01-15-2016 LETTING ITEM 119

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33 HVBR	CHAMPAIGN	88	1
	ILLINOIS	CONTRACT NO. 90951		

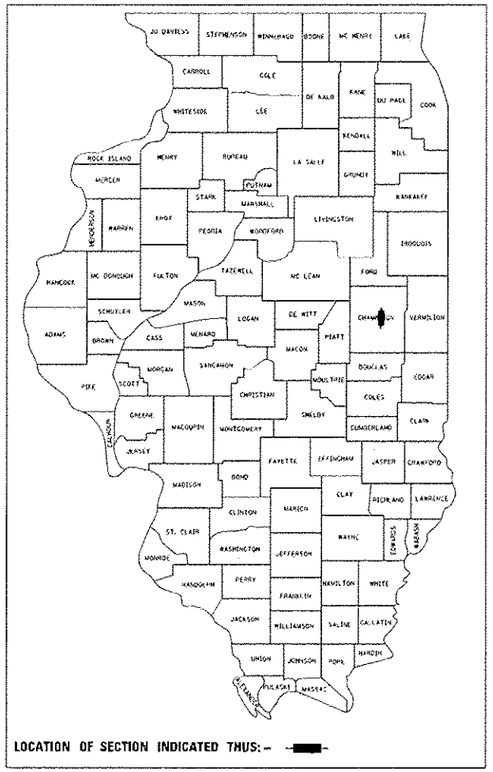
D-95-044-98

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

FAI ROUTE 57 (I – 57)
SECTION 10–33 HVBR
PROJECT ACNHPP–0057(317)
BRIDGE REHABILITATION / BRIDGE DECK REPAIRS
CHAMPAIGN COUNTY

C–95–051–98



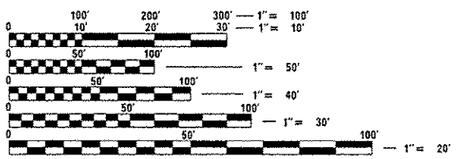
LOCATION OF SECTION INDICATED THUS: –■–

CURRENT TRAFFIC DATA

F.A.I. – 57		F.A.P. 801 (IL 10)	
2014 ADT	= 24,200	2014 ADT	= 9,350
2034 ADT	= 30,500	2034 ADT	= 10,800
PU+PC %	= 68.8	PU+PC %	= 89.6
SU %	= 4.3	SU %	= 5.8
MU%	= 26.9	MU%	= 4.6

DESIGN DESIGNATION
N.A.

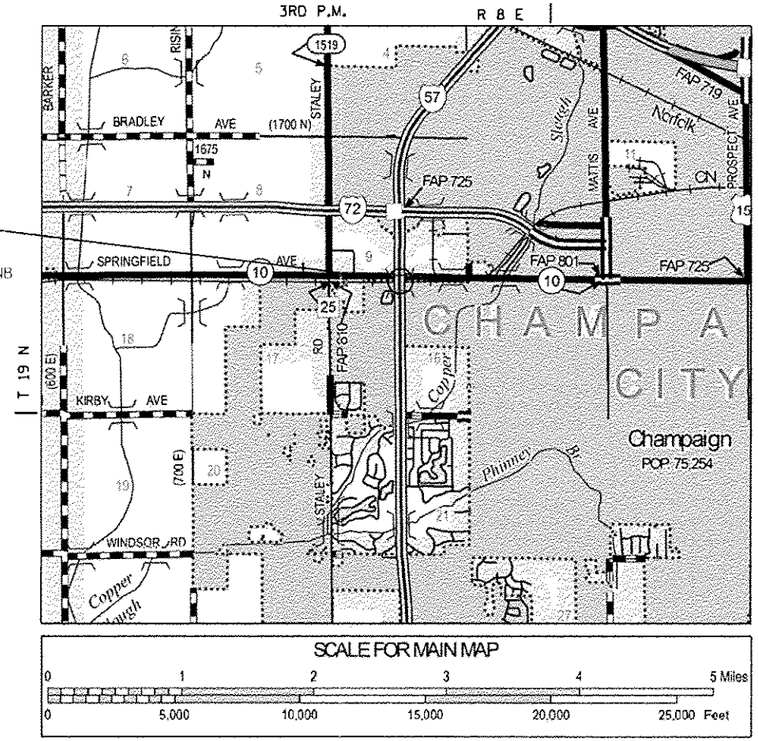
CHAMPAIGN TOWNSHIP



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 INFORMATIDN FOR EXCAVATION
1–800–892–0123
OR 811

S.N. 010-0009 NB & 010-0010 SB
STATION 456+43.07
F.A.I. 57 OVER IL 10 & ICRR
PROPOSED BRIDGE DECK REPAIRS NB
AND DECK REPLACEMENT SB



N

GROSS LENGTH = 382.16 FT. = 0.072 MILE
NET LENGTH = 382.16 FT. = 0.072 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED NOVEMBER 20 20 15
Kensil A. Garrett
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
Dec 4 20 15
John D. Baranzelli P.E. by auth
ENGINEER OF DESIGN AND ENVIRONMENT
Dec 4 20 15
Omer Osman P.E. by
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER: TIM BRANDENBURG
PROJECT MANAGER: TIM BRANDENBURG
CONSULTANT: JACOBS ENGINEERING

CONTRACT NO. 90951

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITY, SEE SHEETS 4 – 9

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS & LIST OF STANDARDS
3	GENERAL NOTES
4 to 9	SUMMARY OF QUANTITIES
10	TYPICAL ROADWAY CROSS SECTION - FAI 57
11	CONTROL TIES
12	PLAN AND PROFILE - S.N. 010-0009 (NB)
13 to 14	H.M.A. RUNDOWN TRANSITION DETAILS - S.N. 010-0009 (NB)
15 to 32	STRUCTURE REPAIR DETAILS - S.N. 010-0009 (NB)
33	TEMPORARY CONCRETE BARRIER LAYOUT - S.N. 010-0009 (NB)
34	PLAN AND PROFILE - S.N. 010-0010 (SB)
35	H.M.A. RUNDOWN TRANSITION DETAILS - S.N. 010-0010 (SB)
36 to 64	STRUCTURE REHABILITATION DETAILS - S.N. 010-0010 (SB)
65	TEMPORARY CONCRETE BARRIER LAYOUT - S.N. 010-0010 (SB)
66 to 68	WIDTH RESTRICTION AND MAXIMUM WIDTH SIGNING
69 to 77	AS-BUILT PLANS 1964
78 to 87	AS-BUILT PLANS 1987
88	PAVEMENT MARKING (INTERSTATE & MULTI-LANE APPLICATION)

LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420401-11	BRIDGE APPROACH PAVEMENT CONNECTOR
515001-03	NAME PLATE FOR BRIDGES
630001-10	STEEL PLATE BEAM GUARDRAIL
631031-13	TRAFFIC BARRIER TERMINAL, TYPE 6
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
667101-02	PERMANENT SURVEY MARKERS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-04	OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701400-08	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-09	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701402-10	LANE CLOSURE, FREEWAY/EXPRESSWAY WITH BARRIER
701411-09	LANE CLOSURE, MULTILANE AT ENTRANCE OR EXIT RAMPS
701426-07	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATIONS
701901-04	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

G.N.-100
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-100A
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

G.N.-105.09A
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-107.12 (SPECIAL)
THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE LOCAL RAILROAD CONTACT IS:

Mr. Paul Chojenski
Manager, Public Projects CN
17641 South Ashland Avenue
Homewood, IL 60430
(708) 332-3557

SPECIAL ATTENTION IS CALLED TO ARTICLE 107.12 REGARDING RAILROAD FLAGGERS. THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE RAILROAD FLAGGER CONTACT IS:

Ms. MaryEllen Carmody
700 Pershing Road
Pontiac, MI 48340
(248) 452-4705

SOME RAILROADS REQUIRE CONTRACTORS TO OBTAIN A RIGHT OF ENTRY PERMIT BEFORE ENTERING UPON THE RAILROAD RIGHT OF WAY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A RAILROAD RIGHT OF ENTRY PERMIT FROM THE RAILROAD IF REQUIRED BY THE RAILROAD(S).

G.N.-406
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N.-501
THE REMOVAL AND DISPOSAL OF THE EXISTING APPROACH SLABS AND PAVED SHOULDERS ARE INCLUDED WITH "REMOVE EXISTING CONCRETE DECK".

G.N.-406H

MIXTURE REQUIREMENTS

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

Location	FAI 57	FAI 57	FAI 57
Mixture Use	Polymer Surface	Flexible Connector	Shoulder
AC/PG	SBS PG 70-22	PG 64-22	PG 64-22
Design Air Voids	4.0% @ Ndes=90	4.0% @ Ndes=90	4.0% @ Ndes=30
Mix Comp (Gradation)	IL 9.5	IL 19.0	IL 9.5L
Friction Aggregate	Mix D	N.A.	Mix C
Mixture Weight	112	112	112
Quality Management Program	QC/QA	QC/QA	QC/QA
Sublot Size	N.A.	N.A.	N.A.

G.N.-482
ALL MATERIAL PLACED AS HOT-MIX ASPHALT SHOULDERS SHALL BE COMPACTED TO 94.0 - 98.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY. THIS REQUIREMENT SHALL APPLY TO IL 9.5L GRADATION SHOULDER MIXES AND OTHER MIXES (BOTTOM LIFT OF SHOULDERS). THIS MAXIMUM DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE OF FOUR TESTS AS IN OTHER QC/QA TESTING. A NUCLEAR GAUGE DENSITY/CORE CORRELATION SHALL BE PERFORMED FOR THE IL 9.5L MIXES AND OTHER MIXES USING STANDARD CORRELATION PROCEDURES

G.N.-631
IF THE CONTRACTOR ELECTS TO USE THE ALTERNATE MOUNTING METHOD OF THRU DRILLING THE MOUNTING HOLES FOR THE TRAFFIC BARRIER TERMINALS, TYPE 6, THE HOLES SHALL BE DRILLED USING A CORE DRILL. A HAMMER DRILL WILL NOT BE ALLOWED.

G.N.-781
RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 781001, AND THE DETAILS SHOWN IN THE PLANS. IF THERE IS ANY DISCREPANCY BETWEEN THE STANDARD AND THE DETAILS IN THE PLANS, THE DETAILS IN THE PLANS SHALL GOVERN. THE FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING THE RAISED REFLECTIVE PAVEMENT MARKERS AND THE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED MIDWAY IN THE 30 FOOT (9 m) SPACE BETWEEN THE DASHED CENTERLINE STRIPES (WHEN APPLICABLE).

G.N.-Z0038
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

NO COMMITMENTS

				CHAMPAIGN CO.	CHAMPAIGN GO.
	LOCATION OF WORK:			CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS	CHAMPAIGN GO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION
	STRUCTURE NUMBER:			010-0009	010-0010
	FUNDING BREAKOUT:			90% FED. / 10% STATE	90% FED. / 10% STATE
	CONSTRUCTION TYPE CODE:			0014	0014
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
31100300	SUB-BASE GRANULAR MATERIAL, TYPE A 4"	SQ YD	80.0	0.0	80.0
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	3,905.0	1,842.0	2,063.0
40603545	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	237.0	110.0	127.0
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	80.0	0.0	80.0
44000161	HOT-MIX ASPHALT SURFACE REMOVAL, 3"	SQ YD	4319.0	2,124.0	2,195.0
48203100	HOT-MIX ASPHALT SHOULDERS	TON	726.0	357.0	369.0
50102400	CONCRETE REMOVAL	CU YD	52.0	27.0	25.0
50104650	SLOPE WALL REMOVAL	SQ YD	63.0	54.0	9.0
50104720	REMOVE EXISTING CONCRETE DECK	EACH	1.0	0.0	1.0
50157300	PROTECTIVE SHIELD	SQ YD	401.0	186.0	215.0
50200100	STRUCTURE EXCAVATION	CU YD	72.0	0.0	72.0
50300100	FLOOR DRAINS	EACH	20.0	0.0	20.0
50300225	CONCRETE STRUCTURES	CU YD	56.1	2.2	53.9

* SPECIALTY ITEM

CODE NO.	DESCRIPTION	LOCATION OF WORK:	UNIT	TOTAL QUANTITY	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS 010-0009 90% FED. / 10% STATE 0014 QUANTITY	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION 010-0010 90% FED. / 10% STATE 0014 QUANTITY
		STRUCTURE NUMBER:				
		FUNDING BREAKOUT:				
		CONSTRUCTION TYPE CODE:				
50300255	CONCRETE SUPERSTRUCTURE		CU YD	523.9	29.4	494.5
50300260	BRIDGE DECK GROOVING		SQ YD	2,140.0	1,070.0	1,070.0
50300300	PROTECTIVE COAT		SQ YD	1,491.0	84.0	1,407.0
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL		POUND	18,990.0	9,220.0	9,770.0
50500505	STUD SHEAR CONNECTORS		EACH	7,866.0	360.0	7,506.0
50800205	REINFORCEMENT BARS, EPOXY COATED		POUND	116,150.0	4,840.0	111,310.0
50800515	BAR SPLICERS		EACH	1,177.0	64.0	1,113.0
50800530	MECHANICAL SPLICERS		EACH	338.0	321.0	17.0
51100100	SLOPE WALL 4 INCH		SQ YD	63.0	54.0	9.0
51500100	NAME PLATES		EACH	1.0	0.0	1.0
52000110	PREFORMED JOINT STRIP SEAL		FOOT	229.0	114.0	115.0
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I		EACH	24.0	12.0	12.0
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II		EACH	24.0	12.0	12.0

* SPECIALTY ITEM

FILE NAME = pw:\\IL284EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\0540-DRAWN\Data\Structures\90951 Cover & SCD REVISED.dgn	USER NAME = brandenburgtj	DESIGNED - RTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 42.2201 ' / in.	CHECKED - TJB	REVISED - TJB			57	10-33HVBR	CHAMPAIGN	88	5
	PLOT DATE = 11/19/2015	DATE - 8/5/2014	REVISED - 11/19/15					CONTRACT NO. 90951		
						FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

		LOCATION OF WORK:		CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION
		STRUCTURE NUMBER:		010-0009	010-0010
		FUNDING BREAKOUT:		90% FED. / 10% STATE	90% FED. / 10% STATE
		CONSTRUCTION TYPE CODE:		0014	0014
CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
52100520	ANCHOR BOLTS, 1"	EACH	96.0	48.0	48.0
58700300	CONCRETE SEALER	SQ FT	945.0	0.0	945.0
59000200	EPOXY CRACK INJECTION	FOOT	5.0	0.0	5.0
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	32.0	0.0	32.0
* 63302700	REMOVE & REERECT TRAFFIC BARRIER TERMINALS, TYPE 6	EACH	6.0	3.0	3.0
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	15.0	5.0	10.0
67100100	MOBILIZATION	L SUM	1.0	0.5	0.5
70100207	TRAFFIC CONTROL & PROTECTION, STANDARD 701402	EACH	2.0	1.0	1.0
70100420	TRAFFIC CONTROL & PROTECTION, STANDARD 701411	EACH	2.0	0.0	2.0
70100450	TRAFFIC CONTROL & PROTECTION, STANDARD 701201	L SUM	1.0	0.5	0.5
70100700	TRAFFIC CONTROL & PROTECTION, STANDARD 701406	L SUM	1.0	0.5	0.5
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1,575.0	787.5	787.5
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1,575.0	787.5	787.5

* SPECIALTY ITEM

		LOCATION OF WORK:			CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION
		STRUCTURE NUMBER:			010-0009	010-0010
		FUNDING BREAKOUT:			90% FED. / 10% STATE	90% FED. / 10% STATE
		CONSTRUCTION TYPE CODE:			0014	0014
	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
	70600250	IMPACT ATTENUATORS, TEMPORARY (NON-RED) TL3	EACH	2.0	1.0	1.0
	70600350	IMPACT ATTENUATORS, RELOCATE (NON-RED) TL3	EACH	2.0	1.0	1.0
*	78009004	MODIFIED URETHANE PAVEMENT MARKING LINE 4"	FOOT	11,622.0	5,811.0	5,811.0
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	12.0	6.0	6.0
*	78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	16.0	8.0	8.0
*	78200520	BARRIER WALL MARKERS, TYPE B	EACH	16.0	8.0	8.0
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	28.0	14.0	14.0
	X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	1,618.0	938.0	680.0
	X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	67.0	0.0	67.0
	X7010410	SPEED DISPLAY TRAILER	CAL MON	13.0	4.0	9.0
	X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	208.0	14.0	194.0
	X7200201	WIDTH RESTRICTION AND MAXIMUM WIDTH SIGNING	L SUM	1.0	0.5	0.5
*	X7830070	GROOVING FOR RECESSED PAVEMENT MARKING	FOOT	11,622.0	5,811.0	5,811.0

* SPECIALTY ITEM

FILE NAME = pw:\\IL0848BIOINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5 ... Data\Struc ... \90951 Cover & SOQ ... s.dgn	USER NAME = brandenburgtj	DESIGNED - RTC	REVISED -
		DRAWN - RTG	REVISED -
	PLOT SCALE = 42.0001 ' / in.	CHECKED - TJB	REVISED - TJB
	PLOT DATE = 11/19/2015	DATE - 8/5/2014	REVISED - 11/19/15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	7
		CONTRACT NO. 90951		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

	LOCATION OF WORK:		CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION
	STRUCTURE NUMBER:		010-0009	010-0010
	FUNDING BREAKOUT:		90% FED. / 10% STATE	90% FED. / 10% STATE
	CONSTRUCTION TYPE CODE:		0014	0014
CODE NO. DESCRIPTION	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
Z0001899 JACK AND REMOVE EXISTING BEARINGS	EACH	48.0	24.0	24.0
Z0001903 STRUCTURAL STEEL REMOVAL	POUND	11,990.0	5,850.0	6,140.0
Z0001905 STRUCTURAL STEEL REPAIR	POUND	4,420.0	1,640.0	2,780.0
Z0004556 HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	1,855.0	0.0	1,855.0
Z0006014 BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/2"	SQ YD	1,020.0	1,020.0	0.0
Z0010400 CLEANING BRIDGE SEATS	SQ FT	203.0	0.0	203.0
Z0012130 BRIDGE DECK SCARIFICATION, 3/4"	SQ YD	1,020.0	1,020.0	0.0
Z0012754 STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	464.0	159.0	305.0
Z0016001 DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	6.0	6.0	0.0
Z0016002 DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	18.0	18.0	0.0
Z0018002 DRAINAGE SCUPPERS, DS-11	EACH	4.0	0.0	4.0
Z0026407 TEMPORARY SHEET PILING	SQ FT	357.0	0.0	357.0
Z0029090 DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	2,281.0	1070.0	1211.0

* SPECIALTY ITEM

FILE NAME = pw:\\IL864EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\0580-00000Data\Structures\90951 Cover & SQ	USER NAME = brandenburgt	DESIGNED - RTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RTC	REVISED -			57	10-33HVBR	CHAMPAIGN	88	8
	PLOT SCALE = 40.0201 ' / in.	CHECKED - TJB	REVISED - TJB					CONTRACT NO. 90951		
	PLOT DATE = 11/19/2015	DATE - 8/5/2014	REVISED - 11/19/15			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

					LOCATION OF WORK:	CHAMPAIGN CO. FAI 57 URBAN INTERSTATE BRIDGE DECK REPAIRS	CHAMPAIGN GO. FAI 57 URBAN INTERSTATE BRIDGE REHABILITATION
					STRUCTURE NUMBER:	010-0009	010-0010
					FUNDING BREAKOUT:	90% FED. / 10% STATE	90% FED. / 10% STATE
					CONSTRUCTION TYPE CODE:	0014	0014
	CODE NO.	DESCRIPTION	UNIT	TOTAL QUANTITY		QUANTITY	QUANTITY
	Z0038700	PERMANENT BENCHMARKS	EACH	1.0		0.0	1.0
	Z0040530	PIPE UNDERDRAIN REMOVAL	FOOT	120.0		0.0	120.0
	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	82.0		0.0	82.0
	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1.0		0.5	0.5
	Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	4.0		2.0	2.0
#	Z0076600	TRAINEES	HOUR	500.0		250.0	250.0
#	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500.0		250.0	250.0

0042

* SPECIALTY ITEM

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5... Data\Structures\90951 Cover & SQ... .dgn	USER NAME = brandenburgtj	DESIGNED - RTC	REVISED -
		DRAWN - RTC	REVISED -
	PLOT SCALE = 40.0001 ' / in.	CHECKED - TJB	REVISED - TJB
	PLOT DATE = 11/23/2015	DATE - 8/5/2014	REVISED - 11/19/15

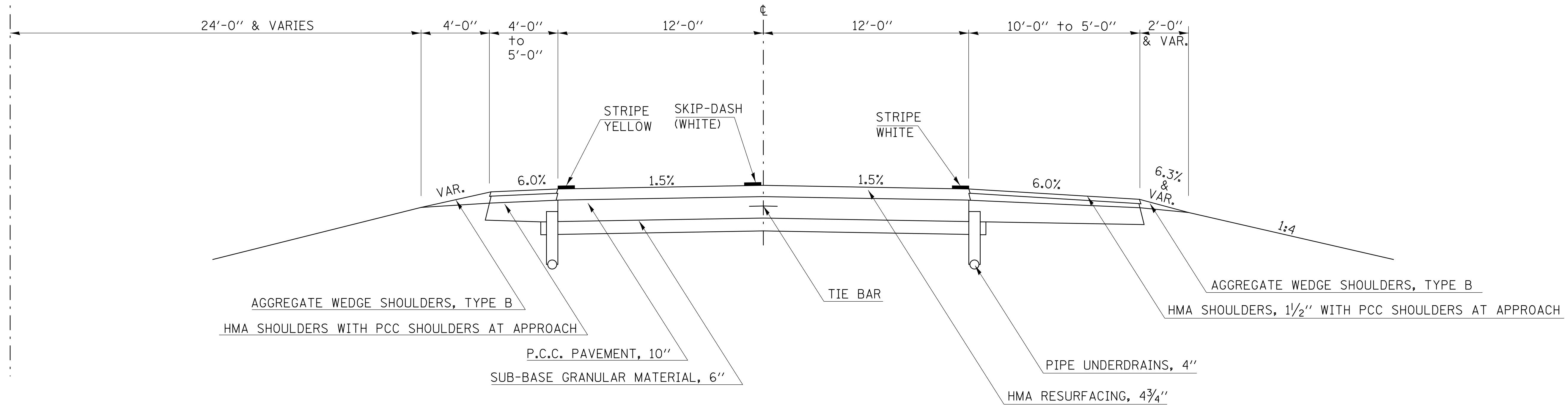
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	9
		CONTRACT NO. 90951		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

EXISTING TYPICAL SECTION

STATION	TO	STATION
401+15.77		492+69.23 (N.B. & S.B.)
522+00.92		545+00.00 (N.B. & S.B.)

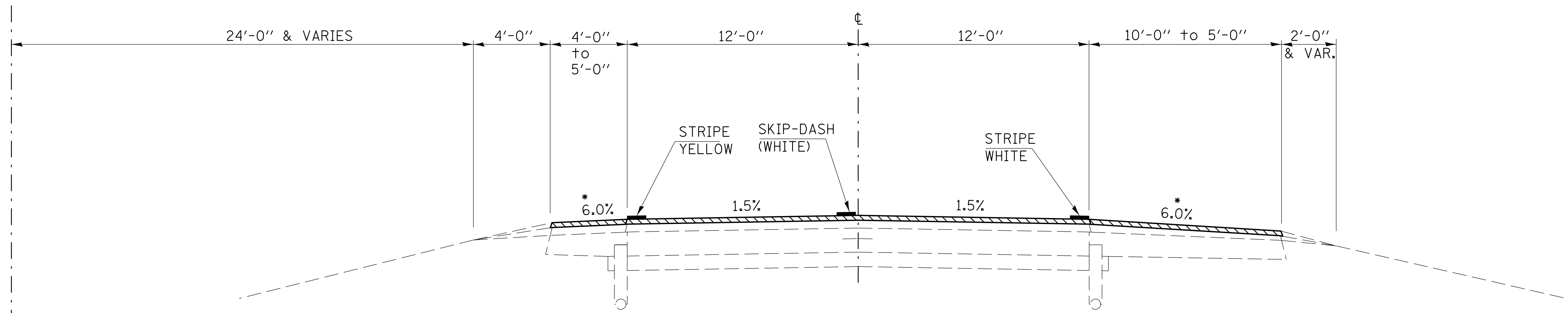


PROPOSED TYPICAL SECTION

STATION	TO	STATION	
452+91.69		454+21.69	S.N. 010–0009 NB APPROACH
457+23.85		458+53.85	S.N. 010–0009 NB DEPARTURE
452+92.93		453+92.93	S.N. 010–0010 SB DEPARTURE
457+56.10		458+56.10	S.N. 010–0010 SB APPROACH

***PRE–STAGE HMA SHOULDER INLAY, 3″**
(HMA SURFACE REMOVAL, 3″ & HMA SHOULDERS)

STATION	TO	STATION	
442+92		454+01	S.N. 010–0009 NB APPROACH
457+45		460+00	S.N. 010–0009 NB DEPARTURE
451+00		454+03	S.N. 010–0010 SB DEPARTURE
457+46		468+54	S.N. 010–0010 SB APPROACH



HMA SURFACE REMOVAL, VARIABLE DEPTH AND POLYMERIZED HMA SURFACE COURSE, MIX "D", N90

SEE PLAN & PROFILE SHEETS, RUNDOWN TRANSITION DETAILS AND TEMPORARY CONCRETE BARRIER LAYOUT SHEETS

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$MODELNAME$	PLOT DATE = 11/19/2015	DATE - 11/19/2014	REVISED - 3/3/2015	

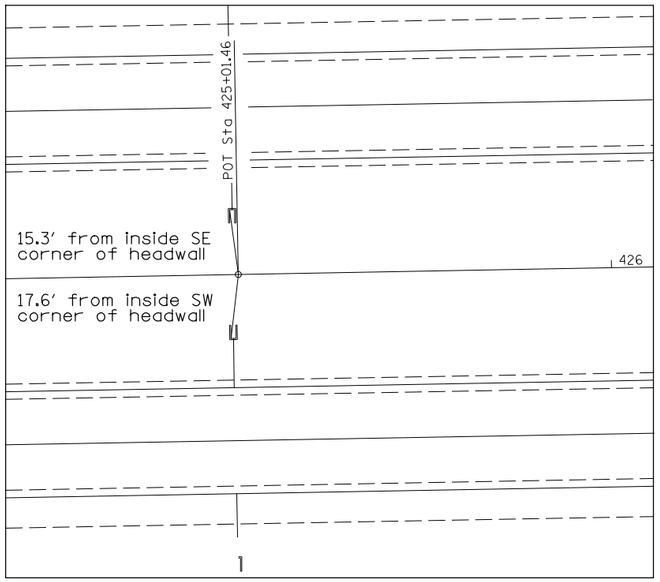
TYPICAL ROADWAY CROSS SECTIONS
FAI–57

SCALE: N/A | SHEET OF SHEETS | STA. -------- TO STA. --------

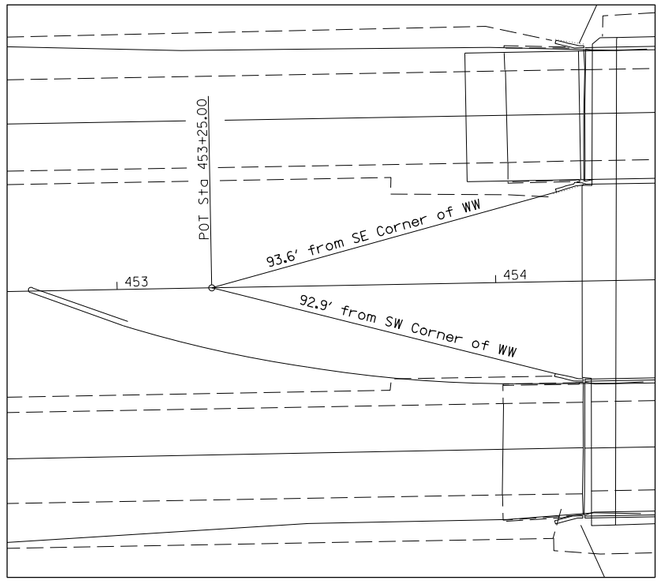
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	10
		CONTRACT NO. 90951		

ILLINOIS | FED. AID PROJECT

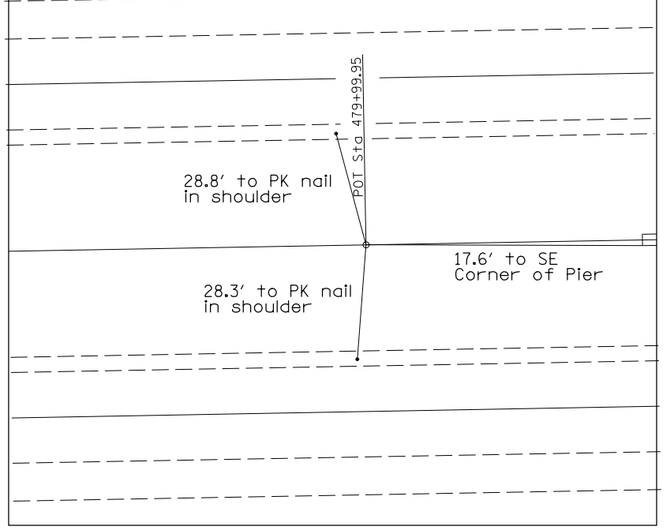
POT STA. 425+01.46
PERMANENT SURVEY MONUMENT



BASIS OF STATIONING
POT STA. 453+25.00
PERMANENT SURVEY MONUMENT
BURIED +/- 3 FEET



POT STA. 479+99.95
PERMANENT SURVEY MONUMENT



SEE SURVEY BOOK 4376 FOR ADDITIONAL CONTROL TIES

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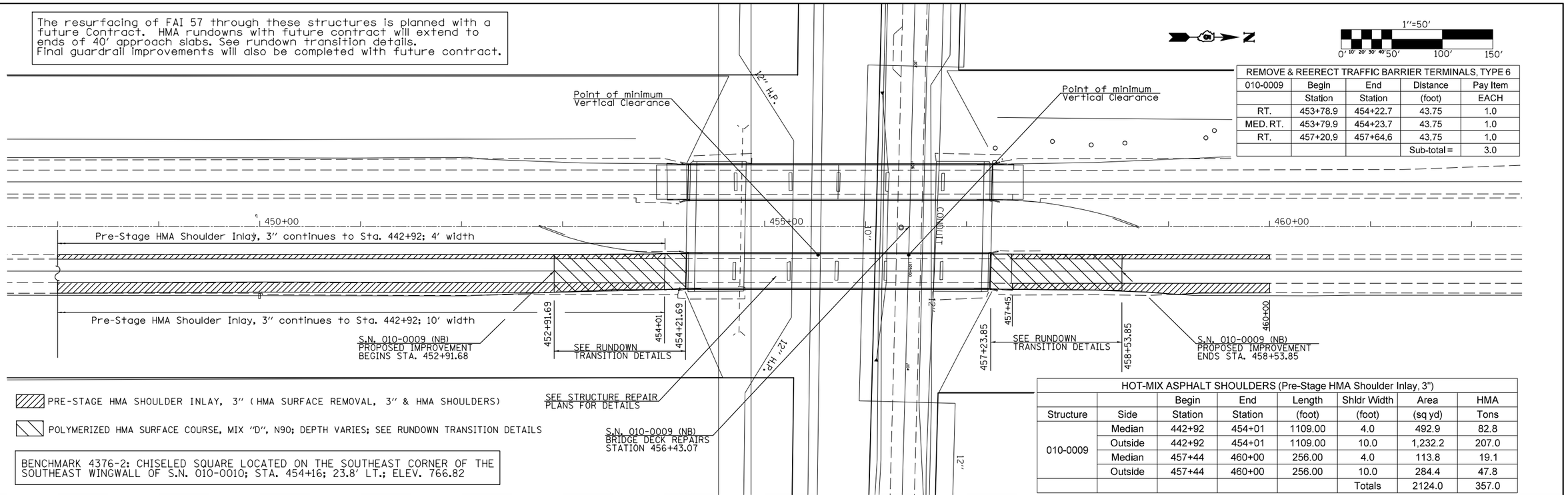
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONTROL TIES

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	11
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

The resurfacing of FAI 57 through these structures is planned with a future Contract. HMA rundowns with future contract will extend to ends of 40' approach slabs. See rundown transition details. Final guardrail improvements will also be completed with future contract.



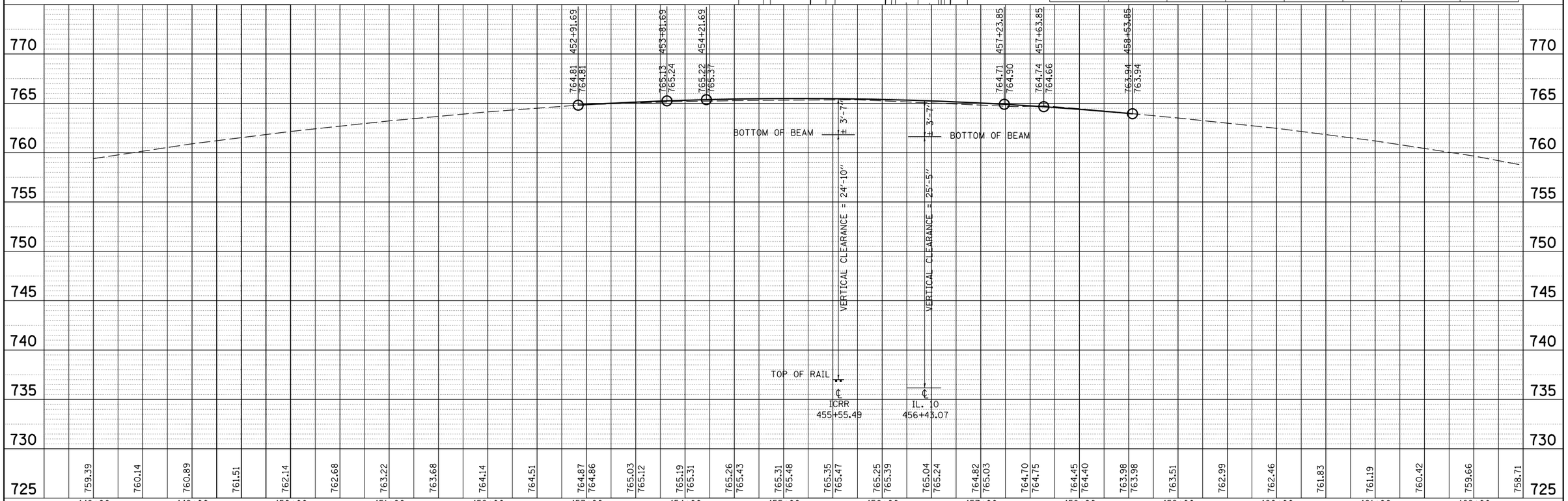
BENCHMARK 4376-2: CHISELED SQUARE LOCATED ON THE SOUTHEAST CORNER OF THE SOUTHEAST WINGWALL OF S.N. 010-0010; STA. 454+16; 23.8' LT.; ELEV. 766.82

1"=50'

0' 10' 20' 30' 40' 50' 100' 150'

REMOVE & REERECT TRAFFIC BARRIER TERMINALS, TYPE 6				
010-0009	Begin	End	Distance	Pay Item
	Station	Station	(foot)	EACH
RT.	453+78.9	454+22.7	43.75	1.0
MED. RT.	453+79.9	454+23.7	43.75	1.0
RT.	457+20.9	457+64.6	43.75	1.0
			Sub-total =	3.0

HOT-MIX ASPHALT SHOULDERS (Pre-Stage HMA Shoulder Inlay, 3")							
		Begin	End	Length	Shldr Width	Area	HMA
Structure	Side	Station	Station	(foot)	(foot)	(sq yd)	Tons
010-0009	Median	442+92	454+01	1109.00	4.0	492.9	82.8
	Outside	442+92	454+01	1109.00	10.0	1,232.2	207.0
	Median	457+44	460+00	256.00	4.0	113.8	19.1
	Outside	457+44	460+00	256.00	10.0	284.4	47.8
					Totals	2124.0	357.0



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

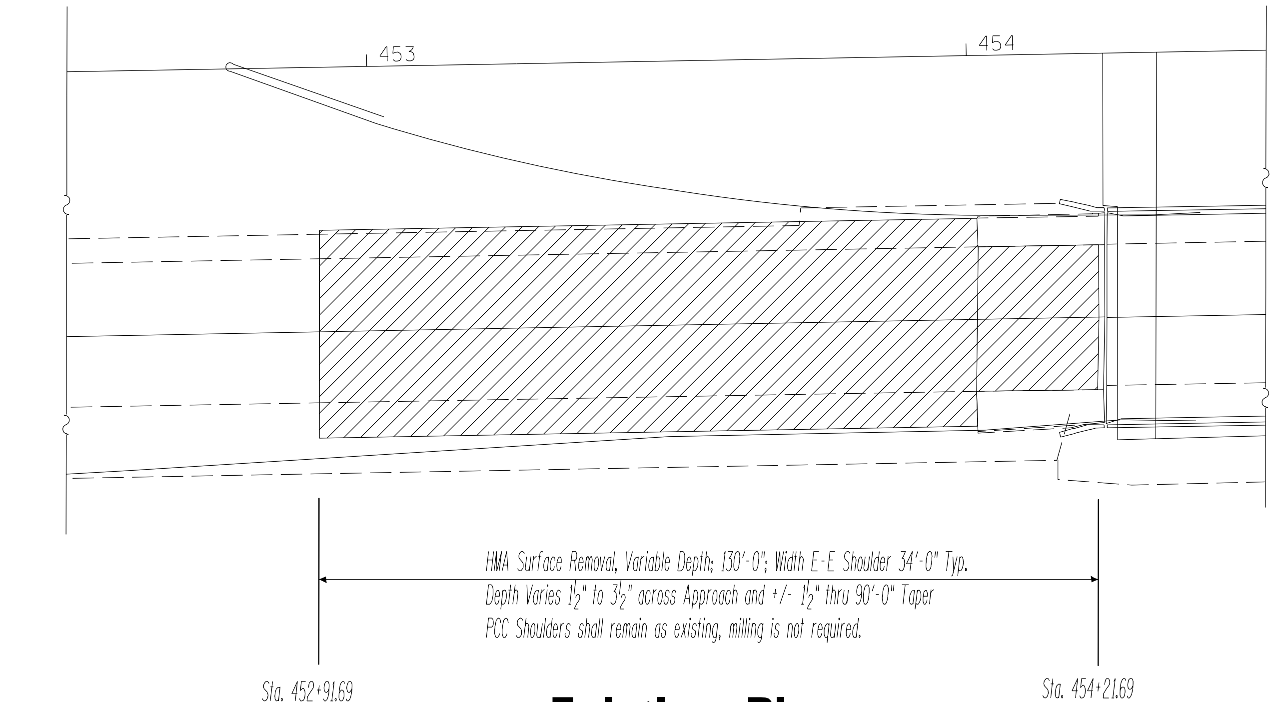
PLAN & PROFILE
S.N. 010-0009 (NB)

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

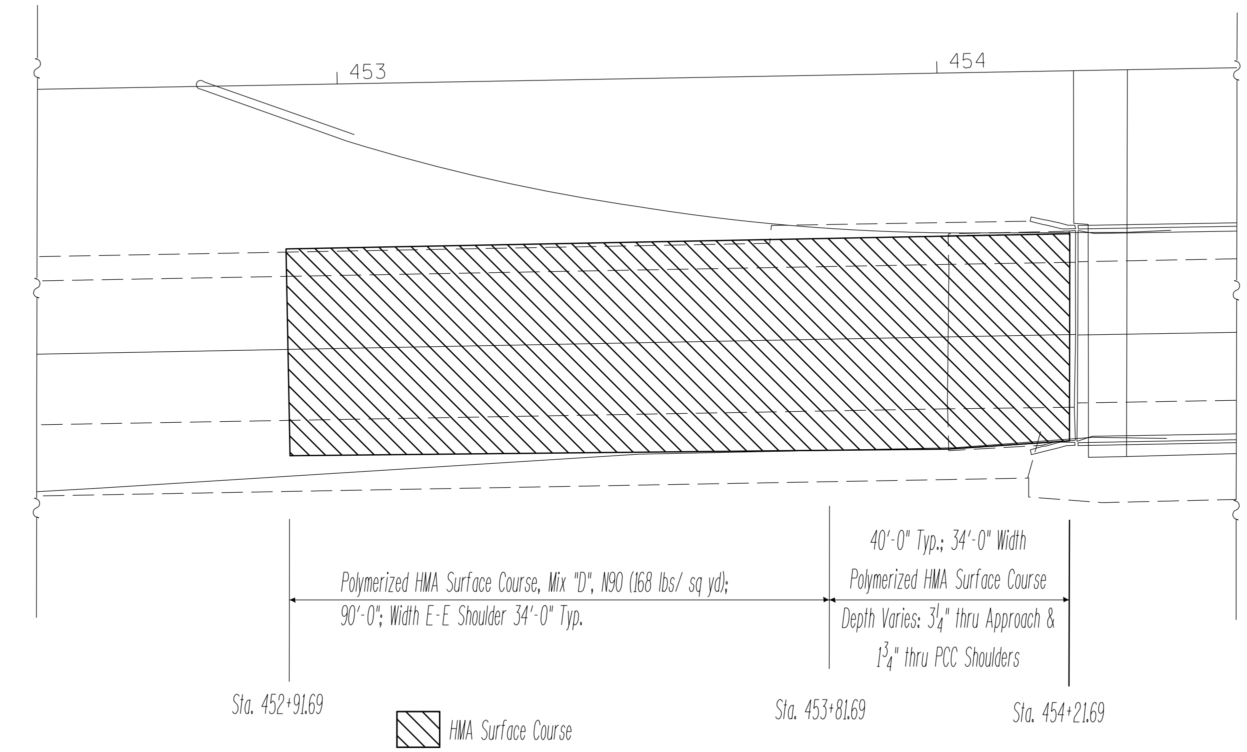
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	12
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, CADD FILE NAME, NOTE BOOK, NO., BY, DATE

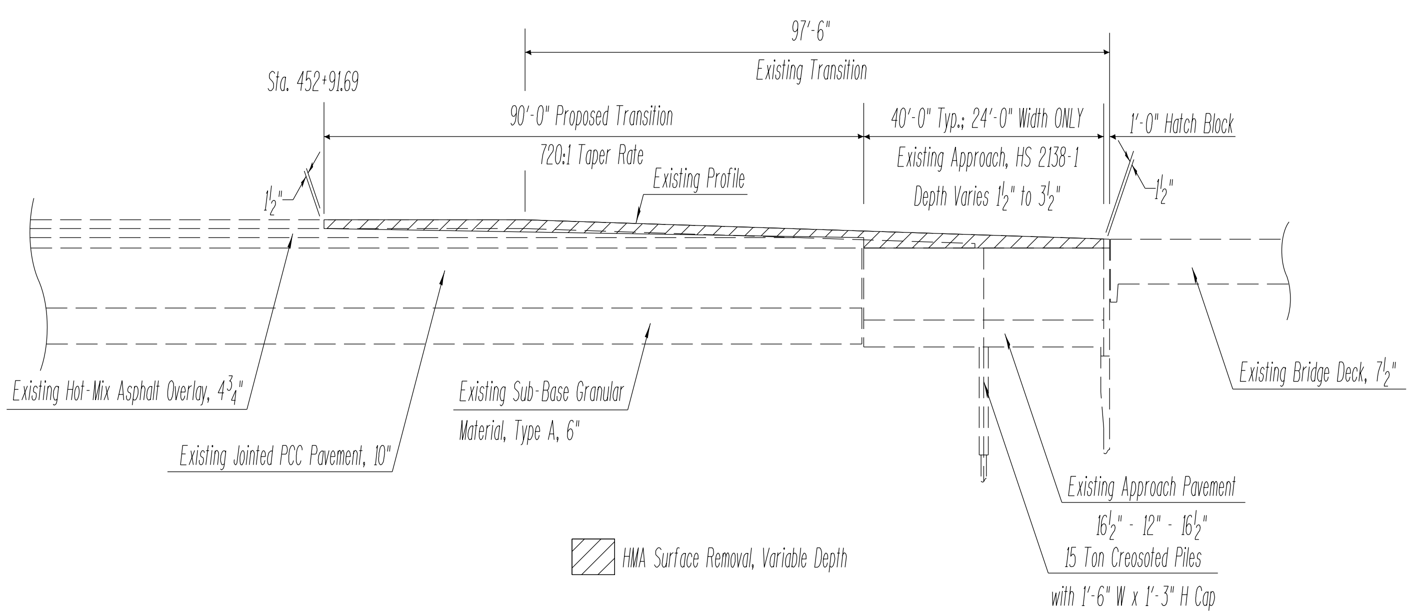
PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE



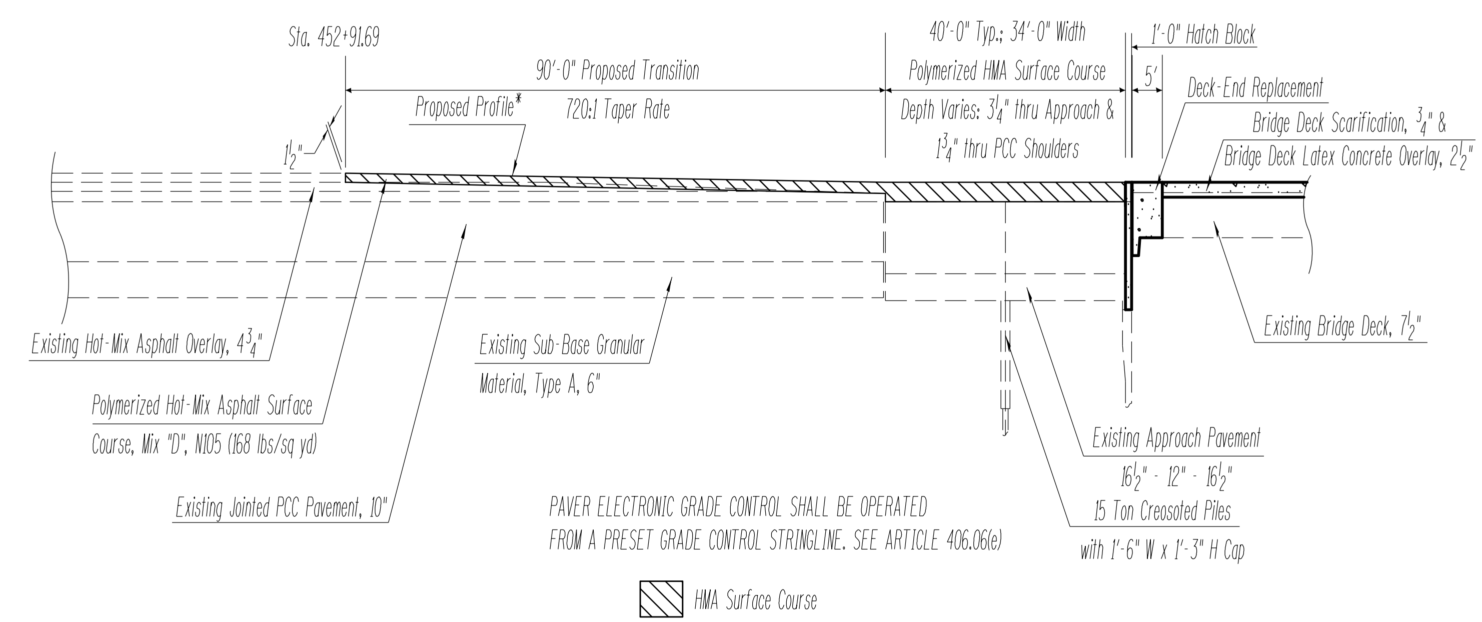
Existing Plan



Proposed Plan



Existing Elevation



Proposed Elevation

BILL OF MATERIAL

Structure	Item	Unit	Total
010-0009	HMA Surface Removal, Variable Depth	Sq Yd	469.0
	Polymerized HMA Surface Course, Mix "D", N90	Tons	55.0

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	PLOT DATE = 11/19/2015	DATE - 6/27/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

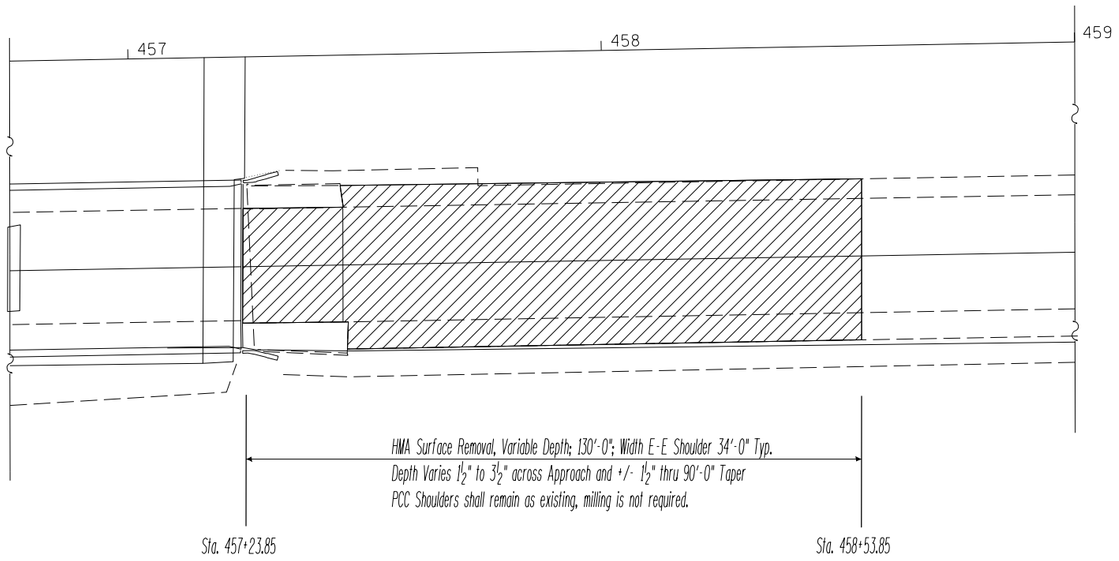
SOUTH APPROACH RUNDOWN TRANSITION DETAILS
S.N. 010-0009 (NB)

SCALE: SHEET OF SHEETS STA. TO STA.

