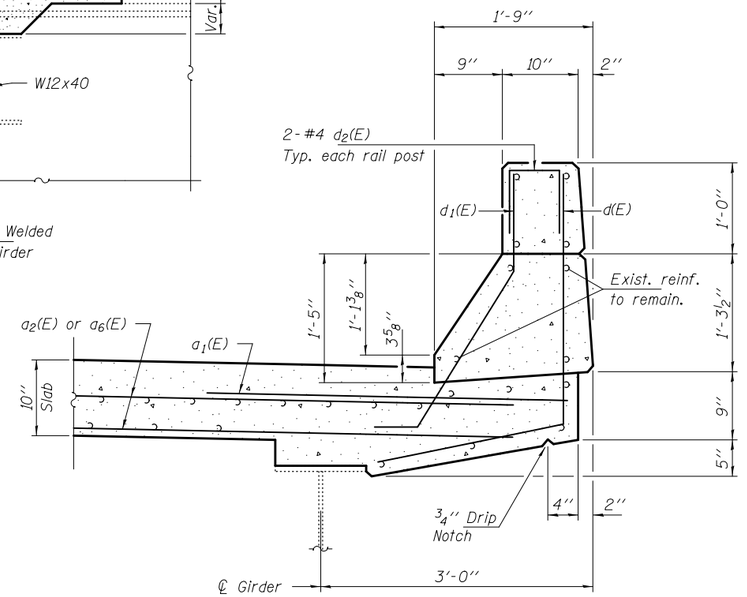
Pier 6

Note:
Hatched areas indicate
Concrete Removal.

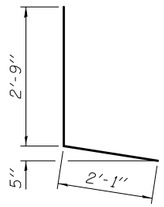
outside angle between
parapets = 179° 50' 38"



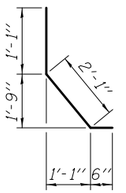
SECTION B-B



TYPICAL SECTION THRU BRIDGE PARAPET



BAR d(E)



BAR $d_1(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_1(E)$	8	#6	4'-0"	—
$a_2(E)$	16	#5	28'-4"	—
$a_6(E)$	16	#5	42'-9"	—
d(E)	16	#4	4'-10"	L
$d_1(E)$	16	#5	3'-8"	⌊
$d_2(E)$	4	#4	2'-1"	⊓
Concrete Removal			Cu. Yd.	12.1
Concrete Superstructure			Cu. Yd.	12.5
Bar Splicers			Each	16
Reinforcement Bars, Epoxy Coated			Pound	1350

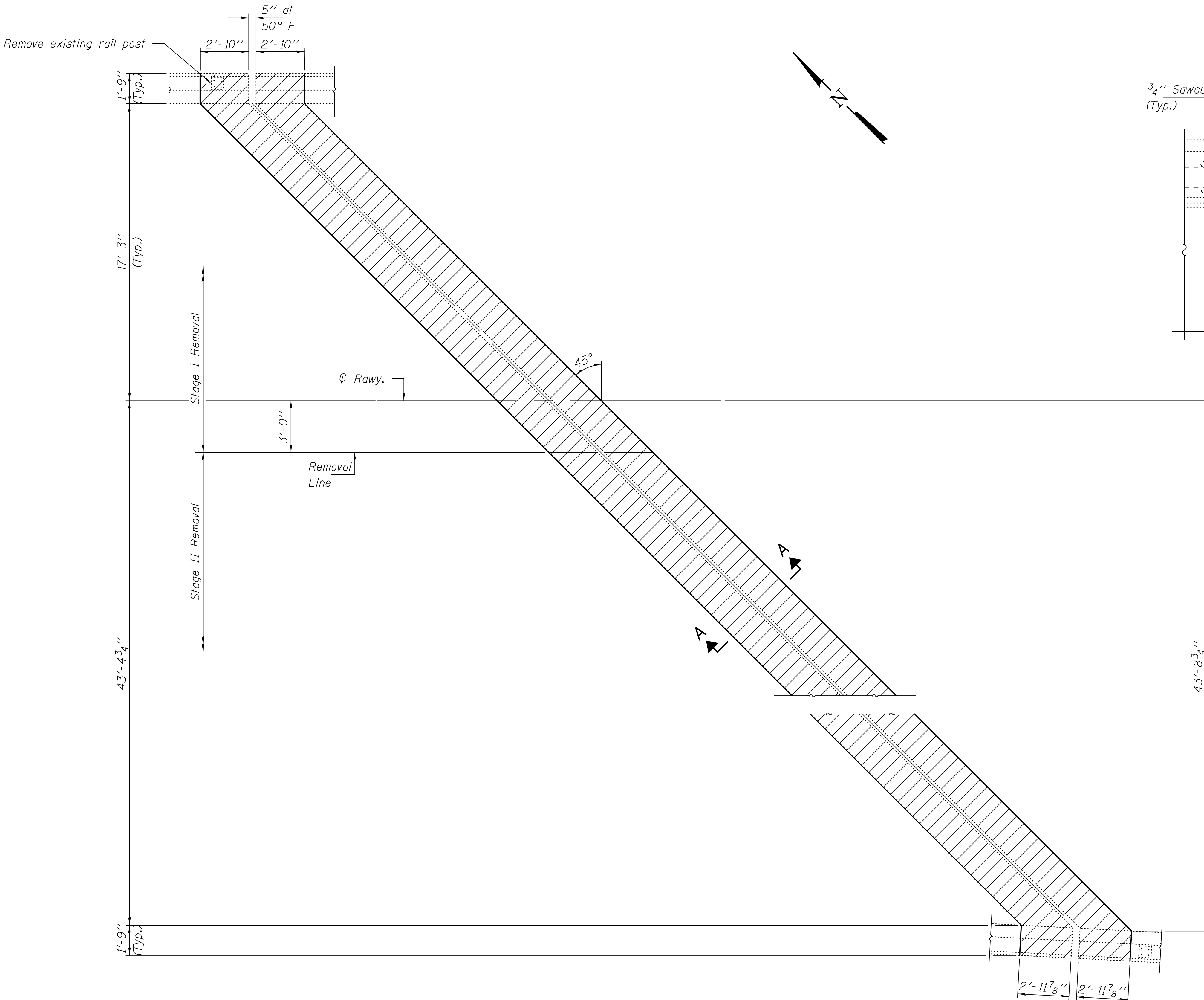
DESIGNED	JSB		
CHECKED	SMR		
DRAWN	daburdell		
CHECKED	JSB SMR		

EXAMINED — Timothy A. Sheldahl, ACTING ENGINEER OF STRUCTURAL SERVICES
PASSED — A. Carl Preuss, ENGINEER OF BRIDGES AND STRUCTURES
DATE JANUARY 31, 2018
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS – PIER 6
SN 072–0128 (EB)
SHEET NO. 19 OF 64 SHEETS

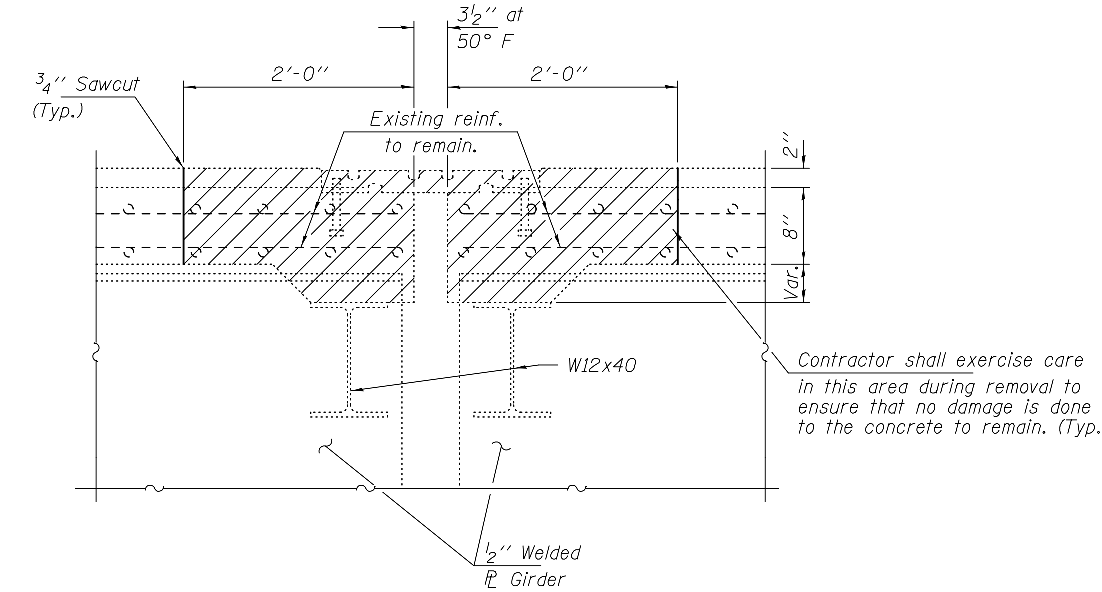
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUBIB-R	PEORIA	196	36
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



CONCRETE REMOVAL DETAILS

Pier 8

Note:
Hatched areas indicate Concrete Removal.



SECTION A-A

DESIGNED	JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES
CHECKED	SMR		
DRAWN	daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	JSB SMR		

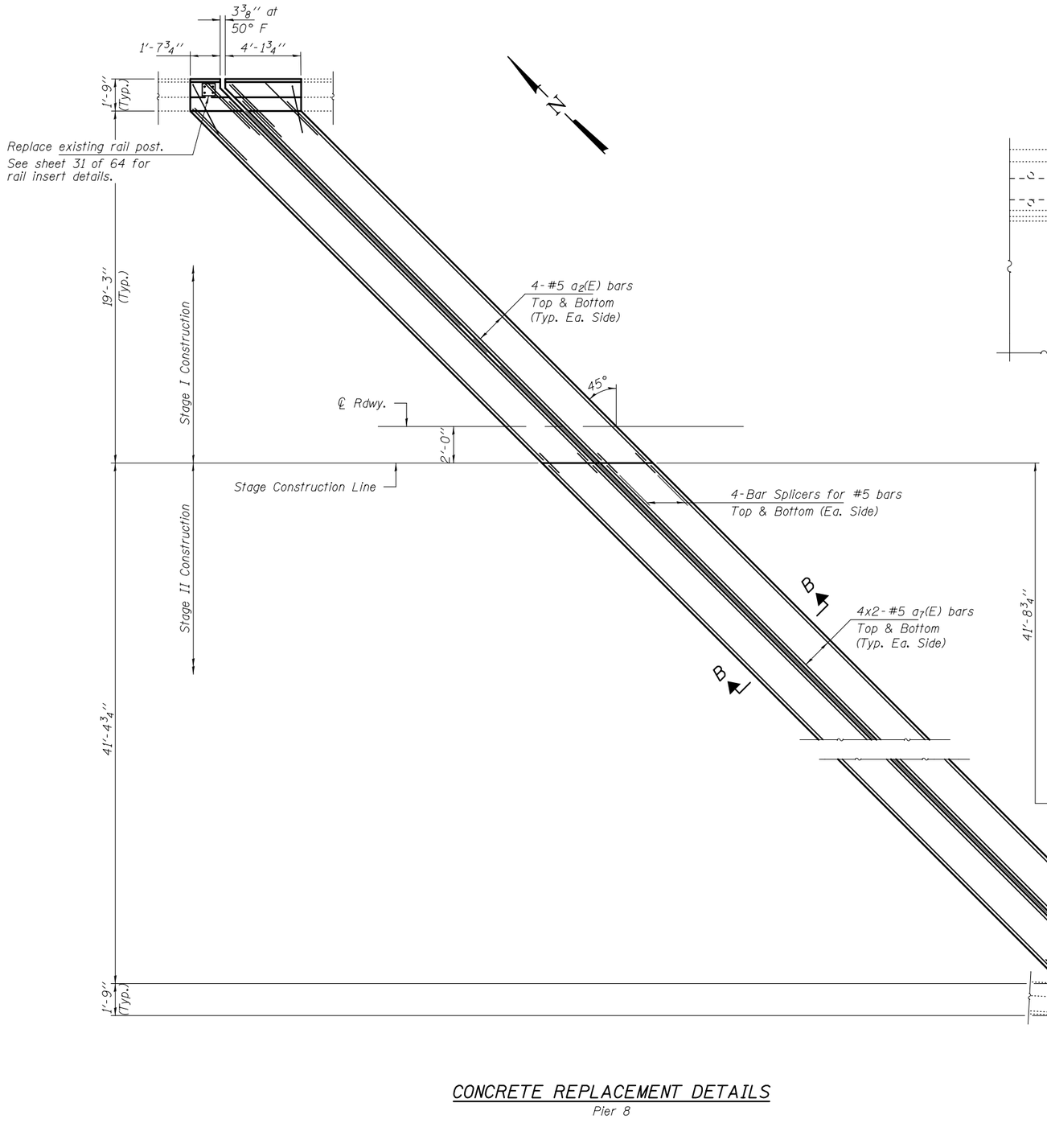
DATE JANUARY 31, 2018
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REMOVAL DETAILS – PIER 8
SN 072–0128 (EB)

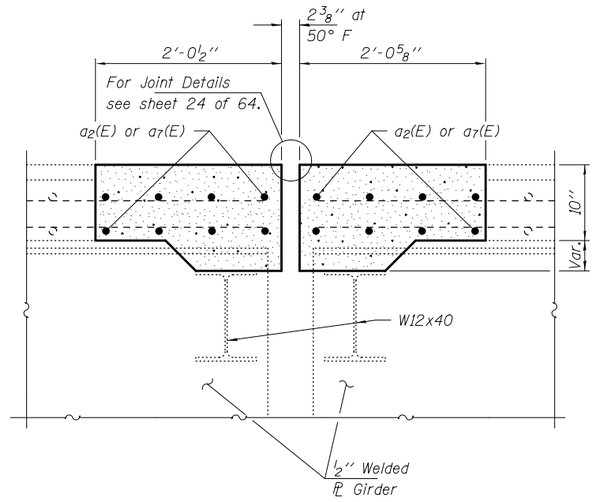
SHEET NO. 20 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	37
		CONTRACT NO. 68887		
		ILLINOIS FED. AID PROJECT		

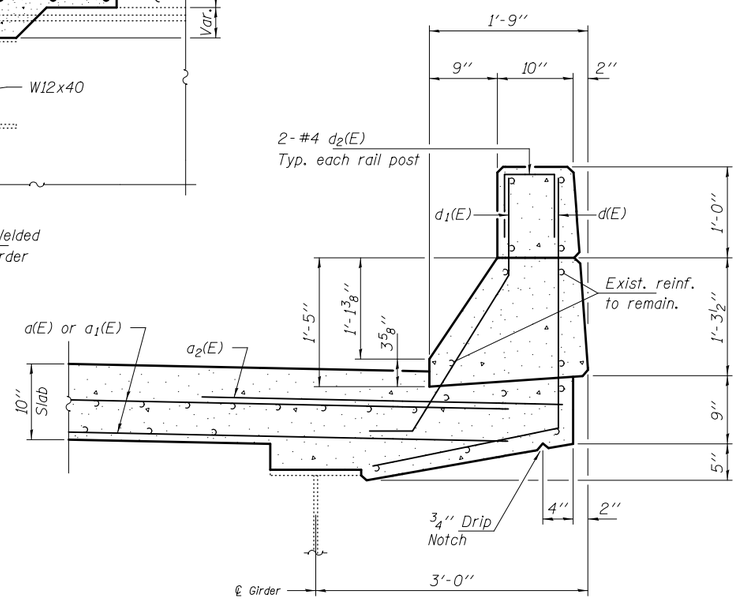


CONCRETE REPLACEMENT DETAILS

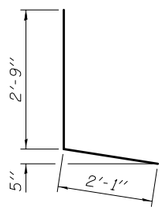
Pier 8



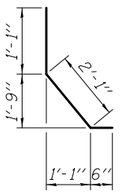
SECTION B-B



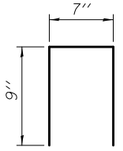
TYPICAL SECTION THRU BRIDGE PARAPET



BAR d(E)



BAR $d_1(E)$



BAR $d_2(E)$

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_1(E)$	8	#6	4'-0''	———
$a_2(E)$	16	#5	28'-4''	———
$a_7(E)$	32	#5	31'-9''	———
d(E)	16	#4	4'-10''	L
$d_1(E)$	16	#5	3'-8''	⌊
$d_2(E)$	2	#4	2'-1''	⊓
Concrete Removal		Cu. Yd.	14.7	
Concrete Superstructure		Cu. Yd.	15.1	
Bar Splicers		Each	16	
Reinforcement Bars, Epoxy Coated		Pound	1700	

MIN. BAR LAPS

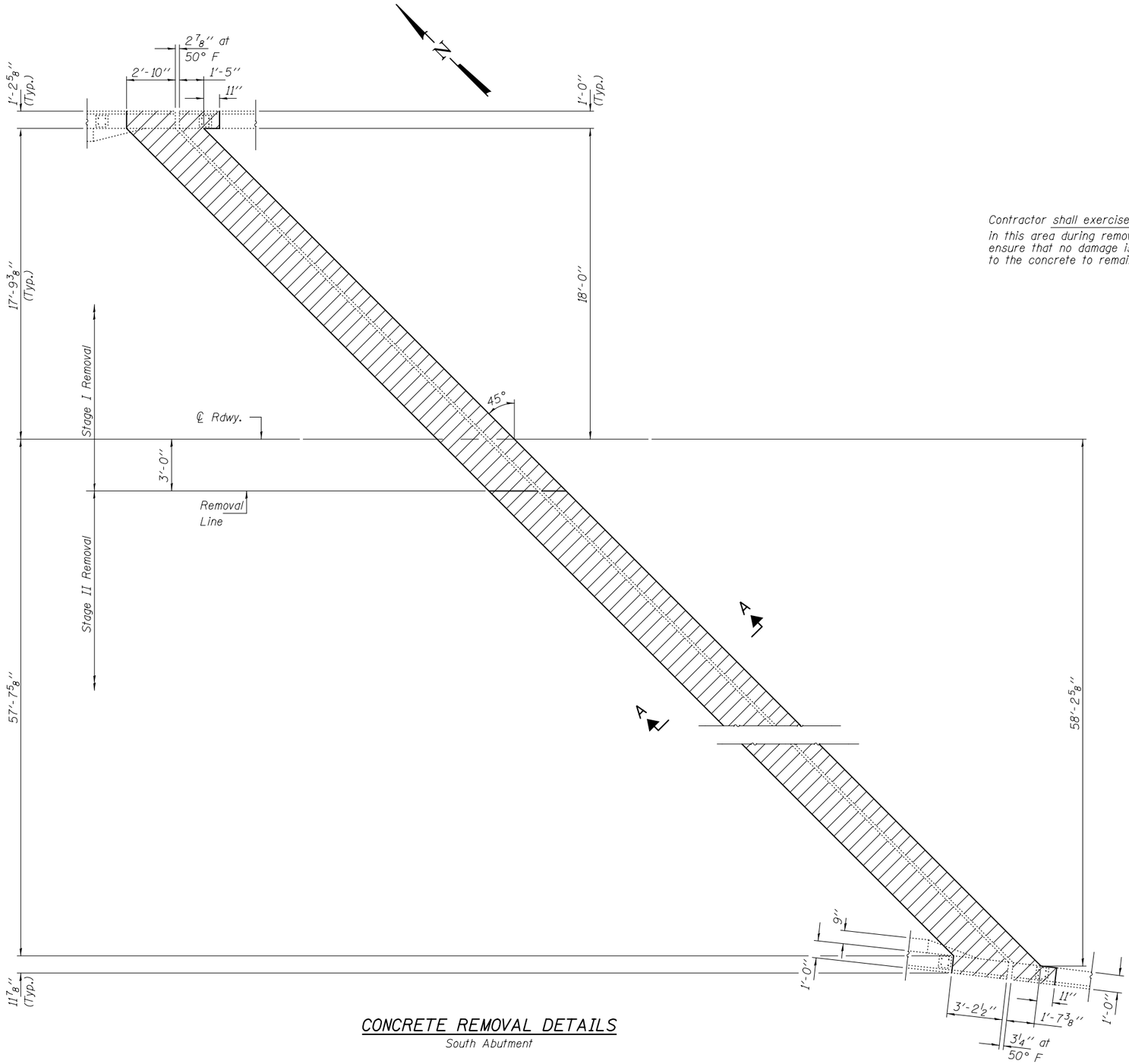
#5 Bars = 3'-6''

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES		
DRAWN daburdell	PASSED	REVISED	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

JOINT REPLACEMENT DETAILS – PIER 8
SN 072–0128 (EB)

SHEET NO. 21 OF 64 SHEETS

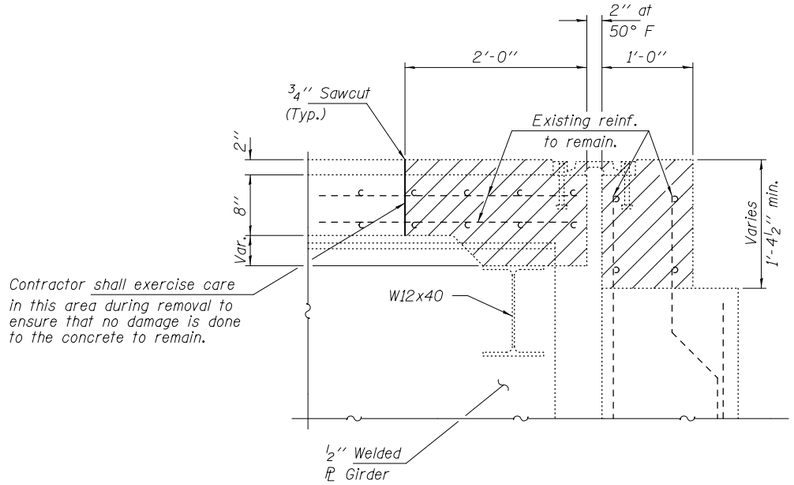
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	38
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



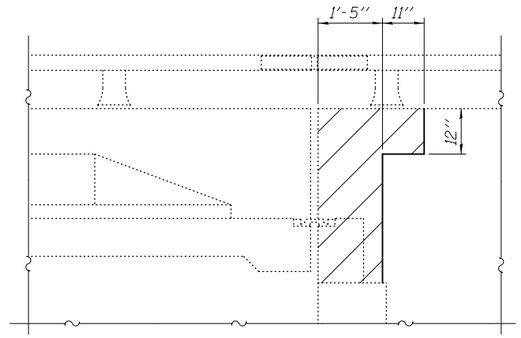
CONCRETE REMOVAL DETAILS

South Abutment

Note:
Hatched areas indicate Concrete Removal.



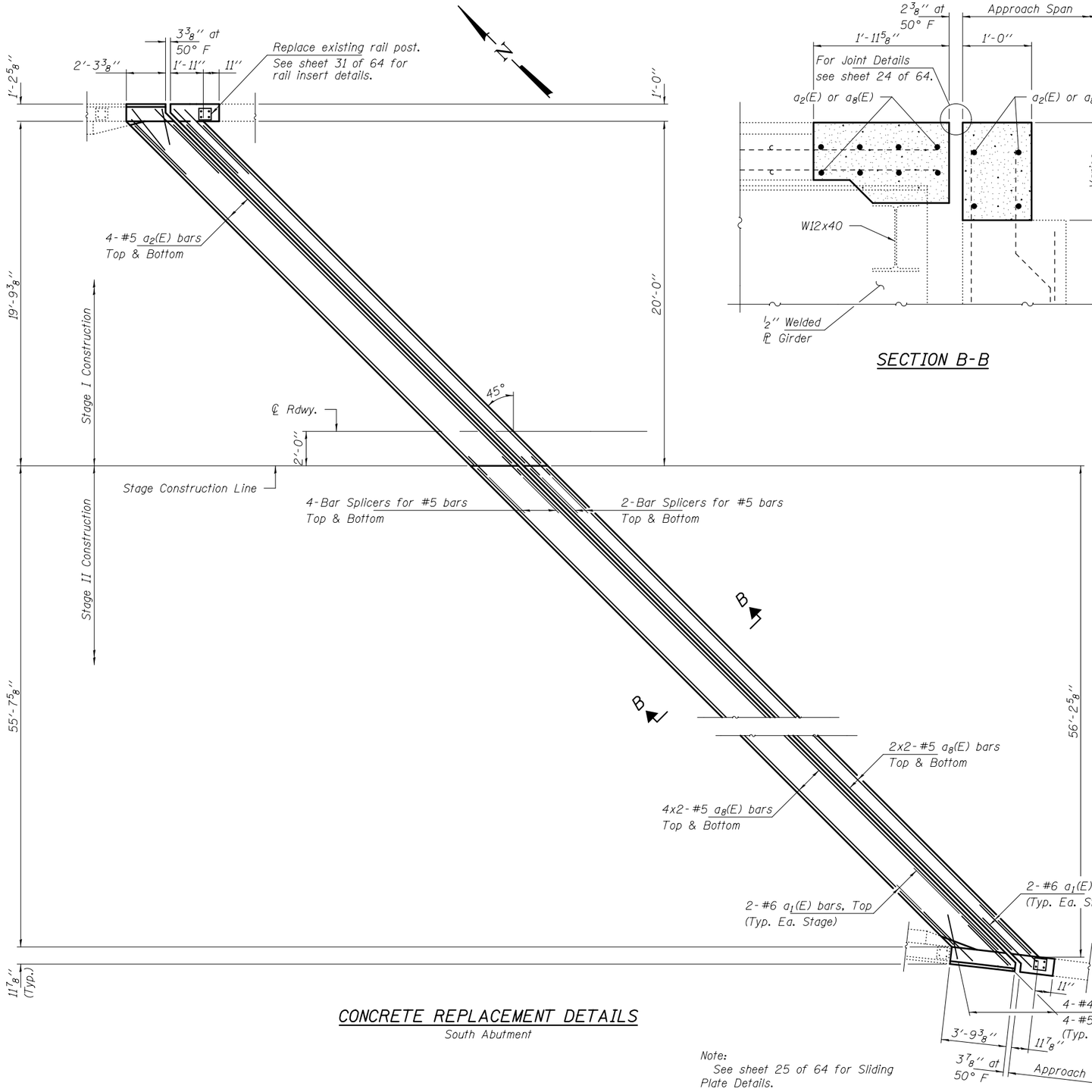
SECTION A-A



INSIDE VIEW AT EAST PARAPET

(West Parapet Similar)

DESIGNED JSB	EXAMINED Timothy A. Sandgathe ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	JOINT REMOVAL DETAILS – SOUTH ABUTMENT SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR					474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	39
DRAWN daburdell	PASSED A. Carl Kruger ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 22 OF 64 SHEETS			CONTRACT NO. 68887		
CHECKED JSB SMR		REVISED				ILLINOIS FED. AID PROJECT			

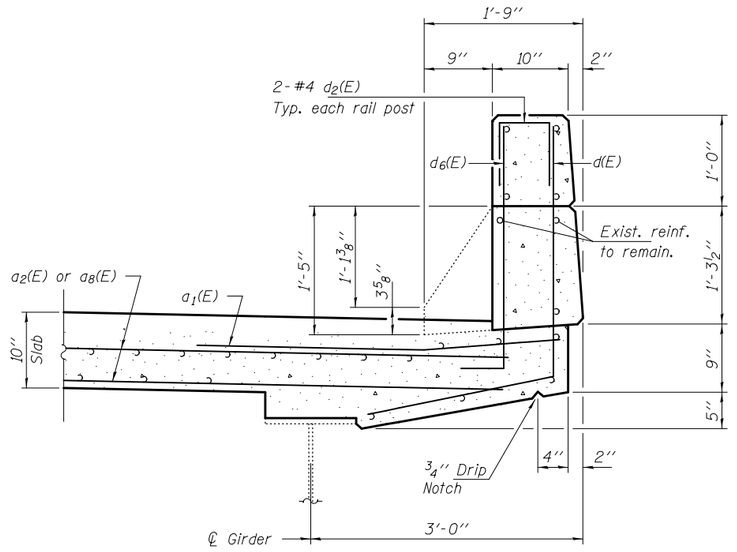


CONCRETE REPLACEMENT DETAILS

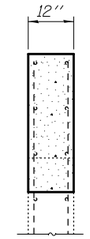
South Abutment

Note:
See sheet 25 of 64 for Sliding Plate Details.

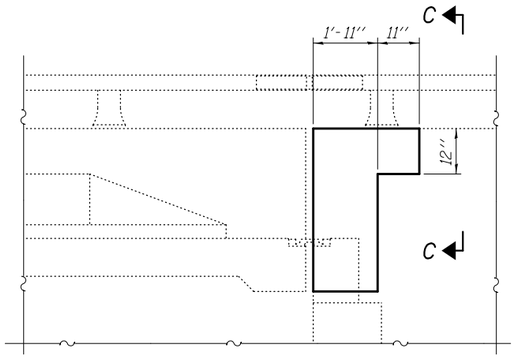
SECTION B-B



TYPICAL SECTION THRU BRIDGE PARAPET AT ABUTMENT

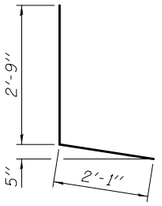


SECTION C-C

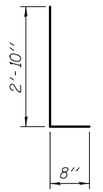


INSIDE VIEW AT EAST PARAPET

(West Parapet Similar)



BAR d(E)



BAR d6(E)

MIN. BAR LAPS

#5 Bars = 3'-6''

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	8	#6	4'-0''	——
a2(E)	12	#5	28'-4''	——
a8(E)	24	#5	42'-0''	——
d(E)	8	#4	4'-10''	L
d2(E)	4	#4	2'-1''	⊓
d6(E)	8	#5	3'-6''	L
Concrete Removal			Cu. Yd.	15.0
Concrete Superstructure			Cu. Yd.	14.9
Bar Splicers			Each	12
Reinforcement Bars, Epoxy Coated			Pound	1520

DESIGNED	JSB		
CHECKED	SMR		
DRAWN	daburdell		
CHECKED	JSB SMR		

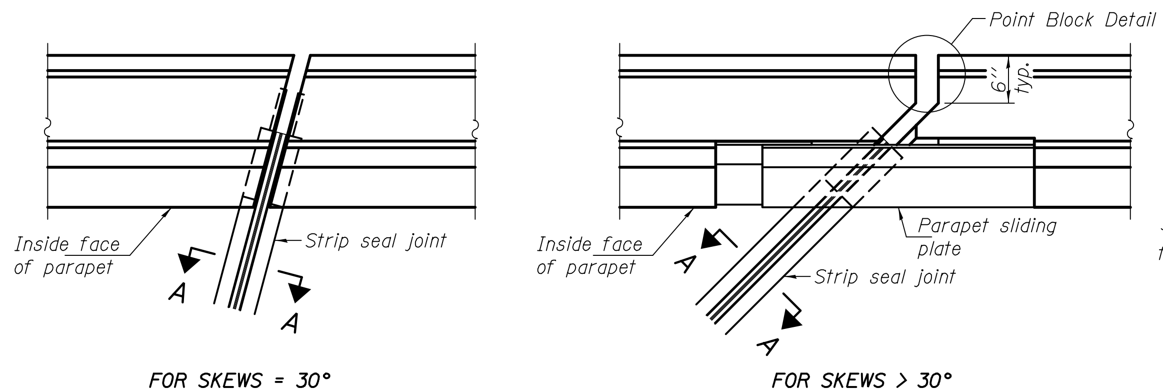
EXAMINED — ACTING ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
DATE JANUARY 31, 2018
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

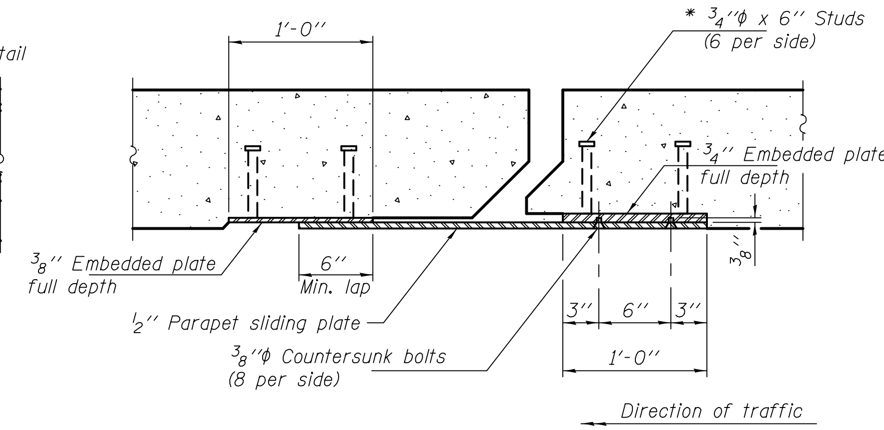
JOINT REPLACEMENT DETAILS – SOUTH ABUTMENT
SN 072-0128 (EB)

SHEET NO. 23 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	40
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



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 4½″ maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

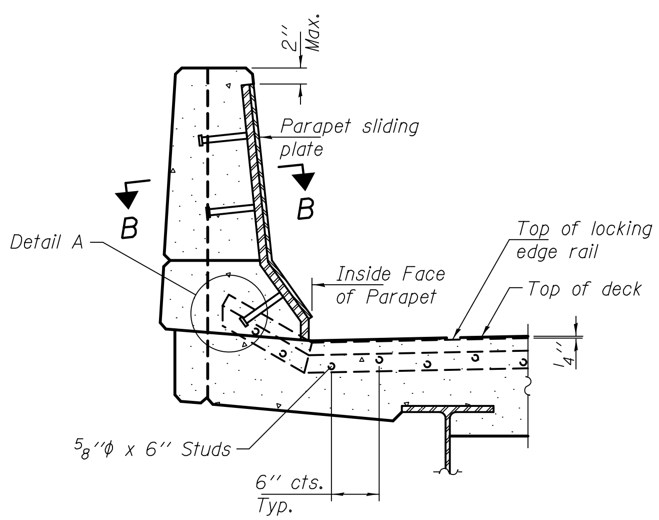
The manufacturer's recommended installation methods shall be followed.

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

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

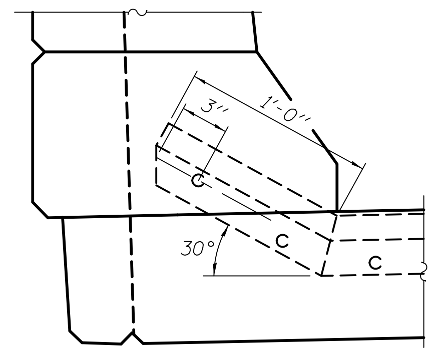
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.

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

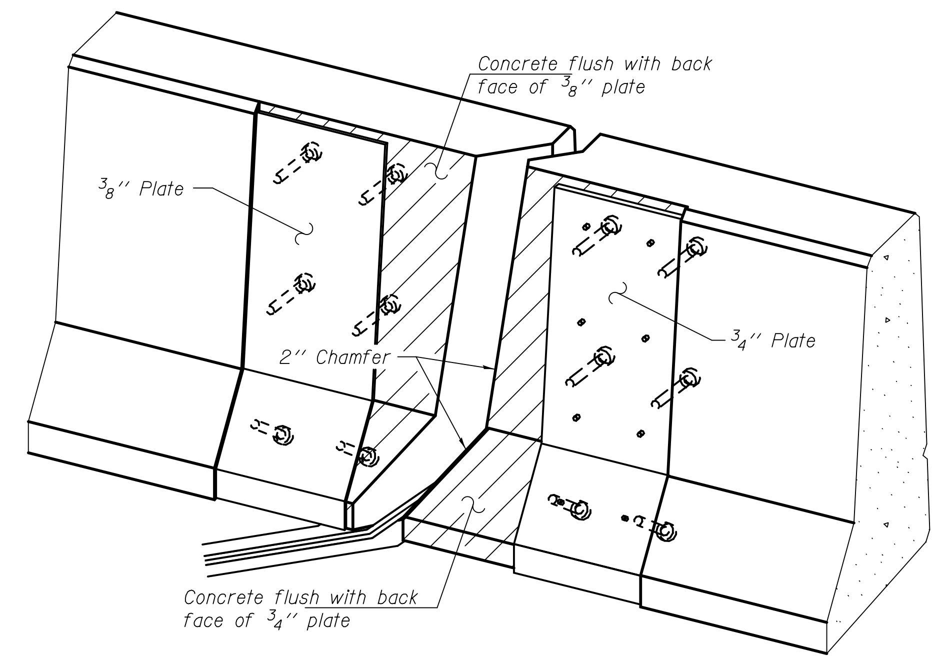


ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)

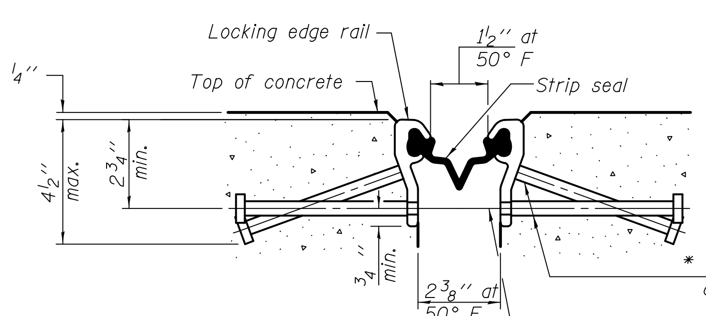


DETAIL A

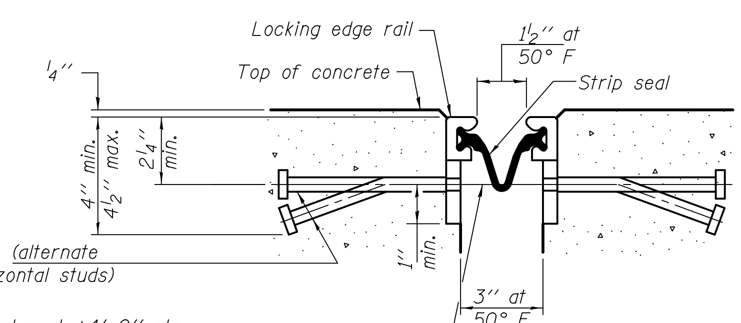


TRIMETRIC VIEW

(Showing embedded plates only)



SHOWING ROLLED RAIL JOINT



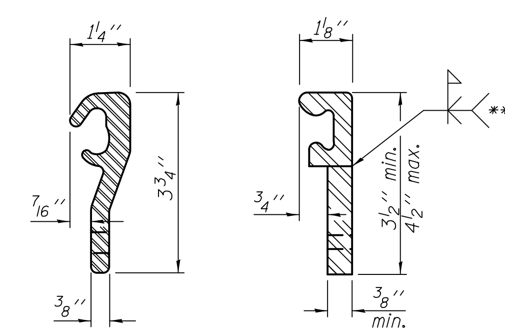
SHOWING WELDED RAIL JOINT

* 5/8″φ x 6″ studs at 6″ cts. (alternate angled/bent studs with horizontal studs)

3/8″φ threaded rods in 7/16″φ holes at ±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.

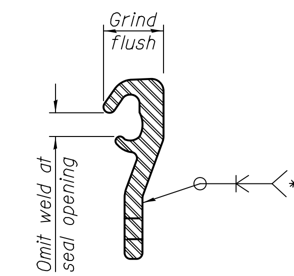
SECTION A-A

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



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	460

EJ-SS 8-11-17

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN daburdell		REVISED	
CHECKED JSB SMR			

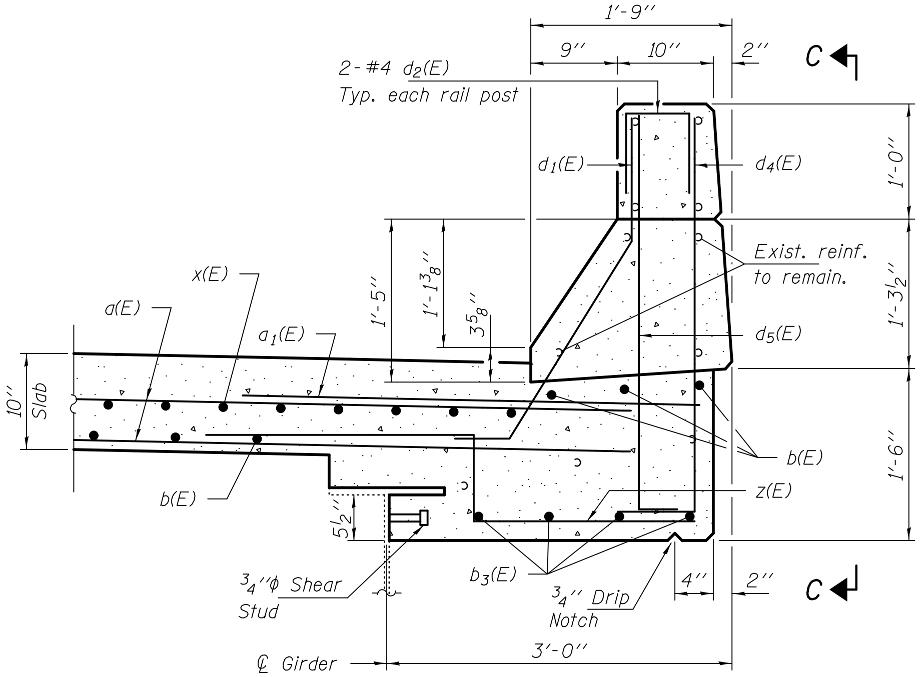
PREFORMED JOINT STRIP SEAL
SN 072-0127 (WB) & 0128 (EB)

SHEET NO. 24 OF 64 SHEETS

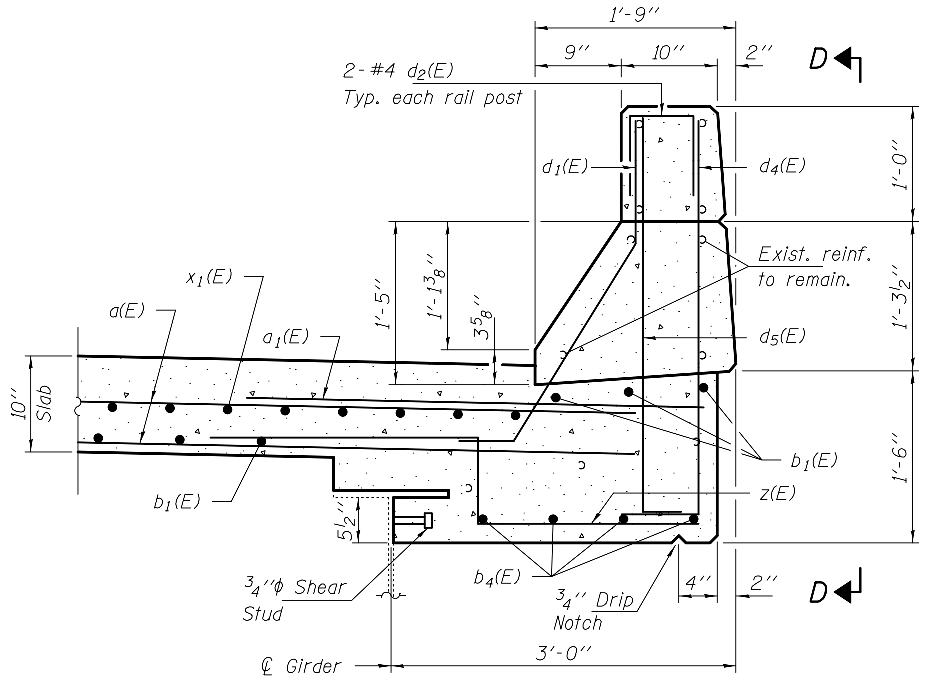
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	41

CONTRACT NO. 68887

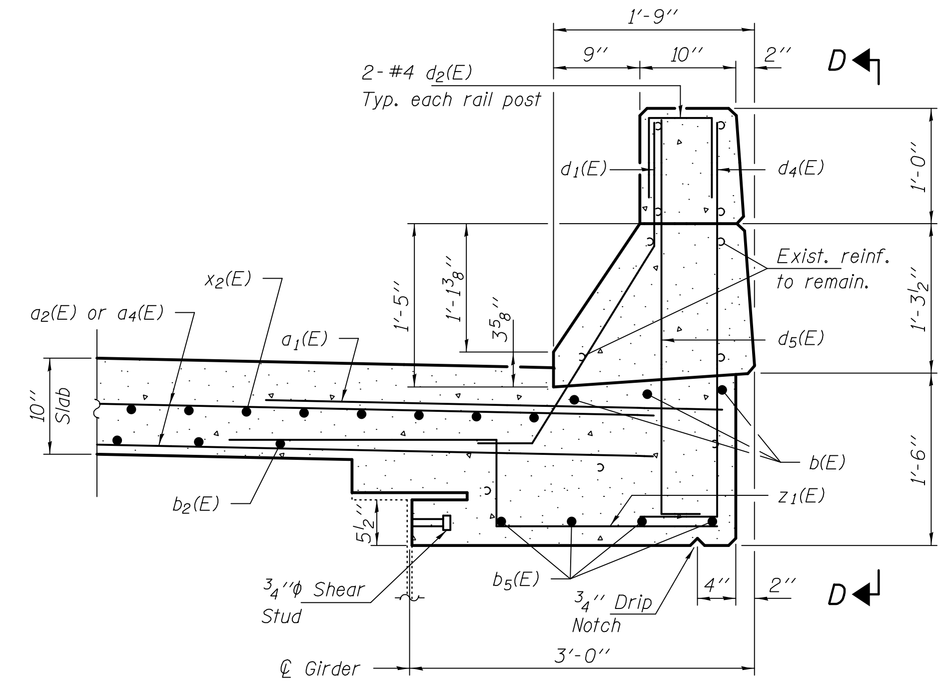
ILLINOIS FED. AID PROJECT



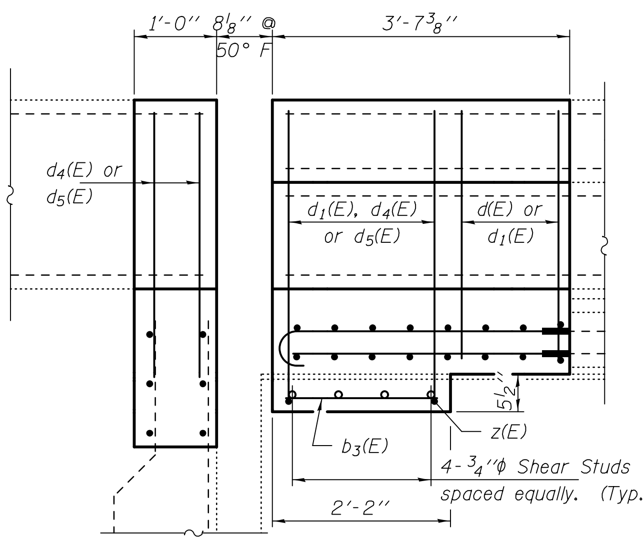
TYPICAL SECTION THRU BRIDGE PARAPET
(Typ. North Abutments)



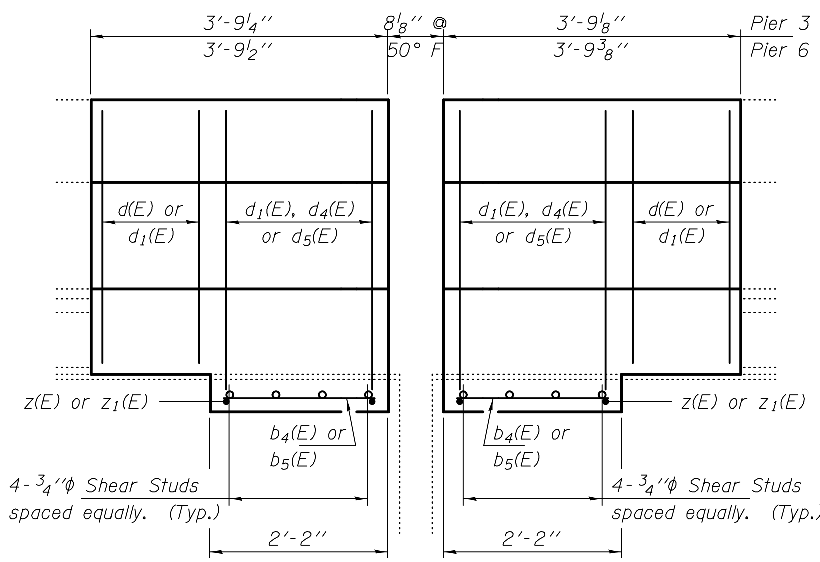
TYPICAL SECTION THRU BRIDGE PARAPET
(Typ. Pier 3)



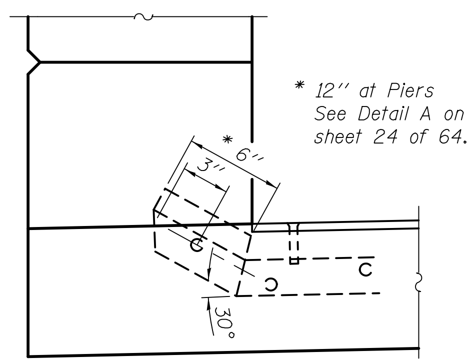
TYPICAL SECTION THRU BRIDGE PARAPET
(Pier 6)



VIEW C-C
(Dimensions are at right ∟'s)



VIEW D-D
(Dimensions are at right ∟'s)



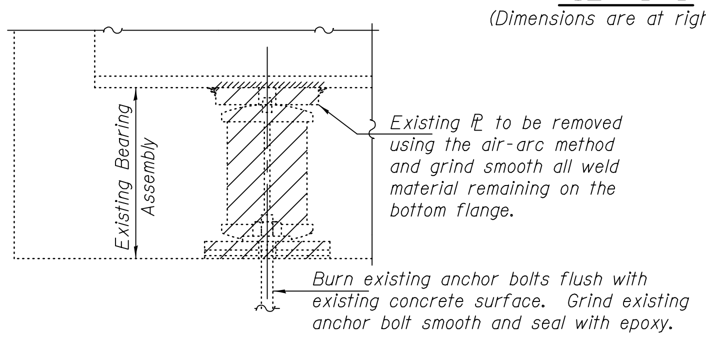
SECTION E-E

STR. NO. 072-0127

Location	"A"	"B"	"C"
North Abut. (East)	3'-11"	1'-4"	8"
North Abut., (West)	3'-11"	1'-4"	8"
South Abut., (East)	2'-4"	1'-0"	6"
South Abut., (West)	2'-4"	1'-0"	6"

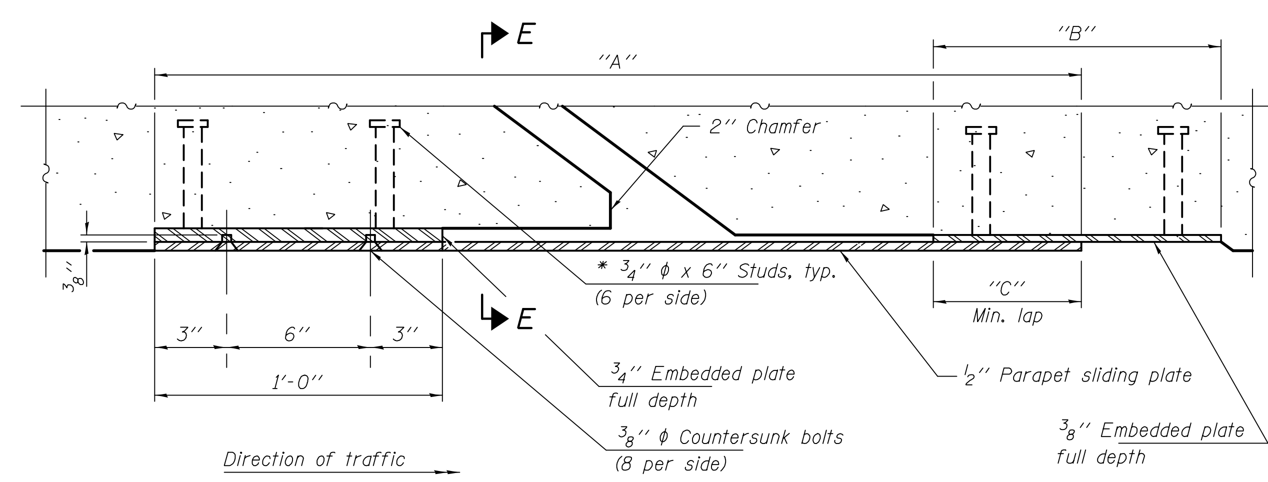
STR. NO. 072-0128

Location	"A"	"B"	"C"
North Abut. (East)	3'-11"	1'-4"	8"
North Abut., (West)	3'-11"	1'-4"	8"
South Abut., (East)	2'-4"	1'-0"	6"
South Abut., (West)	2'-6"	1'-0"	6"



EXISTING BEARING REMOVAL DETAIL
(Pier 6 South and South Abut. - 0127)

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.



SLIDING PLATE DETAILS
(Typ. at Abuts.)

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR			
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB SMR			REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

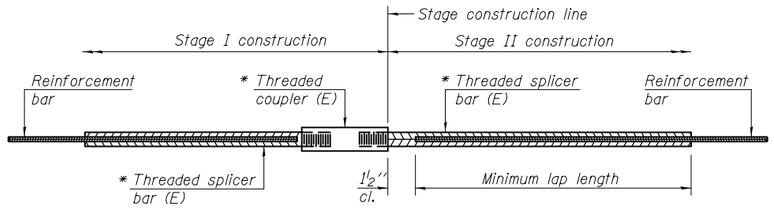
MODULAR JOINT REPAIR DETAILS
SN 072–0127 (WB) & 0128 (EB)

SHEET NO. 25 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	42

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½" + thread length

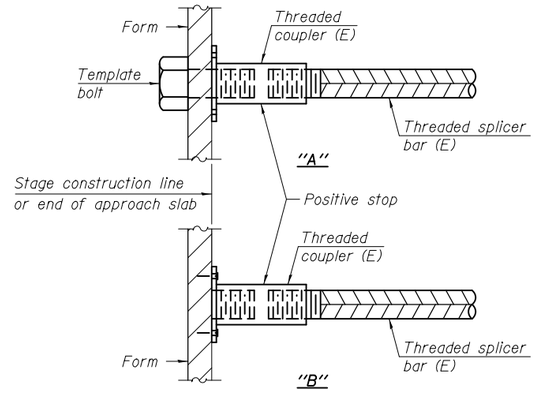
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

SN 072-0127

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. Deck	#5	16	3'-6"
N. Abut. HB	#5	6	3'-4"
Pier 3	#5	32	3'-6"
Pier 4	#5	16	3'-6"
Pier 6	#5	32	3'-6"
S. Abut. Deck	#5	8	3'-6"
S. Abut. HB	#5	4	3'-6"

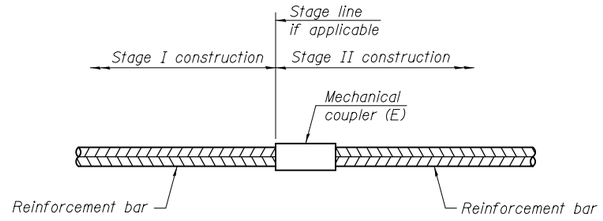
SN 072-0128

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. Deck	#5	16	3'-6"
N. Abut. HB	#5	6	3'-4"
Pier 3	#5	32	3'-6"
Pier 4	#5	16	3'-6"
Pier 6	#5	16	3'-6"
Pier 8	#5	16	3'-6"
S. Abut. Deck	#5	8	3'-6"
S. Abut. HB	#5	4	3'-4"



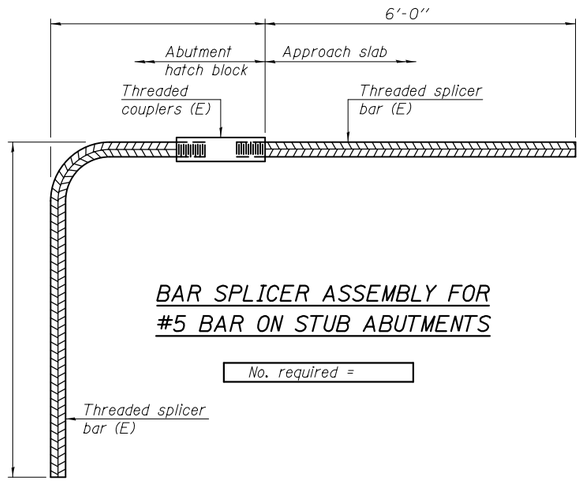
INSTALLATION AND SETTING METHODS

"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
072-0127 N. Abut.	#5	85
072-0127 Pier 3	#5	173
072-0127 Pier 6	#5	211
072-0128 N. Abut.	#5	85
072-0128 Pier 3	#5	173



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

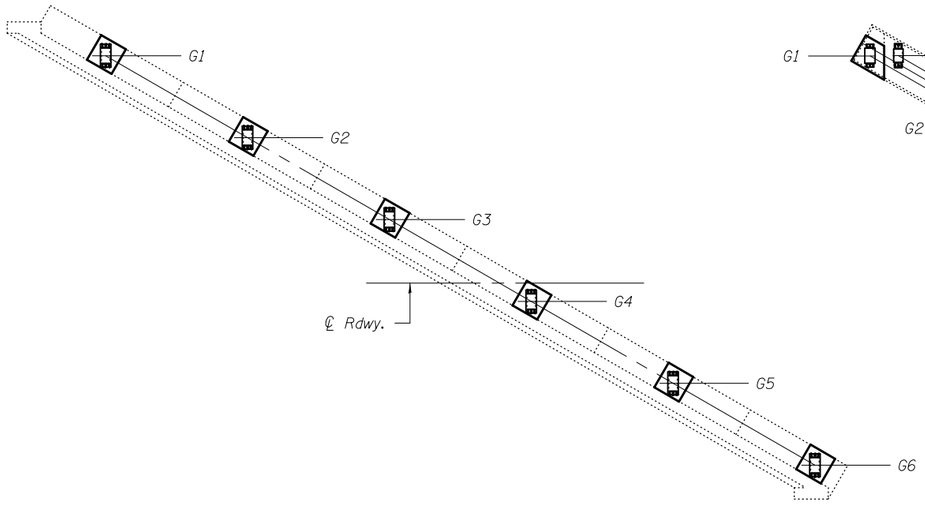
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

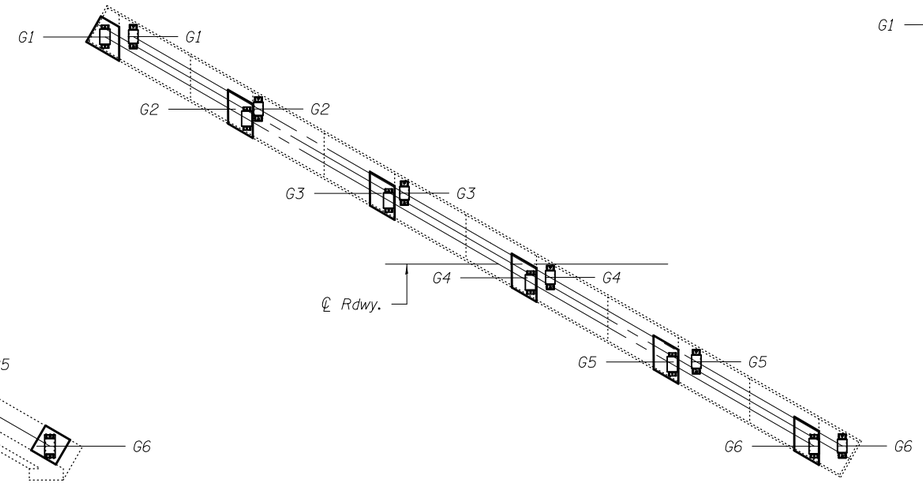
BSD-1 6-8-15

DESIGNED JSB	EXAMINED	Timothy A. Sandgren ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS SN 072-0127 (WB) & 0128 (EB)
CHECKED SMR	PASSED	H. Carl Tharp ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 26 OF 64 SHEETS
DRAWN daburdell			REVISED		
CHECKED JSB SMR					

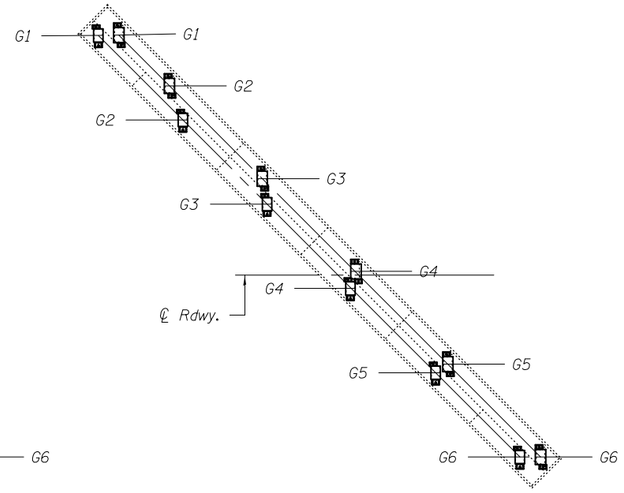
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	43
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



NORTH ABUTMENT



PIER 3



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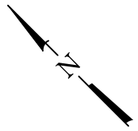
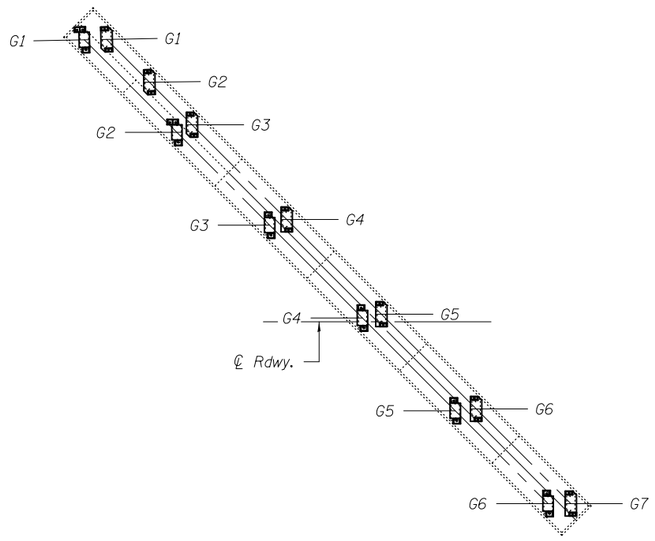
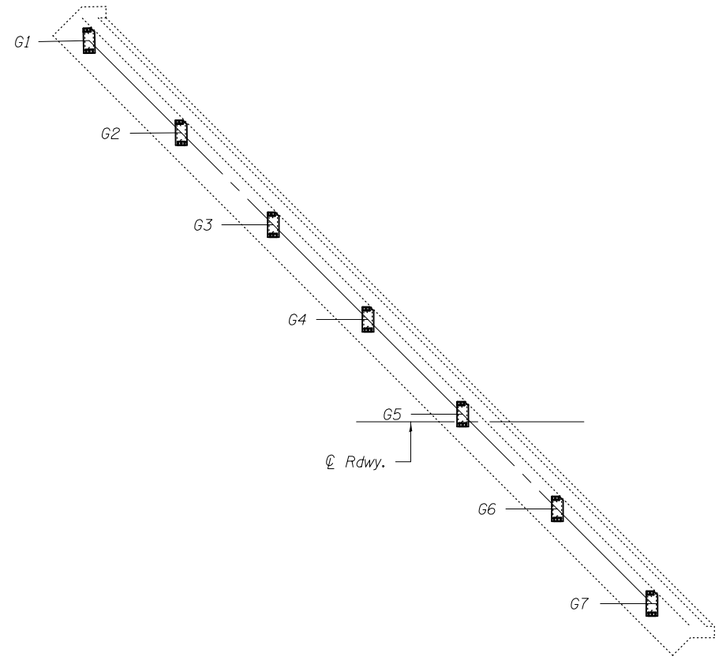


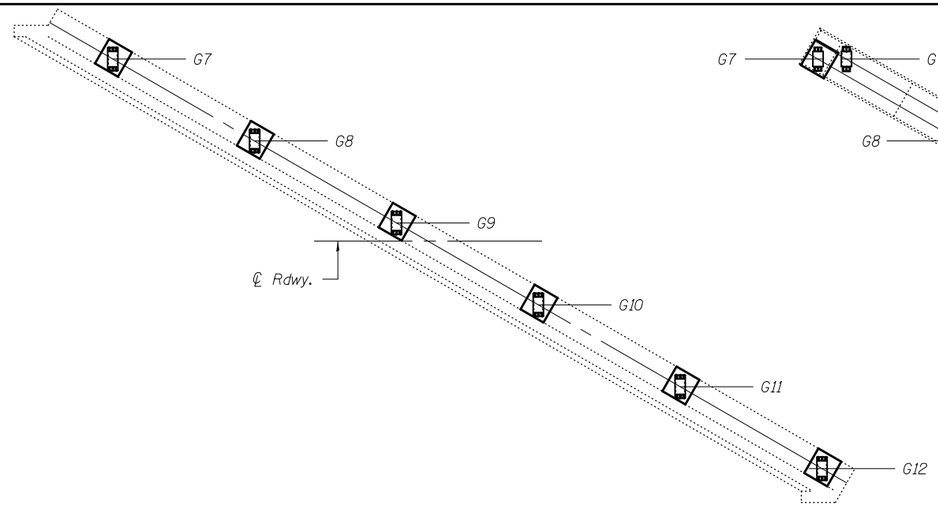


PIER 6

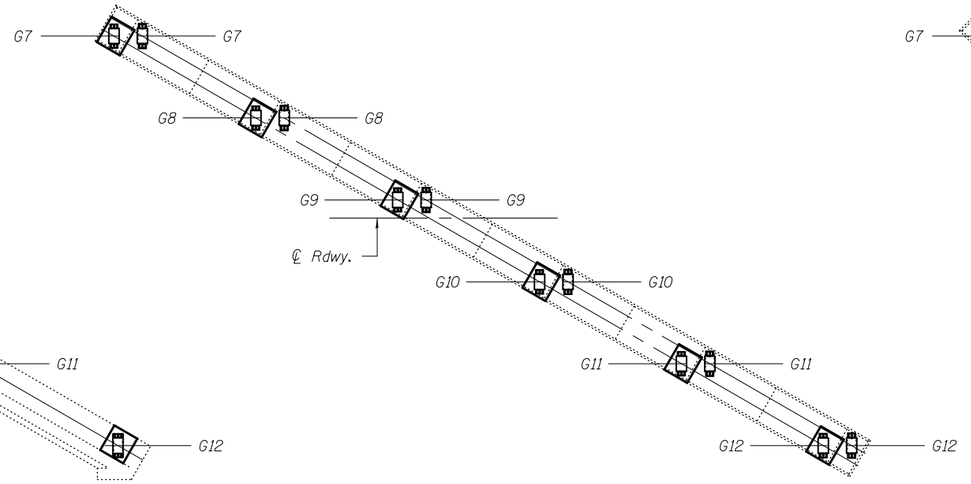


SOUTH ABUTMENT

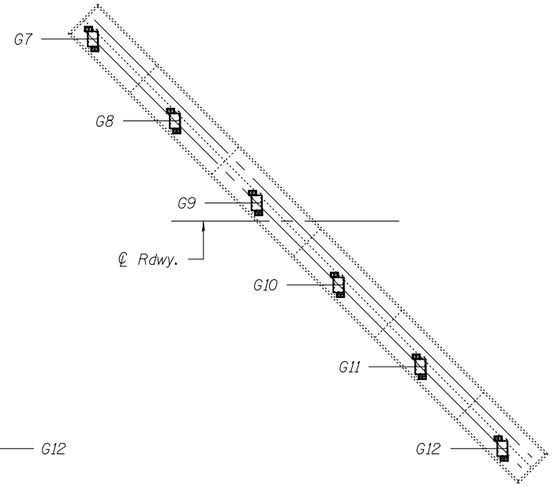
DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER & BEARING PLAN SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	44
DRAWN daburdell	PASSED	REVISED		SHEET NO. 27 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED					ILLINOIS FED. AID PROJECT		



NORTH ABUTMENT



PIER 3



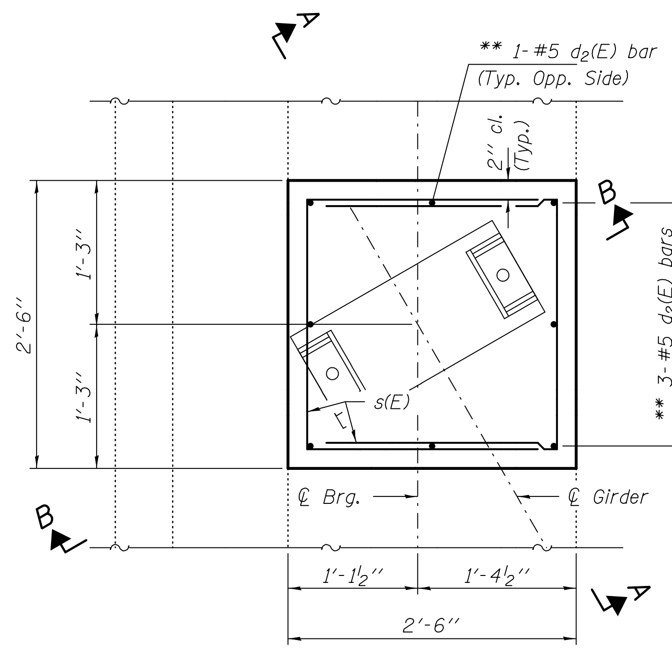
PIER 4

PIER 6

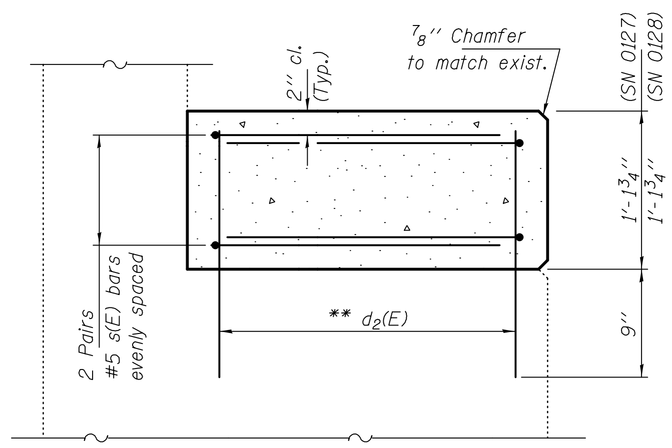
PIER 8

SOUTH ABUTMENT

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER & BEARING PLAN SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 28 OF 64 SHEETS	474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	45
DRAWN daburdell			REVISED						CONTRACT NO. 68887	
CHECKED JSB SMR								ILLINOIS	FED. AID PROJECT	

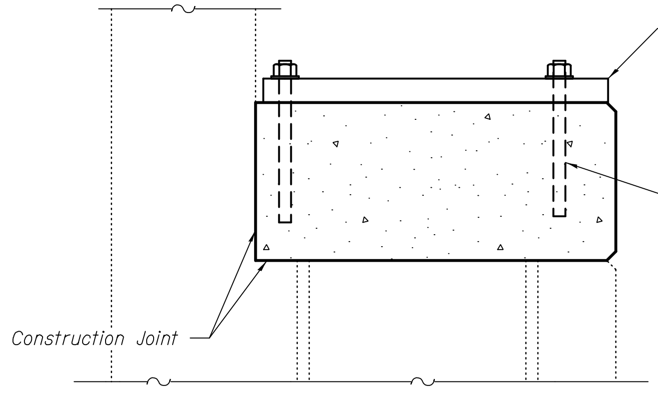


ABUTMENT PEDESTAL PLAN - (G1 THRU G12)

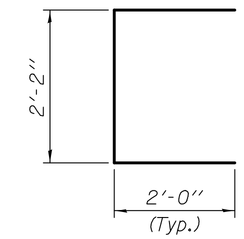


SECTION A-A

** Epoxy grout bars in accordance with Article 584 of the Standard Specifications. Cost is included in cost of Reinforcement Bars, Epoxy Coated.



SECTION B-B



BAR s_1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_2(E)	96	#5	1′-8″	———
s(E)	48	#5	6′-2″	⊏
Concrete Structures			Cu. Yd.	3.2
Reinforcement Bars, Epoxy Coated			Pound	480

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	JSB
CHECKED	SMR
DRAWN	daburdell
CHECKED	JSB SMR

EXAMINED ACTING ENGINEER OF STRUCTURAL SERVICES

PASSED ENGINEER OF BRIDGES AND STRUCTURES

DATE JANUARY 31, 2018

REVISED

REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

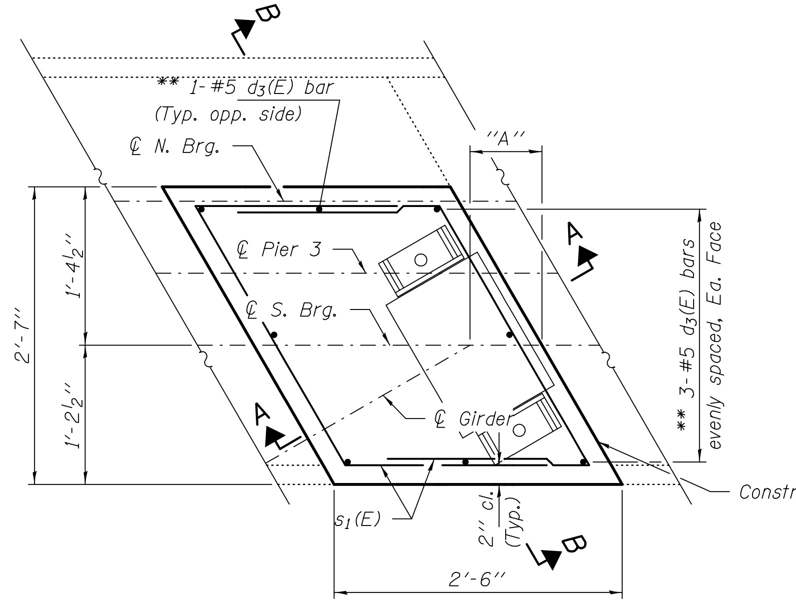
REPAIR DETAILS – NORTH ABUTMENTS
SN 072–0127 (WB) & 0128 (EB)

SHEET NO. 29 OF 64 SHEETS

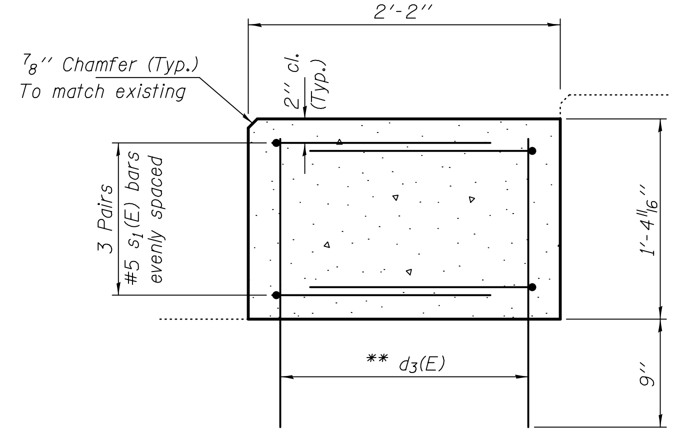
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	46

CONTRACT NO. 68887

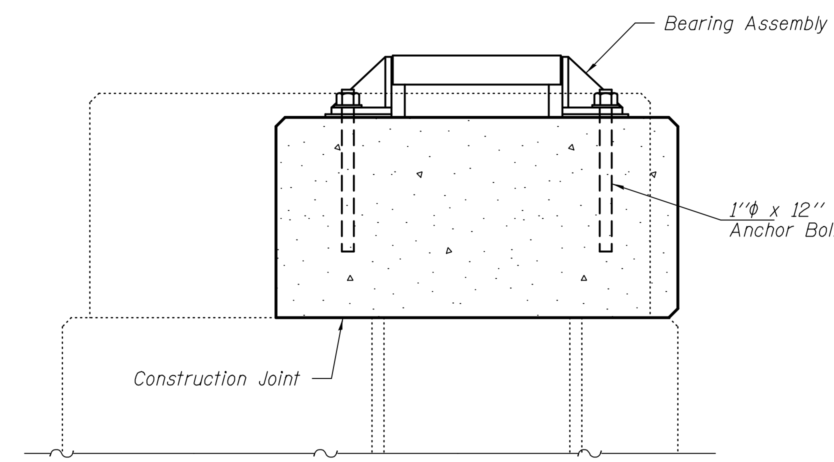
ILLINOIS FED. AID PROJECT



PEDESTAL PLAN - (G2 THRU G6)



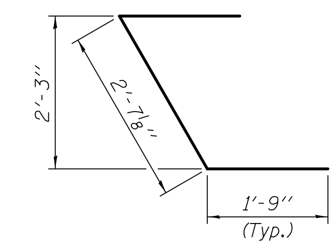
SECTION A-A



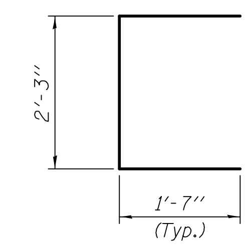
SECTION B-B

Girder	"A"
G1	1'-5¼"
G2	7¼"
G3	7¼"
G4	7¼"
G5	7¼"
G6	7½"

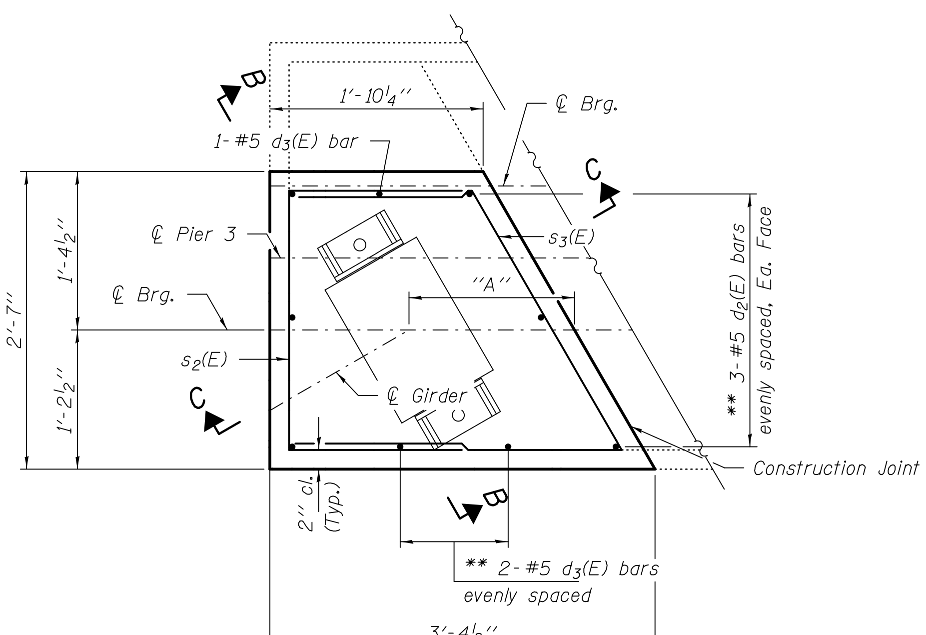
** Epoxy grout bars in accordance with Article 584 of the Standard Specifications. Cost is included in cost of Reinforcement Bars, Epoxy Coated.



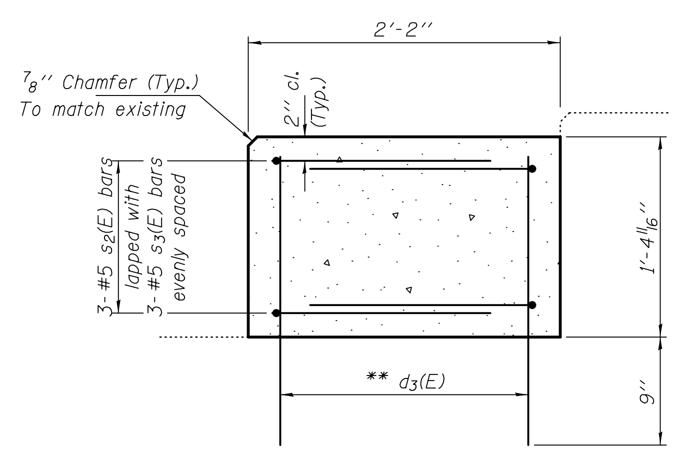
BAR s_1(E)



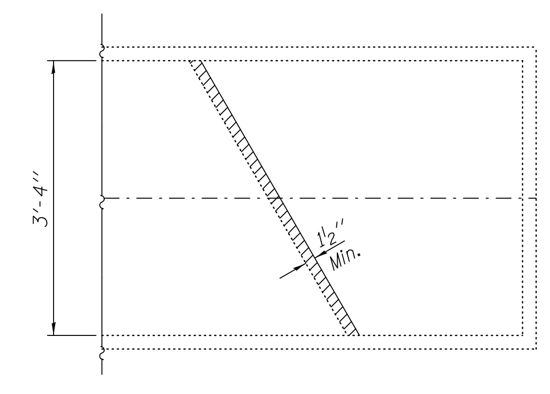
BAR s_2(E)



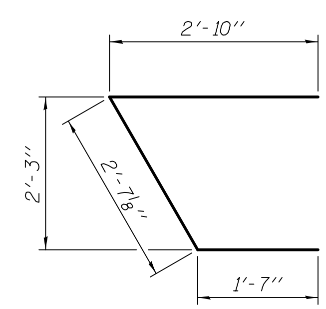
PEDESTAL PLAN - (G1)



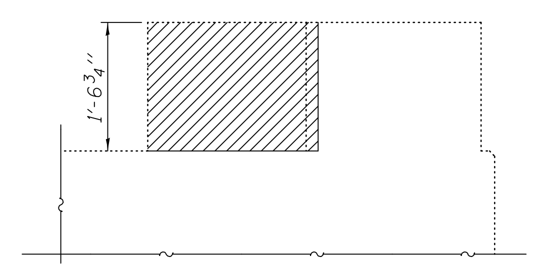
SECTION C-C



PLAN
(West End)



BAR s_3(E)



ELEVATION

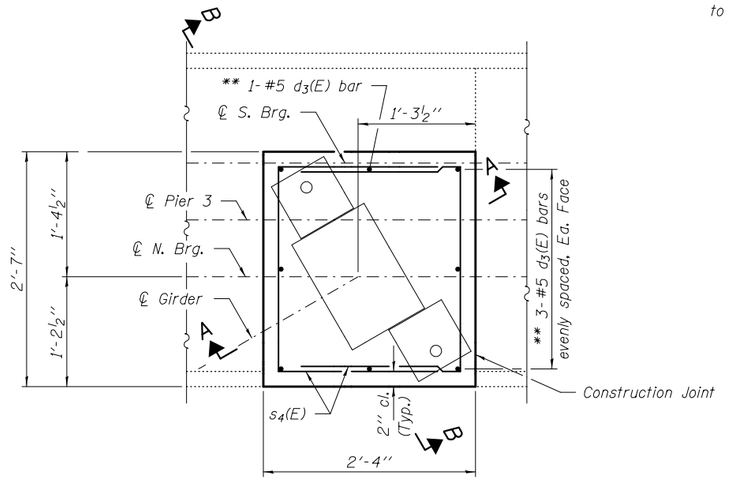
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_3(E)	49	#5	1'-11"	——
s_1(E)	30	#5	6'-2"	
s_2(E)	3	#5	5'-5"	
s_3(E)	3	#5	7'-1"	
Concrete Removal			Cu. Yd.	0.1
Concrete Structures			Cu. Yd.	2.0
Reinforcement Bars, Epoxy Coated			Pound	330

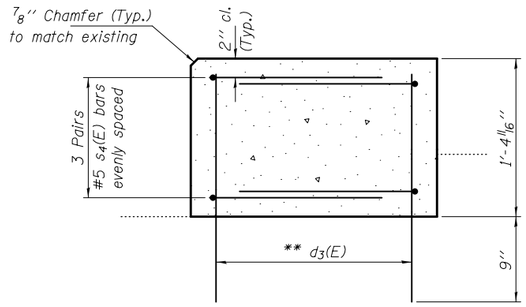
Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED JSB	EXAMINED [signature] ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES	REVISED	REPAIR DETAILS – PIER 3 SN 072–0127 (WB)
DRAWN daburdell		REVISED	SHEET NO. 30 OF 64 SHEETS
CHECKED JSB SMR			

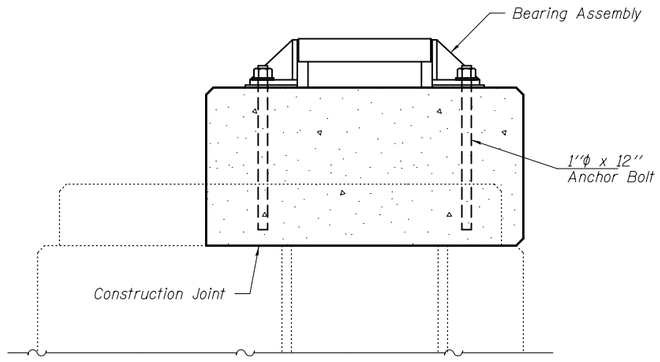
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	47
CONTRACT NO. 68887				
ILLINOIS FED. AID PROJECT				



PEDESTAL PLAN - (G7 THRU G12)

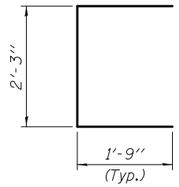


SECTION A-A

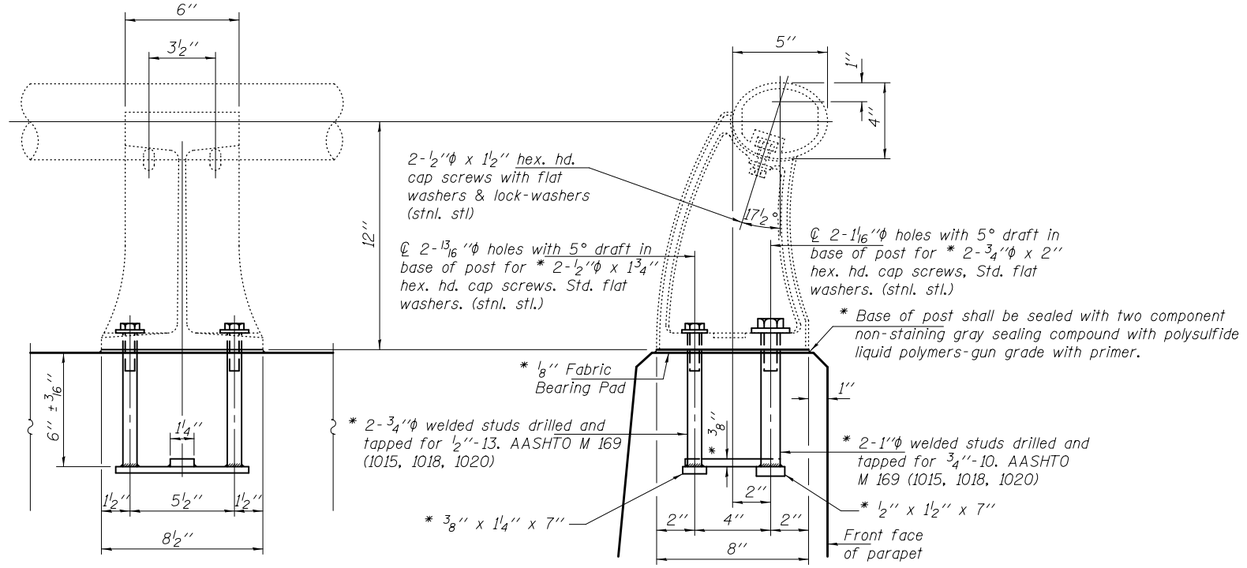


SECTION B-B

** Epoxy grout bars in accordance with Article 584 of the Standard Specifications. Cost is included in cost of Reinforcement Bars, Epoxy Coated.

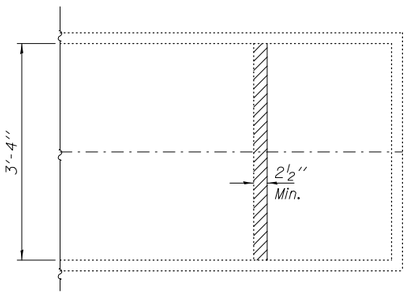


BAR s_3(E)

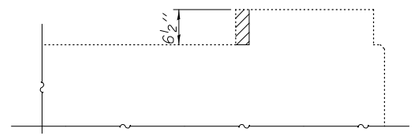


RAIL POST DETAILS

* New Rail Post anchorage devices will be required at each location where posts are connected to new construction. Cost included with Concrete Superstructure.



PLAN
(Typ. Ea. Brg.)



ELEVATION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_3(E)	48	#5	1'-11''	———
s_4(E)	36	#5	5'-9''	⊏
Concrete Removal			Cu. Yd.	0.1
Concrete Structures			Cu. Yd.	1.9
Reinforcement Bars, Epoxy Coated			Pound	310

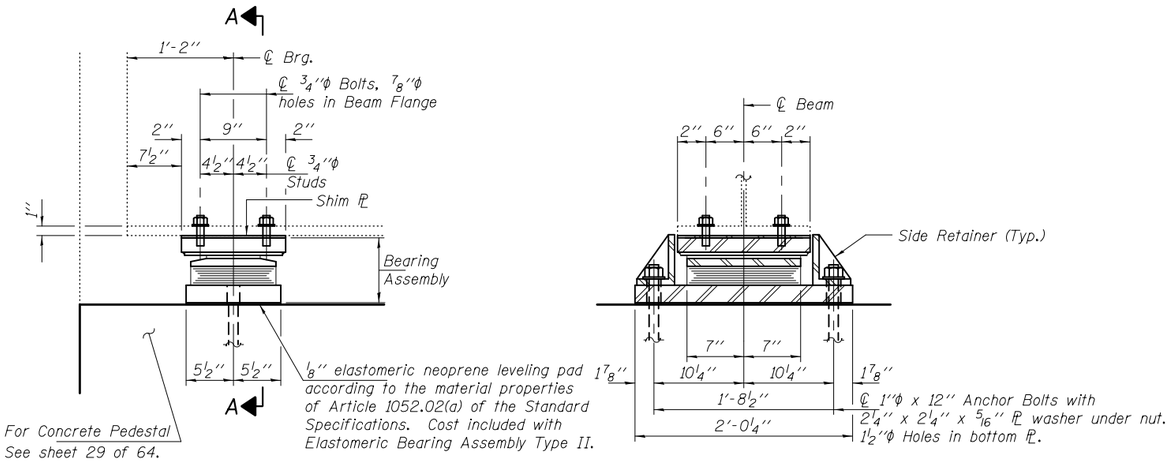
Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES
CHECKED	SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	daburdell	DATE	JANUARY 31, 2018
CHECKED	JSB SMR	REVISED	
		REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS – PIER 3
SN 072-0128 (EB)
SHEET NO. 31 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUBIB-R	PEORIA	196	48
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION

SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

North Abutment

BEAM REACTIONS

RP	(K)	58.8
R℄	(K)	44.6
Imp.	(K)	9.3
R (Total)	(K)	112.7

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Elastomeric Bearing Assembly, Type II.

The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Min. jack capacity = 70 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

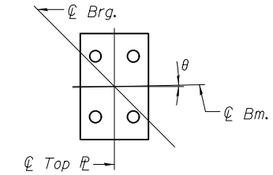
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

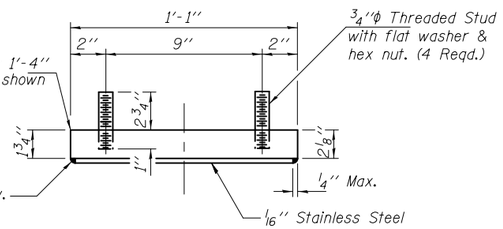
Side retainers shall be included in the cost of

New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.

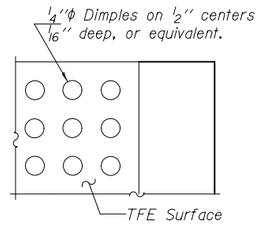


Girders G1 thru G6

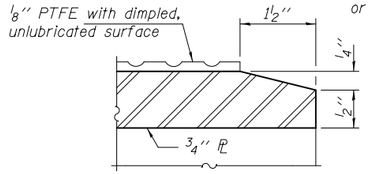
Girder	θ
G1 thru G6	0°



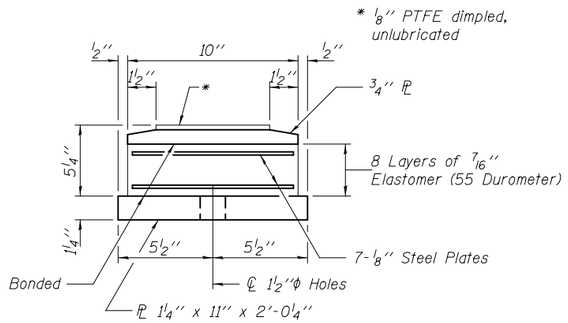
TOP BEARING ASSEMBLY



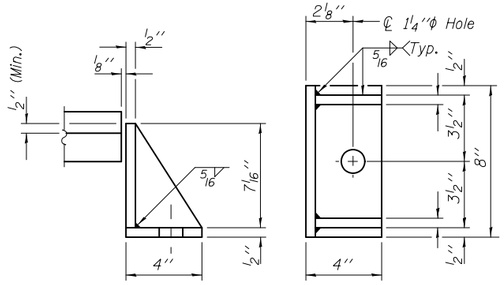
PLAN-PTFE SURFACE



SECTION THRU PTFE



BOTTOM BEARING ASSEMBLY

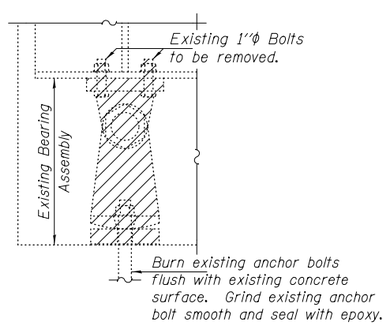


SIDE RETAINER

(12 Req'd.)

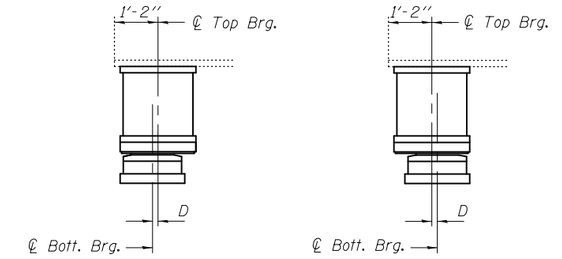
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 27 of 64 for locations.



EXISTING BEARING REMOVAL DETAIL

Cost included with Temporary Shoring and Cribbing.



BELOW 50° F.
(Move bott. brg. away from fixed brg.)

ABOVE 50° F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100° of expansion for every 15° temp. change from the normal temp. of 50°F.

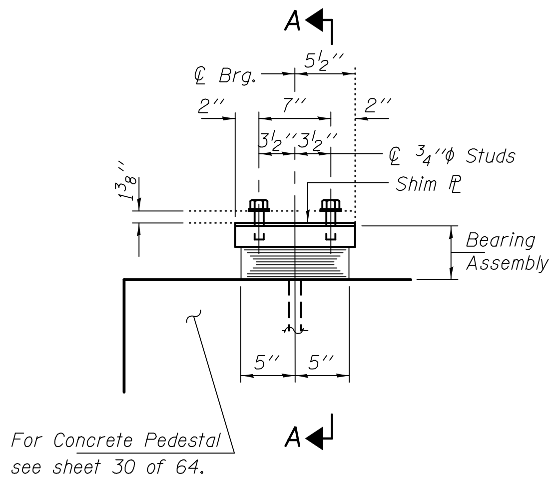
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Temporary Shoring and Cribbing	Each	6
Anchor Bolts 1"ϕ	Each	12

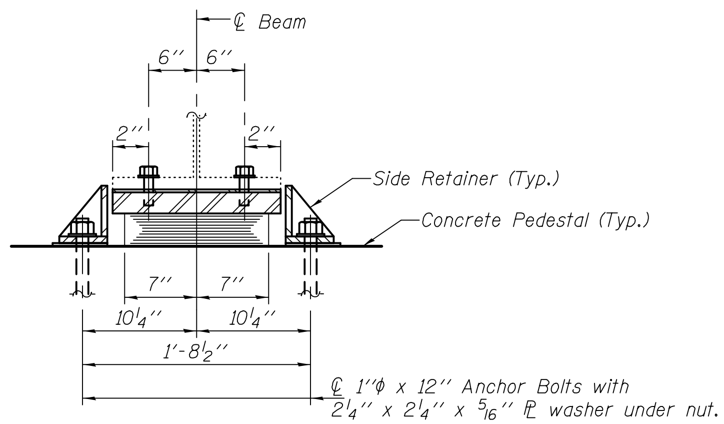
TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS NORTH ABUTMENT SN 072-0127 (WB)
CHECKED SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 32 OF 64 SHEETS
DRAWN daburdell			REVISED		
CHECKED JSB SMR					

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUB)B-R	PEORIA	196	49
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Pier 3 (North)

BEAM REACTIONS

R℞	(K)	58.8
R𝓁	(K)	44.6
Imp.	(K)	9.3
R (Total)	(K)	112.7

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 70 Tons.

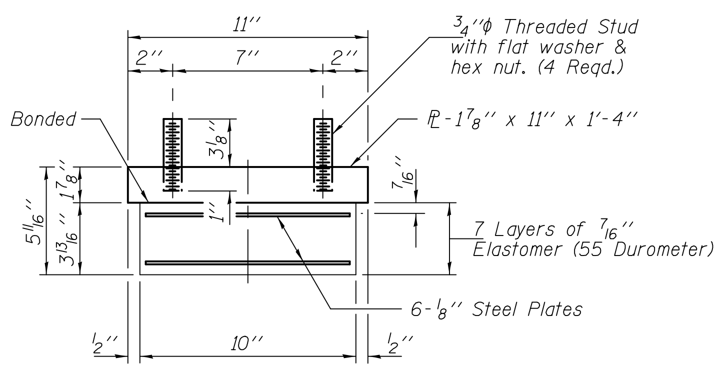
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

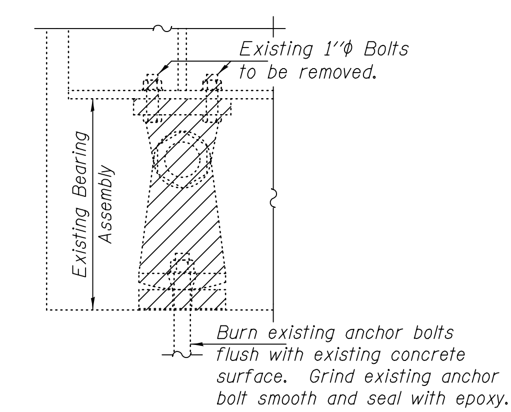
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



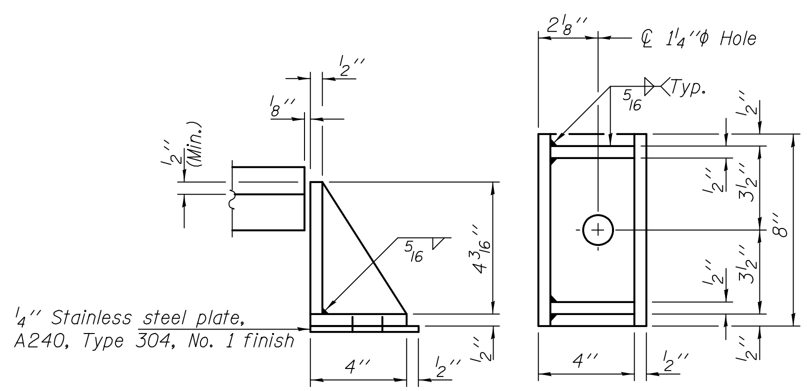
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Temporary Shoring and Cribbing.

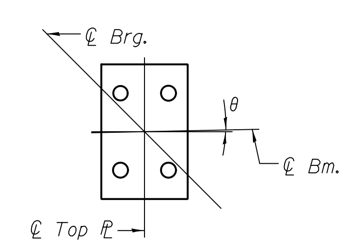


SIDE RETAINER

(12 Req'd.)

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

See sheet 27 of 64 for girder and bearing layout.



Girders G1 thru G6

Girder	θ
G1 thru G6	0°

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Temporary Shoring and Cribbing	Each	6
Anchor Bolts 1″ϕ	Each	12

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR			
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB SMR			REVISED

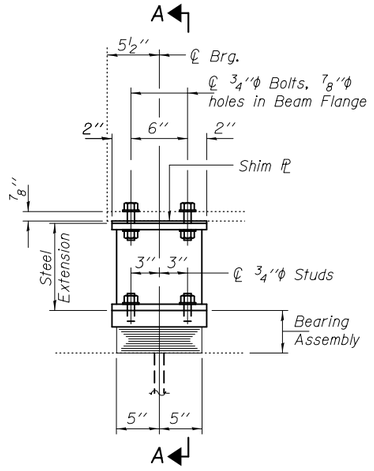
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS PIER 3 (NORTH)
SN 072–0127 (WB)

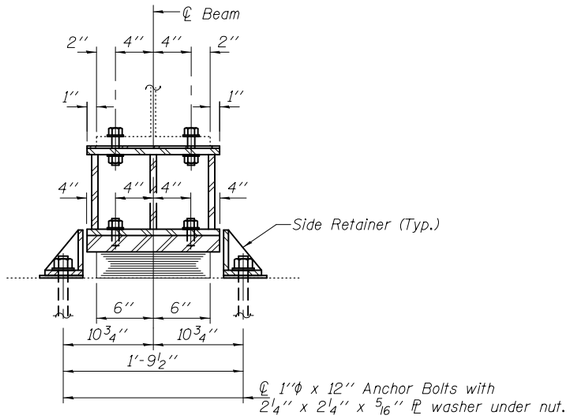
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	50

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



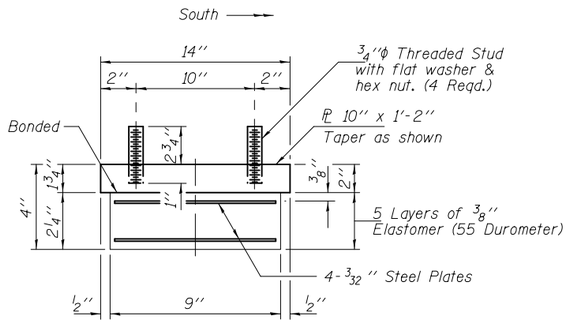
ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Pier 3 (South)



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

BEAM REACTIONS

RP	(K)	38.3
RL	(K)	43.5
Imp.	(K)	11.0
R (Total)	(K)	92.8

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 55 Tons.

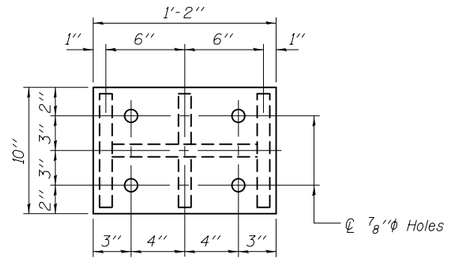
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

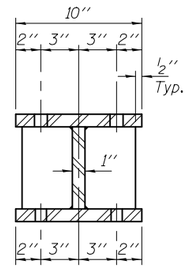
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

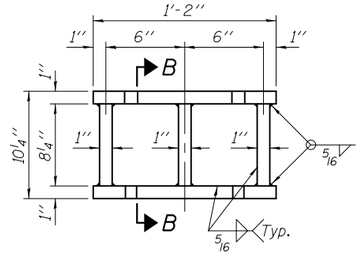
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



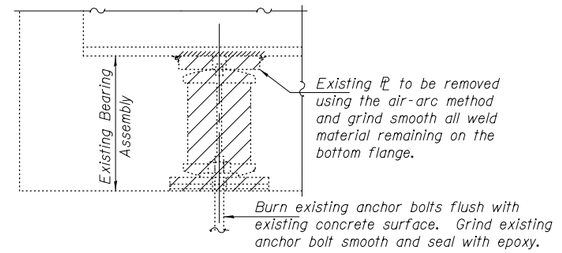
PLAN TOP AND BOTTOM PLATE



SECTION B-B

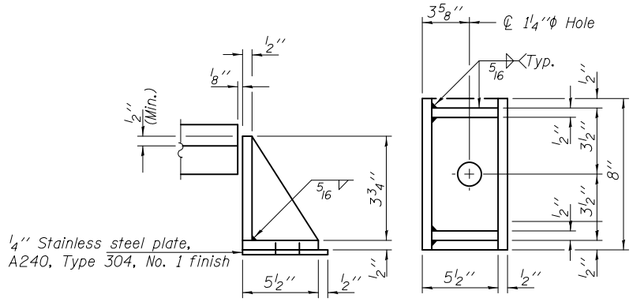


STEEL EXTENSION DETAIL



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.

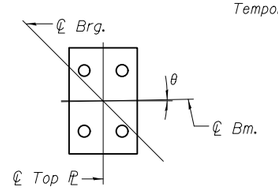


SIDE RETAINER

(12 Req'd.)

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

See sheet 27 of 64 for girder and bearing layout.



Girders G1 thru G6

Girder	θ
G1	0° 24' 12''
G2 thru G6	0°

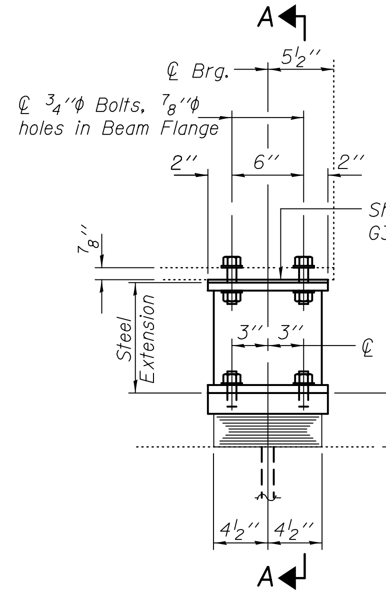
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	5
Temporary Shoring and Cribbing	Each	1
Furnishing and Erecting Structural Steel	Pound	1010
Anchor Bolts 1''ϕ	Each	12

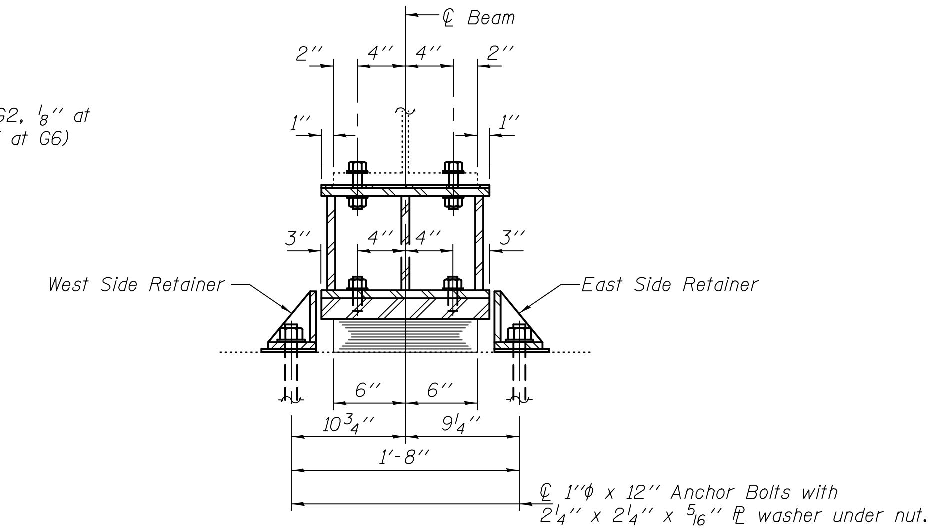
See sheet 49 of 64 for location of Temporary Shoring and Cribbing.

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS PIER 3 (SOUTH) SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR						474	72-40HB,HUB-1,HUB3B-R	PEORIA	196	51
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 34 OF 64 SHEETS			CONTRACT NO. 68887		
CHECKED JSB SMR			REVISED				ILLINOIS FED. AID PROJECT			



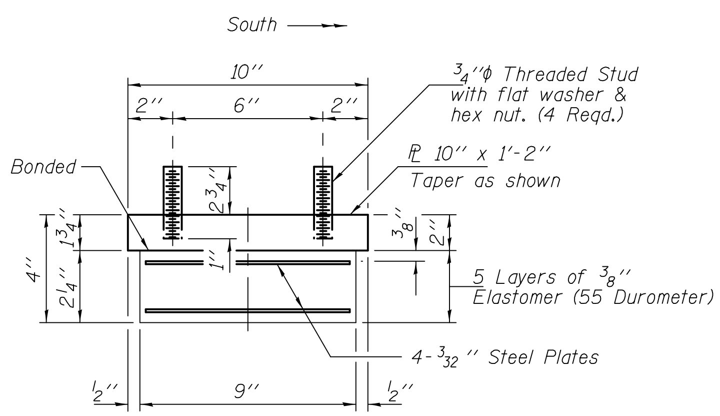
ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Pier 4 (North)



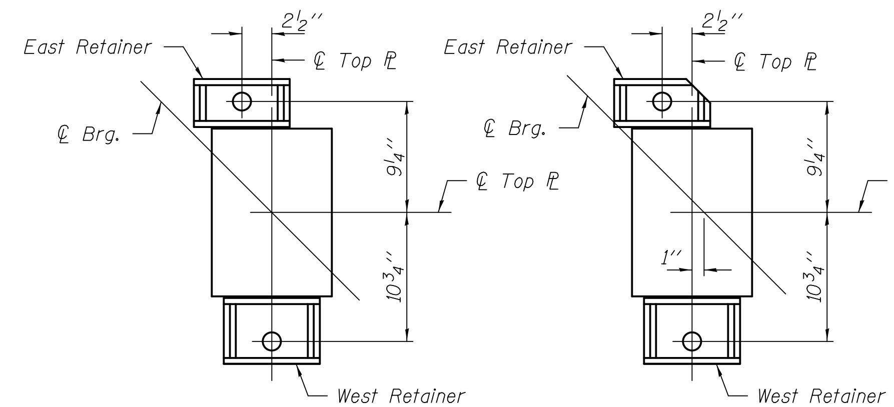
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

BEAM REACTIONS

R℘	(K)	40.9
R℄	(K)	43.6
Imp.	(K)	10.9
R (Total)	(K)	95.4

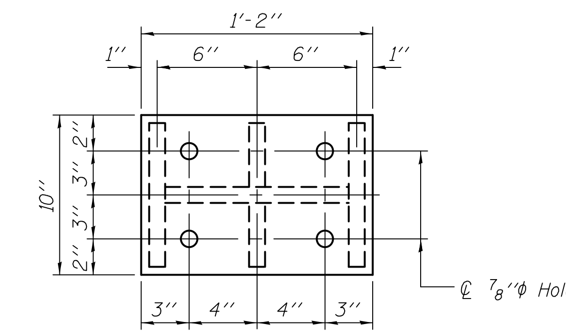
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).
Min. jack capacity = 55 Tons.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



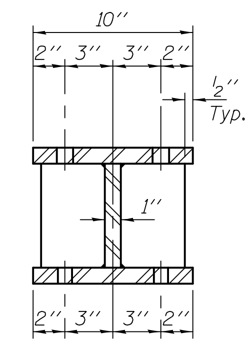
Girders G1 thru G3, G5 and G6

Girder G4

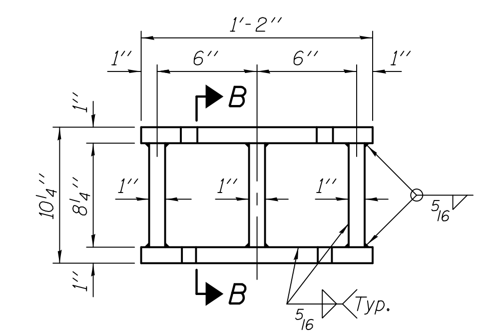
BOLT HOLE LOCATIONS



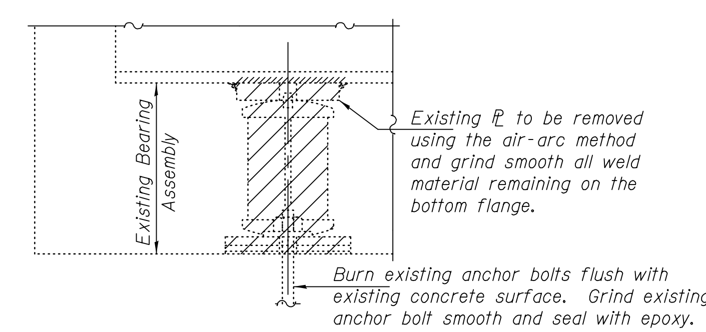
PLAN TOP AND BOTTOM PLATE



SECTION B-B

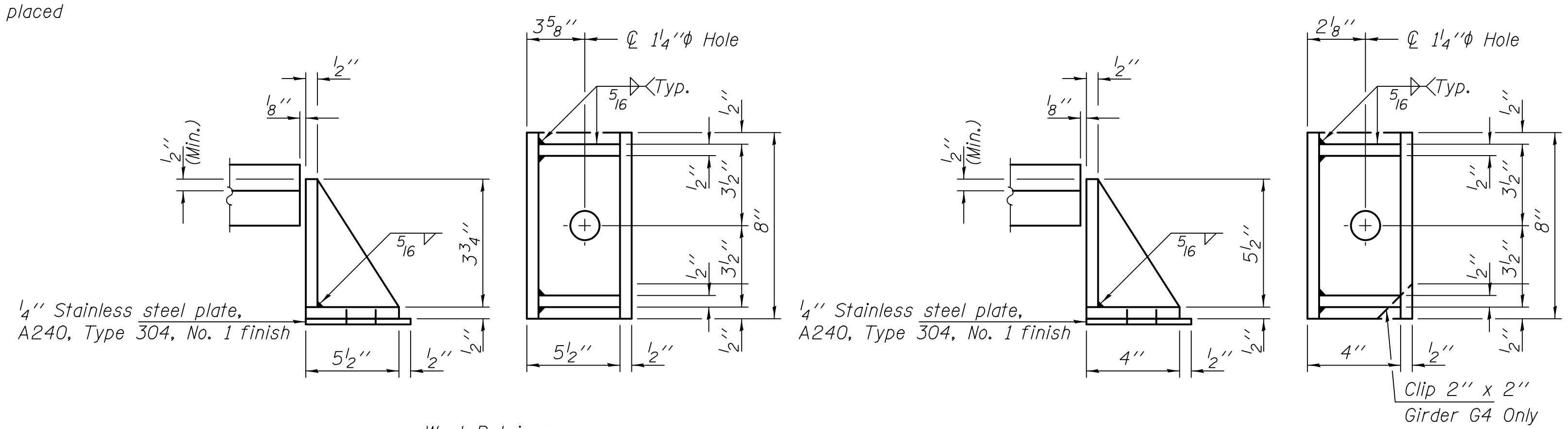


STEEL EXTENSION DETAIL



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.



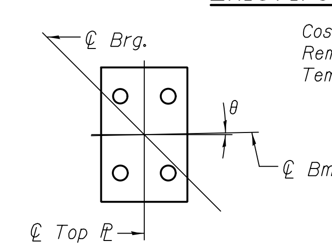
West Retainer
(6 Req'd.)

East Retainer
(6 Req'd.)

SIDE RETAINER

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

See sheet 27 of 64 for girder and bearing layout.



Girders G1 thru G6

Girder	θ
G1	0° 24′ 12″
G2 thru G6	0°

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	5
Temporary Shoring and Cribbing	Each	1
Furnishing and Erecting Structural Steel	Pound	1010
Anchor Bolts 1″φ	Each	12

See sheet 49 of 64 for location of Temporary Shoring and Cribbing.