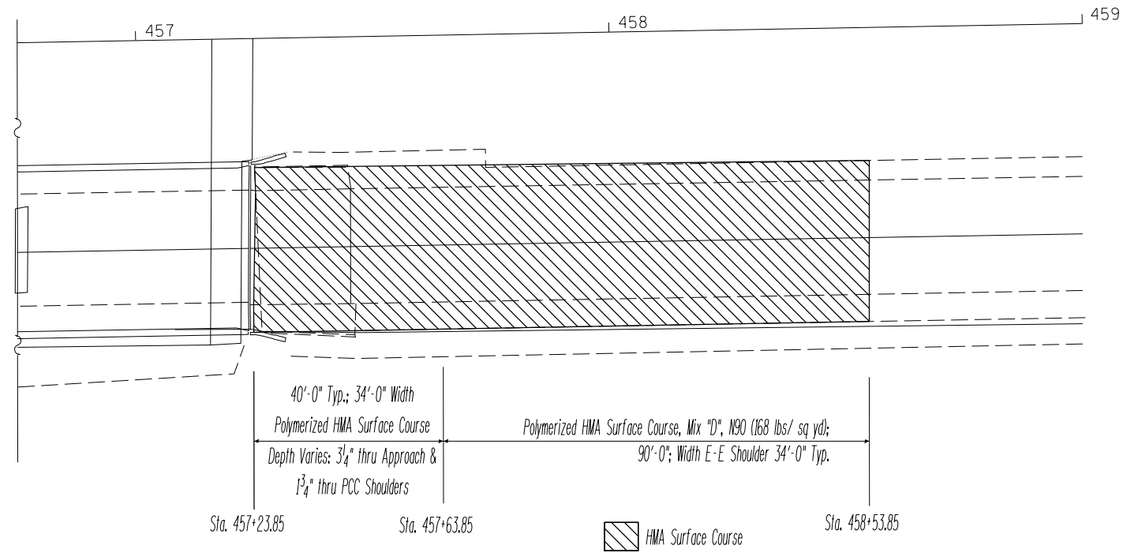
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	13

CONTRACT NO. 90951

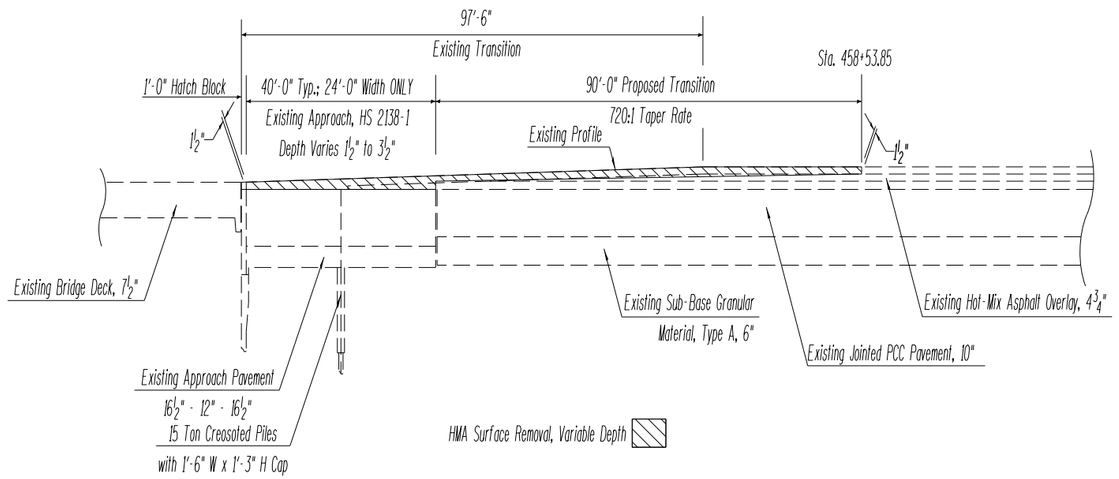
ILLINOIS FED. AID PROJECT



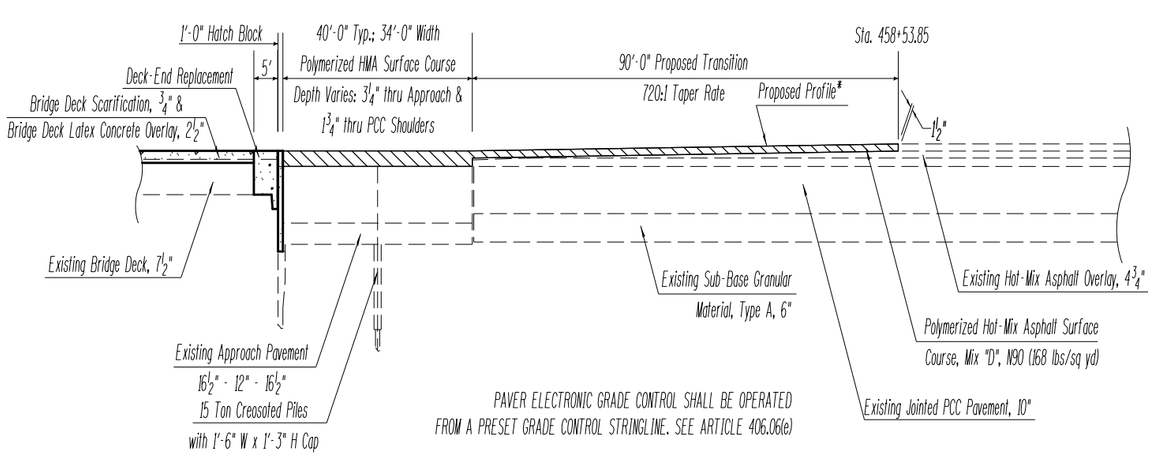
Existing Plan



Proposed Plan



Existing Elevation



Proposed Elevation

BILL OF MATERIAL

Structure	Item	Unit	Total
010-0009	HMA Surface Removal, Variable Depth	Sq Yd	469.0
	Polymerized HMA Surface Course, Mix "D", N90	Tons	55.0

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

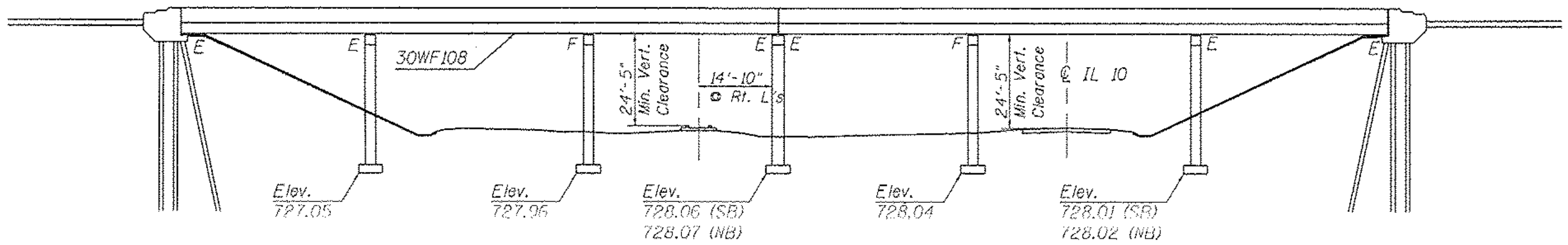
NORTH DEPARTURE RUNDOWN TRANSITION DETAILS
S.N. 010-0009 (NB)

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

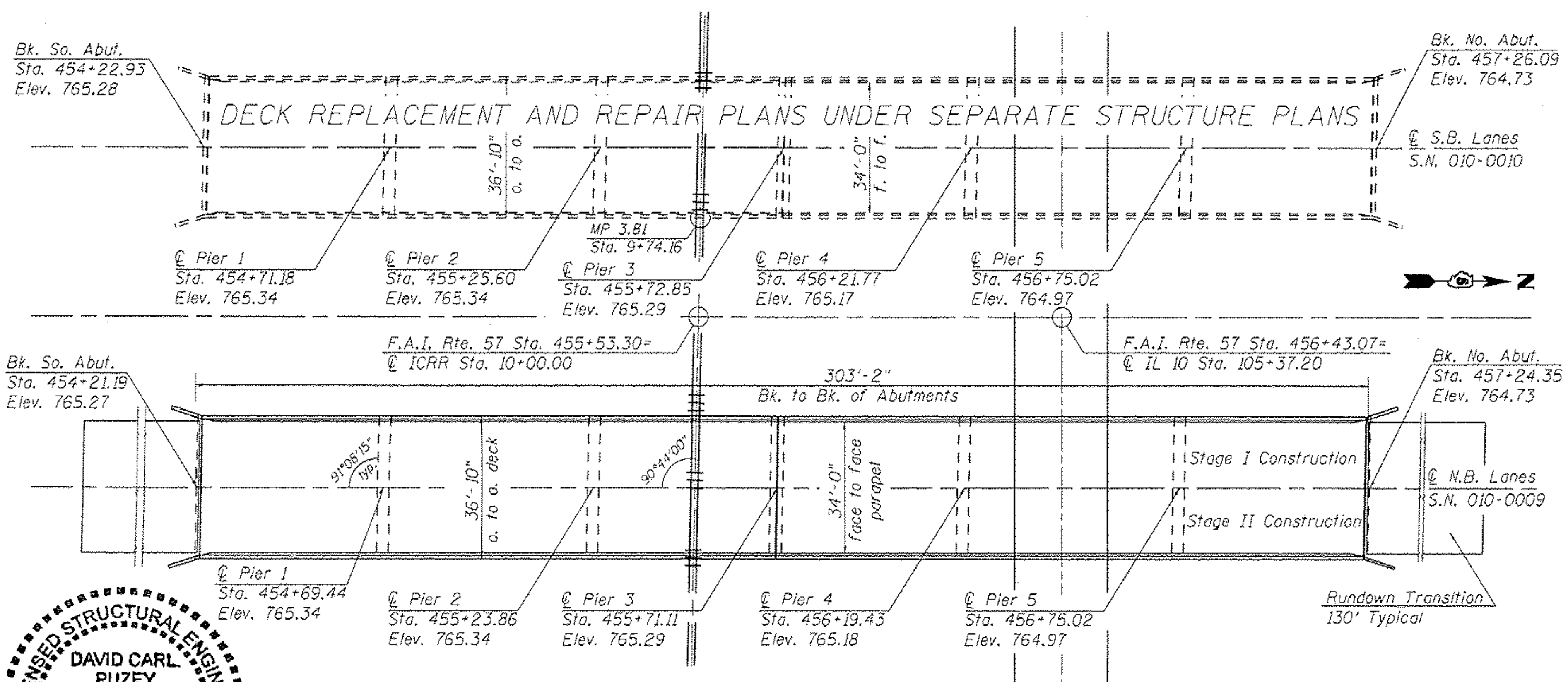
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	14
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

Existing structure numbers 010-0009 (NB) and 010-0010 (SB) were built in 1964 as FAI 57, Section 10-33HVB, Contract 23378 at Station 456+43.07 in Champaign Co. The structures carry FAI 57 over IL 10 and ICRR. In 1977 the structures had waterproofing membrane system installed, H.M.A. wearing surface placed, expansion joints reconstructed, and deck patching accomplished as Section District 5 Bridge Deck Waterproofing 1977-1, Contract 32309. In 1988 the structures were rehabilitated as Section 10-33HVB-1&(10-33HB-2)I, Contract 42378. The structures had expansion joints reconstructed, parapet reconstructed, deck drains replaced, bearings repositioned, and slopewall repaired. The deck on SN 010-0009 was replaced with this contract. In 2003, SN 010-0010 received a new H.M.A. wearing surface with Section 10((31,32)RS-1;33RS-4), Contract 70009. In 2006, the preformed joints at the abutments were replaced with polymer concrete and silicone joints, and the preformed joint at the pier was replaced with a silicone joint by the District 5 Bridge Crew. In 2007, the District 5 Bridge Crew performed partial depth patching on the deck of SN 010-0010. In 2010, 2011, 2012, 2013 & 2014 various joint and patching repairs were completed by the District 5 Bridge Crew.

The structures consist of six span cast-in-place concrete deck on steel beams supported by solid hammerhead piers and pile bent abutments. The back to back abutment is 303'-2" and the out to out width is 36'-10" for each structure.



ELEVATION VIEW



PLAN VIEW

FUTURE WEARING SURFACE NOT ALLOWED

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

D. Carl Puzey 12/1/15
Expires 11/30/16

PROPOSED WORK

1. Perform Bridge Deck Scarification.
2. Perform Full-Depth Patching, Removal of Deck Ends, Parapets, and Hatch Blocks.
3. Removal of Existing Joints.
4. Removal of HMA on Exisiting Approach Pavements.
5. Replace End Diaphragms and Repair Beam Ends.
6. Replace Existing Bearings with Elastomeric Bearings at Abutments and Pier 3.
7. Place Reinforcement Bars, Locking Edge Rail and Shear Studs.
8. Cast Deck Ends, Parapet Ends and Hatch Blocks.
9. Install Preformed Joint Strip Seal into Locking Edge Rails.
10. Place Latex Concrete Overlay on Bridge Deck.
11. Repair Substructure Units.
12. Complete Milling Transitions and HMA Overlay at Approach Ends.

BILL OF MATERIALS

Item	Unit	Total
CONCRETE REMOVAL	CU YD	27.0
SLOPE WALL REMOVAL	SQ YD	54.0
PROTECTIVE SHIELD	SQ YD	186.0
CONCRETE STRUCTURES	CU YD	2.2
CONCRETE SUPERSTRUCTURE	CU YD	29.4
BRIDGE DECK GROOVING	SQ YD	1,070.0
PROTECTIVE COAT	SQ YD	84.0
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	9,220.0
STUD SHEAR CONNECTORS	EACH	360.0
REINFORCEMENT BARS, EPOXY COATED	POUND	4,840.0
BAR SPLICERS	EACH	64.0
MECHANICAL SPLICERS	EACH	321.0
SLOPE WALL 4 INCH	SQ YD	54.0
PREFORMED JOINT STRIP SEAL	FOOT	114.0
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12.0
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12.0
ANCHOR BOLTS, 1"	EACH	48.0
JACK AND REMOVE EXISTING BEARINGS	EACH	24.0
STRUCTURAL STEEL REMOVAL	POUND	5,850.0
STRUCTURAL STEEL REPAIR	POUND	1,640.0
BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/2"	SQ YD	1,020.0
BRIDGE DECK SCARIFICATION, 3/4"	SQ YD	1,020.0
STRUCTURAL REPAIR OF CONCRETE (DEPTH = OR < 5 INCHES)	SQ FT	159.0
DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	6.0
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	18.0
DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	1,070.0
TEMPORARY SHORING AND CRIBBING	EACH	2.0

GENERAL NOTES

The deck ends and hatch blocks shall have its final surface tined according to Article 420.09 (e)(1) of the Standard Specifications. Cost to be included with concrete superstructure.

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make the necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work. However, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

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

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 surface in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

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".

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.

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.

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	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

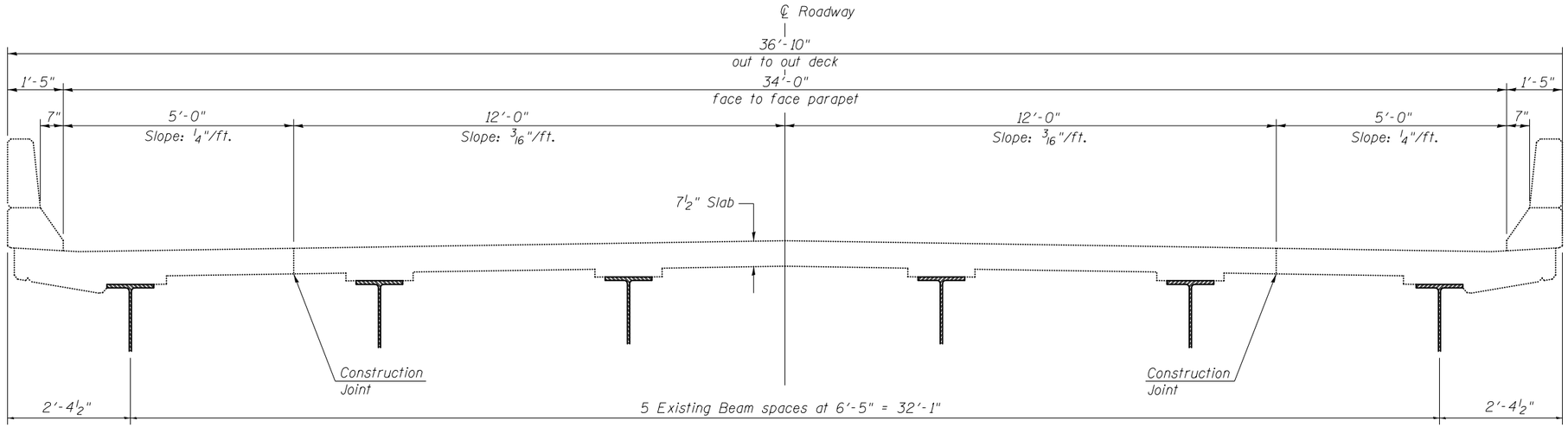
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
S.N. 010-0009 (NB)

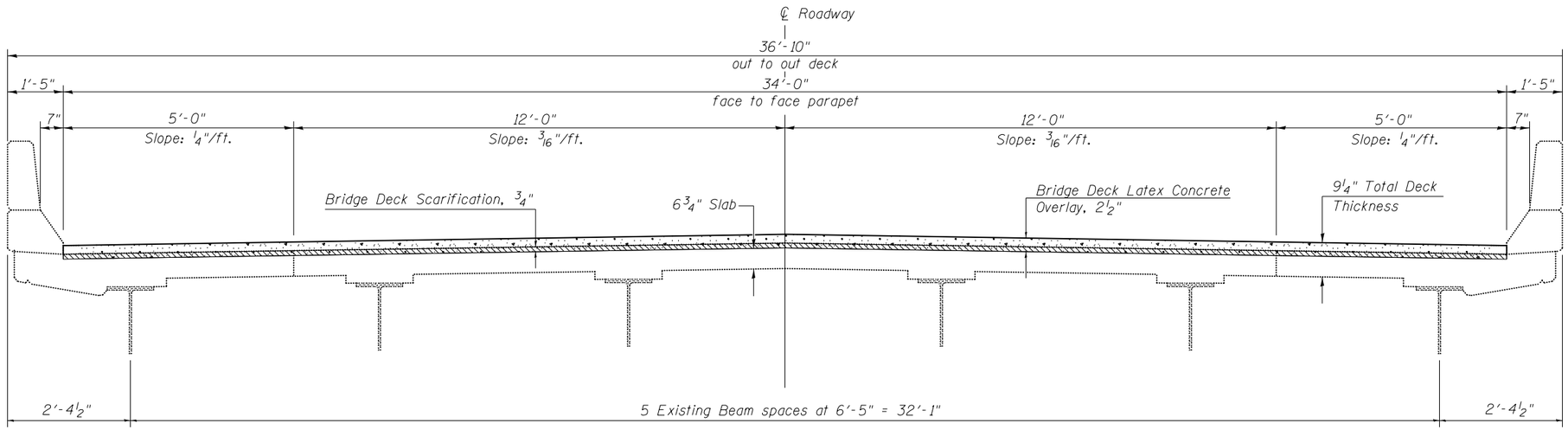
SCALE: | SHEET 1 OF 18 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	15
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

EXISTING CROSS SECTION
S.N. 010–0009 (NB)



PROPOSED CROSS SECTION
S.N. 010–0009 (NB)



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	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

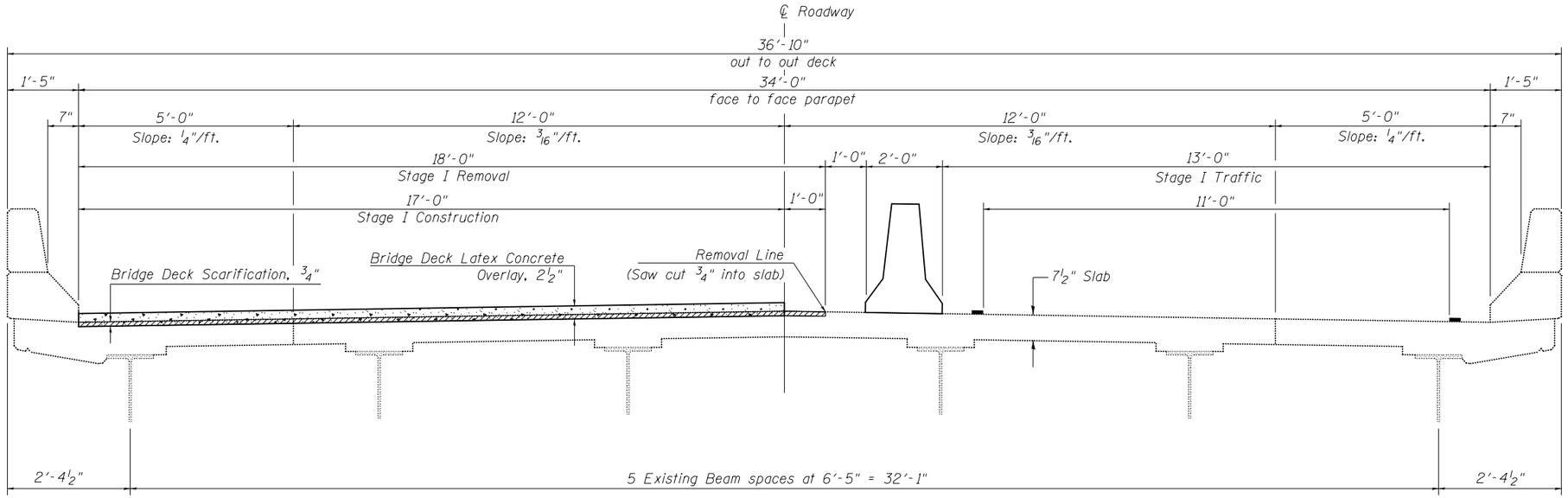
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION
S.N. 010–0009 (NB)

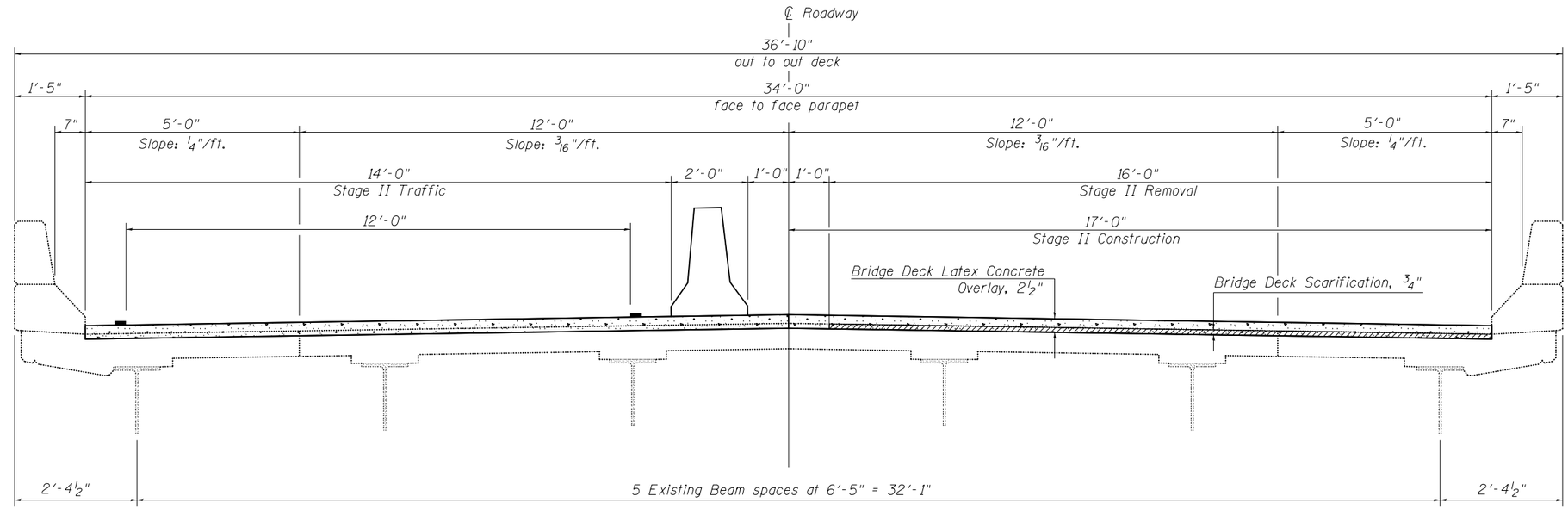
SCALE: | SHEET 2 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	16
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

STAGE I CONSTRUCTION DETAILS
S.N. 010–0009 (NB)
VIEW NORTH



STAGE II CONSTRUCTION DETAILS
S.N. 010–0009 (NB)
VIEW NORTH



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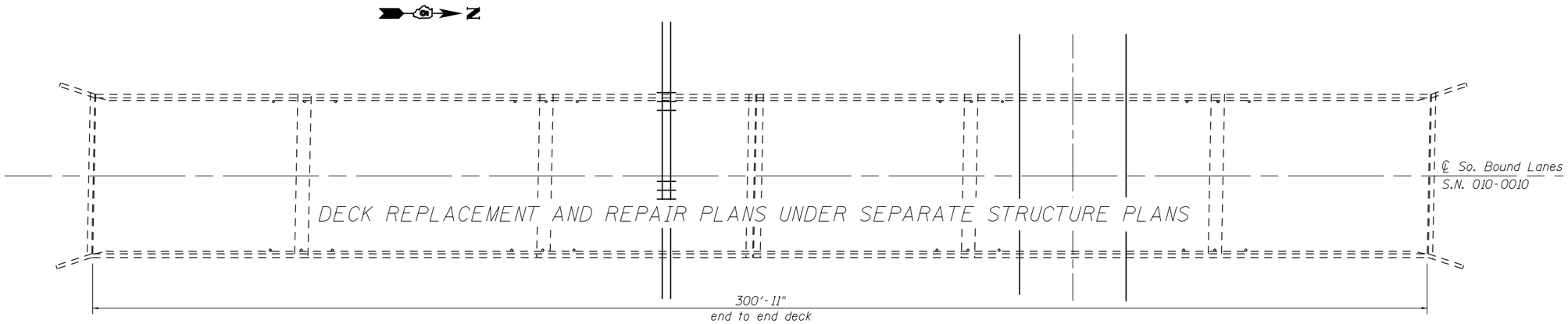
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

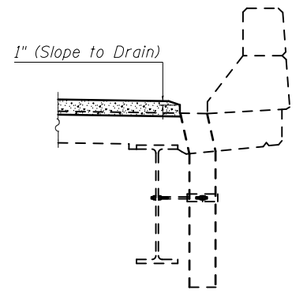
DECK STAGE SECTION
S.N. 010–0009 (NB)

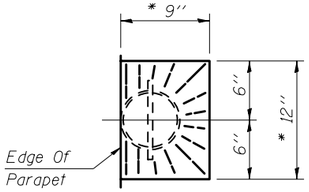
SCALE: | SHEET 3 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	17
		CONTRACT NO. 90951		
		ILLINOIS	FED. AID PROJECT	



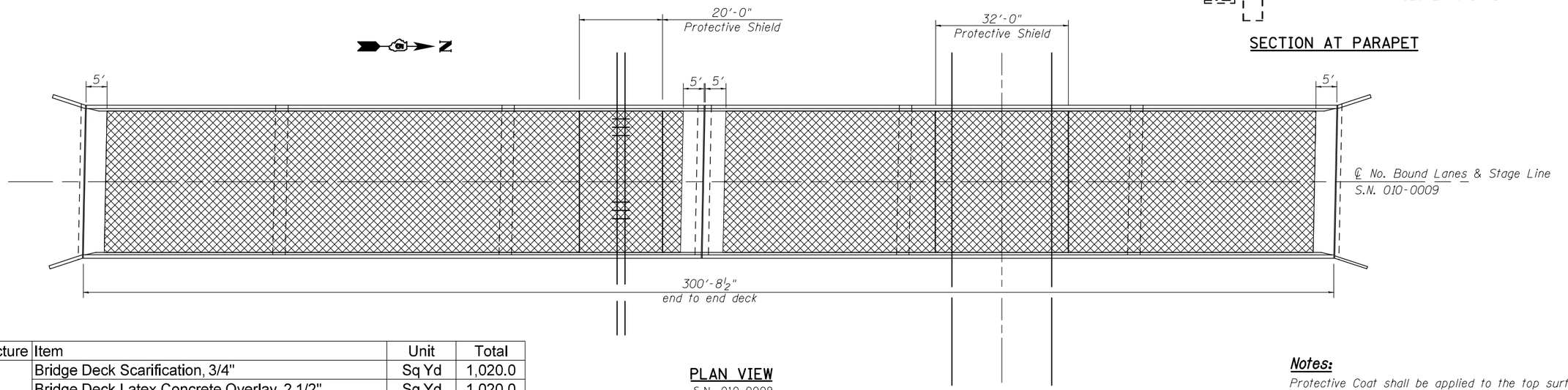
PLAN VIEW
S.N. 010-0010





TOP PLAN
* SLOPE TO DRAIN

SECTION AT PARAPET



PLAN VIEW
S.N. 010-0009

Structure	Item	Unit	Total
010-0009	Bridge Deck Scarification, 3/4"	Sq Yd	1,020.0
	Bridge Deck Latex Concrete Overlay, 2 1/2"	Sq Yd	1,020.0
	Bridge Deck Grooving	Sq Yd	1,070.0
	Protective Sheild	Sq Yd	186.0
	Protective Coat	Sq Yd	84.0

Notes:

Protective Coat shall be applied to the top surface of the proposed deck ends, top and inside vertical faces of parapets.

Bridge Deck Latex Concrete Overlay, 2½"

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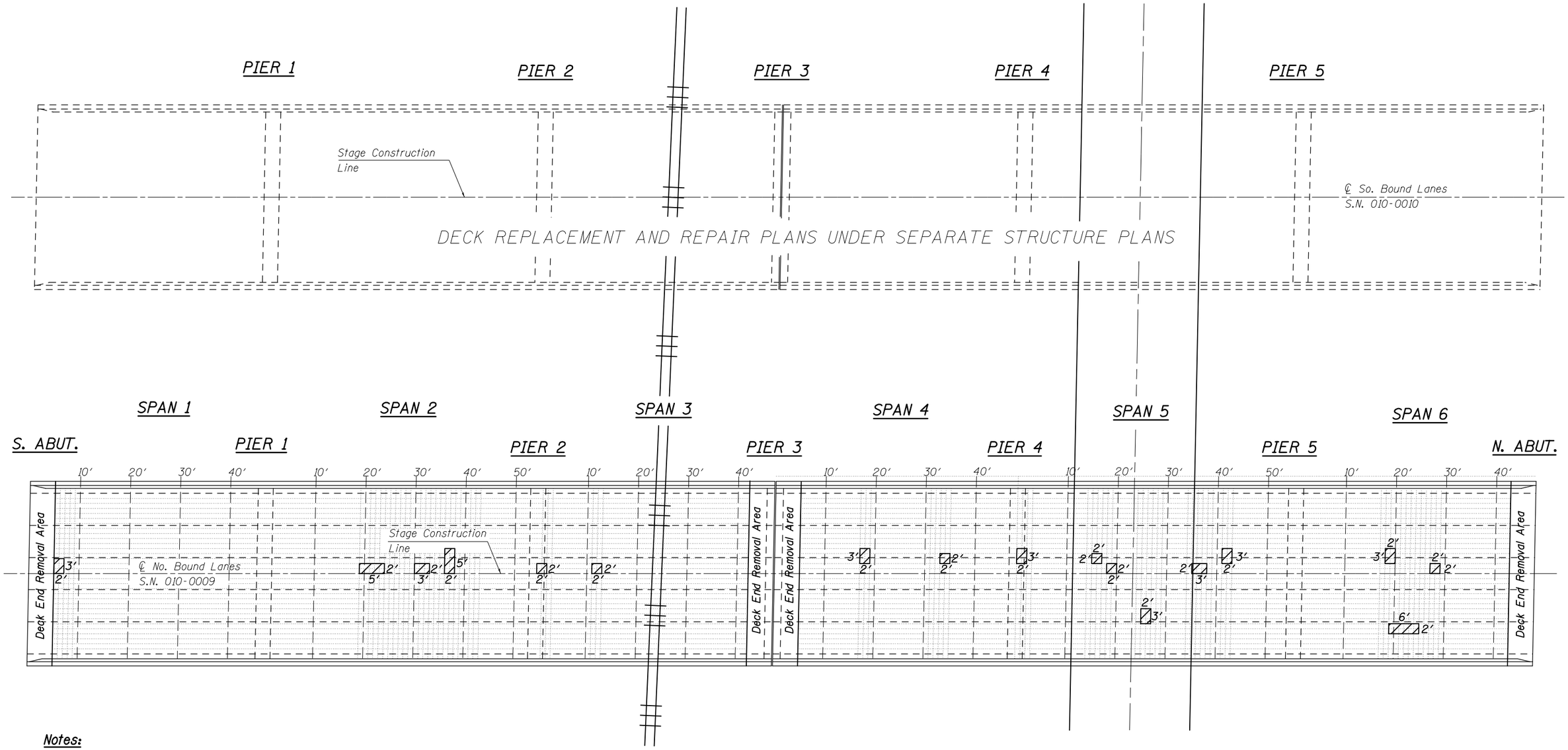
	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEARING SURFACE PLAN
S.N. 010-0009 (NB)

SCALE: | SHEET 4 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	18
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



Notes:

Deck Sounding completed by Bridge Inspectors August 16, 2012 with areas of Partial-Depth patching shown equally approximately 1% of the Deck Area. To be addressed with Bridge Deck Scarification, $\frac{3}{4}$"

Based on current condition, no Full-Depth patching is warranted. However, quantities have been inlcuded to repair 2% of the Deck Area should any be required after Bridge Deck Scarification, $\frac{3}{4}$".

The actual sizes and locations of patching shall be determined by the engineer. The Engineer shall show the actual locations of the deck repairs on this sheet for future information.

Extreme care must be used when removing concrete near the top flange of the beams. The contractor is responsible for any damage to the beams.

Partial-Depth Patching addressed with Bridge Deck Scarification, $\frac{3}{4}$"

Structure	Item	Unit	Total
010-0009	Deck Slab Repair (Full Depth, Type I)	Sq Yd	6.0
010-0009	Deck Slab Repair (Full Depth, Type II)	Sq Yd	18.0

Deck Slab Repair (Full Depth, Type I) (<= 5 sq ft) or
Deck Slab Repair (Full Depth, Type II) (> 5 sq ft)

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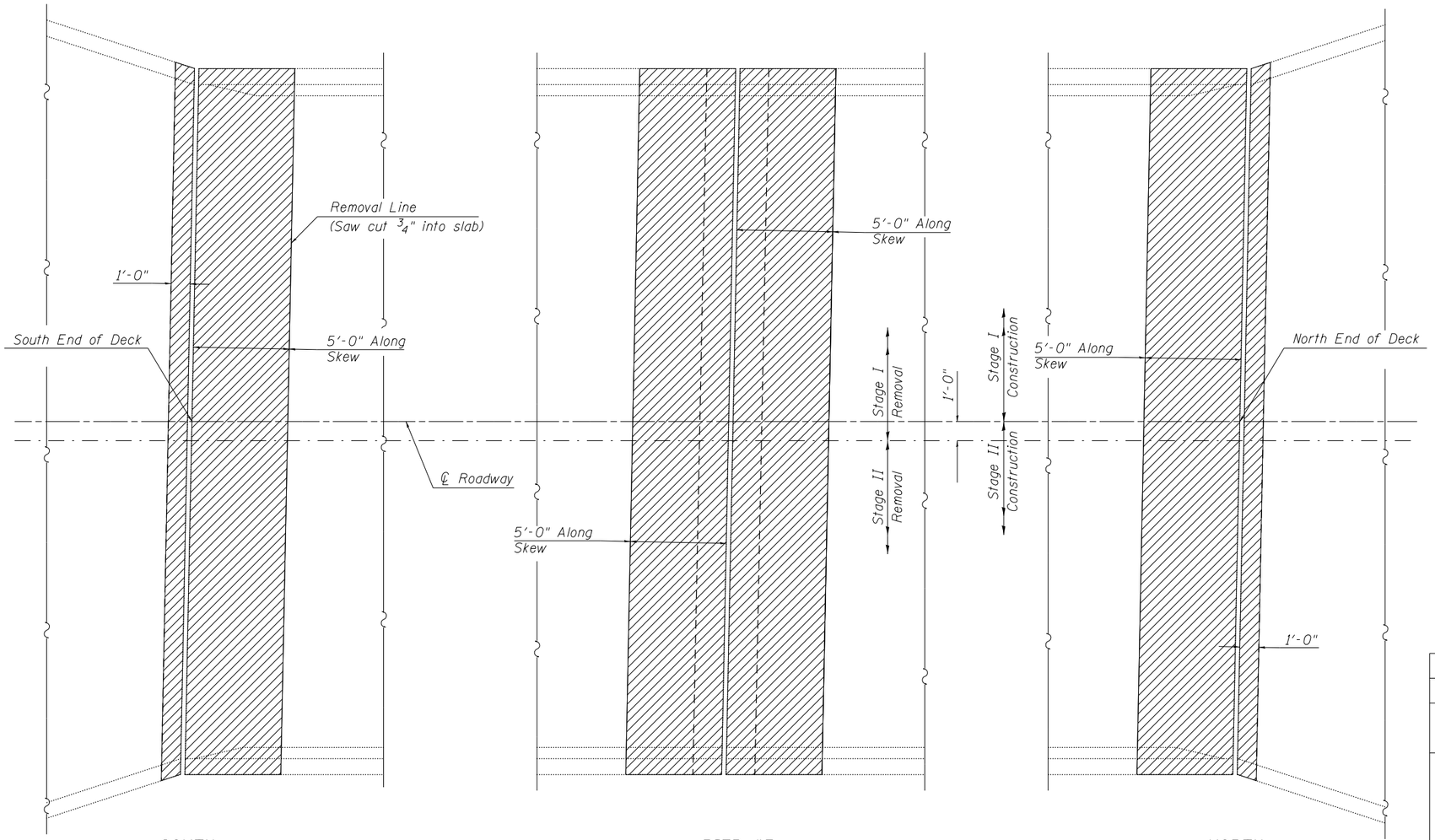
	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 3/7/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK SLAB REPAIR & AS-BUILT PATCHING RECORD
S.N. 010-0009 (NB)

SCALE: | SHEET 5 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	19
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



SOUTH ABUTMENT

PIER #3

NORTH ABUTMENT

S.N. 010-0009 (NB)

Concrete Removal

Bill of Materials			
Concrete Removal			
Structure	Component	Location	Volume (Cu. Yd.)
010-0009	Parapet	N. Abut	1.0
	Parapet	S. Abut	1.0
	Deck End	N. Abut	4.6
	Deck End	S. Abut	4.6
	Deck End	Pier 3	9.2
	Hatch Block	N. Abut	1.8
	Hatch Block	S. Abut	1.8
	Wingall	N. Abut	0.4
	Wingall	S. Abut	0.4
		Total =	24.8

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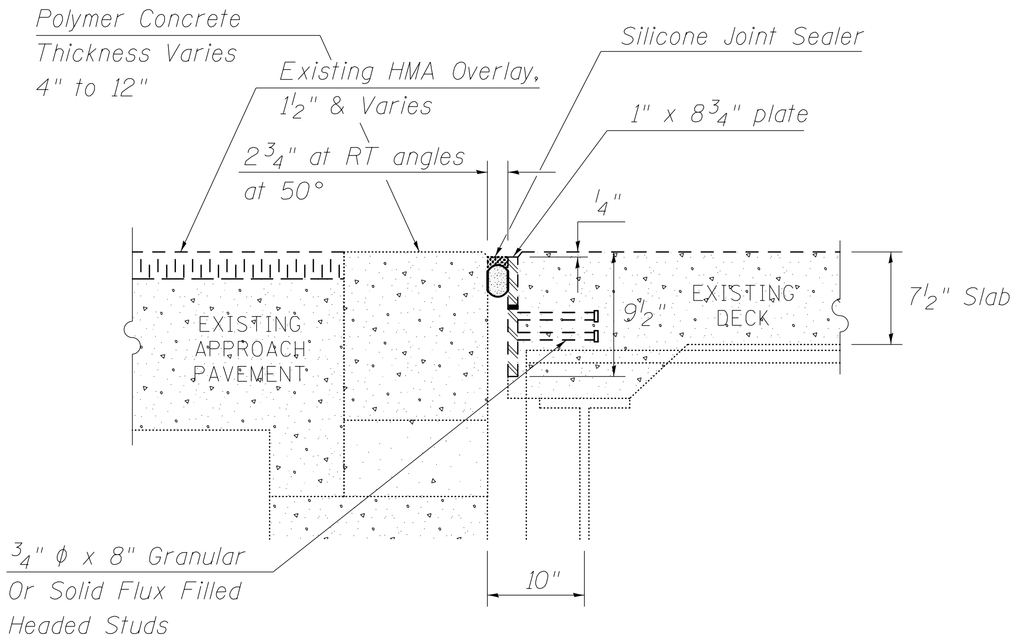
	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE PLAN – CONCRETE REMOVAL
S.N. 010-0009 (NB)

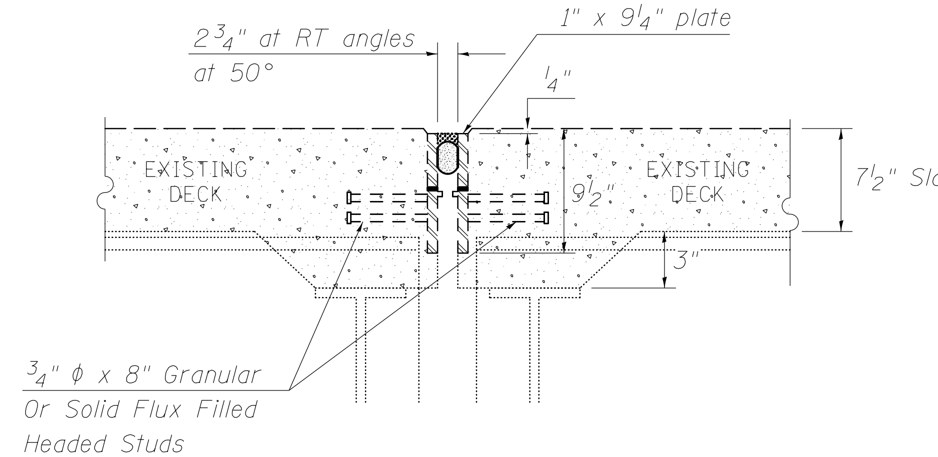
SCALE: | SHEET 6 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	20
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



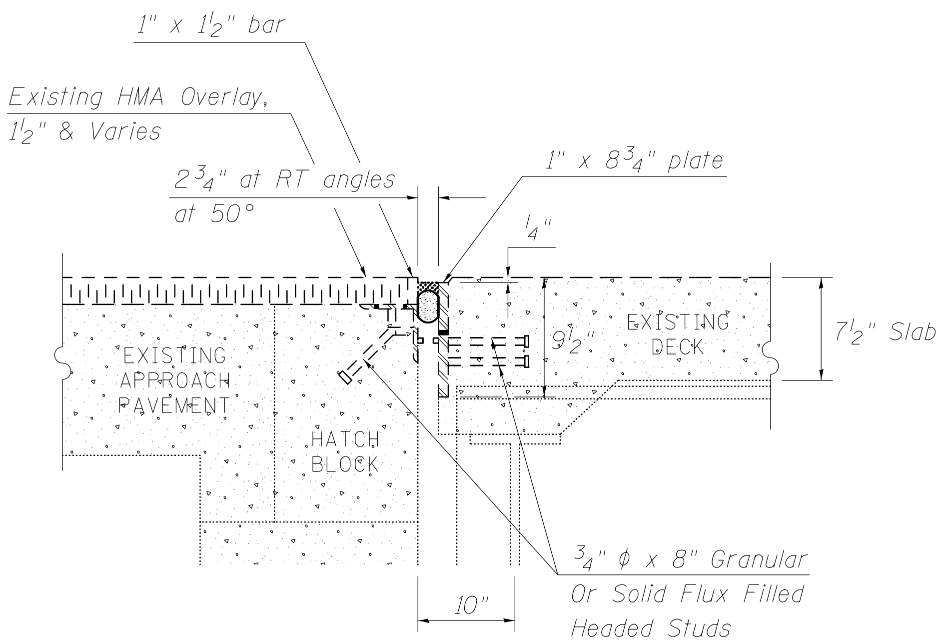
SECTION AT EXISTING JOINT

S.N. 010-0009 (SOUTH ABUTMENT)



SECTION AT EXISTING JOINT

S.N. 010-0009 (PIER 3)



SECTION AT EXISTING JOINT

S.N. 010-0009 (NORTH ABUTMENT)

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	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

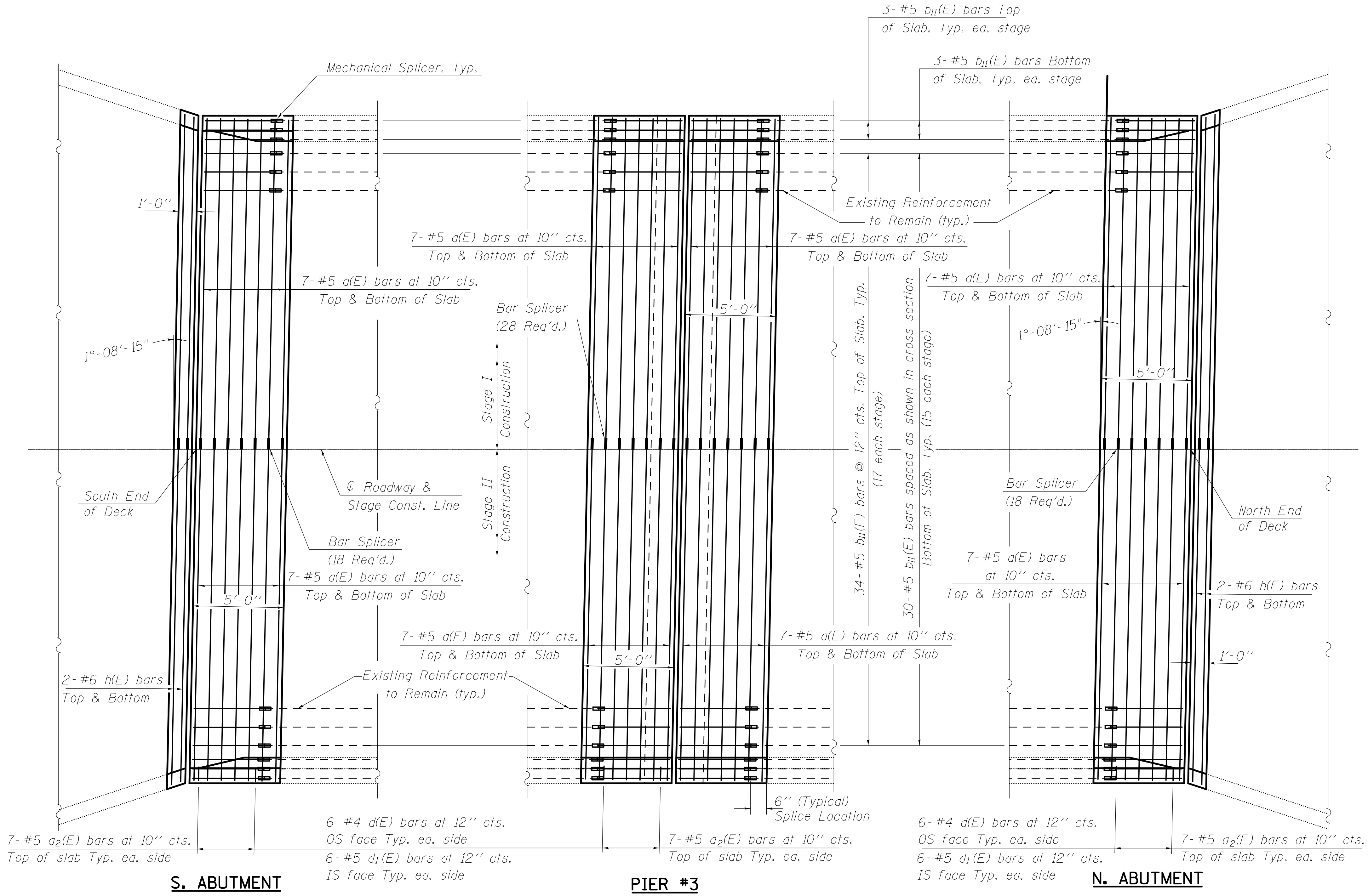
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

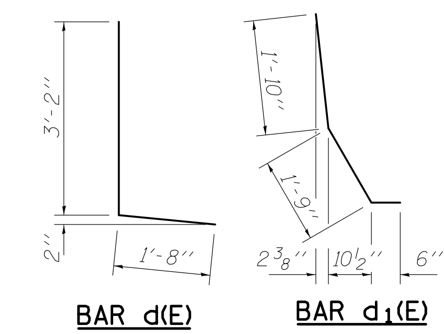
EXISTING JOINT DETAILS
S.N. 010–0009 (NB)

SCALE: | SHEET 7 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	21
		CONTRACT NO. 90951		

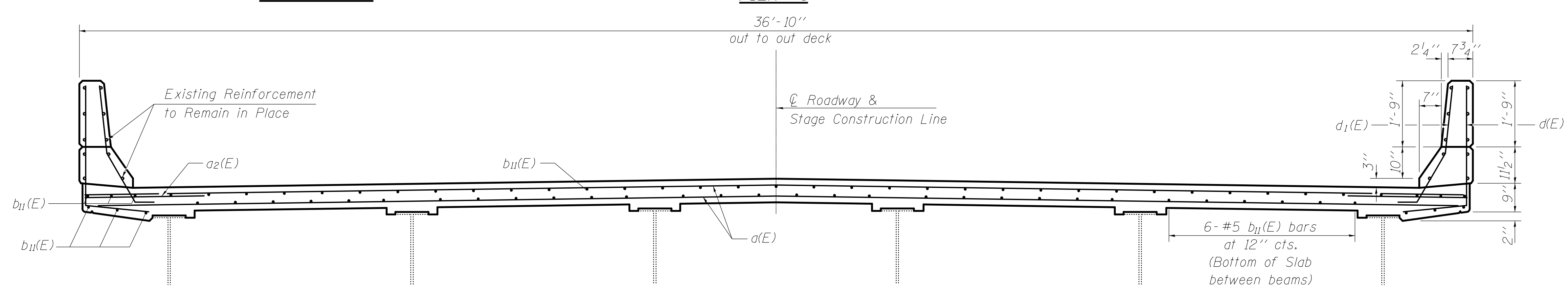
ILLINOIS | FED. AID PROJECT





S.N. 010-0009
Bill of Material

Bar	No.	Size	Length	Shape
a(E)	112	#5	17'-9"	——
a2(E)	56	#5	4'-0"	——
b11(E)	304	#5	4'-4"	——
d(E)	48	#4	4'-10"	L
d1(E)	48	#5	4'-1"	L
h(E)	16	#6	18'-3"	——
Stud Shear Connectors			Each	360
Mechanical Splicers			Each	304
Reinforcement Bars, Epoxy Coated			Pound	4480
Concrete Superstructure			Cu. Yds.	29.4
Bar Splicers			Each	64



Notes:

All existing reinforcement in parapets extending into removal area shall be cleaned and incorporated into the new construction. Cost to be included with Concrete Superstructure.