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR			
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB SMR			REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

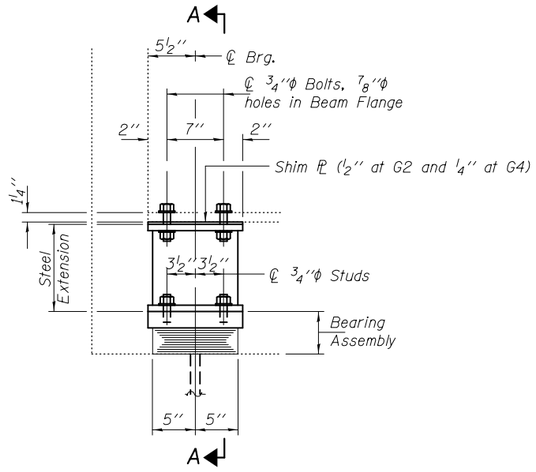
BEARING DETAILS PIER 4 (NORTH)
SN 072–0127 (WB)

SHEET NO. 35 OF 64 SHEETS

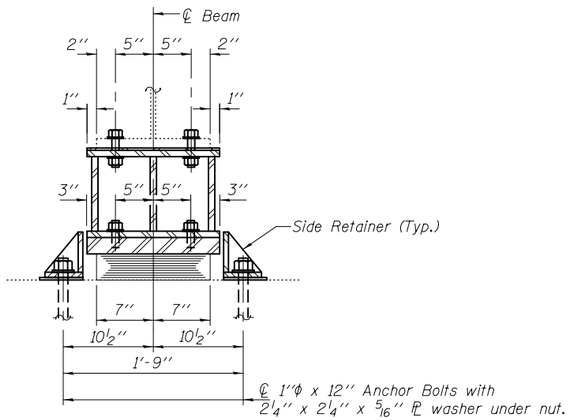
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	52

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION



SECTION A-B

BEAM REACTIONS

RL	(K)	51.4
Rt	(K)	49.4
Imp.	(K)	11.3
R (Total)	(K)	112.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

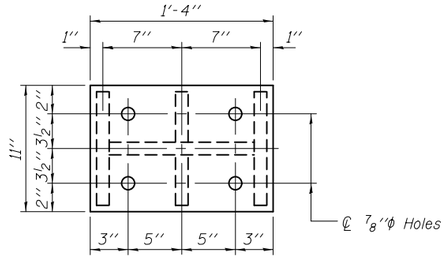
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

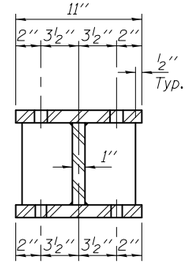
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

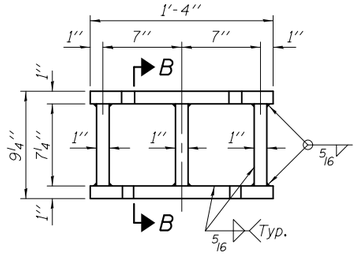
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



PLAN TOP AND BOTTOM PLATE



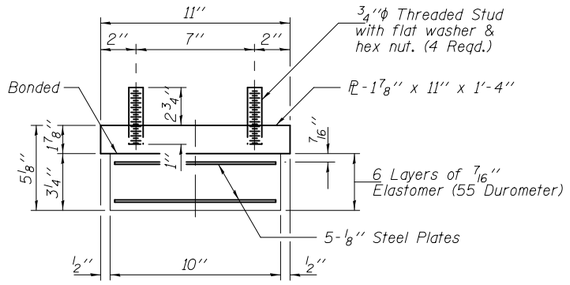
SECTION B-B



STEEL EXTENSION DETAIL

TYPE I ELASTOMERIC EXP. BRG.

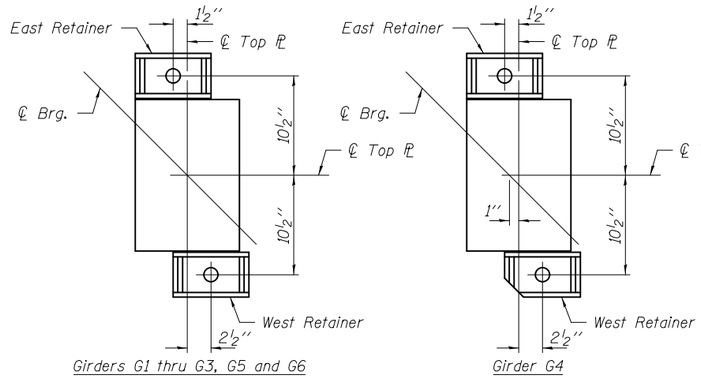
Pier 4 (South)



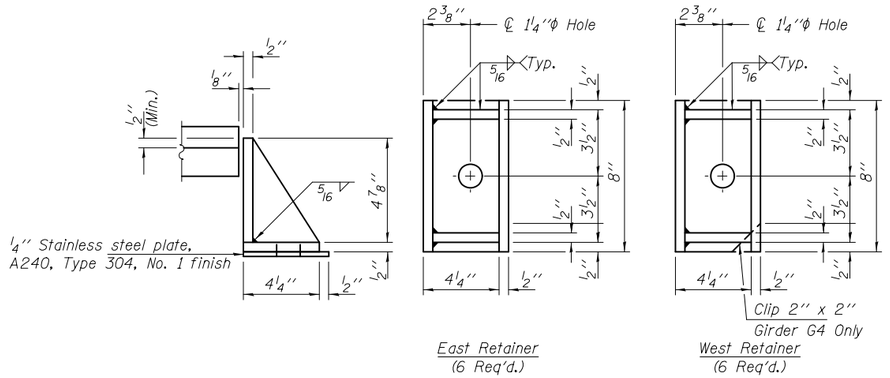
BEARING ASSEMBLY

Note:

Shim plates shall not be placed under Bearing Assembly.



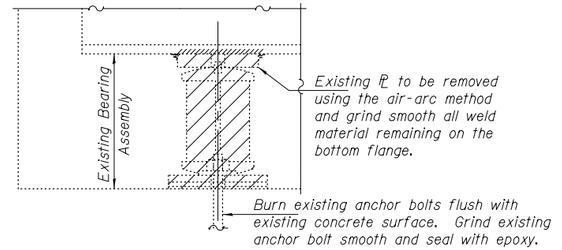
BOLT HOLE LOCATIONS



SIDE RETAINER

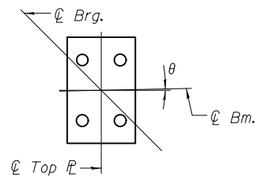
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 27 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.



Girders G1 thru G6

Girder	θ
G1	1° 08' 46''
G2 thru G6	0°

BILL OF MATERIAL

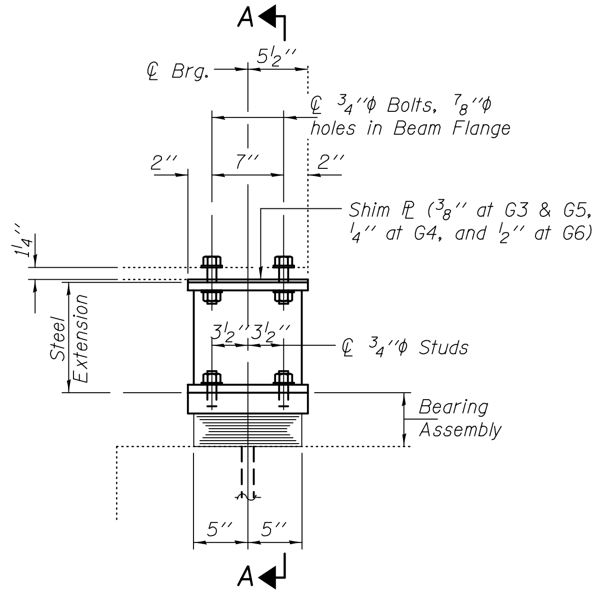
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	2
Temporary Shoring and Cribbing	Each	4
Furnishing and Erecting Structural Steel	Pound	1140
Anchor Bolts 1''ϕ	Each	12

See sheet 49 of 64 for location of Temporary Shoring and Cribbing.

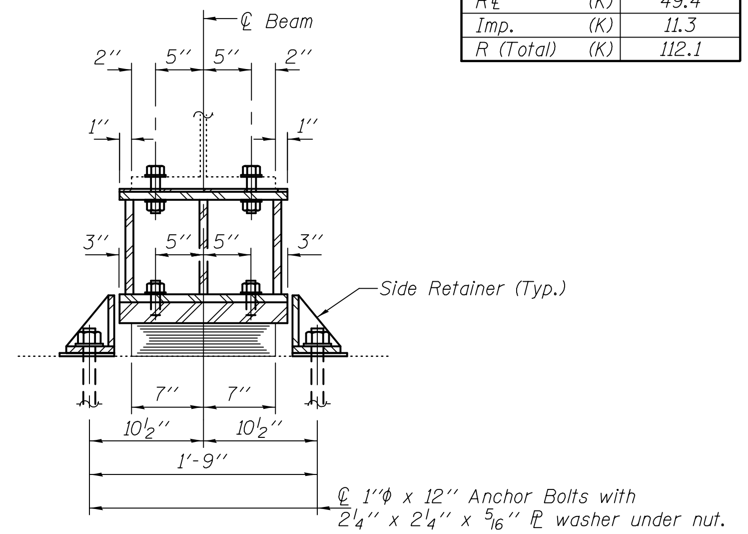
TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED	REVISED	BEARING DETAILS PIER 4 (SOUTH) SN 072-0127 (WB)
DRAWN daburdell	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED	SHEET NO. 36 OF 64 SHEETS
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	53
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



SECTION A-A

BEAM REACTIONS

RD	(K)	51.4
RL	(K)	49.4
Imp.	(K)	11.3
R (Total)	(K)	112.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

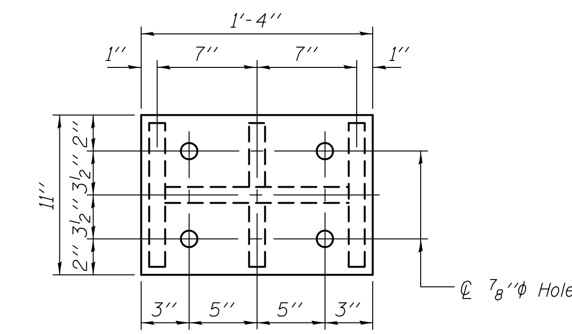
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

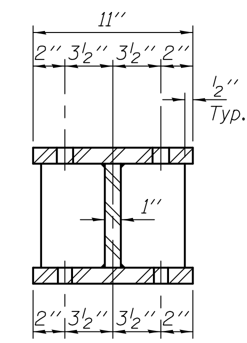
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

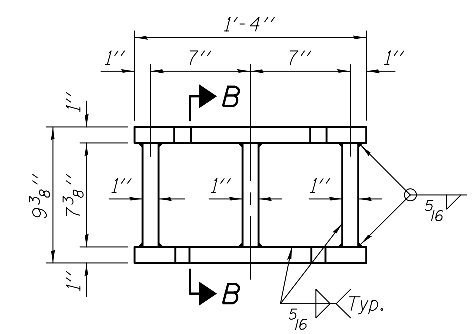
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



PLAN TOP AND BOTTOM PLATE



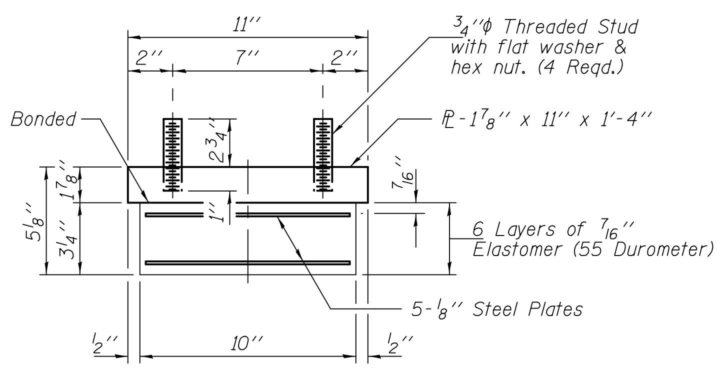
SECTION B-B



STEEL EXTENSION DETAIL

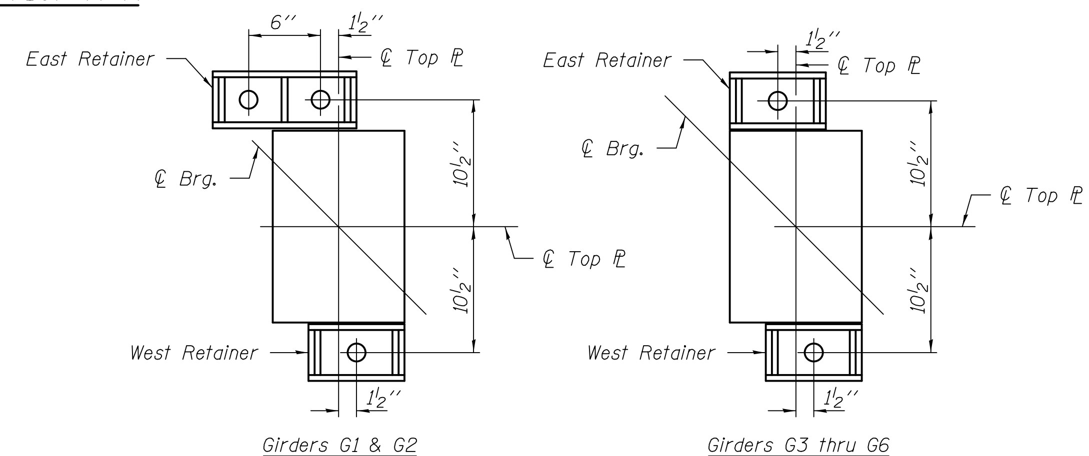
TYPE I ELASTOMERIC EXP. BRG.

Pier 6 (North)

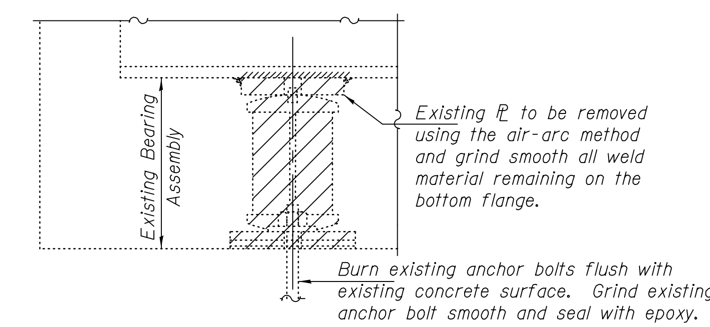


BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

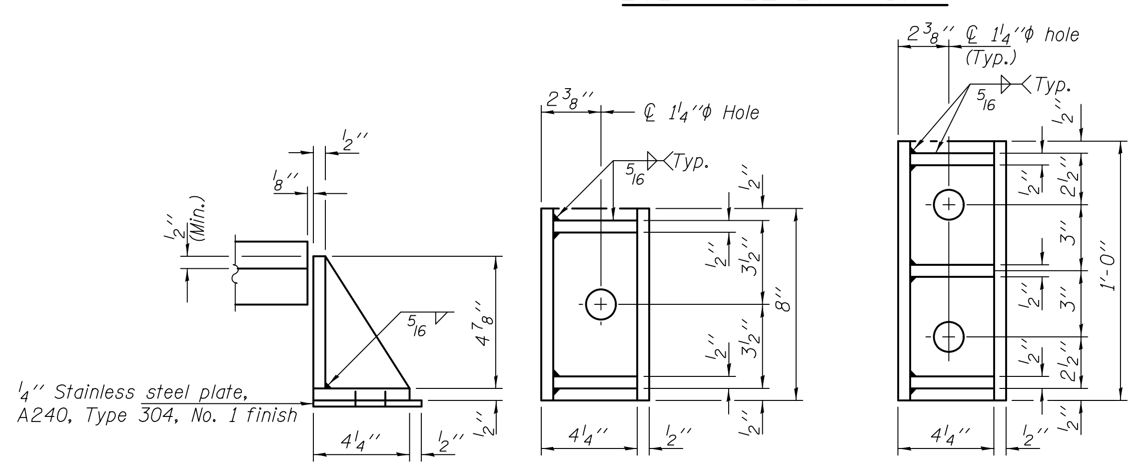


BOLT HOLE LOCATIONS



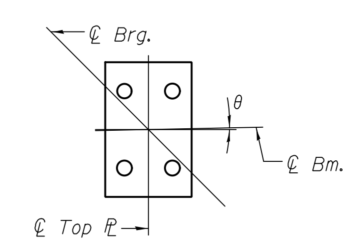
EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

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



Girder	θ
G1	1° 08′ 46″
G2 thru G6	0°

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	1140
Anchor Bolts 1″ϕ	Each	14

See sheet 27 of 64 for girder and bearing layout.

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR			
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB SMR			REVISED

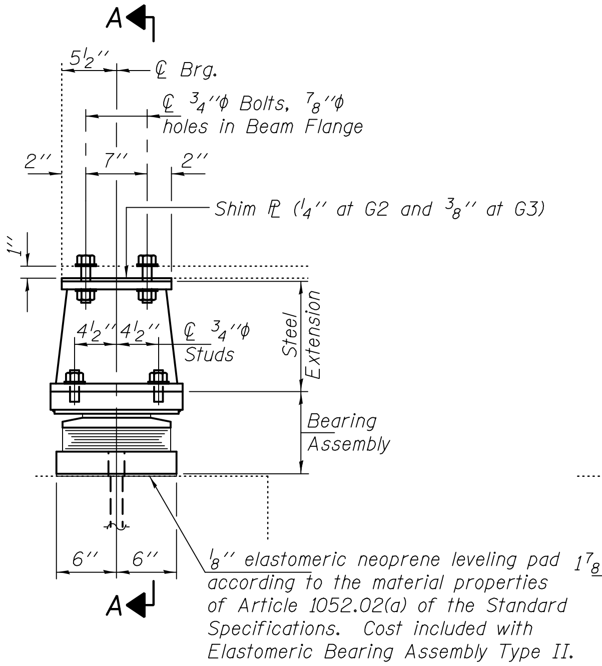
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS PIER 6 (NORTH)
SN 072–0127 (WB)

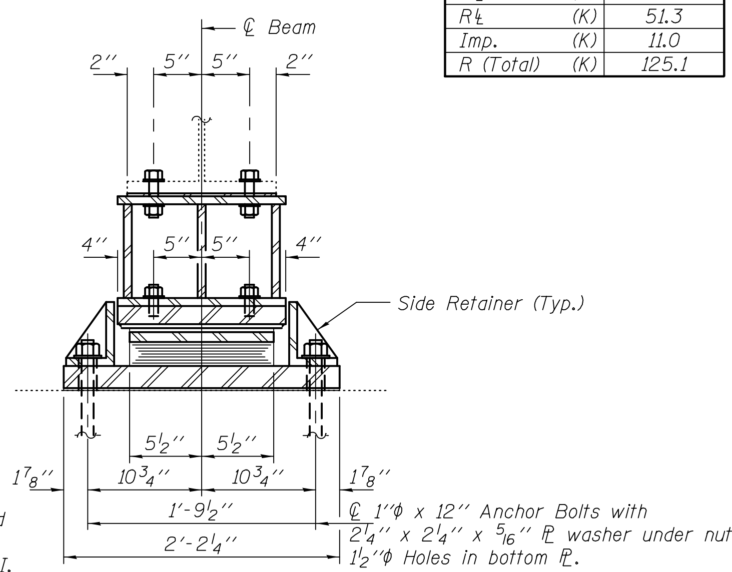
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	54

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

Pier 6 (South)

BEAM REACTIONS

R℗	(K)	62.8
Rℓ	(K)	51.3
Imp.	(K)	11.0
R (Total)	(K)	125.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 75 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

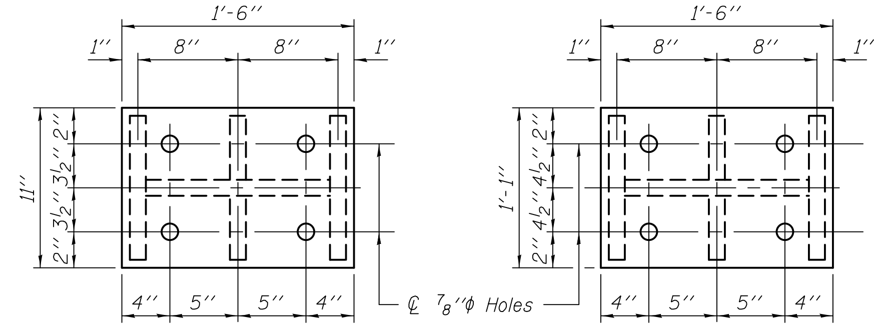
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛″ PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛″ PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

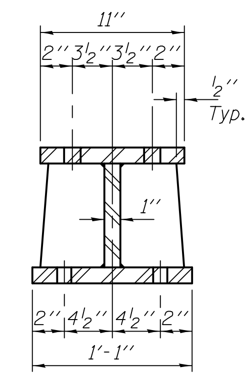
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



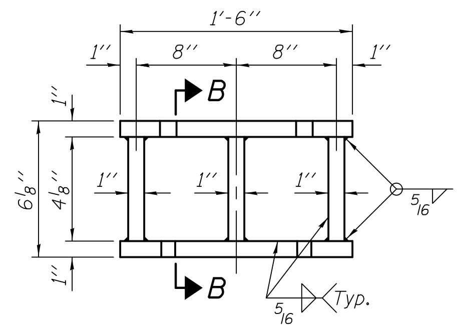
TOP PLATE

BOTTOM PLATE

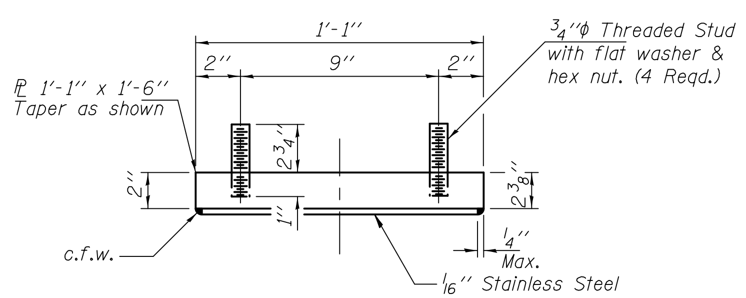
PLAN



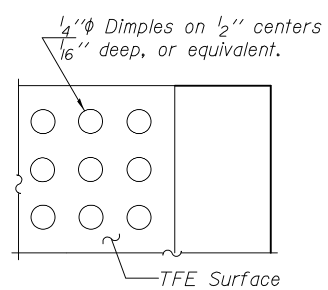
SECTION B-B



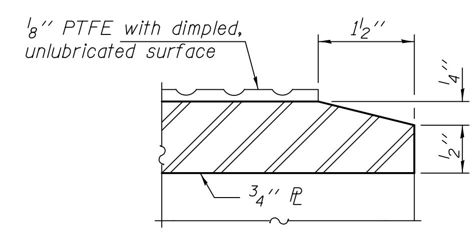
STEEL EXTENSION DETAIL



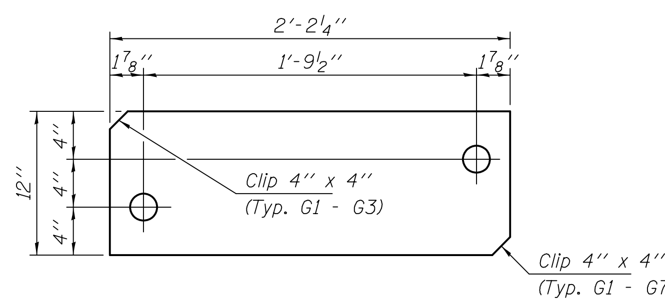
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

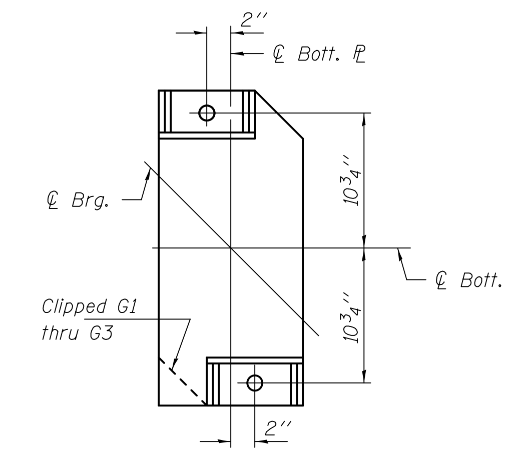


SECTION THRU PTFE



PLAN BOTTOM BEARING PLATE

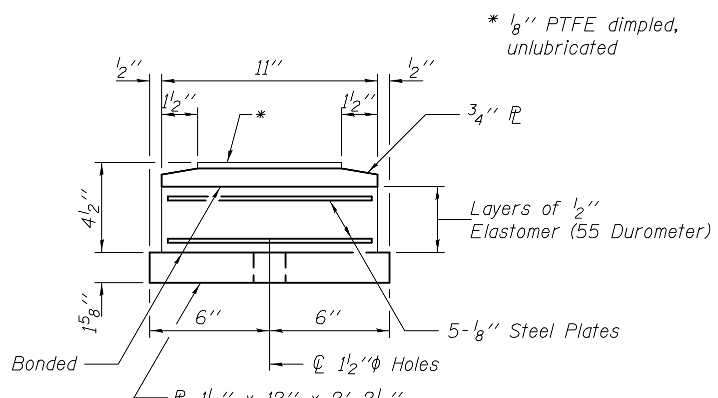
(Pier 6S)



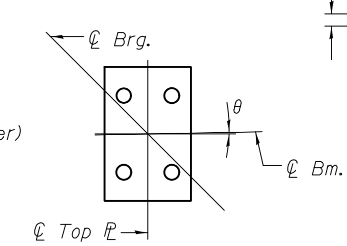
Girders G1 thru G7

BOLT HOLE LOCATIONS

Note:
See sheet 25 of 64 for Bearing Removal Details.

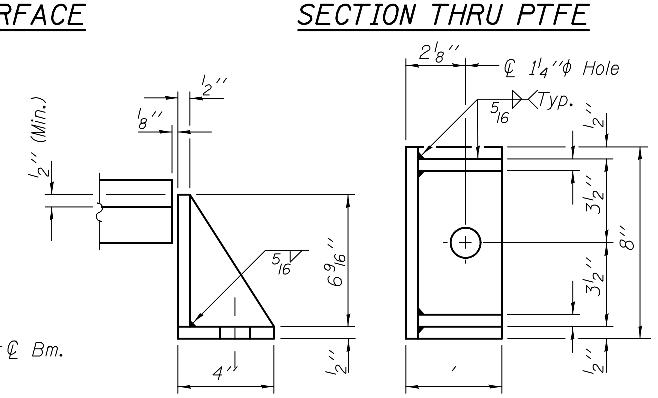


BOTTOM BEARING ASSEMBLY



Girders G1 thru G7

Girder	θ
G1	1° 08′ 46″
G2	0° 34′ 03″
G3 thru G7	0°

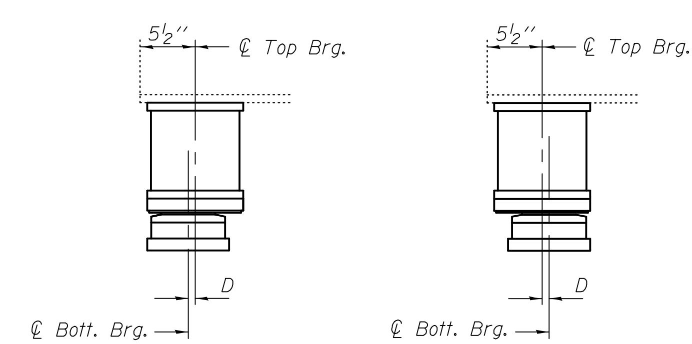


SIDE RETAINER

(14 Req'd.

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

See sheet 27 of 64 for girder and bearing layout.



BELOW 50° F.
(Move bott. brg. away from fixed brg.)

ABOVE 50° F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛″ per each 100′ of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	7
Jack and Remove Existing Bearings	Each	4
Temporary Shoring and Cribbing	Each	3
Furnishing and Erecting Structural Steel	Pound	1260
Anchor Bolts 1″φ	Each	14

See sheet 50 of 64 for location of Temporary Shoring and Cribbing.

TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	
CHECKED SMR			REVISED	
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

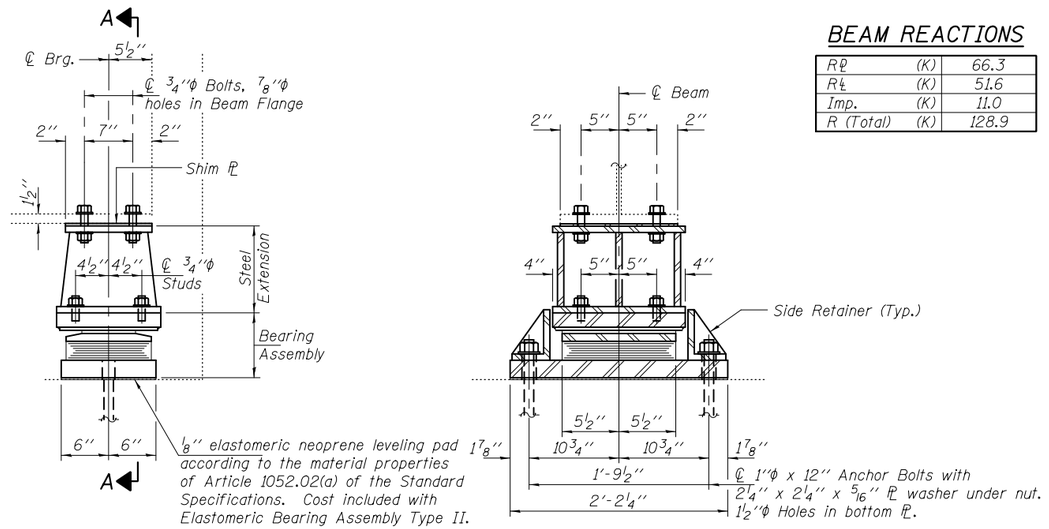
BEARING DETAILS PIER 6 (SOUTH)
SN 072-0127 (WB)

SHEET NO. 38 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	55

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION

SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

South Abutment

BEAM REACTIONS

RP	(K)	66.3
RL	(K)	51.6
Imp.	(K)	11.0
R (Total)	(K)	128.9

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 75 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

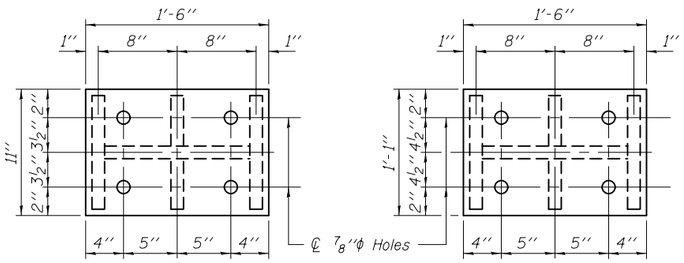
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛″ PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

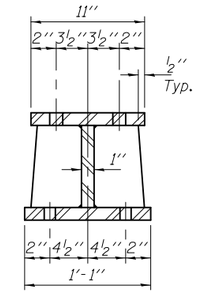
Bonding of ⅛″ PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.

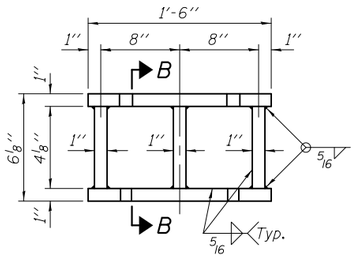


TOP PLATE BOTTOM PLATE

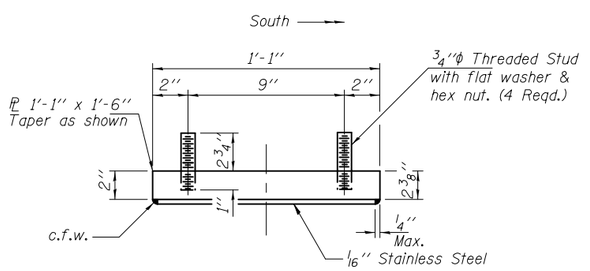
PLAN



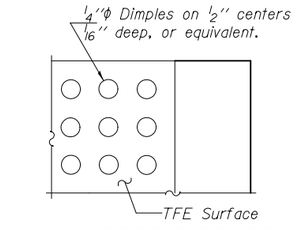
SECTION B-B



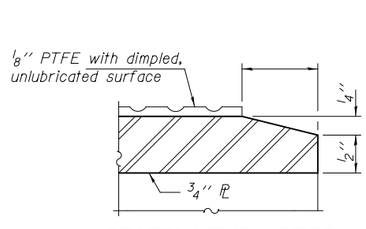
STEEL EXTENSION DETAIL



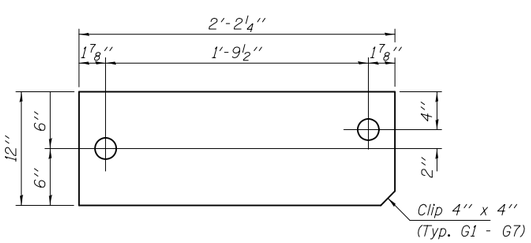
TOP BEARING ASSEMBLY



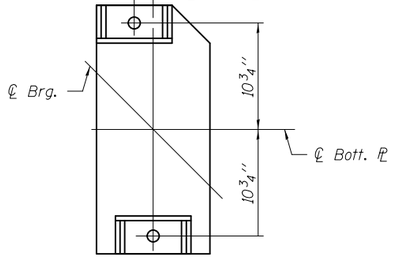
PLAN-PTFE SURFACE



SECTION THRU PTFE

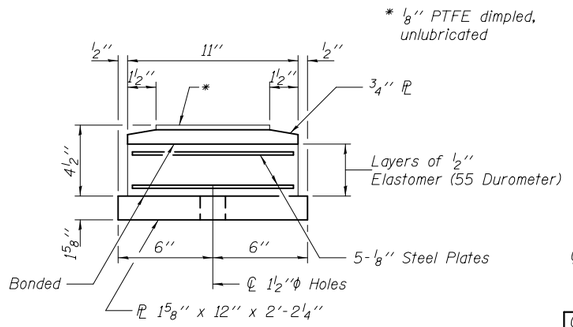


PLAN BOTTOM BEARING PLATE

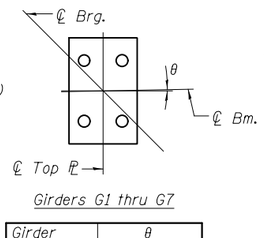


Girders G1 thru G7

BOLT HOLE LOCATIONS

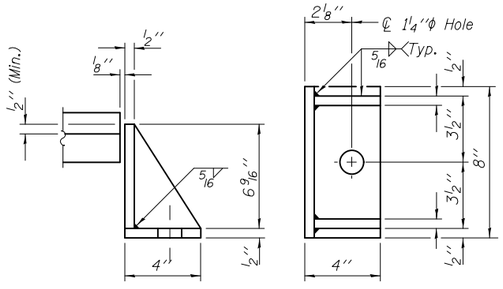


BOTTOM BEARING ASSEMBLY



Girders G1 thru G7

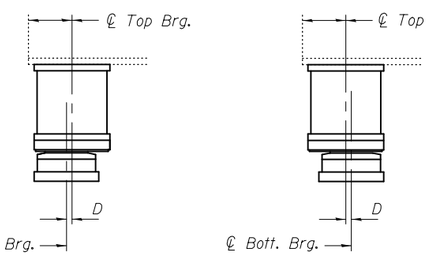
Girder	θ
G1	1° 08′ 46″
G2	0° 34′ 03″
G3 thru G7	0°



SIDE RETAINER

(14 Req'd.)

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



SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛″ per each 100′ of expansion for every 15° temp. change from the normal temp. of 50°F.

Note:
See sheet 25 of 64 for Bearing Removal Details.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	7
Jack and Remove Existing Bearings	Each	7
Furnishing and Erecting Structural Steel	Pound	1260
Anchor Bolts 1″ϕ	Each	14

See sheet 27 of 64 for girder and bearing layout.

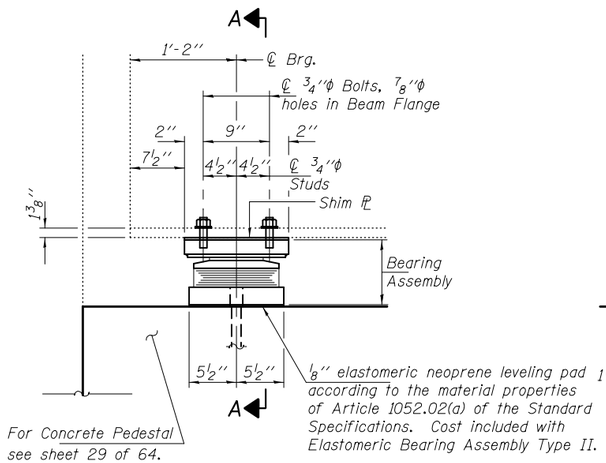
TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES		
DRAWN daburdell	PASSED	REVISED	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

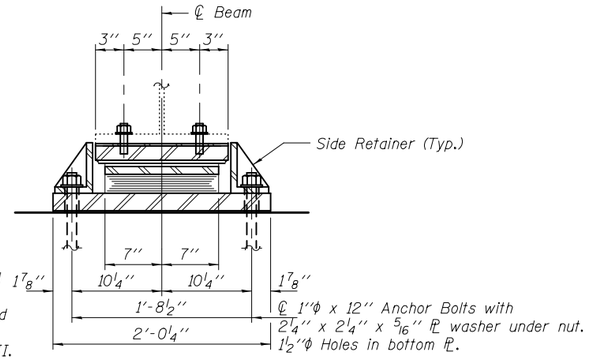
BEARING DETAILS SOUTH ABUTMENT SN 072–0127 (WB)

SHEET NO. 39 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	56
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



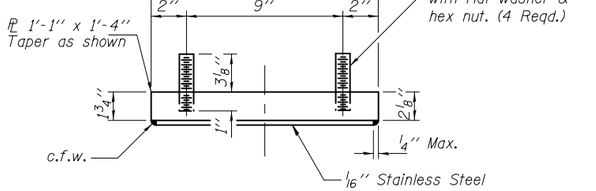
ELEVATION



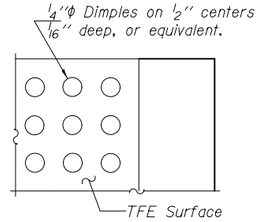
SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

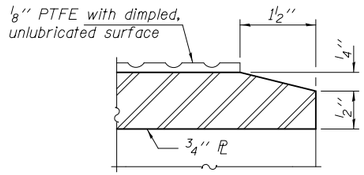
North Abutment



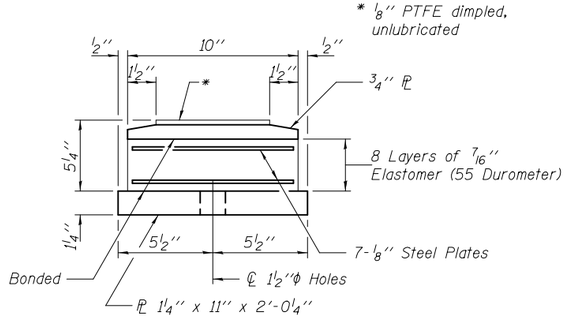
TOP BEARING ASSEMBLY



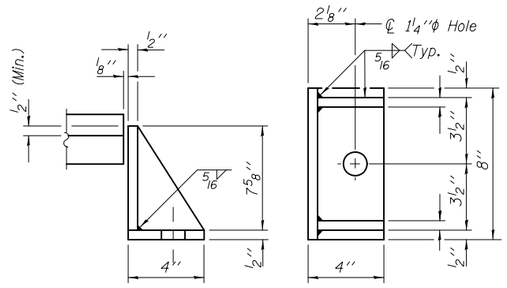
PLAN-PTFE SURFACE



SECTION THRU PTFE



BOTTOM BEARING ASSEMBLY



SIDE RETAINER

(12 Req'd.)

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

See sheet 28 of 64 for girder and bearing layout.

BEAM REACTIONS

R℄	(K)	56.5
R℄	(K)	44.4
Imp.	(K)	9.5
R (Total)	(K)	110.4

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

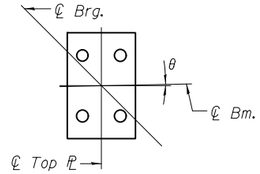
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

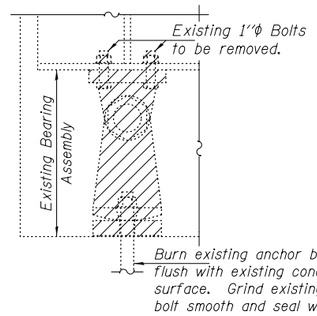
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



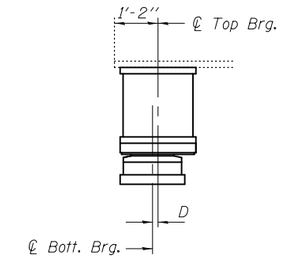
Girders G1 thru G6

Girder	θ
G1 thru G6	0°



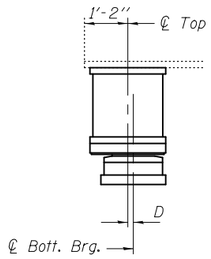
EXISTING BEARING REMOVAL DETAIL

Cost included with Temporary Shoring and Cribbing.



BELOW 50° F.

(Move bott. brg. away from fixed brg.)



ABOVE 50° F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

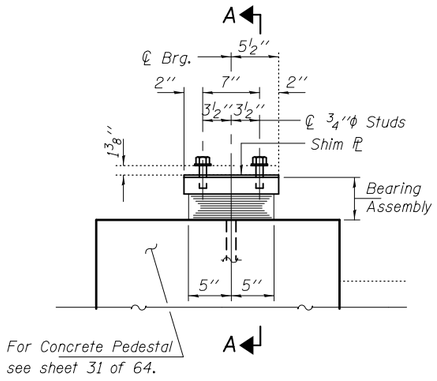
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Temporary Shoring and Cribbing	Each	6
Anchor Bolts 1"ϕ	Each	12

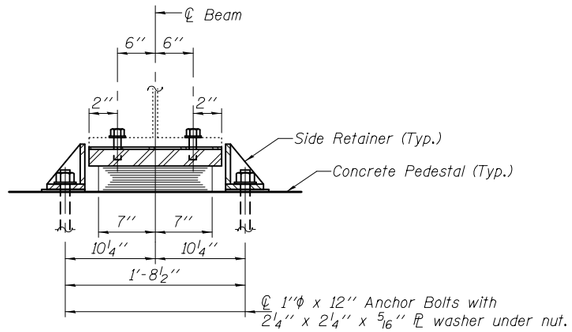
TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS NORTH ABUTMENT SN 072-0128 (EB)
CHECKED SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 40 OF 64 SHEETS
DRAWN dabardell			REVISED		
CHECKED JSB SMR					

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	57
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



SECTION A-A

BEAM REACTIONS

RL	(K)	56.5
RL	(K)	44.4
Imp.	(K)	9.5
R (Total)	(K)	110.4

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

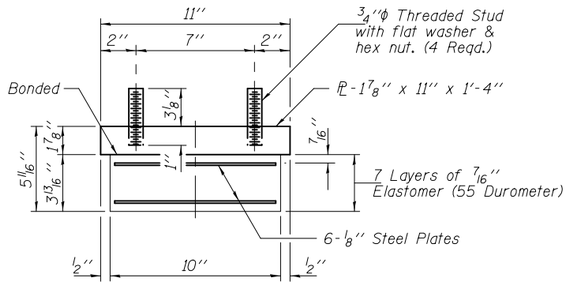
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.

TYPE I ELASTOMERIC EXP. BRG.

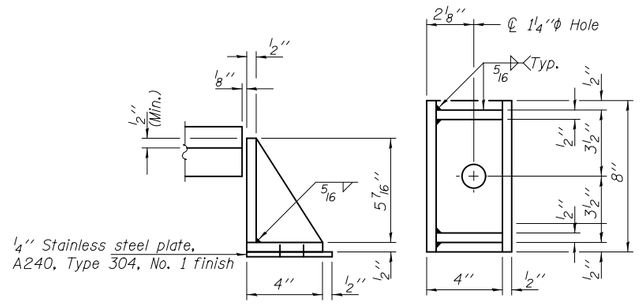
Pier 3 (North)



BEARING ASSEMBLY

Note:

Shim plates shall not be placed under Bearing Assembly.

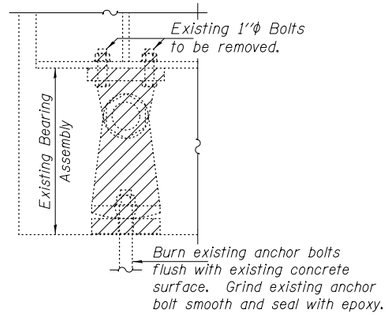


SIDE RETAINER

(12 Req'd.)

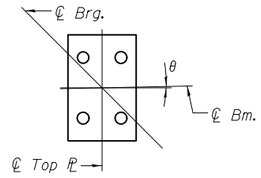
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 28 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Temporary Shoring and Cribbing.



Girders G7 thru G12

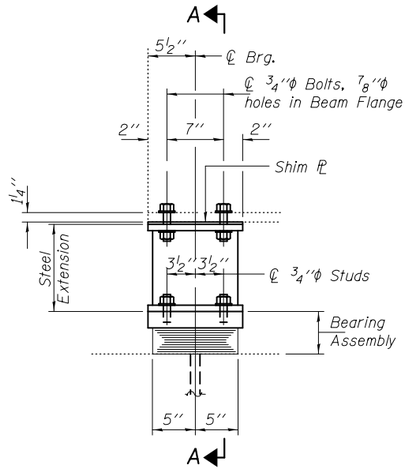
Girder	θ
G7 thru G12	0°

BILL OF MATERIAL

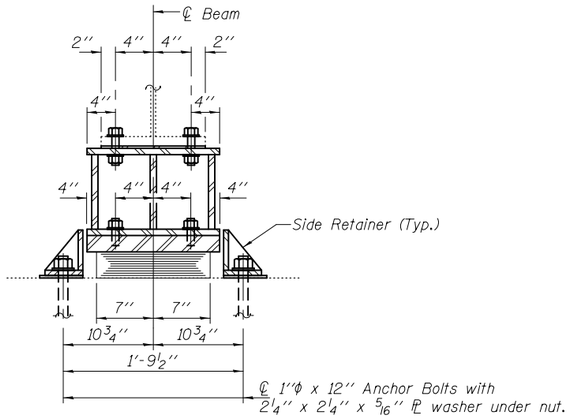
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Temporary Shoring and Cribbing	Each	6
Anchor Bolts 1''ϕ	Each	12

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS PIER 3 (NORTH) SN 072-0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED			474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	58
DRAWN daburdell			REVISED		SHEET NO. 41 OF 64 SHEETS				CONTRACT NO. 68887	
CHECKED JSB SMR								ILLINOIS FED. AID PROJECT		



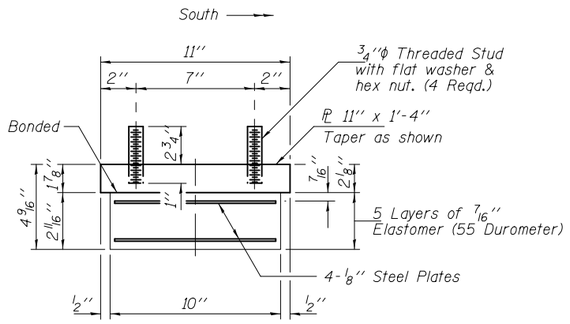
ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Pier 3 (South)



BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

BEAM REACTIONS

RP	(K)	59.2
RL	(K)	44.0
Imp.	(K)	10.5
R (Total)	(K)	113.7

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 70 Tons.

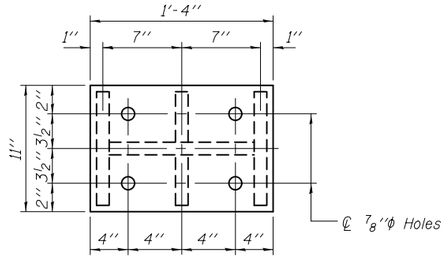
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

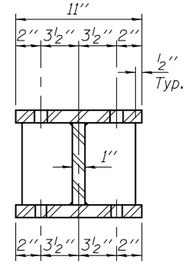
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

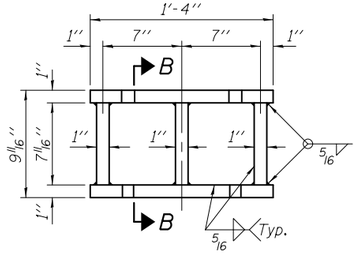
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



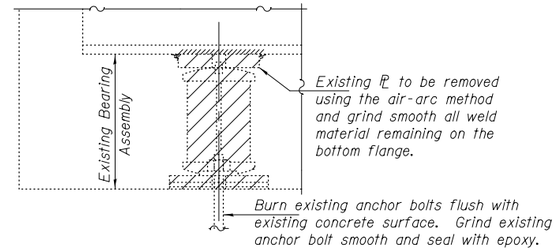
PLAN TOP AND BOTTOM PLATE



SECTION B-B

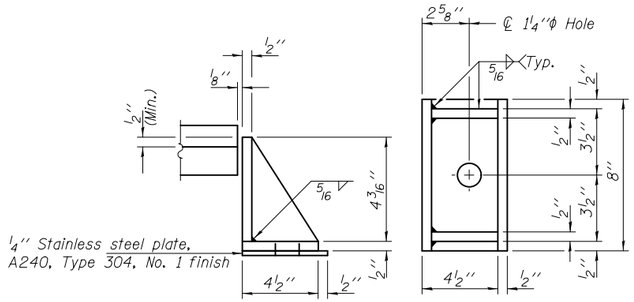


STEEL EXTENSION DETAIL



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

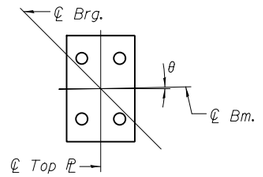


SIDE RETAINER

(12 Req'd.)

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

See sheet 28 of 64 for girder and bearing layout.



Girders G7 thru G12

Girder	θ
G7 thru G12	0°

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	1170
Anchor Bolts 1''ϕ	Each	12

TYI/REPS 1-18-2017

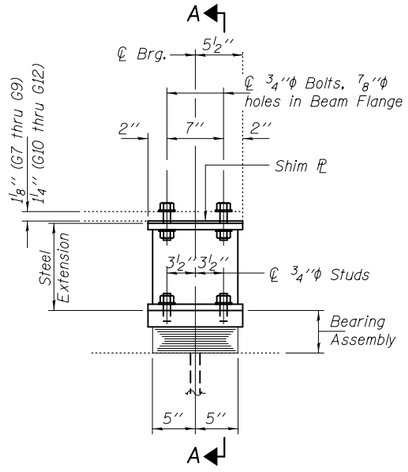
DESIGNED	JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES
CHECKED	SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	daburdell	DATE	JANUARY 31, 2018
CHECKED	JSB SMR	REVISED	
		REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

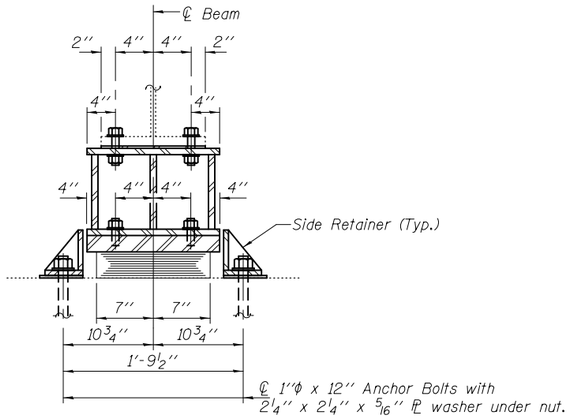
BEARING DETAILS PIER 3 (SOUTH)
SN 072-0128 (EB)

SHEET NO. 42 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUB)B-R	PEORIA	196	59
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



SECTION A-A

BEAM REACTIONS

RP	(K)	48.2
RA	(K)	46.4
Imp.	(K)	10.6
R (Total)	(K)	105.2

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 60 Tons.

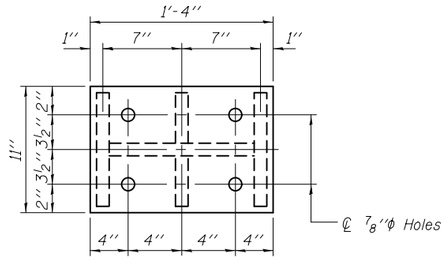
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

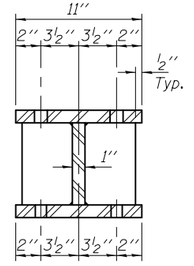
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

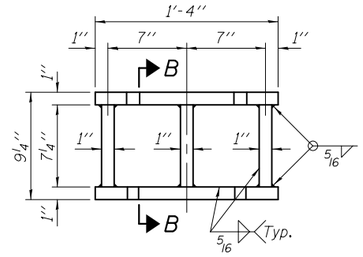
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



PLAN TOP AND BOTTOM PLATE



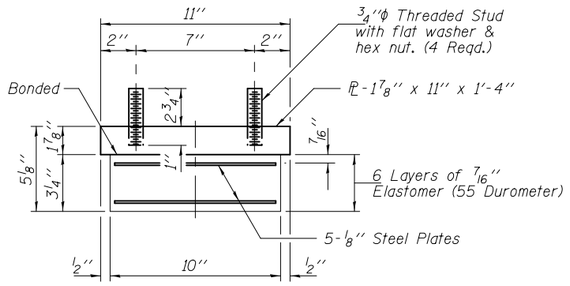
SECTION B-B



STEEL EXTENSION DETAIL

TYPE I ELASTOMERIC EXP. BRG.

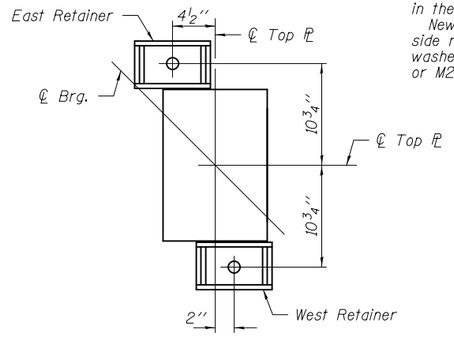
Pier 4 (North)



BEARING ASSEMBLY

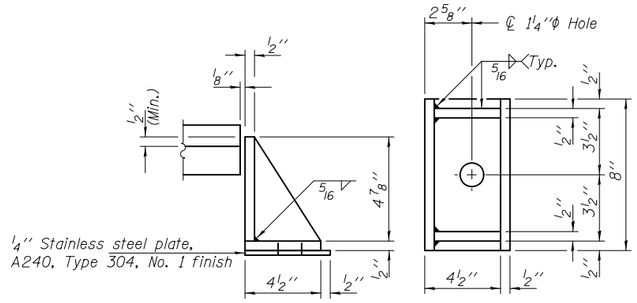
Note:

Shim plates shall not be placed under Bearing Assembly.



Girders G7 thru G12

BOLT HOLE LOCATIONS

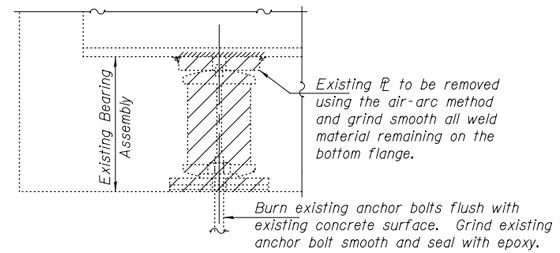


SIDE RETAINER

(12 Req'd.)

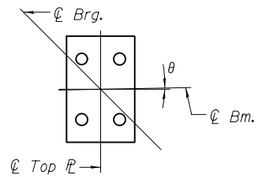
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 28 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



Girders G7 thru G12

Girder	θ
G7 thru G12	0°

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	1140
Anchor Bolts 1''ϕ	Each	12

TYI/REPS 1-18-2017

DESIGNED	JSB		
CHECKED	SMR		
DRAWN	daburdell		
CHECKED	JSB SMR		

EXAMINED — ACTING ENGINEER OF STRUCTURAL SERVICES — DATE JANUARY 31, 2018

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

REVISED

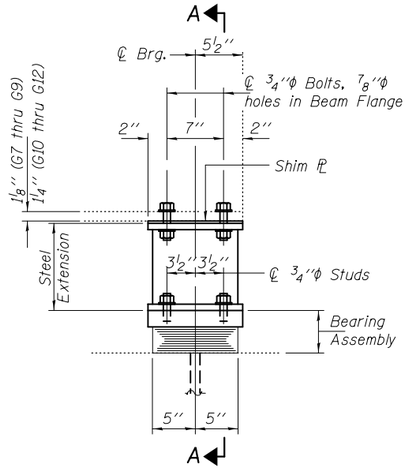
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

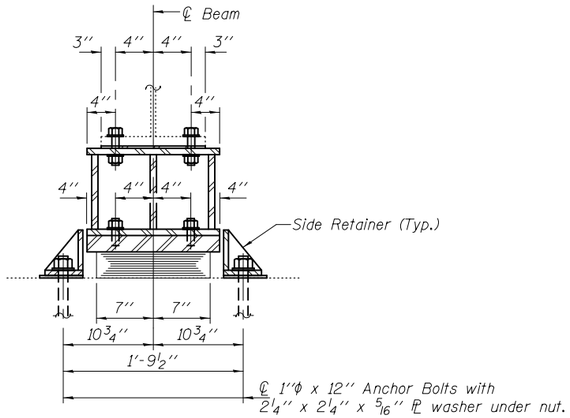
BEARING DETAILS PIER 4 (NORTH)
SN 072-0128 (EB)

SHEET NO. 43 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	60
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



SECTION A-A

BEAM REACTIONS

RP	(K)	48.2
RL	(K)	46.4
Imp.	(K)	10.6
R (Total)	(K)	105.2

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 60 Tons.

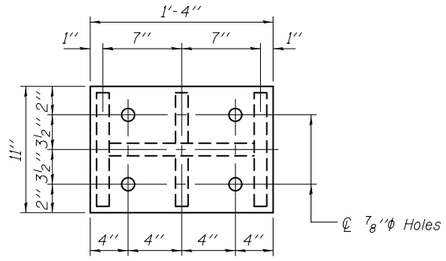
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

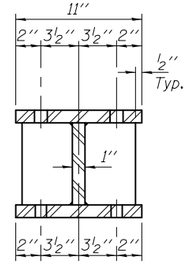
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

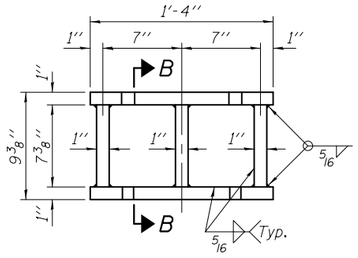
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



PLAN TOP AND BOTTOM PLATE



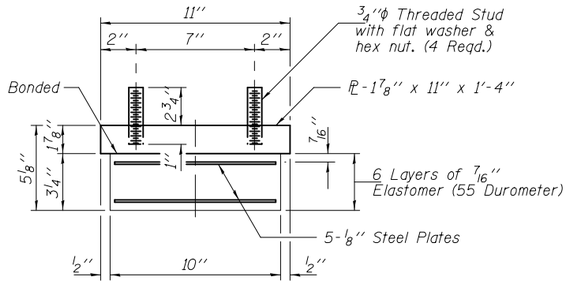
SECTION B-B



STEEL EXTENSION DETAIL

TYPE I ELASTOMERIC EXP. BRG.

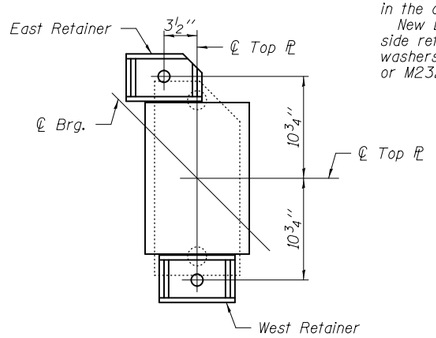
Pier 6 (North)



BEARING ASSEMBLY

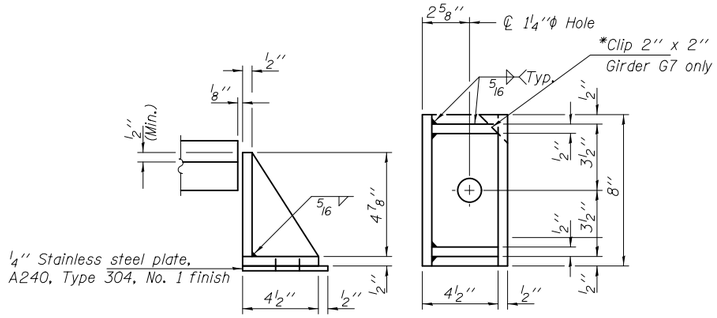
Note:

Shim plates shall not be placed under Bearing Assembly.



Girders G7 thru G13

BOLT HOLE LOCATIONS

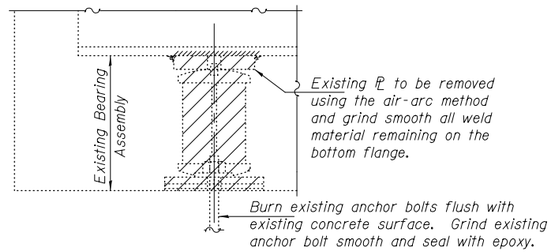


SIDE RETAINER

(12 Req'd.)

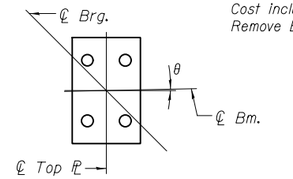
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 28 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



Girders G7 thru G13

Girder	θ
G7 thru G11	0°
G12	1° 28' 24''
G13	2° 52' 18''

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	7
Jack and Remove Existing Bearings	Each	7
Furnishing and Erecting Structural Steel	Pound	1340
Anchor Bolts 1''ϕ	Each	14

TYI/REPS 1-18-2017

DESIGNED	JSB		
CHECKED	SMR		
DRAWN	daburdell		
CHECKED	JSB SMR		

EXAMINED — ACTING ENGINEER OF STRUCTURAL SERVICES

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

DATE JANUARY 31, 2018

REVISED

REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

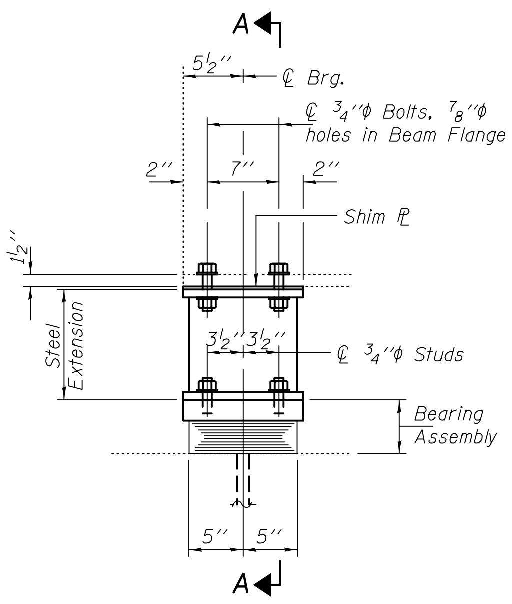
BEARING DETAILS PIER 6 (NORTH)
SN 072-0128 (EB)

SHEET NO. 44 OF 64 SHEETS

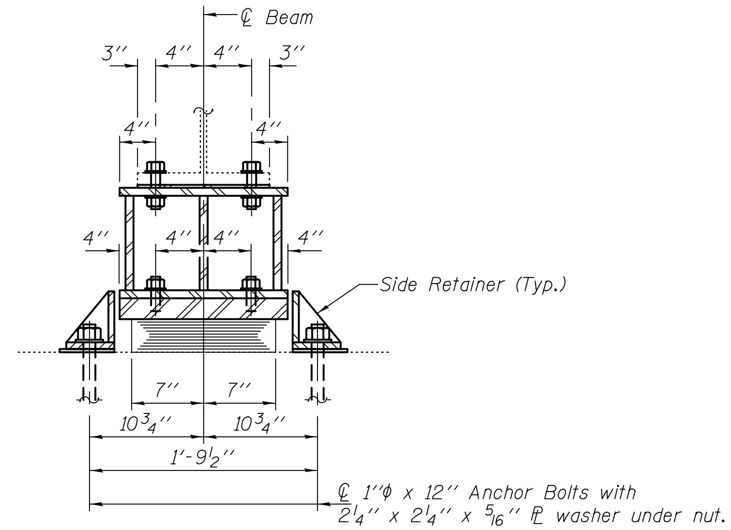
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	61
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

TYPE I ELASTOMERIC EXP. BRG.

Pier 6 (South)



ELEVATION



SECTION A-A

BEAM REACTIONS

R℗	(K)	59.4
Rℓ	(K)	51.2
Imp.	(K)	11.0
R (Total)	(K)	121.6

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 70 Tons.

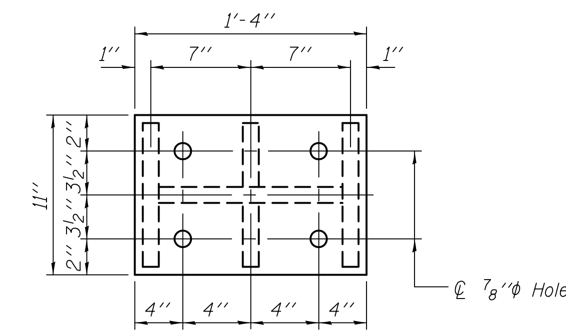
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

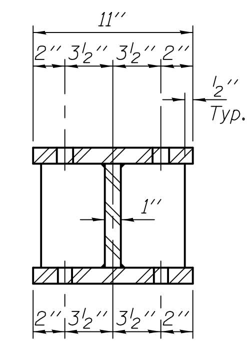
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

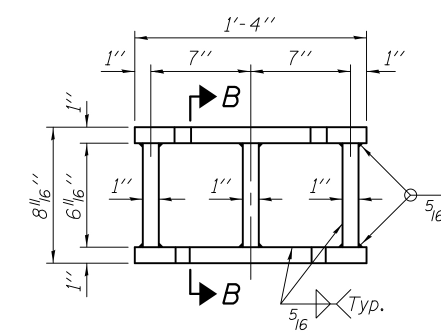
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



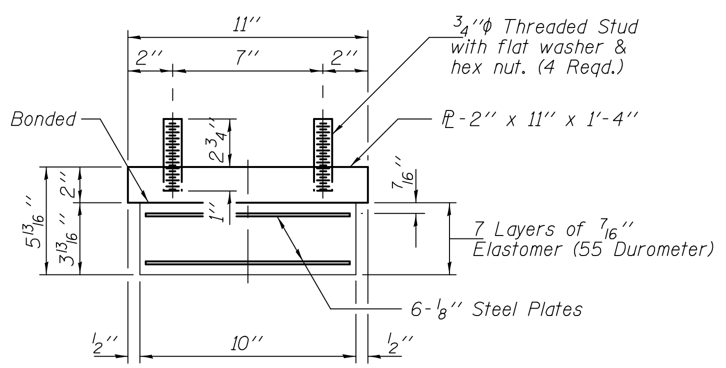
PLAN TOP AND BOTTOM PLATE



SECTION B-B

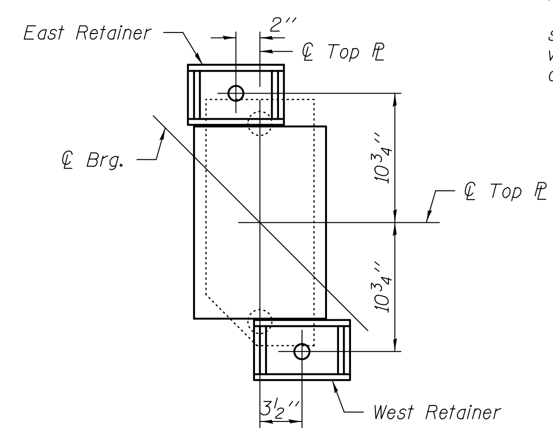


STEEL EXTENSION DETAIL



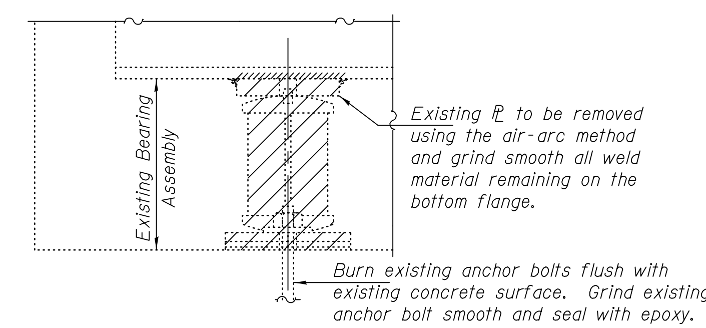
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



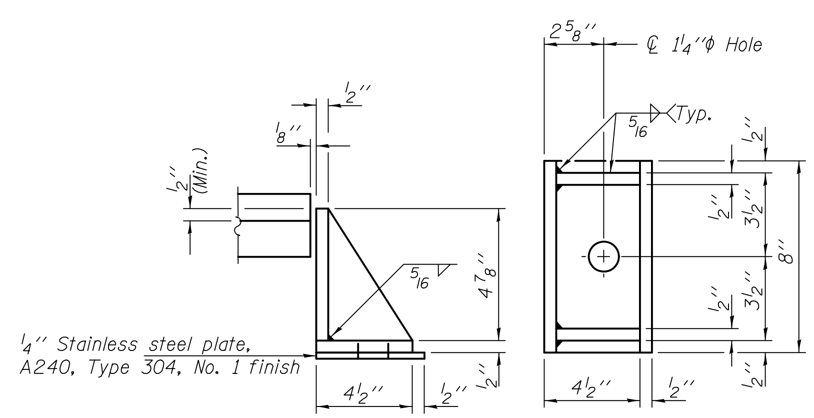
Girders G8 thru G15

BOLT HOLE LOCATIONS



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.

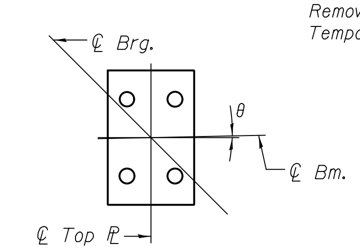


SIDE RETAINER

(12 Req'd.)

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

See sheet 28 of 64 for girder and bearing layout.



Girders G8 thru G15

Girder	θ
G8 thru G11	0°
G12	0°
G13	1° 02′ 47″
G14	2° 03′ 15″
G15	3° 01′ 34″

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	8
Jack and Remove Existing Bearings	Each	6
Temporary Shoring and Cribbing	Each	2
Furnishing and Erecting Structural Steel	Pound	1460
Anchor Bolts 1″ϕ	Each	16

See sheet 53 of 64 for location of Temporary Shoring and Cribbing.

TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED SMR			
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB SMR			REVISED

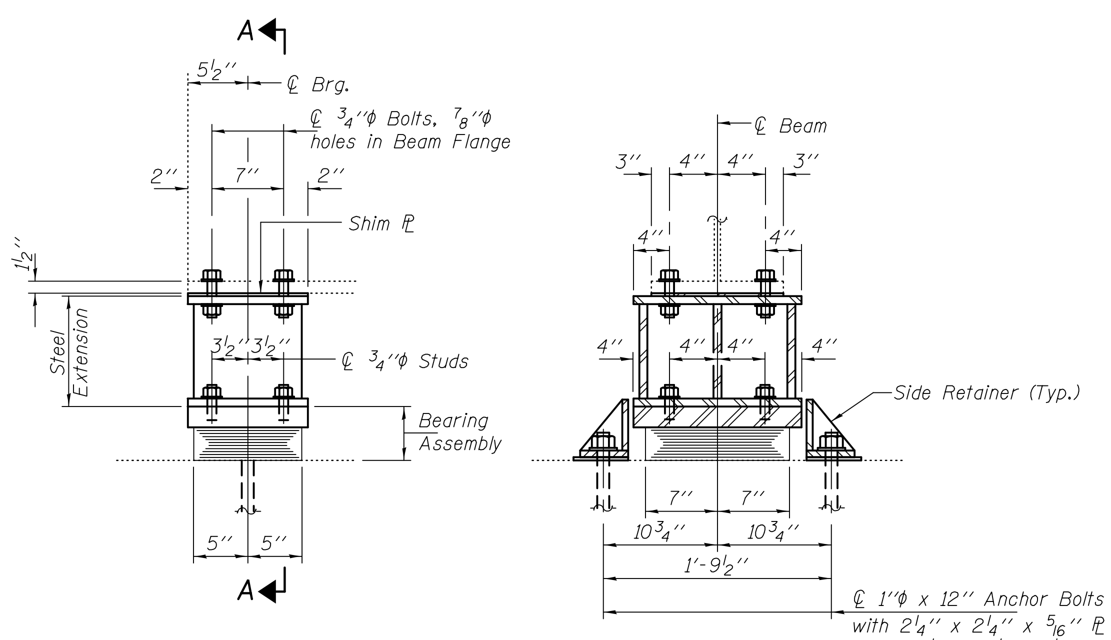
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS PIER 6 (SOUTH)
SN 072–0128 (EB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	62

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION AT ABUTMENT

SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

R℄	(K)	59.4
R𝓁	(K)	51.2
Imp.	(K)	11.0
R (Total)	(K)	121.6

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 70 Tons.

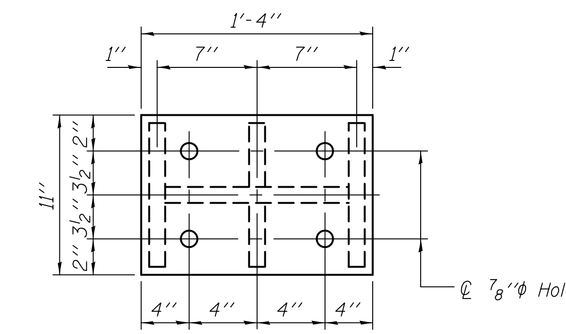
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

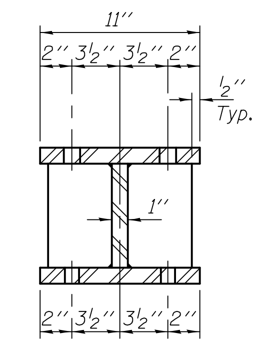
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

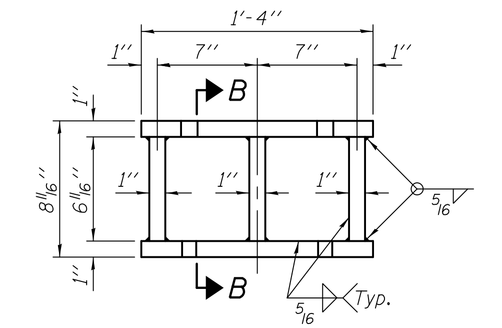
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



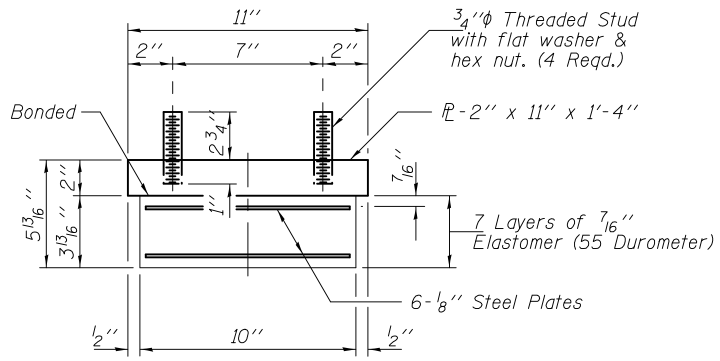
PLAN TOP AND BOTTOM PLATE



SECTION B-B

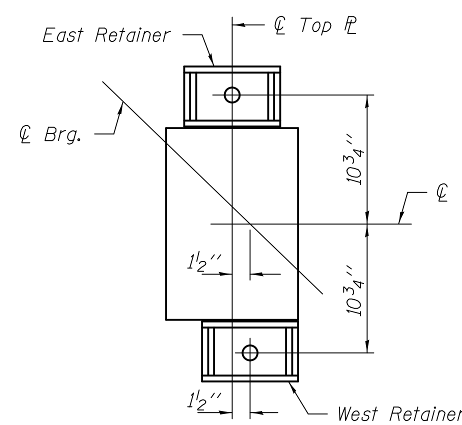


STEEL EXTENSION DETAIL



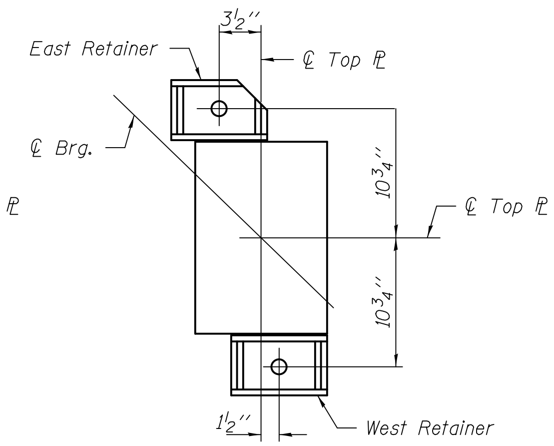
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



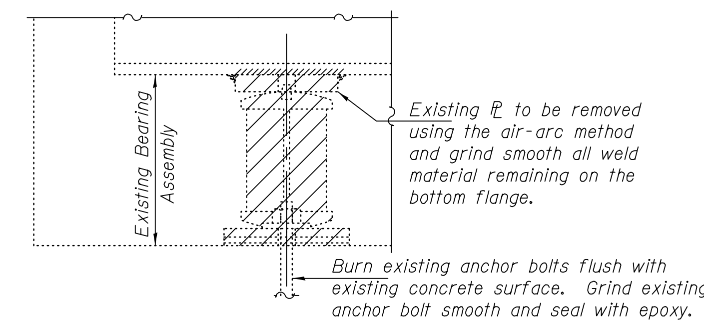
Girder G13

BOLT HOLE LOCATIONS



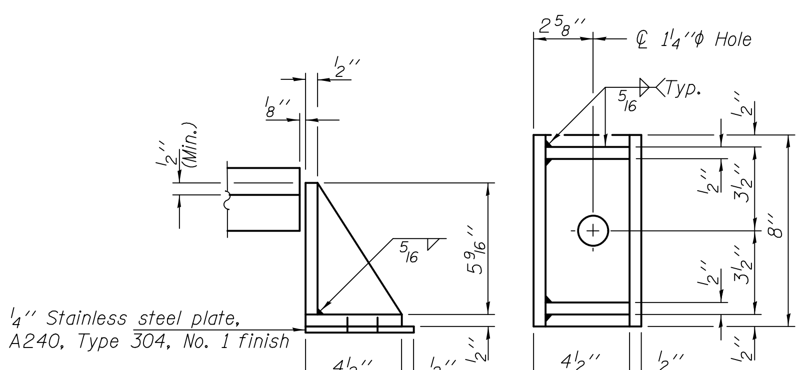
Girders G8 thru G12, G14 and G15

BOLT HOLE LOCATIONS

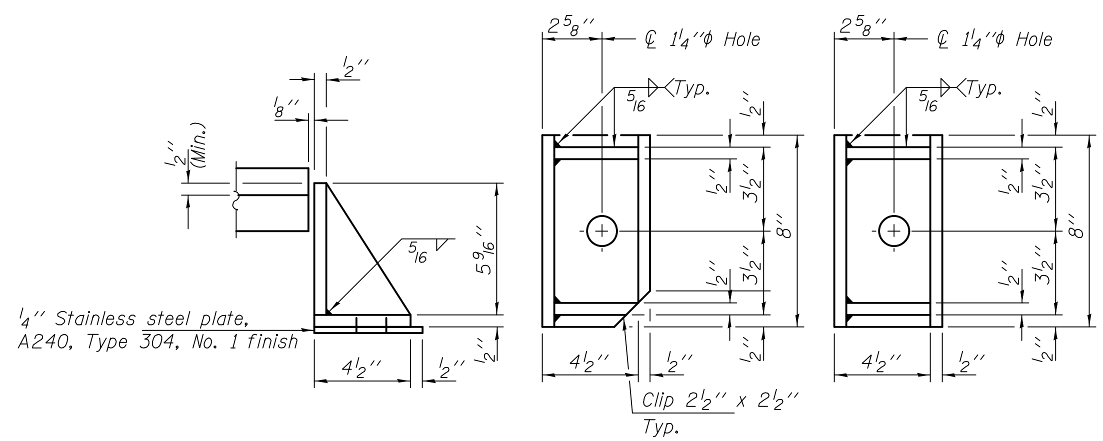


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.



West Retainer
(8 Req'd.)

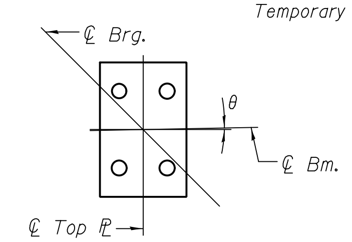


SIDE RETAINERS

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

East Retainer
(Typ. except Girder G13)
(7 Req'd.)

East Retainer
(Girder G13 Only)
(1 Req'd.)



Girders G8 thru G15

Girder	θ
G8 thru G11	0°
G12	0°
G13	1° 02′ 47″
G14	2° 03′ 15″
G15	3° 01′ 34″

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	8
Jack and Remove Existing Bearings	Each	7
Temporary Shoring and Cribbing	Each	1
Furnishing and Erecting Structural Steel	Pound	1460
Anchor Bolts 1″φ	Each	16

See sheet 53 of 64 for location of Temporary Shoring and Cribbing.

TYI/REPS 1-18-2017

See sheet 28 of 64 for girder and bearing layout.

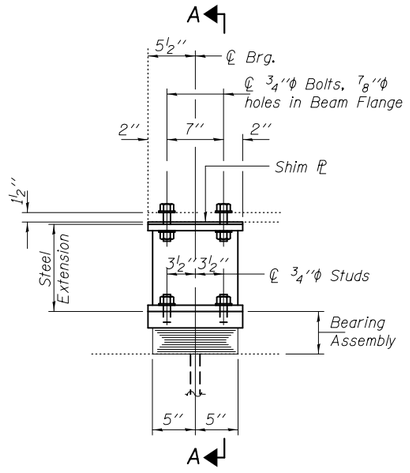
DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR				
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR			REVISED	

BEARING DETAILS PIER 8 (NORTH)
SN 072-0128 (EB)

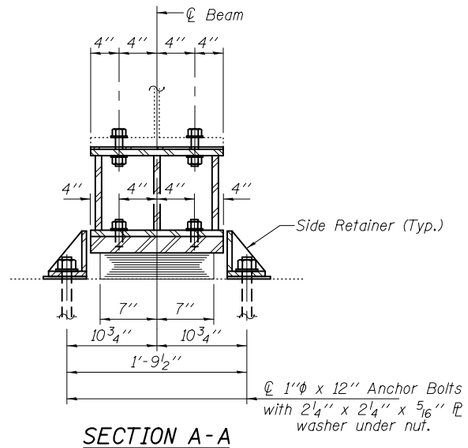
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	63

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION AT ABUTMENT



SECTION A-S

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RL	(K)	57.2
RA	(K)	46.2
Imp.	(K)	9.9
R (Total)	(K)	113.3

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

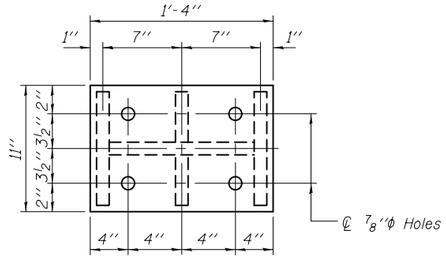
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

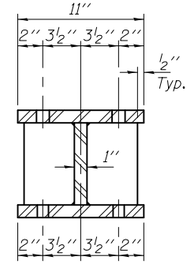
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

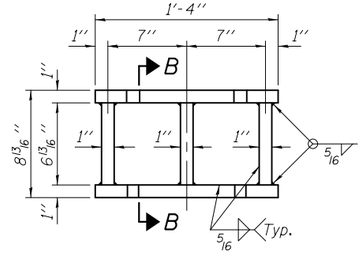
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



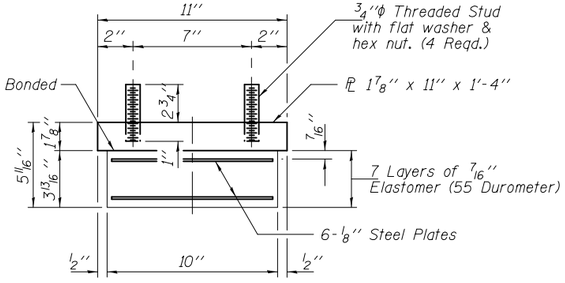
PLAN TOP AND BOTTOM PLATE



SECTION B-B

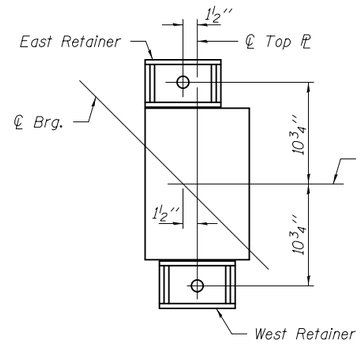


STEEL EXTENSION DETAIL

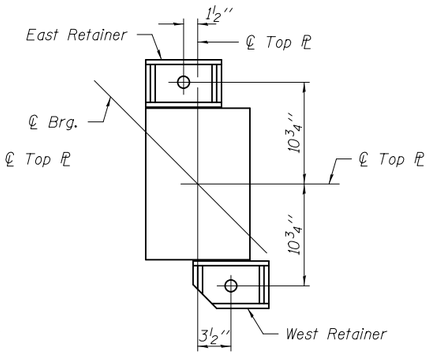


BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.

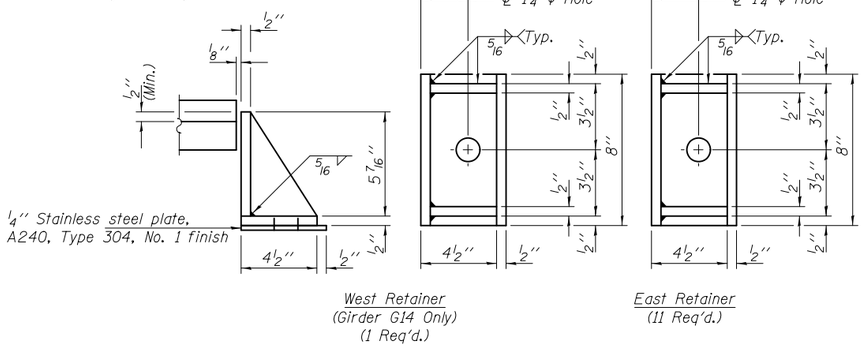


Girder G14



Girders G8 thru G13, G15 thru G18

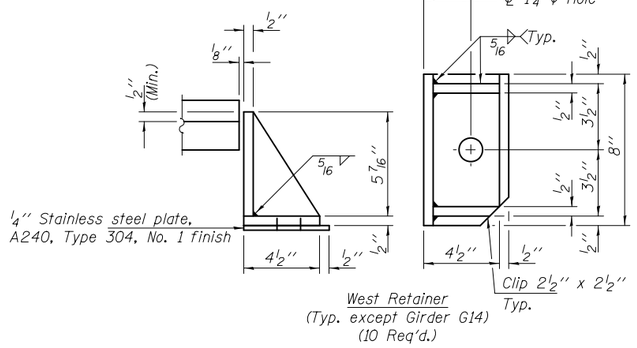
BOLT HOLE LOCATIONS



West Retainer (Girder G14 Only) (1 Req'd.)

East Retainer (11 Req'd.)

BOLT HOLE LOCATIONS

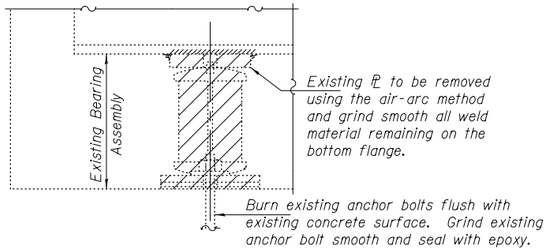


West Retainer (Typ. except Girder G14) (10 Req'd.)

SIDE RETAINERS

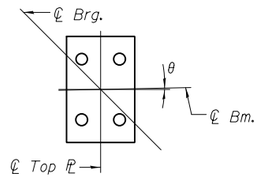
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 28 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings or Temporary Shoring and Cribbing.



Girders G8 thru G18

Girder	θ
G8 thru G15	0°
G16	1° 09' 48''
G17	2° 16' 46''
G18	3° 01' 34''

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	11
Jack and Remove Existing Bearings	Each	7
Temporary Shoring and Cribbing	Each	4
Furnishing and Erecting Structural Steel	Pound	2020
Anchor Bolts 1''ϕ	Each	22

See sheet 53 of 64 for location of Temporary Shoring and Cribbing.

TYI/REPS 1-18-2017

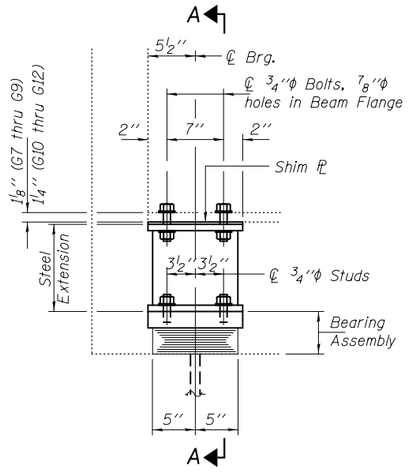
DESIGNED	JSB	EXAMINED	Timothy A. Sheldon
CHECKED	SMR		ACTING ENGINEER OF STRUCTURAL SERVICES
DRAWN	daburdell	PASSED	S. Carl Hungerford
CHECKED	JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES
		DATE	JANUARY 31, 2018
		REVISED	
		REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

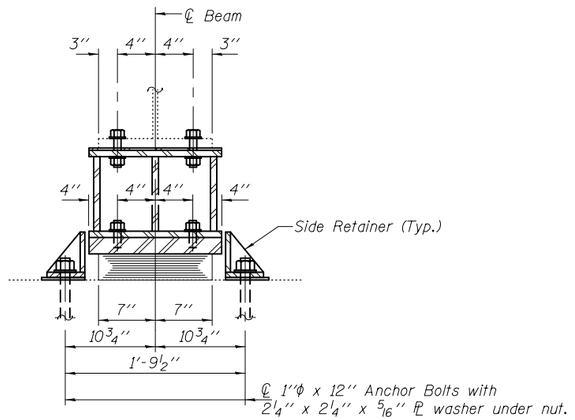
BEARING DETAILS PIER 8 (SOUTH)
SN 072-0128 (EB)

SHEET NO. 47 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUB)B-R	PEORIA	196	64
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION AT ABUTMENT



SECTION A-A

BEAM REACTIONS

RP	(K)	53.1
RA	(K)	45.8
Imp.	(K)	10.0
R (Total)	(K)	108.9

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 65 Tons.

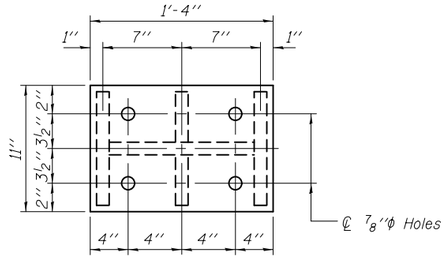
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

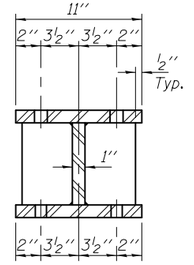
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

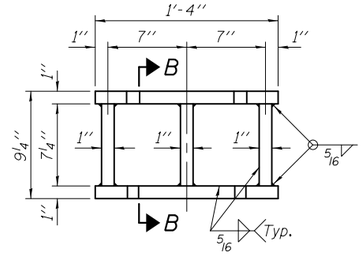
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



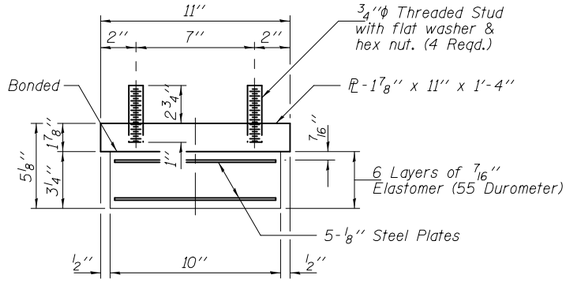
PLAN TOP AND BOTTOM PLATE



SECTION B-B



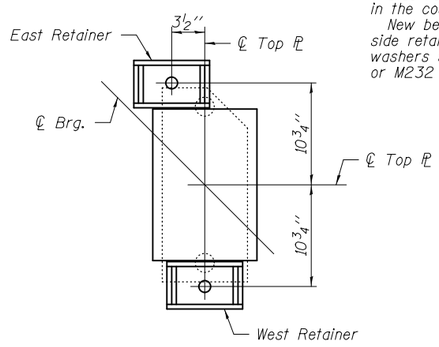
STEEL EXTENSION DETAIL



BEARING ASSEMBLY

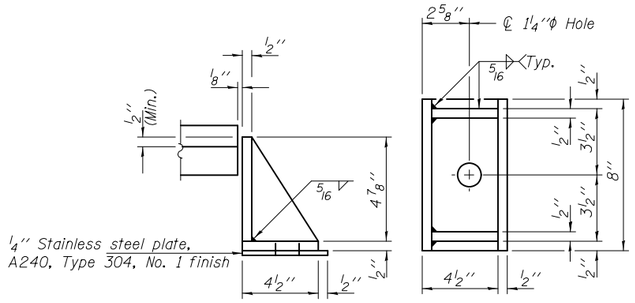
Note:

Shim plates shall not be placed under Bearing Assembly.



Girders G8 thru G18

BOLT HOLE LOCATIONS

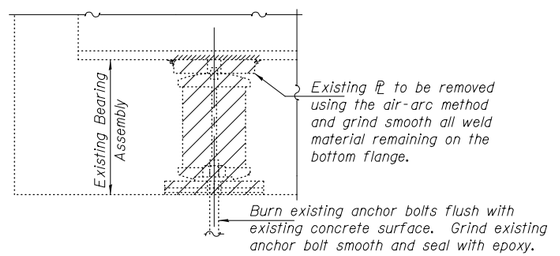


SIDE RETAINER

(22 Req'd.)

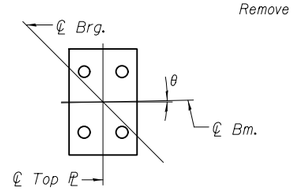
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

See sheet 28 of 64 for girder and bearing layout.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



Girders G8 thru G18

Girder	θ
G8 thru G15	0°
G16	1° 09' 48''
G17	2° 16' 46''
G18	3° 58' 37''

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	11
Jack and Remove Existing Bearings	Each	11
Furnishing and Erecting Structural Steel	Pound	2080
Anchor Bolts 1''ϕ	Each	22

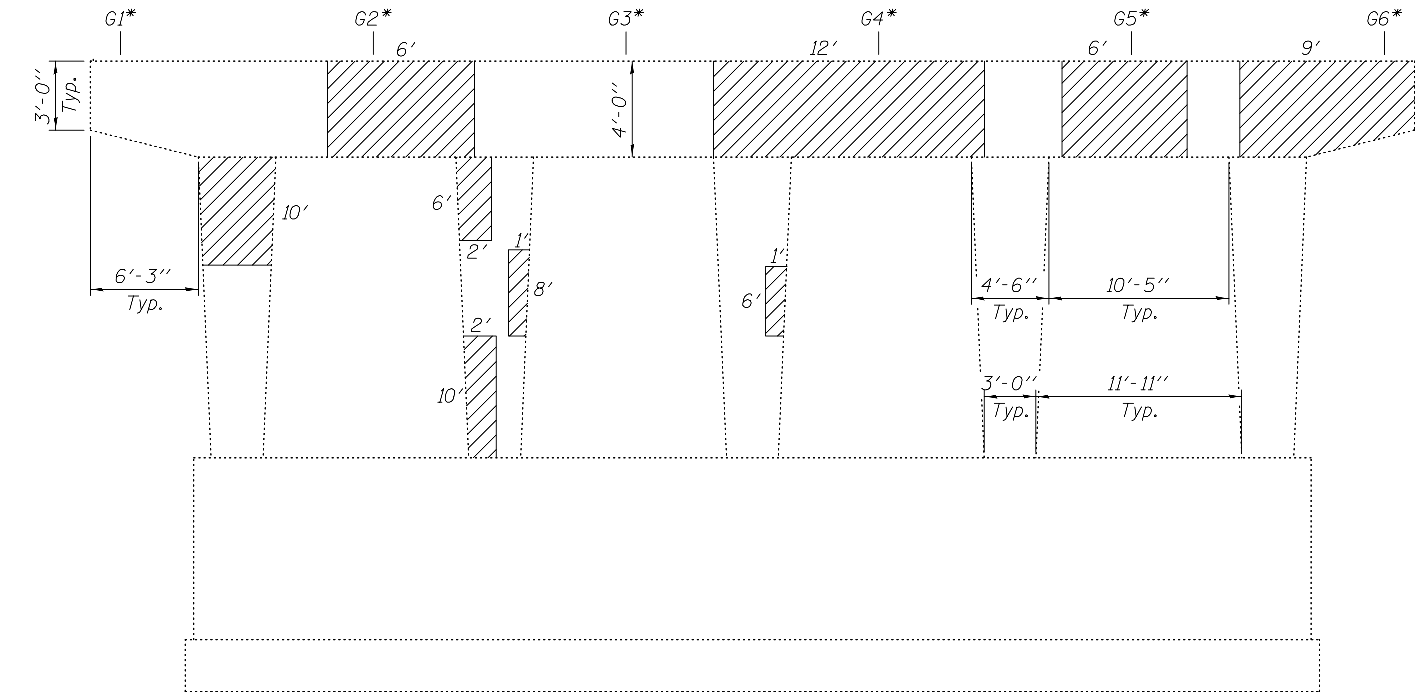
TYI/REPS 1-18-2017

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES		
DRAWN daburdell	PASSED	REVISED	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

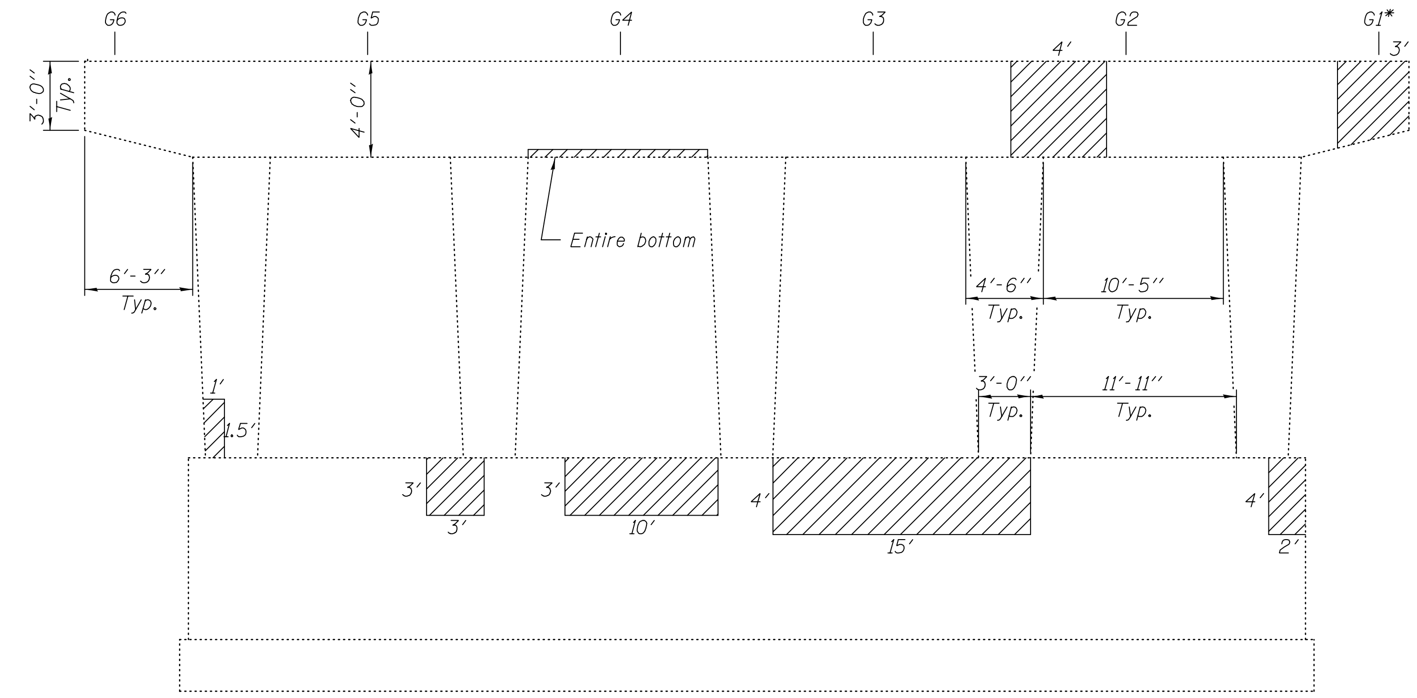
BEARING DETAILS SOUTH ABUTMENT
SN 072-0128 (EB)

SHEET NO. 48 OF 64 SHEETS

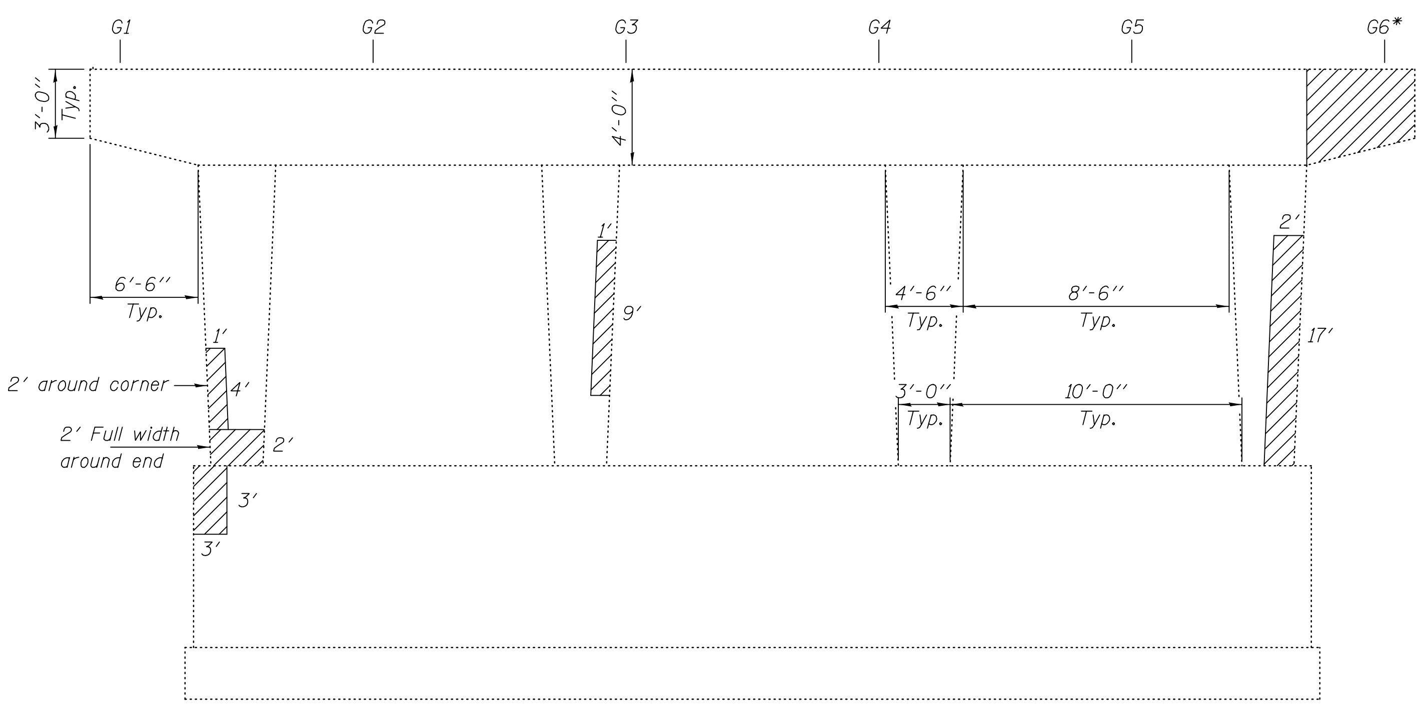
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-40HB,HUB-1,HUB3B-R	PEORIA	196	65
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



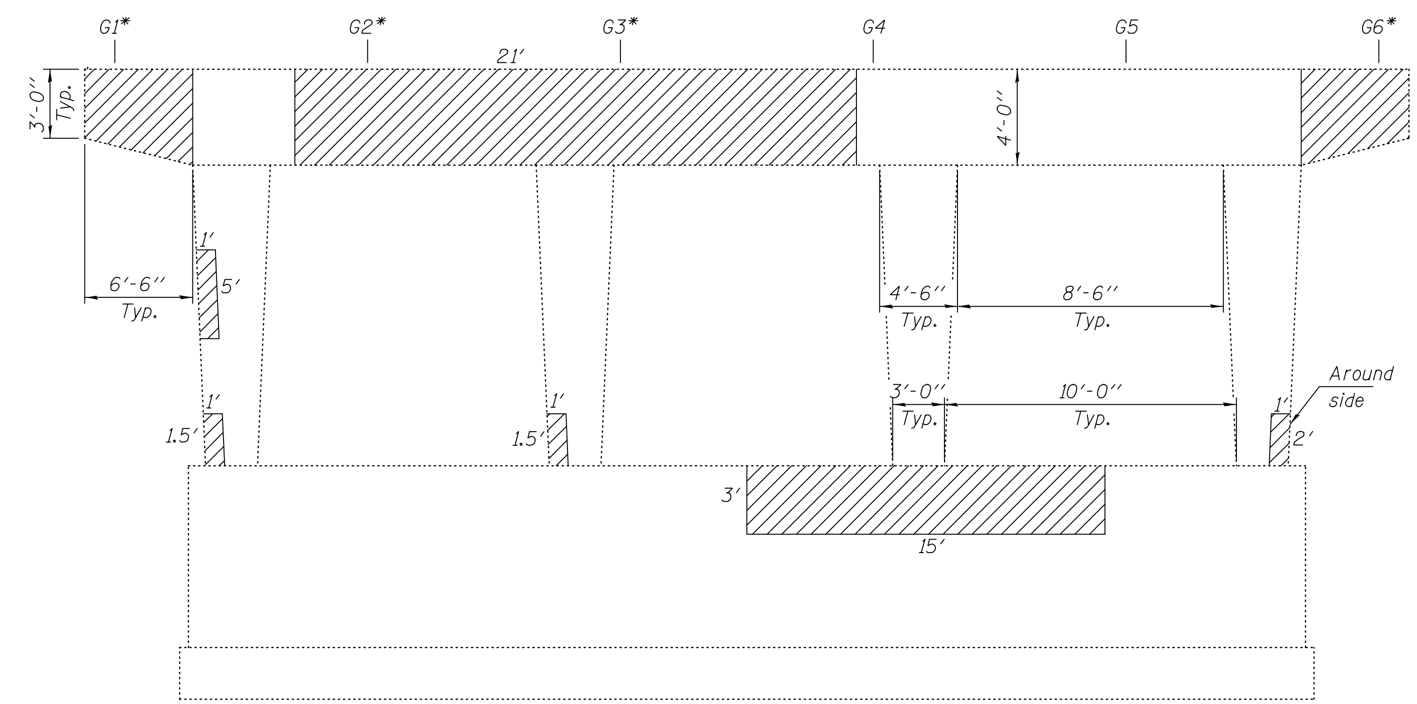
ELEVATION PIER 3
(Looking South)



ELEVATION PIER 3
(Looking North)



ELEVATION PIER 4
(Looking South)



ELEVATION PIER 4
(Looking North)

* Location of Temporary Shoring and Cribbing

Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED	JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES
CHECKED	SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	daburdell	DATE	JANUARY 31, 2018
CHECKED	JSB SMR	REVISED / REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

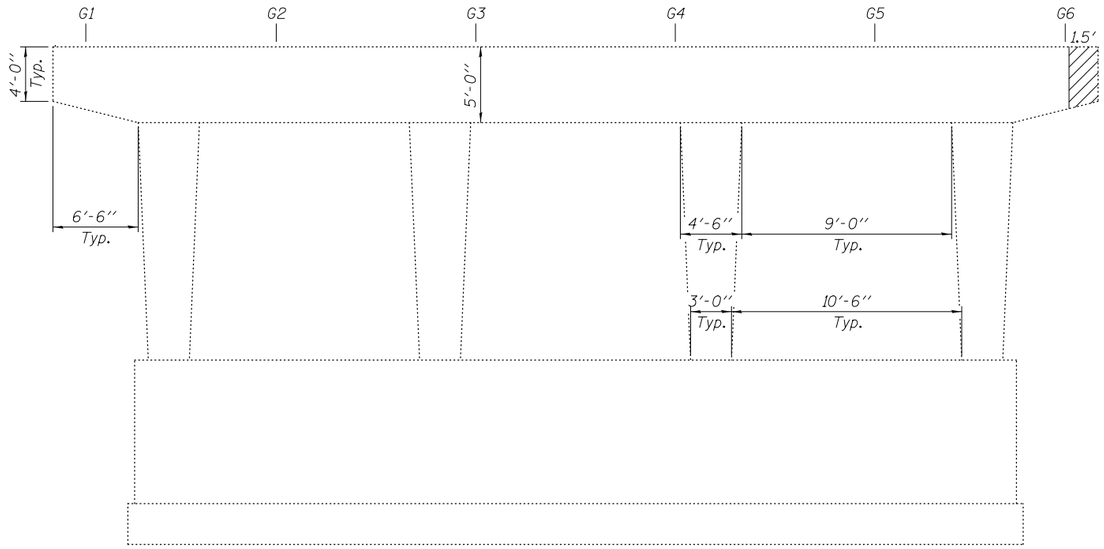
PIERS 3 & 4
SN 072-0127 (WB)

SHEET NO. 49 OF 64 SHEETS

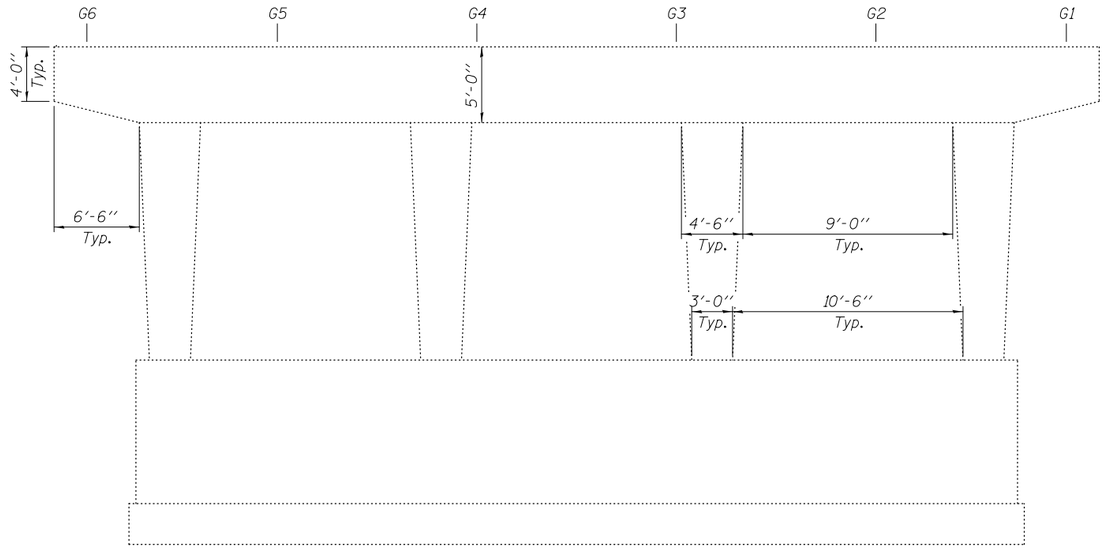
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	66

CONTRACT NO. 68887

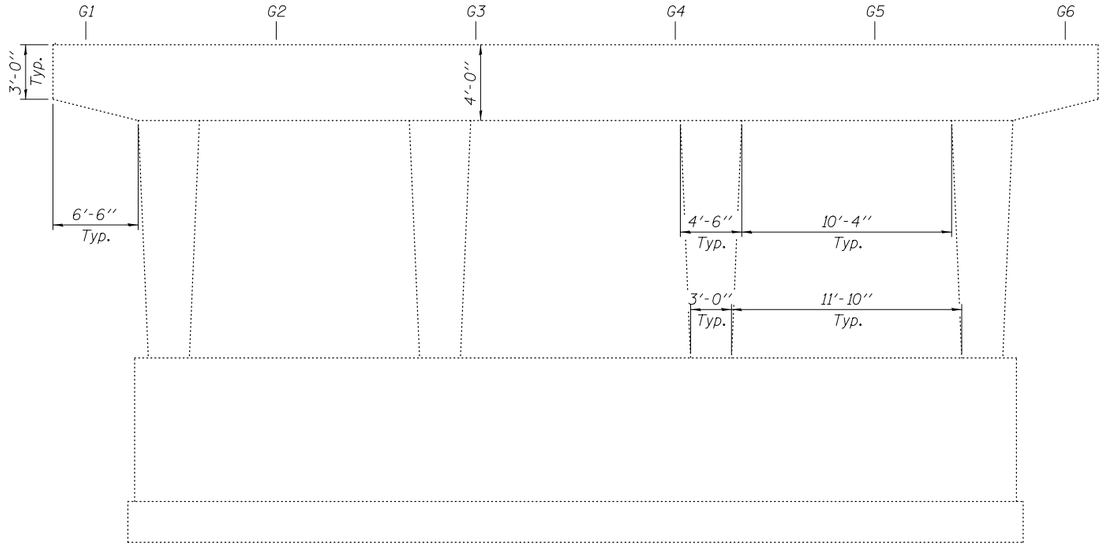
ILLINOIS FED. AID PROJECT



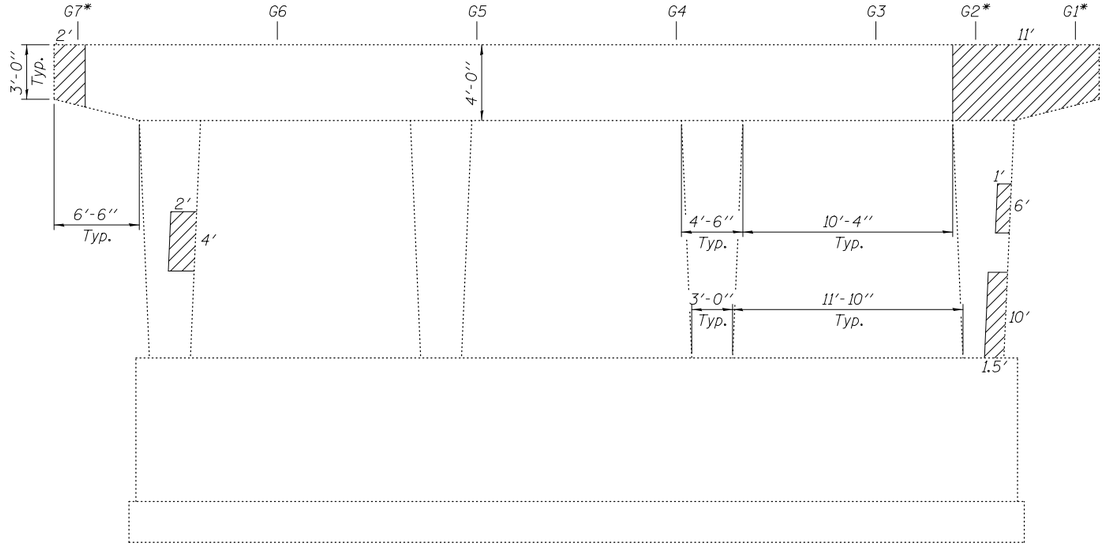
ELEVATION PIER 5
(Looking South)



ELEVATION PIER 5
(Looking North)



ELEVATION PIER 6
(Looking South)



ELEVATION PIER 6
(Looking North)

* Location of Temporary Shoring and Cribbing

Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED	Timothy A. Sheldon	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIERS 5 & 6 SN 072–0127 (WB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR		ACTING ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	67
DRAWN daburdell	PASSED	Carl Puzey	REVISED						CONTRACT NO. 68887	
CHECKED JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 50 OF 64 SHEETS			ILLINOIS	FED. AID PROJECT	

ELEVATION SOUTH ABUTMENT

(Looking South)

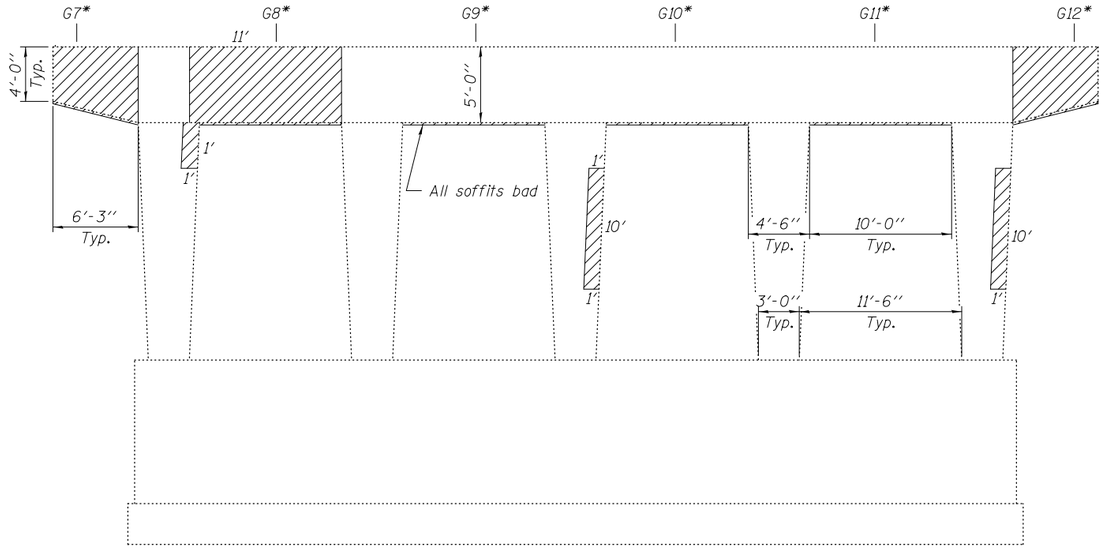
Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES		
DRAWN daburdell	PASSED	REVISED	
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