Proposed longitudinal reinforcement in deck to be mechanically spliced to existing reinforcement 6" from removal line.

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	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/28/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

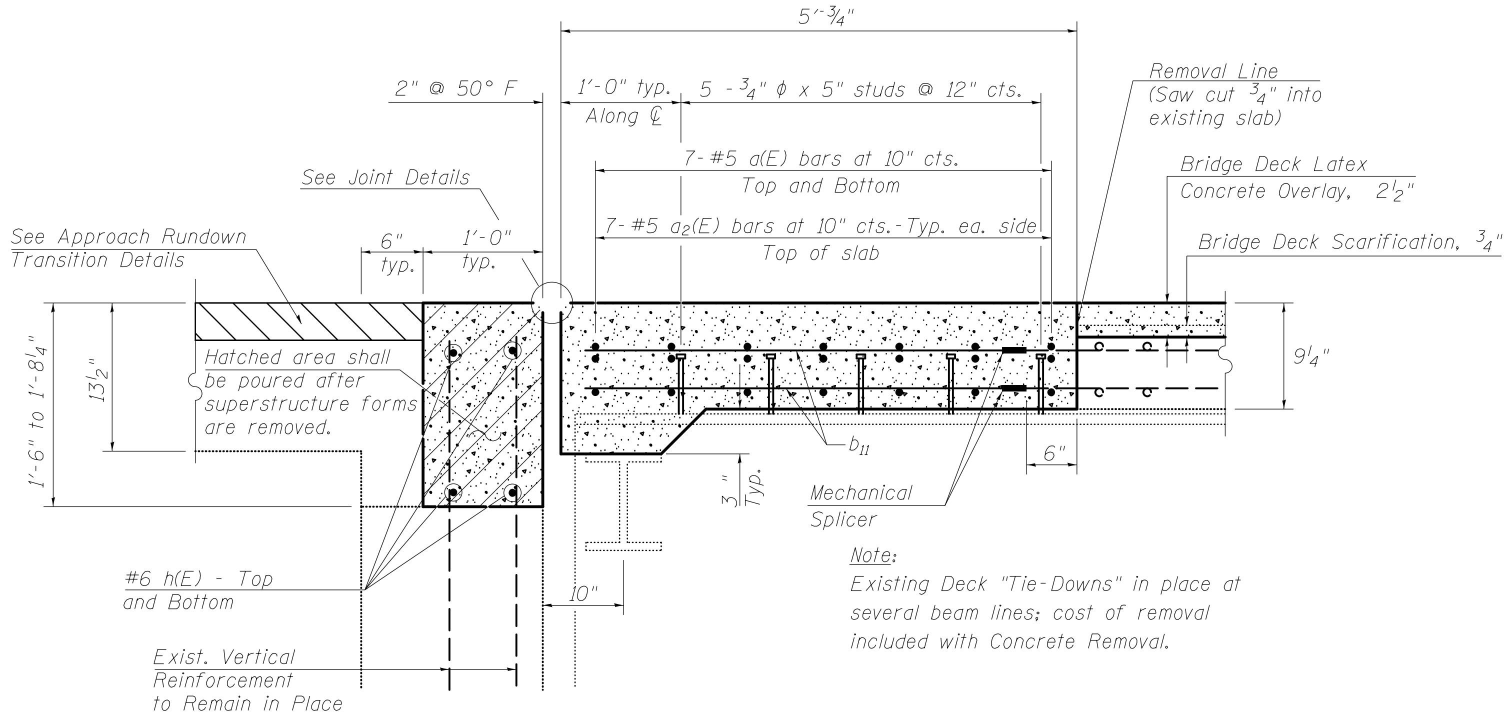
SUPERSTRUCTURE PLAN – DECK REINFORCEMENT
S.N. 010–0009 (NB)

SCALE: SHEET 8 OF 18 SHEETS STA. TO STA.

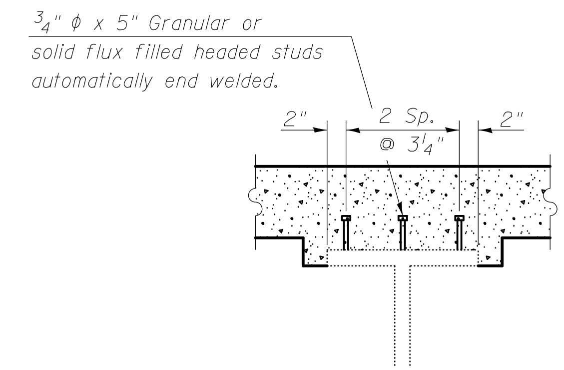
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	22

CONTRACT NO. 90951

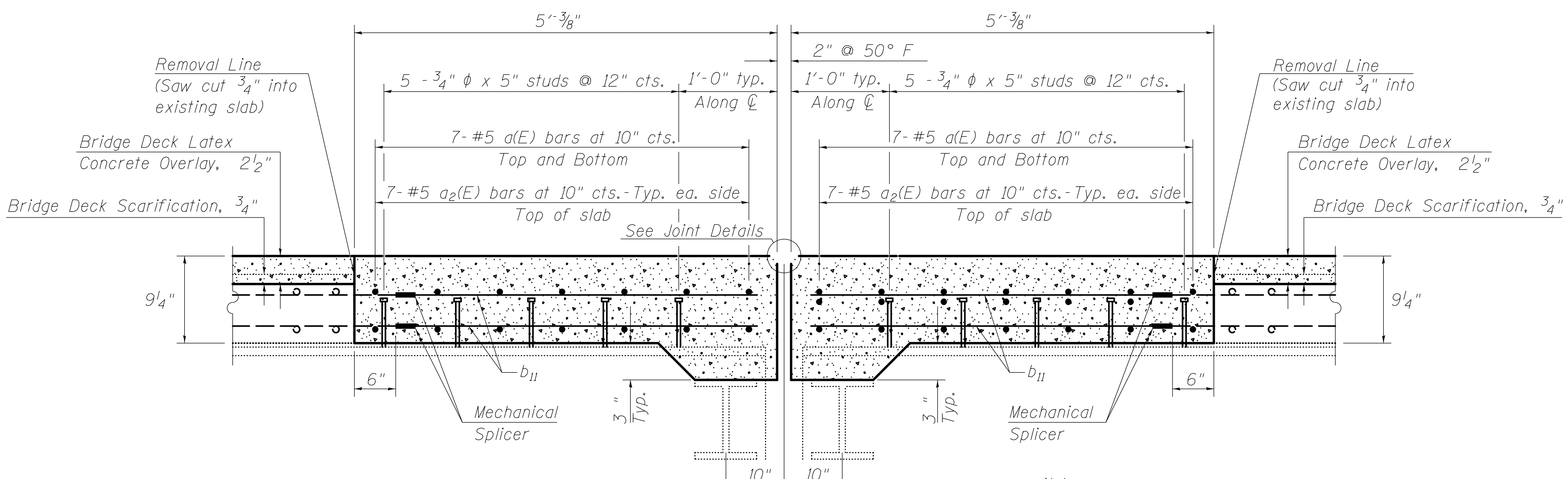
ILLINOIS FED. AID PROJECT



SECTION AT PROPOSED JOINT
S.N. 010-0009 (NORTH & SOUTH ABUTMENT)



SECTION AT BEAM AT DECK END



Note:
Existing Deck "Tie-Downs" in place at several beam lines; cost of removal included with Concrete Removal.

SECTION AT PROPOSED JOINT
S.N. 010-0009 (PIER 3)

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		DATE - 5/18/2012	REVISED - 1/28/2015

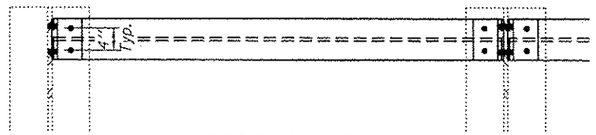
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED JOINT DETAILS
S.N. 010–0009 (NB)

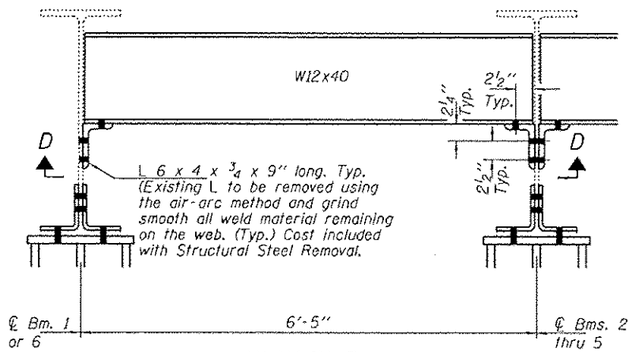
SCALE: SHEET 9 OF 18 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	23
		CONTRACT NO. 90951		

ILLINOIS FED. AID PROJECT



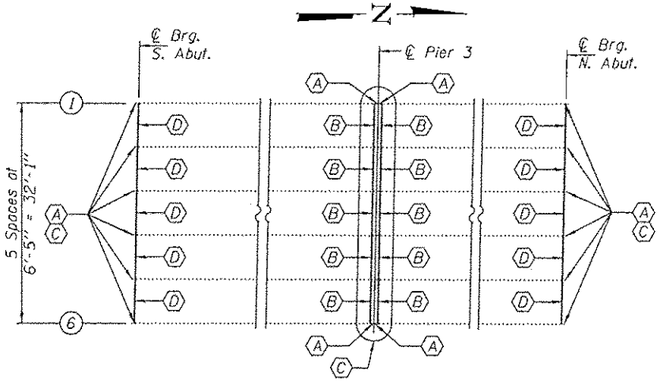
SECTION D-D



REPAIR D

DIAPHRAGM REPLACEMENT DETAIL

(10 Required)



PARTIAL FRAMING PLAN

- (A) - Beam end repair
- (B) - Diaphragm and clip angle replacement
- (C) - Bearing replacement. See sheets 11 & 12 of 18.
- (D) - Diaphragm and clip angle replacement

NOTES

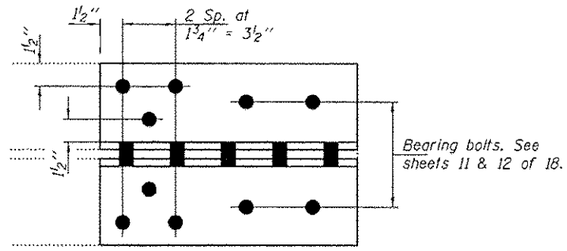
All structural steel shall conform to AASHTO Classification M-270 Gr. 36. unless otherwise noted.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Structural Steel Repair.

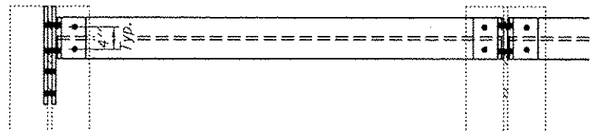
Cost of removal and/or re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Structural Steel Repair.

Fasteners shall be high strength bolts. Flange splice holes shall be $^{15}/_{16}$"ϕ for $^{7}/_{8}$"ϕ bolts. Web splice holes shall be $^{13}/_{16}$"ϕ for $^{3}/_{4}$"ϕ bolts.

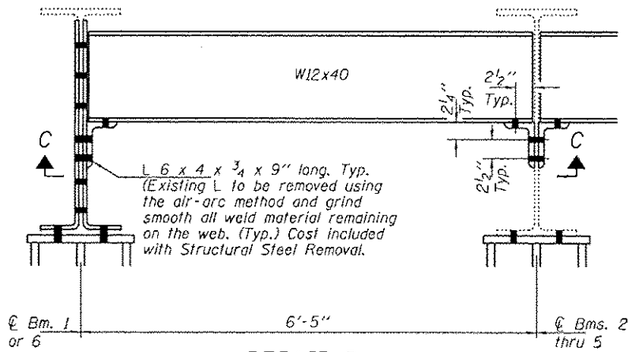
Note:
All new diaphragms and clip angles to be paid for as Furnishing and Erecting Structural Steel. All other steel and bolts to be paid for as Structural Steel Repair.



SECTION B-B



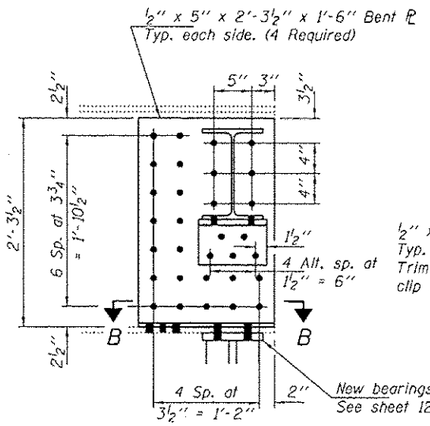
SECTION C-C



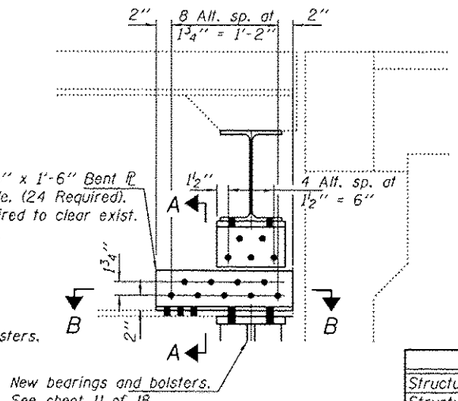
REPAIR B

DIAPHRAGM REPLACEMENT DETAIL

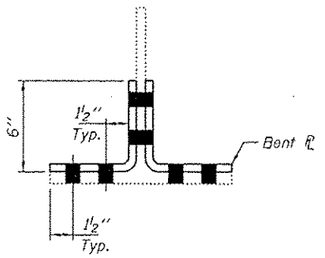
(10 Required)



REPAIR A AT PIER 3



REPAIR A AT ABUTMENTS



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	1640
Structural Steel Removal	Pound	5850
Furnishing and Erecting Structural Steel	Pound	5850

DESIGNED	TLC			
CHECKED	DAB			
DRAWN	baliva			
CHECKED	TLC DAB			

EXAMINED — ACTING ENGINEER OF STRUCTURAL SERVICES

PASSED — ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 9, 2015

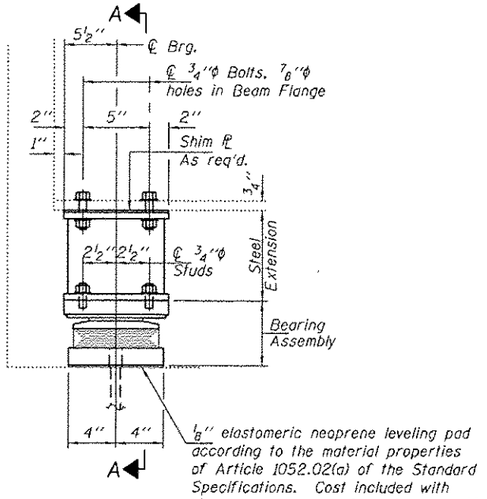
REVISED

REVISED

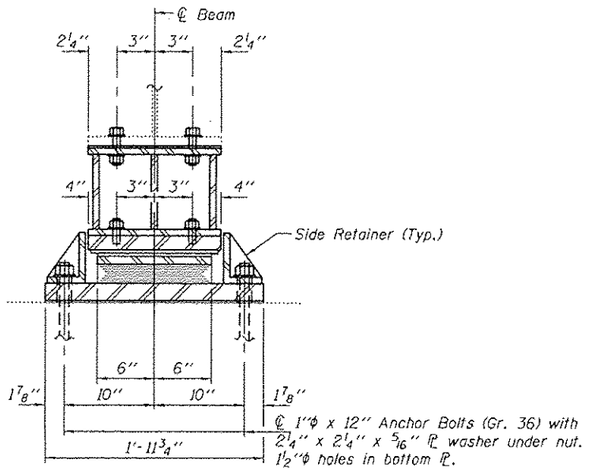
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
FAI 57 OVER IL 10 & IC RR
SN 010-0009
SHEET NO. 10 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	24
		CONTRACT NO. 90951		
ILLINOIS	FED. AID PROJECT			



ELEVATION AT ABUTMENT



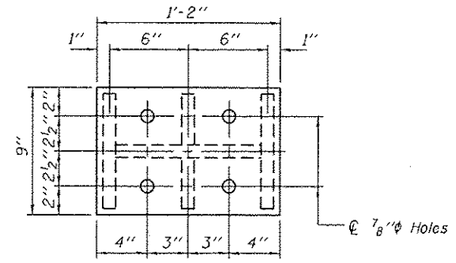
SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

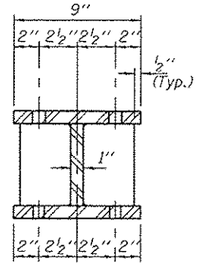
BEAM REACTIONS

RP	(K)	18.5
RL	(K)	32.0
Imp.	(K)	9.3
R (Total)	(K)	59.8

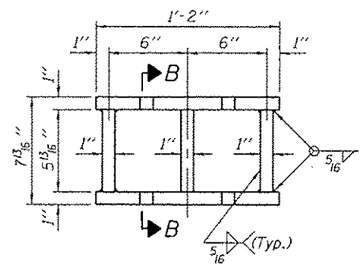
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 30 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 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.



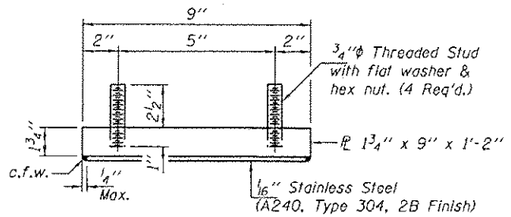
PLAN TOP AND BOTTOM PLATE



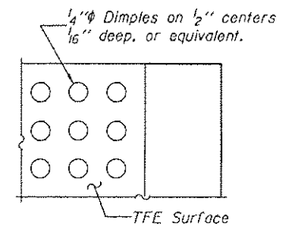
SECTION B-B



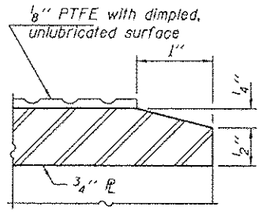
STEEL EXTENSION DETAIL



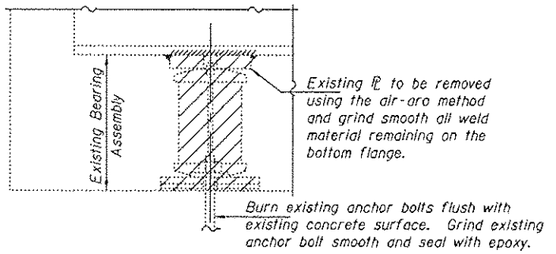
TOP BEARING ASSEMBLY
(Looking North)



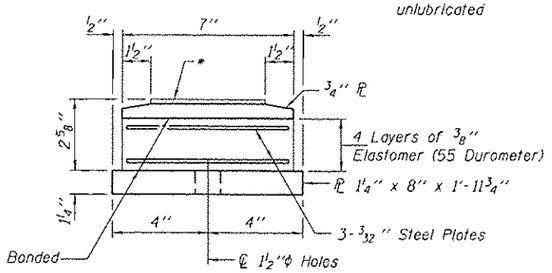
PLAN-TFE SURFACE



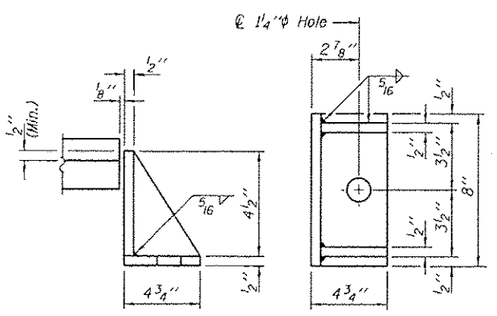
SECTION THRU TFE



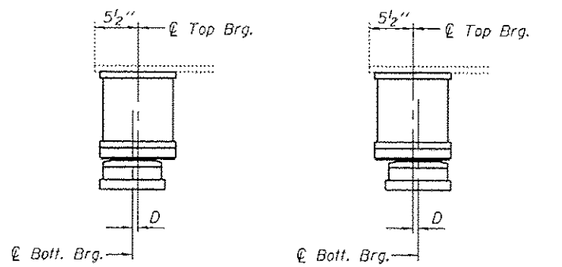
EXISTING BEARING REMOVAL DETAIL
Cost included with Jack and Remove Existing Bearings.



BOTTOM BEARING ASSEMBLY



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



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.

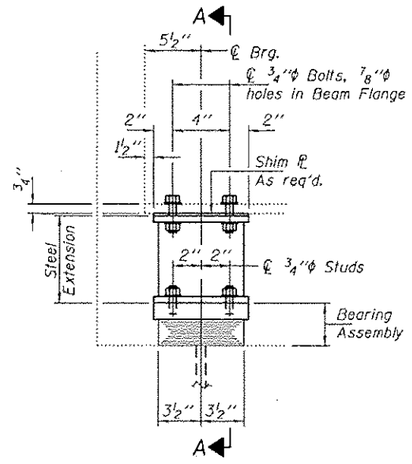
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1560
Anchor Bolts 1"ϕ	Each	24

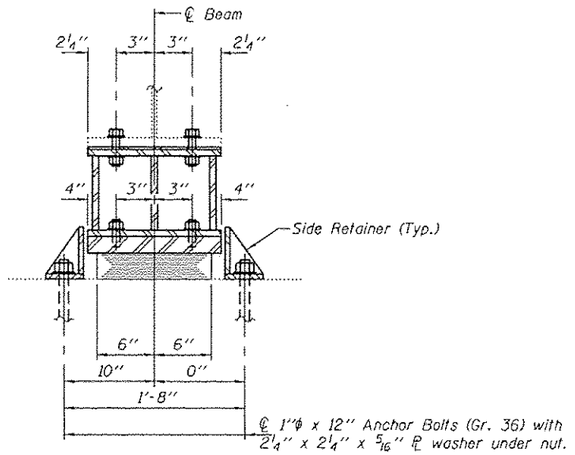
TYII/REPS 12-03-2008

DESIGNED TLC	EXAMINED	Timothy A. Bradt ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 9, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ABUTMENT BEARING REPLACEMENT DETAILS SN 010-0009
CHECKED DAB	PASSED	R Carl Puzey ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED		SHEET NO. 11 OF 18 SHEETS
DRAWN baliva			REVISED		
CHECKED TLC DAB					

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	25
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



ELEVATION AT PIER 3



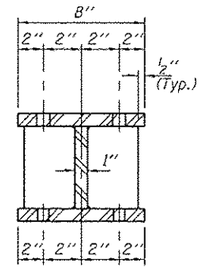
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

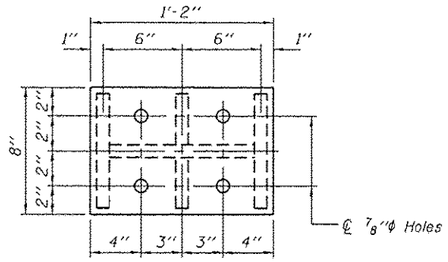
BEAM REACTIONS

R℄	(K)	18.5
R℄	(K)	32.0
Imp.	(K)	9.3
R (Total)	(K)	59.8

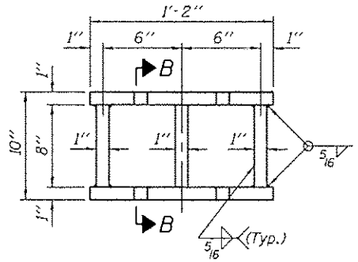
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 30 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.
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 I.



SECTION B-B



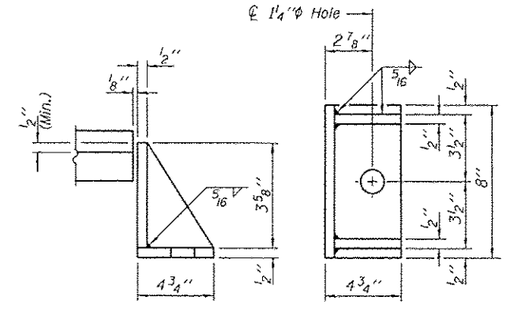
PLAN TOP AND BOTTOM PLATE



STEEL EXTENSION DETAIL

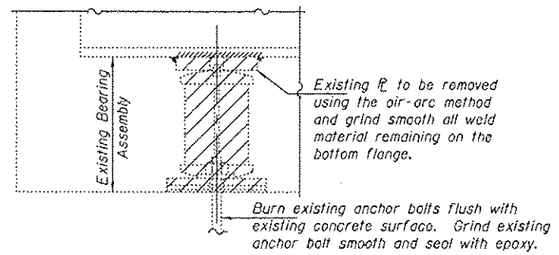
BEARING ASSEMBLY

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



SIDE RETAINER

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



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

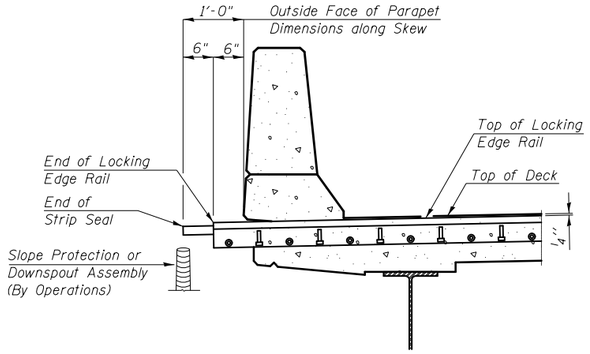
Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1810
Anchor Bolts 1"ϕ	Each	24

TYI/REPS 12-03-2008

DESIGNED TLC	EXAMINED Timothy A. Bradt, ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 9, 2015	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED DAB	PASSED Carl Puzey, ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
DRAWN baliva		REVISED	
CHECKED TLC DAB			

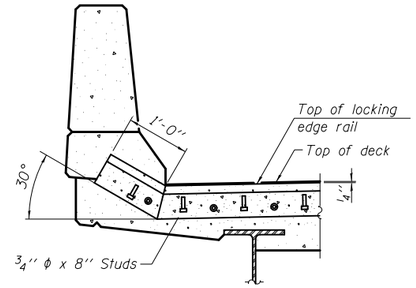
PIER 3 BEARING REPLACEMENT DETAILS
SN 010-0009
SHEET NO. 12 OF 18 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	26
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



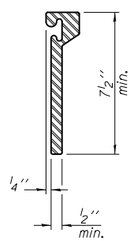
SECTION AT PROPOSED JOINT

(At North and South Abutments)

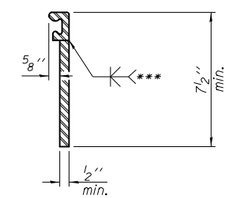


SECTION AT PROPOSED JOINT

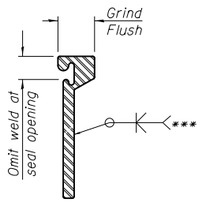
(At Pier #3)



ROLLED EXTRUDED RAIL



WELDED RAIL



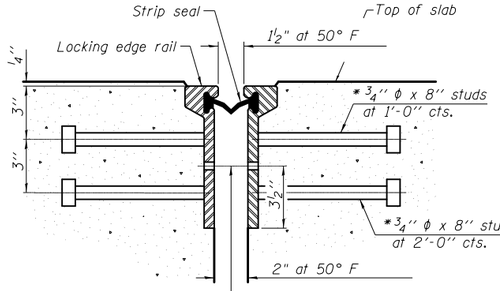
*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

LOCKING EDGE RAILS

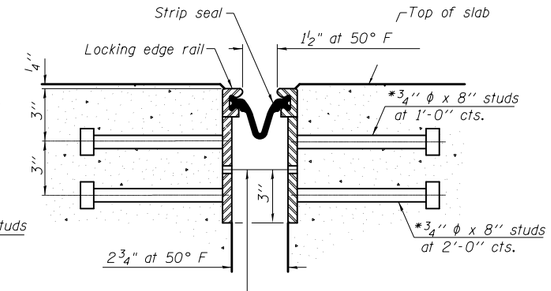
The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

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

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 conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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

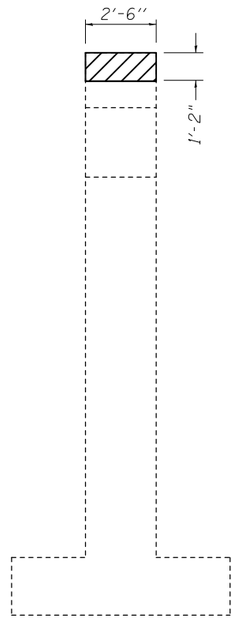
Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

BILL OF MATERIAL

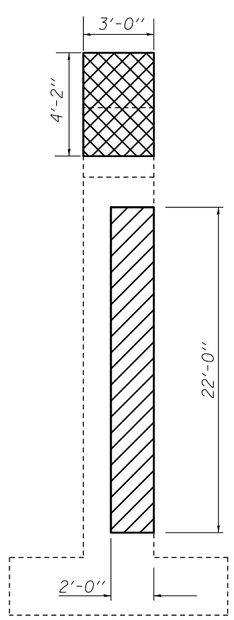
Structure	Item	Unit	Total
010-0009	Preformed Joint Strip Seal	Foot	114.0

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5040\DrawingData\Structures\010-0009 Repair Plans.dgn	USER NAME = brandenburgtj	DESIGNED - RTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL DETAILS S.N. 010-0009 (NB)
	PLOT SCALE = 40.0000 ' / in.	DRAWN -	REVISED -		
	PLOT DATE = 11/19/2015	CHECKED - TJB	REVISED - TJB		SCALE: SHEET 13 OF 18 SHEETS STA. TO STA.
		DATE - 5/18/2012	REVISED - 1/28/2015		

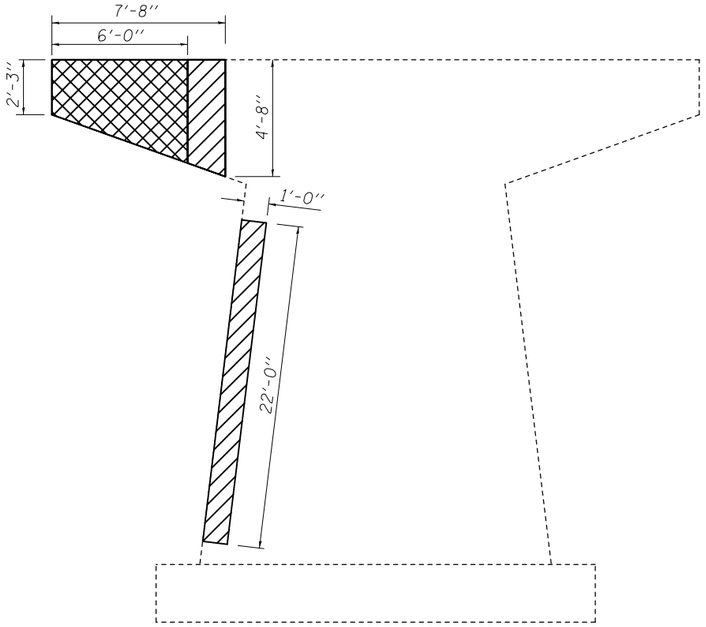
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	27
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



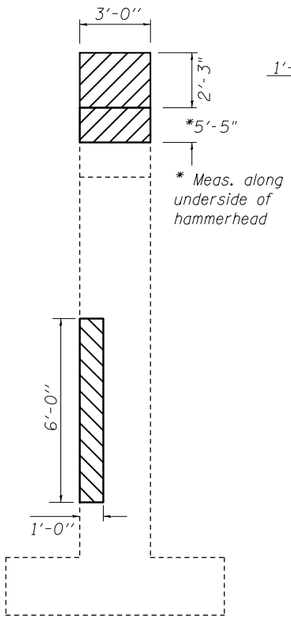
PIER #1 EAST FACE



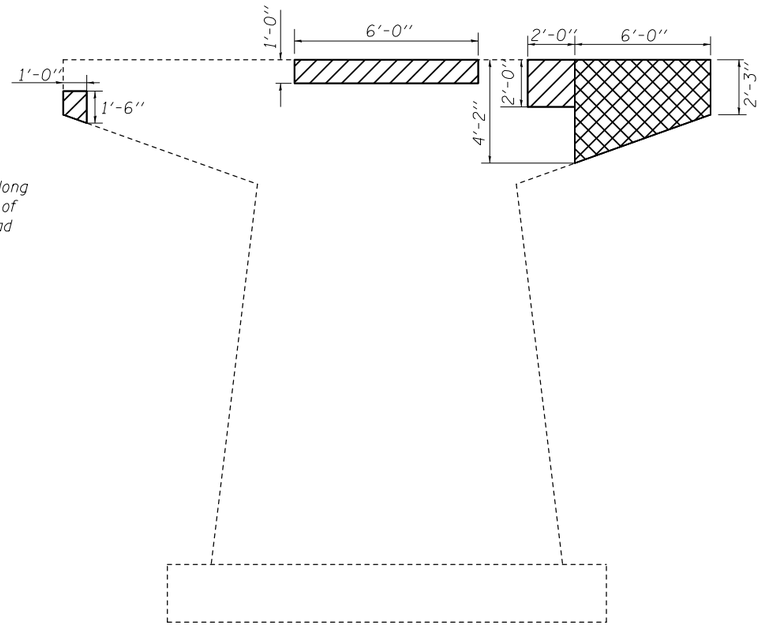
PIER #3 WEST FACE



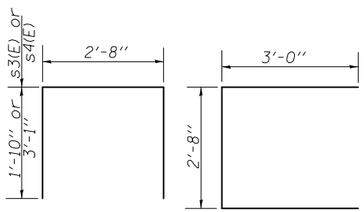
PIER #3 SOUTH FACE



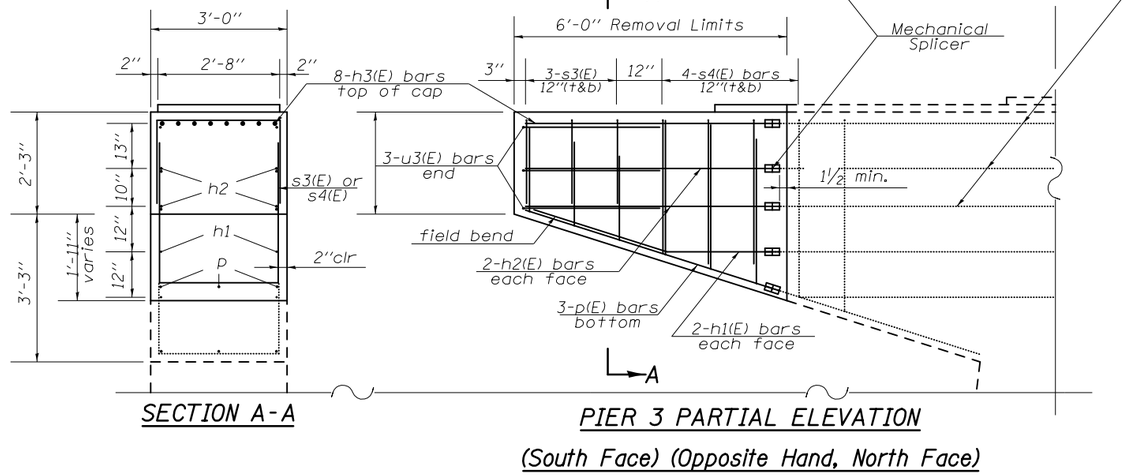
PIER #3 EAST FACE



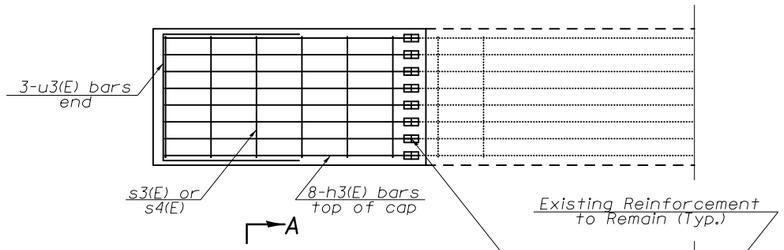
PIER #3 NORTH FACE



S3(E) OR S4(E) U3(E)



SECTION A-A



PIER 3 PARTIAL ELEVATION

(South Face) (Opposite Hand, North Face)

S.N. 010-0009				
Bill of Materials Pier 3				
Bar	No.	Size	Length	Shape
h1(E)	2	5	5'-7"	
h2(E)	4	6	5'-7"	
h3(E)	8	10	5'-7"	
p(E)	3	6	5'-11"	
s3(E)	6	4	6'-4"	
s4(E)	6	4	8'-10"	
u3(E)	3	6	8'-8"	
Concrete Removal			Cu. Yd.	2.2
Concrete Structures			Cu. Yd.	2.2
Reinforcement Bars, Epoxy Coated			Pound	360
Mechanical Splicers			Each	17

Structural Repair of Concrete (Depth Equal to or less than 5 inches)			
Structure	Pier	Face	Area (sq ft)
010-0009	3	West	44.0
		South	7.4
		South	22.0
		North	6.0
		North	1.5
		North	4.0
		East	6.0
		East	6.8
		East	16.3
	1	East	2.9
		Total =	117.0

Reactions from Span 3 at Pier 3 (Reaction Per Beam Line-S. Side of Pier 3)	
Dead Load	13.7 kips
Superimposed Dead Load	6.3 kips
Live Load	31.9 kips
Live Load Impact	9.3 kips

Reactions from Span 4 at Pier 3 (Reaction Per Beam Line-N. Side of Pier 3)	
Dead Load	14.0 kips
Superimposed Dead Load	6.5 kips
Live Load	32.1 kips
Live Load Impact	9.3 kips

LEGEND

Structural Repair of Concrete, Depth Equal to or Less than 5"

Concrete Removal

Notes:

Temporary Shoring and Cribbing may be required to support the superstructure during pier repairs adjacent to bearing locations. Temporary Shoring and Cribbing shall be paid for at the contract unit price per each beam support location.

See Special Provisions for Structural Repair of Concrete and Temporary Shoring and Cribbing.

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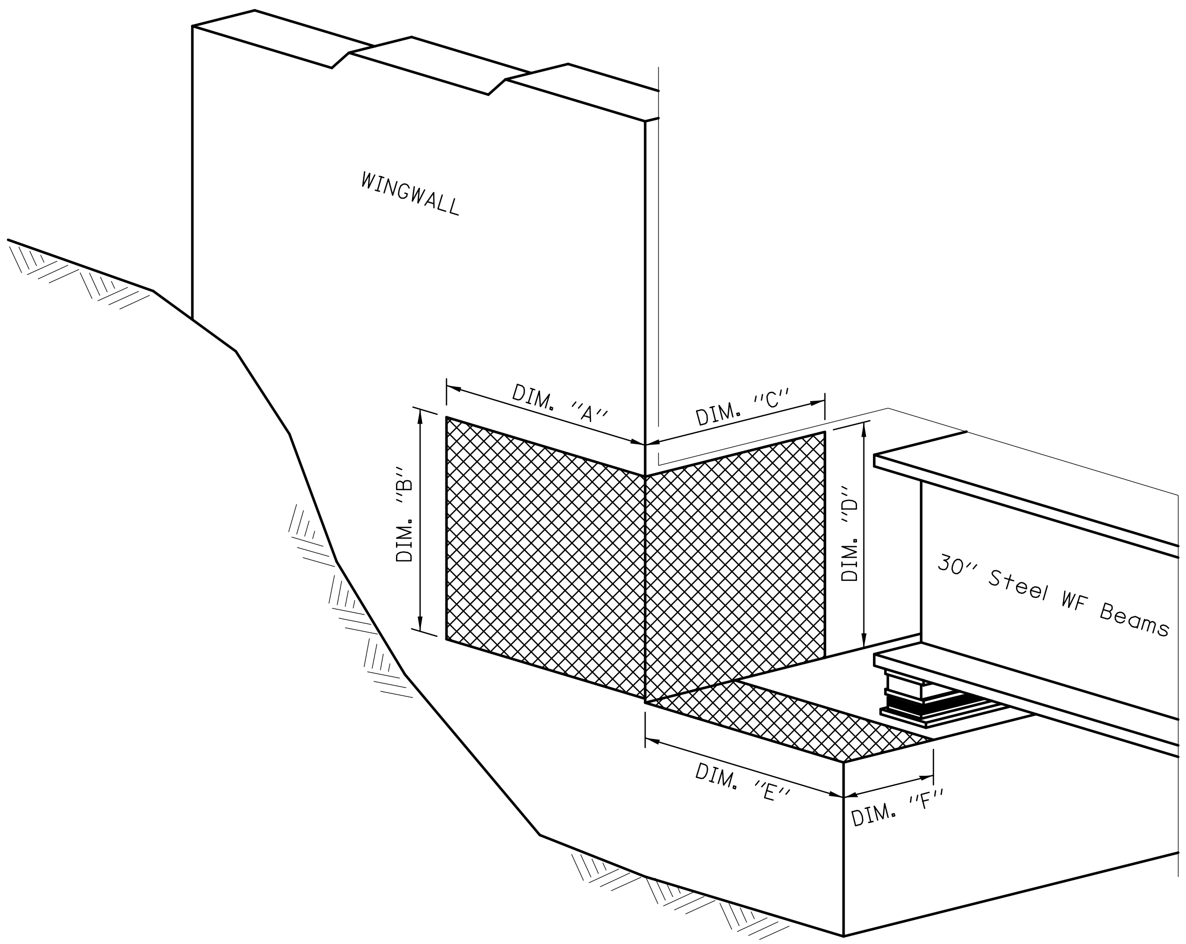
		DRAWN - RTC	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED - TJB
	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/29/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER REPAIR DETAILS
S.N. 010-0009 (NB)

SCALE: | SHEET 14 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	28
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



ISOMETRIC VIEW AT ABUTMENT CORNER

Structural Repair of Concrete, Depth Equal to or Less than 5"								
Structure	Abutment Corner	Wingwall		Corner		Backwall		Area (sq ft)
		A	B	C	D	E	F	
010-0009	NW	2.67	2.50	1.00	3.75	1.50	1.50	12.7
	SE	2.67	2.50	1.75	3.75			13.3
	SW	2.67	2.50	1.75	3.75	1.50	1.50	15.5
							Total =	*42.0*

LEGEND

Structural Repair of Concrete, Depth Equal to or Less Than 5"

Note:

See Special Provision for Structural Repair of Concrete.

BILL OF MATERIAL

Includes totals from Pier Repair and Substructure Repair Quantities.

Structure	Item	Unit	Total
010-0009	Structural Repair of Concrete, Depth Equal to or Less than 5"	Sq. ft.	159.0

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USER NAME = brandenburgtj
PLOT SCALE = 40.0000 ' / in.
PLOT DATE = 11/19/2015

DESIGNED - RTC
DRAWN - RTC
CHECKED - RTC
DATE - 5/18/2012

REVISED -
REVISED -
REVISED - TJB
REVISED - 1/29/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

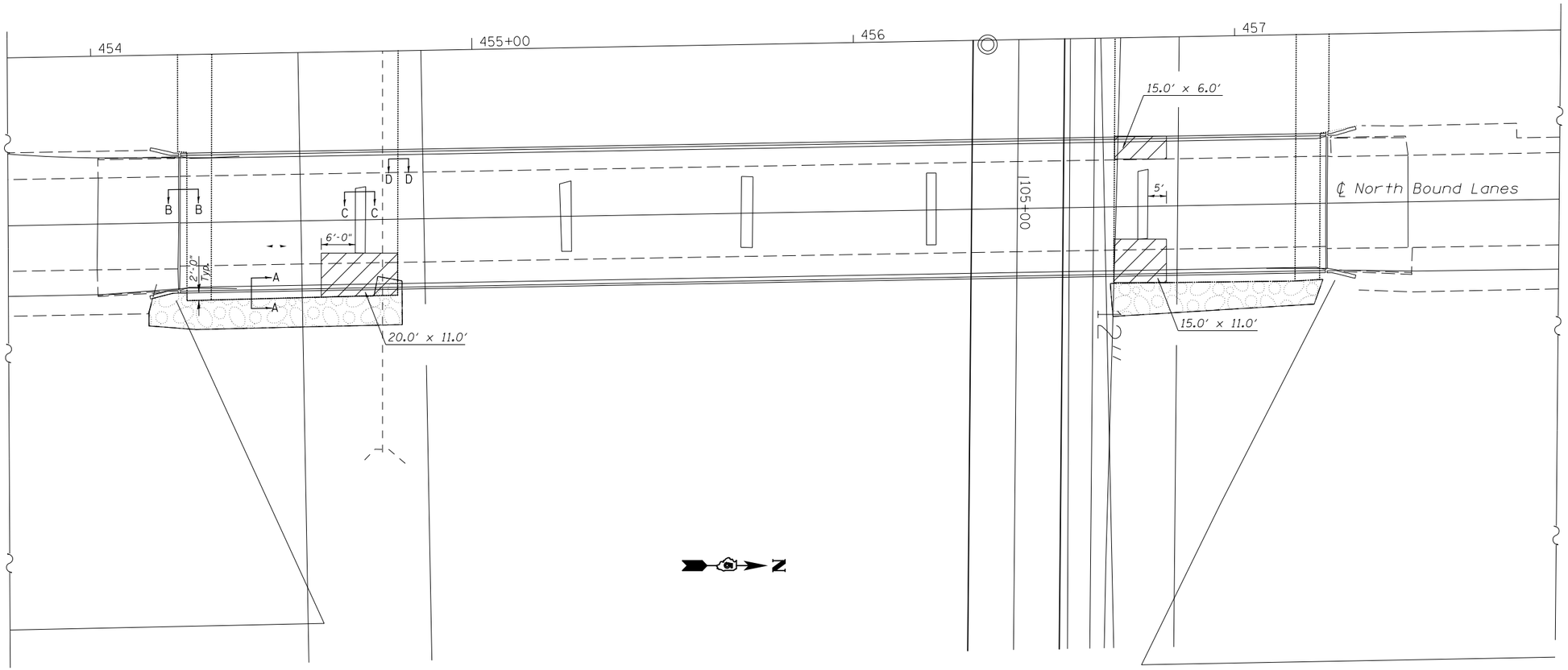
SUBSTRUCTURE REPAIR DETAILS
S.N. 010–0009 (NB)

SCALE: SHEET 15 OF 18 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	29

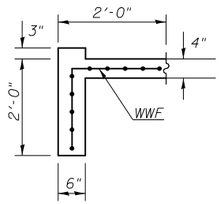
CONTRACT NO. 90951

ILLINOIS FED. AID PROJECT

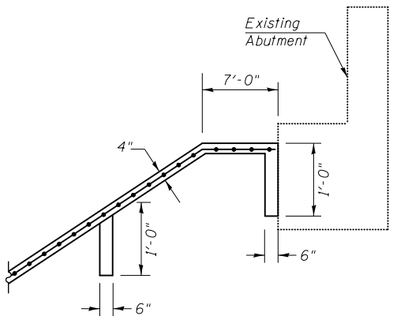


* Measured along slope.

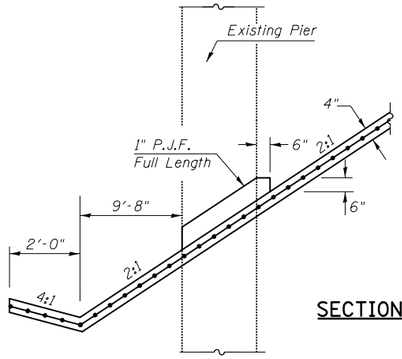
NOTE:
A minimum of 6" of the existing welded wire fabric shall be overlapped with the proposed welded wire fabric.



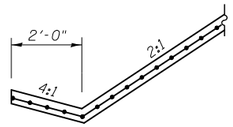
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

BILL OF MATERIAL

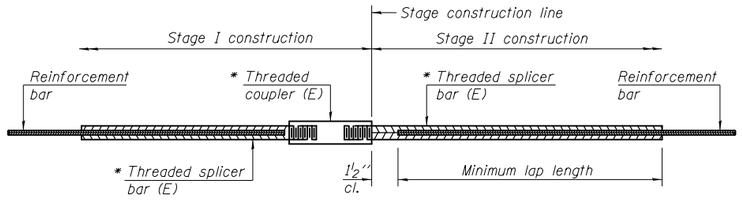
Structure	Item	Unit	Total
010-0009	Slopewall, 4 Inch	Sq Yd	54.0
	Slopewall Removal	Sq Yd	54.0

Slopewall Removal & Replacement

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5040\DRAWINGData\Structures\010-0009 Repair Plans.dgn	USER NAME = brandenburgtj	DESIGNED RTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SLOPEWALL REPAIR PLAN S.N. 010-0009 (NB)
	PLOT SCALE = 40.0000 ' / in.	DRAWN RTC	REVISED -		
	PLOT DATE = 11/19/2015	CHECKED TJB	REVISED - TJB		
		DATE 7/5/2014	REVISED - 1/29/2015		

SCALE: | SHEET 16 OF 18 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	30
		CONTRACT NO. 90951		
		ILLINOIS	FED. AID PROJECT	



STANDARD BAR SPLICER ASSEMBLY

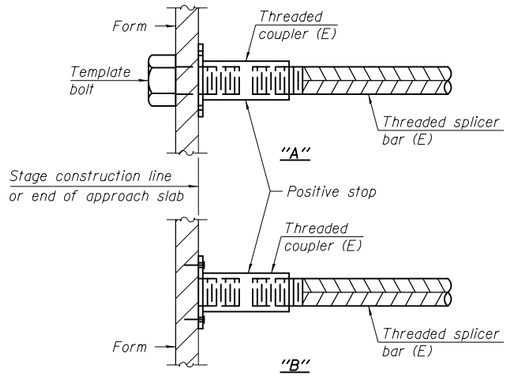
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

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

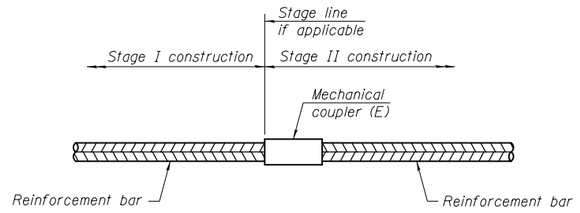
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Structure No.	Location	Bar size	No. assemblies required	Table for minimum lap length
010-0009	Deck End -S. Abut	5	14	3
	Deck End -N. Abut	5	14	3
	Deck End -Pier 3	5	28	3
	Hatch Block -S. Abut	6	4	3
	Hatch Block -N. Abut	6	4	3



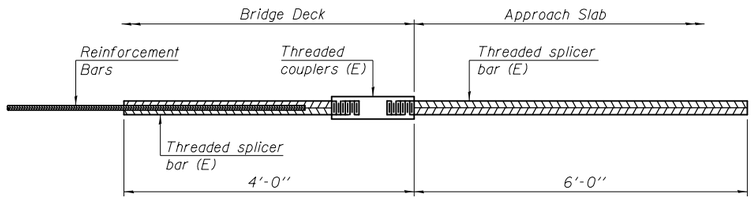
INSTALLATION AND SETTING METHODS

"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.