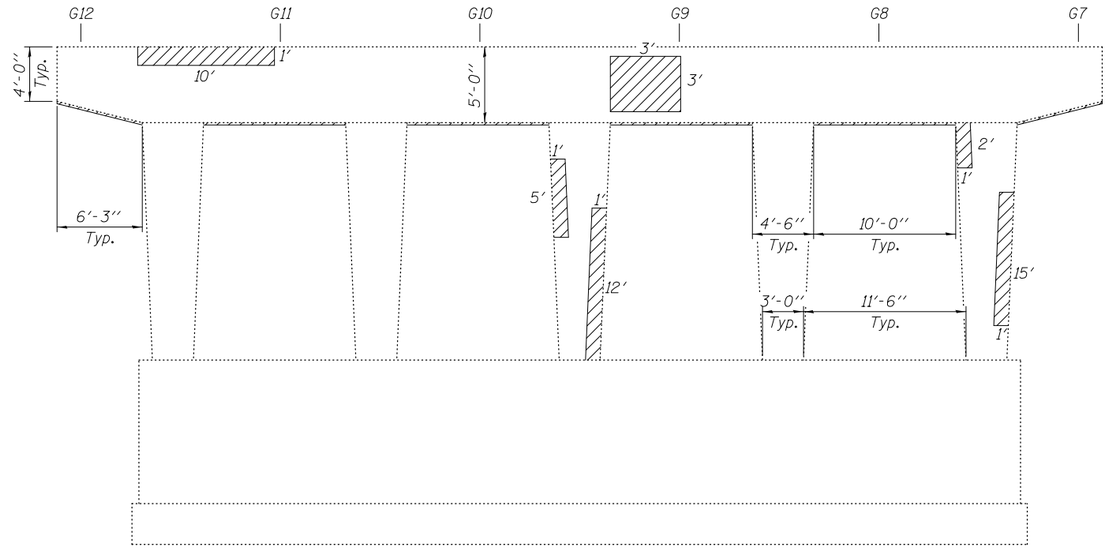
SOUTH ABUTMENT
SN 072–0127 (WB)

SHEET NO. 51 OF 64 SHEETS

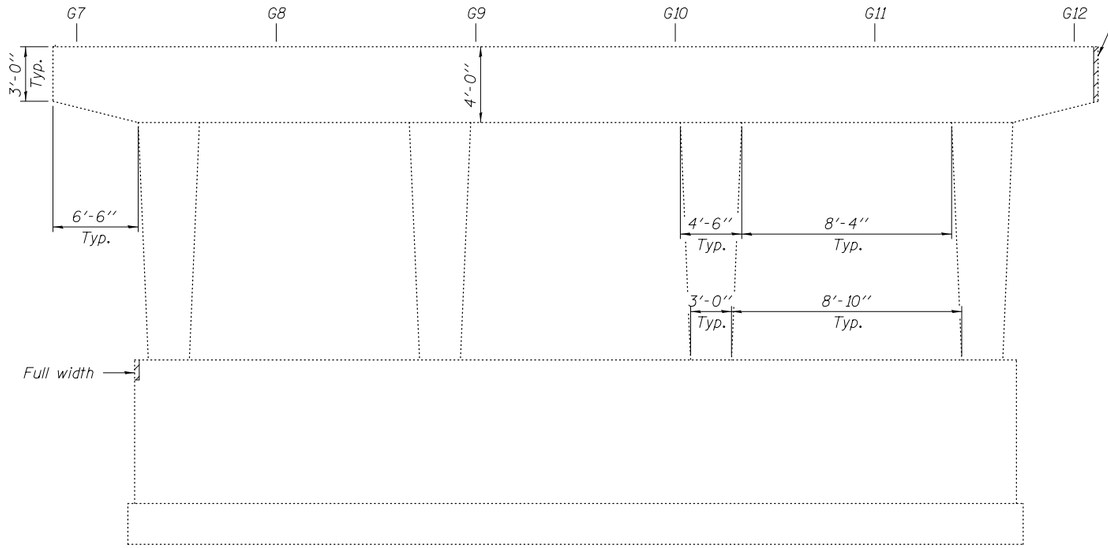
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	68
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



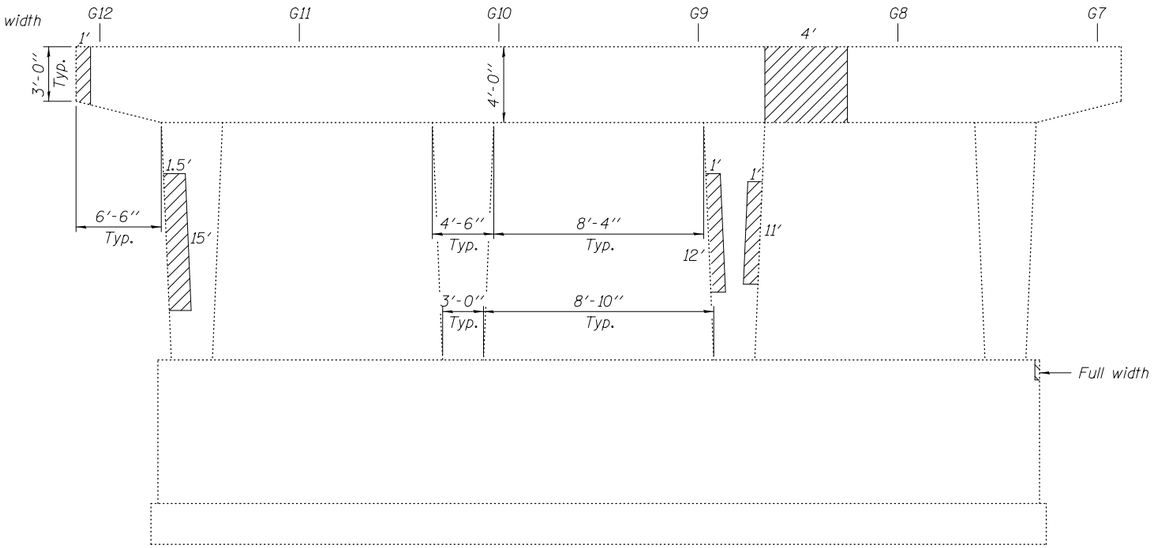
ELEVATION PIER 3
(Looking South)



ELEVATION PIER 3
(Looking North)



ELEVATION PIER 4
(Looking South)



ELEVATION PIER 4
(Looking North)

* Location of Temporary Shoring and Cribbing

Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

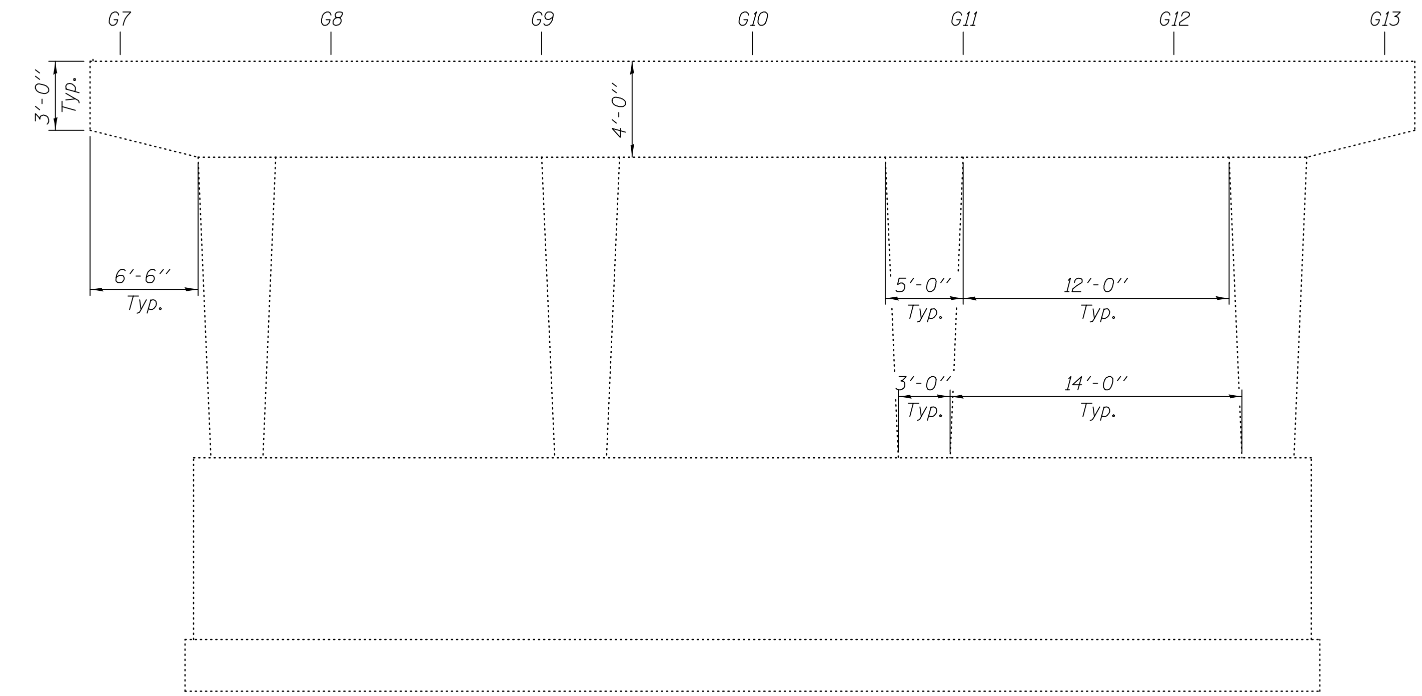
DESIGNED	JSB	EXAMINED	Timothy A. Sheldahl
CHECKED	SMR		ACTING ENGINEER OF STRUCTURAL SERVICES
DRAWN	daburdell	PASSED	N Carl Tromp
CHECKED	JSB SMR		ENGINEER OF BRIDGES AND STRUCTURES

DATE JANUARY 31, 2018
REVISED
REVISED

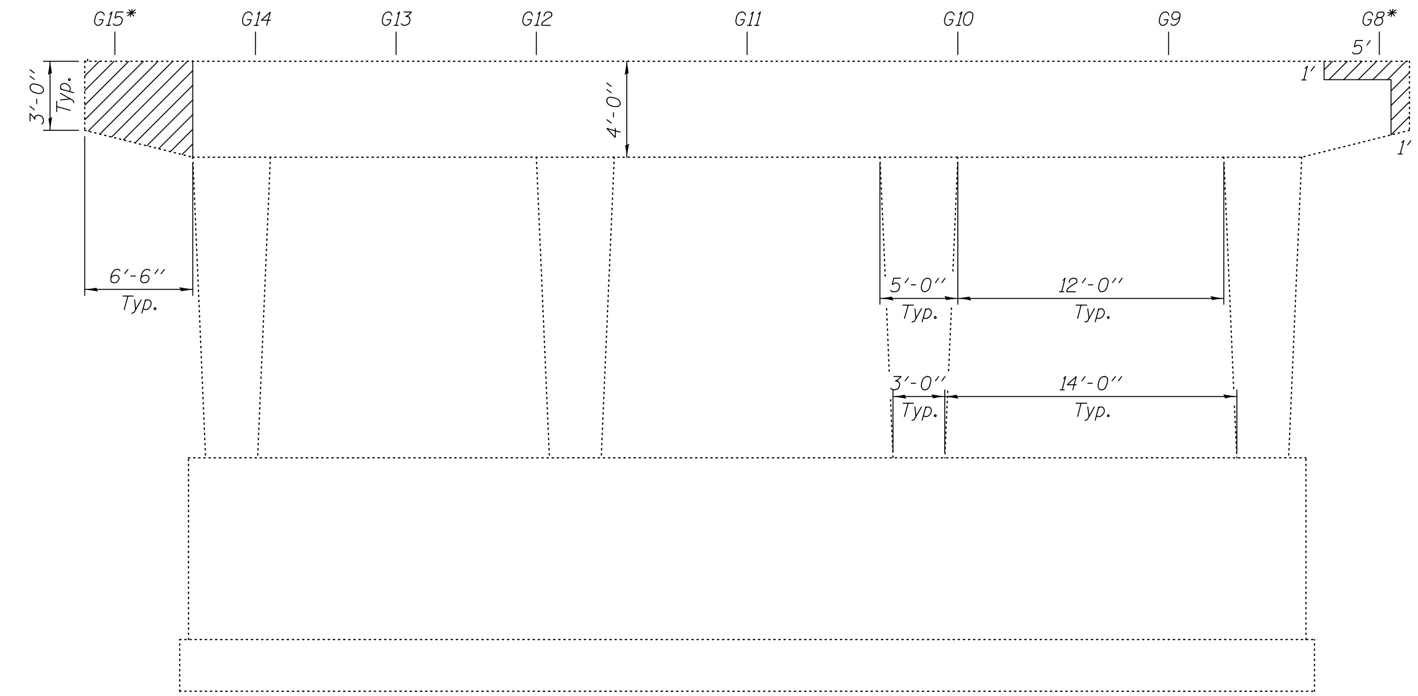
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 3 & 4
SN 072–0128 (EB)
SHEET NO. 52 OF 64 SHEETS

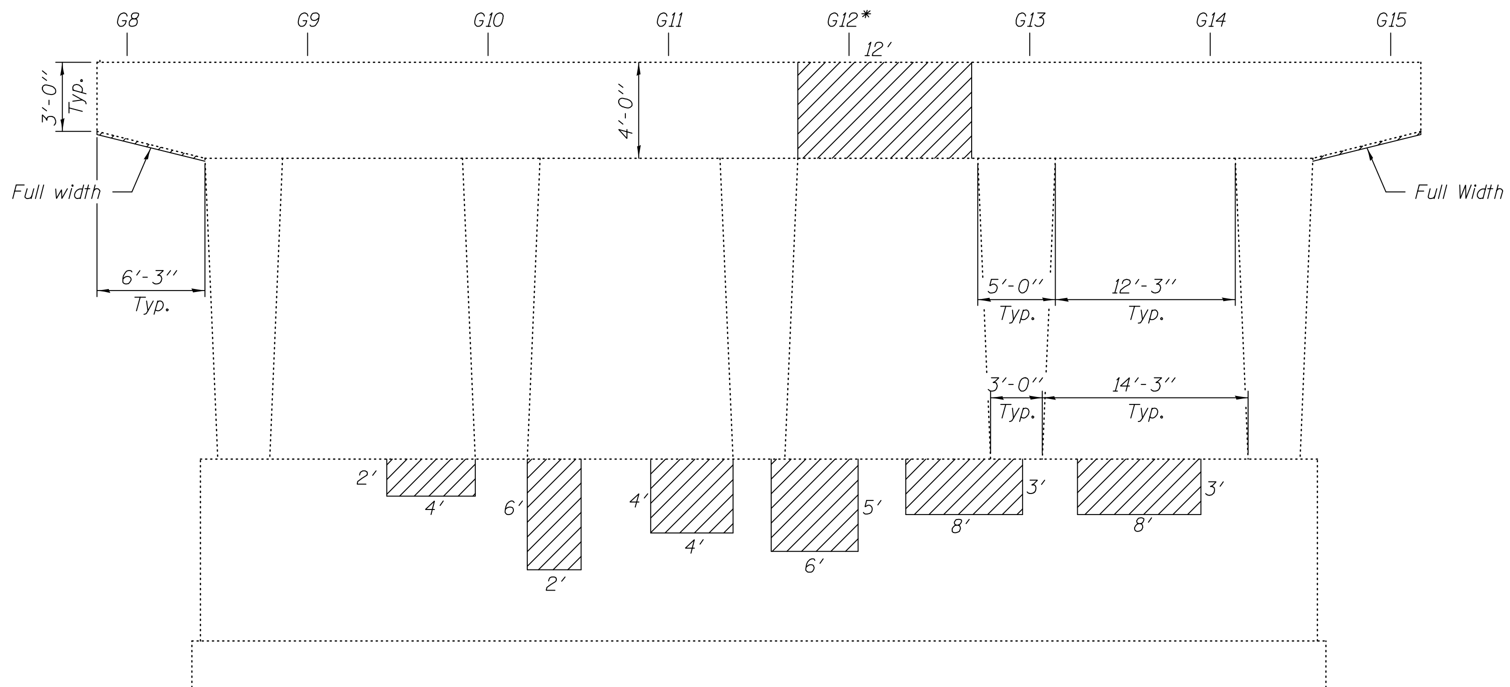
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	69
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



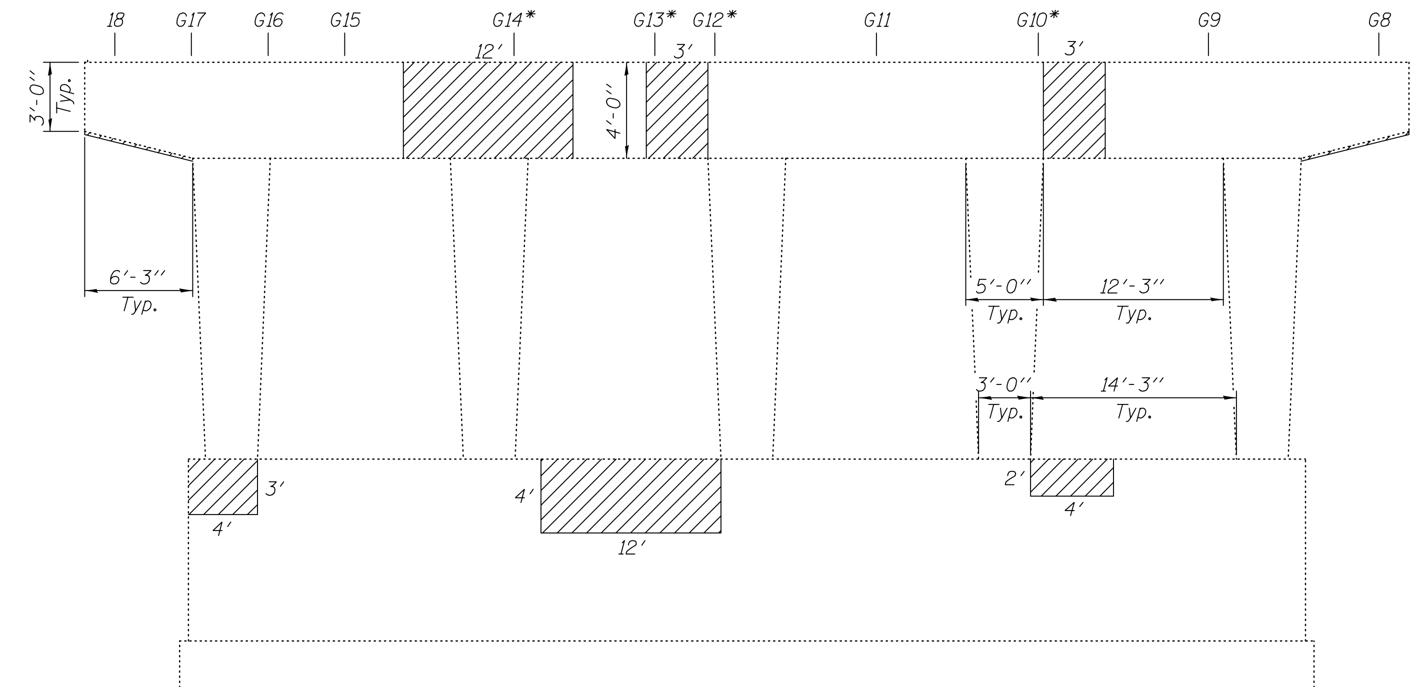
ELEVATION PIER 6
(Looking South)



ELEVATION PIER 6
(Looking North)



ELEVATION PIER 8
(Looking South)



ELEVATION PIER 8
(Looking North)

Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR			
DRAWN daburdell	PASSED ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB SMR		REVISED	

PIERS 6 & 8
SN 072–0128 (EB)

SHEET NO. 53 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	70
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

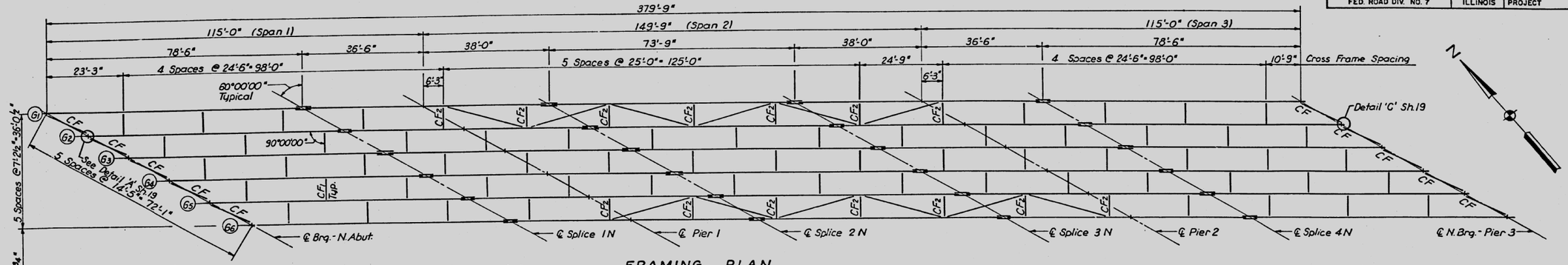
ELEVATION SOUTH ABUTMENT

(Looking South)

Hatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT SN 072–0128 (EB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED SMR						474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	71
DRAWN daburdell	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED					CONTRACT NO. 68887		
CHECKED JSB SMR			REVISED		SHEET NO. 54 OF 64 SHEETS			ILLINOIS FED. AID PROJECT		

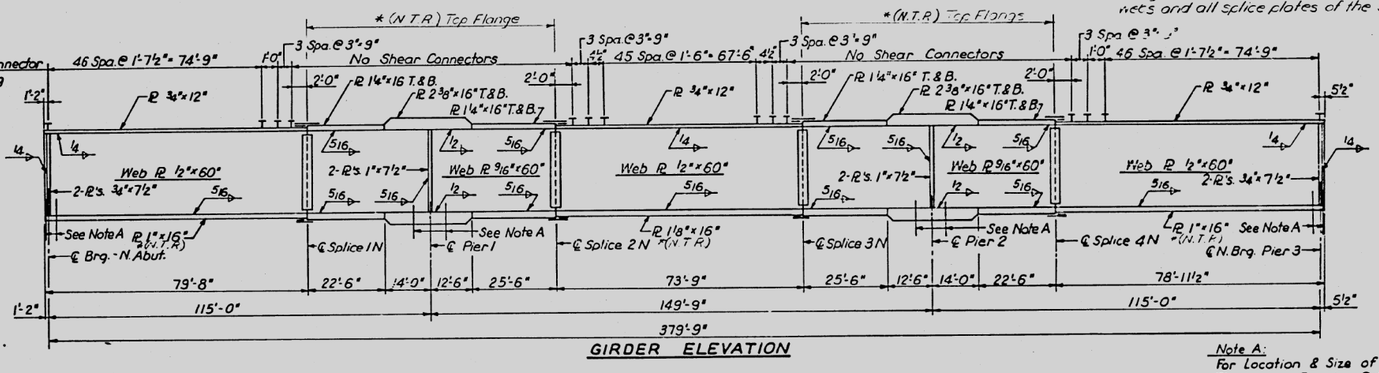
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.– 474	72-4HVB	PEORIA	104	27
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



FRAMING PLAN
SPANS 1 THRU 3 - NORTHBOUND ROADWAY

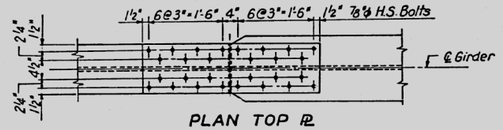
Notes: All Cross Frames CF1 unless otherwise noted.
For Bottom Lateral Bracing see Partial Framing Plan Sh. 19.
For Cross Frames, Bearing Stiffeners & Shop Flange Splices see Sh. 19.
For Bearing Details see Sh. 20.

Note: "(N.T.R) Notch Toughness Requirements
The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges as designated in the Elevation View along with the webs and all splice plates of the steel girders.

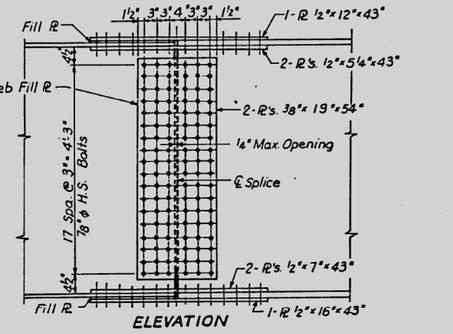


GIRDER ELEVATION

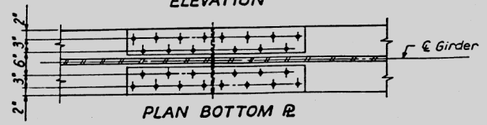
Note A:
For Location & Size of Holes in Bottom Flange see Bearing Details Sh. 20.



PLAN TOP PL



ELEVATION



PLAN BOTTOM PL

FIELD SPLICE DETAIL
SPLICES: 1N, 2N, 3N & 4N

INTERIOR GIRDER MOMENT TABLE

	.4 Span 1 or .6 Span 3	Pier 1 or Pier 2	.5 Span 2
Is (in⁴)	31,351	84,091	32,775
Ic (in⁴)	78,153	——	82,854
Ss (in³)	1,157	2,597	1,248
Sc (in³)	1,601	——	1,720
℄ (k/ft)	1.045	1.045	1.045
M ℄ (ft k)	787.2	2,178.0	751.2
fs ℄ (ksi)	8.2	10.1	7.2
S ℄ (k/ft)	.419	.419	.419
M S ℄ (ft k)	372.1	732.0	442.4
M ℄ (ft k)	973.0	1,091.6	1,043.9
M Imp. (k)	202.4	211.8	190.0
Total (ft k)	1,547.5	2,035.4	1,676.3
fs s℄+k+I (ksi)	11.6	9.4	11.7
fs total (ksi)	19.8	19.5	18.9
VR (k)	59.2	——	63.5

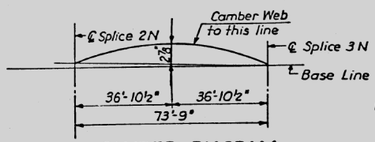
INTERIOR GIRDER REACTION TABLE

	N Abut. or Pier 3	Pier 1 or Pier 2
R ℄ (K)	58.8	218.9
R ℄ (K)	44.6	84.1
Imp. (K)	9.3	16.3
R total (K)	112.7	319.3

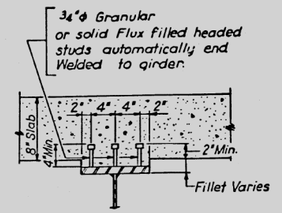
TOP OF WEB ELEVATION FOR FABRICATION

	G1	G2	G3	G4	G5	G6
℄ Brg. N. Abut.	528.04	527.81	527.55	527.24	526.75	526.25
℄ Splice 1N	525.54	525.31	525.06	524.74	524.26	523.75
℄ Pier 1	524.44	524.22	523.96	523.65	523.16	522.65
℄ Splice 2N	523.30	523.08	522.82	522.51	522.02	521.51
℄ Splice 3N	521.09	520.87	520.61	520.30	519.81	519.30
℄ Pier 2	519.95	519.73	519.47	519.18	518.67	518.16
℄ Splice 4N	518.86	518.63	518.37	518.06	517.58	517.07
℄ N. Brg. Pier 3	516.64	516.42	516.16	515.85	515.36	514.85

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs ℄.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs s℄+k+I.
VR is the maximum ℄+Impact shear range in span, used to determine shear connector spacing.



CAMBER DIAGRAM



SHEAR CONNECTOR DETAIL

No. Req'd. = 2,808 N.B. Spans 1-3,
= 1,866 N.B. Spans 5-6,
= 2,844 S.B. Spans 1-3,
= 2,112 S.B. Spans 5-6,
= 3,588 S.B. Spans 9-10.

No. Req'd. = 1,614 N.B. Spans 3A-4,
= 4,875 N.B. Spans 7-10,
= 888 S.B. Span 4,
= 2,772 S.B. Spans 7-8,

DESIGNED BY D.P
DRAWN BY K.M.
CHECKED BY A.T.

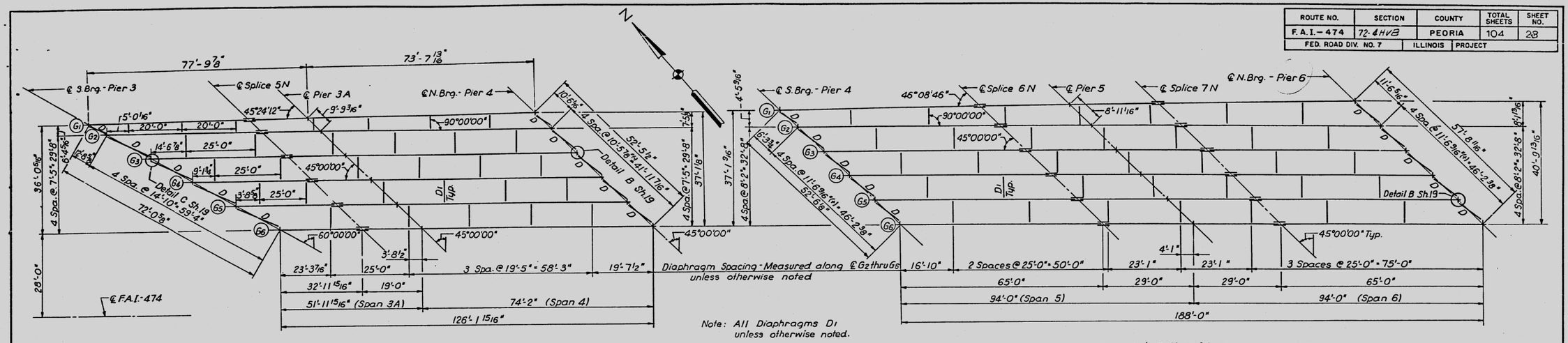
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72 – 4HVB
CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS
SHEET 12 OF 64

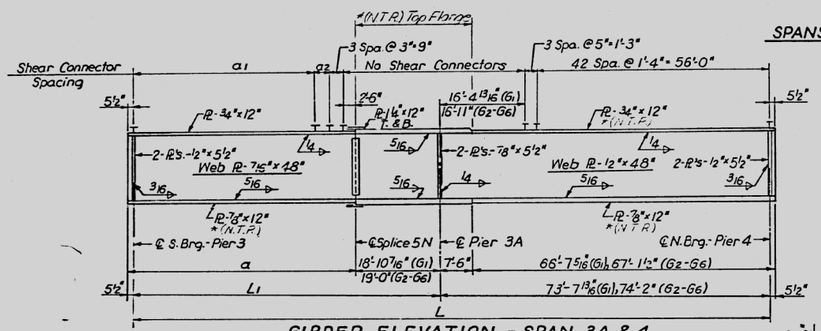
W.B.

DESIGNED JSB	EXAMINED Timothy A. Bradley ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLAN SHEET SN 072–0127 (WB)	F.A.I. RTE. 474 · SECTION 72-4(HB,HUB-1,HUB)B-R · COUNTY PEORIA · TOTAL SHEETS 196 · SHEET NO. 72
CHECKED SMR					CONTRACT NO. 68887
DRAWN daburdell	PASSED A. Carl Bury ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 55 OF 64 SHEETS	ILLINOIS FED. AID PROJECT
CHECKED JSB SMR		REVISED			

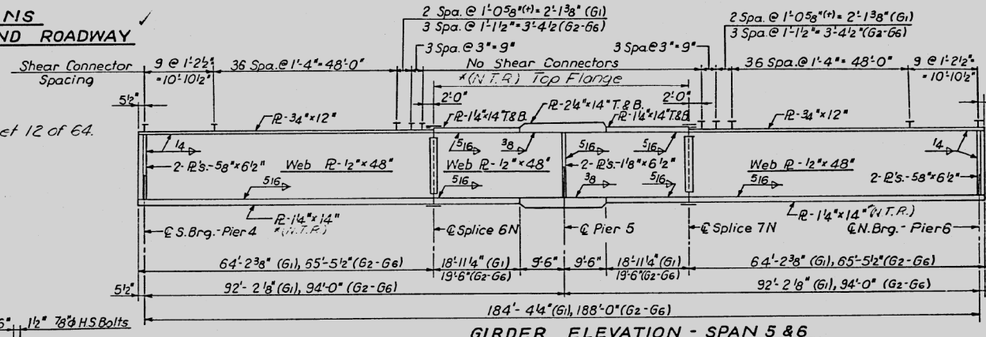
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-474	72-4HVB	PEORIA	104	28
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



FRAMING PLANS
SPANS 3A-4 & 5-6 NORTHBOUND ROADWAY ✓



GIRDER ELEVATION - SPAN 3A & 4



GIRDER ELEVATION - SPAN 5 & 6

*(N.T.R) - See Note on Sheet 12 of 64.

TOP OF WEB ELEVATION FOR FABRICATION

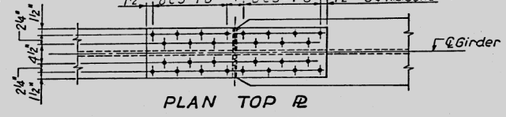
	G1	G2	G3	G4	G5	G6
℄ S.Brg.- Pier 3	516.55	516.37	516.10	515.78	515.27	514.74
℄ Splice 5 N	514.68	514.63	514.54	514.39	514.05	513.70
℄ Pier 3A	514.13	514.08	513.98	513.83	513.50	513.14
℄ N.Brg.- Pier 4	511.96	511.89	511.79	511.65	511.31	510.95
℄ S.Brg.- Pier 4	511.87	511.91	511.81	511.70	511.33	510.94
℄ Splice 6 N	509.84	509.83	509.74	509.62	509.26	508.86
℄ Pier 5	508.98	508.96	508.87	508.75	508.39	507.99
℄ Splice 7 N	508.13	508.09	508.00	507.88	507.52	507.12
℄ N.Brg.- Pier 6	506.34	506.27	506.17	506.06	505.69	505.30

GIRDER SCHEDULE

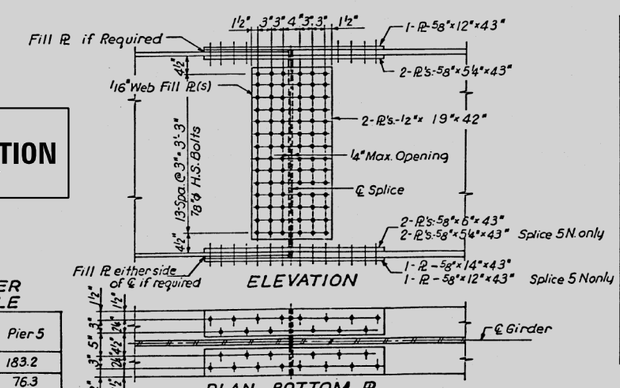
Girder	L	L1	a	a1	a2
G1	151'-5 5/16"	77'-9 7/8"	59'-4 15/16"	40 @ 1'-4 1/2"= 55'-0"	8 7/16"
G2	147'-10 9/16"	73'-8 9/16"	55'-2 1/16"	38 @ 1'-4"= 50'-8"	9 3/16"
G3	142'-5 3/8"	68'-3 3/8"	49'-8 7/8"	39 @ 1'-2"= 45'-6"	6 3/8"
G4	137'-0 1/4"	62'-10 1/4"	44'-3 3/8"	38 @ 1'-0½"= 39'-7"	1'-0 1/4"
G5	131'-7 1/8"	57'-5 1/8"	38'-10 5/8"	39 @ 10½"= 34'-1½"	1'-0 5/8"
G6	126'-1 15/16"	51'-11 15/16"	33'-5 7/16"	38 @ 9"= 28'-6"	1'-2 15/16"

INTERIOR GIRDER REACTION TABLE

	S.Brg. Pier 3	Pier 3A	N.Brg. Pier 4	S.Brg.Pier4 or N.Brg Pier6	Pier 5
R D (k)	38.3	129.0	40.9	51.4	183.2
R L (k)	43.5	57.8	43.6	49.4	76.3
Imp. (k)	11.0	14.6	10.9	11.3	17.4
R total (k)	92.8	201.4	95.4	112.1	276.9



PLAN TOP PL



ELEVATION

PLAN BOTTOM PL

FIELD SPLICE DETAIL

SPLICES: 5N, 6N, 7N, 8N, 9N, 10N, 11N, 12N, 13N, 5S & 6S

FOR INFORMATION ONLY

INTERIOR GIRDER MOMENT TABLE

	.4 Span 3A	Pier 3A	.6 Span 4	.4 Span 5 or .6 Span 6	Pier 5
Is (in⁴)	15,621	22,803	16,195	19,638	44,404
Ic (in⁴)	39,131	——	40,659	53,677	——
Ss (in³)	652	903	674	935	1,692
Sc (in³)	909	——	955	1,306	——
D (k/')	.970	.970	.970	1.080	1.080
M D (1k)	345.6	729.0	402.5	569.9	1,438.0
fs D (ksi)	6.4	9.7	7.2	7.3	10.2
s D (k/')	422	.422	.422	.444	.444
Ms D (1k)	181.0	240.5	201.2	289.1	454.1
M L (1k)	602.0	389.3	586.7	869.1	712.7
M imp. (1k)	151.7	98.1	147.3	198.2	162.5
Total (1k)	934.7	727.9	935.2	1,356.4	1,329.3
fs s D+L+I (ksi)	12.3	9.7	11.8	12.5	9.4
fs total (ksi)	18.7	19.4	15.0	19.8	19.6
VR (k)	55.2	——	55.7	61.6	——

Notes:
For Bearing Details see Sh. 21.
For Diaphragms, Bearing Stiffeners & Shop Flange Splice Details see Sh. 19.
For Shear Connectors see Sh. 12.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs D. Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs s D+L+I.
VR is the maximum L+Impact shear range in span, used to determine shear connector spacing.

DESIGNED BY D.P
DRAWN BY K.M.
CHECKED BY A.T.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72 - 4HVB

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 13 of 64

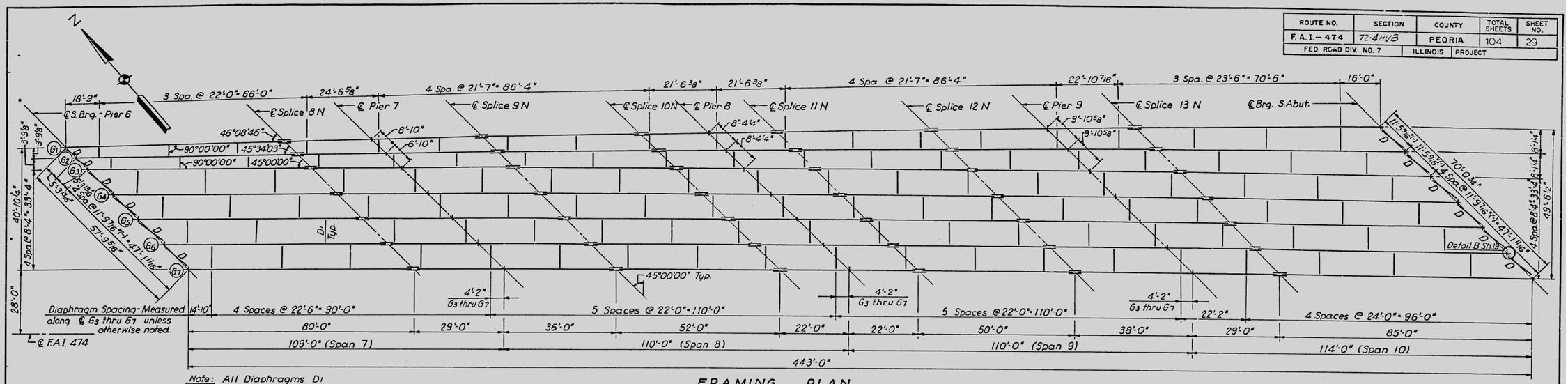
DESIGNED	JSB	EXAMINED	Timothy A. Bradt — ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED	SMR	PASSED	J. Carl Tenny — ENGINEER OF BRIDGES AND STRUCTURES	REVISED
DRAWN	daburdell			REVISED
CHECKED	JSB SMR			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEET
SN 072-0127 (WB)
SHEET NO. 56 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	73
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

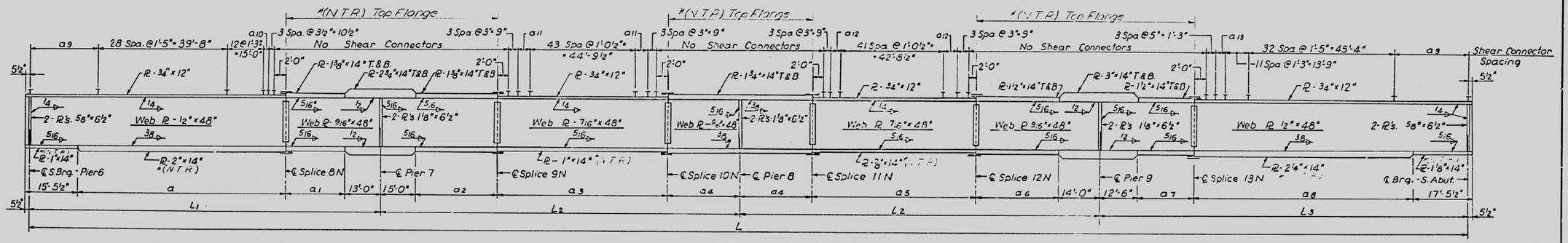
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 474	72-4HVB	PEORIA	104	29
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



Note: All Diaphragms D1 unless otherwise noted.

*(N.T.R) - See Note on Sheet 12 of 64

FRAMING PLAN
SPANS 7 THRU 10 NORTHBOUND ROADWAY



GIRDER ELEVATION

INTERIOR GIRDER MOMENT TABLE

	.4 Span 7	Pier 7	.5 Span 8	Pier 8	.5 Span 9	Pier 9	.6 Span 10
Is (in⁴)	23,678	54,816	17,441	35,520	16,549	59,872	24,780
Ic (in⁴)	70,370	——	46,180	——	42,993	——	75,516
Ss (in³)	1,307	2,049	786	1,379	720	2,217	1,426
Sc (in³)	1,818	——	1,088	——	1,002	——	1,988
℄ (k/l)	1.10	1.10	1.10	1.10	1.10	1.10	1.10
M℄ ('k)	872.9	1,738.3	336.3	916.4	282.5	1,845.8	977.1
fs℄ (ksi)	8.0	10.2	5.1	8.0	4.7	10.0	8.2
s℄ (k/l)	.436	.436	.436	.436	.436	.436	.436
Ms℄ ('k)	408.9	531.6	220.0	347.0	203.6	564.6	454.1
M℄ ('k)	1,066.8	925.2	855.4	781.4	844.9	972.8	1,124.0
MIMP ('k)	228.1	197.3	182.0	166.3	179.8	205.3	235.2
Total ('k)	1,703.8	1,654.1	1,257.4	1,294.7	1,228.3	1,742.7	1,813.3
fs s℄+℄+I (ksi)	11.2	9.7	13.9	11.3	14.7	9.4	10.9
fs total (ksi)	19.2	19.9	19.0	19.3	19.4	19.4	19.1
VR (k)	64.2	——	67.1	——	67.4	——	65.4

INTERIOR GIRDER REACTION TABLE

	Pier 6	Pier 7	Pier 8	Pier 9	S. Abut.
R℄ (k)	62.8	197.9	149.3	203.4	66.3
R℄ (k)	51.3	85.9	80.5	87.5	51.6
IMP (k)	11.0	18.3	17.1	18.5	10.8
R total (k)	125.1	302.1	246.9	309.4	128.7

GIRDER SCHEDULE

Girder	L	L1	L2	L3	a	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13
G1	434'-4 13/16"	106'-10 5/8"	107'-10 3/8"	111'-9 7/16"	63'-5 3/8"	15'-5 1/4"	20'-3 5/8"	50'-11 3/8"	21'-6 7/8"	49'-0 3/8"	23'-3 1/8"	15'-11 1/4"	66'-4 3/16"	17 Spa @ 1'-2" = 19'-10"	1'-0 7/8"	4 3/16"	4 15/16"	1'-2 3/16"
G2	438'-8 1/8"	107'-11 1/4"	108'-11 1/8"	112'-10 5/8"	64'-2 5/8"	15'-8 5/8"	20'-7 3/4"	51'-5 5/8"	21'-9 7/16"	49'-6 1/8"	23'-7 9/16"	16'-2 5/8"	67'-2"	18 Spa @ 1'-2" = 21'-0"	8 1/8"	7 1/4"(-)	7 13/16"	10"
G3 - G7	443'-0"	109'-0"	110'-0"	114'-0"	65'-0"	16'-0"	21'-0"	52'-0"	22'-0"	50'-0"	24'-0"	16'-6"	68'-0"	19 Spa @ 1'-2" = 22'-2"	3 1/2"	10 1/4"	10 3/4"	6"

TOP OF WEB ELEVATION

	G1	G2	G3	G4	G5	G6	G7
℄ S.Brg.-Pier 6	506.18	506.20	506.21	506.12	506.00	505.64	505.24
℄ Splice 8N	503.66	503.65	503.64	503.54	503.42	503.06	502.66
℄ Pier 7	502.80	502.78	502.77	502.67	502.55	502.19	501.79
℄ Splice 9N	501.74	501.71	501.69	501.59	501.47	501.11	500.71
℄ Splice 10N	500.31	500.26	500.22	500.13	500.01	499.65	499.25
℄ Pier 8	499.66	499.61	499.56	499.47	499.35	498.99	498.59
℄ Splice 11N	499.01	498.95	498.90	498.81	498.69	498.33	497.93
℄ Splice 12N	497.42	497.34	497.27	497.18	497.06	496.70	496.30
℄ Pier 9	496.28	496.20	496.12	496.02	495.90	495.54	495.14
℄ Splice 13N	495.51	495.42	495.33	495.23	495.12	494.76	494.35
℄ Brg.-S.Abut.	493.07	492.96	492.84	492.75	492.63	492.27	491.87

Notes: For Field Splice Detail see Sh 13.
For Camber Diagram, Brg. Stiffeners, Shop Flange Splice & Diaphragms see Sh. 19.
For Bearing Details see Sh. 21.
For Shear Connectors see Sh. 12

DESIGNED BY D.P.
DRAWN BY K.M.
CHECKED BY A.T.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs℄.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs s℄+℄+I.
VR is the maximum ℄ + Impact shear range in span, used to determine shear connector spacing.

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL

F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK

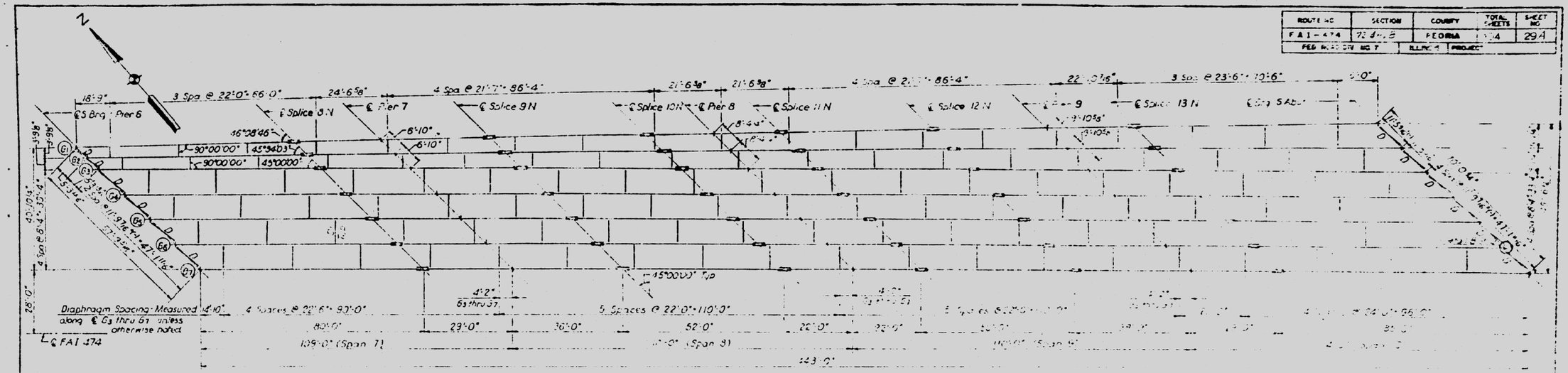
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HVB

CHRISTIAN-ROGE AND ASSOC.
ENGINEERS
CHICAGO, ILLINOIS

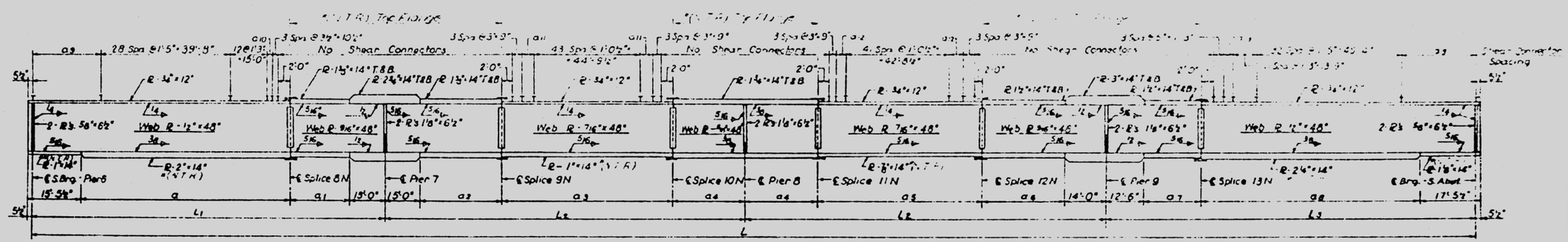
SHEET 14 of 64

DESIGNED JSB	EXAMINED	Timothy A. Bullock ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLAN SHEET SN 072-0127 (WB)	F.A.I. RTE.	SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
CHECKED SMR						474	72-4HB,HUB-1,HUB-R / PEORIA / 196 / 74
DRAWN daburdell	PASSED	J. Carl Hungerford ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 57 OF 64 SHEETS		CONTRACT NO. 68887
CHECKED JSB SMR			REVISED				ILLINOIS FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. - 474	72-4HB,B	PEORIA	64	29A
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



FRAMING PLAN
SPANS 7 THRU 10 NORTHBOUND ROADWAY



GIRDER ELEVATION

INTERIOR GIRDER MOMENT TABLE

		.4 Span 7	Pier 7	.5 Span 8	Pier 8	.5 Span 9	Pier 9	.6 Span 10
Is	(in⁴)	23,678	54,816	17,441	35,520	16,549	59,872	24,780
Ic	(in⁴)	70,370	——	46,180	——	42,993	——	75,516
Ss	(in³)	1,307	2,049	786	1,379	720	2,217	1,426
Sc	(in³)	1,818	——	1,088	——	1,002	——	1,988
ℓ	(k/l)	1.10	1.10	1.10	1.10	1.10	1.10	1.10
M ℓ	(1 k)	872.9	1,738.3	336.3	916.4	282.5	1,345.8	977.1
fs ℓ	(k/sl)	8.0	10.2	5.1	8.0	4.7	10.0	8.2
sℓ	(k/l)	.436	.436	.436	.436	.436	.436	.436
Ms ℓ	(1 k)	406.9	531.6	220.0	347.0	203.6	564.6	454.1
M ℓ	(1 k)	1,066.8	925.2	855.4	781.4	844.9	572.8	1,124.0
Mimp	(1 k)	228.1	197.3	182.0	166.9	179.8	205.3	235.2
Total	(1 k)	1,703.8	1,654.1	1,257.4	1,294.7	1,226.3	1,742.7	1,813.3
fs s ℓ + I (ksi)		11.2	9.7	13.9	11.3	14.7	9.4	10.9
fs total (ksi)		19.2	19.9	19.0	19.3	19.4	13.4	19.1
VR	(k)	64.2	——	67.1	——	67.4	——	65.4

INTERIOR GIRDER REACTION TABLE

		Pier 6	Pier 7	Pier 8	Pier 9	S.Abut.
R ℓ	(k)	62.8	197.9	149.3	203.4	66.3
R ℓ	(k)	51.3	85.9	80.5	87.5	51.6
LMR	(k)	11.0	18.3	17.1	18.5	10.8
R total	(k)	125.1	302.1	246.9	309.4	128.7

GIRDER SCHEDULE

Girder	L	L1	L2	L3	a	a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12	a13
G1	434'-4¹⁵⁄₁₆"	106'-10⅝"	107'-10⅜"	111'-9⁷⁄₁₆"	63'-5⅜"	15'-5⅛"	20'-3⅝"	50'-11⅜"	21'-6⅜"	49'-0⅛"	23'-3⅛"	15'-1¼"	66'-4¹⁵⁄₁₆"	17 Spa @ 1'-2" = 19'-10"	1'-0⅞"	4⅜"	4⅞"	1'-2⅜"
G2	438'-8⅛"	107'-11¼"	108'-11⅛"	112'-10⅜"	64'-2⅝"	15'-8⅛"	20'-7¼"	51'-5⅝"	21'-9⅜"	49'-6⅛"	23'-7⅝"	15'-2⅛"	67'-2"	18 Spa @ 1'-2" = 21'-0"	8⅛"	7¼"	7⅛"	10"
G3 - G1	443'-0"	109'-0"	110'-0"	114'-0"	65'-0"	16'-0"	21'-0"	52'-0"	22'-0"	50'-0"	24'-0"	16'-6"	68'-0"	19 Spa @ 1'-2" = 22'-2"	3½"	10¼"	10⅝"	6"

TOP OF WEB ELEVATION

	G1	G2	G3	G4	G5	G6	G7
℄ S.Brg - Pier 6	506.18	506.20	506.21	506.12	506.00	505.64	505.24
℄ Splice 8 N	503.66	503.65	503.64	503.54	503.42	503.06	502.66
℄ Pier 7	502.80	502.78	502.77	502.67	502.55	502.19	501.79
℄ Splice 9 N	501.74	501.71	501.69	501.59	501.47	501.11	500.71
℄ Splice 10 N	500.31	500.26	500.22	500.13	500.01	499.65	499.25
℄ Pier 8	499.66	499.61	499.56	499.47	499.35	498.99	498.59
℄ Splice 11 N	499.01	498.96	498.90	498.81	498.69	498.33	497.93
℄ Splice 12 N	497.42	497.36	497.27	497.18	497.06	496.70	496.30
℄ Pier 9	496.33	496.25	496.17	496.07	495.95	495.59	495.19
℄ Splice 13 N	495.51	495.42	495.35	495.23	495.12	494.76	494.35
℄ Brg - S.Abut	493.07	492.96	492.84	492.75	492.63	492.27	491.87

Notes: For Field Splice Detail see Sh 13
For Camber Diagram, Brg Stiffeners, Shop Flange Splice & Diaphragms see Sh 19
For Bearing Details see Sh 21
For Shear Connectors see Sh 12

DESIGNED BY D.R
DRAWN BY K.M.
CHECKED BY A.T.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs ℓ.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs s ℓ + l.
VR is the maximum ℓ + Impact shear range in span, used to determine shear connector spacing.

AS REVISED

FOR INFORMATION ONLY

As Revised 9-24-76 L.W.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL

F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN R.Y.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK

STATION 383+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HB

CHRISTNER-SEGE AND ASSOC. ENGINEERS CHICAGO, ILLINOIS

SHEET 14 OF 64

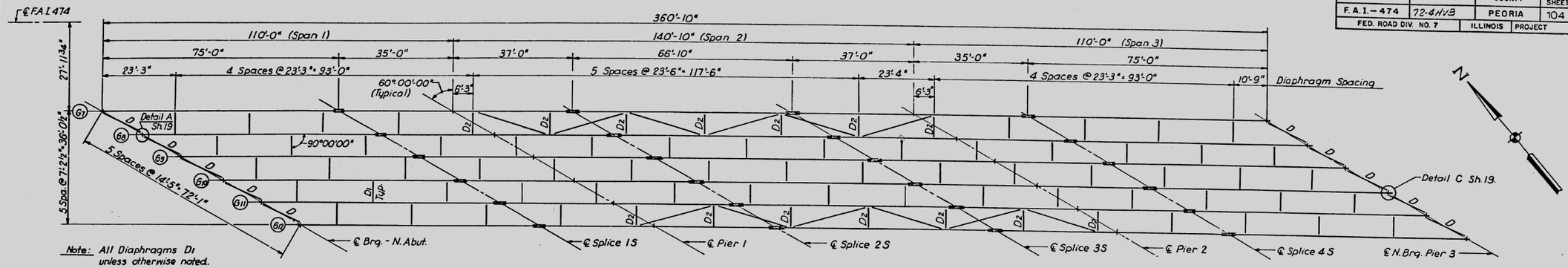
DESIGNED	JSB	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED	SMR	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
DRAWN	daburdell			REVISED
CHECKED	JSB SMR			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEET
SN 072-0127 (WB)
SHEET NO. 58 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HUB-1,HUB)B-R	PEORIA	196	75
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

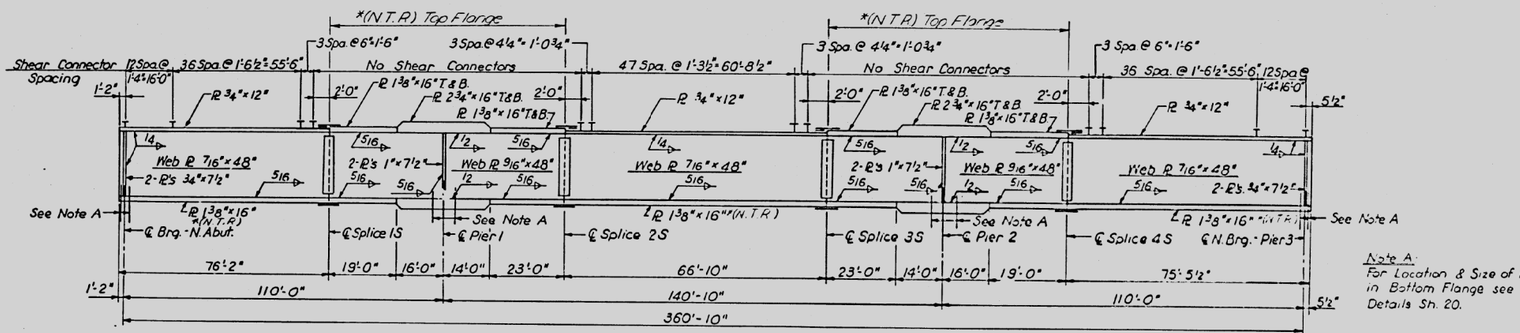
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. – 474	72-4HVB	PEORIA	104	30
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



Note: All Diaphragms D1 unless otherwise noted.