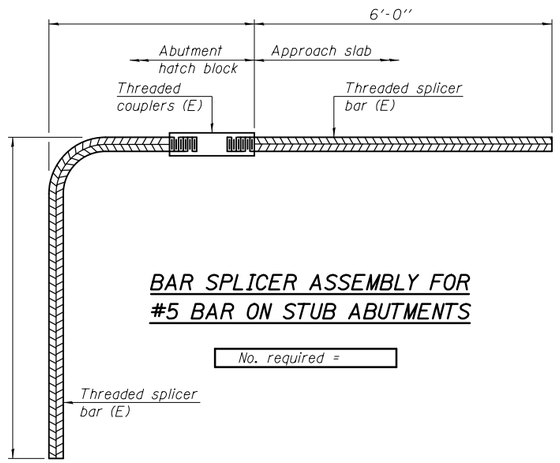
STANDARD MECHANICAL SPLICER

Structure No.	Location	Bar size	No. assemblies required
010-0009	Deck End -S. Abut (Top of Slab)	5	40
	Deck End -S. Abut (Bottom of Slab)	5	36
	Deck End -N. Abut (Top of Slab)	5	40
	Deck End -N. Abut (Bottom of Slab)	5	36
	Deck End -Pier 3 (Top of Slab)	5	80
	Deck End -Pier 3 (Bottom of Slab)	5	72
	Pier 3 Cap Replacement - h1 bars	5	2
	Pier 3 Cap Replacement - h2 & p bars	6	7
	Pier 3 Cap Replacement - h3 bars	10	8



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. 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.

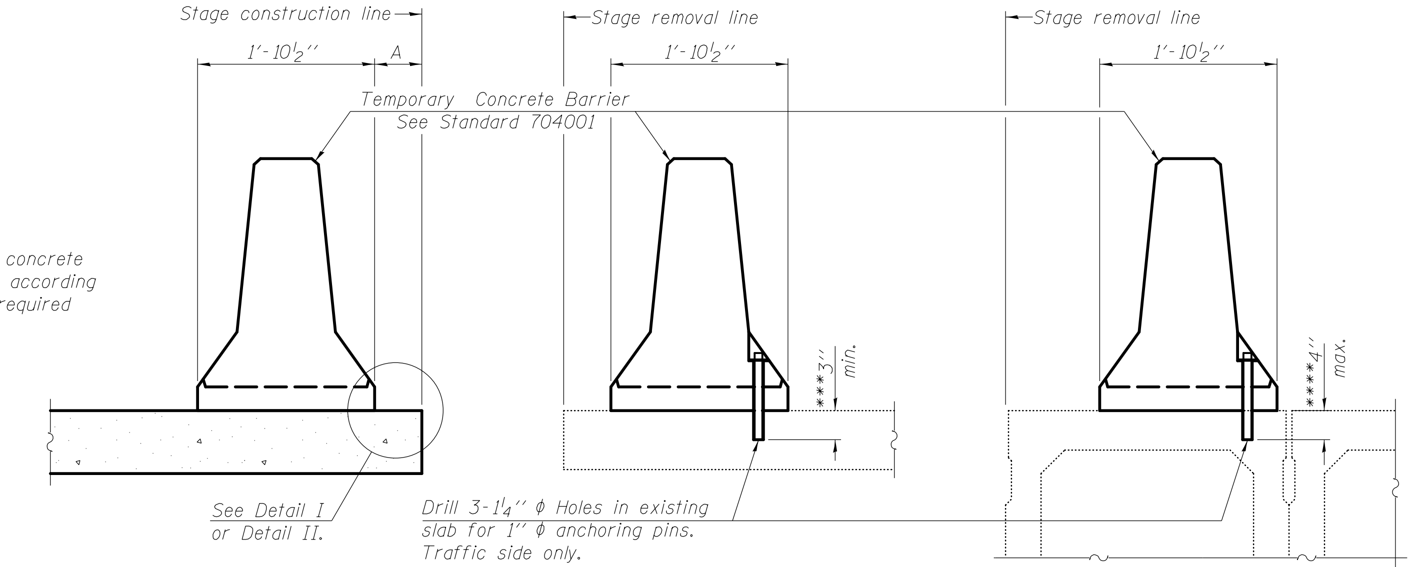
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-27-12

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5040[illegible]\DrawingData\Structures\010-0009 Repair Plans.dgn	USER NAME = brandenburgtj	DESIGNED - RTC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY & MECHANICAL SPLICER DETAILS S.N. 010-0009 (NB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.0000 ' / in.	CHECKED - RTC	REVISED - TJB			57	10-33HVBR	CHAMPAIGN	88	31
	PLOT DATE = 11/19/2015	DATE - 5/18/2012	REVISED - 1/29/2015		SCALE: SHEET 17 OF 18 SHEETS STA. TO STA.			CONTRACT NO. 90951		
							ILLINOIS	FED. AID PROJECT		

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



NEW SLAB — EXISTING SLAB — EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers: Connect one (1) 1'' x 7' 'x ''W'' steel PL to the top layer of couplers with 2-5/8'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

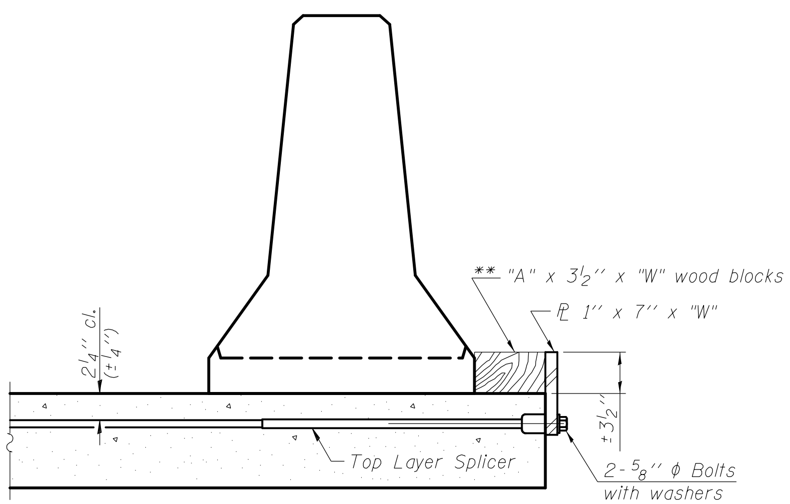
Detail II - With Extended Reinforcement Bars: Connect one (1) 1'' x 7'' x ''W'' steel PL to the concrete slab or concrete wearing surface with 2-5/8'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of retainer assembly is included with Temporary Concrete Barrier.

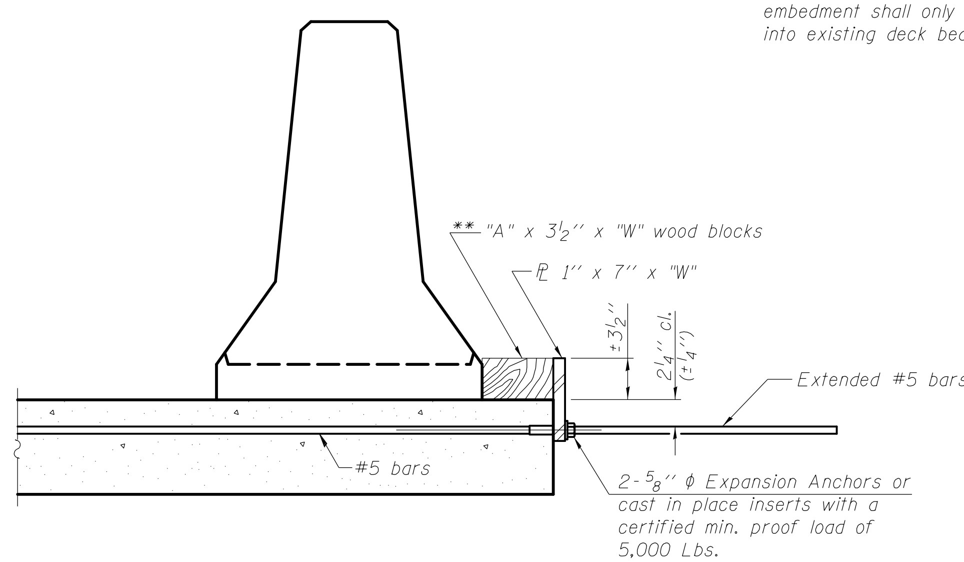
The 1'' x 7'' x ''W'' plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

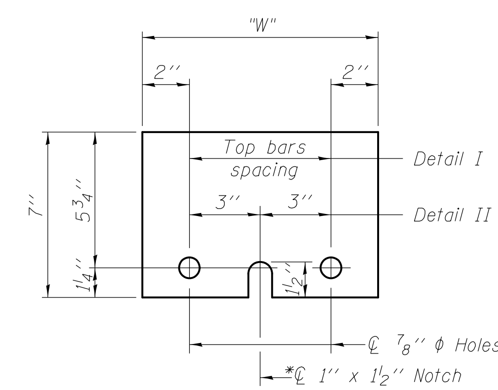
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1'' x 7'' x ''W''

* Required only with Detail II

RETAINER ASSEMBLY

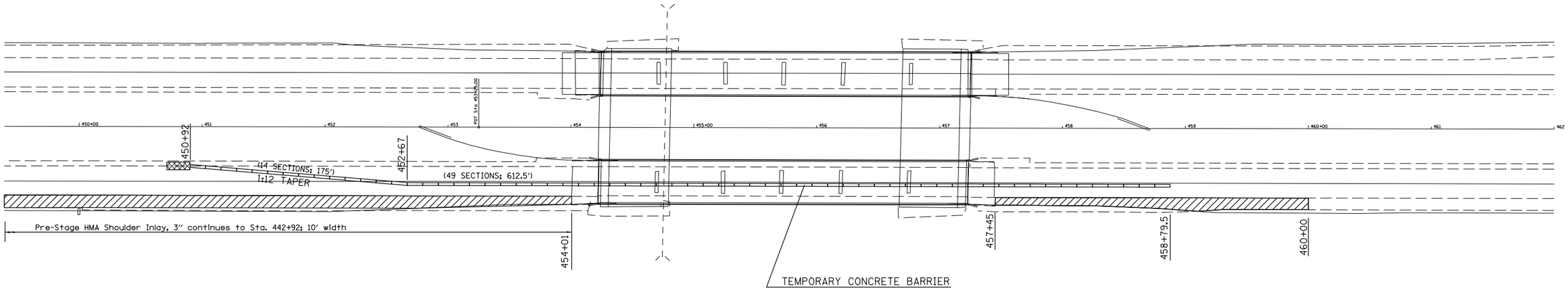
** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

R-27

1-12-15

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D504... Data\Structures\010-0009 Repair Pl...	USER NAME = brandenburgtj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 010–0009 (NB)	F.A.I. RTE. 57	SECTION 10-33HVBR
		DRAWN -	REVISED -			COUNTY CHAMPAIGN	TOTAL SHEETS 88 / SHEET NO. 32
$MODELNAME$	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED - TJB		SCALE: SHEET 18 OF 18 SHEETS STA. TO STA.	CONTRACT NO. 90951	
	PLOT DATE = 11/19/2015	DATE -	REVISED - 3/7/2015			ILLINOIS FED. AID PROJECT	

TEMPORARY CONCRETE BARRIER LAYOUT–STAGE I
S.N. 010–0009 (NB)



NOTES:

STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701402.

WORK WITHOUT TEMPORARY CONCRETE BARRIER SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701406.

VERTICAL PANELS WITH LIGHTS SHALL BE ATTACHED AT 25 FOOT CENTERS ON THE BARRIER WALL TAPER. REFLECTORS SHALL BE ATTACHED TO GUARDRAIL AT 25 FT CENTERS. COST INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

PRIOR TO ROUTING TRAFFIC ONTO THE SHOULDERS, THE CONTRACTOR SHALL SECURE ANY GRATES ON SHOULDER INLETS AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PORTABLE CHANGEABLE MESSAGE SIGNS ARE REQUIRED ONE WEEK PRIOR TO CONSTRUCTION. THE RESIDENT ENGINEER OR TRAFFIC CONTROL SUPERVISOR SHALL PROVIDE AN APPROPRIATE MESSAGE.

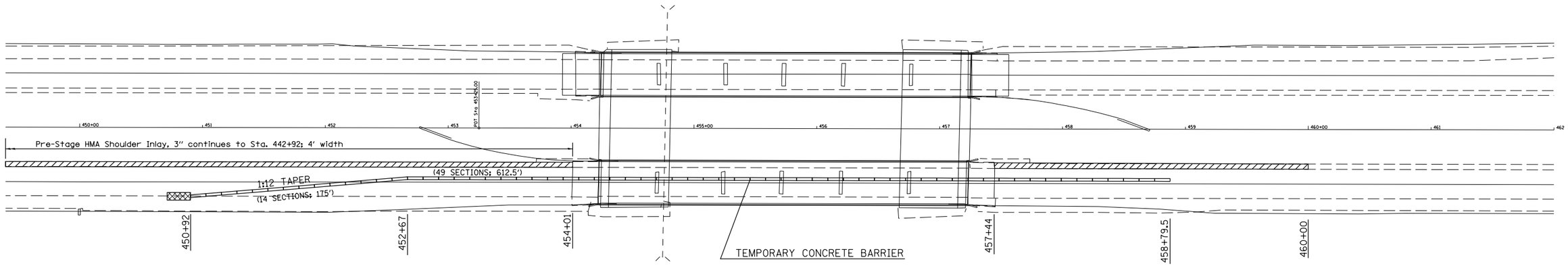
HOT-MIX ASPHALT SHOULDERS (Pre-Stage HMA Shoulder Inlay, 3")

Structure	Side	Begin Station	End Station	Length (foot)	Shldr Width (foot)	Area (sq yd)	HMA Tons
010-0009	Median	442+92	454+01	1109.00	4.0	492.9	82.8
	Outside	442+92	454+01	1109.00	10.0	1,232.2	207.0
	Median	457+44	460+00	256.00	4.0	113.8	19.1
	Outside	457+44	460+00	256.00	10.0	284.4	47.8
					Totals	2124.0	357.0

SYMBOLS

- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR
- PRE-STAGE HMA SHOULDER INLAY, 3"

TEMPORARY CONCRETE BARRIER LAYOUT–STAGE II
S.N. 010–0009 (NB)



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		DRAWN - TJB	REVISED - TJB
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED - TJB
	PLOT DATE = 11/19/2015	DATE - 7/26/2014	REVISED - 3/18/2015

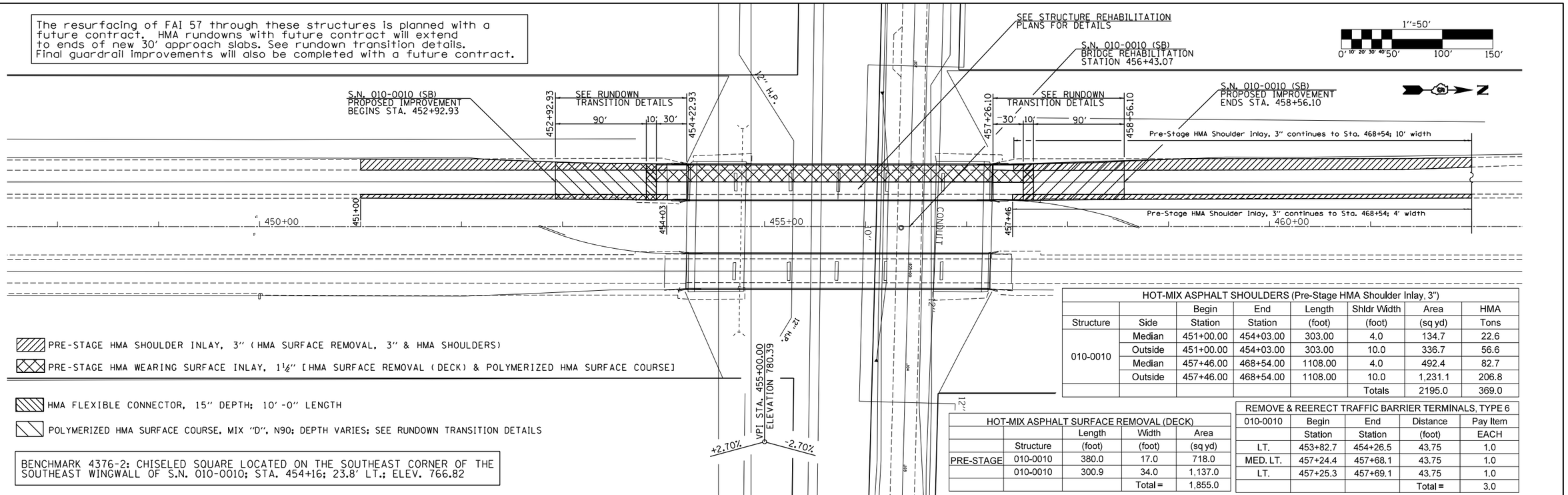
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER LAYOUT
S.N. 010–0009 (NB)

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	33
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

The resurfacing of FAI 57 through these structures is planned with a future contract. HMA rundowns with future contract will extend to ends of new 30' approach slabs. See rundown transition details. Final guardrail improvements will also be completed with a future contract.



PRE-STAGE HMA SHOULDER INLAY, 3" (HMA SURFACE REMOVAL, 3" & HMA SHOULDERS)

PRE-STAGE HMA WEARING SURFACE INLAY, 1½" [HMA SURFACE REMOVAL (DECK) & POLYMERIZED HMA SURFACE COURSE]

HMA FLEXIBLE CONNECTOR, 15" DEPTH; 10'-0" LENGTH

POLYMERIZED HMA SURFACE COURSE, MIX "D", N90; DEPTH VARIES; SEE RUNDOWN TRANSITION DETAILS

BENCHMARK 4376-2: CHISELED SQUARE LOCATED ON THE SOUTHEAST CORNER OF THE SOUTHEAST WINGWALL OF S.N. 010-0010; STA. 454+16; 23.8' LT.; ELEV. 766.82

HOT-MIX ASPHALT SHOULDERS (Pre-Stage HMA Shoulder Inlay, 3")

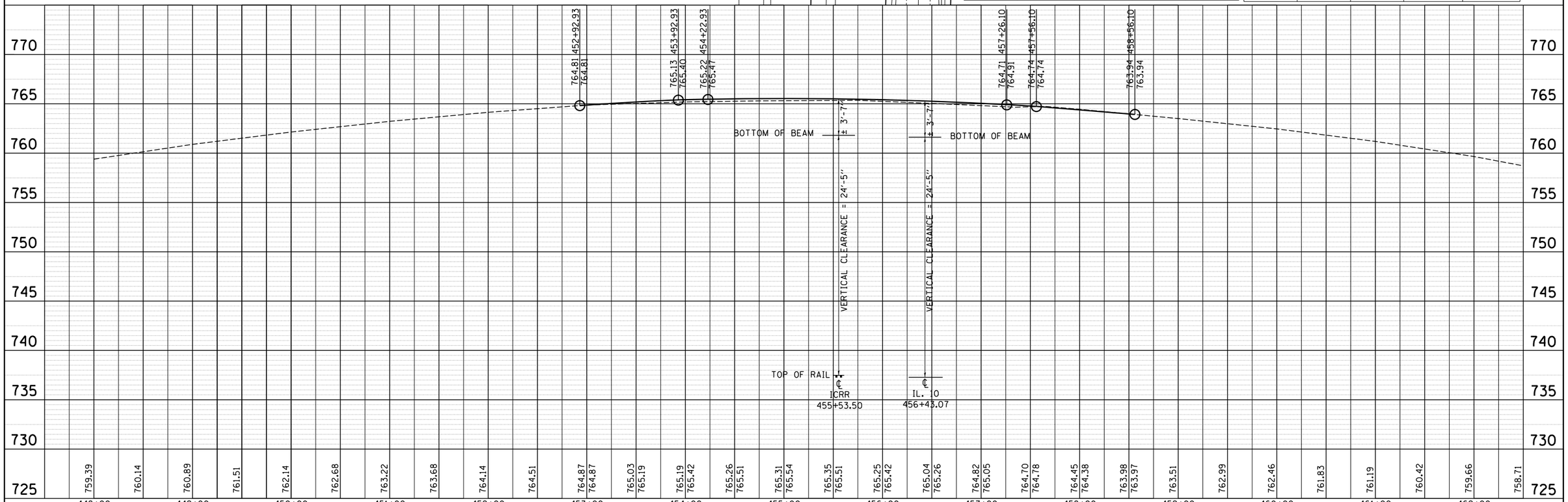
Structure	Side	Begin Station	End Station	Length (foot)	Shldr Width (foot)	Area (sq yd)	HMA Tons
010-0010	Median	451+00.00	454+03.00	303.00	4.0	134.7	22.6
	Outside	451+00.00	454+03.00	303.00	10.0	336.7	56.6
	Median	457+46.00	468+54.00	1108.00	4.0	492.4	82.7
	Outside	457+46.00	468+54.00	1108.00	10.0	1,231.1	206.8
					Totals	2195.0	369.0

HOT-MIX ASPHALT SURFACE REMOVAL (DECK)

	Structure	Length (foot)	Width (foot)	Area (sq yd)
PRE-STAGE	010-0010	380.0	17.0	718.0
	010-0010	300.9	34.0	1,137.0
			Total =	1,855.0

REMOVE & REERECT TRAFFIC BARRIER TERMINALS, TYPE 6

010-0010	Begin Station	End Station	Distance (foot)	Pay Item EACH
LT.	453+82.7	454+26.5	43.75	1.0
MED. LT.	457+24.4	457+68.1	43.75	1.0
LT.	457+25.3	457+69.1	43.75	1.0
			Total =	3.0



PLAN — SURVEYED; PLOTTED; QUANTITIES CHECKED; ALIGNMENT CHECKED; RT. OF WAY CHECKED; CADD FILE NAME; NOTE BOOK; NO.; BY; DATE

PROFILE — SURVEYED; PLOTTED; QUANTITIES CHECKED; BM. NOTED; STRUCTURE NOTATNS CHKD; NOTE BOOK; NO.; BY; DATE

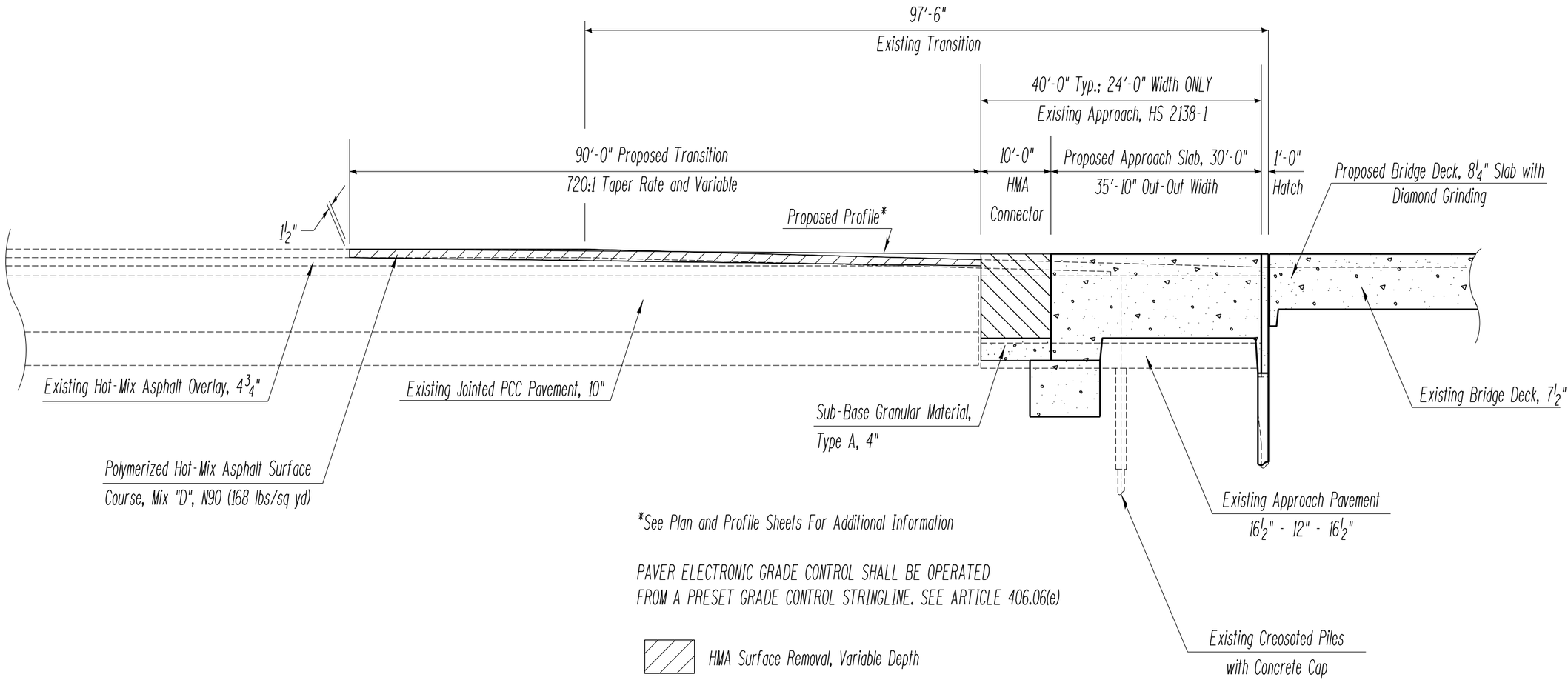
FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5044[illegible]\Structure\S010-0010 Repair Plans.dgn	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED - TJB
		DRAWN - TJB	REVISED - TJB
$MODELNAME$	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - TJB
	PLOT DATE = 11/19/2015	DATE - 12/4/2014	REVISED - 11/19/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
S.N. 010-0010 (SB)

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	34
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



*See Plan and Profile Sheets For Additional Information

PAVER ELECTRONIC GRADE CONTROL SHALL BE OPERATED FROM A PRESET GRADE CONTROL STRINGLINE. SEE ARTICLE 406.06(e)

HMA Surface Removal, Variable Depth

HMA Flexible Connector, 15"

Sub-Base Granular Material, Type A, 4"

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D5040\WorkingData\Structures\010-0010 Repair Plans\	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -
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	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 11/19/2015	DATE - 12/4/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RUNDOWN TRANSITION DETAILS
S.N. 010-0010 (SB)

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	35
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

BM #4376-2: Chiseled square located on the southeast corner of the southeast wingwall of S.N. 010-0010; Station 454+16, 23.8' Lt., Elev. 766.82

Existing Structure: S.N. 010-0010 (SB), was originally built in 1964 as F.A. Interstate 57 Section 10-33HVBR at Station 456+43.07 in Champaign County. The structure carries I-57 over IL 10 and the CNRY. The structure consists of a six span cast-in-place concrete deck on steel beams supported by hammerhead piers and pile bent abutments. Back to back of abutments is 303'-2" and out to out width of the deck is 36'-10". In 1977, the structure had a waterproofing membrane system installed, H.M.A. wearing surface placed, expansion joints reconstructed, and deck patched as Section District 5 Bridge Deck Waterproofing 1977-1. In 1988, the structure was rehabilitated as Section 10-33HVB-I&(10-33HB-2)I. The structure had new expansion joints installed, new parapets constructed, deck drains replaced, bearings repositioned, and slopewall repaired. In 2003, a new H.M.A. wearing surface was installed with Section 10((31,32)RS-1;33RS-4). In 2006, the preformed joints at the abutments were replaced with polymer concrete and silicone joints, and the preformed joint at the pier was replaced with a silicone joint by the District 5 Bridge Crew. In 2007, the District 5 Bridge Crew performed partial depth patching on the deck. The existing deck will be removed and replaced with a slightly wider deck; existing beams are to remain and have shear studs added in positive moment regions. Beam end repairs will be performed, and end diaphragms and bearings under open joints will be replaced. The substructure will be repaired, modified and reused. Traffic will be staged during construction. No Salvage.

SCOPE OF WORK

1. Remove deck and approach pavements.
2. Make deck composite in positive moment regions by installing stud shear connectors.
3. Perform steel superstructure repairs.
4. Remove and replace abutment backwalls and expansion joints.
5. Perform epoxy crack injection and formed concrete repairs at abutments and piers, perform Pier 3 repairs and repair slopewalls.
6. Remove expansion bearings at abutments and Pier 3 and replace with elastomeric bearings with steel extensions.
7. Pour new deck and approach slabs.

STATION 456+43.07
RE-BUILT 20_ BY
STATE OF ILLINOIS
F.A.I. RTE. 57 - SEC. 10-33HVBR
LOADING HS20 & ALT. MILITARY
STRUCTURE NO. 010-0010

NAME PLATE

See Std. 515001

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

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (Existing Construction)

fc = 1,400 psi (Substructure)
fy = 20,000 psi (Reinf. Substructure)
fs = 20,000 psi (Struct. A-36)

DESIGN SPECIFICATIONS

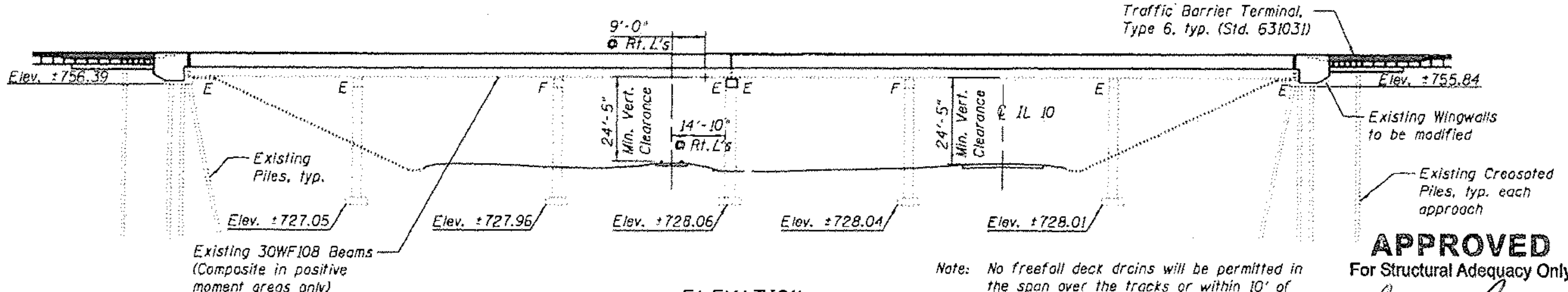
2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS 20-44 & ALT. MILITARY

No future wearing surface allowed.

SEISMIC DATA

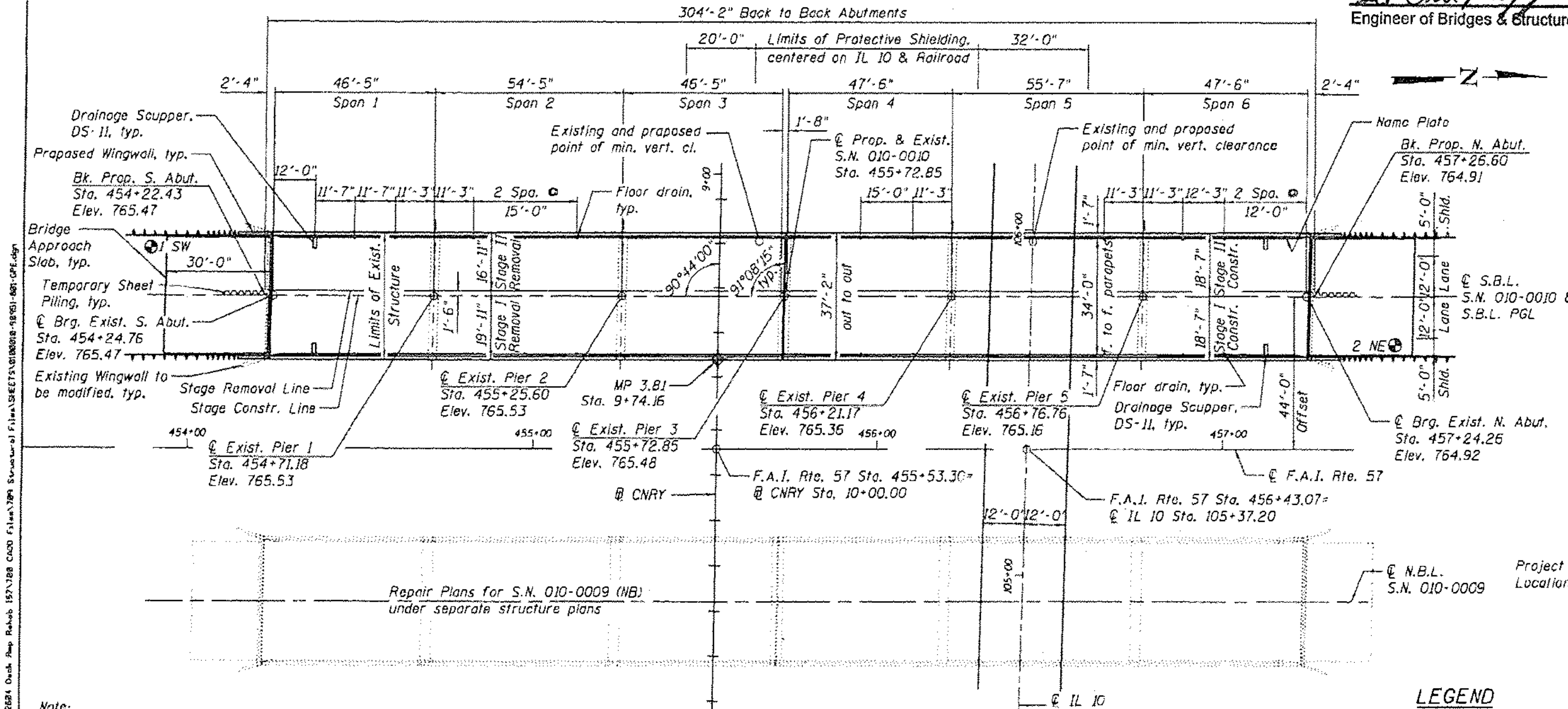
Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = .04g
Site Coefficient (S) = 1.5



Note: No freefall deck drains will be permitted in the span over the tracks or within 10' of cross arms of a railroad pole line.

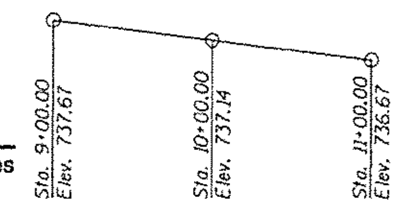
ELEVATION

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

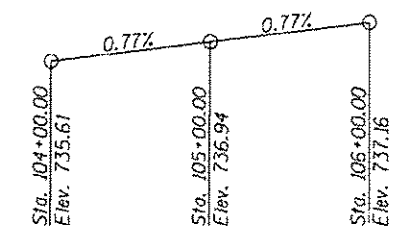


Note:
Up to ¼" will be ground off the bridge deck and approach slabs.

PLAN

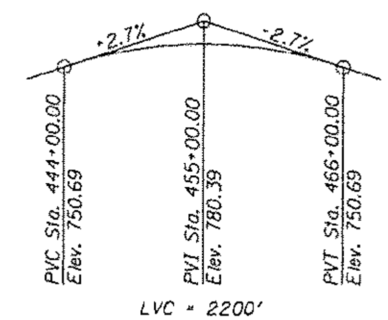


TOP OF RAIL ELEVATIONS
(along S. Rail CNRY)



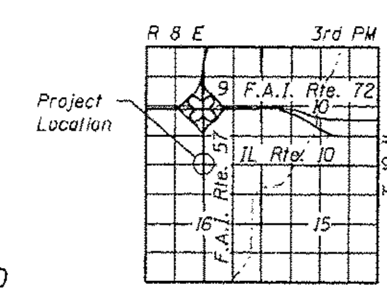
PROFILE GRADE
(along ℄ IL 10)

Note: The existing Profile Grades for CNRY South Rail and IL 10 were obtained from survey data.



PROFILE GRADE
(along ℄ I-57 S.B.L.)

Note: The profile grade shows the final elevations after grinding.



LOCATION SKETCH

LEGEND

Soil Boring

GENERAL PLAN AND ELEVATION
I-57 (SB) OVER IL 10 AND CNRY
F.A.I. RTE. 57 SECTION 10-33HVBR
CHAMPAIGN COUNTY
STATION 456+43.07
STRUCTURE NO. 010-0010 (SB)

JACOBS	USER NAME =	DESIGNED - KJW	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - JSD	REVISED -			57	10-33HVBR	CHAMPAIGN	88	36
	PLOT SCALE =	DRAWN - KJW	REVISED -					CONTRACT NO. 90951		
	PLOT DATE = 4/27/2015	CHECKED - JSD	REVISED -		SHEET NO. S-1 OF S-29 SHEETS		ILLINOIS FED. AID PROJECT			

GENERAL NOTES

1. Fasteners shall be AASHTO A325 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$ in. ϕ, holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.

2. Calculated weight of Structural Steel = 12,310 lbs. Gr. 36

3. No field welding is permitted except as specified in the contract documents.

4. Reinforcement bars designated (E) shall be epoxy coated.

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

   As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $^{1}/_{4}$ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

6. 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 based upon the unit price bid for the work.

7. Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $^{1}/_{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

8. Concrete Sealer shall be applied to the designated areas of new concrete at Pier 3, Pier 5 and the abutments.

9. Cleaning and field painting of structural steel shall be done under a separate painting contract.

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

11. All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1, including structural steel for repairs. Cost of painting new structural steel shall be included in Furnshing and Erecting Structural Steel and cost of painting structural steel required for repairs shall be included with Structural Steel Repair.

12. Protective shield system details and calculations shall be submitted to the Canadian National Railway Company for review and approval prior to commencement of operations.

13. The proposed painting containment and protective shield systems and any other construction means and methods selected by the Contractor shall not infringe on the 21'-6" temporary vertical clearance, measured from the top of any of the rails, without written approval from Canadian National Railway Company.

14. A two-week look-ahead schedule must be submitted to Canadian National Railway Company for approval prior to commencement of operations.

15. The Contractor shall coordinate with the Canadian National Railway Company (CNRY) flagman to schedule track time for work in the CNRY right-of-way.

16. Slipforming of the parapet will not be allowed.

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	-	25.0	25.0
Slope Wall Removal	Sq. Yd.	-	9	9
Removal of Existing Concrete Deck	Each	1	-	1
Protective Shield	Sq. Yd.	215	-	215
Structure Excavation	Cu. Yd.	-	72	72
Floor Drains	Each	20	-	20
Concrete Structures	Cu. Yd.	-	53.9	53.9
Concrete Superstructure	Cu. Yd.	494.5	-	494.5
Bridge Deck Grooving	Sq. Yd.	1,070	-	1,070
Protective Coat	Sq. Yd.	1,407	-	1,407
Furnishing and Erecting Structural Steel	Pound	9,770	-	9,770
Stud Shear Connectors	Each	-	7,506	7,506
Reinforcement Bars, Epoxy Coated	Pound	102,730	8,580	111,310
Bar Splicers	Each	933	180	1,113
Mechanical Splicers	Each	-	17	17
Slope Wall 4"	Sq. Yd.	-	9	9
Name Plate	Each	1	-	1
Preformed Joint Strip Seal	Foot	115	-	115
Elastomeric Bearing Assembly, Type I	Each	12	-	12
Elastomeric Bearing Assembly, Type II	Each	12	-	12
Anchor Bolts, 1"	Each	48	-	48
Concrete Sealer	Sq. Ft.	-	945	945
Epoxy Crack Injection	Foot	-	5	5
Geocomposite Wall Drain	Sq. Yd.	-	32	32
Granular Backfill for Structures	Cu. Yd.	-	67	67
Jack and Remove Existing Bearings	Each	24	-	24
Structural Steel Removal	Pound	6,140	-	6,140
Structural Steel Repair	Pound	2,780	-	2,780
Cleaning Bridge Seats	Sq. Ft.	-	203	203
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	-	305	305
Drainage Scuppers, DS-11	Each	4	-	4
Temporary Sheet Piling	Sq. Ft.	-	357	357
Diamond Grinding (Bridge Section)	Sq. Yd.	1,211	-	1,211
Pipe Underdrain Removal	Foot	-	120	120
Pipe Underdrains for Structures 4"	Foot	-	82	82
Temporary Shoring and Cribbing	Each	-	2	2

FILE NAME = P:\2012\C9W12604 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\010010-90951-002-GN0.dgn

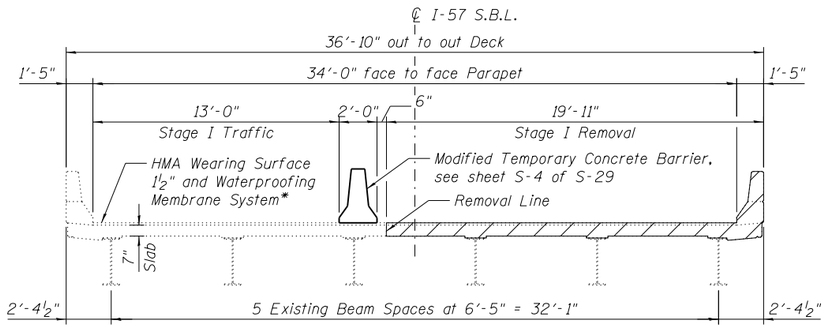
JACOBS

USER NAME = kberg	DESIGNED - KJW	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 4/23/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

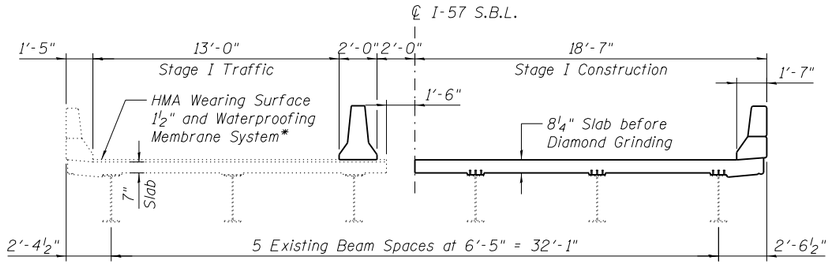
GENERAL DATA
STRUCTURE NO. 010-0010
SHEET NO. S-2 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	37
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

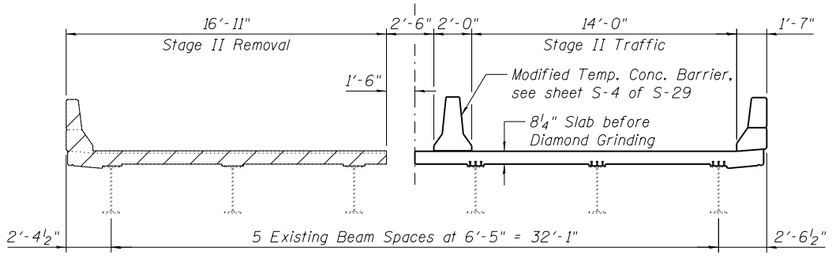


*HMA Wearing Surface shall be inlayed prior to Stage I Traffic

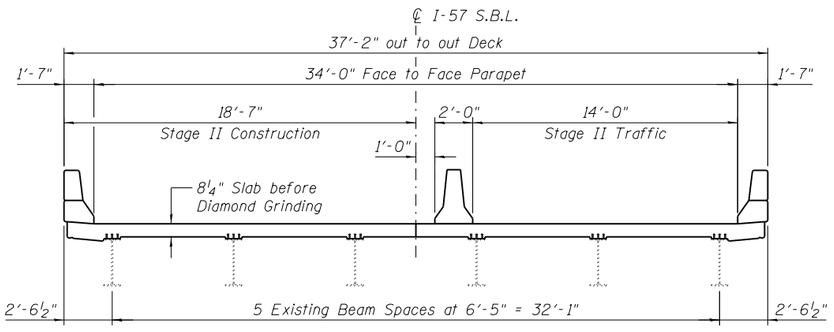
STAGE I REMOVAL



STAGE I CONSTRUCTION

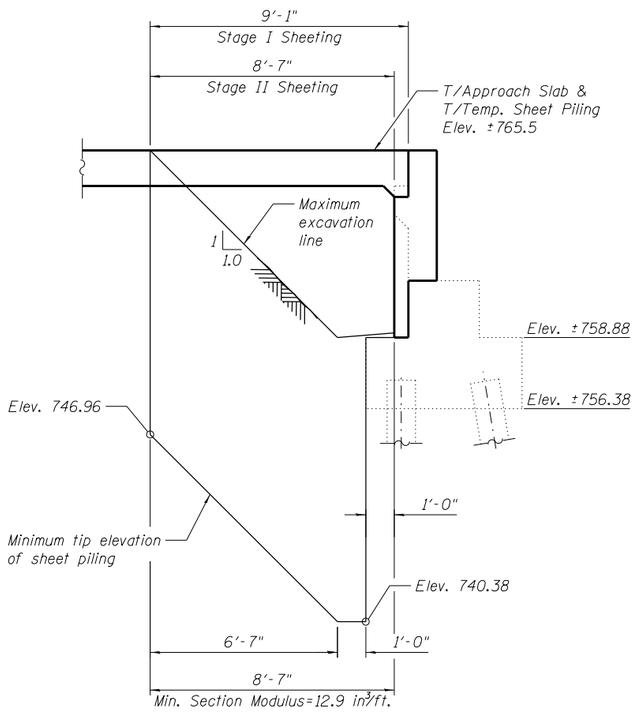


STAGE II REMOVAL

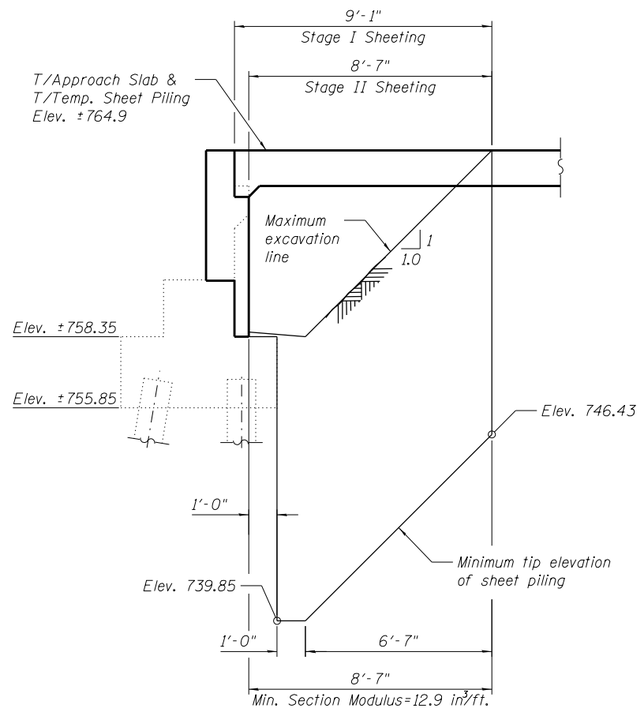


STAGE II CONSTRUCTION

Notes:
All cross-sections are viewed looking north.
For quantity of Temporary Concrete Barrier, see roadway plans.
Hatched area indicates Removal of Existing Concrete Deck.
Payment, quantity, and details for HMA Wearing Surface and Waterproofing Membrane System are located in the roadway plans.



TEMPORARY SHEET PILING SOUTH ABUTMENT



TEMPORARY SHEET PILING NORTH ABUTMENT

Notes:
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Sheet Piling	Sq. Ft.	357

FILE NAME = P:_2012\C941284 Deck Rep Rehab I57\700 CADD Files\709 Structural Files\SHEETS\010010-90951-003-STA.dgn

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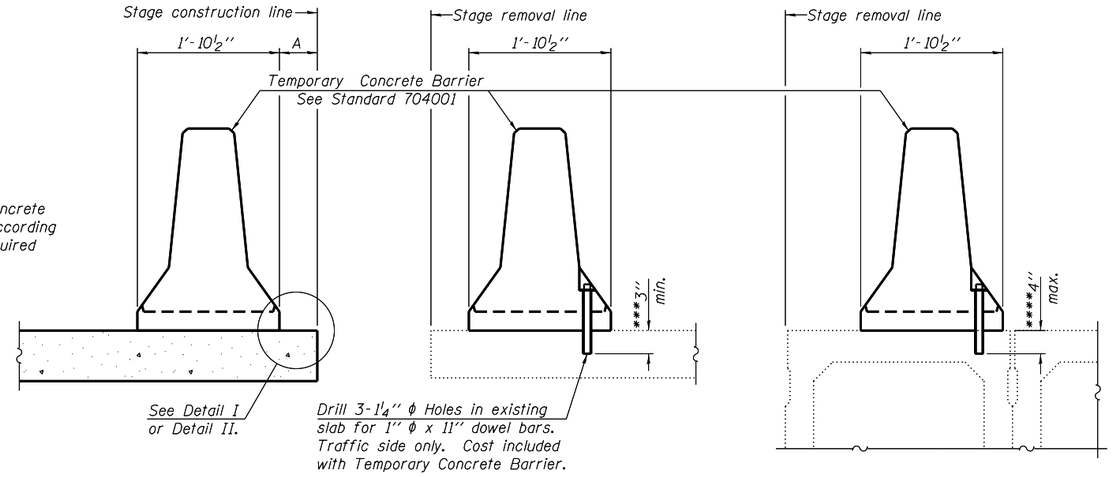
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 010-0010
SHEET NO. S-3 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	38
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 7¼" x ''W'' steel PL to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 7¼'' x ''W'' steel PL to the concrete slab or concrete wearing surface with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

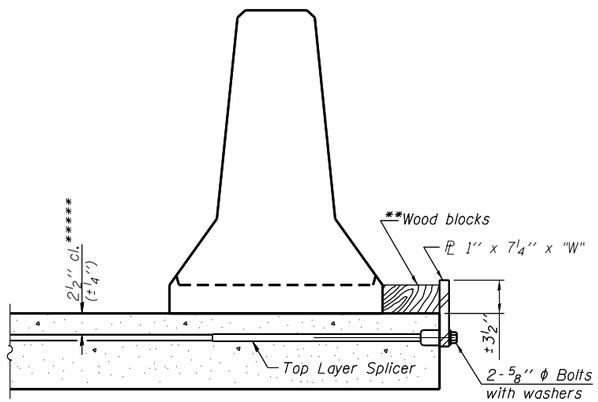
Cost of anchorage is included with Temporary Concrete Barrier.

The 1'' x 7¼'' x ''W'' plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

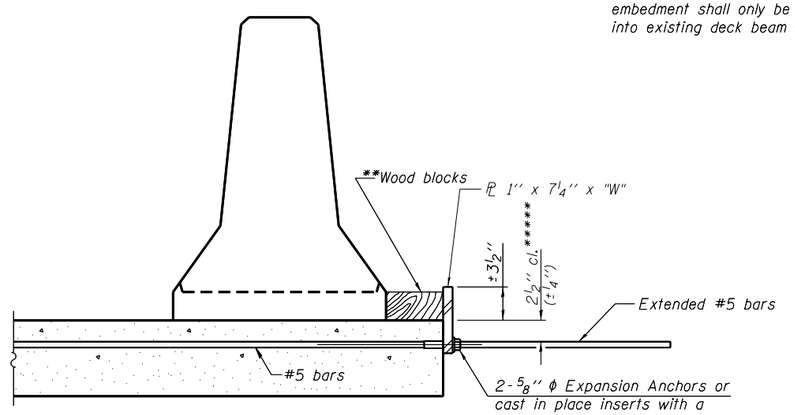
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

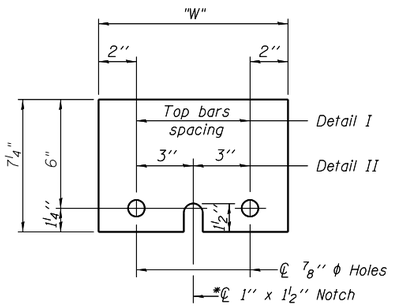
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1'' x 7¼'' x ''W''

* Required only with Detail II

***** Prior to ¼" diamond grinding

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4''

FILE NAME = P:_2012\C941268 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\0100010-90951-004-TCB.dgn

JACOBS

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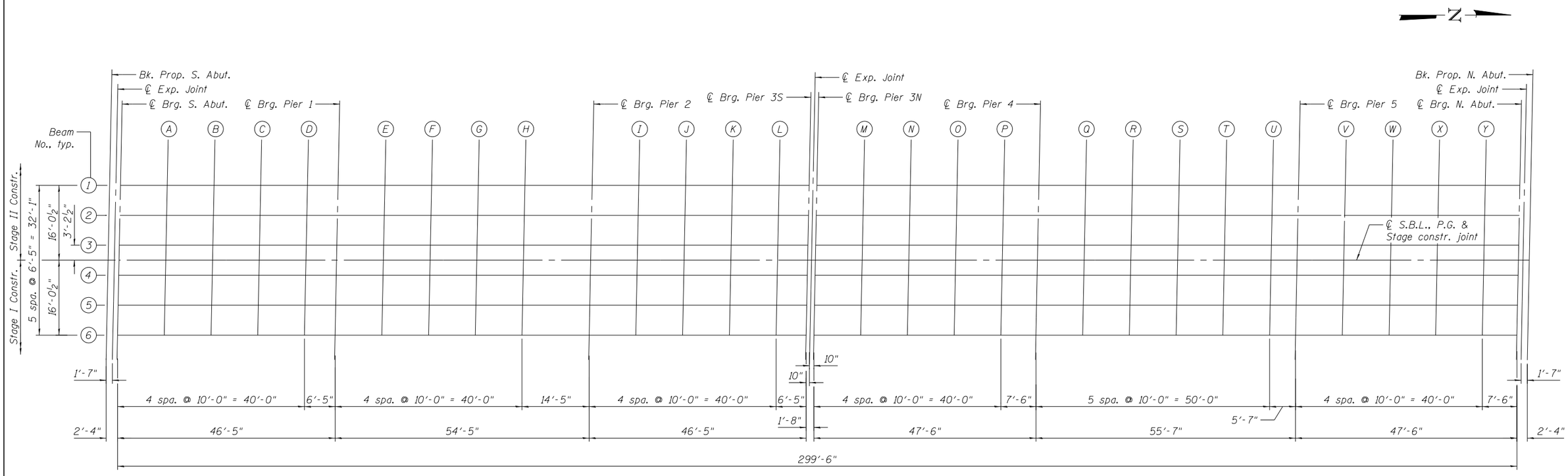
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 3/9/2015	CHECKED - JSD	REVISED -

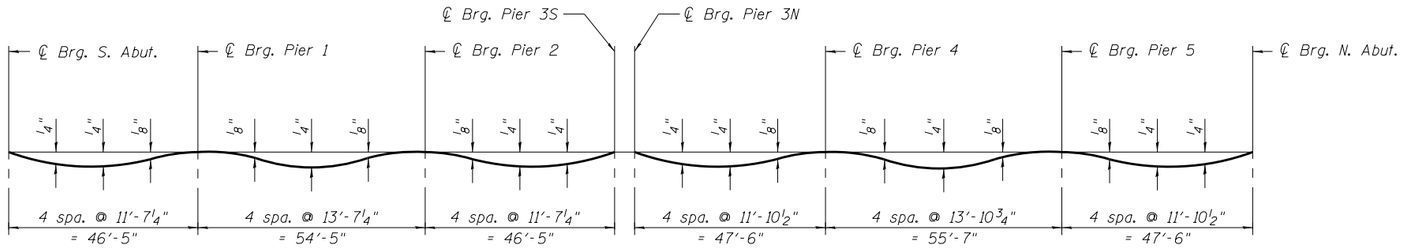
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODIFIED TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 010-0010
SHEET NO. S-4 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	39
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



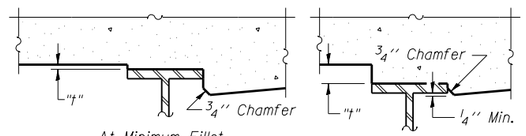
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

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



To determine "t": After all bearings have been replaced, elevations of the top flanges of the beams shall be taken at intervals shown on sheets S-6 through S-8. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheets S-6 through S-8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheets S-6 through S-8. For grinding the deck, see Special Provisions.

FILLET HEIGHTS

FILE NAME = P:\2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\0100010-90951-005-ELE.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION PLAN
STRUCTURE NO. 010-0010
SHEET NO. S-5 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	40
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.75	-16.04	765.20	765.22
CL Exp Joint	454+24.33	-16.04	765.20	764.22
CL Brg. S. Abut.	454+25.08	-16.04	765.20	765.22
A	454+35.08	-16.04	765.22	765.26
B	454+45.08	-16.04	765.23	765.28
C	454+55.08	-16.04	765.24	765.28
D	454+65.08	-16.04	765.25	765.28
CL Brg. Pier 1	454+71.50	-16.04	765.26	765.28
E	454+81.50	-16.04	765.26	765.29
F	454+91.50	-16.04	765.27	765.30
G	455+01.50	-16.04	765.27	765.31
H	455+11.50	-16.04	765.27	765.30
CL Brg. Pier 2	455+25.91	-16.04	765.26	765.28
I	455+35.91	-16.04	765.25	765.28
J	455+45.91	-16.04	765.24	765.29
K	455+55.91	-16.04	765.23	765.27
L	455+65.91	-16.04	765.21	765.25
CL Brg. Pier 3S	455+72.33	-16.04	765.20	765.22
CL Exp Joint	455+73.16	-16.04	765.20	765.22
CL Brg. Pier 3N	455+74.00	-16.04	765.20	765.22
M	455+84.00	-16.04	765.18	765.22
N	455+94.00	-16.04	765.16	765.21
O	456+04.00	-16.04	765.14	765.18
P	456+14.00	-16.04	765.11	765.14
CL Brg. Pier 4	456+21.50	-16.04	765.09	765.11
Q	456+31.50	-16.04	765.06	765.08
R	456+41.50	-16.04	765.02	765.06
S	456+51.50	-16.04	764.99	765.03
T	456+61.50	-16.04	764.95	764.98
U	456+71.50	-16.04	764.91	764.93
CL Brg. Pier 5	456+77.08	-16.04	764.88	764.90
V	456+87.08	-16.04	764.84	764.87
W	456+97.08	-16.04	764.79	764.83
X	457+07.08	-16.04	764.74	764.79
Y	457+17.08	-16.04	764.69	764.72
CL Brg. N. Abut.	457+24.58	-16.04	764.65	764.67
CL Exp Joint	457+25.33	-16.04	764.65	764.67
Bk. Prop. N. Abut.	457+26.91	-16.04	764.64	764.66

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.62	-9.63	765.32	765.34
CL Exp Joint	454+24.20	-9.63	765.32	765.34
CL Brg. S. Abut.	454+24.95	-9.63	765.32	765.34
A	454+34.95	-9.63	765.34	765.38
B	454+44.95	-9.63	765.35	765.40
C	454+54.95	-9.63	765.36	765.40
D	454+64.95	-9.63	765.37	765.40
CL Brg. Pier 1	454+71.37	-9.63	765.38	765.40
E	454+81.37	-9.63	765.39	765.41
F	454+91.37	-9.63	765.39	765.43
G	455+01.37	-9.63	765.39	765.43
H	455+11.37	-9.63	765.39	765.42
CL Brg. Pier 2	455+25.79	-9.63	765.38	765.40
I	455+35.79	-9.63	765.37	765.40
J	455+45.79	-9.63	765.36	765.41
K	455+55.79	-9.63	765.35	765.40
L	455+65.79	-9.63	765.34	765.37
CL Brg. Pier 3S	455+72.20	-9.63	765.33	765.35
CL Exp Joint	455+73.04	-9.63	765.32	765.34
CL Brg. Pier 3N	455+73.87	-9.63	765.32	765.34
M	455+83.87	-9.63	765.30	765.34
N	455+93.87	-9.63	765.28	765.33
O	456+03.87	-9.63	765.26	765.30
P	456+13.87	-9.63	765.23	765.26
CL Brg. Pier 4	456+21.37	-9.63	765.21	765.23
Q	456+31.37	-9.63	765.18	765.20
R	456+41.37	-9.63	765.14	765.18
S	456+51.37	-9.63	765.11	765.15
T	456+61.37	-9.63	765.07	765.10
U	456+71.37	-9.63	765.03	765.05
CL Brg. Pier 5	456+76.95	-9.63	765.01	765.03
V	456+86.95	-9.63	764.96	764.99
W	456+96.95	-9.63	764.91	764.96
X	457+06.95	-9.63	764.86	764.91
Y	457+16.95	-9.63	764.81	764.85
CL Brg. N. Abut.	457+24.45	-9.63	764.77	764.79
CL Exp Joint	457+25.20	-9.63	764.77	764.79
Bk. Prop. N. Abut.	457+26.79	-9.63	764.76	764.78

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.49	-3.21	765.42	765.44
CL Exp Joint	454+24.08	-3.21	765.42	765.44
CL Brg. S. Abut.	454+24.83	-3.21	765.42	765.44
A	454+34.83	-3.21	765.44	765.48
B	454+44.83	-3.21	765.45	765.50
C	454+54.83	-3.21	765.46	765.50
D	454+64.83	-3.21	765.47	765.50
CL Brg. Pier 1	454+71.24	-3.21	765.48	765.50
E	454+81.24	-3.21	765.49	765.51
F	454+91.24	-3.21	765.49	765.53
G	455+01.24	-3.21	765.49	765.53
H	455+11.24	-3.21	765.49	765.52
CL Brg. Pier 2	455+25.66	-3.21	765.48	765.50
I	455+35.66	-3.21	765.47	765.51
J	455+45.66	-3.21	765.46	765.51
K	455+55.66	-3.21	765.45	765.50
L	455+65.66	-3.21	765.44	765.47
CL Brg. Pier 3S	455+72.08	-3.21	765.43	765.45
CL Exp Joint	455+72.91	-3.21	765.42	765.45
CL Brg. Pier 3N	455+73.74	-3.21	765.42	765.44
M	455+83.74	-3.21	765.40	765.44
N	455+93.74	-3.21	765.38	765.43
O	456+03.74	-3.21	765.36	765.40
P	456+13.74	-3.21	765.33	765.36
CL Brg. Pier 4	456+21.24	-3.21	765.31	765.33
Q	456+31.24	-3.21	765.28	765.31
R	456+41.24	-3.21	765.25	765.28
S	456+51.24	-3.21	765.21	765.25
T	456+61.24	-3.21	765.17	765.20
U	456+71.24	-3.21	765.13	765.15
CL Brg. Pier 5	456+76.83	-3.21	765.11	765.13
V	456+86.83	-3.21	765.06	765.09
W	456+96.83	-3.21	765.01	765.06
X	457+06.83	-3.21	764.96	765.01
Y	457+16.83	-3.21	764.91	764.95
CL Brg. N. Abut.	457+24.33	-3.21	764.87	764.89
CL Exp Joint	457+25.08	-3.21	764.87	764.89
Bk. Prop. N. Abut.	457+26.66	-3.21	764.86	764.88

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STATE OF ILLINOIS
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TOP OF SLAB ELEVATIONS I
STRUCTURE NO. 010-0010
SHEET NO. S-6 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	41
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

℄ S.B.L., PROFILE GRADE & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.43	0.00	765.47	765.49
CL Exp Joint	454+24.01	0.00	765.47	765.49
CL Brg. S. Abut.	454+24.76	0.00	765.47	765.49
A	454+34.76	0.00	765.49	765.53
B	454+44.76	0.00	765.50	765.55
C	454+54.76	0.00	765.51	765.55
D	454+64.76	0.00	765.52	765.55
CL Brg. Pier 1	454+71.18	0.00	765.53	765.55
E	454+81.18	0.00	765.54	765.56
F	454+91.18	0.00	765.54	765.58
G	455+01.18	0.00	765.54	765.58
H	455+11.18	0.00	765.54	765.57
CL Brg. Pier 2	455+25.60	0.00	765.53	765.55
I	455+35.60	0.00	765.52	765.56
J	455+45.60	0.00	765.51	765.56
K	455+55.60	0.00	765.50	765.55
L	455+65.60	0.00	765.49	765.52
CL Brg. Pier 3S	455+72.01	0.00	765.48	765.50
CL Exp Joint	455+72.85	0.00	765.47	765.50
CL Brg. Pier 3N	455+73.68	0.00	765.47	765.49
M	455+83.68	0.00	765.45	765.49
N	455+93.68	0.00	765.43	765.48
O	456+03.68	0.00	765.41	765.45
P	456+13.68	0.00	765.38	765.41
CL Brg. Pier 4	456+21.18	0.00	765.36	765.38
Q	456+31.18	0.00	765.33	765.36
R	456+41.18	0.00	765.30	765.33
S	456+51.18	0.00	765.26	765.30
T	456+61.18	0.00	765.22	765.25
U	456+71.18	0.00	765.18	765.20
CL Brg. Pier 5	456+76.76	0.00	765.16	765.18
V	456+86.76	0.00	765.11	765.14
W	456+96.76	0.00	765.06	765.11
X	457+06.76	0.00	765.02	765.06
Y	457+16.76	0.00	764.96	765.00
CL Brg. N. Abut.	457+24.26	0.00	764.92	764.94
CL Exp Joint	457+25.01	0.00	764.92	764.94
Bk. Prop. N. Abut.	457+26.60	0.00	764.91	764.93

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.37	3.21	765.42	765.44
CL Exp Joint	454+23.95	3.21	765.42	765.44
CL Brg. S. Abut.	454+24.70	3.21	765.42	765.44
A	454+34.70	3.21	765.44	765.48
B	454+44.70	3.21	765.45	765.50
C	454+54.70	3.21	765.46	765.50
D	454+64.70	3.21	765.47	765.50
CL Brg. Pier 1	454+71.12	3.21	765.48	765.50
E	454+81.12	3.21	765.49	765.51
F	454+91.12	3.21	765.49	765.53
G	455+01.12	3.21	765.49	765.53
H	455+11.12	3.21	765.49	765.52
CL Brg. Pier 2	455+25.53	3.21	765.48	765.50
I	455+35.53	3.21	765.47	765.51
J	455+45.53	3.21	765.46	765.51
K	455+55.53	3.21	765.45	765.50
L	455+65.53	3.21	765.44	765.47
CL Brg. Pier 3S	455+71.95	3.21	765.43	765.45
CL Exp Joint	455+72.78	3.21	765.42	765.45
CL Brg. Pier 3N	455+73.62	3.21	765.42	765.44
M	455+83.62	3.21	765.40	765.44
N	455+93.62	3.21	765.38	765.43
O	456+03.62	3.21	765.36	765.40
P	456+13.62	3.21	765.33	765.36
CL Brg. Pier 4	456+21.12	3.21	765.31	765.33
Q	456+31.12	3.21	765.28	765.31
R	456+41.12	3.21	765.25	765.28
S	456+51.12	3.21	765.21	765.25
T	456+61.12	3.21	765.17	765.20
U	456+71.12	3.21	765.13	765.15
CL Brg. Pier 5	456+76.70	3.21	765.11	765.13
V	456+86.70	3.21	765.06	765.09
W	456+96.70	3.21	765.02	765.06
X	457+06.70	3.21	764.97	765.01
Y	457+16.70	3.21	764.91	764.95
CL Brg. N. Abut.	457+24.20	3.21	764.87	764.89
CL Exp Joint	457+24.95	3.21	764.87	764.89
Bk. Prop. N. Abut.	457+26.53	3.21	764.86	764.88

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.24	9.63	765.32	765.34
CL Exp Joint	454+23.82	9.63	765.32	765.34
CL Brg. S. Abut.	454+24.57	9.63	765.32	765.34
A	454+34.57	9.63	765.34	765.38
B	454+44.57	9.63	765.35	765.40
C	454+54.57	9.63	765.36	765.40
D	454+64.57	9.63	765.37	765.40
CL Brg. Pier 1	454+70.99	9.63	765.38	765.40
E	454+80.99	9.63	765.39	765.41
F	454+90.99	9.63	765.39	765.43
G	455+00.99	9.63	765.39	765.43
H	455+10.99	9.63	765.39	765.42
CL Brg. Pier 2	455+25.41	9.63	765.38	765.40
I	455+35.41	9.63	765.37	765.41
J	455+45.41	9.63	765.36	765.41
K	455+55.41	9.63	765.35	765.40
L	455+65.41	9.63	765.34	765.37
CL Brg. Pier 3S	455+71.82	9.63	765.33	765.35
CL Exp Joint	455+72.66	9.63	765.32	765.35
CL Brg. Pier 3N	455+73.49	9.63	765.32	765.34
M	455+83.49	9.63	765.30	765.34
N	455+93.49	9.63	765.28	765.33
O	456+03.49	9.63	765.26	765.30
P	456+13.49	9.63	765.23	765.26
CL Brg. Pier 4	456+20.99	9.63	765.21	765.23
Q	456+30.99	9.63	765.18	765.21
R	456+40.99	9.63	765.15	765.18
S	456+50.99	9.63	765.11	765.15
T	456+60.99	9.63	765.07	765.10
U	456+70.99	9.63	765.03	765.05
CL Brg. Pier 5	456+76.57	9.63	765.01	765.03
V	456+86.57	9.63	764.96	764.99
W	456+96.57	9.63	764.92	764.96
X	457+06.57	9.63	764.87	764.91
Y	457+16.57	9.63	764.81	764.85
CL Brg. N. Abut.	457+24.07	9.63	764.77	764.79
CL Exp Joint	457+24.82	9.63	764.77	764.79
Bk. Prop. N. Abut.	457+26.41	9.63	764.76	764.78

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JACOBS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II
STRUCTURE NO. 010-0010
SHEET NO. S-7 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	42
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection & Grinding
Bk. Prop. S. Abut.	454+22.11	16.04	765.19	765.21
CL Exp Joint	454+23.69	16.04	765.20	765.22
CL Brg. S. Abut.	454+24.44	16.04	765.20	765.22
A	454+34.44	16.04	765.22	765.25
B	454+44.44	16.04	765.23	765.28
C	454+54.44	16.04	765.24	765.28
D	454+64.44	16.04	765.25	765.28
CL Brg. Pier 1	454+70.86	16.04	765.26	765.28
E	454+80.86	16.04	765.26	765.29
F	454+90.86	16.04	765.27	765.30
G	455+00.86	16.04	765.27	765.31
H	455+10.86	16.04	765.27	765.30
CL Brg. Pier 2	455+25.28	16.04	765.26	765.28
I	455+35.28	16.04	765.25	765.28
J	455+45.28	16.04	765.24	765.29
K	455+55.28	16.04	765.23	765.28
L	455+65.28	16.04	765.22	765.25
CL Brg. Pier 3S	455+71.69	16.04	765.21	765.23
CL Exp Joint	455+72.53	16.04	765.20	765.22
CL Brg. Pier 3N	455+73.36	16.04	765.20	765.22
M	455+83.36	16.04	765.18	765.22
N	455+93.36	16.04	765.16	765.21
O	456+03.36	16.04	765.14	765.18
P	456+13.36	16.04	765.11	765.14
CL Brg. Pier 4	456+20.86	16.04	765.09	765.11
Q	456+30.86	16.04	765.06	765.09
R	456+40.86	16.04	765.02	765.06
S	456+50.86	16.04	764.99	765.03
T	456+60.86	16.04	764.95	764.98
U	456+70.86	16.04	764.91	764.93
CL Brg. Pier 5	456+76.44	16.04	764.89	764.91
V	456+86.44	16.04	764.84	764.87
W	456+96.44	16.04	764.79	764.84
X	457+06.44	16.04	764.75	764.79
Y	457+16.44	16.04	764.69	764.73
CL Brg. N. Abut.	457+23.94	16.04	764.65	764.67
CL Exp Joint	457+24.69	16.04	764.65	764.67
Bk. Prop. N. Abut.	457+26.28	16.04	764.64	764.66

FILE NAME = P:\2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\0100010-90951-000-ELE.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS III
STRUCTURE NO. 010-0010
SHEET NO. S-8 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	43
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

WEST EDGE OF SHOULDER

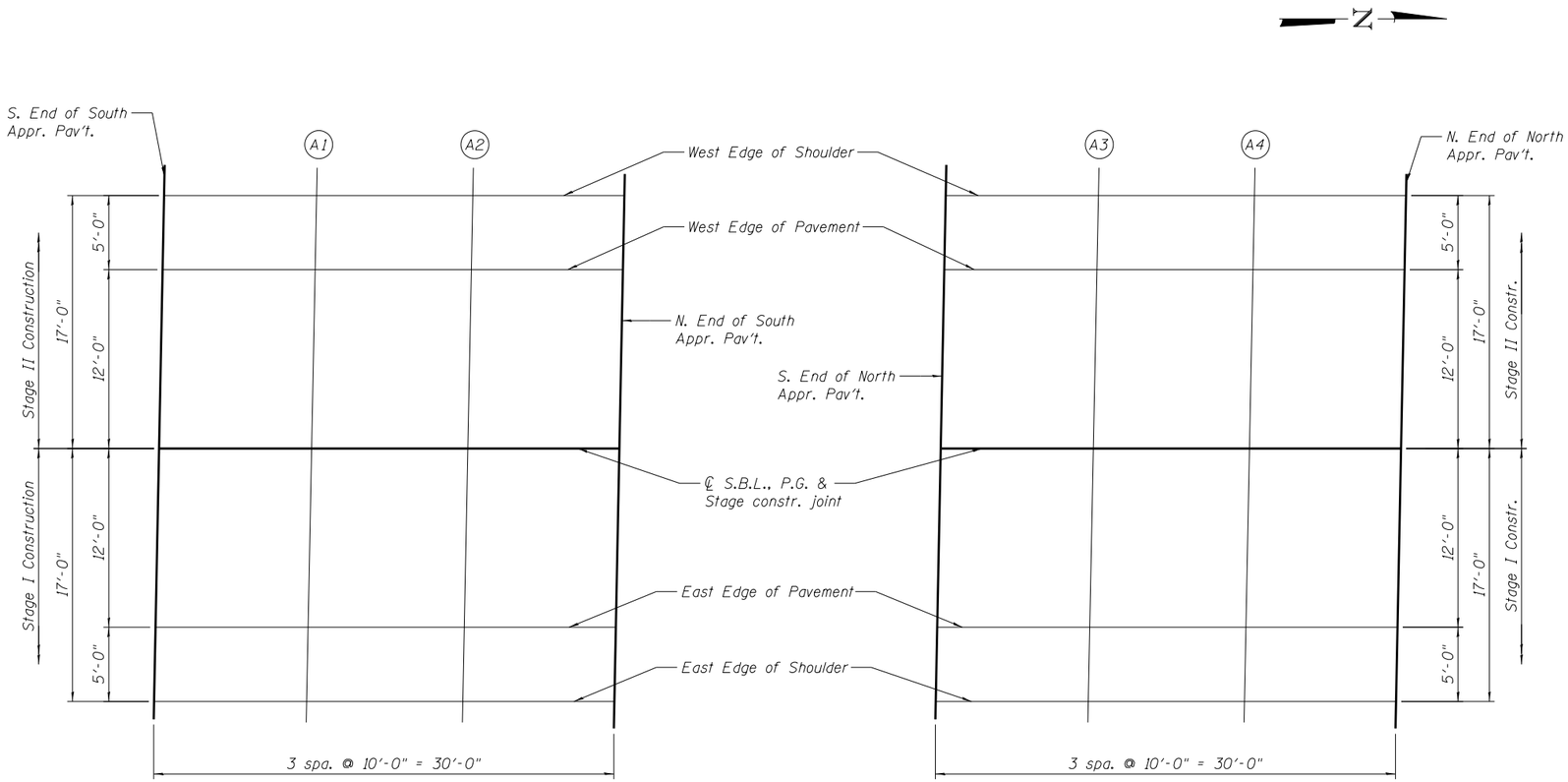
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Pav't.	453+93.27	-17.00	765.11	765.13
A1	454+03.27	-17.00	765.13	765.15
A2	454+13.27	-17.00	765.16	765.18
N. End S. Appr. Pav't.	454+23.27	-17.00	765.18	765.20
S. End N. Appr. Pav't.	457+26.44	-17.00	764.62	764.64
A3	457+36.44	-17.00	764.56	764.58
A4	457+46.44	-17.00	764.50	764.52
N. End N. Appr. Pav't.	457+56.44	-17.00	764.44	764.46

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Pav't.	453+93.17	-12.00	765.21	765.23
A1	454+03.17	-12.00	765.24	765.26
A2	454+13.17	-12.00	765.26	765.28
N. End S. Appr. Pav't.	454+23.17	-12.00	765.28	765.30
S. End N. Appr. Pav't.	457+26.34	-12.00	764.72	764.74
A3	457+36.34	-12.00	764.67	764.69
A4	457+46.34	-12.00	764.61	764.63
N. End N. Appr. Pav't.	457+56.34	-12.00	764.55	764.57

℄ SBL, PROFILE GRADE & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Pav't.	453+92.93	0.00	765.40	765.42
A1	454+02.93	0.00	765.42	765.45
A2	454+12.93	0.00	765.45	765.47
N. End S. Appr. Pav't.	454+22.93	0.00	765.47	765.49
S. End N. Appr. Pav't.	457+26.1	0.00	764.91	764.93
A3	457+36.1	0.00	764.86	764.88
A4	457+46.1	0.00	764.80	764.82
N. End N. Appr. Pav't.	457+56.1	0.00	764.74	764.76



PLAN

South Approach

PLAN

North Approach

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Pav't.	453+92.69	12.00	765.21	765.23
A1	454+02.69	12.00	765.24	765.26
A2	454+12.69	12.00	765.26	765.28
N. End S. Appr. Pav't.	454+22.69	12.00	765.28	765.30
S. End N. Appr. Pav't.	457+25.86	12.00	764.73	764.75
A3	457+35.86	12.00	764.67	764.69
A4	457+45.86	12.00	764.61	764.63
N. End N. Appr. Pav't.	457+55.86	12.00	764.55	764.57

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End S. Appr. Pav't.	453+92.59	17.00	765.11	765.13
A1	454+02.59	17.00	765.13	765.15
A2	454+12.59	17.00	765.15	765.18
N. End S. Appr. Pav't.	454+22.59	17.00	765.17	765.20
S. End N. Appr. Pav't.	457+25.76	17.00	764.62	764.64
A3	457+35.76	17.00	764.57	764.59
A4	457+45.76	17.00	764.51	764.53
N. End N. Appr. Pav't.	457+55.76	17.00	764.45	764.47

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JACOBS

USER NAME = wellinkj	DESIGNED - AMM	REVISED -
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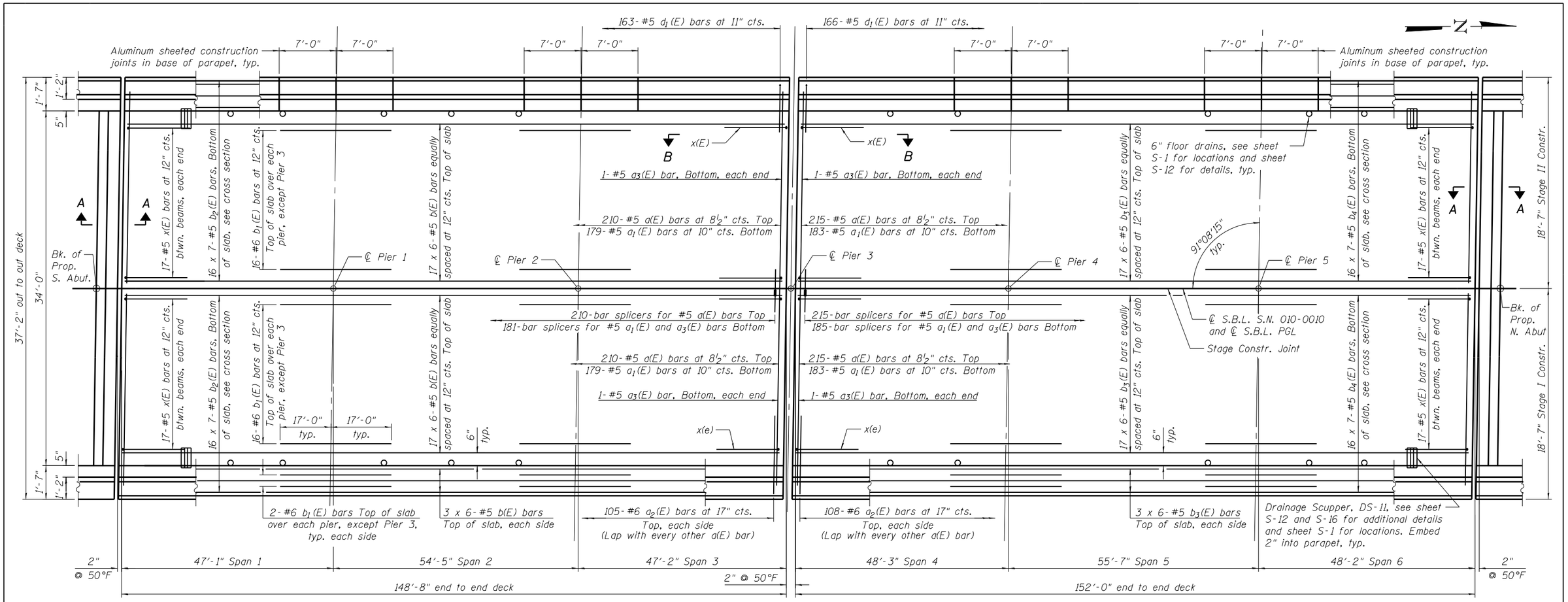
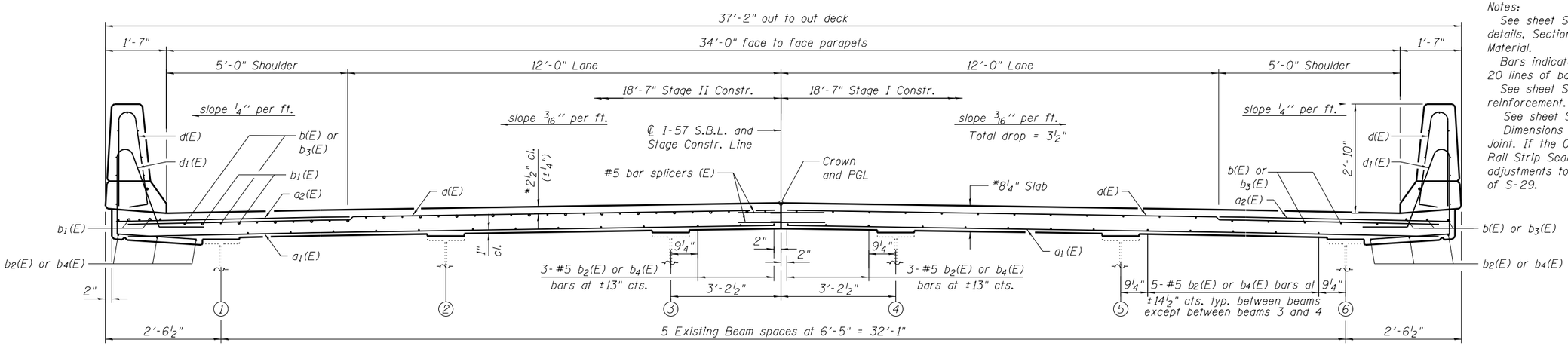
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-0010
SHEET NO. S-9 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	44
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		



PLAN



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking North)

*Prior to ¼" Diamond Grinding

Note: Drainage Scuppers and floor drains not shown in cross section for clarity

Notes:

See sheet S-12 of S-29 for superstructure details, Sections A-A and B-B, and Bill of Material.

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

See sheet S-11 of S-29 for parapet reinforcement.

See sheet S-28 of S-29 for bar splicer details. Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the detail in sheet S-15 of S-29.

MINIMUM BAR LAP

#5 bar = 2'-7"

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JACOBS

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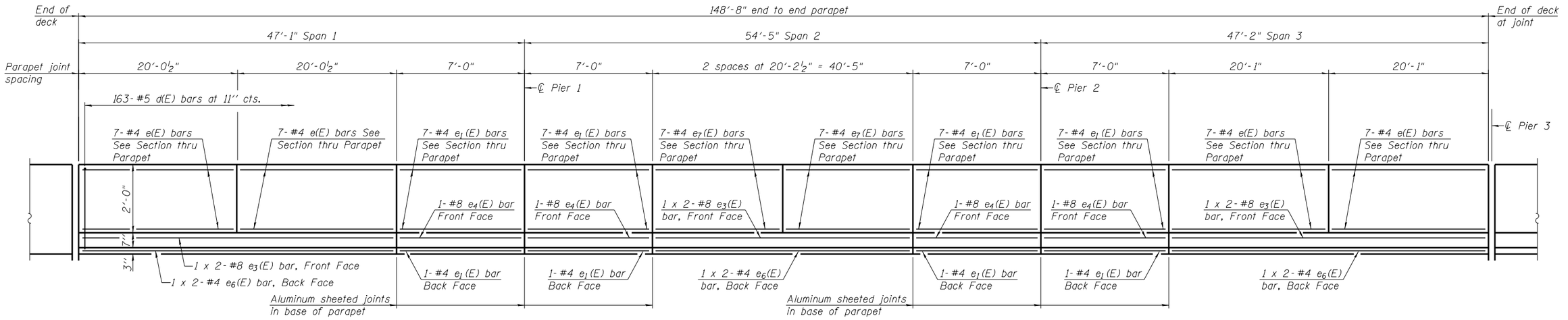
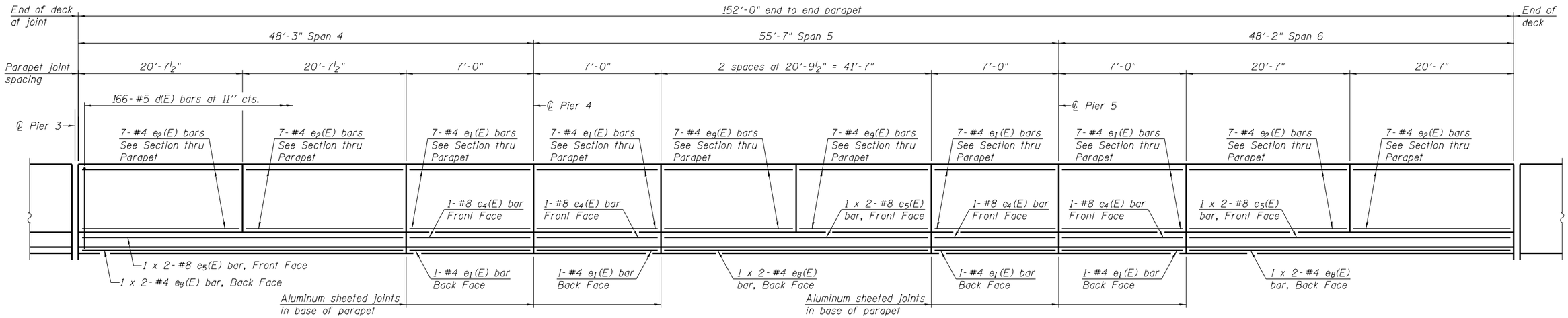
PLOT DATE = 4/27/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

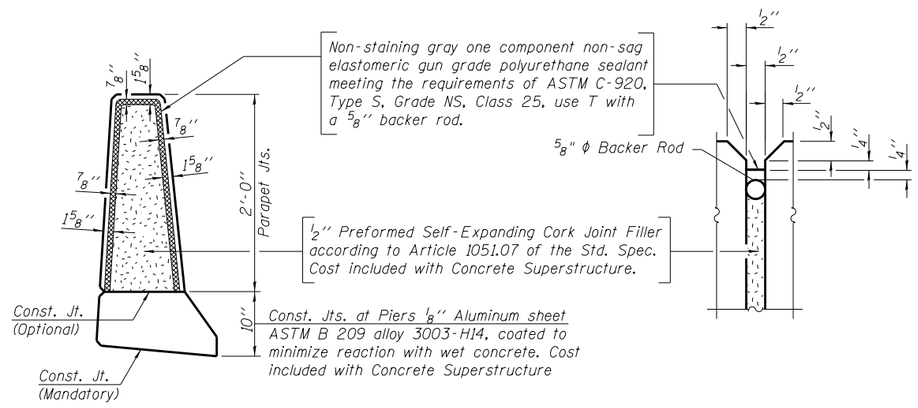
SUPERSTRUCTURE
STRUCTURE NO. 010-0010
SHEET NO. S-10 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	45
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			





INSIDE ELEVATION OF PARAPETS



PARAPET JOINT DETAILS

MINIMUM BAR LAP

(Parapets)
#4 bar = 2'-0"
#8 bar = 5'-2"

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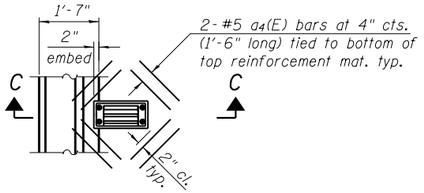
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

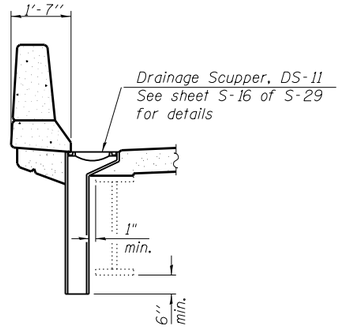
SUPERSTRUCTURE DETAILS I
STRUCTURE NO. 010-0010
SHEET NO. S-11 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	46
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

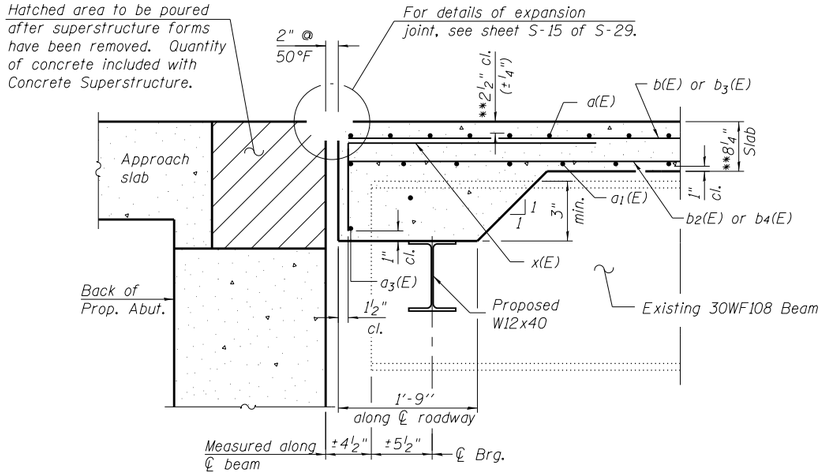


DRAINAGE SCUPPER DETAIL

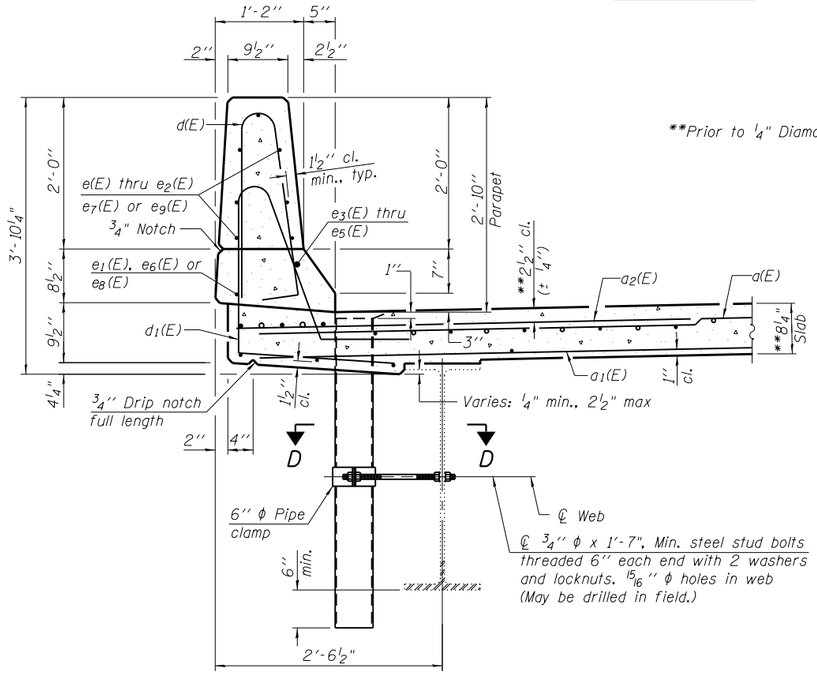
Note:
Cut longitudinal reinforcement to clear drainage scuppers.



SECTION C-C

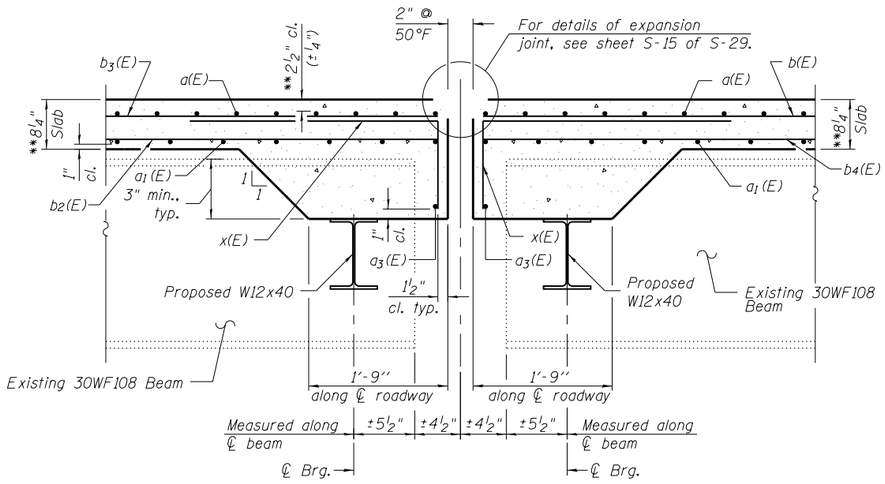


SECTION A-A

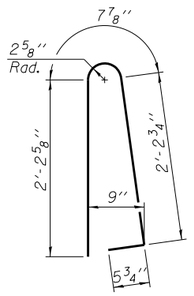


**Prior to ¼" Diamond Grinding

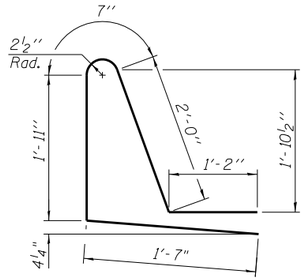
SECTION THRU PARAPET



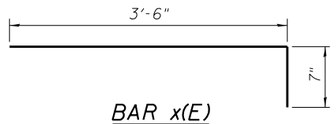
SECTION B-B



BAR d(E)



BAR d1(E)

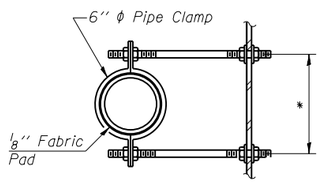


BAR x(E)

SUPERSTRUCTURE BILL OF MATERIAL

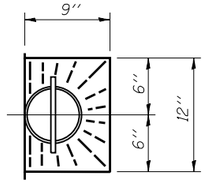
Bar	No.	Size	Length	Shape
a(E)	850	#5	18'-1"	——
a1(E)	724	#5	17'-10"	——
a2(E)	426	#6	6'-6"	——
a3(E)	8	#5	15'-9"	——
a4(E)	32	#5	1'-6"	——
b(E)	240	#5	26'-11"	——
b1(E)	144	#6	34'-0"	——
b2(E)	224	#5	23'-5"	——
b3(E)	240	#5	27'-6"	——
b4(E)	224	#5	23'-11"	——
d(E)	658	#5	5'-7"	⌐
d1(E)	658	#5	7'-3"	L
e(E)	56	#4	19'-9"	——
e1(E)	128	#4	6'-9"	——
e2(E)	56	#4	20'-3"	——
e3(E)	12	#8	22'-8"	——
e4(E)	16	#8	6'-9"	——
e5(E)	12	#8	23'-3"	——
e6(E)	12	#4	21'-1"	——
e7(E)	28	#4	19'-11"	——
e8(E)	12	#4	21'-8"	——
e9(E)	28	#4	20'-6"	——
x(E)	136	#5	4'-1"	⌐
Reinforcement Bars, Epoxy Coated			Pound	80,200
Concrete Superstructure			Cu. Yd.	386.1

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

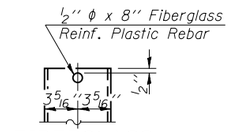


SECTION D-D

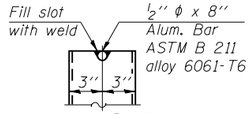
* Dimension as required by Pipe Clamp



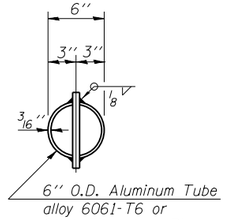
TOP PLAN



FIBERGLASS PIPE



ALUMINUM TUBE



TOP PLAN

(Showing Aluminum Tube)

Notes:
Drains shall be located clear of all diaphragms.
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

FILE NAME = P:_2012\C\RX12604 Deck Rep Rehab 157\700 CADD Files\701 Structural Files\SHEETS\010010-90951-011-SUP.dgn

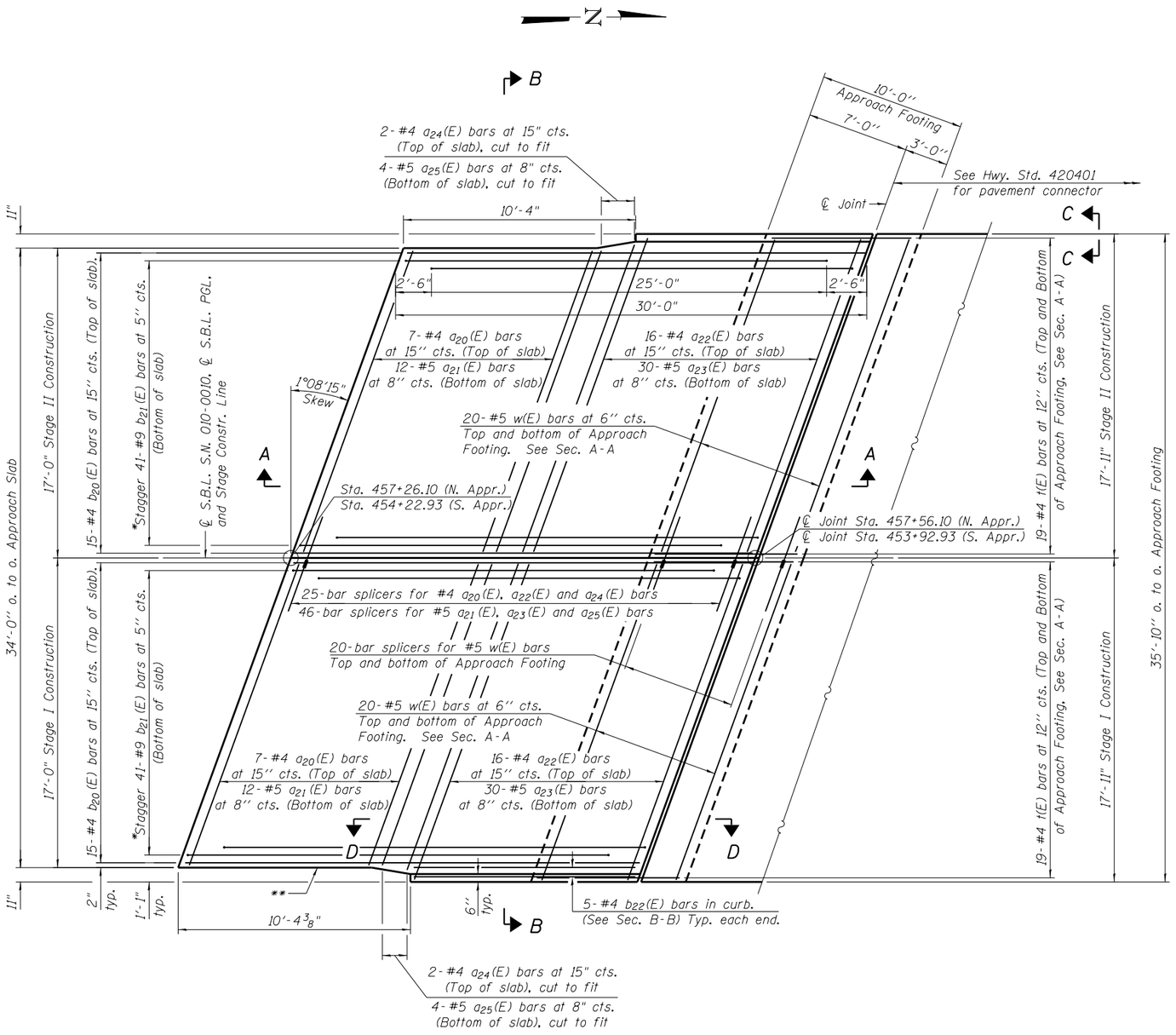
JACOBS

USER NAME = manzooam	DESIGNED - KJW	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 4/27/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS II
STRUCTURE NO. 010-0010
SHEET NO. S-12 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	47
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



PLAN

(North Approach Shown, South Approach Opposite Hand)

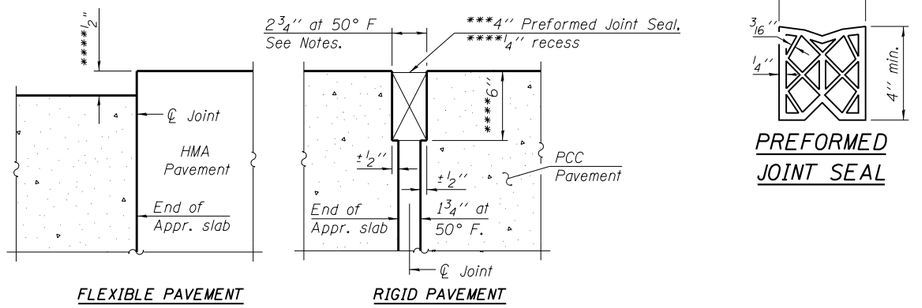
* Tilt #9 b_{21}(E) bars as required to maintain clearance.
** Closed cell joint filler according to Article 1051.08 of the Std. Specifications: full depth of slab, full length of parapet. Typ. each parapet.