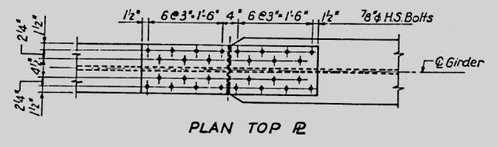
FRAMING PLAN
SPANS 1 THRU 3 SOUTHBOUND ROADWAY

*(N.T.R) - See Note on Sheet 12 of 64.

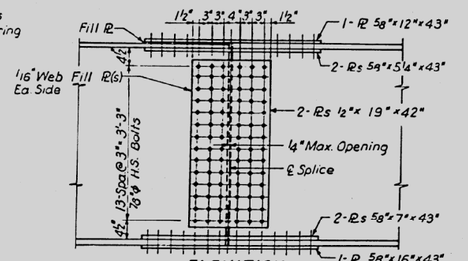


GIRDER ELEVATION

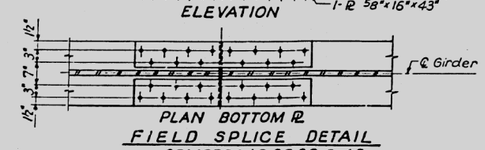
Note A
For Location & Size of Holes in Bottom Flange see Bearing Details Sh. 20.



PLAN TOP PL



ELEVATION



PLAN BOTTOM PL

FIELD SPLICE DETAIL
SPLICES: 1S, 2S, 3S & 4S

INTERIOR GIRDER MOMENT TABLE

	.4 Span 1 or .5 Span 3	Pier 1 or Pier 2	.5 Span 2
Is (in⁴)	20,781	61,906	20,781
Ic (in⁴)	58,035	——	58,035
Ss (in³)	1,085	2,314	1,085
Sc (in³)	1,477	——	1,477
℄ (K/I)	1.045	1.045	1.045
M ℄ (IK)	727.3	1,974.9	614.6
fs ℄ (Ks.i)	8.0	10.2	6.8
S ℄ (k/I)	.419	.419	.419
Ms ℄ (IK)	346.9	653.5	384.7
M ℄ (IK)	925.0	990.0	970.7
M imp. (IK)	197.9	198.0	182.5
Total (IK)	1,469.8	1,841.5	1,537.9
fs s+℄+I (Ks.i)	11.9	9.5	12.5
fs total (ks.i)	19.9	19.7	19.3
VR (K)	57.2	——	61.3

INTERIOR GIRDER REACTION TABLE

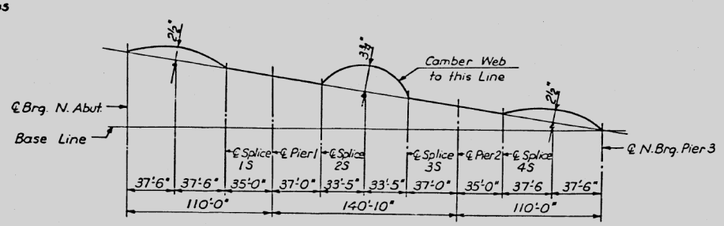
	℄ Brg-N.Abut or ℄ N.Brg-Pier3	Pier 1 or Pier 2
R ℄ (K)	56.5	207.2
R ℄ (K)	44.4	80.6
Imp. (K)	9.5	16.1
R total	110.4	303.9

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs ℄.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs s+℄+I.
VR is the maximum ℄+Impact shear range in span, used to determine shear connector spacing.

TOP OF WEB ELEVATION FOR FABRICATION

	G7	G8	G9	G10	G11	G12
℄ Brg. N.Abut.	522.77	522.53	522.27	521.83	521.34	520.83
℄ Splice 1S	520.35	520.11	519.84	519.41	518.92	518.46
℄ Pier 1	519.30	519.06	518.80	518.36	517.87	517.41
℄ Splice 2S	518.19	517.95	517.69	517.25	516.76	516.30
℄ Splice 3S	516.18	515.94	515.68	515.24	514.75	514.29
℄ Pier 2	515.07	514.83	514.57	514.13	513.64	513.18
℄ Splice 4S	514.02	513.78	513.52	513.08	512.59	512.13
℄ N.Brg Pier 3	511.95	511.70	511.44	511.01	510.51	510.05

Notes:
For Bottom Lateral Bracing see Partial Framing Plan Sh 19
For Diaphragms, Brg Stiffeners & Shop Flange Splice Details see Sh 19.
For Bearing Details see Sh 20
For Shear Connectors see Sh 12.



CAMBER DIAGRAM

FOR INFORMATION ONLY

DESIGNED BY D.P
DRAWN BY K.M.
CHECKED BY A.T.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72 – 4HVB

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 15 OF 64

EB

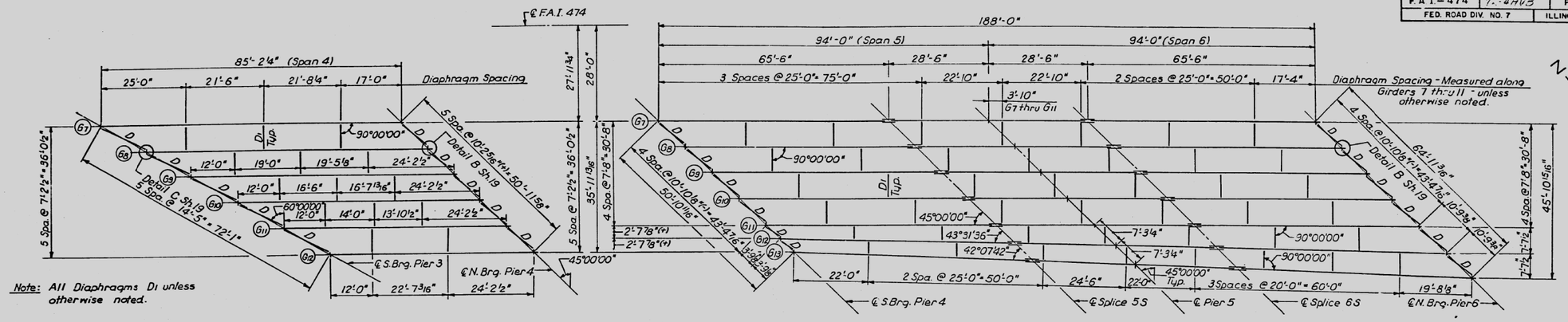
DESIGNED	JSB	EXAMINED	Timothy A. Daly — ACTING ENGINEER OF STRUCTURAL SERVICES
CHECKED	SMR	PASSED	A Carl Preuss — ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	daburdell	DATE	JANUARY 31, 2018
CHECKED	JSB SMR	REVISED	
		REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEET
SN 072–0128 (EB)
SHEET NO. 59 OF 64 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	76
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

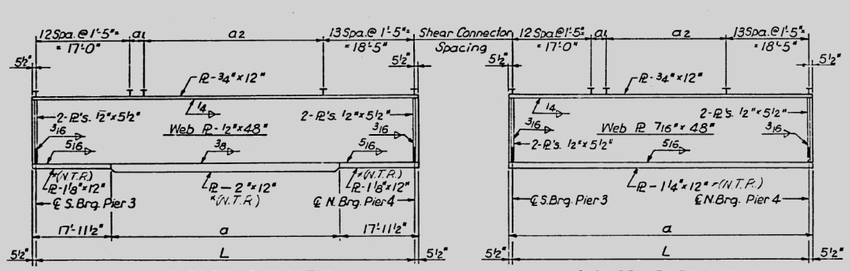
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.—474	7.-4HVB	PEORIA	104	31
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



Note: All Diaphragms D1 unless otherwise noted.

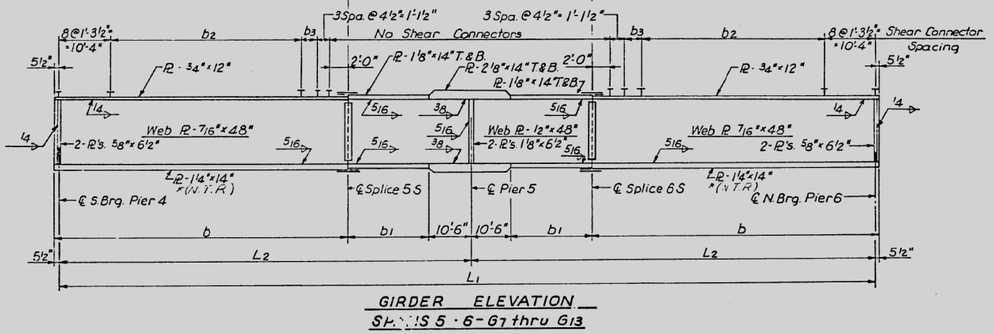
FRAMING PLANS
SPANS 4 & 5-6 SOUTHBOUND ROADWAY

*(N.T.R.) - See Note on Sheet 12 of 64.



GIRDER ELEVATION
SPAN 4 - G7 thru G9

GIRDER ELEVATION
SPAN 4 - G10 thru G12



GIRDER ELEVATION
SPANS 5 - 6 - G7 thru G13

INTERIOR GIRDER MOMENT TABLE

		.5 Span 4	.4 Span 5 or .6 Span 6	Pier 5
Is	(in⁴)	22,422	19,056	42,004
Ic	(in⁴)	62,622	51,788	——
Ss	(in³)	1,160	916	1,608
Sc	(in³)	1,609	1,259	——
ℓ	(k/l)	.975	1.020	1.020
M ℓ	(lk)	880.5	543.5	1,344.8
fs ℓ	(ksi)	9.1	7.1	10.0
S ℓ	(k/l)	.419	.403	.403
Ms ℓ	(lk)	378.4	266.3	402.2
M ℓ	(lk)	818.7	819.0	649.6
M imp.	(lk)	194.9	186.7	148.1
Total	(lk)	1,392.0	1,272.0	1,199.9
fs sℓ+ℓ+I	(ksi)	10.4	12.1	9.0
fs total	(ksi)	19.5	19.2	19.0
VR	(k)	51.9	517	——

GIRDER SCHEDULE

Girder	L	a	a1	a2	L1	L2	b	b1	b2	b3
G7	85'-2¼"	50'-2¼"	1'-5¼"	29 Spa. @ 1'-8"=48'-4"	188'-0"	94'-0"	65'-11½"	18'-0"	37 Spa. @ 1'-4½"=50'-10½"	1'-2"
G8	79'-10 15/16"	44'-10 15/16"	1'-1 15/16"	26 Spa. @ 1'-8"=43'-4"						
G9	74'-7 5/8"	39'-7 5/8"	10⅝"	23 Spa. @ 1'-8"=38'-4"						
G10	69'-4 5/16"	70'-3 5/16"	7 5/16"	20 Spa. @ 1'-8"=33'-4"						
G11	64'-1"	65'-0"	11"	18 Spa. @ 1'-6½"=27'-9"						
G12	58'-9 11/16"	59'-8 11/16"	10 11/16"	15 Spa. @ 1'-3"=22'-6"	193'-0 3/8"	96'-6 3/16"	67'-8 9/16"	18'-9 1/8"	37 Spa. @ 1'-5"=52'-5"	1'-4 9/16"
G13	——	——	——	——	193'-2 1/8"	99'-1 1/16"	69'-6 1/16"	19'-6 1/2"	39 Spa. @ 1'-5"=55'-3"	4 1/16"

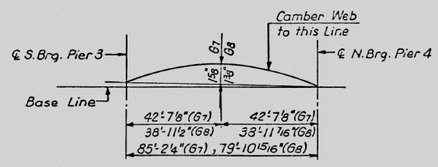
TOP OF WEB ELEVATIONS

	G7	G8	G9	G10	G11	G12	G13
℄ S. Brg. - Pier 3	511.87	511.63	511.37	510.93	510.44	509.91	——
℄ N. Brg. - Pier 4	509.32	509.23	509.13	508.85	508.52	508.15	——
℄ S. Brg. - Pier 4	509.26	509.17	509.06	508.73	508.37	508.17	507.97
℄ Splice 5S	507.18	507.09	506.98	506.65	506.29	506.03	505.78
℄ Pier 5	506.32	506.24	506.13	505.80	505.43	505.16	504.88
℄ Splice 6S	505.47	505.38	505.27	504.94	504.58	504.28	503.98
℄ N. Brg. - Pier 6	503.55	503.46	503.35	503.02	502.66	502.31	501.95

INTERIOR GIRDER REACTION TABLE

		S. Brg. Pier 3 or N. Brg. Pier 4	S. Brg. Pier 4 or N. Brg. Pier 6	Pier 5
R ℓ	(k)	59.2	48.2	170.8
R ℓ	(k)	44.0	46.4	71.3
Imp.	(k)	10.5	10.6	16.3
R total	(k)	113.7	105.2	258.4

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs ℓ.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs sℓ+ℓ+I.
VR is the maximum ℓ+Impact shear range in span, used to determine shear connector spacing.



CAMBER DIAGRAM

Notes:
For Diaphragms, Bearing Stiffeners & Shop Flange Splice see Sh. 19.
For Bearing Details see Sh. 21.
For Field Splice Details see Sh. 13.
For Shear Connectors see Sh. 12.

FOR INFORMATION ONLY

DESIGNED BY D.P.
DRAWN BY K.M.
CHECKED BY A.T.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HVB

CHRISTIAN-ROGE AND ASSOC.
ENGINEERS
CHICAGO, ILLINOIS

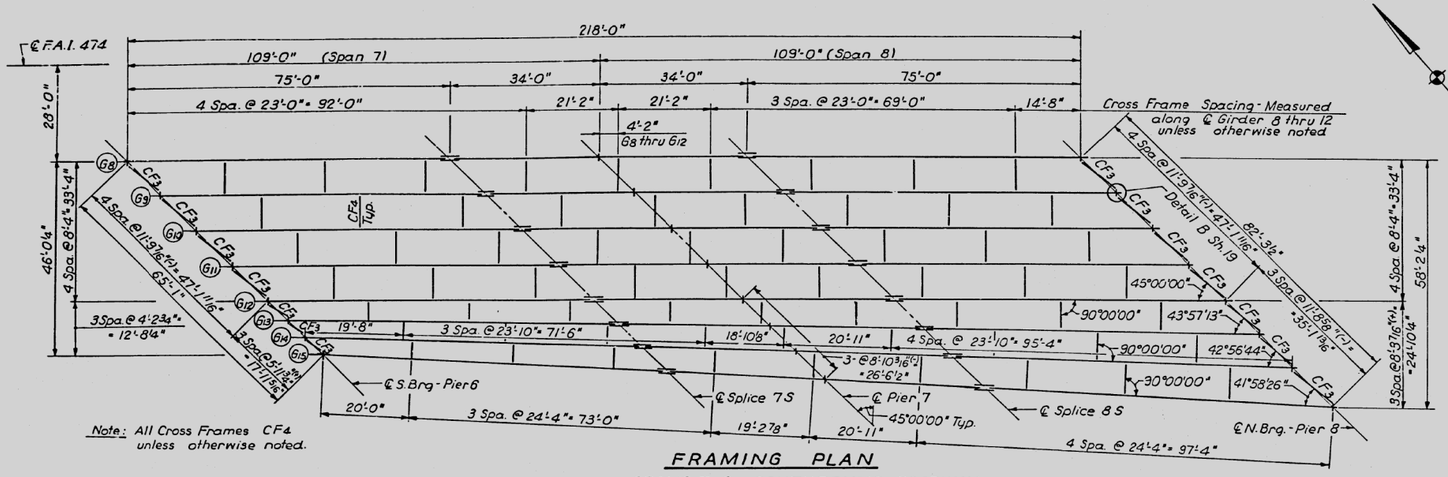
SHEET 16 OF 64

EB

DESIGNED JSB	EXAMINED Timothy A. Bradley	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES		
DRAWN daburdell	PASSED A. Carl Preuss	REVISED	EXISTING PLAN SHEET SN 072-0128 (EB)
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	SHEET NO. 60 OF 64 SHEETS

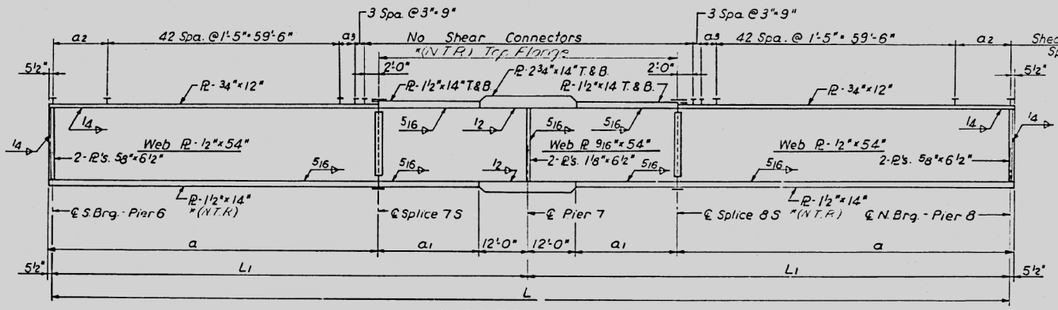
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB, HUB-1, HUB-B-R	PEORIA	196	77
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.– 474	72-4HVB	PEORIA	104	32
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		

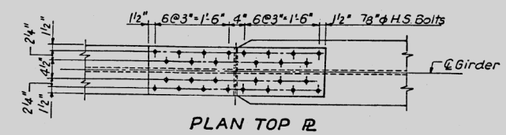


FRAMING PLAN
SPANS 7-8 SOUTHBOUND ROADWAY

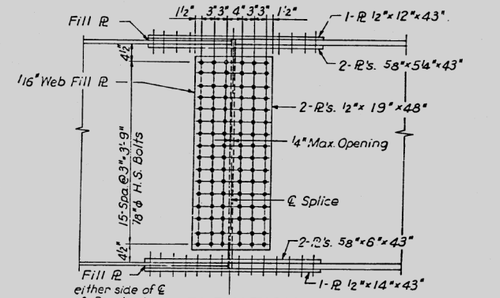
*(N.T.R) - See Note on Sheet 12 of 64.



GIRDER ELEVATION



PLAN TOP PL

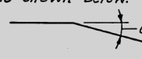


ELEVATION

PLAN BOTTOM PL
FIELD SPLICE DETAIL
SPLICES : 7S, 8S, 9S & 10S

Notes:
For Cross Frames, Brg. Stiffeners & Shop Flange Splice see Sh. 19.
For Bearing Details see Sh. 21.
For Shear Connectors see Sh. 12.

Note: Bend Web Plates for Splice 10S, Girder G18 as shown below.



INTERIOR GIRDER MOMENT TABLE

		.4 Span 7 or .6 Span 8	Pier 7
Is	(in⁴)	27,496	69,432
Ic	(in⁴)	74,947	——
Ss	(in³)	1,217	2,334
Sc	(in³)	1,689	——
DL	(k/ℓ)	1.10	1.10
M DL	('k)	757.9	2,025.7
fs DL	(k.s.i)	7.5	10.1
S DL	(k/ℓ)	.438	.433
Ms DL	('k)	376.9	612.7
M LL	('k)	1,051.6	938.7
M IMP	('k)	225.0	205.2
Total	('k)	1,653.5	1,782.6
fs sgt+ℓ+I	(k.s.i)	11.7	9.2
fs total	(k.s.i)	19.2	19.6
V R	(k)	63.6	——

INTERIOR GIRDER REACTION TABLE

		S Brg-Pier 6 or N Brg-Pier 8	Pier 7
R DL	(k)	59.4	216.0
R LL	(k)	51.2	87.1
Imp.	(k)	11.0	18.6
R total	(k)	121.6	321.7

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs DL.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs sgt+ℓ+I.
VR is the maximum LL+Impact shear range in span, used to determine shear connector spacing.

TOP OF WEB ELEVATION FOR FABRICATION

	G8	G9	G10	G11	G12	G13	G14	G15
℄ S. Brg. - Pier 6	503.55	503.46	503.32	502.94	502.53	502.27	502.00	501.74
℄ Splice 7S	501.14	501.04	500.90	500.52	500.12	499.80	499.49	499.18
℄ Pier 7	500.12	500.02	499.88	499.50	499.10	498.76	498.43	498.10
℄ Splice 8S	499.10	499.00	498.86	498.48	498.08	497.73	497.38	497.03
℄ N. Brg. - Pier 8	496.91	496.81	496.67	496.29	495.88	495.49	495.10	494.71

GIRDER SCHEDULE

Girder	L	L1	a	a1	a2	a3
G8 - G12	218'-0"	109'-0"	75'-5½"	22'-0"	10 Spa @ 1'-3"=12'-6"	3"
G13	222'-1⅛"	111'-0 9/16"	76'-10⅜"	22'-7 1/16"	11 Spa @ 1'-3"=13'-9"	4⅞"
G14	226'-3⅛"	113'-1 9/16"	78'-3⅜"	23'-3 7/16"	12 Spa @ 1'-3"=15'-0"	7⅛"
G15	230'-5⅞"	115'-2 15/16"	79'-0 1/16"	23'-11⅜"	13 Spa @ 1'-3"=16'-3"	9 9/16"

FOR INFORMATION ONLY

DESIGNED BY D.P
DRAWN BY K.M.
CHECKED BY A.T.

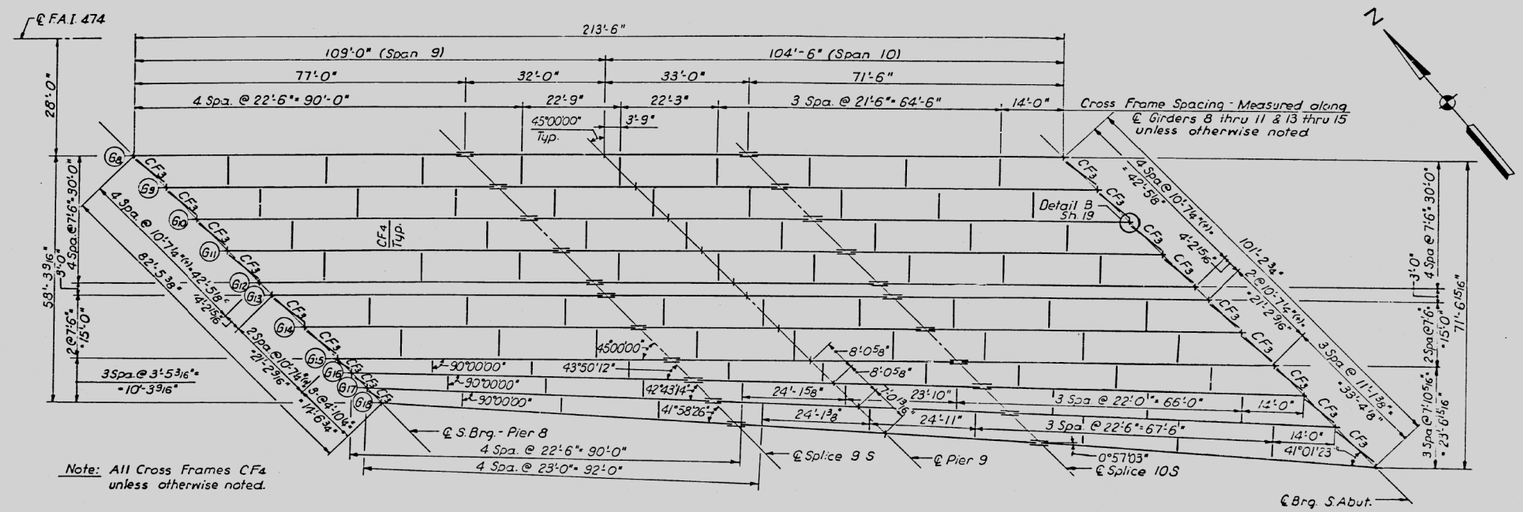
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72 – 4HVB
CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS
SHEET 17 OF 64

EB

DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLAN SHEET SN 072–0128 (EB)
CHECKED SMR	ACTING ENGINEER OF STRUCTURAL SERVICES			SHEET NO. 61 OF 64 SHEETS
DRAWN daburdell	PASSED	REVISED		
CHECKED JSB SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	78
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.–474		PEORIA	104	33
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



Note: All Cross Frames CF4 unless otherwise noted.

FRAMING PLAN
SPANS 9-10 SOUTHBOUND ROADWAY

*(N.T.R.) - See Note on Sheet 12 of 64

GIRDER ELEVATION

FOR INFORMATION ONLY

Notes
For Cross Frames, Brg Stiffeners & Shop Flange Splice see Sh. 19.
For Bearing Details see Sh. 21.
For Field Splice Details see Sh. 17.
For Shear Connectors see Sh. 12.

INTERIOR GIRDER MOMENT TABLE

		.4 Span 9	Pier 9	.6 Span 10
Is	(in⁴)	26,579	60,255	24,591
Ic	(in⁴)	70,321	——	63,300
Ss	(in³)	1,146	2,051	1,004
Sc	(in³)	1,587	——	1,398
D℄	(k/ℓ)	1.01	1.01	1.01
M D℄	('k)	739.8	1,750.3	623.3
fs D℄	(ksi)	7.7	10.2	7.5
S D℄	(k/ℓ)	.435	.435	.435
M S D℄	('k)	388.0	580.4	337.8
M L℄	('k)	955.7	818.6	895.9
M Imp.	('k)	204.5	176.8	195.3
Total	('k)	1,548.2	1,575.8	1,429.0
fs S D℄+L℄+I	(ksi)	11.7	9.2	12.3
fs total	(ksi)	19.4	19.4	19.8
VR	(k)	56.8	——	56.6

INTERIOR GIRDER REACTION TABLE

		S. Brg. Pier 8	Pier 9	S. Abut.
R D℄	(k)	57.2	197.8	53.1
R L℄	(k)	46.2	77.0	45.8
Imp.	(k)	9.9	16.6	10.0
R total	(k)	113.3	291.4	108.9

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs D℄. Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs S D℄+L℄+I.
VR is the maximum L℄+Impact shear range in span, used to determine shear connector spacing.

GIRDER SCHEDULE

Girder	L	L1	L2	a	a1	a2	a3	a4	a5	a6	a7
G8–G15	213'-6"	109'-0"	104'-6"	77'-5½"	25'-0"	21'-6"	71'-1½"	49 Spa @ 1'-6" = 73'-6"	4 Spa @ 4½" = 1'-6"	3 Spa @ 3" = 9"	50 Spa @ 1'-4½" = 68'-9"
G16	217'-11⅝"	111'-3⅜"	105'-8¼"	79'-0⅞"	26'-8⅛"	22'-2⅝"	73'-5⅞"	50 Spa @ 1'-6" = 75'-0"	2 Spa @ 6", 1 Spa @ 7⅜"	2 Spa @ 3½", 1 Spa @ 3⅞"	51 Spa @ 1'-4½" = 70'-1½"
G17	222'-6⅜"	113'-7⅝"	108'-11⅛"	80'-8⅜"	27'-4¼"	22'-10⅜"	74'-11⅜"	51 Spa @ 1'-6" = 76'-6"	2 Spa @ 6", 1 Spa @ 9⅛"	2 Spa @ 4", 1 Spa @ 4⅝"	52 Spa @ 1'-4½" = 71'-6"
G18	227'-2"	115'-2⅛"	*111'-11⅛"	81'-10⅞"	27'-10"	23'-4⅛"	77'-5⅞"	52 Spa @ 1'-6" = 78'-0"	2 Spa @ 6", 1 Spa @ 4⅛"	2 Spa @ 5½", 1 Spa @ 5⅜"	52 Spa @ 1'-5" = 73'-8"

* Bent @ Splice 10S.

TOP OF WEB ELEVATION FOR FABRICATION

	G8	G9	G10	G11	G12	G13	G14	G15	G16	G17	G18
℄ S. Brg. - Pier 8	496.96	496.87	496.75	496.45	496.10	495.95	495.51	495.19	495.01	494.82	494.63
℄ Splice 9 S	494.51	494.43	494.32	494.01	493.66	493.51	493.07	492.60	492.19	491.78	491.39
℄ Pier 9	493.55	493.47	493.36	493.05	492.70	492.54	492.10	491.59	491.08	490.55	490.07
℄ Splice 10 S	492.56	492.48	492.37	492.06	491.71	491.54	491.10	491.56	489.93	489.28	488.70
℄ Brg. - S. Abut.	490.55	490.47	490.36	490.05	489.70	489.44	489.00	488.48	487.65	486.76	485.88

DESIGNED BY DP
DRAWN BY K.M.
CHECKED BY A.T.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK
STATION 355 + 00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72 – 4HVB

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

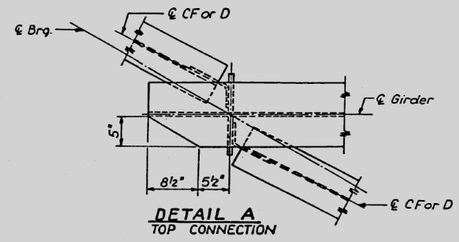
SHEET 18 OF 64

E3

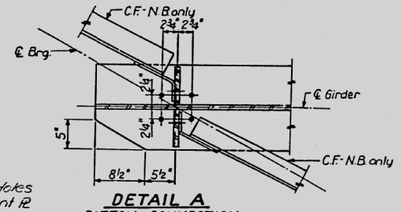
DESIGNED JSB	EXAMINED Timothy A. Bradt — ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED Carl Puzey — ENGINEER OF BRIDGES AND STRUCTURES	REVISED	EXISTING PLAN SHEET SN 072–0128 (EB)
DRAWN daburdell		REVISED	SHEET NO. 62 OF 64 SHEETS
CHECKED JSB SMR			

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	79
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

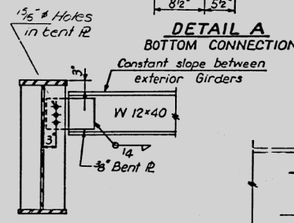
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.–474	72-4HVB	PEORIA	104	34
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



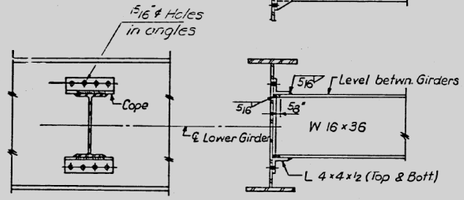
DETAIL A
TOP CONNECTION



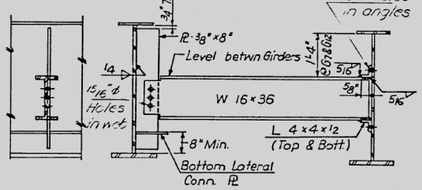
DETAIL A
BOTTOM CONNECTION



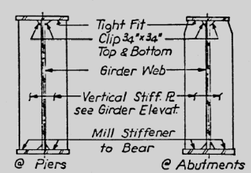
DIAPHRAGM D
No. Req'd. = 64



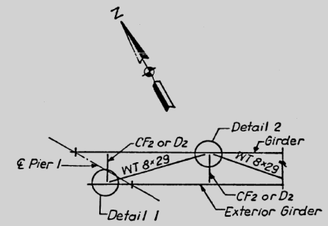
DIAPHRAGM D1
No. Req'd. = 297



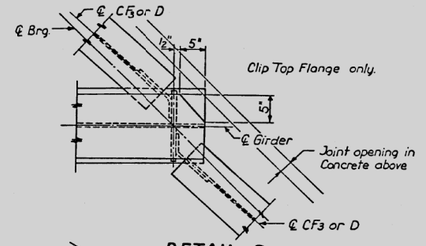
DIAPHRAGM D2
No. Req'd. = 14



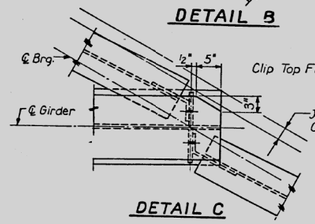
BEARING STIFFENERS



PARTIAL FRAMING PLAN
BOTTOM LATERAL BRACING
For Span 2 N.B. & S.B. Roadways.

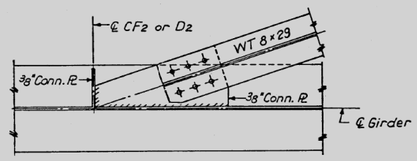


DETAIL B

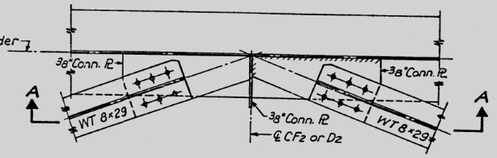


DETAIL C

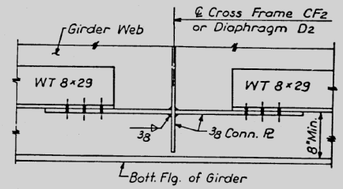
Note: Holes in bottom Flange @ N.Brg. similar to Detail A.



DETAIL I

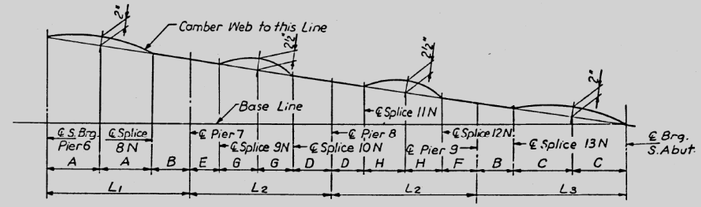


DETAIL 2



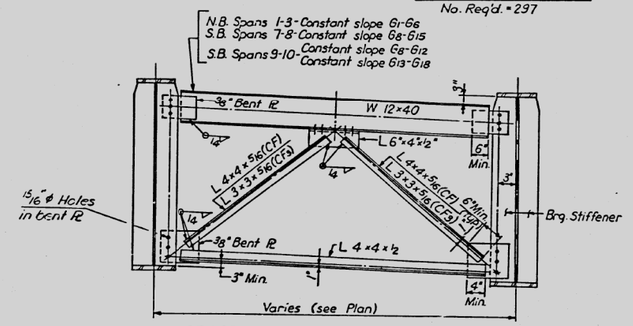
ELEVATION A-A

Girder	A	B	C	D	E	F	G	H
G1	39'-2 11/16"	28'-5 1/4"	41'-8 1/8"(-)	21'-6 7/8"	35'-3 5/8"	37'-3 1/8"	25'-5 15/16"(+)	24'-6 3/16"
G2	39'-7 5/16"	28'-8 5/8"	42'-1"	21'-9 7/16"	35'-7 3/4"	37'-7 9/16"	25'-8 15/16"(+)	24'-9 1/16"
G3-G7	40'-0"	29'-0"	42'-6"	22'-0"	36'-0"	38'-0"	26'-0"	25'-0"

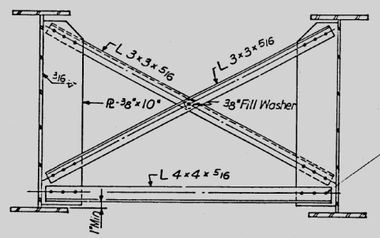


CAMBER DIAGRAM

Note: For L1, L2 & L3 see Girder Schedule on Sh. 14.

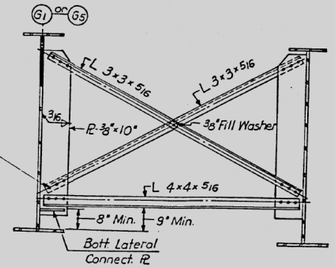


CROSS FRAME CF No. Req'd. = 10
CROSS FRAME CF3 No. Req'd. = 32



CROSS FRAME CF1 No. Req'd. = 61
CROSS FRAME CF4 No. Req'd. = 144

15/16" ϕ Holes in angles



CROSS FRAME CF2
No. Req'd. = 14

Note: Hardened washers shall be required over 15/16" ϕ holes in plates, angles and diaphragms.

FOR INFORMATION ONLY

SHOP FLANGE SPLICE DETAIL

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F. A. I. ROUTE 474 OVER CHICAGO & NORTHWESTERN RY.
RELOCATED KICKAPOO CREEK ROAD AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HVB

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 19 OF 64

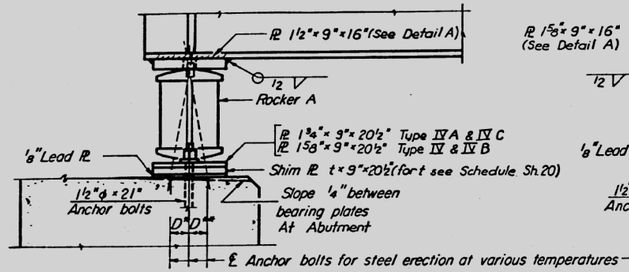
DESIGNED BY D.P
DRAWN BY K.M.
CHECKED BY A.T.

DESIGNED JSB	EXAMINED Timothy A. Bradt, ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED A. Carl Preuss, ENGINEER OF BRIDGES AND STRUCTURES	REVISED	EXISTING PLAN SHEET SN 072-0127 (WB) & 0128 (EB)
DRAWN daburdell		REVISED	SHEET NO. 63 OF 64 SHEETS
CHECKED JSB SMR			

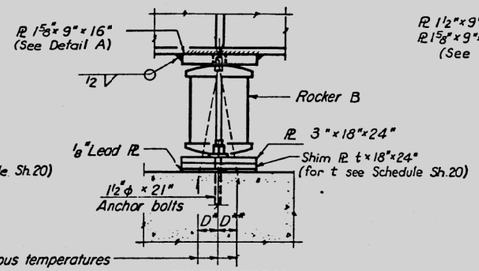
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	80
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-474	72-4HVB	PEORIA	104	36
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		

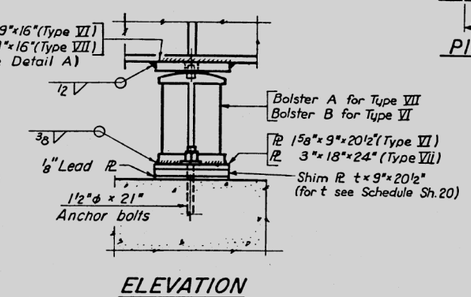
Note: All Steel for Type V & VII Bearing Details shall conform to A.A.S.H.T.O. Specifications Designation M222



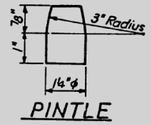
ELEVATION



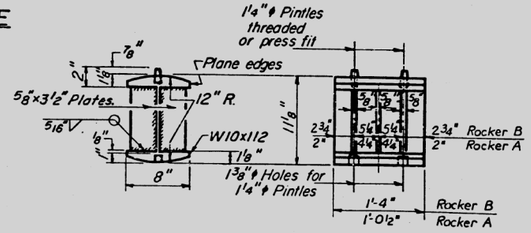
ELEVATION



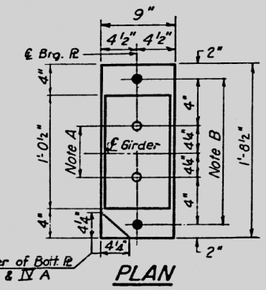
ELEVATION



PINTLE



ROCKER



PLAN

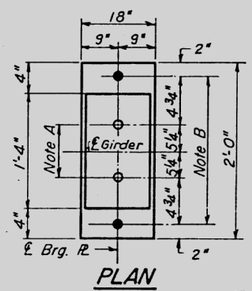
TYPE IV, IV A, IV B & IV C

BEARING TYPES

		N.B.	S.B.
Pier 3 - S.Brg.		IV B	IV B
Pier 3A		VIII	—
Pier 4	N.Brg.	IV	VI
	S.Brg.	IV	IV
Pier 5		VII	VII
Pier 6	N.Brg.	IV A	IV A
	S.Brg.	IV A	IV A
Pier 7		V	VII
Pier 8	N.Brg.	VII	IV A
	S.Brg.		IV A
Pier 9		V	VII
S. Abutment		IV C	IV B

NOTE A

1⅜"ϕ Holes – 1" deep in top PL for pintles Thread or press fit pintles into bottom PL.

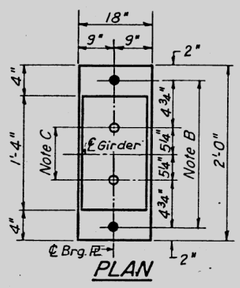


PLAN

TYPE V

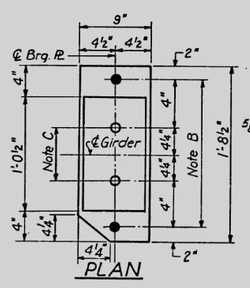
NOTE B

2"ϕ Holes for 1½"ϕ anchor bolts. 5/16" x 3" x 3" PL. Washers under nut.



PLAN

TYPE VII

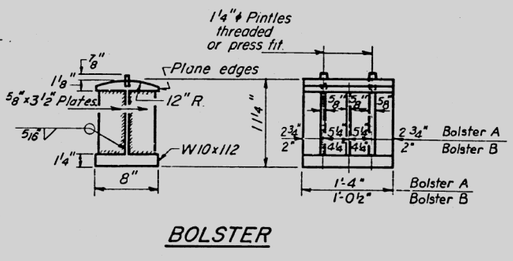


PLAN

TYPE VI

NOTE C

1⅜" ϕ Holes 1" deep in top PL only for 1¼"ϕ pintles.



BOLSTER

BEARING ASSEMBLY DETAILS

SPANS 3A & 4 THRU 10

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

a) D* (Side of brg away from fixed brg.)
D* = ⅛" per each 100' of expansion for every 15° fall below the normal temp. of 50°F
D** (Side of brg toward fixed brg.)
D** = ⅛" per each 100' of expansion for every 15° rise above the normal temp. of 50°F

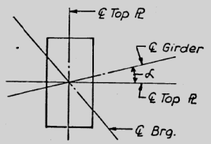
b) After girders have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

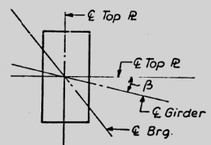
ANGLE ∠ - NORTHBOUND ROADWAY

Girder	Pier 3 S.Brg.	Pier 3A	Pier 4 N.Brg.	Pier 4 S.Brg.	Pier 5	Pier 6 N.Brg.	Pier 6 S.Brg.	Pier 7	Pier 8	Pier 9	℄ Brg. S.Abut.
1	0°24'-12"	0°24'-12"	0°24'-12"	1°08'-46"	1°08'-46"	1°08'-46"	1°08'-46"	1°08'-46"	1°08'-46"	1°08'-46"	1°08'-46"
2	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°34'-03"	0°34'-03"	0°34'-03"	0°34'-03"	0°34'-03"
3-6	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"
7	—	—	—	—	—	—	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"

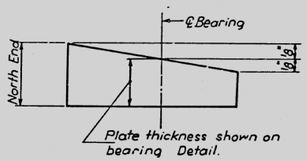
ANGLE β - SOUTHBOUND ROADWAY

Girder	Pier 3 S.Brg.	Pier 4 N.Brg.	Pier 4 S.Brg.	Pier 5	Pier 6 N.Brg.	Pier 6 S.Brg.	Pier 7	Pier 8 N.Brg.	Pier 8 S.Brg.	Pier 9	℄ Brg. S.Abut.
7	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	—	—	—	—	—	—
8-11	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"
12	0°00'-00"	0°00'-00"	1°28'-24"	1°28'-24"	1°28'-24"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"	0°00'-00"
13	—	—	2°52'-18"	2°52'-18"	2°52'-18"	1°02'-47"	1°02'-47"	1°02'-47"	0°00'-00"	0°00'-00"	0°00'-00"
14	—	—	—	—	—	2°03'-16"	2°03'-16"	2°03'-16"	0°00'-00"	0°00'-00"	0°00'-00"
15	—	—	—	—	—	3°01'-34"	3°01'-34"	3°01'-34"	0°00'-00"	0°00'-00"	0°00'-00"
16	—	—	—	—	—	—	—	—	1°09'-48"	1°09'-48"	1°09'-48"
17	—	—	—	—	—	—	—	—	2°16'-46"	2°16'-46"	2°16'-46"
18	—	—	—	—	—	—	—	—	3°01'-34"	3°01'-34"	3°-58'-37"





DETAIL OF TOP BEARING PL TO GIRDER CONNECTION



DETAIL 'A'

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURAL STEEL
F.A.I. ROUTE 474 OVER
CHICAGO & NORTHWESTERN R.Y.
RELOCATED KICKAPOO CREEK ROAD
AND RELOCATED KICKAPOO CREEK
STATION 355+00.00
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HVB

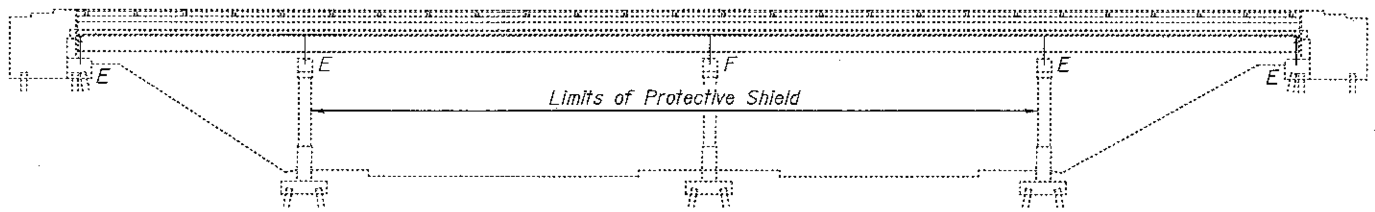
CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

SHEET 21 of 64

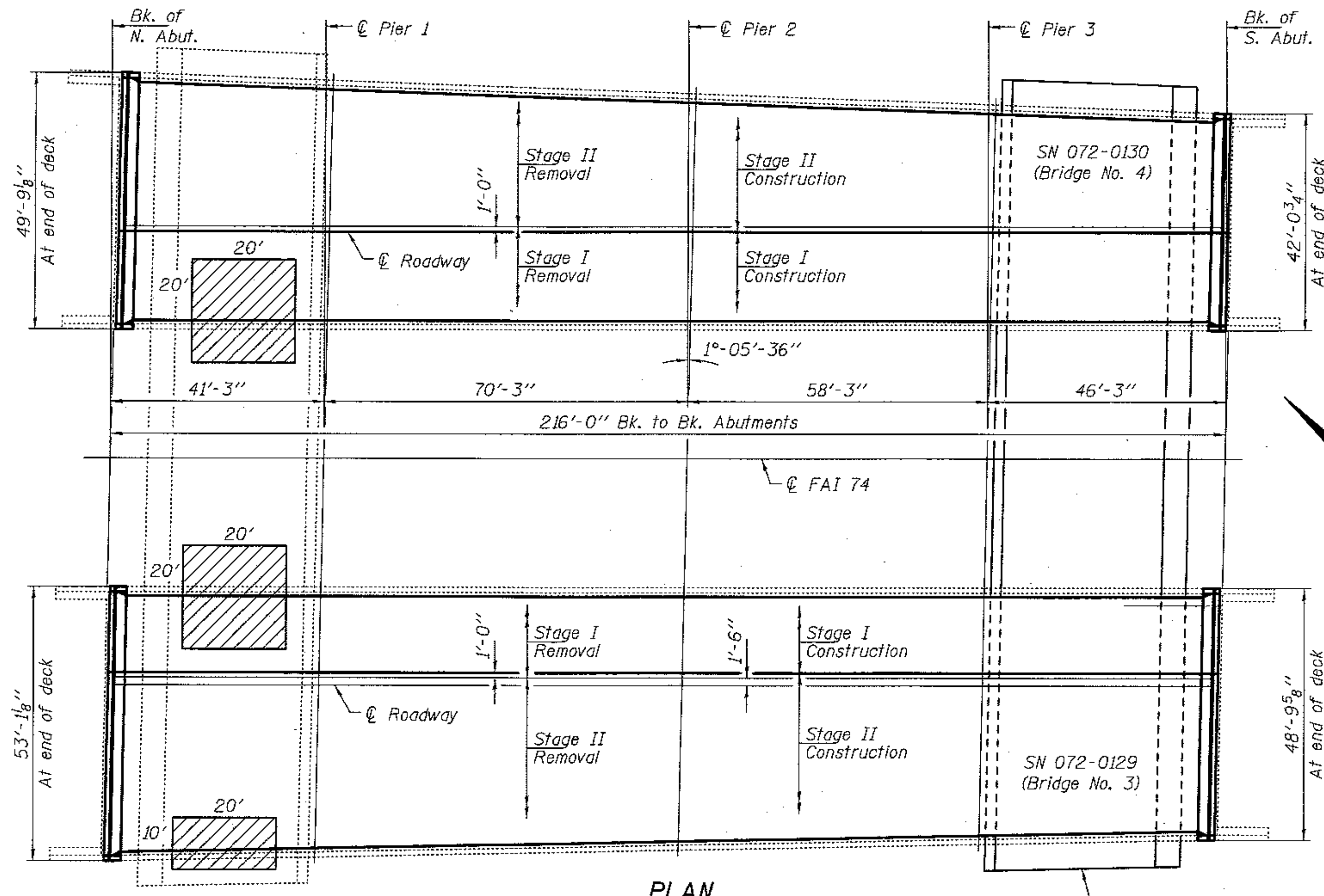
DESIGNED BY DP
DRAWN BY KM
CHECKED BY AT

DESIGNED JSB	EXAMINED Timothy A. Bradley ACTING ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED SMR	PASSED A Carl Purvis ENGINEER OF BRIDGES AND STRUCTURES	REVISED	EXISTING PLAN SHEET SN 072-0127 (WB) & 0128 (EB)
DRAWN daburdell		REVISED	SHEET NO. 64 OF 64 SHEETS
CHECKED JSB SMR			

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HUB-1,HUB)B-R	PEORIA	196	81
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		



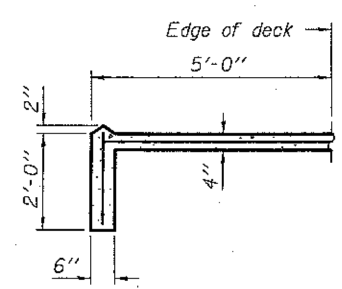
ELEVATION



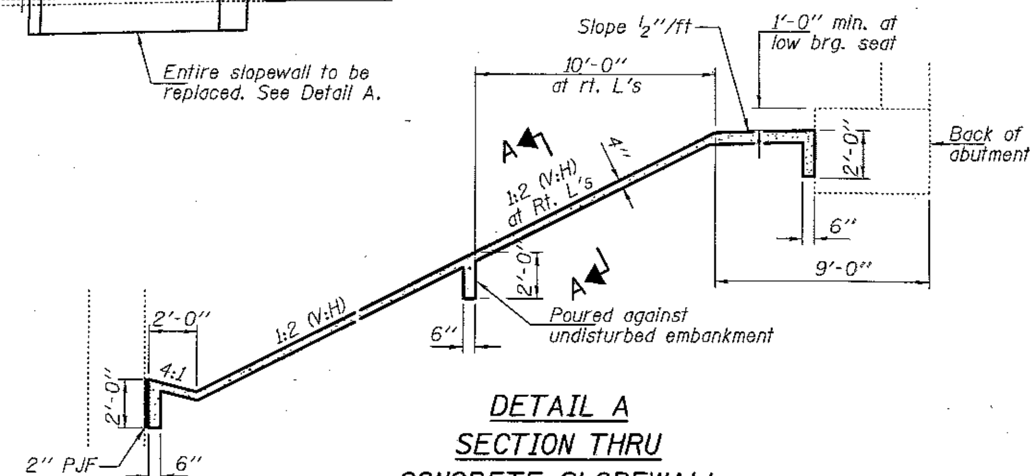
PLAN

Hatched areas indicate Slopewall Slurry Pumping.

EXPIRES 11-30-2018



SECTION A-A



DETAIL A
SECTION THRU
CONCRETE SLOPEWALL

GENERAL NOTES

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

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.

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.

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

Synthetic fibers shall be added to the Bridge Deck Latex Concrete. See Special Provisions.

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

Fasteners shall be high strength bolts. Bolts ⅞"ϕ, open holes 15/16"ϕ, unless otherwise noted.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the special provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Slopewall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

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 steel surfaces shall be Warm Gray, Munsell No. 2.5Y 5/1. The use of air monitors will be required.

A minimum of two air monitors will be required to monitor abrasive blasting operations.

The painting contractor shall be SSPC-QP1 and SSPC-QP2 certified for this project and shall maintain certification throughout the duration of the project.

Care shall be taken not to damage rubber bearing or joint components during blasting and cleaning operations. Any damage to these components shall be repaired at the contractor's expense.

Surface preparation at the construction joints shall be performed using high-pressurized water spray, using equipment capable of producing a minimum water pressure of 5000 psi.

Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at those locations.

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	30.8
Concrete Superstructure	Cu. Yd.	30.8
Preformed Joint Strip Seal	Foot	185
Reinforcement Bars, Epoxy Coated	Pound	3800
Bar Splicers	Each	56
* Protective Coat	Sq. Yd.	2152
Diamond Grinding, ¼"	Sq. Yd.	2143
HMA Surface Removal	Sq. Yd.	2084
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1580
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	77.3
Bridge Deck Scarification, ¾"	Sq. Yd.	2084
Bridge Deck Latex Concrete Overlay, 2½"	Sq. Yd.	2084
Furnishing and Erecting Structural Steel	Pound	3510
Elastomeric Bearing Assembly, Type II	Each	28
Jack and Remove Existing Bearings	Each	28
Anchor Bolts 1"ϕ	Each	56
Slopewall Removal	Sq. Yd.	654
Slopewall, 4"	Sq. Yd.	654
Slopewall Slurry Pumping	Cu. Yd.	37
Protective Shield (Permanent)	Sq. Yd.	1380
Containment and Disposal of Lead Paint Cleaning Residues Bridge No. 3	L. Sum	1
Containment and Disposal of Lead Paint Cleaning Residues Bridge No. 4	L. Sum	1
Cleaning and Painting Steel Bridge No. 3	L. Sum	1
Cleaning and Painting Steel Bridge No. 4	L. Sum	1

* On new concrete and overlay only.

DESIGNED	[signature]	EXAMINED	[signature] ENGINEER OF STRUCTURAL SERVICES
CHECKED	[signature] VH	PASSED	[signature] ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	baliva	DATE	JANUARY 31, 2018
CHECKED	[signature] MLD	REVISED / REVISED	

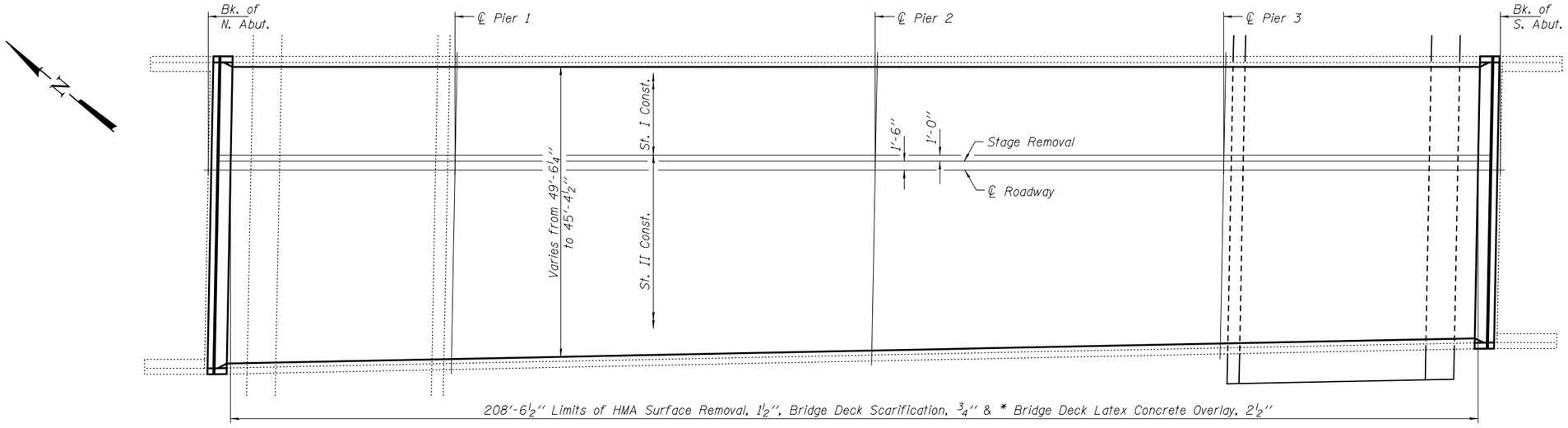
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
FAI 474 OVER FA 10 (ADAMS STREET)
SN 072-0129 & 0130
SHEET NO. 1 OF 14 SHEETS

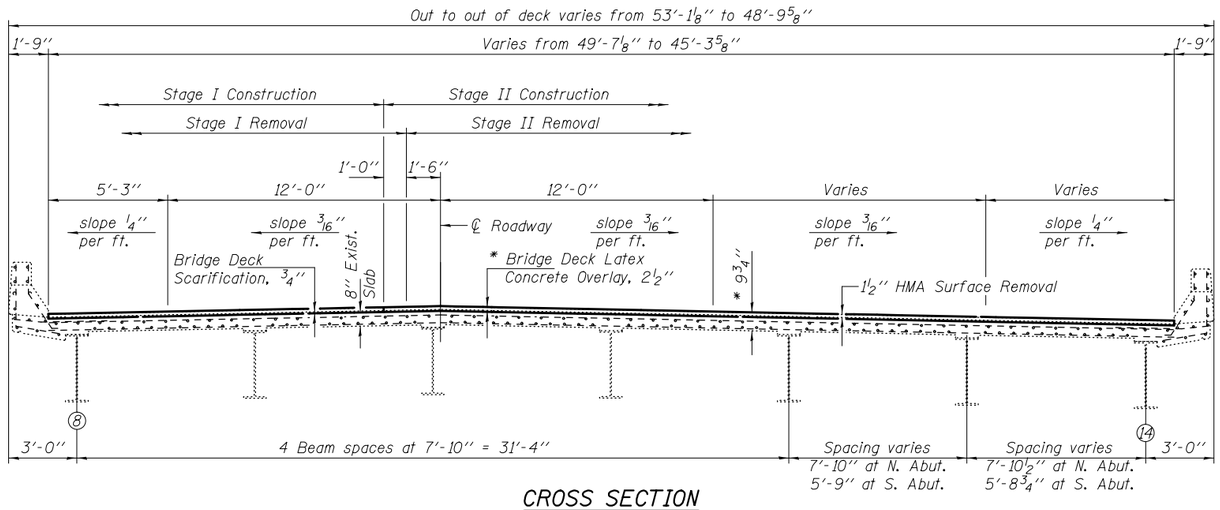
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HVB-1,HVB1B-R	PEORIA	196	82

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT

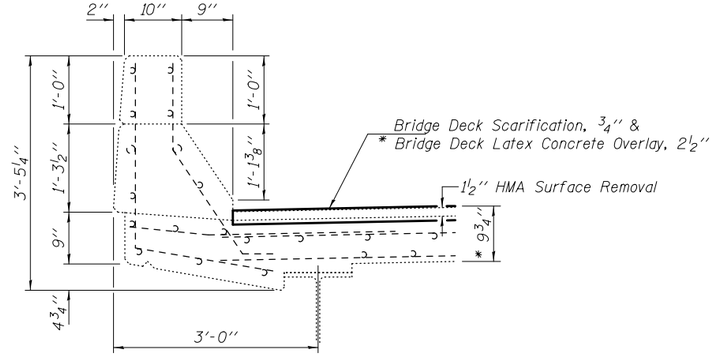


DECK REPAIR PLAN



CROSS SECTION

(Looking South)



SECTION THRU PARAPET

* Prior to ¼" Diamond Grinding.

BILL OF MATERIAL

Item	Unit	Quantity
HMA Surface Removal, 1½"	Sq. Yd.	1100
Bridge Deck Scarification, ¾"	Sq. Yd.	1100
Bridge Deck Latex Concrete Overlay, 2½"	Sq. Yd.	1100
Diamond Grinding, ¼"	Sq. Yd.	1130
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	873

DESIGNED	JSB		
CHECKED	MLD		
DRAWN	baliva		
CHECKED	JSB	MLD	

EXAMINED — Timothy A. Sandt, ENGINEER OF STRUCTURAL SERVICES — DATE JANUARY 31, 2018

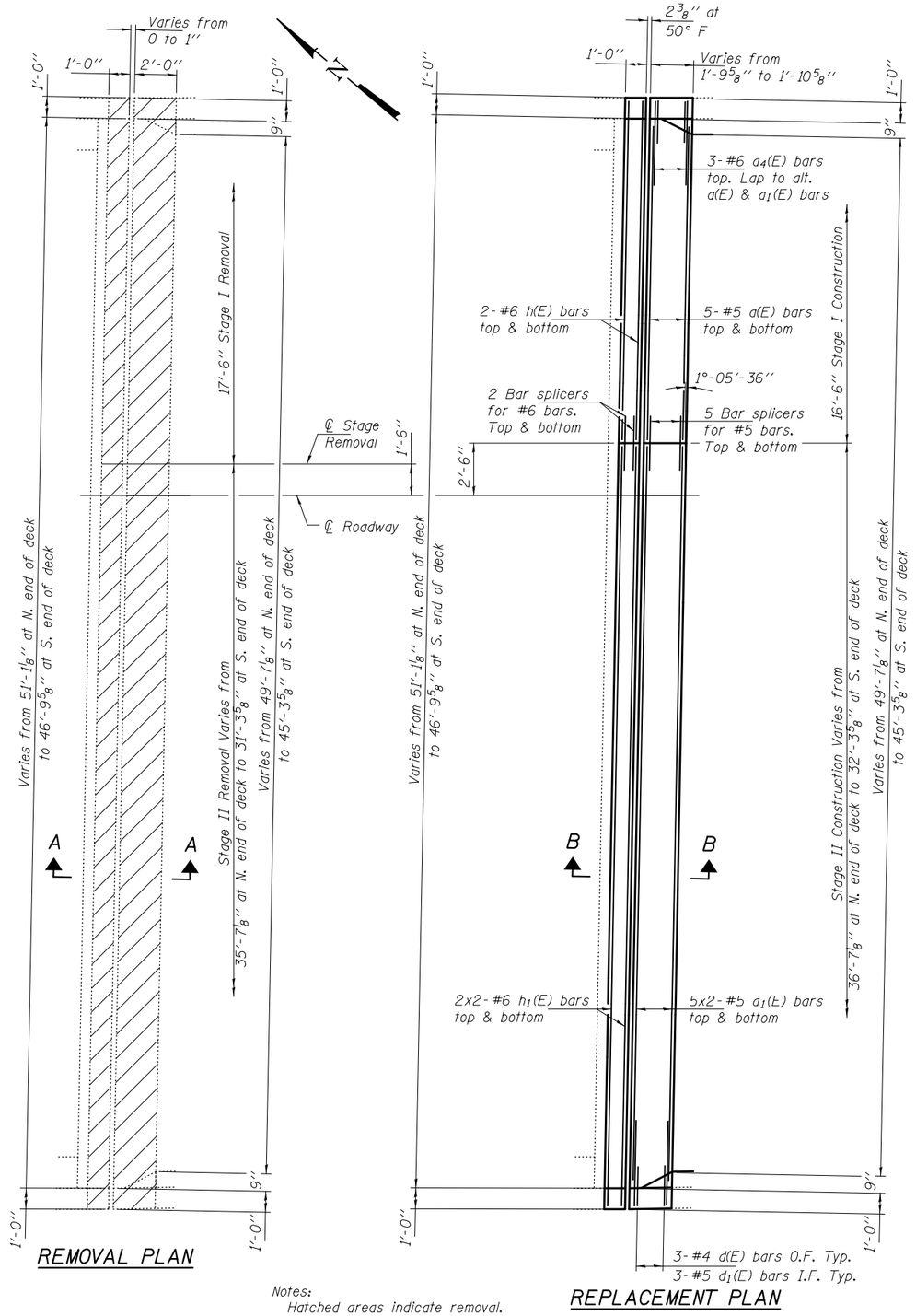
PASSED — J. Carl Piney, ENGINEER OF BRIDGES AND STRUCTURES — REVISED — REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

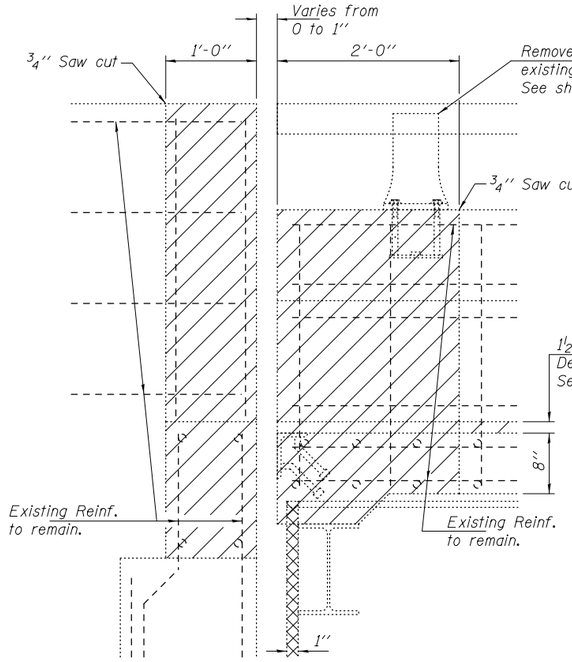
BRIDGE DECK REPAIR DETAILS
SN 072–0129

SHEET NO. 2 OF 14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	83
		CONTRACT NO. 68887		
		ILLINOIS	FED. AID PROJECT	

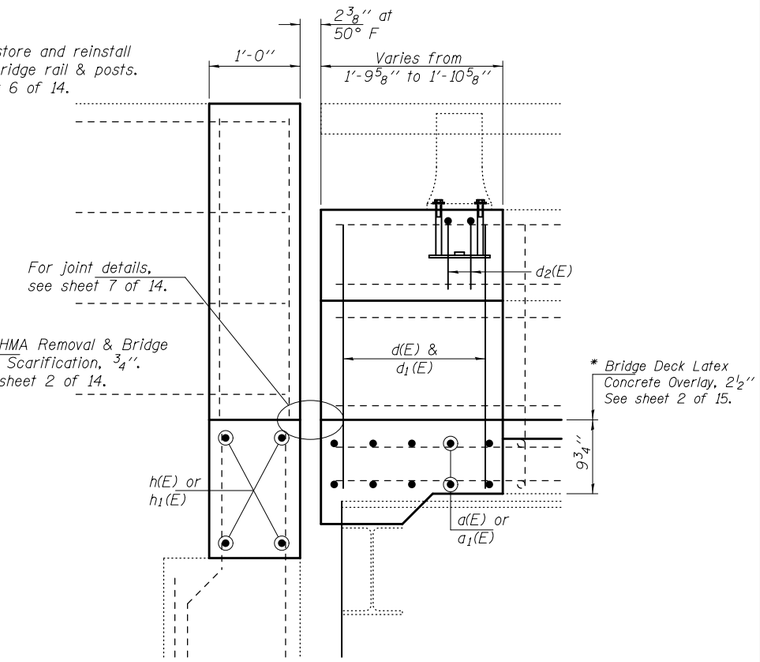


Notes:
Hatched areas indicate removal.



SECTION A-A

(Dimensions are at RT L's to end of deck)

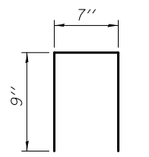


SECTION B-B

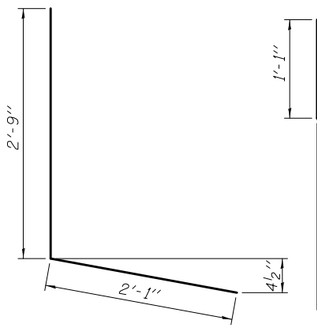
(Dimensions are at RT L's to end of deck)

* Prior to ¼'' Diamond Grinding.

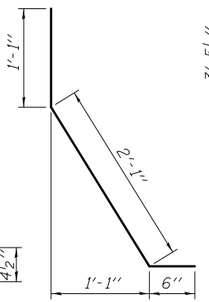
Crosshatched area indicates stringer shortening. Removal to be done by plasma cutting. Grind removal surfaces smooth after removal. Cost included with Concrete Removal.



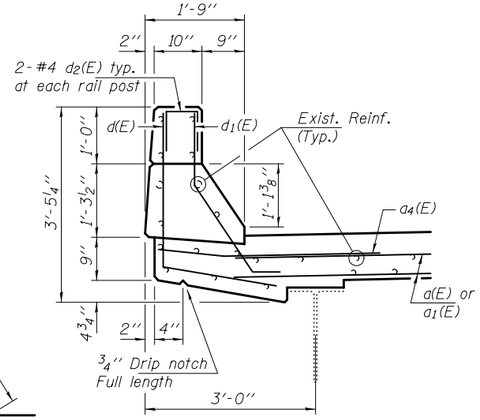
BAR d2(E)



BAR d(E)



BAR d1(E)



TYPICAL PARAPET SECTION

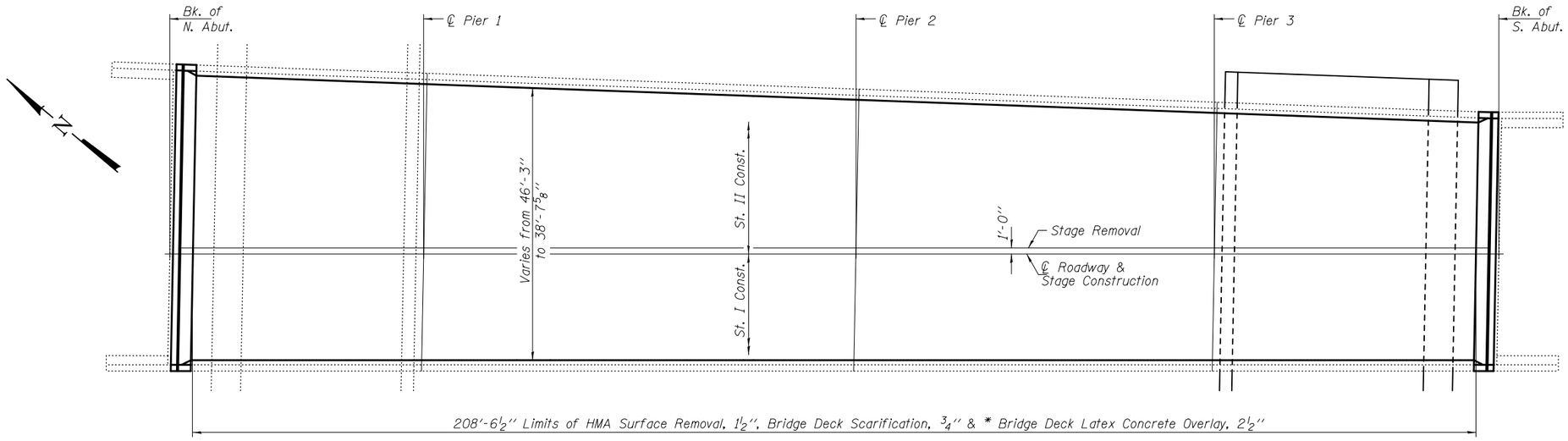
MIN. BAR LAPS

#5 Bar = 3'-6''
#6 Bar = 4'-0''

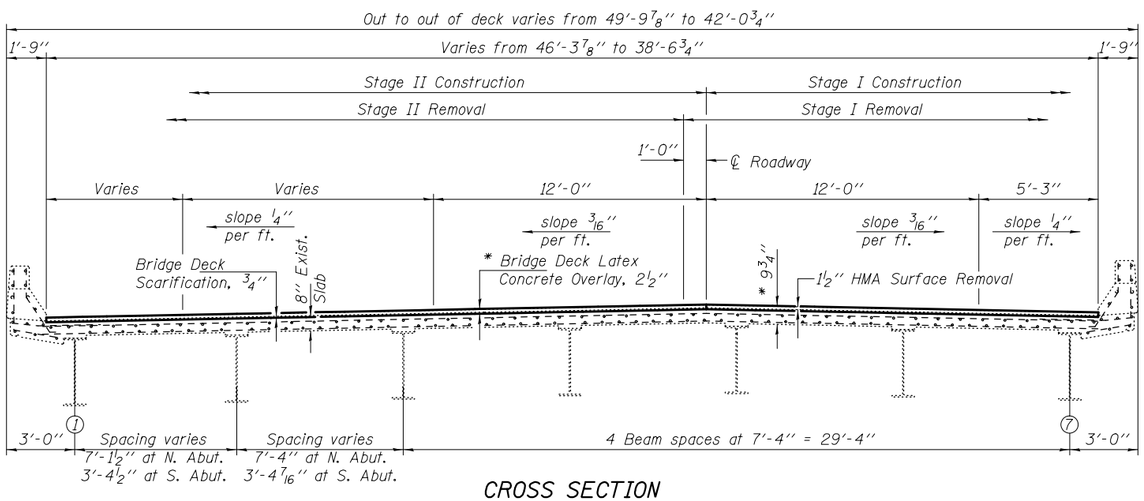
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	20	#5	14'-7''	———
a1(E)	40	#5	19'-3''	———
a4(E)	12	#6	4'-0''	———
d(E)	12	#4	4'-10''	L
d1(E)	12	#5	3'-8''	L
d2(E)	8	#4	2'-1''	⊓
h(E)	8	#6	16'-2''	———
h1(E)	16	#6	20'-3''	———
Concrete Removal			Cu. Yd.	16.5
Concrete Superstructure			Cu. Yd.	16.5
Reinforcement Bars, Epoxy Coated			Lbs.	1960

DESIGNED JSB	EXAMINED Timothy A. Sandt ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS SN 072-0129	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MLD					474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	84
DRAWN baliva	PASSED A Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 3 OF 14 SHEETS			CONTRACT NO. 68887		
CHECKED JSB MLD		REVISED				ILLINOIS	FED. AID PROJECT		

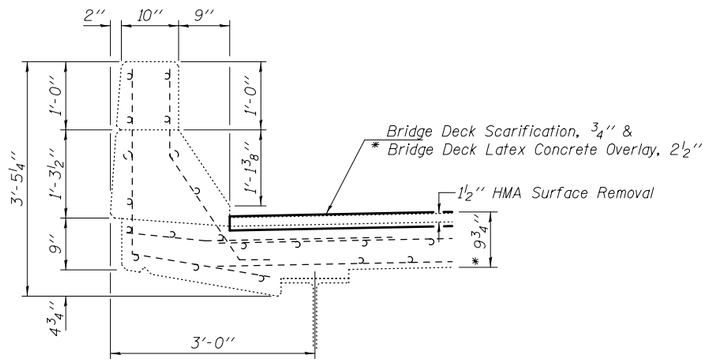


DECK REPAIR PLAN



CROSS SECTION

(Looking South)



SECTION THRU PARAPET

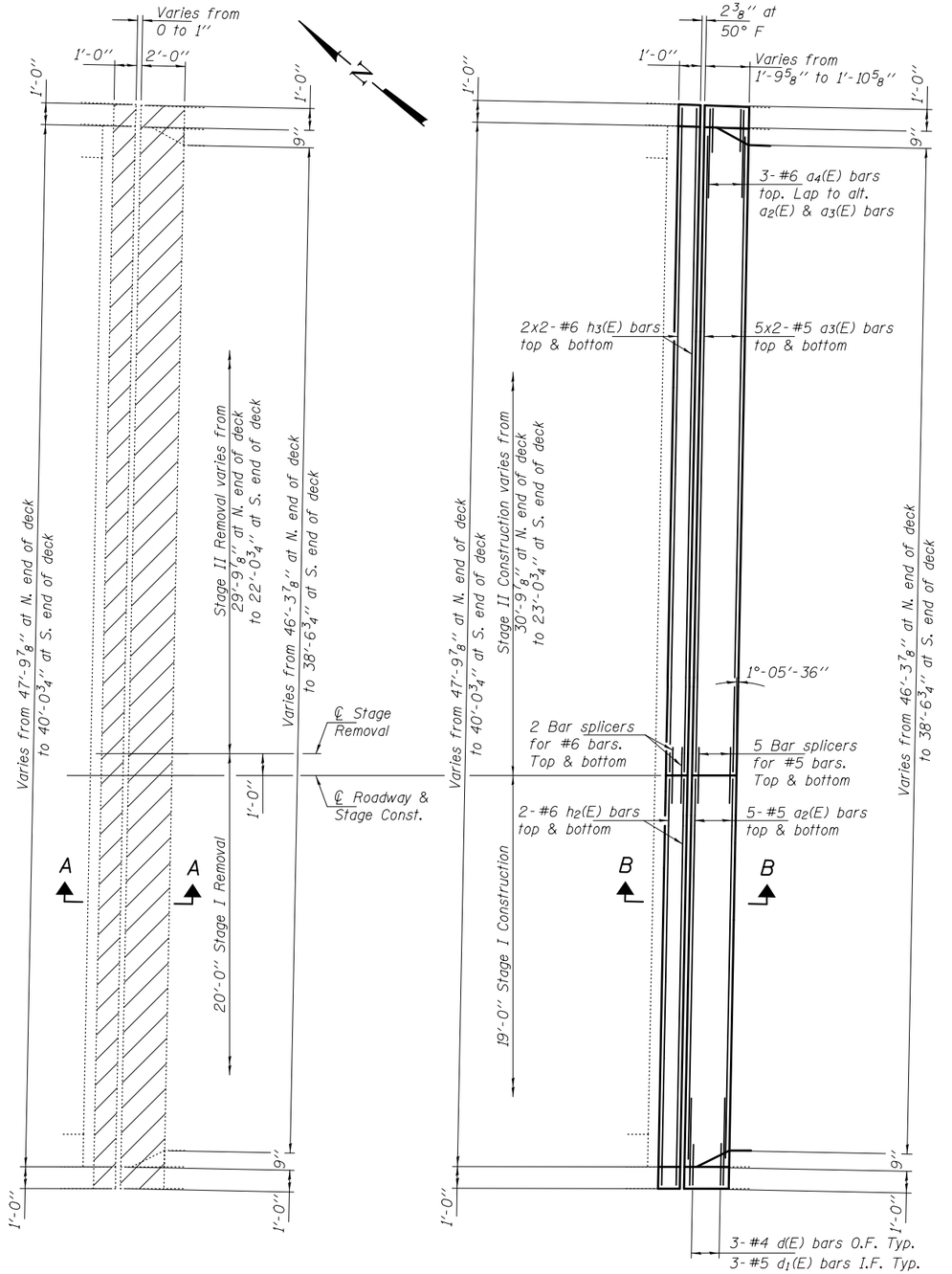
* Prior to 1/4" Diamond Grinding.

BILL OF MATERIAL

Item	Unit	Quantity
HMA Surface Removal, 1 1/2"	Sq. Yd.	984
Bridge Deck Scarification, 3/4"	Sq. Yd.	984
Bridge Deck Latex Concrete Overlay, 2 1/2"	Sq. Yd.	984
Diamond Grinding, 1/4"	Sq. Yd.	1012
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	706

DESIGNED JSB	EXAMINED Timothy A. Bradt ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED MLD	PASSED Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED	**BRIDGE DECK REPAIR DETAILS SN 072-0130**
DRAWN baliva		REVISED	SHEET NO. 4 OF 14 SHEETS
CHECKED JSB MLD			

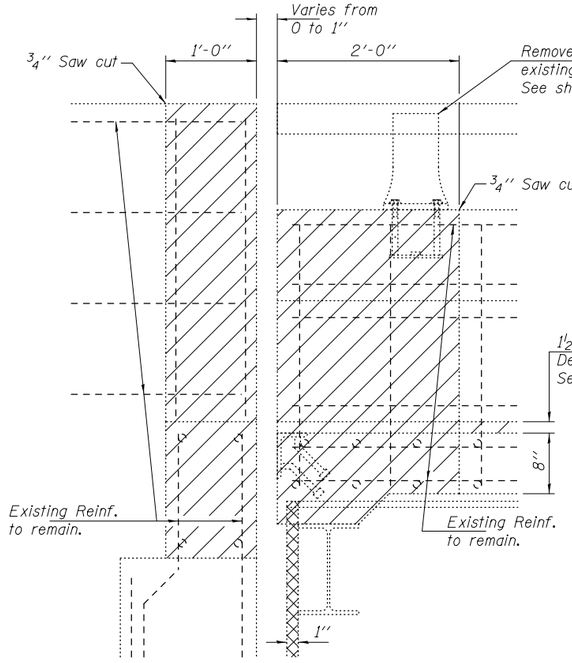
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	85
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



REMOVAL PLAN

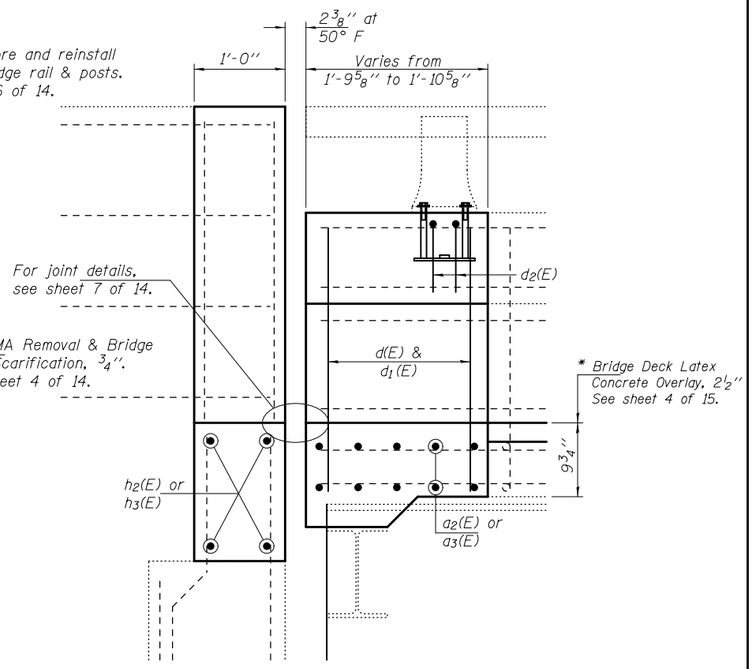
REPLACEMENT PLAN

Notes:
Hatched areas indicate removal.



SECTION A-A

(Dimensions are at RT L's to end of deck)

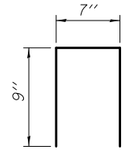


SECTION B-B

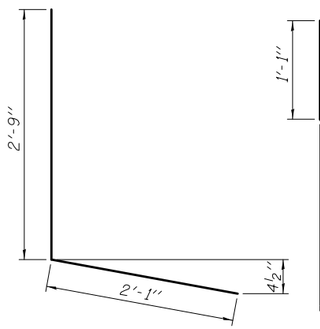
(Dimensions are at RT L's to end of deck)

* Prior to 1/4'' Diamond Grinding.

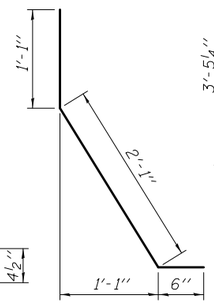
Crosshatched areas indicate removal. Removal to be done by plasma cutting. Grind removal surfaces smooth after removal. Cost included with Concrete Removal.



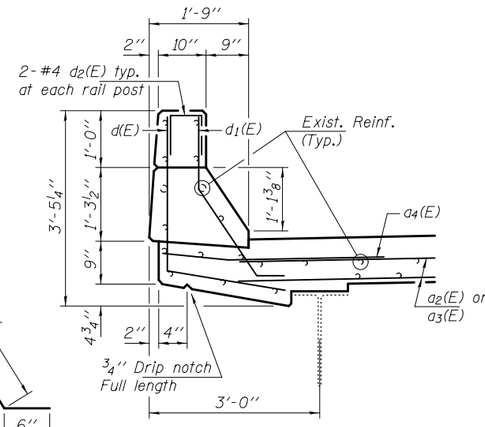
BAR d2(E)



BAR d(E)



BAR d1(E)



TYPICAL PARAPET SECTION

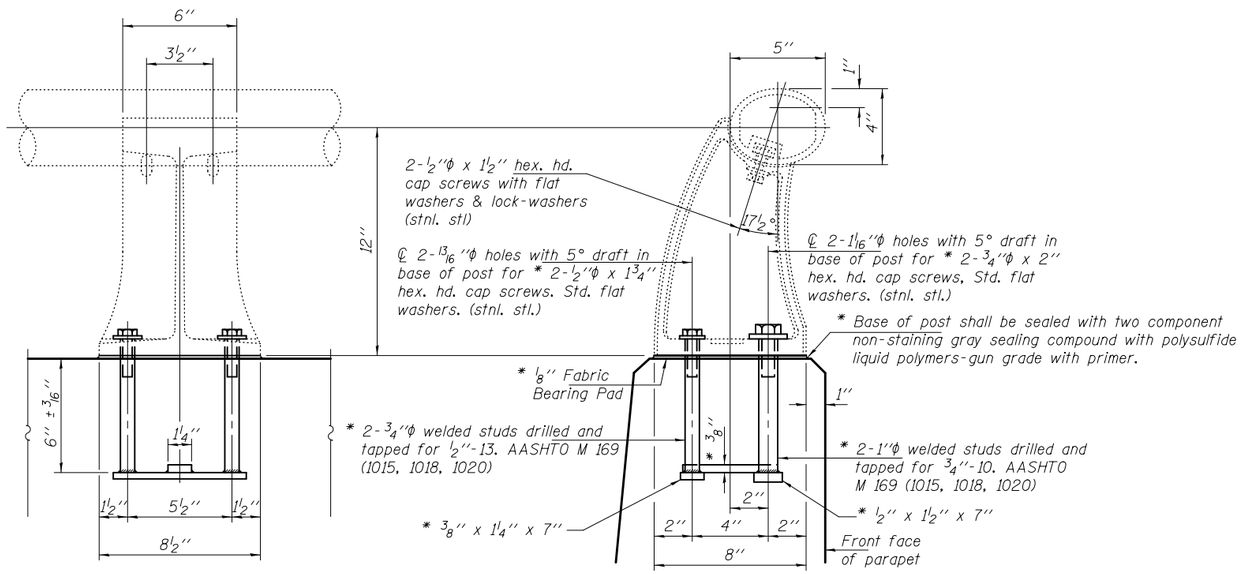
MIN. BAR LAPS

#5 Bar = 3'-6''
#6 Bar = 4'-0''

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	20	#5	17'-1''	
a3(E)	40	#5	16'-3''	
a4(E)	12	#6	4'-0''	
d(E)	12	#4	4'-10''	
d1(E)	12	#5	3'-8''	
d2(E)	8	#4	2'-1''	
h2(E)	8	#6	18'-8''	
h3(E)	16	#6	17'-3''	
Concrete Removal			Cu. Yd.	14.3
Concrete Superstructure			Cu. Yd.	14.3
Reinforcement Bars, Epoxy Coated			Lbs.	1840

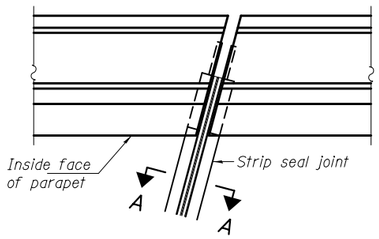
DESIGNED JSB	EXAMINED	Timothy A. Sandt	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REPAIR DETAILS SN 072-0130	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MLD		ENGINEER OF STRUCTURAL SERVICES				474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	86
DRAWN baliva	PASSED	A. Carl Ruzzy	REVISED		SHEET NO. 5 OF 14 SHEETS			CONTRACT NO. 68887		
CHECKED JSB MLD		ENGINEER OF BRIDGES AND STRUCTURES	REVISED				ILLINOIS FED. AID PROJECT			



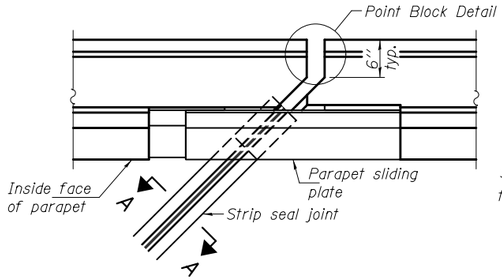
RAIL POST DETAILS

* New Rail Post anchorage devices will be required at each location where posts are connected to new construction. Cost included with Concrete Superstructure.

DESIGNED JSB	EXAMINED	Timothy A. Bradt ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**REPAIR DETAILS SN 072–0129 & 0130**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED MLD						474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	87
DRAWN baliva	PASSED	A Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 6 OF 14 SHEETS			CONTRACT NO. 68887		
CHECKED JSB MLD			REVISED					ILLINOIS FED. AID PROJECT		

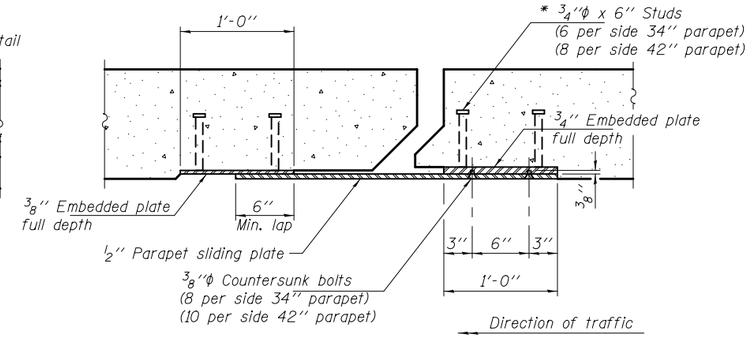


FOR SKEWS = 30°

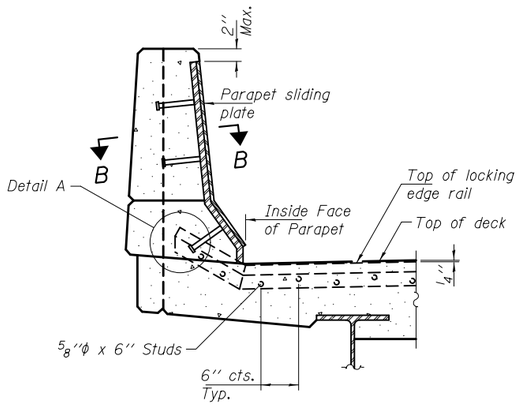


FOR SKEWS > 30°

PLAN AT PARAPET

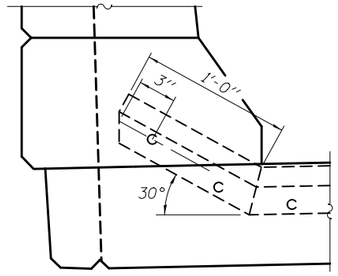


SECTION B-B

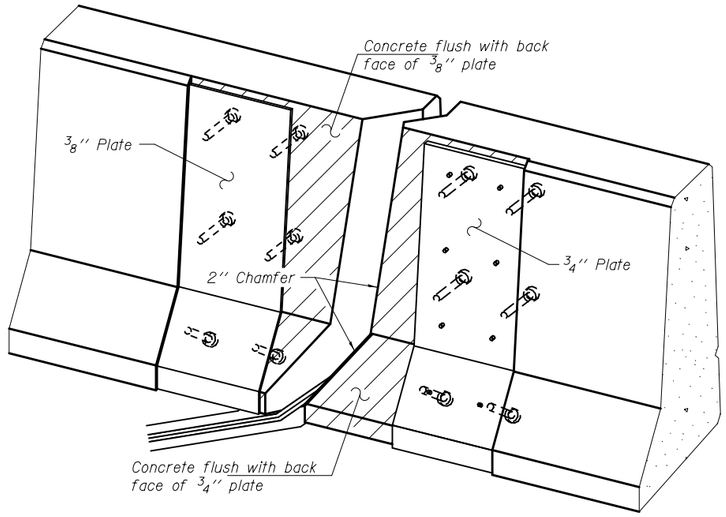


ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

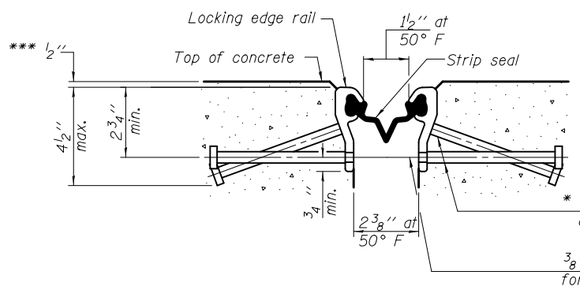
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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

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

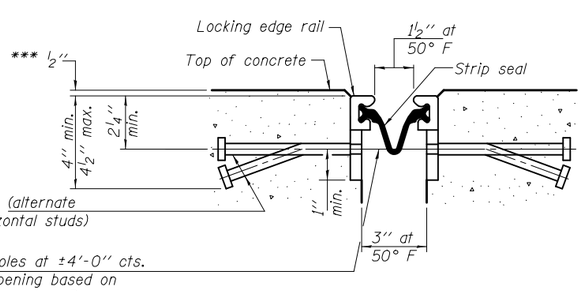
34'' F-shape barrier shown, 42'' F-shape similar as noted.

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



SHOWING ROLLED RAIL JOINT

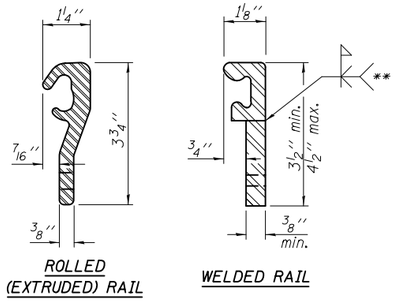
*** Prior to 1/4'' Diamond Grinding.



SHOWING WELDED RAIL JOINT

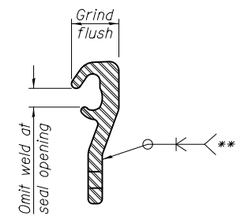
SECTION A-A

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



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.

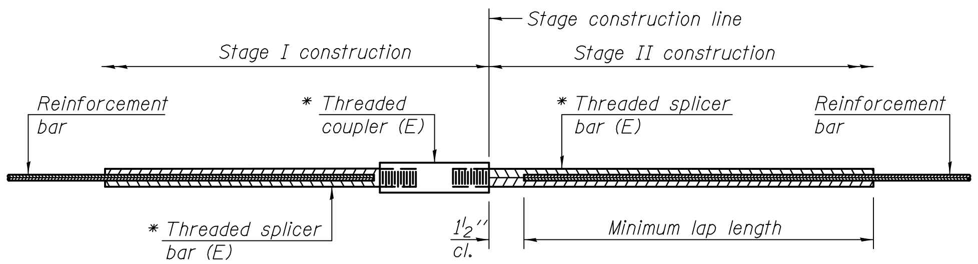
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	185

EJ-SS 8-11-17

DESIGNED JSB	EXAMINED	Timothy A. Daleiden ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL SN 072-0129 & 0130
CHECKED MLD	PASSED	A. Carl Peery ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 7 OF 14 SHEETS
DRAWN baliva			REVISED		
CHECKED JSB MLD					

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	88
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1½″ + thread length

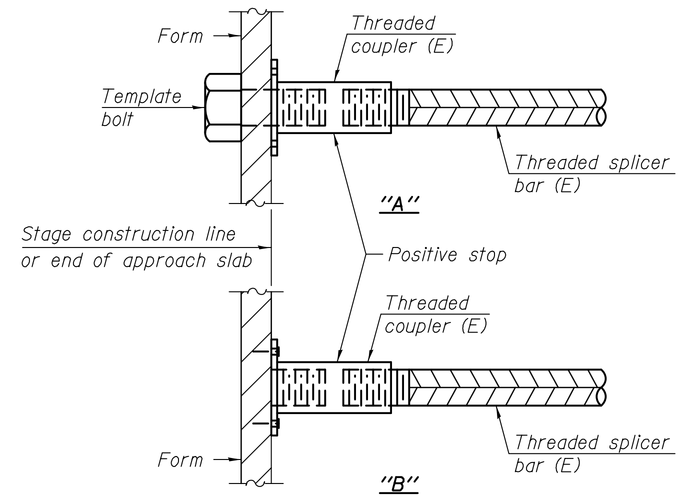
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

SN 072-0129

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. (Deck)	#5	10	3′-6″
N. Abut. (HB)	#6	4	4′-0″
S. Abut. (Deck)	#5	10	3′-6″
S. Abut. (HB)	#6	4	4′-0″

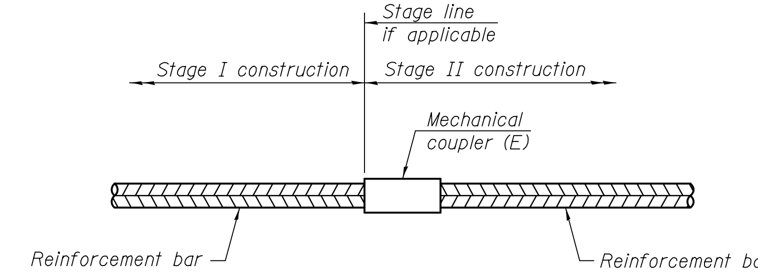
SN 072-0130

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. (Deck)	#5	10	3′-6″
N. Abut. (HB)	#6	4	4′-0″
S. Abut. (Deck)	#5	10	3′-6″
S. Abut. (HB)	#6	4	4′-0″



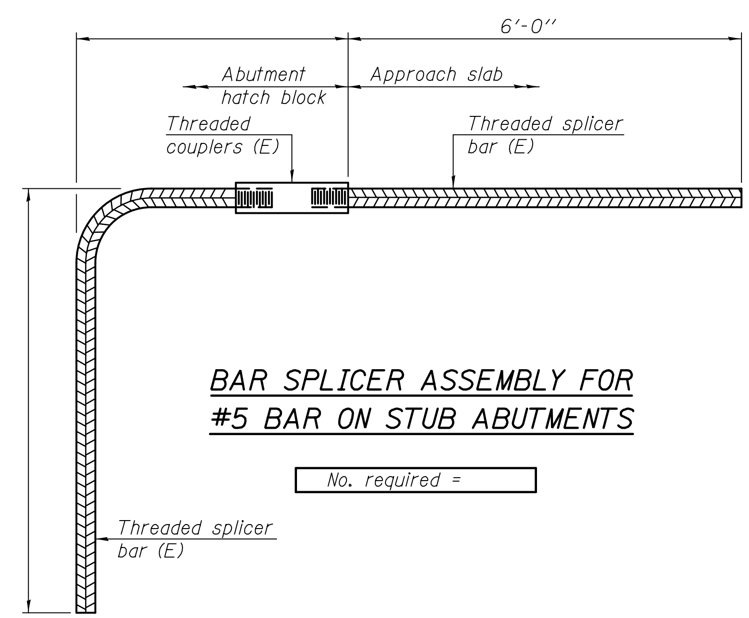
INSTALLATION AND SETTING METHODS

"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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 6-8-15

DESIGNED JSB	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED MLD			
DRAWN baliva	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB MLD			REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

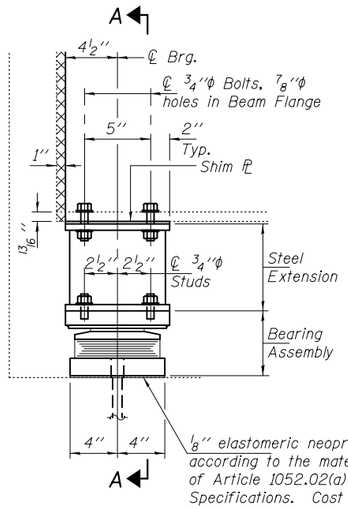
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 072–0129 & 0130

SHEET NO. 8 OF 14 SHEETS

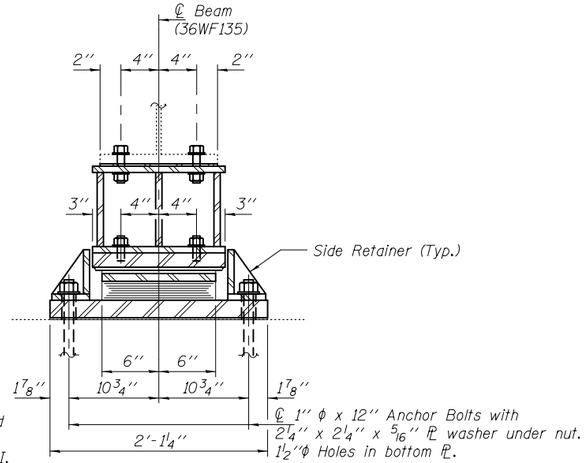
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	89

CONTRACT NO. 68887

ILLINOIS FED. AID PROJECT



ELEVATION AT ABUTMENT



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

Crosshatched areas indicate removal.
See sheet 3 of 14 for SN 072-0129.
See sheet 5 of 14 for SN 072-0130.

BEAM REACTIONS

		SN 072-0129		SN 072-0130	
		N. Abut.	S. Abut.	N. Abut.	S. Abut.
RP	(K)	18.3	23.1	17.2	21.6
RL	(K)	37.2	38.9	35.1	36.4
Imp.	(K)	11.2	11.5	62.8	10.8
R (Total)	(K)	66.7	73.5	66.7	68.8

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

Min. jack capacity = 35 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

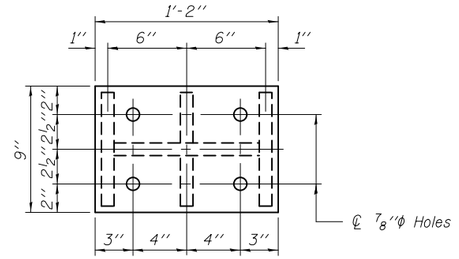
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

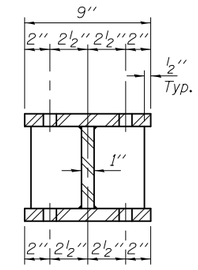
The ⅛'' PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛'' PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

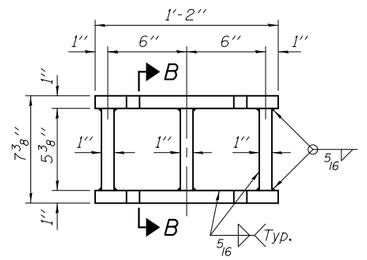
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable.



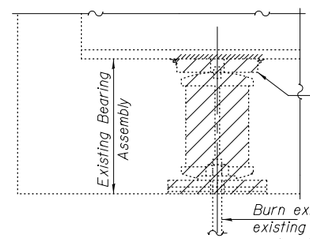
PLAN TOP AND BOTTOM PLATE



SECTION B-B

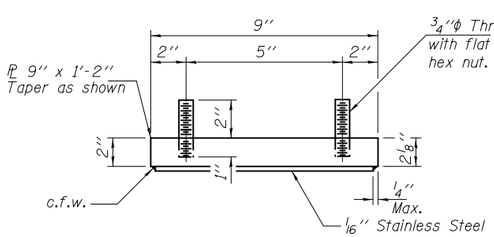


STEEL EXTENSION DETAIL

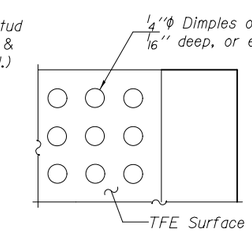


EXISTING BEARING REMOVAL DETAIL

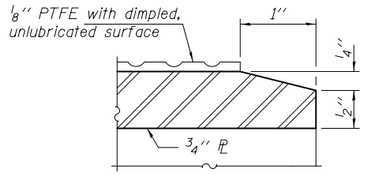
Cost included with Jack and Remove Existing Bearings.



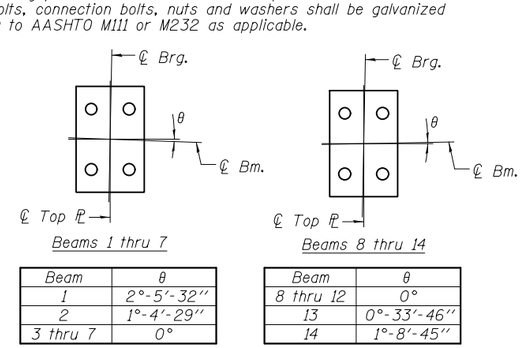
TOP BEARING ASSEMBLY

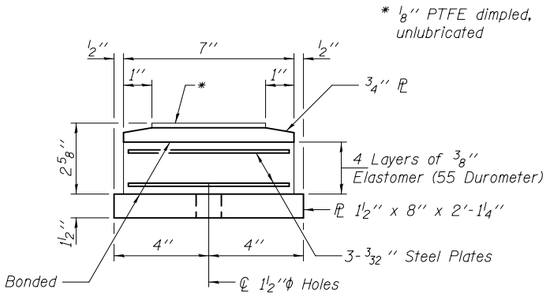


PLAN-PTFE SURFACE

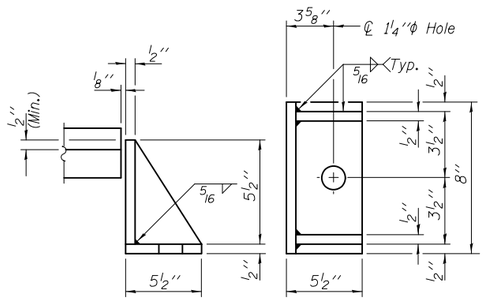


SECTION THRU PTFE



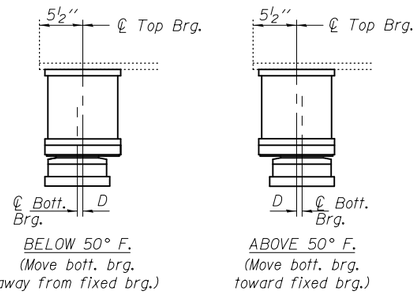


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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



SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛'' per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	28
Jack and Remove Existing Bearings	Each	28
Furnishing and Erecting Structural Steel	Pound	3510
Anchor Bolts 1''ϕ	Each	56

TYII/REPS 12-03-2008

DESIGNED JSB	EXAMINED	Timothy A. Sheldt ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED MLD	PASSED	Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN baliva			REVISED	
CHECKED JSB MLD				

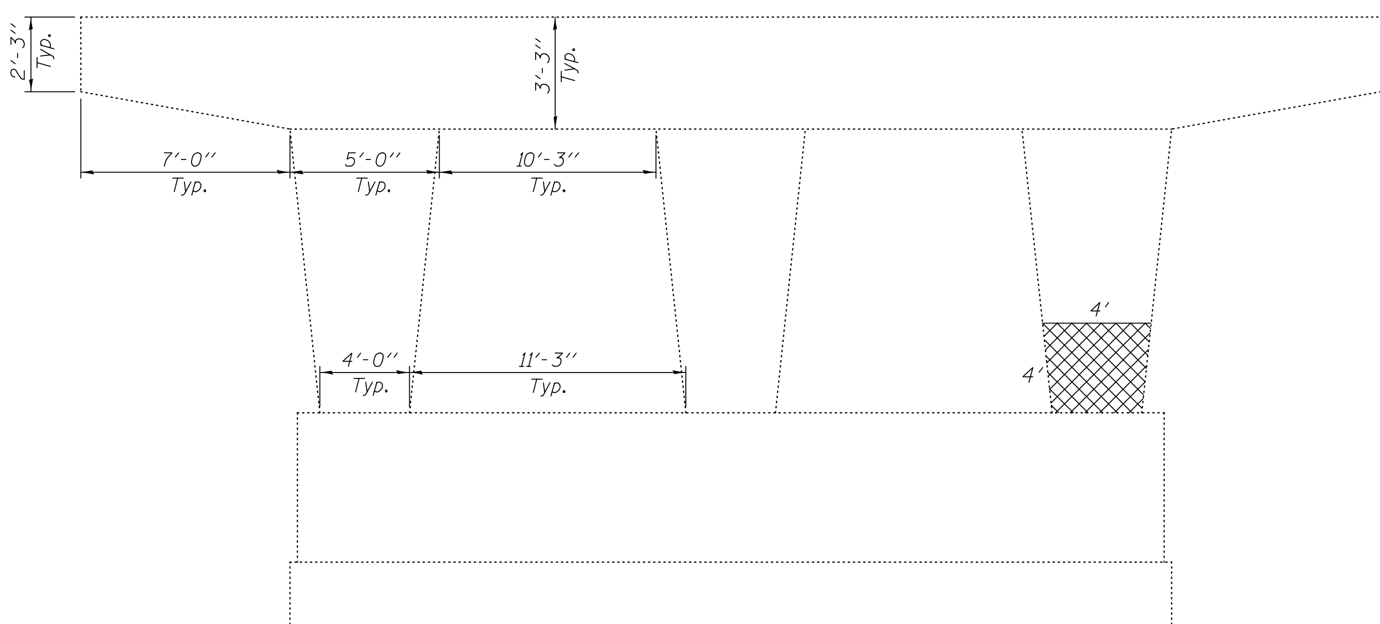
ABUTMENT BEARING REPLACEMENT DETAILS SN 072–0129 & 0130

SHEET NO. 9 OF 14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	90
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

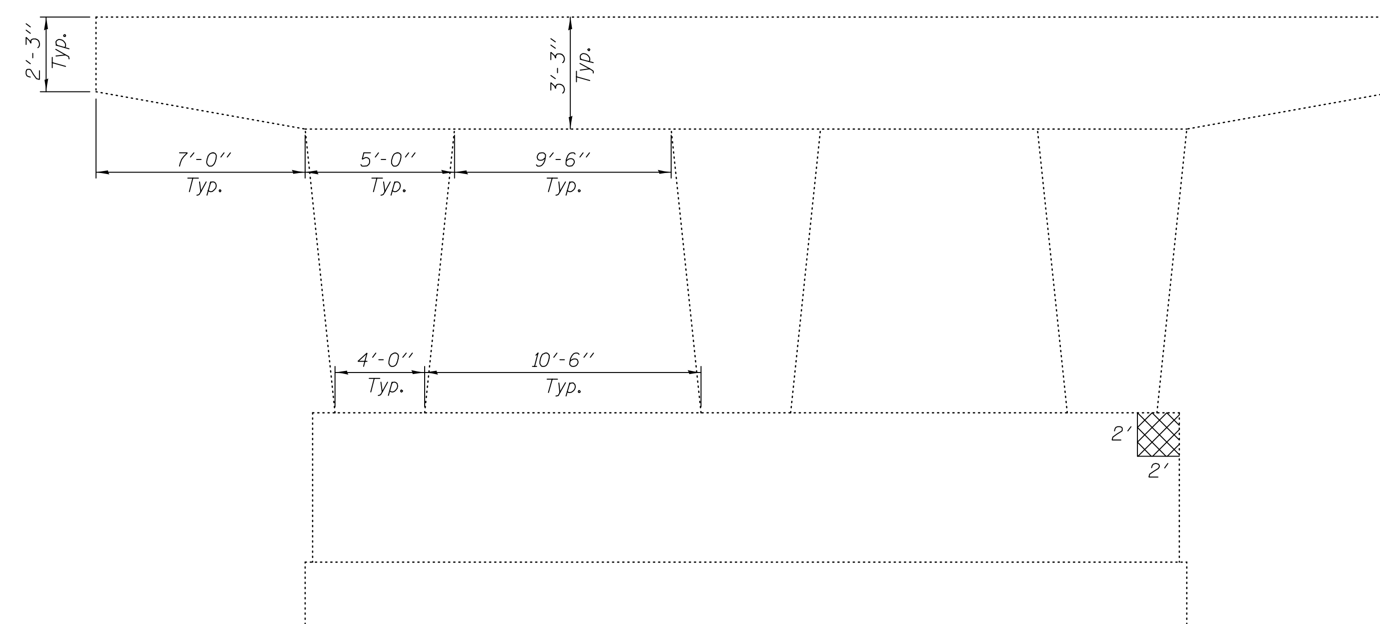
ELEVATION SOUTH ABUTMENT

(Looking South)



ELEVATION PIER 1

(Looking North)



ELEVATION PIER 2

(Looking South)

Crosshatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018
CHECKED MLD			
DRAWN baliva	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED JSB MLD			REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

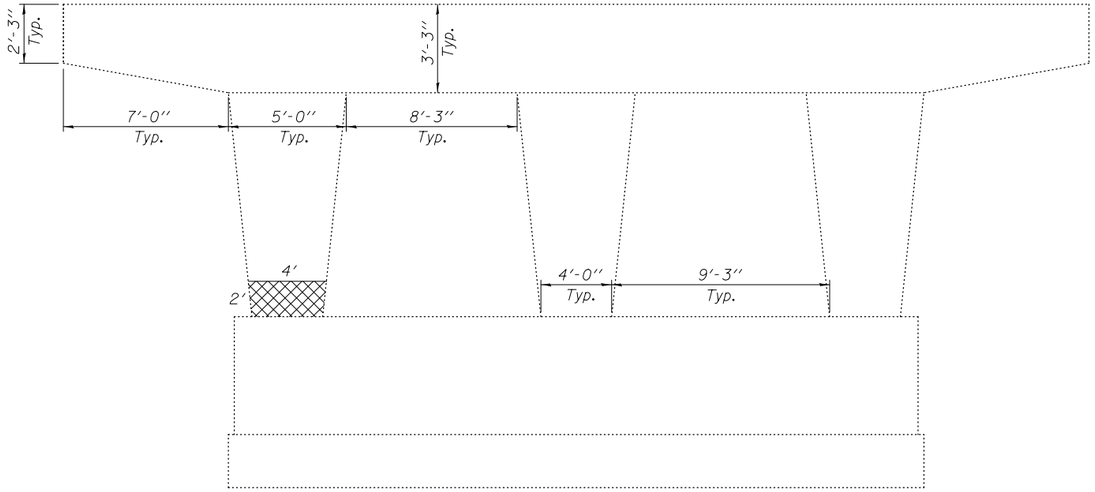
SUBSTRUCTURE REPAIR DETAILS
SN 072–0129

SHEET NO. 10 OF 14 SHEETS

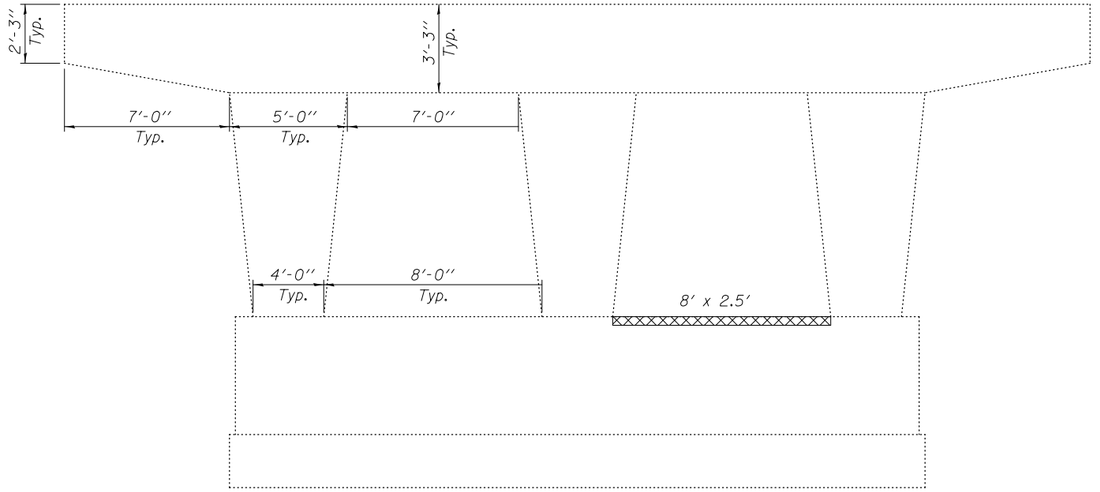
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4IHB,HVB-1,HVBIB-R	PEORIA	196	91

CONTRACT NO. 68887

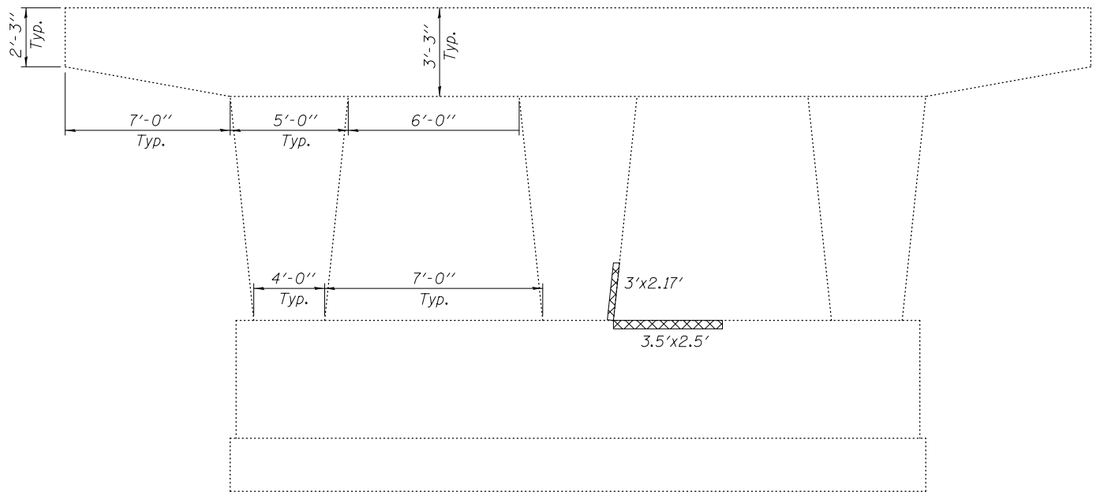
ILLINOIS FED. AID PROJECT



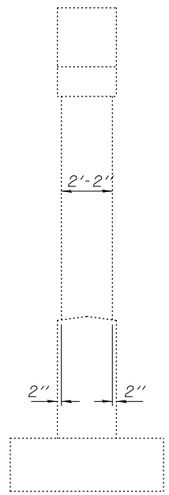
ELEVATION PIER 1
(Looking North)