Notes:

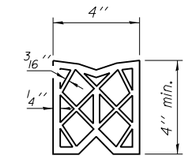
See sheet S-14 of S-29 for Sections A-A & B-B and View D-D. a_{20}(E), a_{21}(E), a_{22}(E), a_{23}(E), a_{24}(E) and a_{25}(E) bar spacings measured along ℄ S.B.L. S.N. 010-0010.

The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1 1/2" for installation purposes.

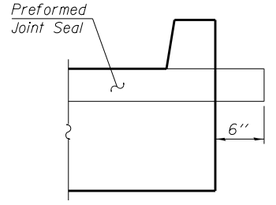
*** Cost included with Concrete Superstructure.
**** Prior to 1/4" Diamond Grinding.



DETAIL A



PREFORMED JOINT SEAL

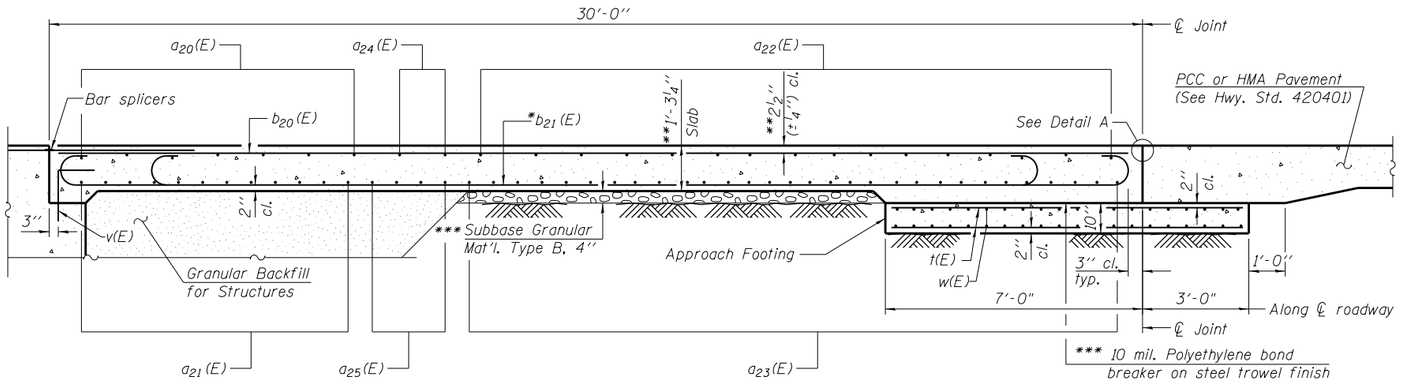


VIEW C-C

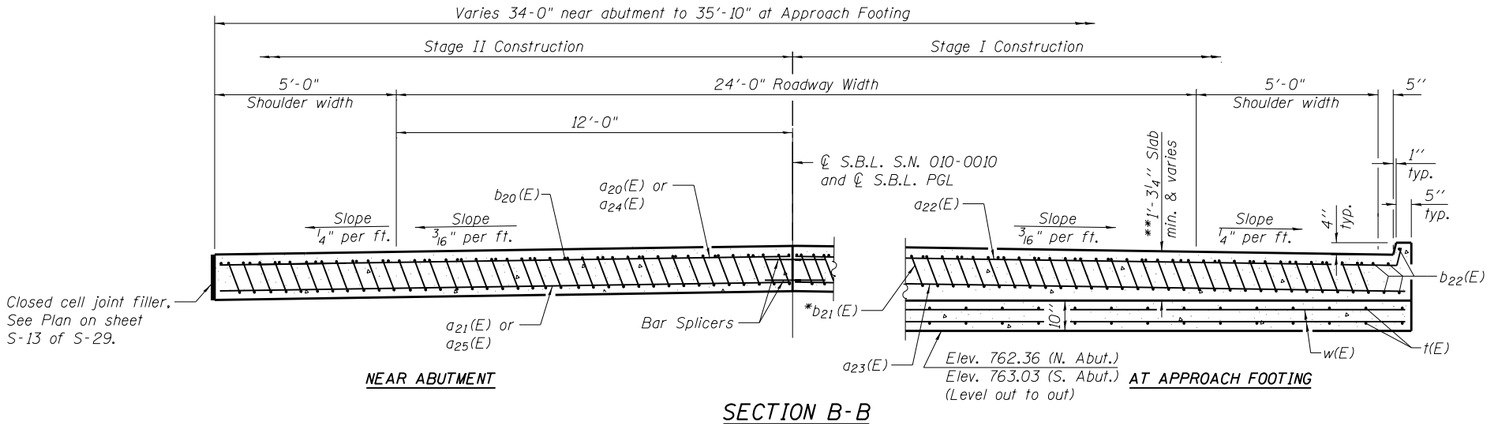
JACOBS	USER NAME = kberg	DESIGNED - RDS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS I STRUCTURE NO. 010-0010
		CHECKED - SJB	REVISED -		
	PLOT SCALE =	DRAWN - RDS	REVISED -		
	PLOT DATE = 4/23/2015	CHECKED - SJB	REVISED -		SHEET NO. S-13 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	48
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

FILE NAME = P:_2012\C9X12684 Deck Rep Rehab 157-700 CADD Files\709 Structural Files\SHEETS\010010-90951-013-APP.dgn



SECTION A-A

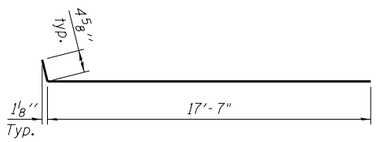


NEAR ABUTMENT

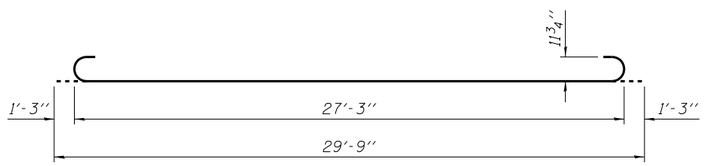
AT APPROACH FOOTING

SECTION B-B

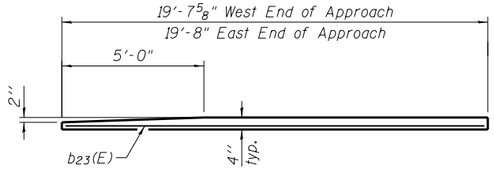
(See Plan for dimensions not shown)



BAR a_{22}(E)



BAR b_{21}(E)



VIEW D-D

Notes:

See sheet S-13 of S-29 for Detail A.
Approach slab concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet S-24 of S-29.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet S-28 of S-29.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet S-24 of S-29.
See sheet S-28 of S-29 for bar splicer details.

* Tilt #9 b_{21}(E) bars as required to maintain clearance.
** Prior to ¼" Diamond Grinding.
*** Cost included with Concrete Superstructure.

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{20}(E)	28	#4	16'-8"	
a_{21}(E)	48	#5	16'-8"	
a_{22}(E)	64	#4	17'-11"	
a_{23}(E)	120	#5	17'-7"	
a_{24}(E)	8	#4	17'-1"	
a_{25}(E)	16	#5	17'-1"	
b_{20}(E)	60	#4	29'-8"	
b_{21}(E)	164	#9	29'-9"	
b_{22}(E)	20	#4	19'-3"	
t(E)	76	#4	9'-8"	
w(E)	160	#5	17'-7"	
Concrete Superstructure		Cu. Yd.	108.4	
Concrete Structures		Cu. Yd.	22.2	
Reinforcement Bars, Epoxy Coated		Pound	25,960	

FILE NAME = P:_2012\C941284 Deck Rep Rehab I57\700 CADD Files\799 Structural Files\SHEETS\010010-90951-814-APP.dgn

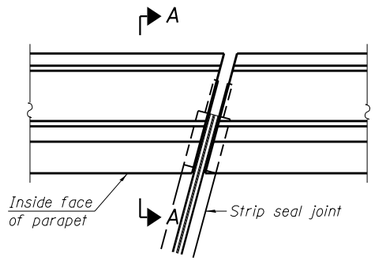
JACOBS

USER NAME = wellinkj	DESIGNED - RDS	REVISED -
	CHECKED - SJB	REVISED -
PLOT SCALE =	DRAWN - RDS	REVISED -
PLOT DATE = 3/9/2015	CHECKED - SJB	REVISED -

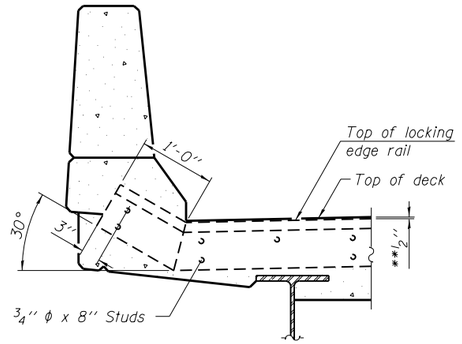
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS II
STRUCTURE NO. 010-0010
SHEET NO. S-14 OF S-29 SHEETS

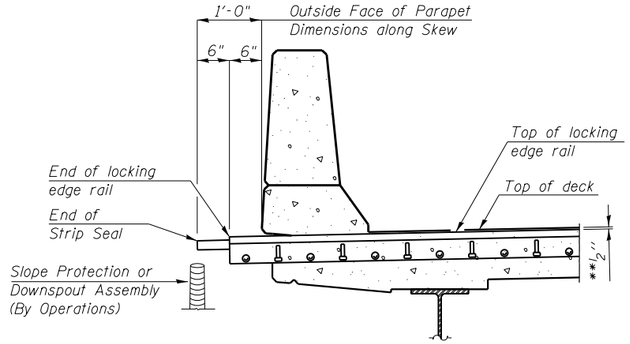
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	49
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



PLAN
(For skews ≤ 30°)



AT PIER 3



AT NORTH AND SOUTH ABUTMENTS

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 conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

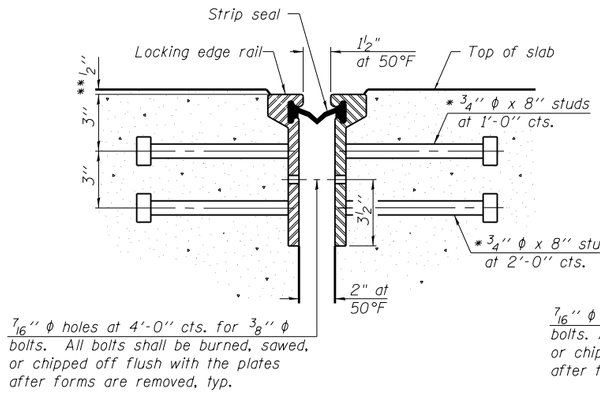
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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

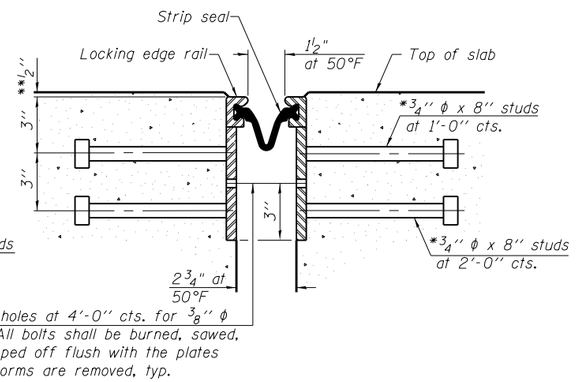
Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

SECTION A-A



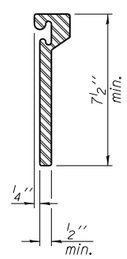
SECTION THRU
ROLLED RAIL JOINT



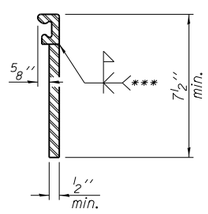
SECTION THRU
WELDED RAIL JOINT

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

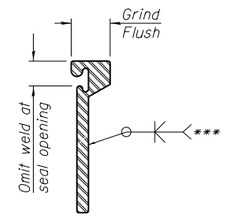
** Prior to 1/4" Diamond Grinding



ROLLED
EXTRUDED RAIL



WELDED RAIL



*** 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.

LOCKING EDGE RAILS

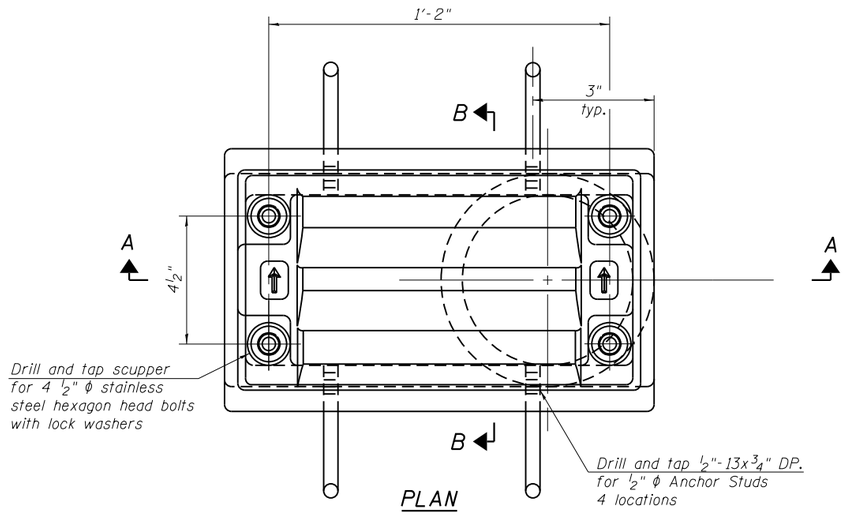
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	115

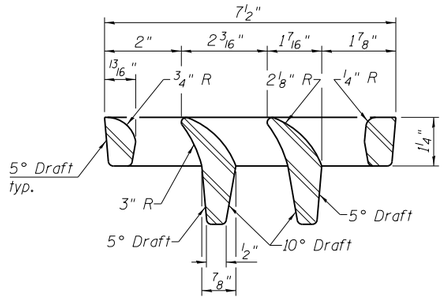
FILE NAME = P:\2012\C9W12604 Deck Rep Rehab 157-700 CADD Files\700 Structural Files\SHEETS\0100010-90951-015-EXP.dgn

JACOBS	USER NAME = wellinkj	DESIGNED - AMM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MODIFIED PREFORMED JOINT STRIP SEAL STRUCTURE NO. 010-0010
		CHECKED - JSD	REVISED -		
	PLOT SCALE =	DRAWN - AMM	REVISED -		
	PLOT DATE = 3/9/2015	CHECKED - JSD	REVISED -		SHEET NO. S-15 OF S-29 SHEETS

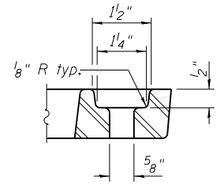
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	50
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

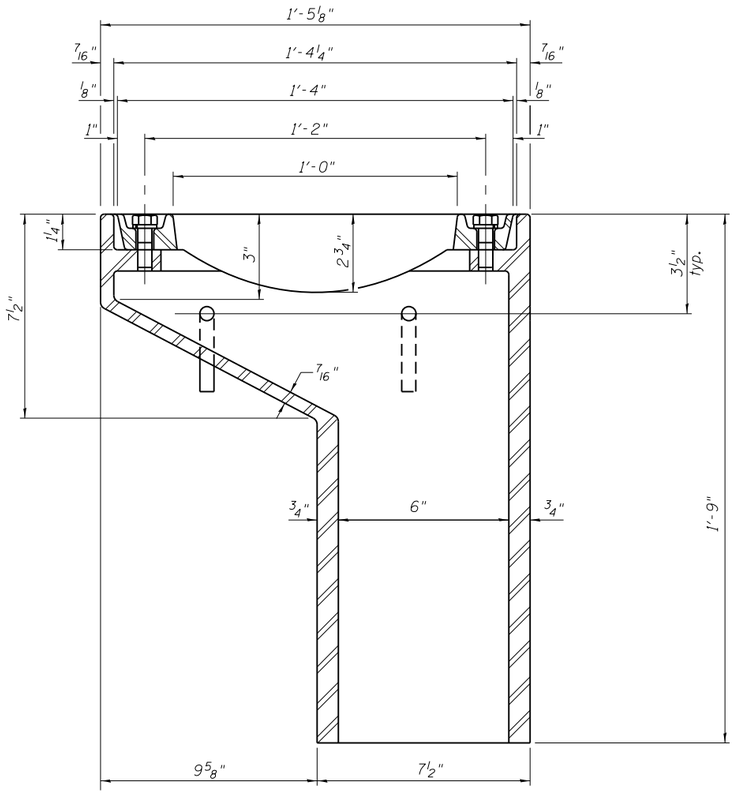
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

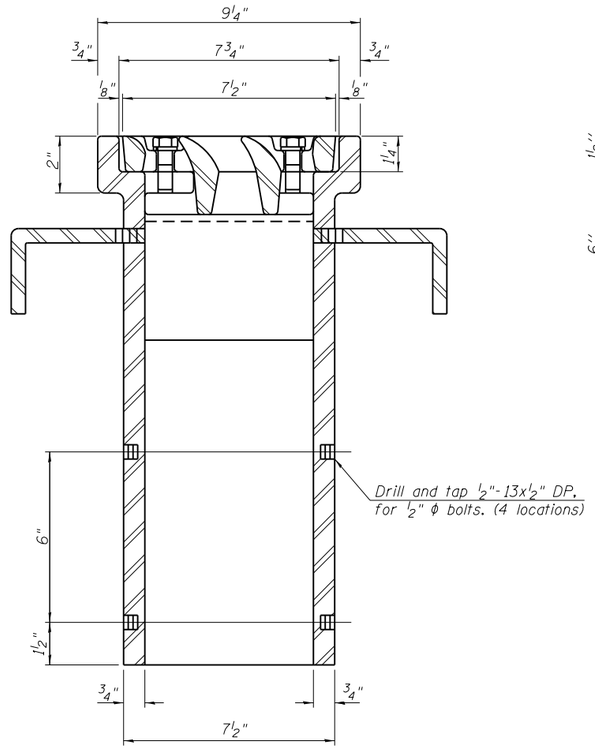
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

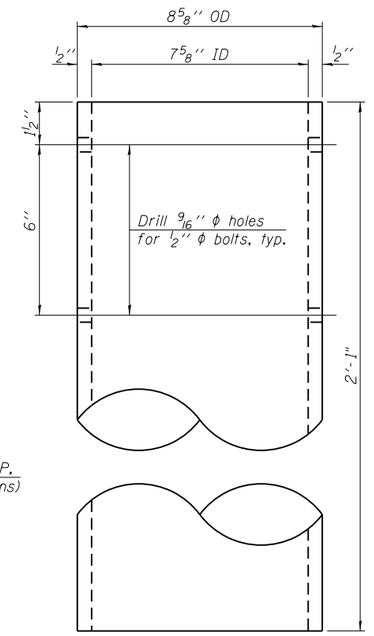


SECTION A-A

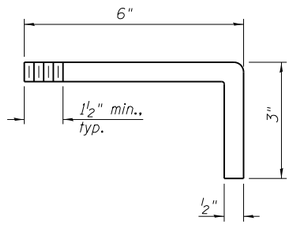
See sheet S-10 and S-12 of S-29 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	4

DS-11

7-1-10

JACOBS

USER NAME = wellinkj	DESIGNED - KJW	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 3/9/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
STRUCTURE NO. 010-0010
SHEET NO. S-16 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	51
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

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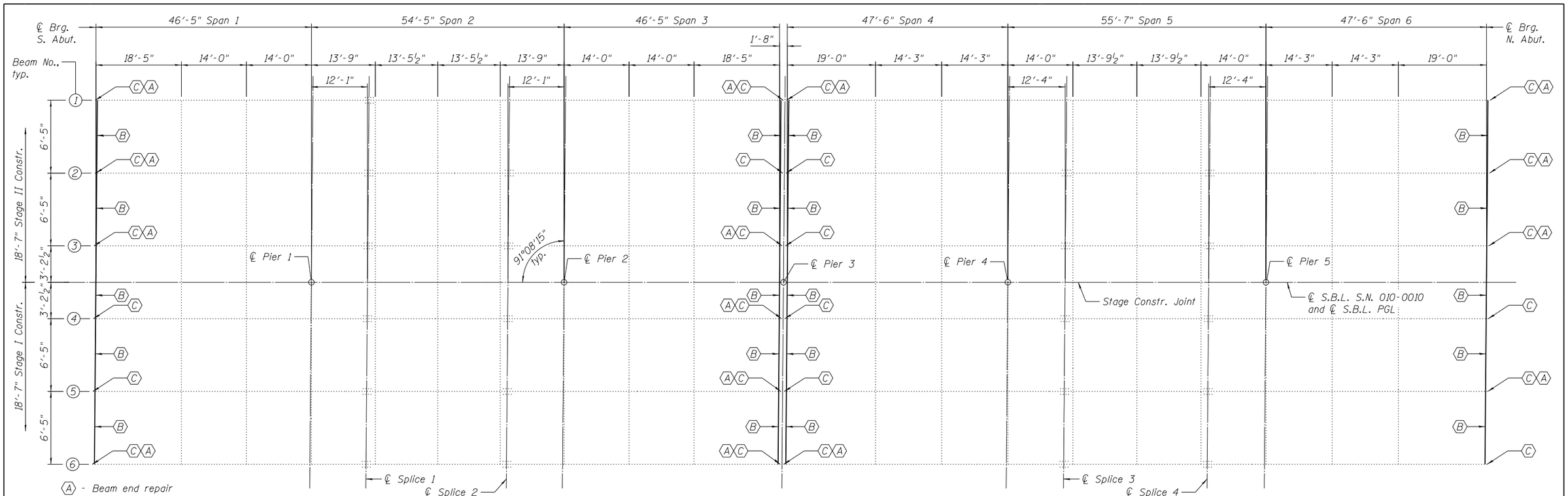
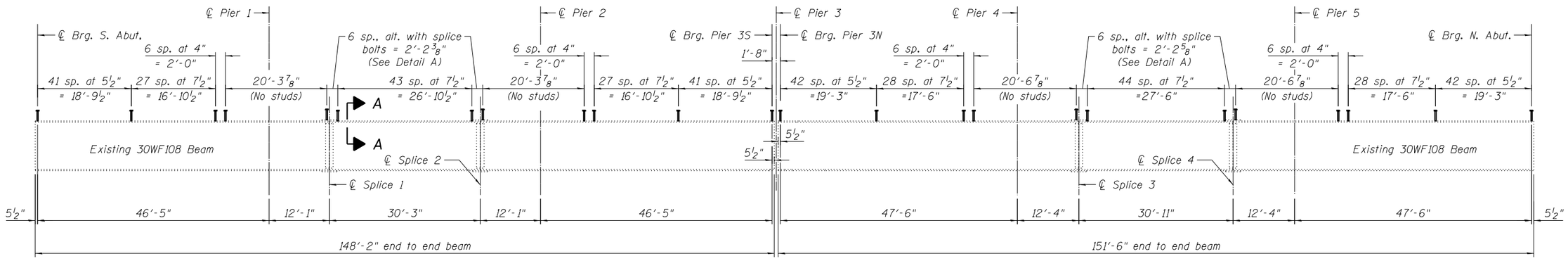
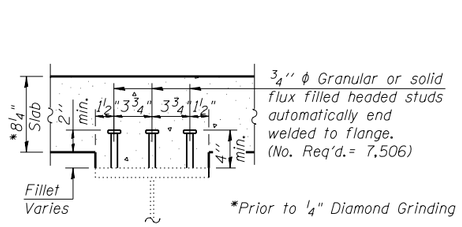


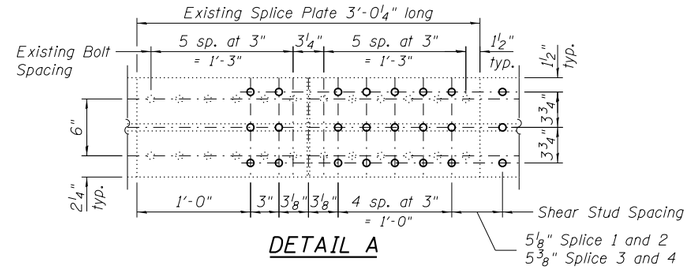
FRAMING PLAN



BEAM ELEVATION



SECTION A-A



DETAIL A

JACOBS	USER NAME = kberg	DESIGNED - SJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN AND BEAM DETAILS STRUCTURE NO. 010-0010
		CHECKED - JSD	REVISED -		SHEET NO. S-17 OF S-29 SHEETS
	PLOT SCALE =	DRAWN - KJW	REVISED -		
	PLOT DATE = 4/23/2015	CHECKED - JSD	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	52
		CONTRACT NO. 90951		
		ILLINOIS	FED. AID PROJECT	

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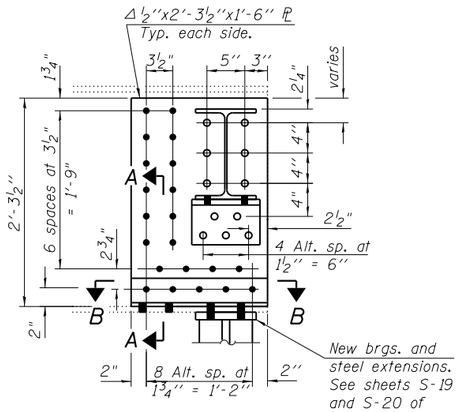
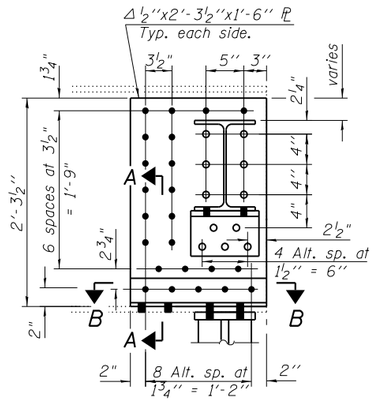


BEAMS 1 AND 6



BEAMS 2 THROUGH 5

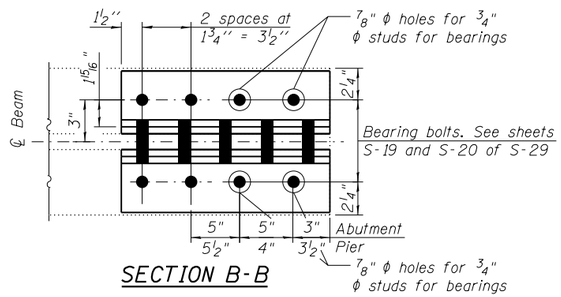
LEGEND

- ○ Field drilled hole (Field drilling thru new steel and exist. beam.)
- ● Shop drilled hole (Shop drilling thru new steel only. Holes in new steel will be used as reference for drilling thru exist. beam.)

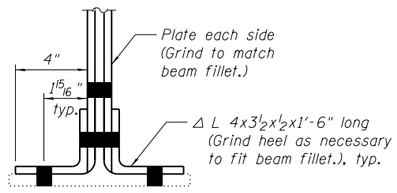
REPAIR A
BEAM END REPAIR
(15 Required)

Δ Plates and angles for Beam End Repair

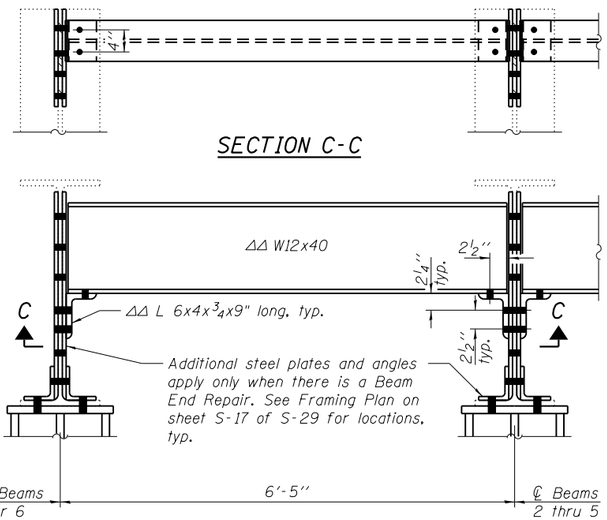
ΔΔ W12x40 and angles for diaphragm replacement



SECTION B-B

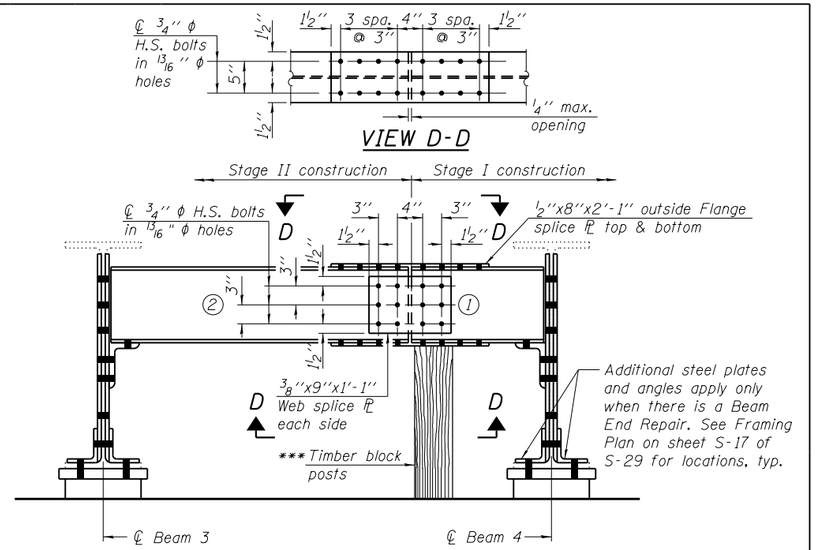


SECTION A-A



REPAIR B
DIAPHRAGM REPLACEMENT DETAIL
(20 Required)

(At 4 of the 20 diaphragms, a diaphragm splice will be required at the stage line. See Diaphragm Splice detail.)

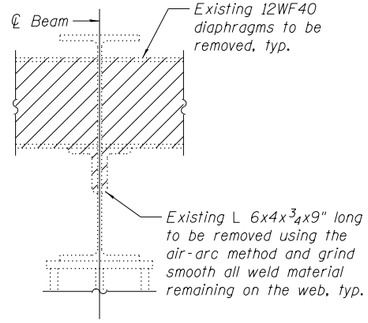


*** Cost of Timber Block Posts is included with Furnishing and Erecting Structural Steel.

DIAPHRAGM SPLICE
(Looking North)

DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

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



EXISTING DIAPHRAGM REMOVAL DETAIL
Cost included with Structural Steel Removal

INTERIOR GIRDER MOMENT TABLE				
		0.4 Span 1, 0.6 Span 3, 0.4 Span 4, 0.6 Span 6	Pier 1, Pier 2, Pier 4, Pier 5	0.5 Span 2, 0.5 Span 5
I_s	(in^4)	4470	4470	4470
$I_c(n)$	(in^4)	12574	-	12574
$I_c(3n)$	(in^4)	9331	-	9331
S_s	(in^3)	300	300	300
$S_c(n)$	(in^3)	452	-	452
$S_c(3n)$	(in^3)	409	-	409
Z	(in^3)	-	-	-
ℓ_D	(k/')	0.84	0.99	0.84
M_{ℓ_D}	('k)	133	246	99
$s\ell_D$	(k/')	0.15	-	0.15
$M_s\ell_D$	('k)	27	-	25
M_{ℓ_L}	('k)	292	153	299
M_{IM}	('k)	85	43	83
$\frac{5}{3}[M_{\ell_L} + I]$	('k)	628	327	637
M_a	('k)	989	745	989
* M_u	('k)	1904	1038	1904
f_s ℓ_D non-comp	(ksi)	5.3	9.8	4.0
f_s ℓ_D (comp)	(ksi)	0.8	-	0.7
f_s $\frac{5}{3}[M_{\ell_L} + M_I]$	(ksi)	16.7	13.1	16.9
f_s (Overload)	(ksi)	22.8	22.9	21.6
** f_s (Total)	(ksi)	-	-	-
VR	(k)	51.7	-	36.5

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

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

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

Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).

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

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

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

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

M_{ℓ_L}: Un-factored live load moment (kip-ft.).

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

M_a: Factored design moment (kip-ft.). $1.3\ [M\ell_D + M_s\ell_D + \frac{5}{3}(M_{\ell_L} + M_I)]$

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

f_s (Overload): Sum of stresses as computed from the moments below (ksi). $M\ell_D + M_s\ell_D + \frac{5}{3}(M_{\ell_L} + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.3\ [M\ell_D + M_s\ell_D + \frac{5}{3}(M_{\ell_L} + M_I)]$

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

INTERIOR GIRDER REACTION TABLE			
		S. Abut., N.Abut., or Pier 3 N & S	Pier 1, Pier 2, Pier 4, or Pier 5
$R\ell_D$	(k)	18.3	54.4
R_{ℓ_L}	(k)	37.1	43.2
R_I	(k)	10.7	9.5
R_{Total}	(k)	66.1	107.1

* Compact section
** Braced non-compact and partially braced section

Notes:

Cost for Beam End Repairs as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Structural Steel Repair.

Fasteners shall be high strength bolts. Flange holes for structural steel repair shall be 15/16"ϕ for 7/8"ϕ bolts except as noted. Web holes for structural steel repair shall be 13/16"ϕ for 3/4"ϕ bolts. Diaphragm splice holes shall be 13/16"ϕ for 3/4"ϕ bolts.

All new diaphragms and clip angles to be paid for as Furnishing and Erecting Structural Steel. All other steel and bolts to be paid for as Structural Steel Repair.

The cost of field drilling is included in Structural Steel Repair

The cost of grinding is included in Structural Steel Repair

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Pound	2,780
Structural Steel Removal	Pound	6,140
Furnishing and Erecting Structural Steel	Pound	6,480

FILE NAME = P:_2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\701 Structural Files\SHEETS\010010(0-90951-01B-STL.dgn

JACOBS

USER NAME = manzooam	DESIGNED - KJW	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 4/27/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 010-0010
SHEET NO. S-18 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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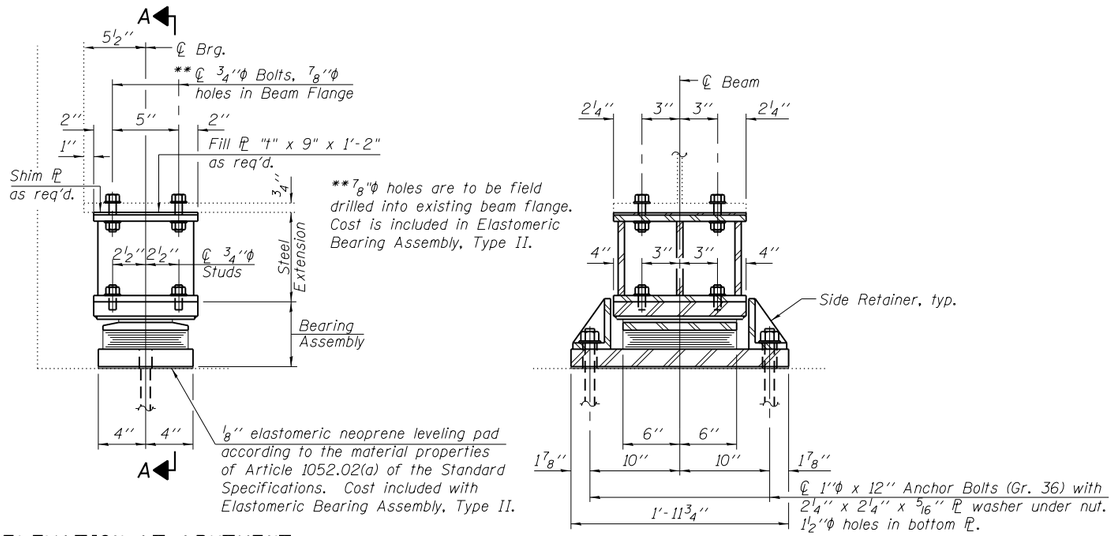
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



ELEVATION AT ABUTMENT

SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

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.

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

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.

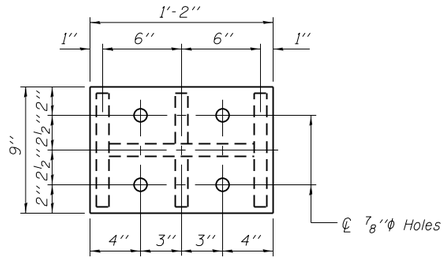
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Fill plates are included in cost of Furnishing and Erecting Structural Steel.

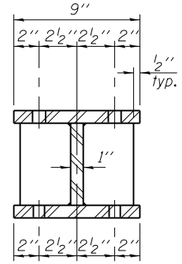
Jack and Remove Existing Bearing:

The maximum Dead Load Reaction with deck removed (per bearing at each abutment) is 2.3 kips. Minimum jack capacity is 4 kips.

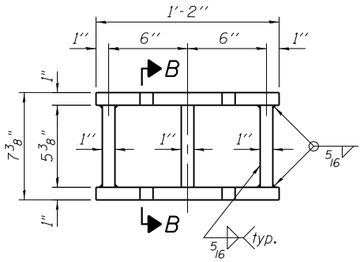
The Contractor shall submit, for approval by the Engineer, plans for jacking and removing the existing bearings prior to commencing any work on the bearings. In each stage, jacking and removal of the existing bearings shall be done after the existing deck is removed and before the new deck is poured. The new bearings and steel extension shall be in place and the jacks lowered prior to pouring the new concrete deck in each stage. See Special Provision.



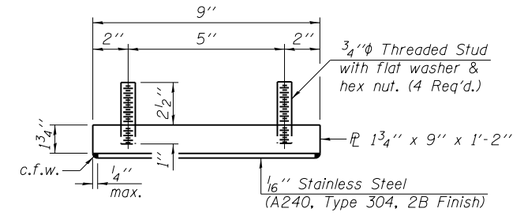
PLAN TOP AND BOTTOM PLATE



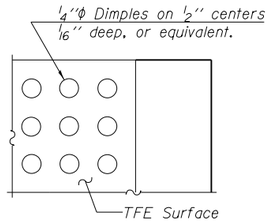
SECTION B-B



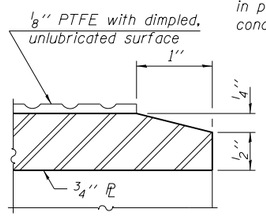
STEEL EXTENSION DETAIL



TOP BEARING ASSEMBLY



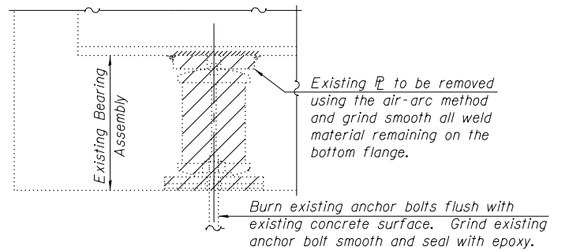
PLAN-TFE SURFACE



SECTION THRU TFE

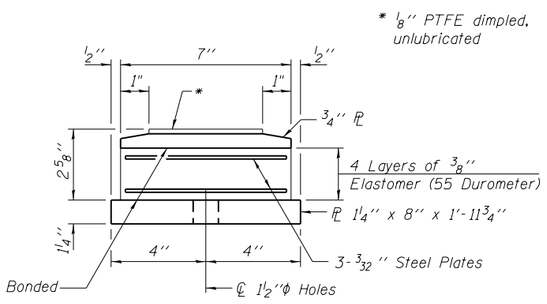
TABLE OF FILL PLATE THICKNESS "t"

Beam	S. Abut.	N. Abut.
1	1⅝"	⅞"
2	1½"	-
3	¾"	¼"
4	¾"	½"
5	1"	⅝"
6	½"	¾"



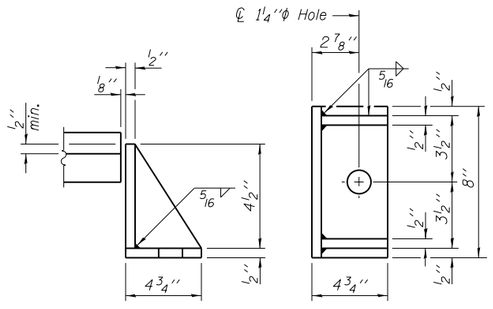
EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



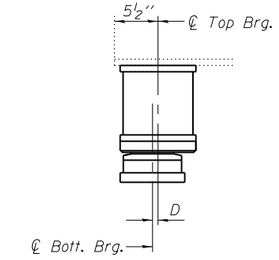
* ⅛'' PTFE dimpled, unlubricated

BOTTOM BEARING ASSEMBLY



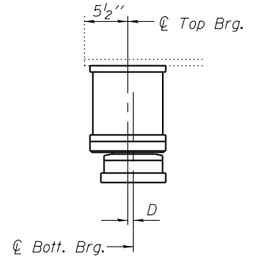
SIDE RETAINER

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



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	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1,690
Anchor Bolts, 1''	Each	24

FILE NAME = P:_2012\C9W12684 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\010010-90951-019-BRG.dgn

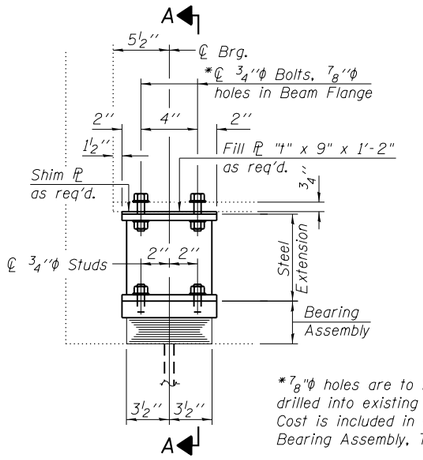
JACOBS

USER NAME = kberg	DESIGNED - SJB	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 4/23/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

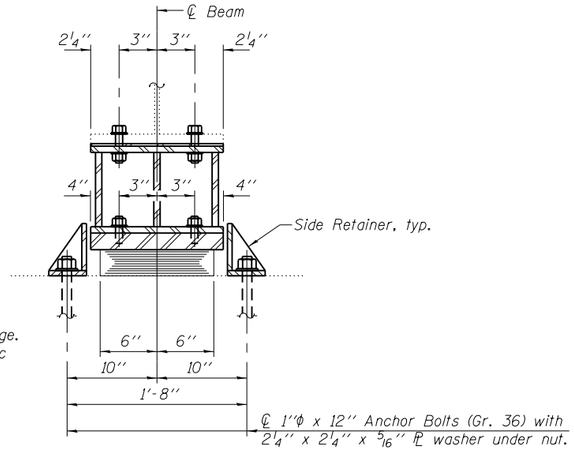
BEARING DETAILS I
STRUCTURE NO. 010-0010
SHEET NO. S-19 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	54
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



*⅞''ϕ holes are to be field drilled into existing beam flange. Cost is included in Elastomeric Bearing Assembly, Type I.

ELEVATION AT PIER 3



SECTION A-C

TYPE I ELASTOMERIC EXP. BRG.

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.

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

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 I.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

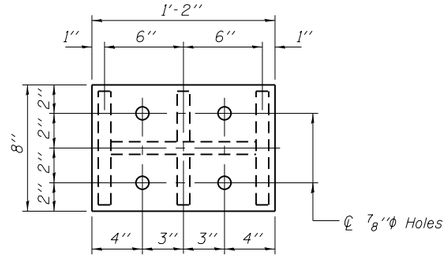
Fill plates are included in cost of Furnishing and Erecting Structural Steel.

Jack and Remove Existing Bearing:

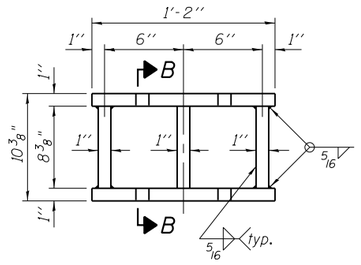
The maximum Dead Load Reaction with deck removed (per bearing at pier 3) is 2.3 kips. Minimum jack capacity is 4 kips.

The Contractor shall submit, for approval by the Engineer, plans for jacking and removing the existing bearings prior to commencing any work on the bearings. In each stage, jacking and removal of the existing bearings shall be done after the existing deck is removed and before the new deck is poured. The new bearings and steel extension shall be in place and the jacks lowered prior to pouring the new concrete deck in each stage. See Special Provision.