ELEVATION PIER 2
(Looking North)



ELEVATION PIER 3
(Looking South)



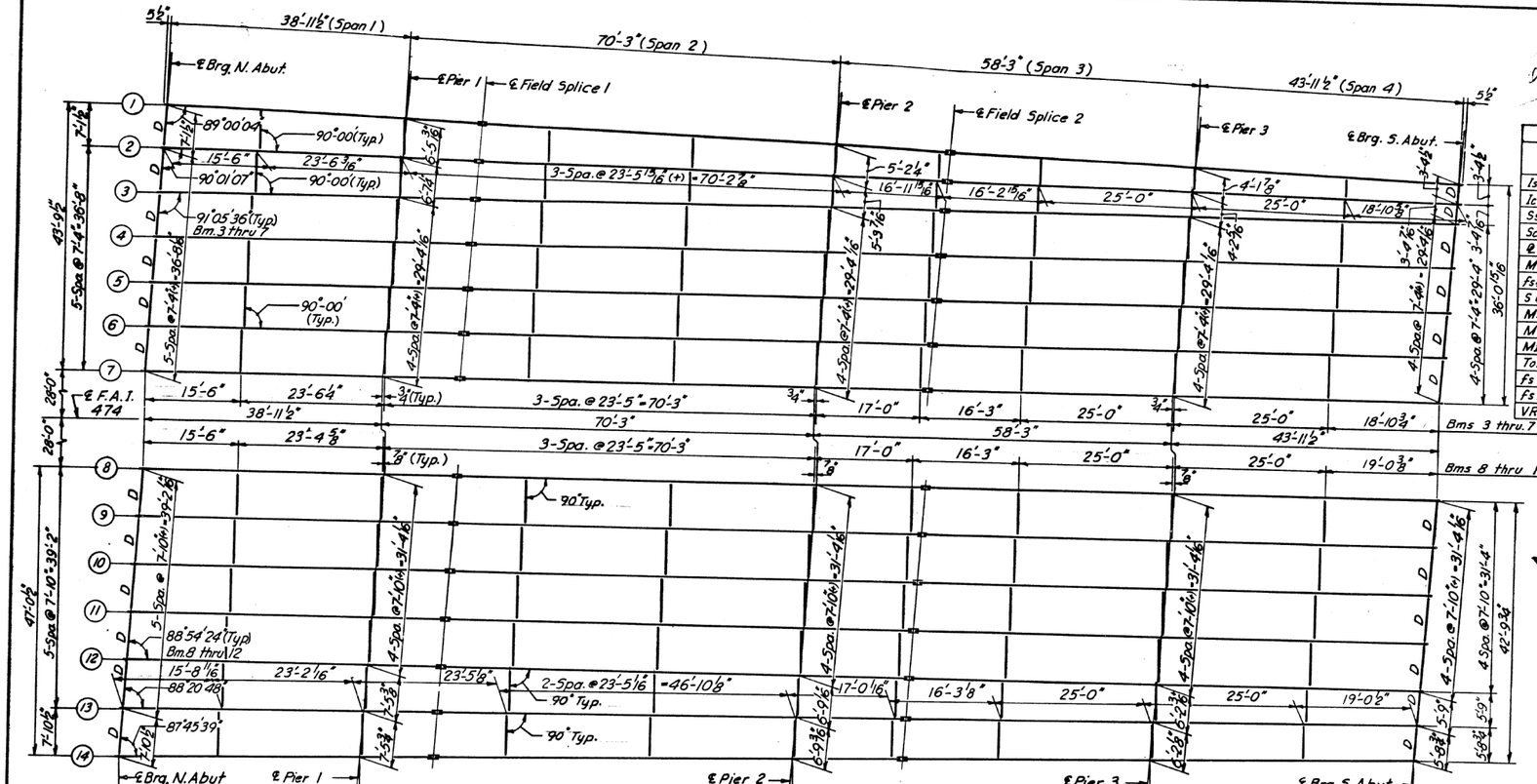
TYP. END SECTION

Crosshatched areas indicate
Structural Repair of Concrete (Depth ≤ 5")

DESIGNED JSB	EXAMINED	Timothy A. Sholty	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUBSTRUCTURE REPAIR DETAILS SN 072–0129
CHECKED MLD		ENGINEER OF STRUCTURAL SERVICES			
DRAWN baliva	PASSED	N Carl Tromp	REVISED		SHEET NO. 11 OF 14 SHEETS
CHECKED JSB MLD		ENGINEER OF BRIDGES AND STRUCTURES	REVISED		

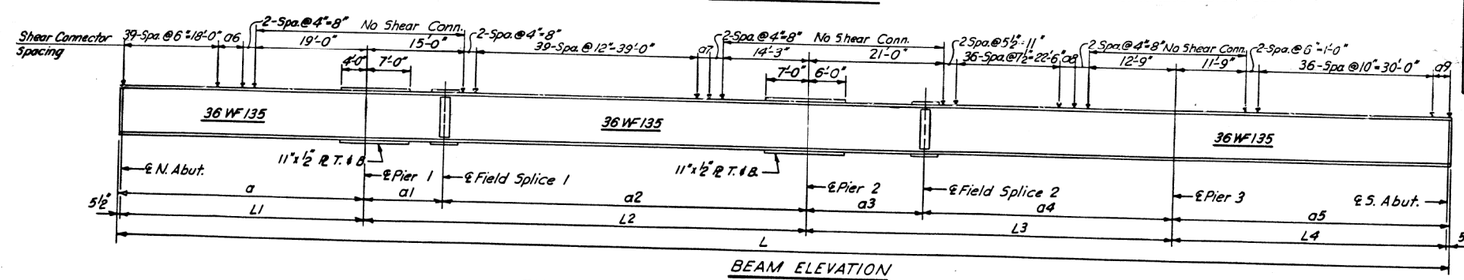
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	92
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.–474	72-4HB	PEORIA	76	23
FED. ROAD DIV. NO. 7	ILLINOIS	PROJECT		



FRAMING PLAN

Note: All Diaphragm DI unless otherwise noted. See Sh. 5



BEAM ELEVATION

INTERIOR BEAM MOMENT TABLE

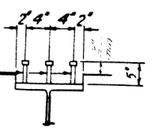
		0.4 SPAN 1		PIER 1		0.5 SPAN 2		PIER 2		0.5 SPAN 3		PIER 3		0.6 SPAN 4	
		N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.
Is	(in⁴)	7,820	7,820	11,370	11,370	7,820	7,820	11,370	11,370	7,820	7,820	7,820	7,820	7,820	7,820
Ic	(in⁴)	21,353	21,686	—	—	21,353	21,686	—	—	21,353	21,686	—	—	21,353	21,686
Ss	(in³)	440	440	623	623	440	440	623	623	440	440	440	440	440	440
Sc	(in³)	653	663	—	—	653	663	—	—	653	663	—	—	653	663
ℓ	(ᵐ/₁)	.927	.977	.927	.977	.927	.977	.927	.977	.927	.977	.927	.977	.927	.977
Ms	(ik)	32.9	34.7	338.9	357.1	213.8	225.3	377.1	397.4	87.8	92.6	233.5	246.1	121.1	127.7
Fsℓ	(ksi)	.9	1.0	6.5	6.9	5.8	6.2	7.2	7.6	2.4	2.5	6.4	6.7	3.3	3.5
Sℓ	(in³)	381	420	381	420	381	420	381	420	381	420	381	420	381	420
Msℓ	(ik)	25.6	28.2	108.9	120.1	118.5	130.6	124.0	136.7	61.4	67.7	76.2	84.0	57.6	63.5
Ms	(ik)	248	266	258	276	440	466	255	273	356	381	195	208	296	316
Mmax	(ik)	77.0	81.0	71.9	76.1	111.4	122.6	68.4	72.2	98.5	104.2	55.9	59.8	87.9	93.8
Total	(ik)	350.8	375.2	438.8	472.2	669.9	719.2	447.4	481.9	515.9	552.9	327.1	351.8	441.5	473.3
Fs	(ksi)	6.4	6.8	8.5	9.1	12.3	12.9	8.6	9.3	9.5	9.9	9.0	9.7	8.1	8.5
Fs total	(ksi)	7.3	7.8	15.0	16.0	18.1	19.1	15.8	16.9	11.9	12.4	15.4	16.4	11.4	12.0
VR	(k)	49.7	53.1	—	—	55.0	58.7	—	—	55.1	58.8	—	—	51.7	55.2

INTERIOR BEAM REACTION TABLE

		N. ABUT.		PIER 1		PIER 2		PIER 3		S. ABUT.	
		N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.	N.B.	S.B.
Rℓ	(k)	17.2	18.3	82.0	87.5	87.9	93.8	70.4	75.2	21.6	23.1
Rs	(k)	35.1	37.2	46.2	49.4	47.2	50.1	44.7	47.8	36.4	38.9
Rmm	(k)	10.7	11.7	12.9	13.7	12.6	13.7	12.8	13.6	10.7	11.3
R total	(k)	63.0	67.2	141.1	150.6	147.7	157.6	127.9	136.6	68.7	73.3

BEAM SCHEDULE

Beam	L	L1	L2	L3	L4	a	a1	a2	a3	a4	a5	a6	a7	a8	a9
①	212'-4"	38'-11½"	70'-3"	58'-3"	43'-11½"	39'-5"	12'-6"	57'-9"	18'-6"	39'-9"	44'-5"	1'-3½"	8"	5"	1'-2½"
②	212'-3 9/16"	38'-11 7/16"	70'-2 7/8"	58'-2 7/8"	43'-11 3/8"	39'-4 15/16"	12'-6"	57'-8 7/8"	18'-5 15/16"	39'-8 15/16"	44'-4 7/8"	1'-3 7/16"	7 7/8"	4 7/8"	1'-2 3/8"
③ thru ⑫	212'-4"	38'-11½"	70'-3"	58'-3"	43'-11½"	39'-5"	12'-6"	57'-9"	18'-6"	39'-9"	44'-5"	1'-3½"	8"	5"	1'-2½"
⑬	212'-4 11/16"	38'-11 5/8"	70'-3 1/4"	58'-3 5/16"	43'-11 3/8"	39'-5 1/16"	12'-6 1/16"	57'-9 3/16"	18'-6 1/16"	39'-9 1/16"	44'-5 1/2"	1'-3 5/8"	8 1/4"	5 3/16"	1'-2 11/16"
⑭	212'-5 3/8"	38'-11 3/8"	70'-3 7/16"	58'-3 3/8"	43'-11 3/8"	39'-5 3/4"	12'-6 1/16"	57'-9 3/8"	18'-6 3/8"	39'-9 1/4"	44'-5 5/16"	1'-3 3/4"	8 1/16"	5 3/8"	1'-2 13/16"



¾"ø 5" CR1020 STL Granular Flux filled headed studs automatically end welded

SHEAR CONNECTOR DETAIL

Required : 7,140

TOP OF BEAM ELEVATIONS FOR FABRICATION (DEFLECTION NOT INCLUDED)

	BEAM ①	BEAM ②	BEAM ③	BEAM ④	BEAM ⑤	BEAM ⑥	BEAM ⑦	BEAM ⑧	BEAM ⑨	BEAM ⑩	BEAM ⑪	BEAM ⑫	BEAM ⑬	BEAM ⑭
℄ Brg. N. Abut.	481.32	481.45	481.58	481.70	481.77	481.65	481.52	481.50	481.65	481.77	481.65	481.51	481.36	481.20
℄ Brg. Pier 1	481.83	481.96	482.09	482.21	482.28	482.16	482.03	482.01	482.16	482.28	482.16	482.02	481.87	481.71
℄ Field Splice 1	482.00	482.13	482.26	482.38	482.45	482.33	482.20	482.18	482.33	482.45	482.33	482.19	482.04	481.88
℄ Brg. Pier 2	482.72	482.85	482.98	483.10	483.17	483.05	482.92	482.90	483.05	483.17	483.05	482.91	482.76	482.60
℄ Field Splice 2	482.95	483.08	483.21	483.33	483.40	483.28	483.15	483.13	483.28	483.40	483.28	483.14	482.99	482.83
℄ Brg. Pier 3	483.41	483.54	483.67	483.79	483.86	483.74	483.61	483.59	483.74	483.86	483.74	483.60	483.45	483.29
℄ Brg. S. Abut.	483.91	484.04	484.17	484.29	484.36	484.24	484.11	484.09	484.24	484.36	484.24	484.10	483.95	483.79

DESIGNED BY J.J.
DRAWN BY W.E.
CHECKED BY A.T.

FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
STRUCTURAL STEEL
F.A.I ROUTE 474
OVER
F.A. ROUTE 10 (ADAMS STREET)
STA. 378+49.70
F.A.I. RT. 474 PEORIA COUNTY SECTION 72-4HB

CHRISTIAN-ROGE AND ASSOC. ENGINEERS
CHICAGO, ILLINOIS

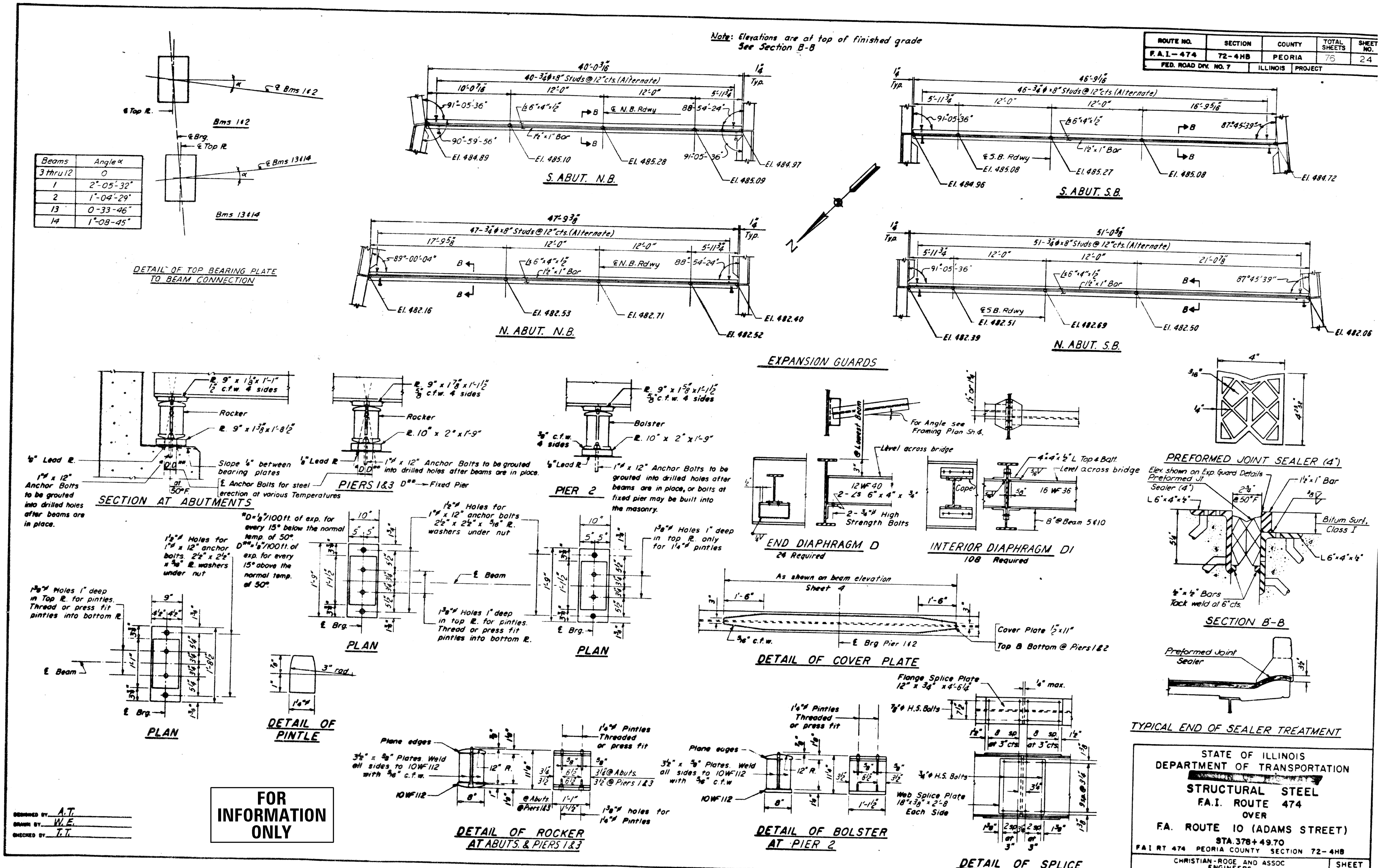
SHEET 4 OF 22

DESIGNED	JSB	EXAMINED	Timothy A. Sheldahl, ENGINEER OF STRUCTURAL SERVICES
CHECKED	MLD	PASSED	Carl Puzey, ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	baliva	DATE	JANUARY 31, 2018
CHECKED	JSB MLD	REVISED	
		REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS
SN 072–0129 & 0130
SHEET NO. 12 OF 14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	93
		CONTRACT NO. 68887		
	ILLINOIS	FED. AID PROJECT		

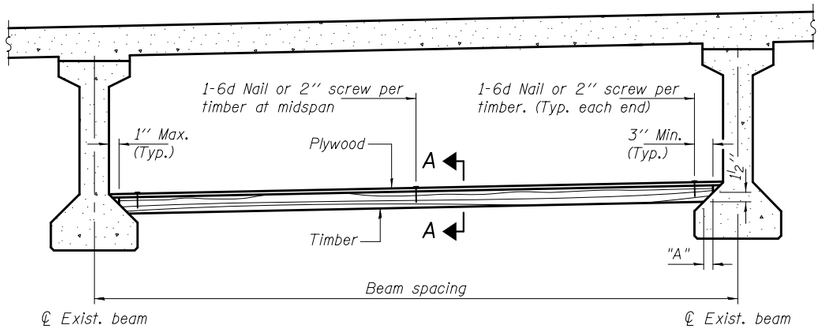


DESIGNED JSB	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED MLD			REVISED	
DRAWN baliva	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED JSB MLD				

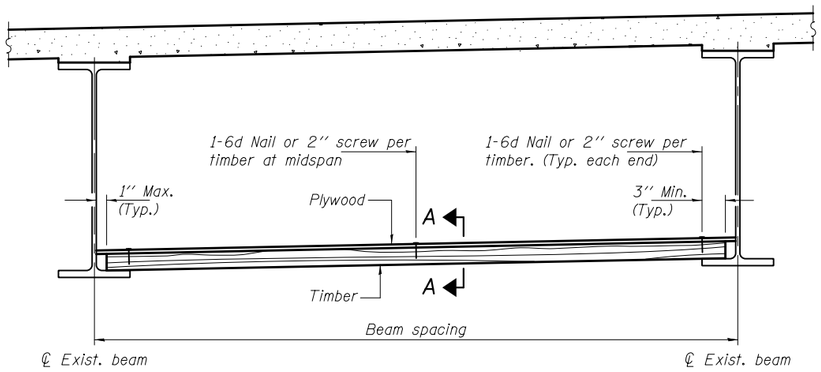
DETAILS
SN 072-0129 & 0130
SHEET NO. 13 OF 14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4HB,HVB-1,HVBIB-R	PEORIA	196	94

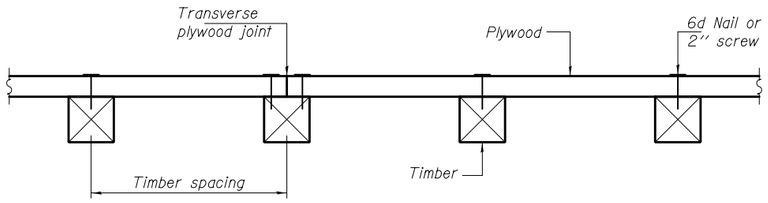
CONTRACT NO. 68887
ILLINOIS FED. AID PROJECT



PPC I-BEAMS AND BULB-T's



STEEL BEAMS



SECTION A-A

TIMBER SPACING

Beam Spacing (ft.)	Timber Sizes (in.) 4'' x 4'' with min. Fb=775 psi Fv=135 psi	4'' x 6'' with min. Fb=775 psi Fv=135 psi	6'' x 6'' with min. Fb=575 psi Fv=125 psi
	Maximum Timber Spacing (in.)		
4.5	16	16	16
4.75	16	16	16
5.0	16	16	16
5.25	16	16	16
5.5	16	16	16
5.75	16	16	16
6.0	16	16	16
6.25	12	16	16
6.5	12	16	16
6.75	12	16	16
7.0	8	16	16
7.25	8	16	16
7.5	8	16	16
7.75	8	16	16
8.0	8	12	16
8.25	8	12	16
8.5	6	12	12
8.75	6	12	12
9.0	6	8	12

Notes: See special provision for Permanent Protective Shield System.

Timber sizes shown are nominal sizes. Rough sawn timber of the dimensions shown will also be considered acceptable.

The minimum Fb and Fv values shown are the tabulated design values given in the National Design Specification for Wood Construction for No. 2 Spruce-Pine-Fir without adjustment factors applied. Better grades or other species with equal or higher allowable stresses will also be considered acceptable.

The timber spacings shown have been determined using allowable stresses with all adjustment factors necessary for the anticipated service conditions.

All timber shall be treated.

Plywood shall be $\frac{5}{8}$'' rated Exterior type plywood by APA.

Plywood shall be placed such that the face grain is perpendicular to the timber supports. When less than a full sheet (4' width) of plywood is used, the width of the strip used shall not be less than 2'.

Transverse plywood joints shall be supported by timbers.

When 4'' x 6'' timbers are used, they shall be placed such that the wide face is horizontal and the narrow face is vertical.

Design load = 200 psf.

PPC I-BEAMS AND BULB-T's

BEAM	"A"
36'' I-Beam	$1\frac{1}{2}$''
42'' I-Beam	$1\frac{1}{2}$''
48'' I-Beam	$1\frac{1}{2}$''
54'' I-Beam	$1\frac{5}{8}$''
63'' Bulb-T	$3\frac{3}{8}$''
72'' Bulb-T	$3\frac{3}{8}$''

BILL OF MATERIAL

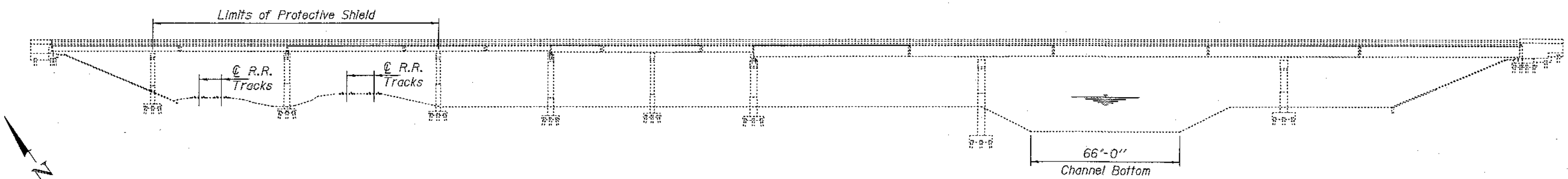
Item	Unit	Total
Protective Shield (Permanent)	Sq. Yd.	1380

PPS-1 01-22-09

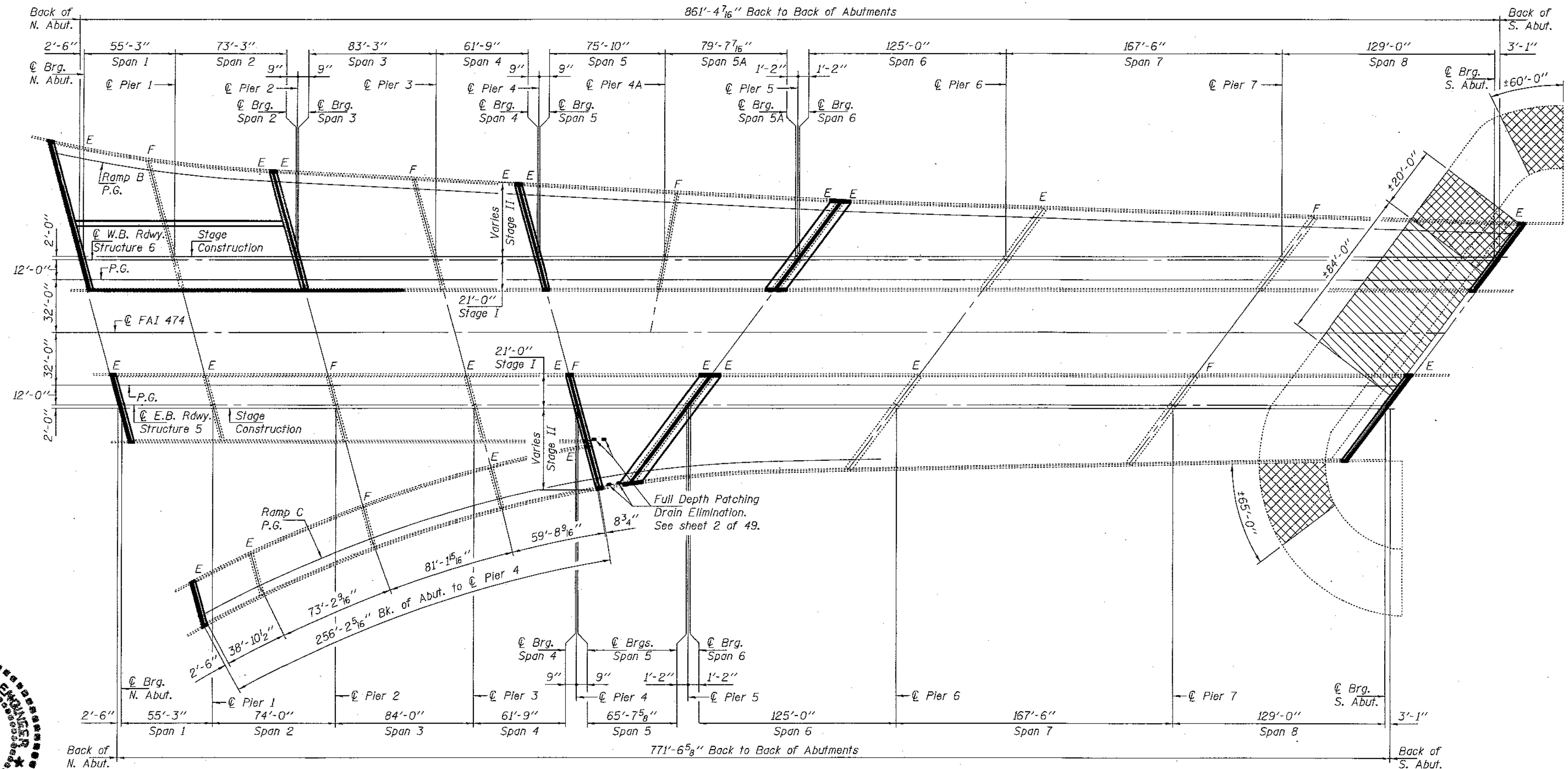
DESIGNED JSB	EXAMINED	DATE JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED MLD	ENGINEER OF STRUCTURAL SERVICES		
DRAWN baliva	PASSED	REVISED	
CHECKED JSB MLD	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	

SUBSTRUCTURE REPAIR DETAILS
SN 072–0129
SHEET NO. 14 OF 14 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB,HVB-1,HVB)B-R	PEORIA	196	95
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

Hatched areas indicate Slopewall Replacement.
(See Detail A sheet 2 of 49.)
Cross-hatched areas indicate Slopewall Slurry Pumping.

LICENSED STRUCTURAL ENGINEER
DAVID CARL PUZEY
081-005470
SPRINGFIELD ILLINOIS
STATE OF ILLINOIS

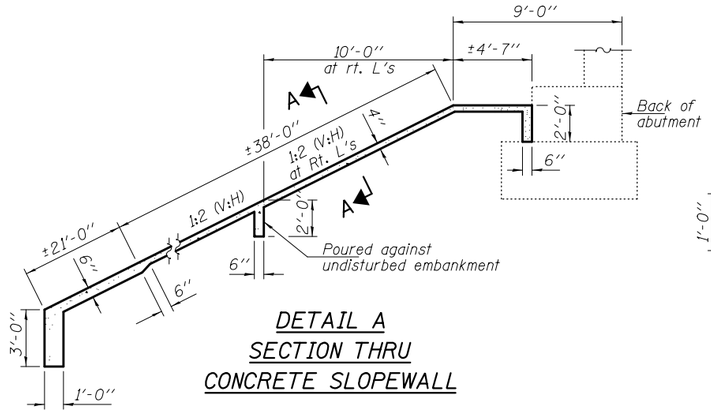
Expires: November 30, 2018

DESIGNED - Stephen M. Ryan	EXAMINED — ENGINEER OF STRUCTURAL SERVICES	DATE - JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - Ryan Nezgodzki	PASSED — ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN - Kyle M. Steffen		REVISED	
CHECKED - SMR RPN			

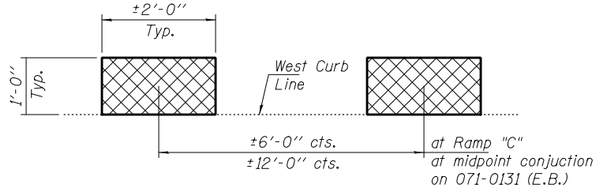
GENERAL PLAN & ELEVATION
F.A.I. ROUTE 474 & RAMPS B & C OVER KICKAPOO CREEK & RAILROAD
SN 072-0131 (E.B.) & -0132 (W.B.)
SHEET NO. 1 OF 49 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB, HVB-1, HVB)B-R	PEORIA	196	96

CONTRACT NO. 68887
ILLINOIS | FED. AID PROJECT

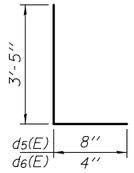


DETAIL A SECTION THRU CONCRETE SLOPEWALL

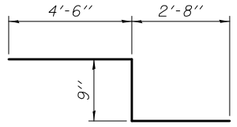


PLAN VIEW OF DECK SLAB REPAIR SPAN 5, E.B. ROADWAY

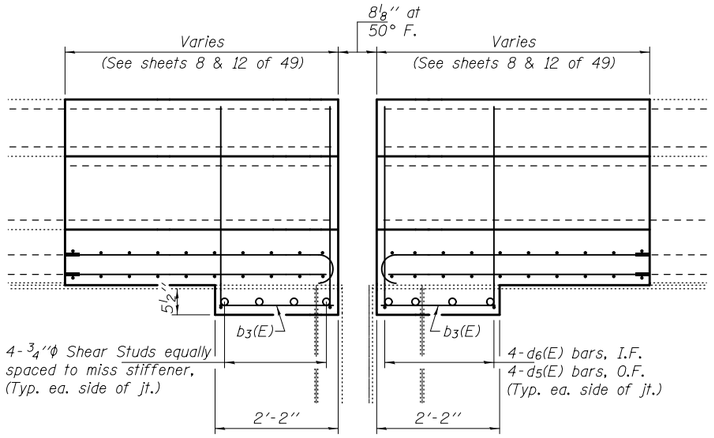
Cross hatched areas indicate Deck Slab Repair (Full Depth, Type I).



BARS $d_5(E)$ & $d_6(E)$



BAR z(E)

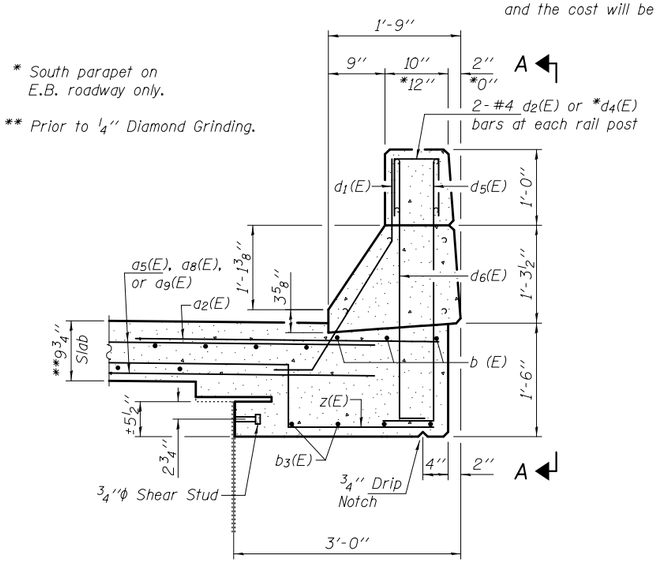


VIEW A-A

Dims. at Rt. ℄ to ℄ Joint.

* South parapet on E.B. roadway only.

** Prior to 1/4" Diamond Grinding.



TYPICAL SECTION THRU PARAPET AT PIER 5

GENERAL NOTES

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

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.

Fasteners shall be high strength bolts. Bolts $^{3}/_{4}$"ϕ, open holes $^{13}/_{16}$"ϕ, unless otherwise noted.

Reinforcement bars designated (E) shall be epoxy coated.

Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.

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

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Cleaning and painting of the existing structural steel shall be specified in the Special Provision for "Cleaning and Painting existing steel structures". Areas to be cleaned and painted shall consist of all beam ends and all other structural steel within 5 feet longitudinally at each abutment and 5 feet each way of each deck expansion joints and shall be measured 5 feet from the centerline of bearing. Also included shall be the fascia beam including the bottom of the bottom flange for the entire length of each structure.

All areas to be painted shall be cleaned per near white blast cleaning per SSPC - SP 10. The paint system used shall be paint system 1 - OZ / E / U. The finish coat shall be Warm Gray Munsell Number 2.5Y 5/1.

Containment and disposal as specified shall follow the special provision for "Containment and Disposal of Lead Paint Blast Residue". The use of 2 air monitors shall be used for this project. The painting contractor shall be SSPC - QP 1 and QP 2 certified for this project and shall maintain certification throughout the duration of the project.

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

Expansion joints shall be fabricated to conform to the existing cross slopes of the bridge.

Synthetic fibers shall be added to the Bridge Deck Latex Concrete Overlay. See Special Provisions.

Surface preparation at the construction joints shall be performed using high-pressurized water spray, using equipment capable of producing a minimum water pressure of 5000 psi.

Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at those locations.

The steel components for the Modular Expansion Joints shall be hot-dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel".

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.

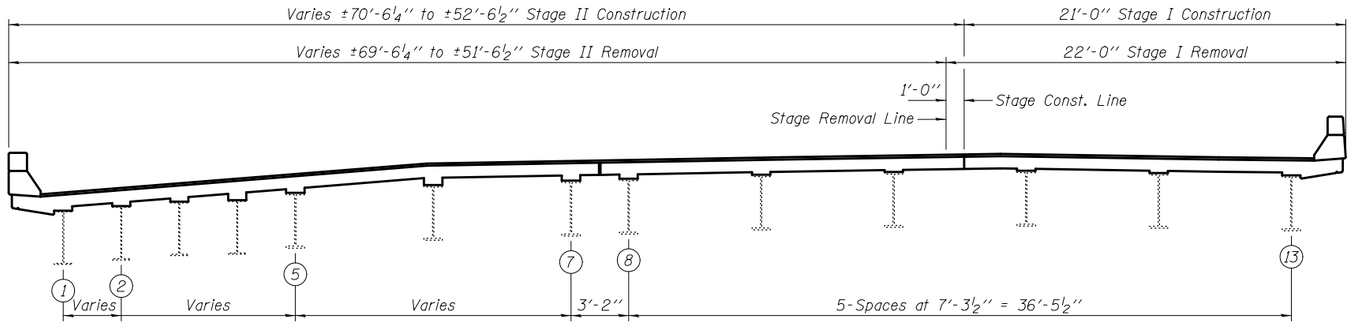
TOTAL BILL OF MATERIAL

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yd.	147.2
	Concrete Superstructure	Cu. Yd.	144.9
	Concrete Structures	Cu. Yd.	11.5
	Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.9
	Preformed Joint Strip Seal	Foot	500
	Modular Expansion Joint, 6"	Foot	155
	Reinforcement Bars, Epoxy Coated	Pound	27,070
	Bar Splicers	Each	168
	Mechanical Splicers	Each	576
***	Protective Coat	Sq. Yd.	10,310
	Diamond Grinding, 1/4"	Sq. Yd.	6944
	HMA Surface Removal, 1 1/2"	Sq. Yd.	9870
	Bridge Deck Grooving (Longitudinal)	Sq. Yd.	6944
	Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	1633
	Bridge Deck Scarification, 3/4"	Sq. Yd.	9870
	Bridge Deck Latex Concrete Overlay, 2 1/2"	Sq. Yd.	9870
	Furnishing and Erecting Structural Steel	Pound	15,510
	Elastomeric Bearing Assembly, Type I	Each	86
	Elastomeric Bearing Assembly, Type II	Each	20
	Elastomeric Bearing Assembly, Type III	Each	15
	Jack and Remove Existing Bearings	Each	84
	Anchor Bolts 1"ϕ	Each	242
	Slopewall Removal	Sq. Yd.	593
	Slopewall, 4"	Sq. Yd.	397
	Slopewall, 6"	Sq. Yd.	196
	Slopewall Slurry Pumping	Cu. Yd.	120
	Protective Shield (Permanent)	Sq. Yd.	2512
	Temporary Shoring & Cribbing	Each	37
	Containment & Disposal of Lead Paint Cleaning Residues, Location 5	L.S.	1
	Containment & Disposal of Lead Paint Cleaning Residues, Location 6	L.S.	1
	Cleaning & Painting Structural Steel, Location 5	L.S.	1
	Cleaning & Painting Structural Steel, Location 6	L.S.	1

*** On new concrete and overlay only.

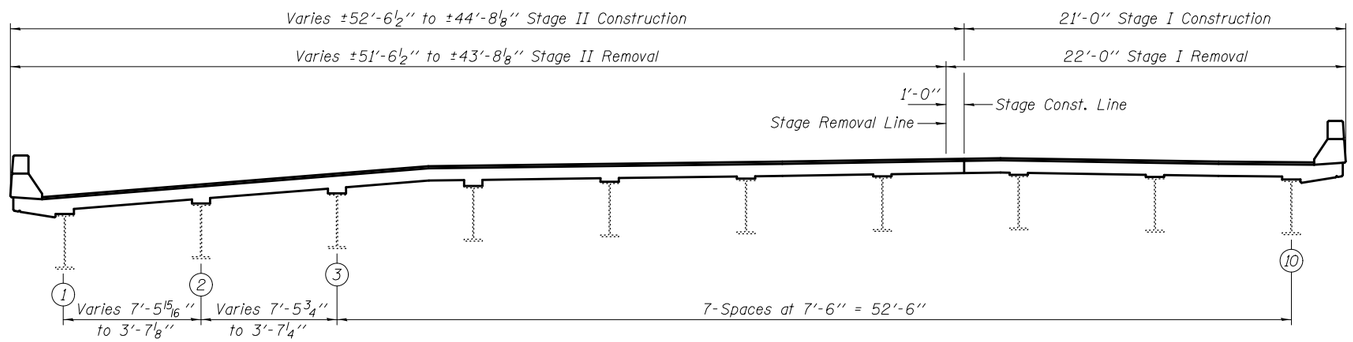
DESIGNED - SMR	EXAMINED	DATE - JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - RPN	ENGINEER OF STRUCTURAL SERVICES		
DRAWN - Kyle M. Steffen	PASSED	REVISED	**GENERAL NOTES, SCOPE OF WORK, & BILL OF MATERIAL**
CHECKED - SMR RPN	ENGINEER OF BRIDGES AND STRUCTURES	REVISED	**SN 072-0131 (E.B.) & -0132 (W.B.)**
			SHEET NO. 2 OF 49 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
474	72-4(HB, HVB-1, HVB)B-R	PEORIA	196	97
		CONTRACT NO. 68887		
	ILLINOIS FED. AID PROJECT			



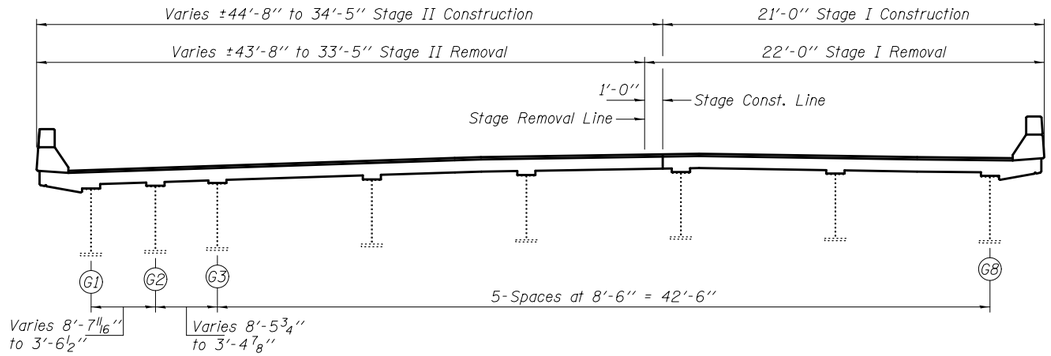
CROSS SECTION AT N. ABUT. & PIER 2, SPAN 2

(Looking South)



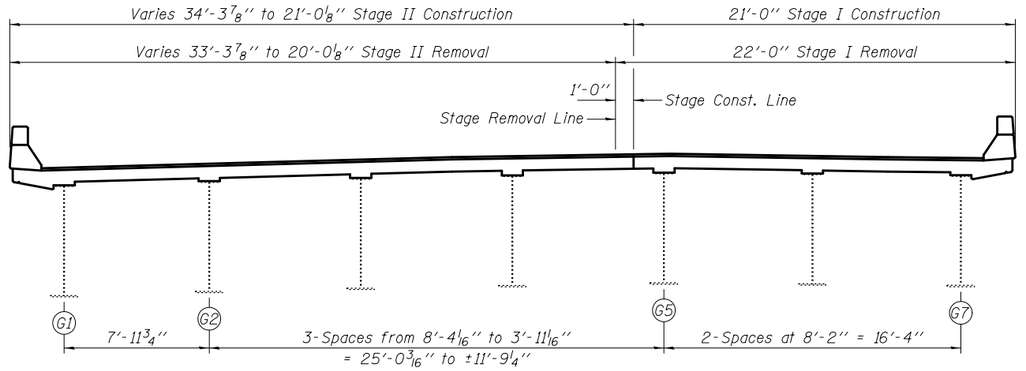
CROSS SECTION AT PIER 2, SPAN 3 & PIER 4, SPAN 4

(Looking South)



CROSS SECTION AT PIER 4, SPAN 5 & PIER 5, SPAN 5A

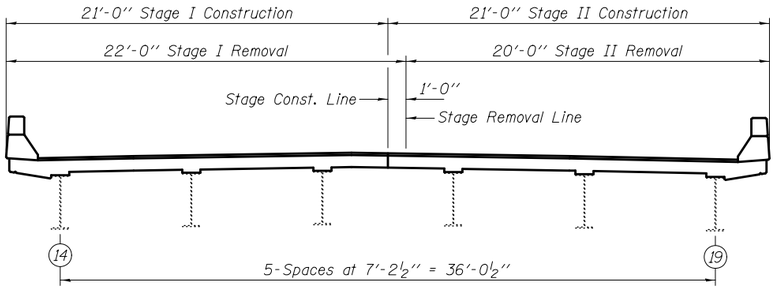
(Looking South)



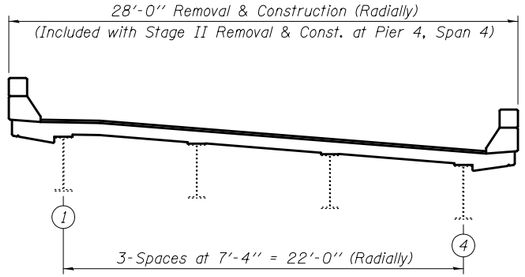
CROSS SECTION AT PIER 5, SPAN 6 & S. ABUT.

(Looking South)

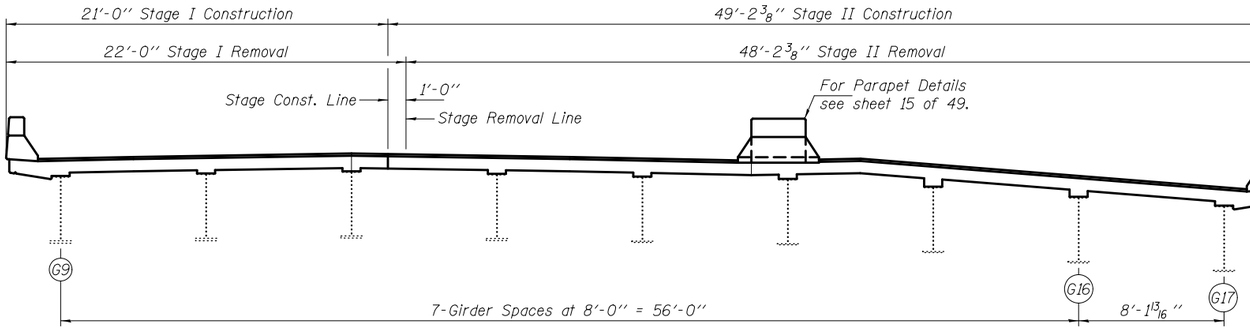
DESIGNED - SMR	EXAMINED	Timothy A. Sandt ENGINEER OF STRUCTURAL SERVICES	DATE - JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TYPICAL CROSS SECTIONS SN 072-0132 (W.B.)**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - RPN						474	72-4(HB, HVB-1, HVB)B-R	PEORIA	196	98
DRAWN - Kyle M. Steffen	PASSED	A. Carl Puzey ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 3 OF 49 SHEETS			CONTRACT NO. 68887		
CHECKED - SMR RPN			REVISED					ILLINOIS FED. AID PROJECT		



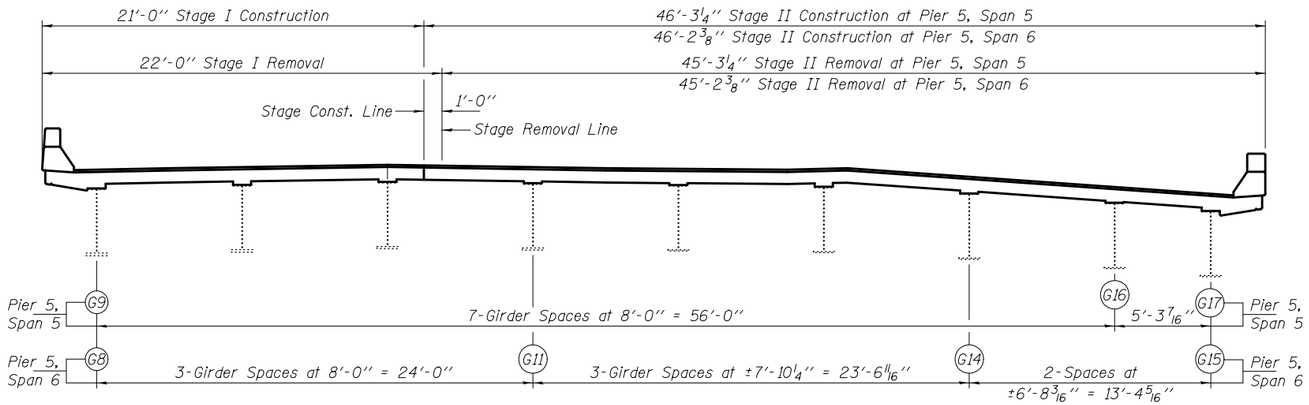
CROSS SECTION AT N. ABUT. AND PIER 4, SPAN 4 ON SN 072-0131 (E.B.)



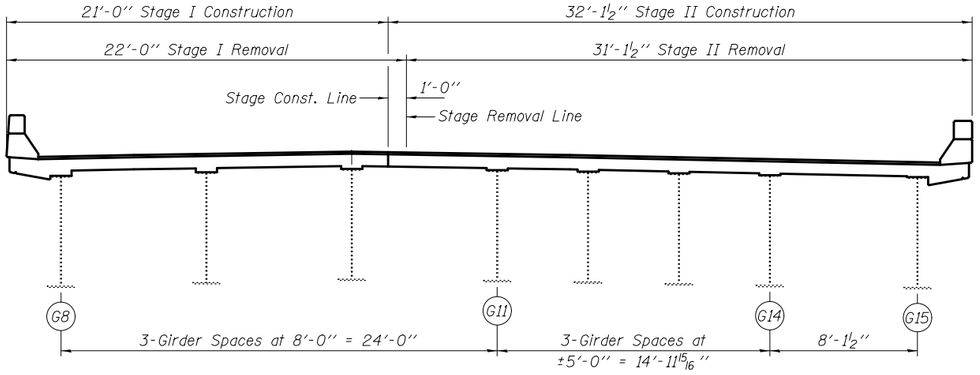
CROSS SECTION AT N. ABUT. AND PIER 4, SPAN 4 ON RAMP "C"



CROSS SECTION AT PIER 4, SPAN 5 ON SN 072-0131 (E.B.) & RAMP "C"

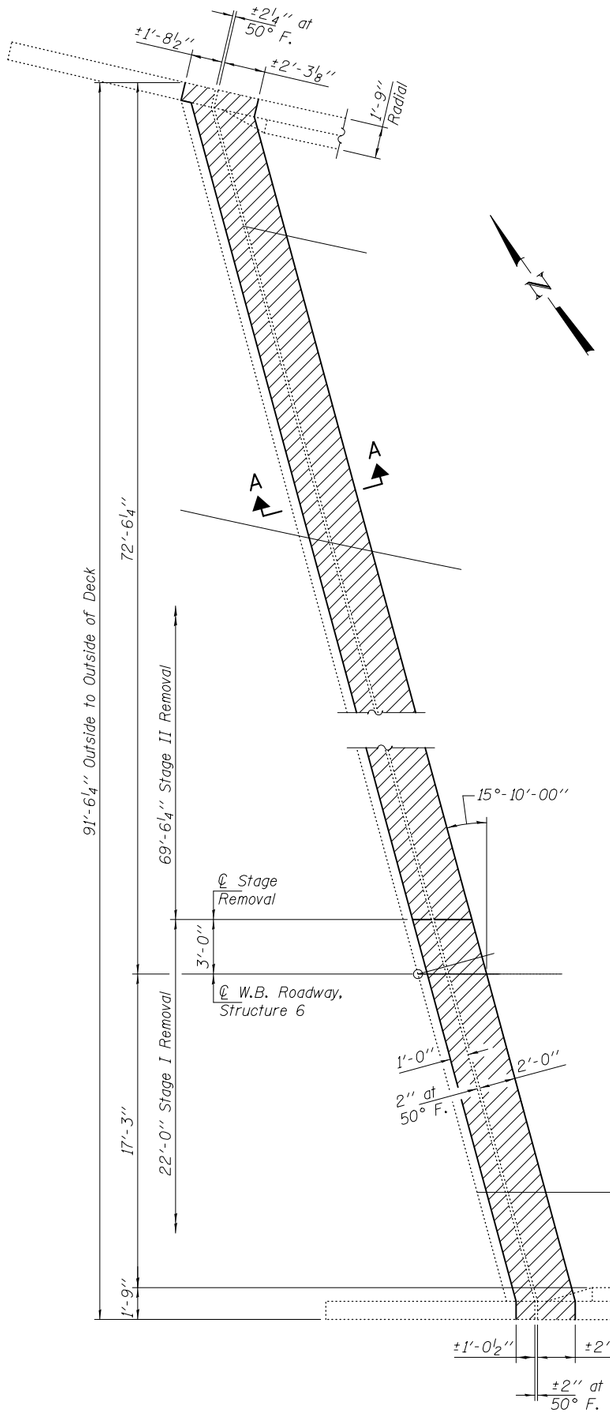


CROSS SECTION AT PIER 5, SPANS 5 & 6

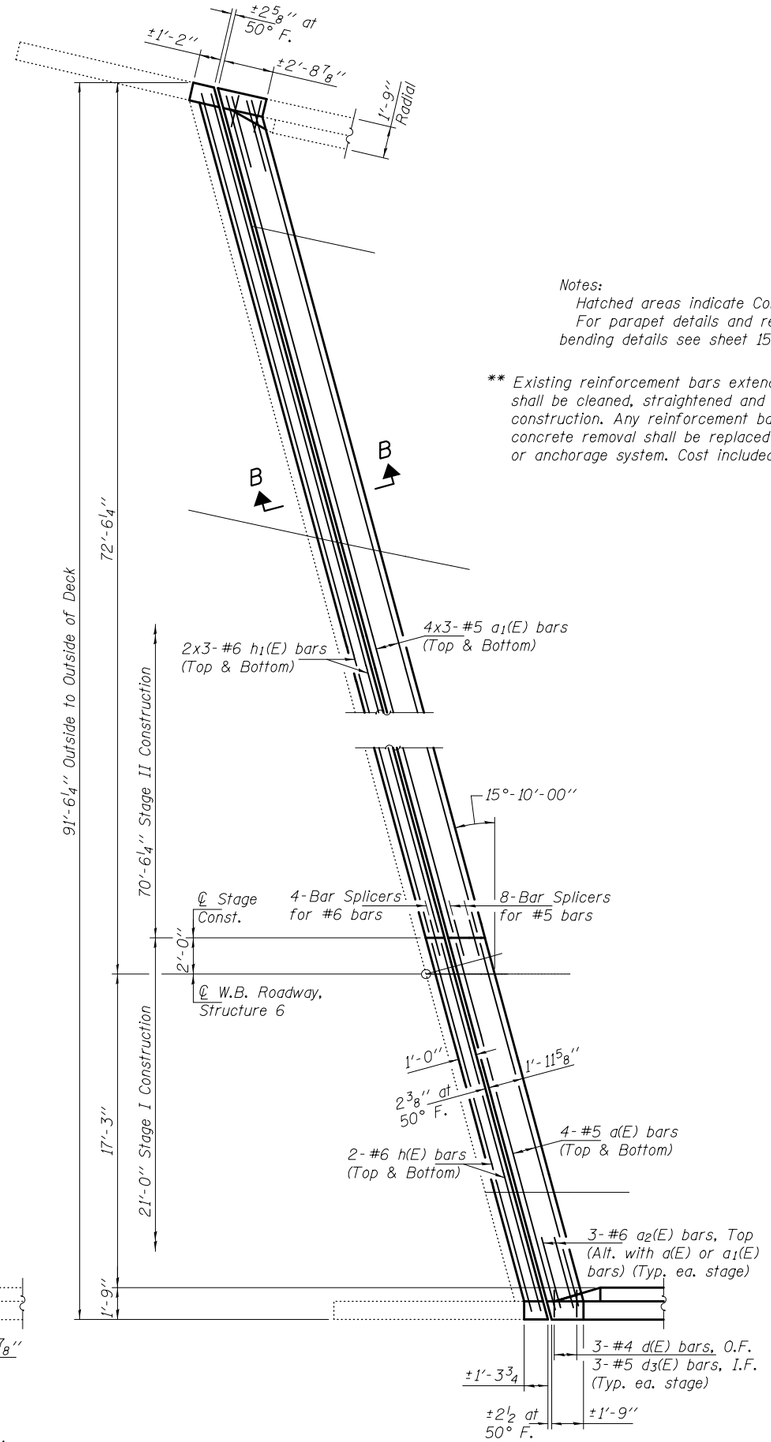


CROSS SECTION AT SOUTH ABUTMENT

DESIGNED - SMR	EXAMINED	ENGINEER OF STRUCTURAL SERVICES	DATE - JANUARY 31, 2018	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL CROSS SECTIONS SN 072-0131 (E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - RPN						474	72-4(HB, HVB-1, HVB)B-R	PEORIA	196	99
DRAWN - Kyle M. Steffen	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 4 OF 49 SHEETS			CONTRACT NO. 68887		
CHECKED - SMR RPN			REVISED					ILLINOIS FED. AID PROJECT		



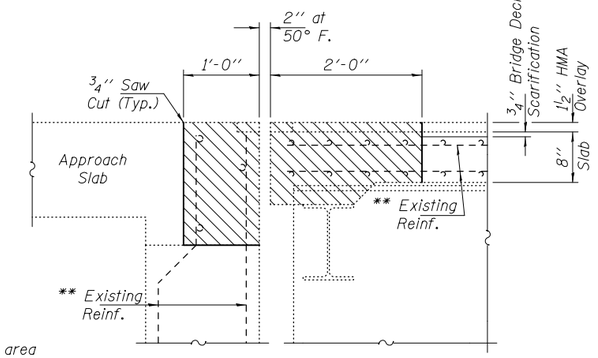
CONCRETE REMOVAL PLAN



CONCRETE REPLACEMENT PLAN

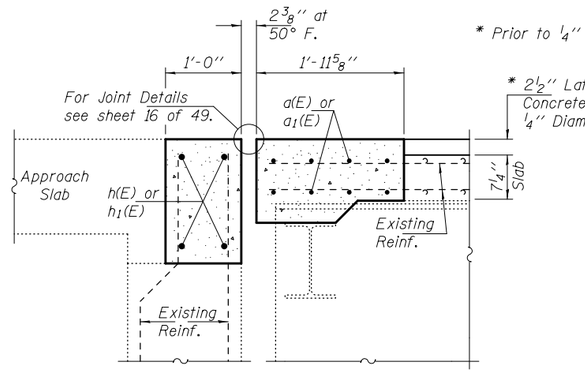
Notes:
Hatched areas indicate Concrete Removal.
For parapet details and reinforcement bending details see sheet 15 of 49.

*** Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.*



SECTION A-A

(Dims. at Rt. L's)



* Prior to ¼'' Diamond Grinding.

SECTION B-B

(Dims. at Rt. L's)

MIN. LAP LENGTHS

#5 bars = 3'-6''
#6 bars = 4'-0''

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	8	#5	21'-5''	———
a1(E)	24	#5	26'-3''	———
a2(E)	6	#6	4'-0''	———
d(E)	6	#4	4'-10''	L
d3(E)	6	#5	4'-6''	⌟
h(E)	4	#6	21'-5''	———
h1(E)	12	#6	26'-8''	———
Concrete Removal			Cu. Yd.	13.8
Concrete Superstructure			Cu. Yd.	13.7
Bar Splicers			Each	12
Reinforcement Bars, Epoxy Coated			Pound	1530

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

DESIGNED - SMR	EXAMINED	Timothy A. Sandvig, ENGINEER OF STRUCTURAL SERVICES	DATE - JANUARY 31, 2018	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**NORTH ABUTMENT JOINT REMOVAL & REPLACEMENT DETAILS SN 072-0132 (W.B.)**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - RPN						474	72-4(HB, HVB-1, HVB)B-R	PEORIA	196	100
DRAWN - Kyle M. Steffen	PASSED	A. Carl Kinzy, ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 5 OF 49 SHEETS				CONTRACT NO. 68887	
CHECKED - SMR RPN			REVISED					ILLINOIS	FED. AID PROJECT	