SECTION B-B



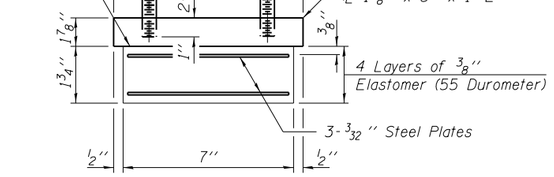
PLAN TOP AND BOTTOM PLATE



STEEL EXTENSION DETAIL

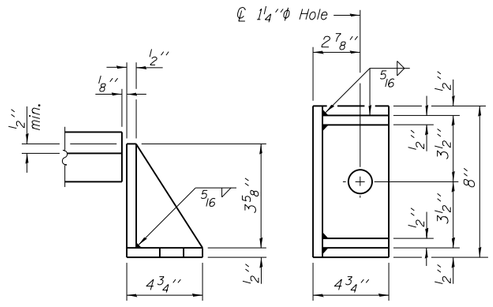
TABLE OF FILL PLATE THICKNESSES, "t"

Beam	Pier 3S	Pier 3N
1	⅜"	⅜"
2	1¾"	1½"
3	⅛"	-
4	⅜"	⅜"
5	-	⅝"
6	¼"	⅛"



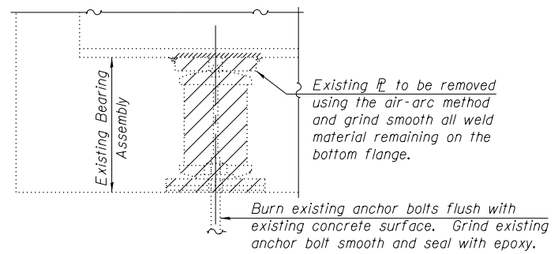
BEARING ASSEMBLY

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



SIDE RETAINER

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



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1,600
Anchor Bolts, 1''	Each	24

FILE NAME = P:\2012\CSX12604 Deck Rep Rehab 157\700 CADD Files\701 Structural Files\SHEETS\010010-90951-020-BRG.dgn

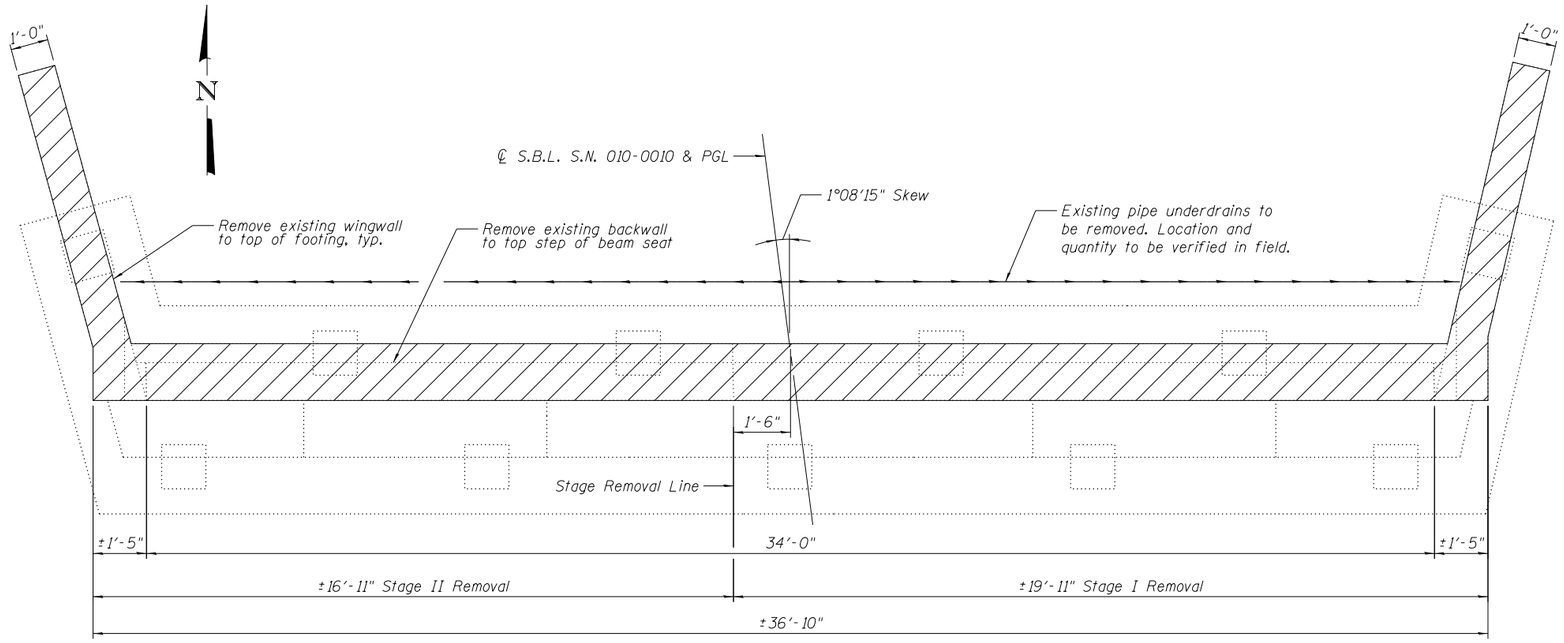
JACOBS

USER NAME = kberg	DESIGNED - SJB	REVISED -
	CHECKED - JSD	REVISED -
PLOT SCALE =	DRAWN - KJW	REVISED -
PLOT DATE = 4/23/2015	CHECKED - JSD	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

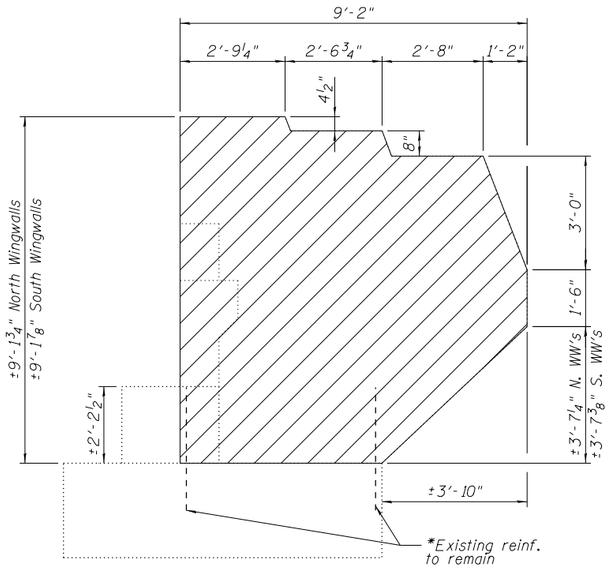
BEARING DETAILS II
STRUCTURE NO. 010-0010
SHEET NO. S-20 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	55
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

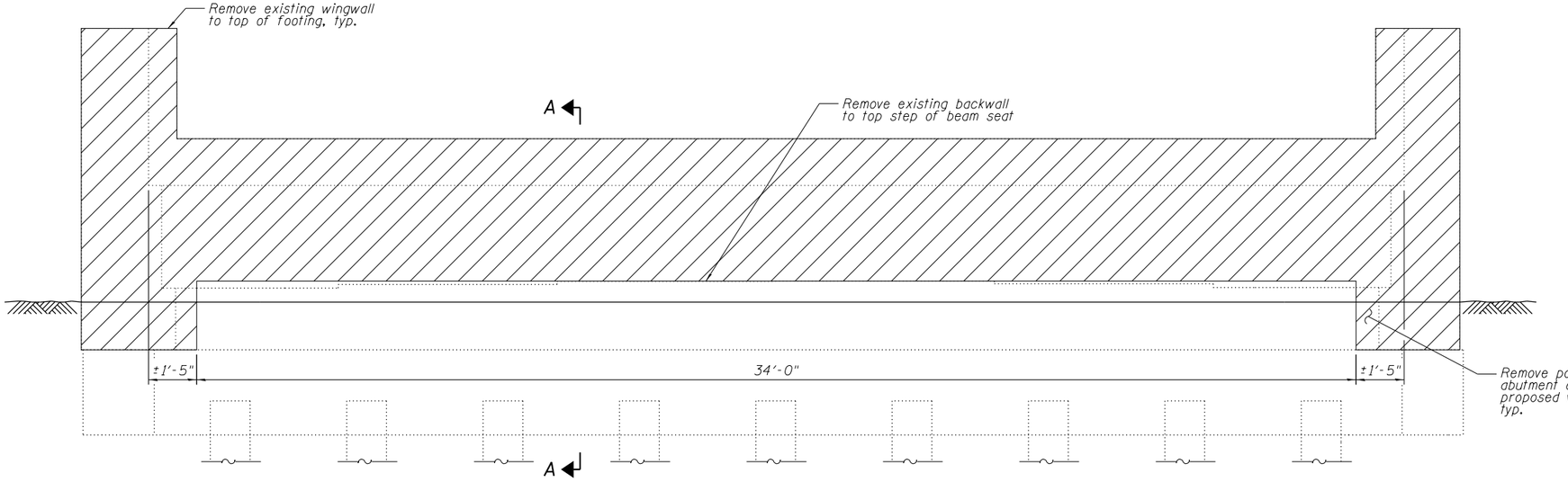


NORTH ABUTMENT PLAN

(South Abutment Opposite Hand)

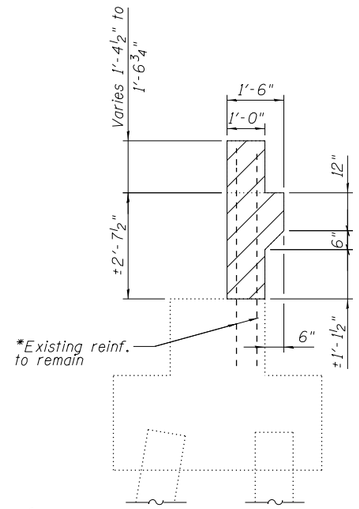


TYPICAL WINGWALL ELEVATION



NORTH ABUTMENT ELEVATION

(Looking North, South Abutment Similar)



SECTION A-A

*Reinforcement in existing abutment and wingwalls extending into removal area shall be cleaned, straightened, and incorporated into the new construction.

LEGEND

Concrete Removal

Notes:

Any existing reinforcement to remain that is damaged during removal operations shall be replaced with an approved bar splicer or anchorage system at no additional cost.

For Bill of Material see sheet S-24 or S-29.

FILE NAME = P:\2012\CRX12684 Deck Rep Rehab 157\700 CADD Files\701 Structural Files\SHEETS\010010-90951-021-ABT.dgn

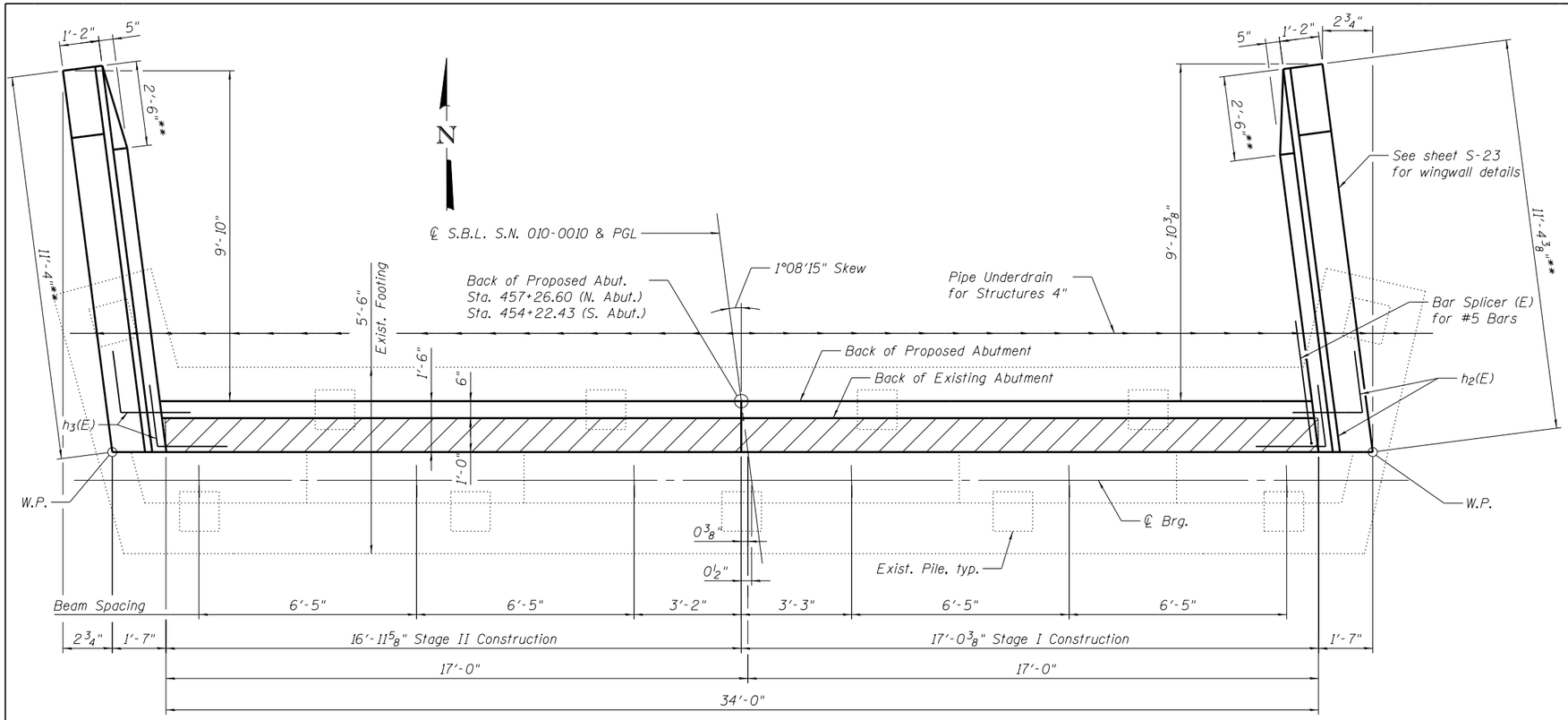
JACOBS

USER NAME = wellinkj	DESIGNED - RDS	REVISED -
	CHECKED - SJB	REVISED -
PLOT SCALE =	DRAWN - RDS	REVISED -
PLOT DATE = 3/9/2015	CHECKED - SJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT REMOVAL AND REPLACEMENT DETAILS
STRUCTURE NO. 010-0010
SHEET NO. S-21 OF S-29 SHEETS

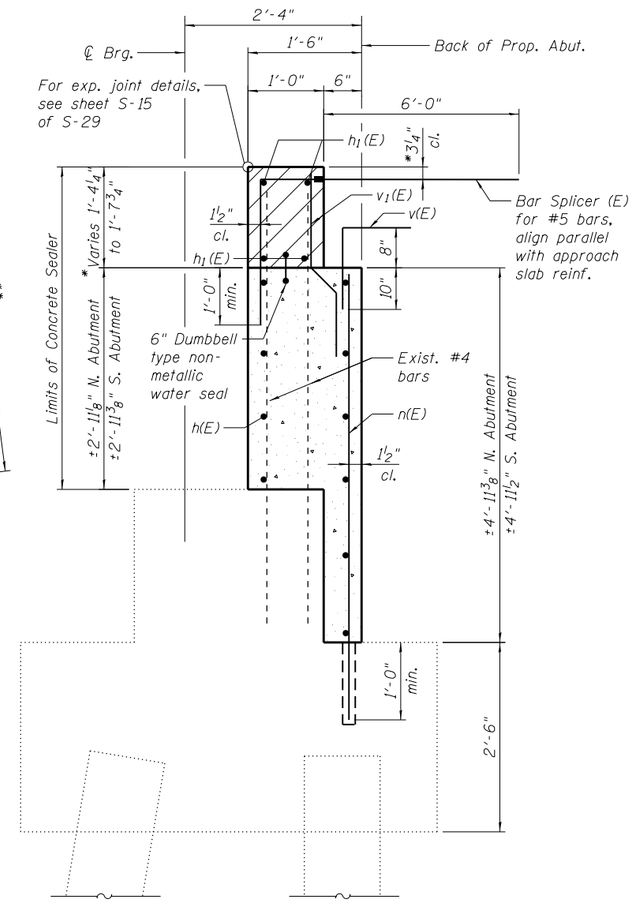
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	56
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



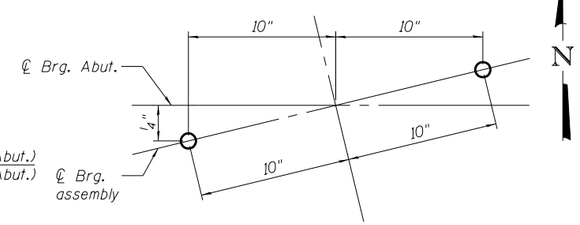
PLAN - NORTH ABUTMENT

(South Abutment, Opposite Hand)

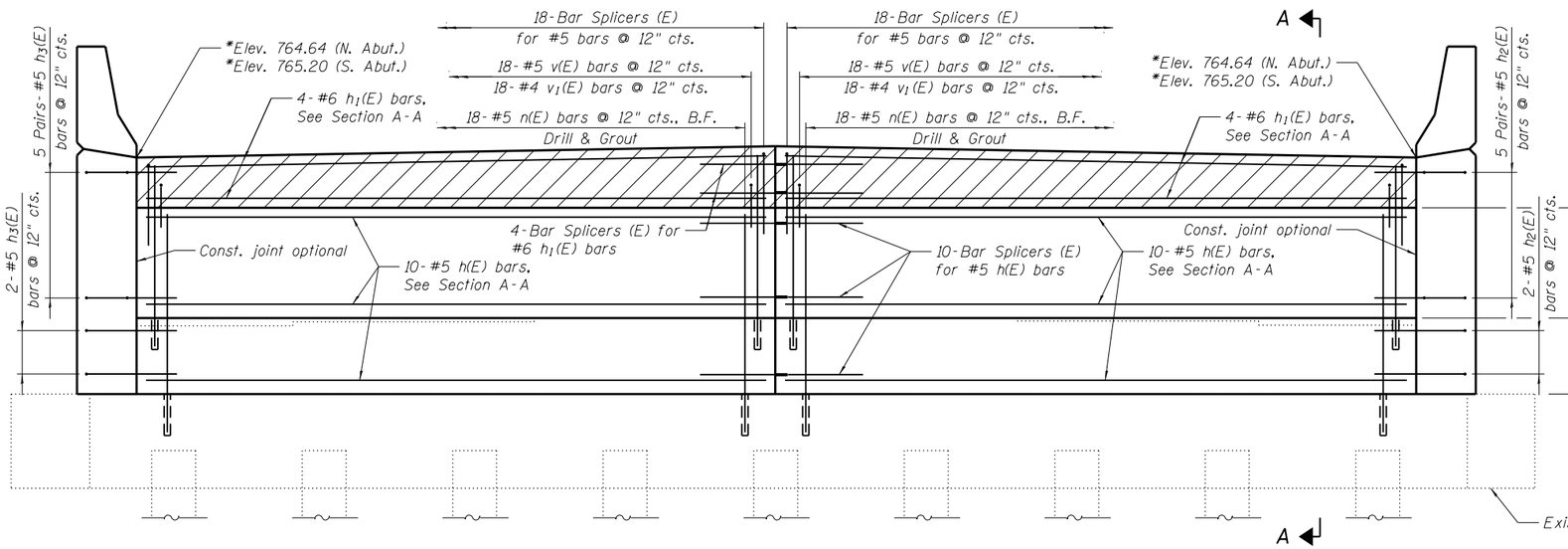
*Prior to 1/4" Diamond Grinding
**Measurement taken along skew



SECTION A-A



ANCHOR BOLT LAYOUT



ELEVATION - NORTH ABUTMENT

(South Abutment, Opposite Hand)

Notes:

Hatched areas to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

For details of bar splicers, see sheet S-28 of S-29.

For Bill of Materials and Bar Bending Diagrams, see sheet S-24 of S-29.

Exist. vertical backwall and vertical inside face of wingwall reinforcement shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.

B.F. denotes Back Face

F.F. denotes Front Face

Drill and grout #5 bars into 12" min. drilled holes according to Article 584 of Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.

FILE NAME = P:\2012\C94\26B4 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\010010-90951-022-ABT.dgn

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USER NAME = wellinkj	DESIGNED - RDS	REVISED -
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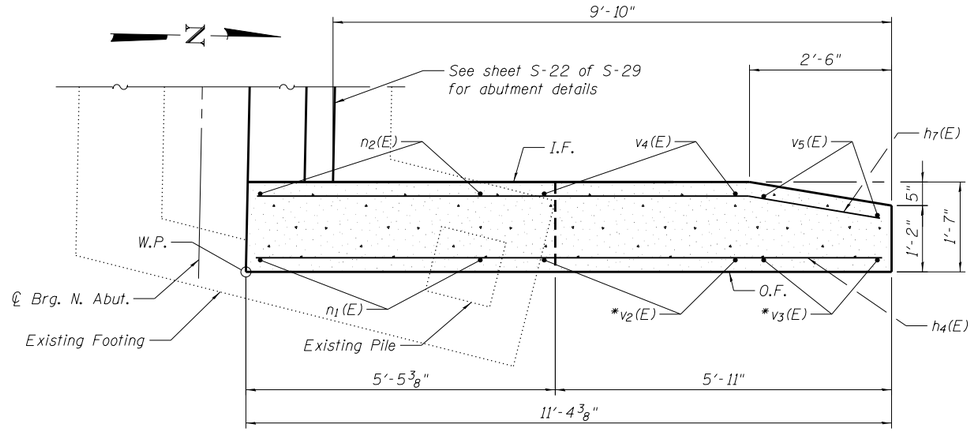
PLOT SCALE =	DRAWN - RDS	REVISED -
PLOT DATE = 3/9/2015	CHECKED - SJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

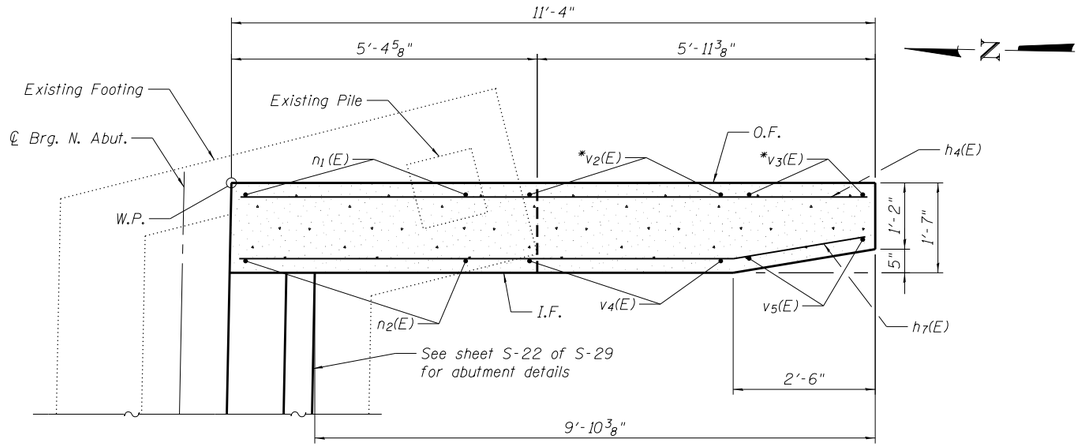
ABUTMENT RECONSTRUCTION
STRUCTURE NO. 010-0010
SHEET NO. S-22 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	57
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



PLAN - NORTHEAST WINGWALL

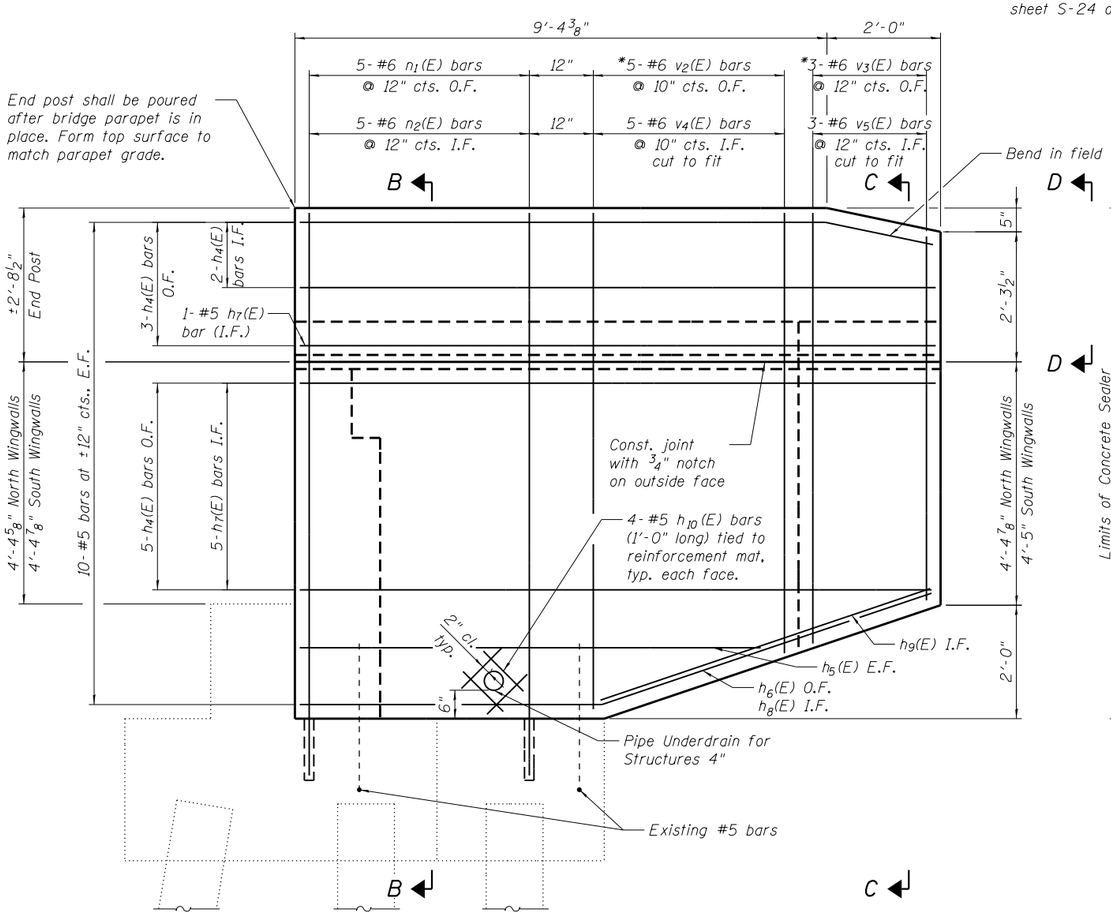
(Southwest Wingwall similar)



PLAN - NORTHWEST WINGWALL

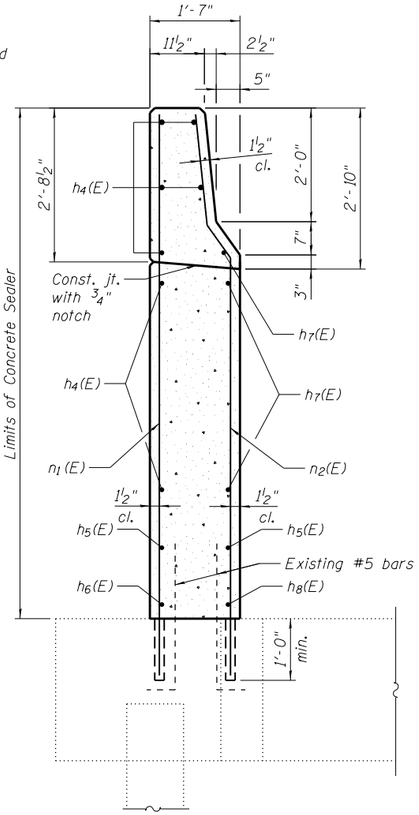
(Southeast Wingwall similar)

*See cutting diagram sheet S-24 of S-29

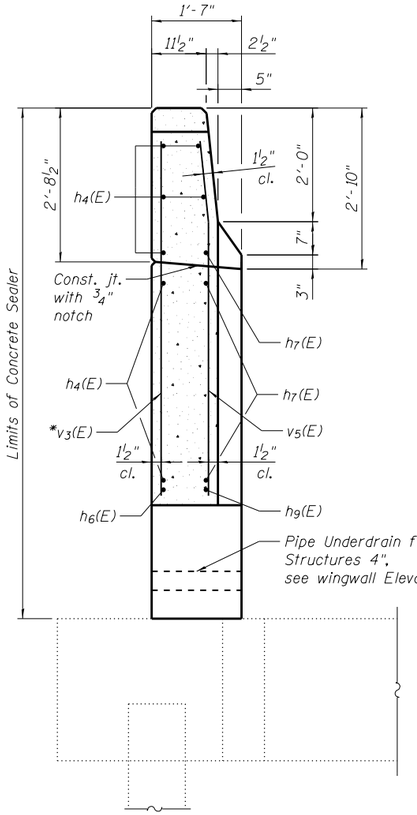


ELEVATION

(Looking West)
(NE Wingwall shown, others similar)



SECTION B-B



SECTION C-C

Notes:

I.F. denotes Inside Face
O.F. denotes Outside Face
E.F. denotes Each Face

Quantity of concrete in end post included with Concrete Superstructure on sheet S-14 of S-29.

Drill and grout #5 bars into 12" min. drilled holes according to Article 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.

FILE NAME = P:\2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\700 Structural Files\SHEETS\B108010-90951-023-ABT.dgn

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PLOT SCALE =	DRAWN - RDS	REVISED -
PLOT DATE = 3/9/2015	CHECKED - SJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT RECONSTRUCTION DETAILS I
STRUCTURE NO. 010-0010
SHEET NO. S-23 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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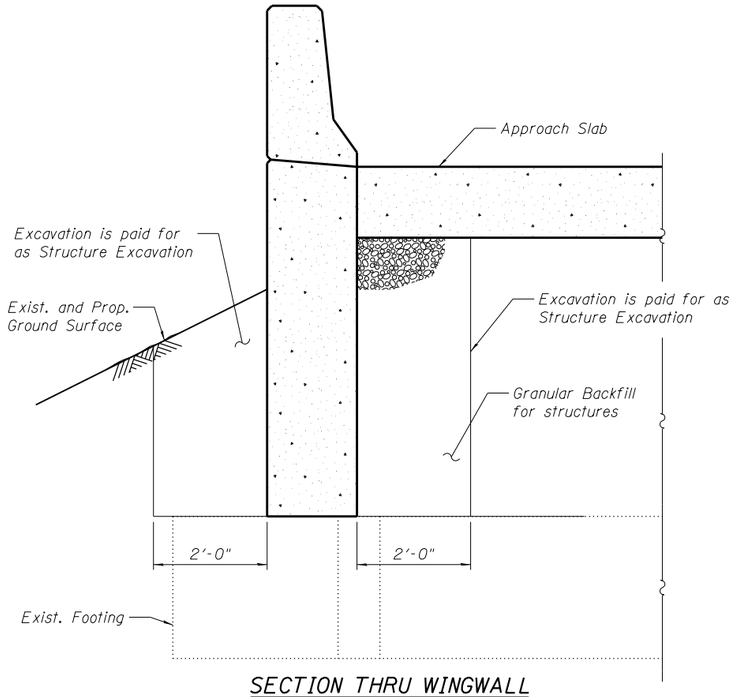
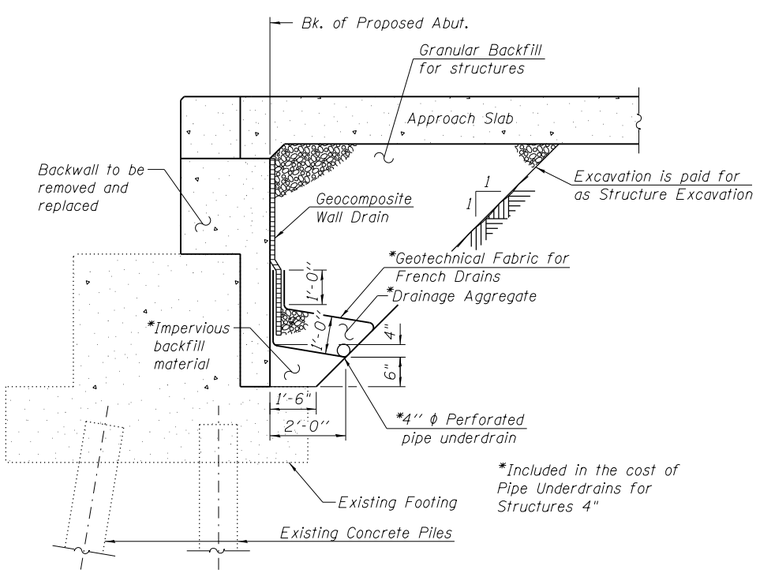
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

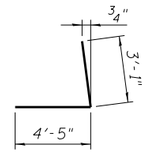


SECTION THRU WINGWALL

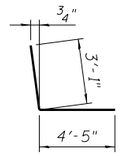


SECTION THRU ABUTMENT

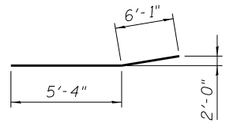
(Horiz. dim. @ Rt. L's)



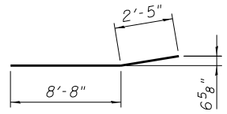
BAR $h_2(E)$



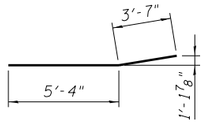
BAR $h_3(E)$



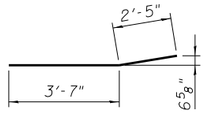
BAR $h_6(E)$



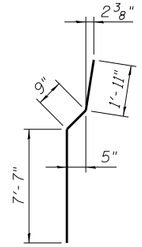
BAR $h_7(E)$



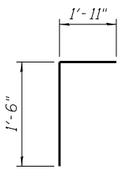
BAR $h_8(E)$



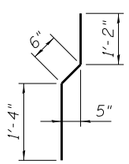
BAR $h_9(E)$



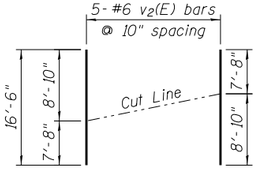
BAR $n_2(E)$



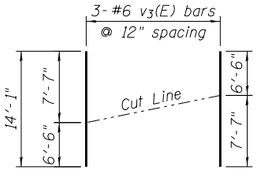
BAR $v(E)$



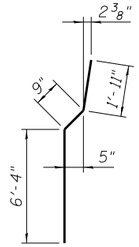
BAR $v_1(E)$



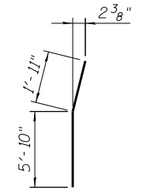
BAR $v_2(E)$



BAR $v_3(E)$



BAR $v_4(E)$



BAR $v_5(E)$

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	16'-8"	
$h_1(E)$	8	#6	16'-8"	
$h_2(E)$	12	#5	7'-6"	
$h_3(E)$	12	#5	7'-6"	
$h_4(E)$	20	#5	11'-1"	
$h_5(E)$	4	#5	8'-1"	
$h_6(E)$	2	#5	11'-5"	
$h_7(E)$	12	#5	11'-1"	
$h_8(E)$	2	#5	8'-11"	
$h_9(E)$	2	#5	6'-0"	
$h_{10}(E)$	16	#5	1'-0"	
n(E)	36	#5	5'-10"	
$n_1(E)$	10	#6	10'-0"	
$n_2(E)$	10	#6	10'-3"	
v(E)	36	#5	3'-5"	
$v_1(E)$	36	#4	3'-0"	
$v_2(E)$	5	#6	16'-6"	
$v_3(E)$	6	#6	14'-1"	
$v_4(E)$	5	#6	9'-0"	
$v_5(E)$	6	#6	7'-9"	
Structure Excavation		Cu. Yd.	36	
Concrete Structures		Cu. Yd.	14.5	
Reinforcement Bars, Epoxy Coated		Pound	2,330	
Concrete Sealer		Sq. Ft.	294	
Concrete Removal		Cu. Yd.	11.2	
Cleaning Bridge Seats		Sq. Ft.	54	

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	16'-8"	
$h_1(E)$	8	#6	16'-8"	
$h_2(E)$	12	#5	7'-6"	
$h_3(E)$	12	#5	7'-6"	
$h_4(E)$	20	#5	11'-1"	
$h_5(E)$	4	#5	8'-1"	
$h_6(E)$	2	#5	11'-5"	
$h_7(E)$	12	#5	11'-1"	
$h_8(E)$	2	#5	8'-11"	
$h_9(E)$	2	#5	6'-0"	
$h_{10}(E)$	16	#5	1'-0"	
n(E)	36	#5	5'-10"	
$n_1(E)$	10	#6	10'-0"	
$n_2(E)$	10	#6	10'-3"	
v(E)	36	#5	3'-5"	
$v_1(E)$	36	#4	3'-0"	
$v_2(E)$	5	#6	16'-6"	
$v_3(E)$	6	#6	14'-1"	
$v_4(E)$	5	#6	9'-10"	
$v_5(E)$	6	#6	7'-9"	
Structure Excavation		Cu. Yd.	36	
Concrete Structures		Cu. Yd.	14.6	
Reinforcement Bars, Epoxy Coated		Pound	2,330	
Concrete Sealer		Sq. Ft.	295	
Concrete Removal		Cu. Yd.	11.2	
Cleaning Bridge Seats		Sq. Ft.	54	

For details of Bar Splicers, see sheet S-28 of S-29.

Notes:

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

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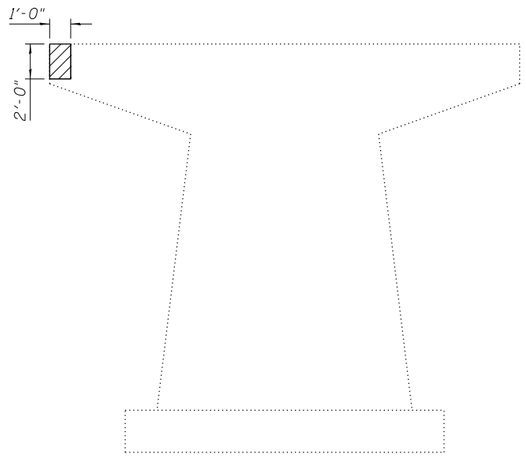
PLOT DATE = 3/9/2015	CHECKED - SJB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

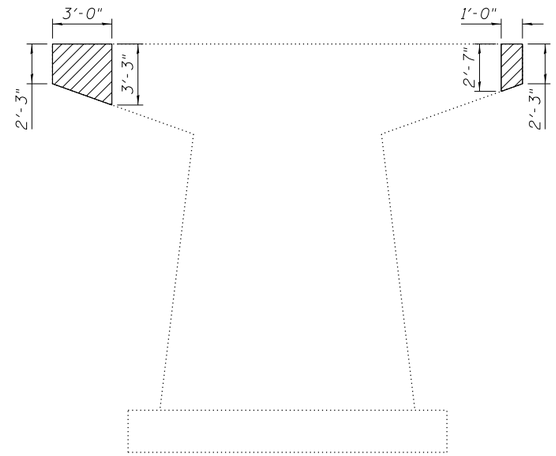
ABUTMENT RECONSTRUCTION DETAILS II
STRUCTURE NO. 010-0010
SHEET NO. S-24 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	59
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

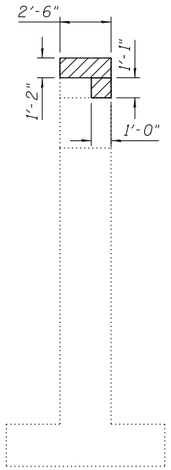


PIER 1 NORTH FACE

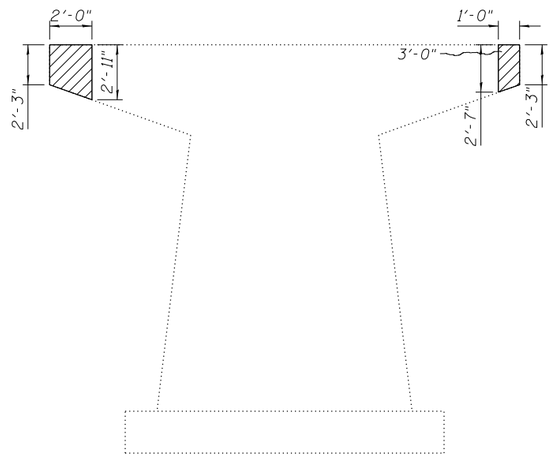
PIER 1 EAST FACE



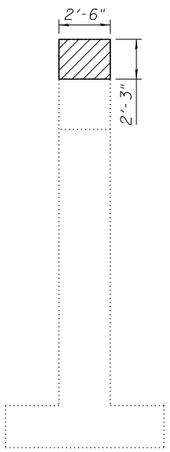
PIER 2 NORTH FACE



PIER 2 EAST FACE



PIER 2 SOUTH FACE



PIER 2 WEST FACE

LEGEND

Structural Repair of Concrete, (Depth Equal to or Less than 5 inches)

Epoxy Crack Injection

Notes:
For Bill of Materials, see sheet S-27 of S-29.
See Special Provision for Structural Repair of Concrete.
Actual quantities of repairs shall be approved by the Engineer.

FILE NAME = P:\2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\0100010-90951-025a-SUB.dgn

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USER NAME = wellinkj	DESIGNED - AMM	REVISED -
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PLOT SCALE =	DRAWN - AMM	REVISED -
PLOT DATE = 3/9/2015	CHECKED - RDS	REVISED -

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DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS I
STRUCTURE NO. 010-0010
SHEET NO. S-25 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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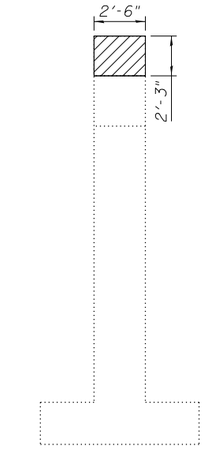
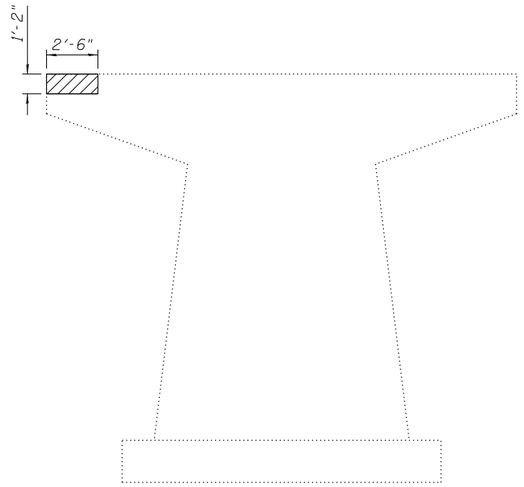
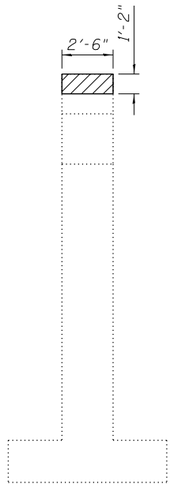
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		



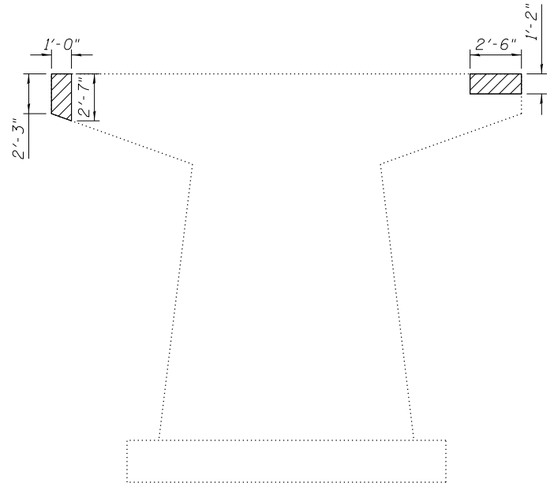
PIER 4 WEST FACE



PIER 5 NORTH FACE

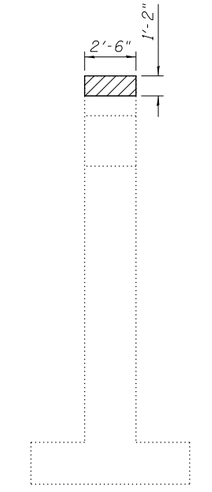


PIER 5 EAST FACE

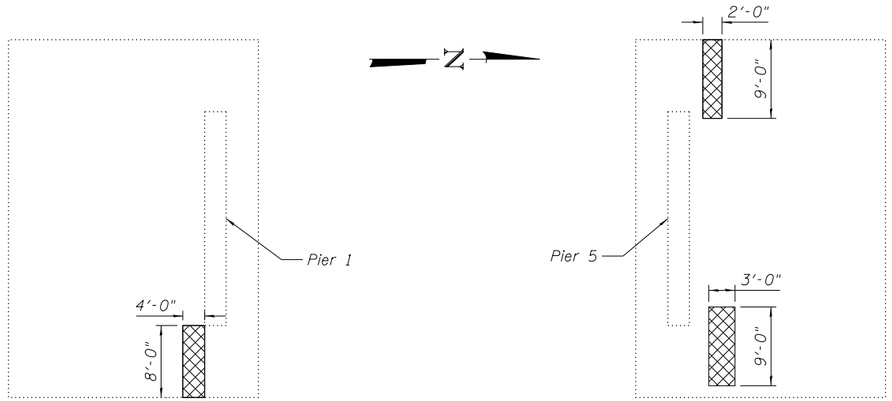


PIER 5 SOUTH FACE

Concrete Sealer to be applied to Pier 5 South Face repairs.



PIER 5 WEST FACE



SOUTH SLOPE WALL

NORTH SLOPE WALL

SLOPE WALL REPAIRS

LEGEND

Structural Repair of Concrete. (Depth Equal to or Less than 5 inches)

Slopewall Removal and Replacement

Notes:

For Bill of Materials, see sheet S-27 of S-29.

See Special Provision for Structural Repair of Concrete.

A minimum of 6" of the existing welded wire fabric shall be overlapped with the proposed welded wire fabric for slope wall removal and replacement.

Actual quantities of repairs shall be approved by the Engineer.

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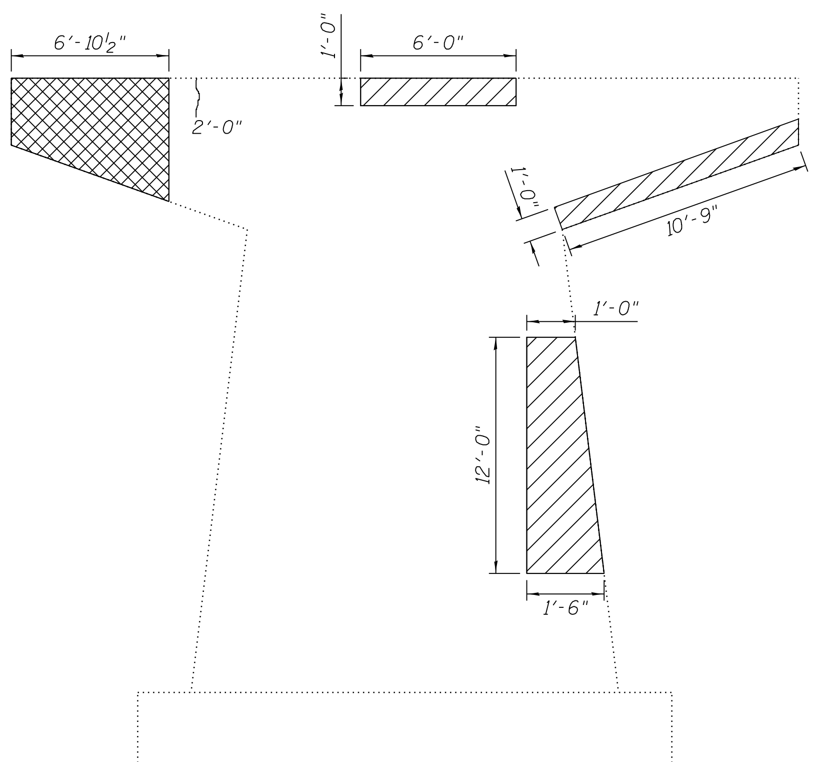
PLOT SCALE =	DRAWN - AMM	REVISED -
PLOT DATE = 3/9/2015	CHECKED - RDS	REVISED -

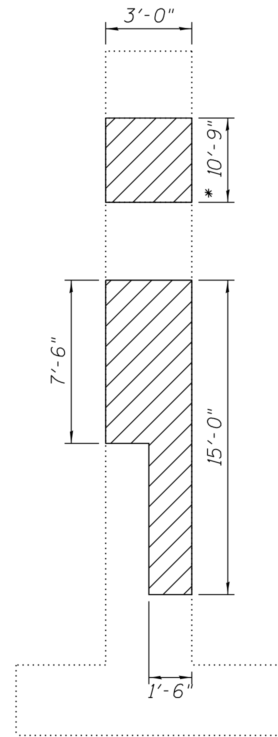
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS II
STRUCTURE NO. 010-0010
SHEET NO. S-26 OF S-29 SHEETS

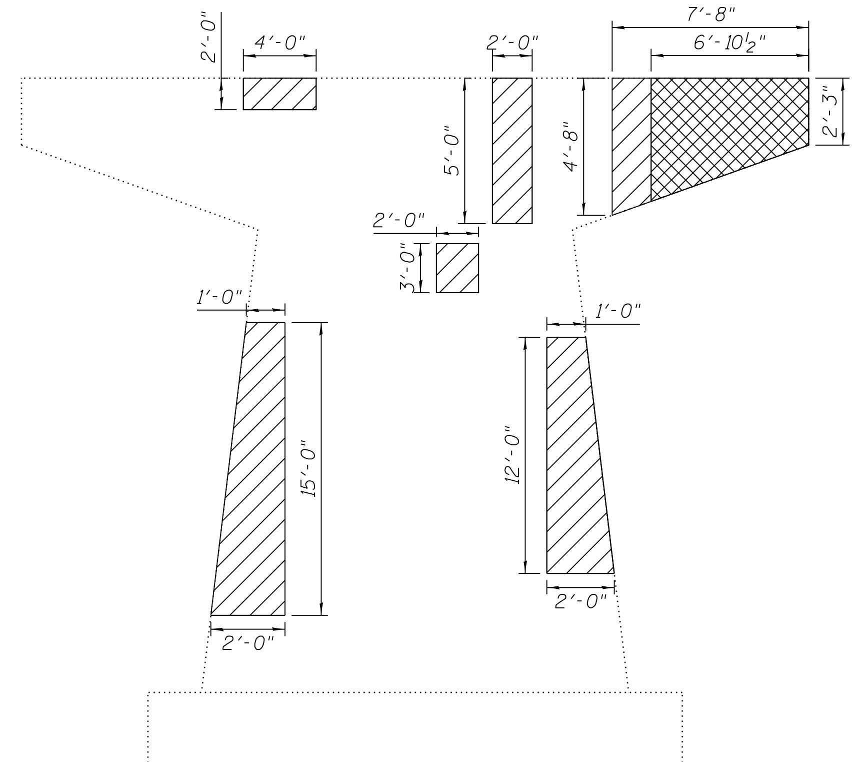
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	61
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



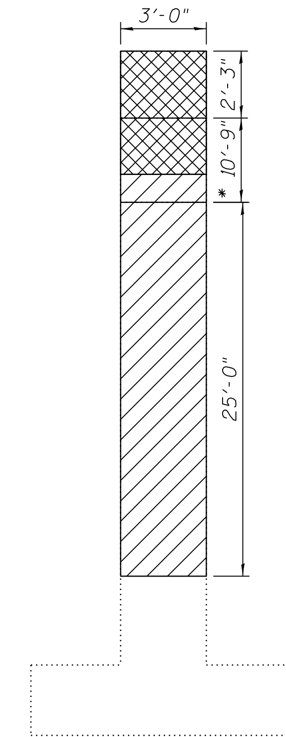
PIER 3 NORTH FACE



PIER 3 WEST FACE



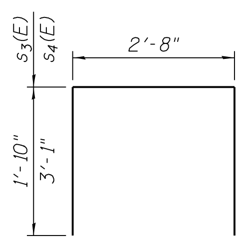
PIER 3 SOUTH FACE



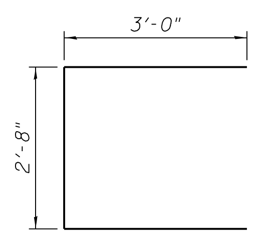
PIER 3 EAST FACE

* Measured along underside of hammerhead

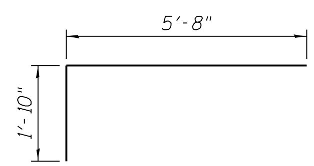
Notes:
See Special Provision for Structural Repair of Concrete.
Existing reinforcement shall be cleaned and incorporated into new contruction. Cost included with Concrete Removal.
Actual quantities of repairs shall be approved by the Engineer.
Concrete Sealer to be applied to all surfaces of concrete repairs for Pier 3.



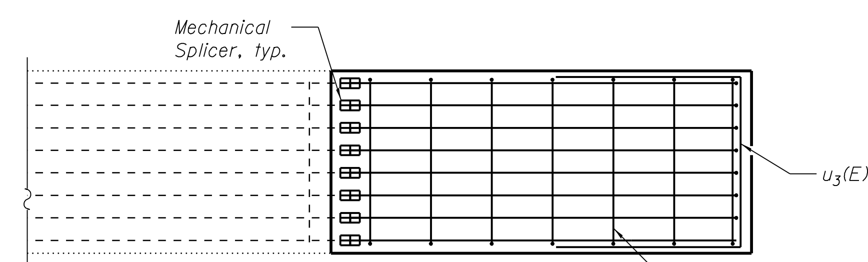
BAR s_3(E) OR s_4(E)



BAR u_3(E)



BAR p_2(E)



PARTIAL PLAN

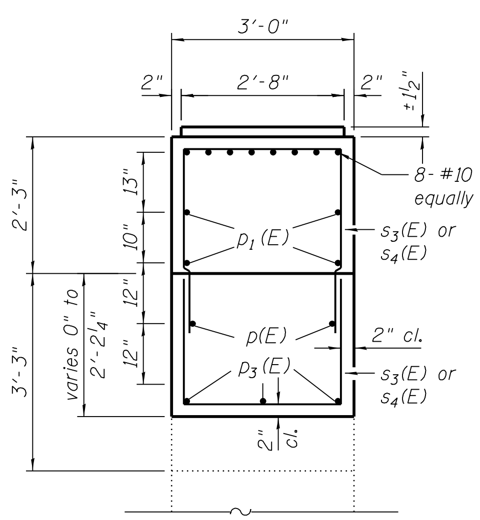
(south face shown, north face opposite hand)

LEGEND

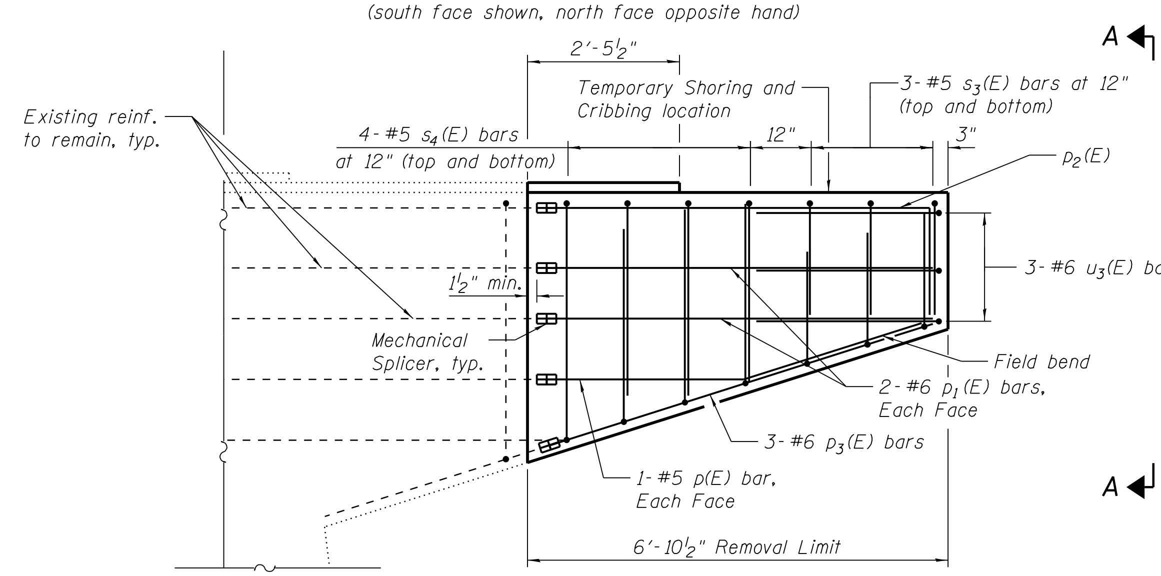
Structural Repair of Concrete, (Depth Equal to or Less than 5 inches)

Concrete Removal

Epoxy Crack Injection



VIEW A-A

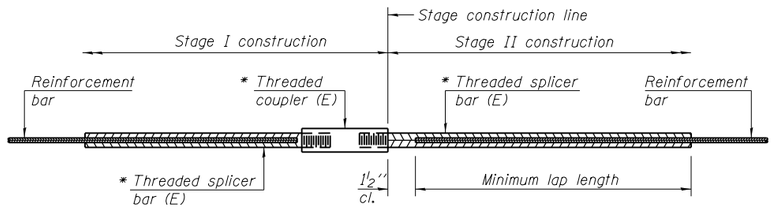


PARTIAL ELEVATION

(south face shown, north face opposite hand)

ALL PIERS AND SLOPE WALLS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p(E)	2	#5	6'-3"	──
p_1(E)	4	#6	6'-0"	──
p_2(E)	8	#10	7'-6"	─┐
p_3(E)	3	#6	6'-4"	──
s_3(E)	6	#5	6'-4"	⊓
s_4(E)	8	#5	8'-10"	⊓
u_3(E)	3	#6	8'-8"	⊏
Concrete Removal			Cu. Yd.	2.6
Concrete Structures			Cu. Yd.	2.6
Reinforcement Bars, Epoxy Coated			Pound	490
Structural Repair of Concrete (Depth equal to or less than 5 inches)			Sq. Ft.	305
Slope Wall 4 Inch			Sq. Yd.	9
Slope Wall Removal			Sq. Yd.	9
Epoxy Crack Injection			Foot	5
Cleaning Bridge Seats			Sq. Ft.	95
Concrete Sealer			Sq. Ft.	356



STANDARD BAR SPLICER ASSEMBLY

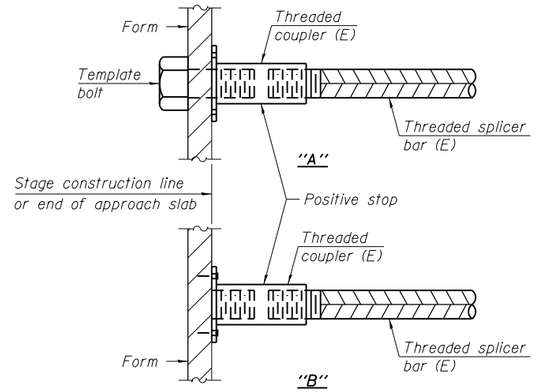
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

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

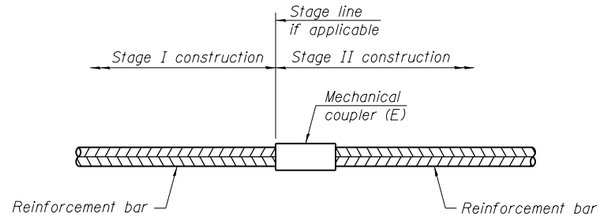
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	791	Table 5
N. Abutment	#5	10	Table 5
N. Abutment	#6	4	Table 5
S. Abutment	#5	10	Table 5
S. Abutment	#6	4	Table 5
N. Approach	#4	25	Table 5
N. Approach	#5	46	Table 5
N. Approach Ftg.	#5	40	Table 5
S. Approach	#4	25	Table 5
S. Approach	#5	46	Table 5
S. Approach Ftg.	#5	40	Table 5



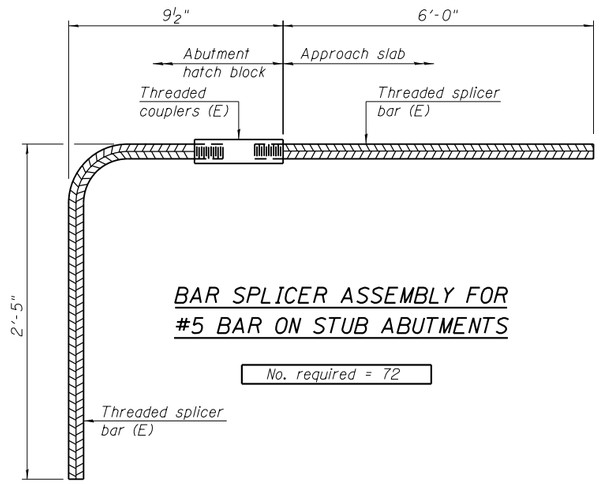
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 3	#5	2
Pier 3	#6	7
Pier 3	#10	8



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 72

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

8-31-12

FILE NAME = P:_2012\C9X12604 Deck Rep Rehab 157\700 CADD Files\709 Structural Files\SHEETS\010010-90951-027-BSP.dgn

JACOBS

USER NAME = wellirkj	DESIGNED - AMM	REVISED -
	CHECKED - KJW	REVISED -
PLOT SCALE =	DRAWN - AMM	REVISED -
PLOT DATE = 3/9/2015	CHECKED - KJW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 010-0010
SHEET NO. S-28 OF S-29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	63
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
State of Illinois

SOIL BORING LOG

Page 1 of 1

Date 11/19/14

ROUTE F.A.I. RT. 57 **DESCRIPTION** I-57SB over IL 10 & ICRR - West of Champaign **LOGGED BY** CNA

SECTION 10-33HVBR **LOCATION** S 1/2, **SEC.** 9, **TWP.** 19N, **RNG.** 8E, 3rd **PM**, GPS: 40.11247N, -88.30517W

COUNTY Champaign **DRILLING METHOD** Hollow Stem **HAMMER TYPE** Automatic

STRUCT. NO. 010-0010 (SB)
Station

BORING NO. 1 SW
Station 453+89
Offset 14.00ft Lt.
Ground Surface Elev. 765.0 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Dry ft
After Hrs. ft

	DEPTH (ft)	SPT N (/12")	UCS Qu (tsf)	MOIST (%)
Pavement - Asphalt Shoulder				
764.00				
Gray to Gray/Brown CLAY LOAM (Embankment)		4		
		4	1.3	22
	-5	4	E	
		3		
		4	1.5	13
	-10	5	E	
754.00				
Gray/Green CLAY LOAM (Embankment)		3		
		5	2.5	19
750.00	-15	6	B	
End of Boring				
	-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
State of Illinois

SOIL BORING LOG

Page 1 of 1

Date 11/19/14

ROUTE F.A.I. RT. 57 **DESCRIPTION** I-57SB over IL 10 & ICRR - West of Champaign **LOGGED BY** CNA

SECTION 10-33HVBR **LOCATION** S 1/2, **SEC.** 9, **TWP.** 19N, **RNG.** 8E, 3rd **PM**, GPS: 40.11344N, -88.305098W

COUNTY Champaign **DRILLING METHOD** Hollow Stem **HAMMER TYPE** Automatic

STRUCT. NO. 010-0010 (SB)
Station

BORING NO. 2 NE
Station 457+50
Offset 14.00ft Rt.
Ground Surface Elev. 764.5 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion Dry ft
After Hrs. ft

	DEPTH (ft)	SPT N (/12")	UCS Qu (tsf)	MOIST (%)
Pavement - Asphalt Shoulder				
763.50				
Black to Green/Gray SILTY CLAY LOAM (Embankment)		2		
		5	1.8	18
	-5	5	B	
758.50				
Brown/Gray to Gray CLAY LOAM (Embankment)		4		
		4	1.6	17
	-10	4	B	
		4		
		6	1.6	19
749.50	-15	8	B	
End of Boring				
	-20			

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

BBS, from 137 (Rev. 8-99)

SOIL BORING IL 57 OVER IL 10 & ICRR.GPJ IL_DOT.GDT 11/19/14

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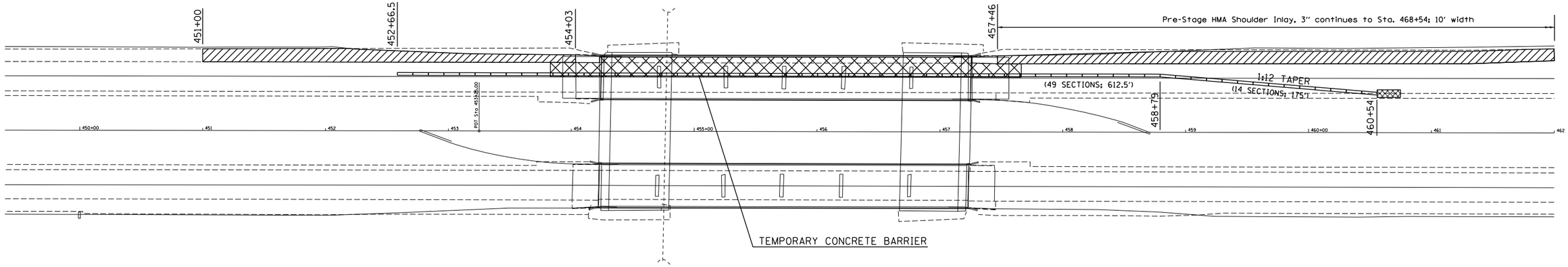
		CHECKED - KJW	REVISED -		
	PLOT SCALE =	DRAWN - AMM	REVISED -		SHEET NO. S-29 OF S-29 SHEETS
	PLOT DATE = 3/9/2015	CHECKED - KJW	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	64
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

TEMPORARY CONCRETE BARRIER LAYOUT–STAGE I
S.N. 010–0010 (SB)



NOTES:

STAGING DETAILS SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701402.

WORK WITHOUT TEMPORARY CONCRETE BARRIER SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION STANDARDS 701400 AND 701406.

VERTICAL PANELS WITH LIGHTS SHALL BE ATTACHED AT 25 FT CENTERS ON THE BARRIER WALL TAPER. REFLECTORS SHALL BE ATTACHED TO GUARDRAIL AT 25 FT CENTERS. COST INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

REFLECTORIZED TEMPORARY MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND ALONGSIDE BOTH SIDES OF THE WORK AREA. EXISTING MARKINGS THAT CONFLICT WITH THE STAGED TRAFFIC MARKINGS SHALL BE REMOVED. COST TO REMOVE EXISTING MARKINGS AND FOR THE PLACEMENT AND REMOVAL OF TEMPORARY MARKINGS SHALL BE INCLUDED WITH TRAFFIC CONTROL AND PROTECTION STANDARD 701402.

PRIOR TO ROUTING TRAFFIC ONTO THE SHOULDERS, THE CONTRACTOR SHALL SECURE ANY GRATES ON SHOULDER INLETS AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PORTABLE CHANGEABLE MESSAGE SIGNS ARE REQUIRED ONE WEEK PRIOR TO CONSTRUCTION. THE RESIDENT ENGINEER OR TRAFFIC CONTROL SUPERVISOR SHALL PROVIDE AN APPROPRIATE MESSAGE.

HOT-MIX ASPHALT SHOULDERS (Pre-Stage HMA Shoulder Inlay, 3")

		Begin	End	Length	Shldr Width	Area	HMA
Structure	Side	Station	Station	(foot)	(foot)	(sq yd)	Tons
010-0010	Median	451+00.00	454+03.00	303.00	4.0	134.7	22.6
	Outside	451+00.00	454+03.00	303.00	10.0	336.7	56.6
	Median	457+46.00	468+54.00	1108.00	4.0	492.4	82.7
	Outside	457+46.00	468+54.00	1108.00	10.0	1,231.1	206.8
					Totals	2195.0	369.0

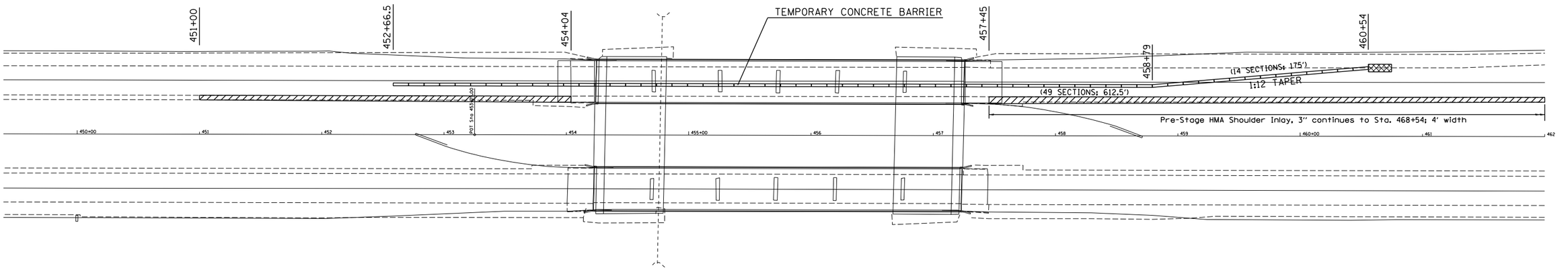
HOT-MIX ASPHALT SURFACE REMOVAL (DECK)

		Length	Width	Area
	Structure	(foot)	(foot)	(sq yd)
PRE-STAGE	010-0010	380.0	17.0	718.0
	010-0010	300.9	34.0	1,137.0
			Total =	1,855.0

SYMBOLS

- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR
- PRE-STAGE HMA SHOULDER INLAY, 3"
- PRE-STAGE HMA WEARING SURFACE INLAY, 1½"

TEMPORARY CONCRETE BARRIER LAYOUT–STAGE II
S.N. 010–0010 (SB)



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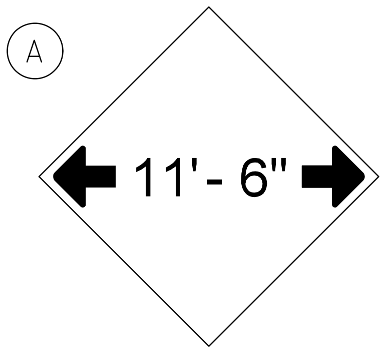
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
S.N. 010–0010 (SB)

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	65
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

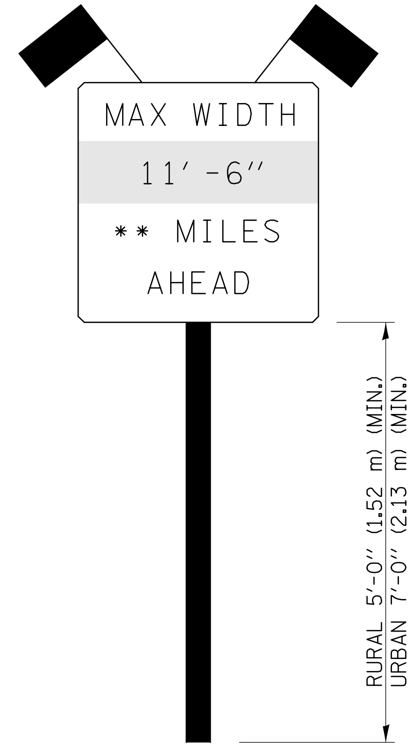
A



W12-2(O)-48"x48"(1200x1200)

SIGN (A) TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

B



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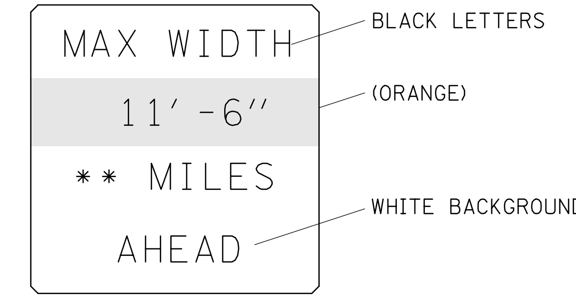


W12-I103(O)-48"x48"(1200x1200)
"D" LETTERS/NUMBERS

SIGN (B) TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

**SEE DETAILS AND DESCRIPTIONS ON NEXT 2 SHEETS

SIGN PANEL, TYPE II

STAGE WIDTHS:

STAGE 1 WIDTH = 13'-0" actual; 11'-6" posted; REQUIRED
STAGE 2 WIDTH = 14'-0" actual; 12'-6" posted; REQUIRED

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
2. ALL (B) SIGNS SHALL HAVE FLAGS INSTALLED UNLESS OTHERWISE DIRECTED.
3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
4. ALL TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR WIDTH RESTRICTION SIGNING.
5. ALL SIGNS SHALL BE POST MOUNTED UNLESS OTHERWISE DIRECTED.
6. ALL SIGNS SHOWN ORANGE (O) SHALL BE FLUORESCENT ORANGE.
7. ALL SIGNS SHOWN SHALL CONSIST OF THE CURRENT RETROREFLECTIVE SHEETING REQUIREMENTS AS OUTLINED IN SECTION 1106.01 OF THE STANDARD SPECIFICATIONS.

WIDTH RESTRICTION SIGNING FOR FAI 57 SOUTHBOUND TRAFFIC

AT FAI 74 INTERCHANGE

A1 SOUTHWEST OF FAI 74 INTERCHANGE FOR FAI 74 EB & FAI 57 SB TRAFFIC
ERECT 1000FT NORTH OF RR BRIDGE AT END OF SB ON RAMP
DUAL DISPLAY; 3 MILES AHEAD

[3 MILE]

AT FAI 72 INTERCHANGE

A2 WEST OF FAI 72 INTERCHANGE FOR FAI 72 EB TO FAI 57 SB TRAFFIC
ERECT 100 FT PRIOR TO FAI 57 SB EXIT RAMP BY 11/17 LIGHT POLE
INCLUDE RIGHT ARROW SIGN BELOW WIDTH SIGN

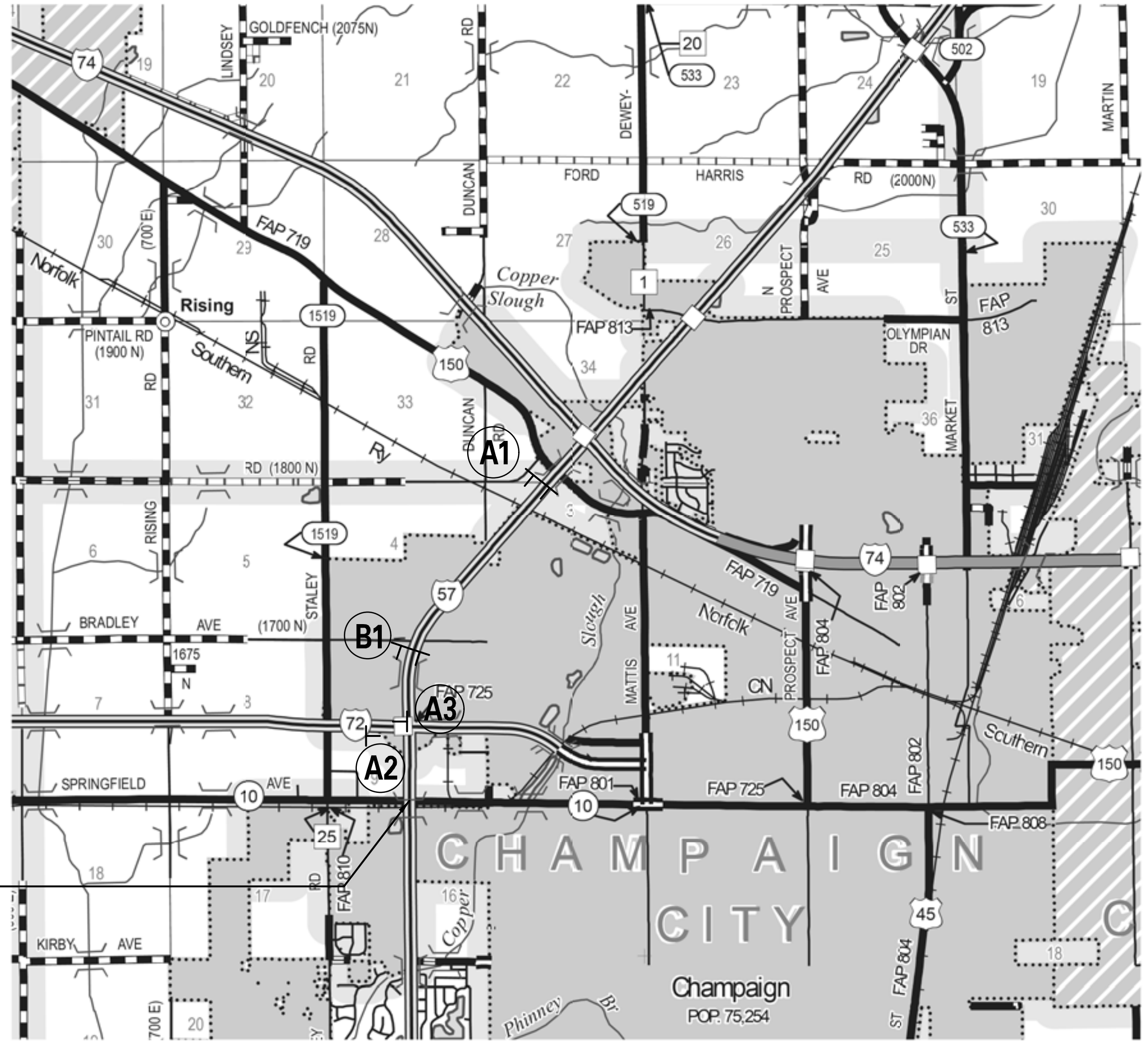
[→]

A3 WEST OF FAI 72 INTERCHANGE FOR FAI 72 WB TO FAI 57 SB TRAFFIC
ERECT UNDER FAI 57 SOUTH GREENBOARD SIGN PAST END OF GUARDRAIL
INCLUDE RIGHT ARROW SIGN BELOW WIDTH SIGN

[→]

B1 SOUTH OF BRADLEY AVENUE OVERHEAD FOR FAI 57 SB TRAFFIC
ERECT 300 FT PRIOR TO ½ MILE GREENBOARD SIGN
DUAL DISPLAY; 1 MILE AHEAD

[1 MILE]



S.N. 010-0009 (NB)
& S.N. 010-0010 (SB)
OVER IL 10 & ICRR

N

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	PLOT DATE = 11/19/2015	DATE - 7/28/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIDTH RESTRICTION AND MAXIMUM WIDTH SIGNING

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	67
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		

WIDTH RESTRICTION SIGNING FOR FAI 57 NORTHBOUND TRAFFIC

FAI 57 / MONTICELLO ROAD INTERCHANGE

A4 EAST OF MONTICELLO ROAD INTERCHANGE FOR FAI 57 NB TRAFFIC
ERECT ACROSS FROM "USE PROHIBITED BY" SIGN ON ENTRANCE RAMP
INCLUDE 6 MILES AHEAD SIGN — [6 MILE]

B2 SOUTH OF MONTICELLO ROAD INTERCHANGE FOR FAI 57 NB TRAFFIC
ERECT BY 1/2 MILE GREENBOARD SIGN
DUAL DISPLAY; 7 MILES AHEAD — [7 MILE]

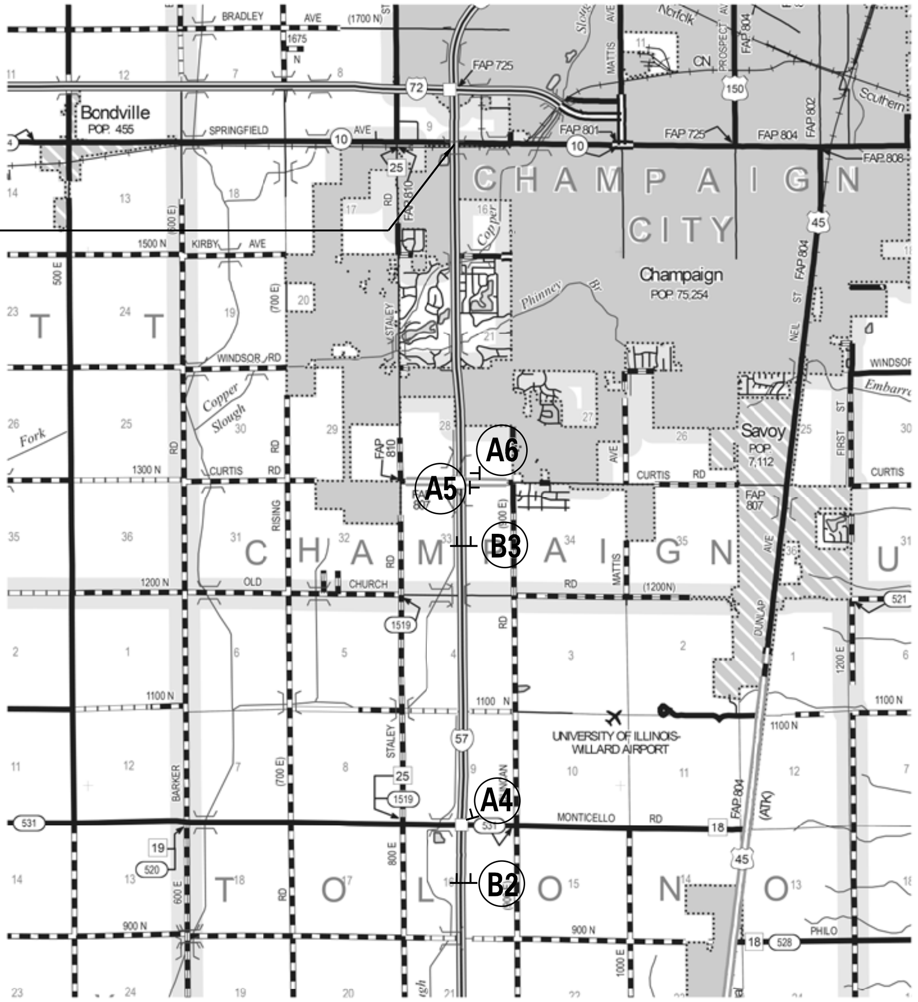
FAI 57 / CURTIS ROAD INTERCHANGE

A5 EAST OF CURTIS ROAD INTERCHANGE FOR EB TO FAI 57 NB TRAFFIC
SKID MOUNT IN CENTER MEDAIN 75 FT PAST LEFT TURN LANE SIGN
INCLUDE LEFT ARROW SIGN BELOW WIDTH SIGN — [←]

A6 EAST OF CURTIS ROAD INTERCHANGE FOR WB TO FAI NB 57 TRAFFIC
ERECT BESIDE "NO LEFT TURN" SIGN
INCLUDE RIGHT ARROW SIGN BELOW WIDTH SIGN — [→]

B3 SOUTH OF CURTIS ROAD INTERCHANGE FOR FAI 57 NB TRAFFIC
ERECT BESIDE 1/2 MILE GREENBOARD SIGN
DUAL DISPLAY; 3 MILES AHEAD — [3 MILE]

S.N. 010-0009 (NB)
& S.N. 010-0010 (SB)
OVER IL 10 & ICRR



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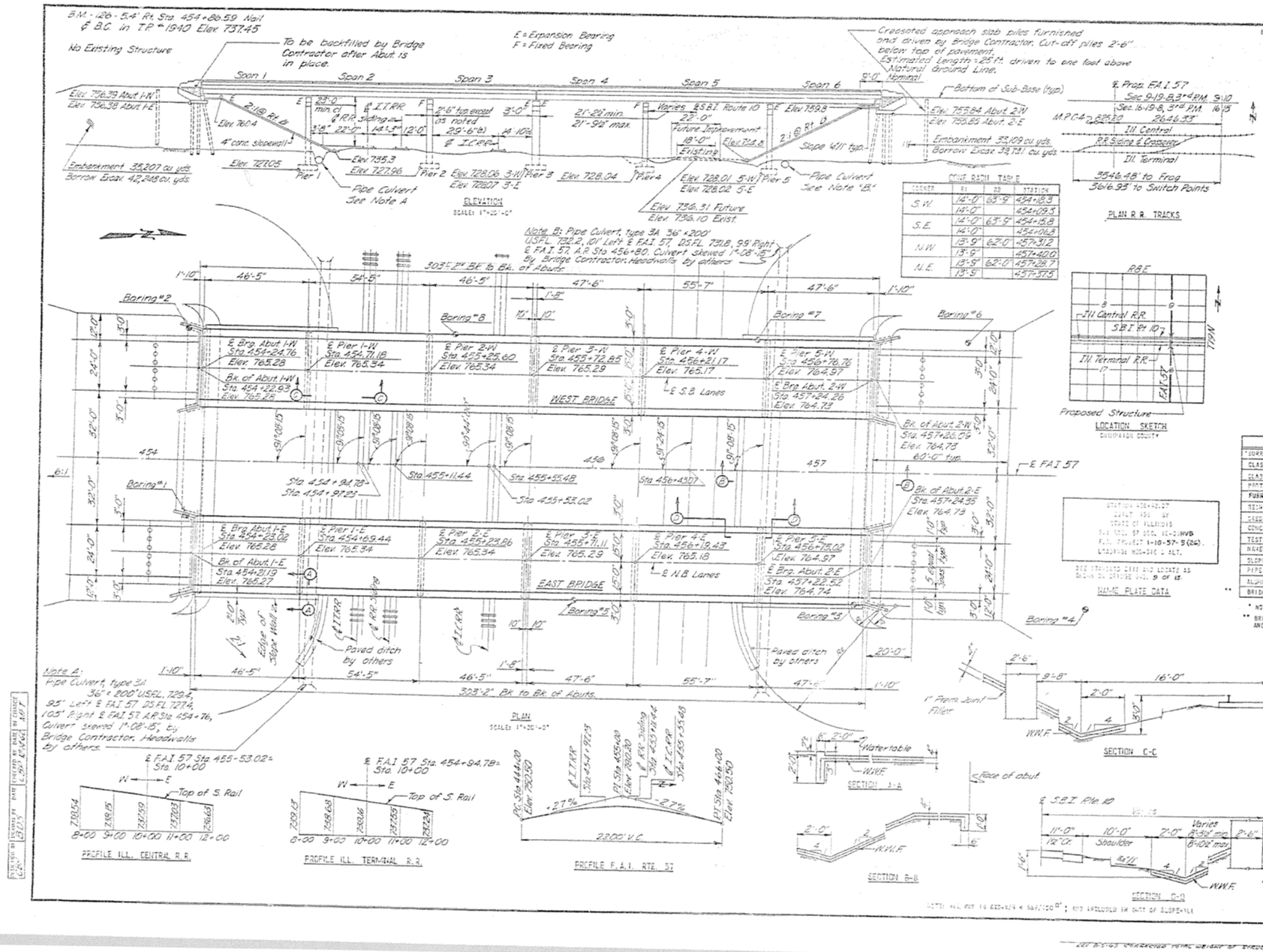
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	68
		CONTRACT NO. 90951		
		ILLINOIS FED. AID PROJECT		



BRIDGE DWG 1 OF 13

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	10-33HVB	CHAMPAIGN	24	2
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT I-IG-57-5(26)232		

GENERAL NOTES

1. SPECIFICATIONS: THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 2, 1958 AND THE REVISIONS THERETO SHALL APPLY.
2. CONCRETE: CLASS X CONCRETE SHALL BE USED THROUGHOUT. THE CONCRETE FLOOR SHALL BE FINISHED IN ACCORDANCE WITH ARTICLE 51.19 OF THE STANDARD SPECIFICATIONS. COARSE AGGREGATE WHICH IS TO BE USED IN PARAPETS AND END POSTS MUST BE FREE OF CHERT, FLINT LIMONITE, LIGNITE AND SOFT SANDSTONE.
3. PAINT: EXCEPT AS OTHERWISE PROVIDED ALL STRUCTURAL STEEL STEEL SHALL RECEIVE ONE SHOP COAT OF RED LEAD PAINT AND TWO FIELD COATS OF ALUMINUM PAINT IN ACCORDANCE WITH ARTICLES 56.1 THROUGH 56.5 OF THE STANDARD SPECIFICATIONS. ALL PAINT SHALL BE FURNISHED AND APPLIED BY THE CONTRACTOR.
4. PRECORING: HOLES SHALL BE PRECORED FOR THE ABUTMENT PILES IN ACCORDANCE WITH ARTICLE 60.9 (c) OF THE STANDARD SPECIFICATIONS.
5. TEST PILES: THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE AT EACH ABUTMENT IN PERMANENT LOCATION IN ACCORDANCE WITH ARTICLE 60.15 OF THE STANDARD SPECIFICATIONS BEFORE ORDERING THE REMAINDER OF THE PILES.

FUNCTIONS OF SKEW ANGLE

SIN 1°-08'-15" = 0.01985182
COS 1°-08'-15" = 0.99980292
TAN 1°-08'-15" = 0.01985573

DESIGN STRESSES

fc = 1400 psi (SUPER & SUB.)
vc = 75 psi
fs = 20,000 psi (REINF)
fs = 20,000 psi (STRUCT. A-36)
n = 10
L.L.-DEFLECTION = L/1000

LOADING: H20-S16-44 & ALT.

NOTE: SEE SPECIAL PROVISIONS FOR PROTECTION OF RAILROAD TRACKS ADJACENT TO PIERS #2 AND #3, EAST AND WEST STRUCTURES.

CONE RADII TABLE

CORNER	R1	R2	STATION
S.W.	14'-0"	63'-9"	454+18.3
	14'-0"		454+09.3
S.E.	14'-0"	63'-9"	454+15.8
	14'-0"		454+06.8
N.W.	13'-9"	62'-0"	457+31.2
	13'-9"		457+40.0
N.E.	13'-9"	62'-0"	457+28.7
	13'-9"		457+37.5

TOTAL BILL OF MATERIAL SEC. 10 33HVB

ITEM	UNIT	SUPER.	SUB.	TOTAL
*BORROW EXCAVATION	CU. YDS.		81,979	81,979
CLASS A EXCAV. FOR STRUCTS.	CU. YDS.		356	356
CLASS X CONCRETE	CU. YDS.	6302	8220	14522
PROTECTIVE COAT	SQ. YDS.	2706		2706
FURNISHING AND ERECTING STRUCT. STL.	LBS.	497,805		497,905
REINFORCEMENT BARS	LBS.	144,309	70,966	215,275
CREOSOTED PILES (20.1' TO 36')	LIN. FT.		600	600
CONCRETE PILES	LIN. FT.		1400	1400
TEST PILES (CONCRETE)	EACH		4	4
NAME PLATES	EACH		2	2
SLOPEWALL, 4"	SQ. YDS.		1845	1845
PIPE CULVERT, TY. 3A 36"	LIN. FT.		400	400
ALUMINUM HANDRAIL	LIN. FT.	1204		1204
BRIDGE SEAT SEALANT	LUMP S.		1	1

* NO OVERHAUL SHALL BE ALLOWED.

** BRIDGE SEAT SEALANT TO BE APPLIED OVER BRIDGE SEAT AT ALL ABUTMENTS AND OVER PIERS 3-W & 3-E. SEE SPECIAL PROVISIONS.

NO.	REVISION	BY	DATE

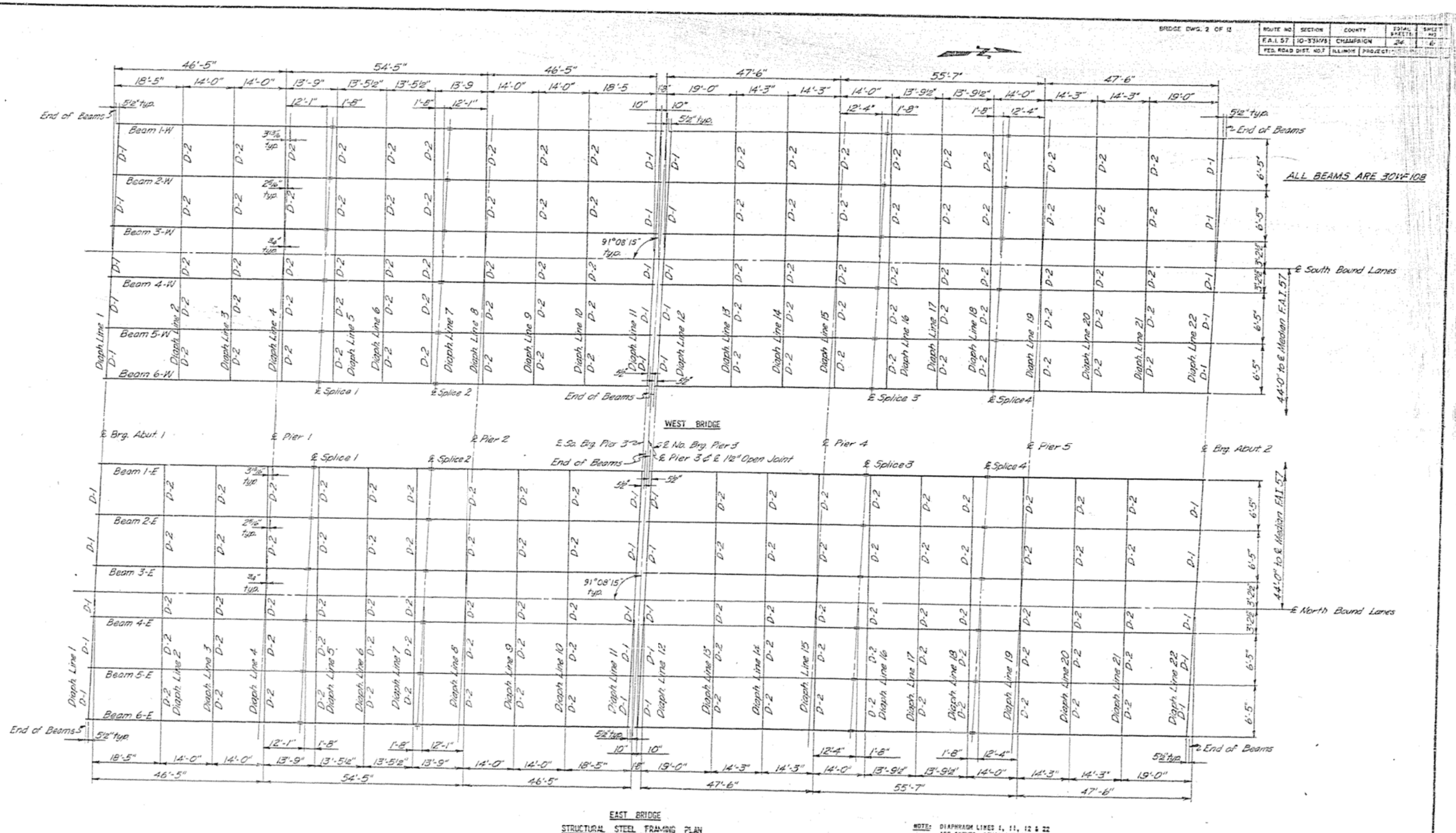
GENERAL PLAN AND ELEVATION
SECTION 10-33HVB STATION 456+43.07
FAI RTE 57 PROJECT I-IG-57-5(26)232
CHAMPAIGN COUNTY

CLARK, DAILY, DIETZ & ASSOCIATES
CONSULTING ENGINEERS
URBANA, ILLINOIS

DESIGNED CBP	SCALE AS NOTED	SHEET	
DRAWN BDS	DATE 8-22-62	OF	
CHECKED CBP		JOB NO. 394-V8	

Rev. 8-5-63 Changed total weight of struct. steel from 496,863# to 497,865#

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn
USER NAME = brandenburgtj
PLOT SCALE = 40.0000 ' / in.
PLOT DATE = 1/13/2015
DESIGNED - TJB
DRAWN - TJB
CHECKED - TJB
DATE - 6/30/2014
REVISED -
REVISED -
REVISED -
REVISED -
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)
SCALE: SHEET 1 OF 9 SHEETS STA. TO STA.
F.A.I. RTE. 57 | SECTION 10-33HVBR | COUNTY CHAMPAIGN | TOTAL SHEETS 88 | SHEET NO. 69
CONTRACT NO. 90951
ILLINOIS FED. AID PROJECT



NOTE: DIAPHRAGM LINES 1, 11, 12 & 22 ARE SKEWED, REMAINDER AT RIGHT ANGLES.

STEEL FRAMING PLAN
F.A.I. RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07
BRIDGE DWG 2 OF 13

JOB NO. 394-VB

FILE NAME =	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378 S.N. 010-0009 (NB) & S.N. 010-0010 (SB)	F.A.I. RTE. 57	SECTION 10-33HVBR	COUNTY CHAMPAIGN	TOTAL SHEETS 88	SHEET NO. 70
c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn	PLOT SCALE = 40.0000 ' / in.	DRAWN - TJB	REVISED -					CONTRACT NO. 90951		
	PLOT DATE = 1/13/2015	CHECKED - TJB	REVISED -		SCALE: SHEET 2 OF 9 SHEETS STA. TO STA.					
		DATE - 6/30/2014	REVISED -			ILLINOIS FED. AID PROJECT				

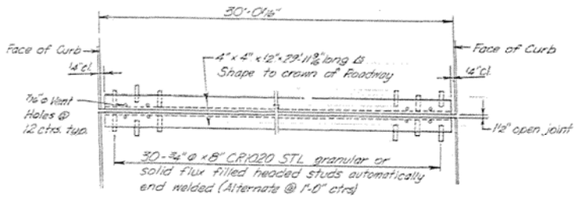
BRIDGE DWG. 3 OF 13

ROUTE NO	SECTION	COUNTY	SHEETS	SHEET NO
F.A.I 57	10-33HVB	CHAMPAIGN	84	7
FED. ROAD	DIST. NO.7	ILLINOIS	PROJECT:	

TABLE OF TOP OF BEAM ELEVATIONS

ELEVATIONS ARE TO TOP OF ROLLED BEAM FLANGE INCLUDING LOCATIONS WHERE SPLICE PLATES OR COVER PLATES ARE PRESENT. BEAMS ARE ASSUMED STRAIGHT BETWEEN SPLICE BEFORE DEAD LOAD DEFLECTION. DEAD LOAD DEFLECTION IS NOT INCLUDED.

BEAM	℄ BRG. ABUT. 1-W OR 1-E	℄ PIER 1-W OR 1-E	℄ SPLICE NO. 1	℄ SPLICE NO. 2	℄ PIER 2-W OR 2-E	℄ S. BRG. PIER 3-W OR 3-E	℄ N. BRG. PIER 3-W OR 3-E	℄ PIER 4-W OR 4-E	℄ SPLICE NO 3	℄ SPLICE NO 4	℄ PIER 5-W OR 5-E	℄ BRG. ABUT. 6-W OR 6-E
WEST BRIDGE												
1-W	764.51	764.57	764.58	764.59	764.57	764.51	764.51	764.40	764.37	764.25	764.19	763.96
2-W	764.64	764.70	764.71	764.71	764.70	764.64	764.64	764.53	764.50	764.38	764.32	764.09
3-W	764.71	764.77	764.78	764.79	764.77	764.71	764.71	764.60	764.57	764.46	764.39	764.16
4-W	764.71	764.77	764.78	764.78	764.77	764.72	764.71	764.60	764.57	764.46	764.40	764.16
5-W	764.64	764.70	764.71	764.71	764.70	764.64	764.64	764.53	764.50	764.39	764.32	764.09
6-W	764.51	764.57	764.58	764.58	764.57	764.52	764.51	764.40	764.37	764.26	764.20	763.96
EAST BRIDGE												
1-E	764.51	764.57	764.58	764.59	764.57	764.52	764.51	764.40	764.37	764.26	764.20	763.97
2-E	764.63	764.70	764.71	764.71	764.70	764.65	764.64	764.53	764.50	764.39	764.33	764.10
3-E	764.71	764.77	764.78	764.79	764.77	764.72	764.71	764.60	764.57	764.46	764.40	764.17
4-E	764.71	764.77	764.78	764.79	764.77	764.72	764.72	764.60	764.57	764.46	764.40	764.17
5-E	764.63	764.70	764.71	764.71	764.70	764.65	764.64	764.53	764.50	764.39	764.33	764.10
6-E	764.50	764.57	764.58	764.59	764.57	764.52	764.52	764.40	764.38	764.26	764.20	763.97

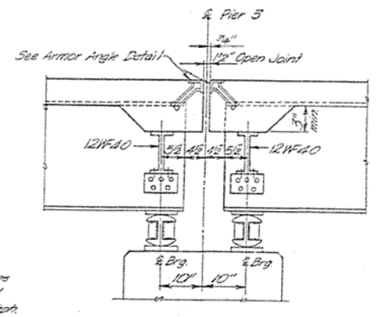


DETAIL OF ARMOR ANGLE EXPANSION DEVICE
(TO BE USED ON ABUTMENTS AND OVER PIER 3 NO. REQ'D = 6)

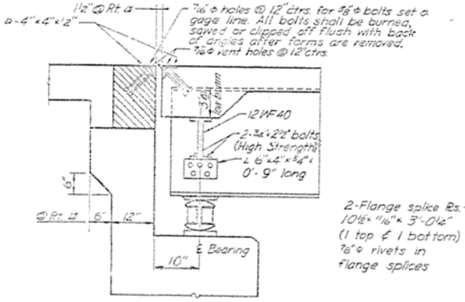
NOTE: THE ARMOR ANGLE DEVICE SHALL BE FABRICATED TO FIT THE ROADWAY. ALL SURFACES SHALL RECEIVE TWO SHOP COATS OF RED LEAD PAINT, EXCEPT THE STUDS. THE STUDS SHALL NOT BE PAINTED.

NOTES

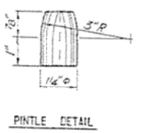
1. ANCHOR BOLTS SHALL BE SET BEFORE RIVETING DIAPHRAGMS OVER PIERS AND ABUTMENTS. SEE ARTICLE 54.9 (5) FOR SETTING OF MASONRY BEARING PLATES AND ANCHOR BOLTS.
2. ALL SOLSTERS, ROCKERS, BEARING PLATES, LEAD PLATES, ANCHOR BOLTS, PINTLES, AND WASHERS SHALL BE FABRICATED PAINTED AND SET IN ACCORDANCE WITH ARTICLE 51.15 AND ARE INCLUDED FOR PAYMENT AS STRUCTURAL STEEL.
3. BEAMS SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURAL STEEL A.S.T.M. DESIGNATION A-36.
4. RIVETS 3/4" ø, OPEN HOLES 13/16" ø, UNLESS NOTED.
5. HIGH STRENGTH BOLTS MAY BE SUBSTITUTED FOR FIELD RIVETS IN ACCORDANCE WITH ARTICLE 54.9 (4) OF THE STANDARD SPECIFICATIONS.



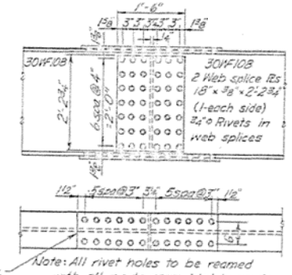
DETAIL OVER PIER 3



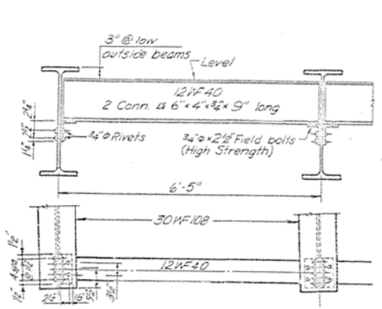
DETAIL AT ABUTMENTS



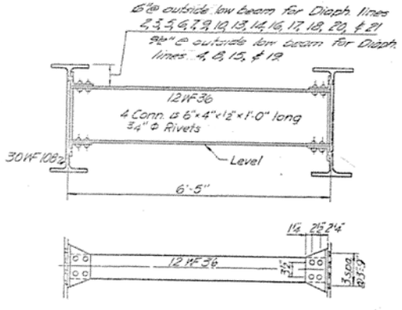
PINTLE DETAIL



SPLICE DETAIL 43 REQ'D



END DIAPHRAGM D-1; 40 REQ'D

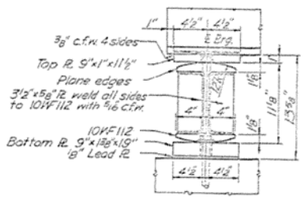


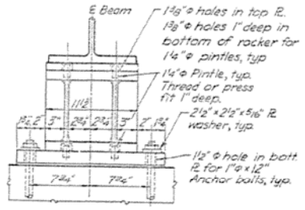
INTERIOR DIAPHRAGM D-2; 180 REQ'D

BILL OF MATERIAL

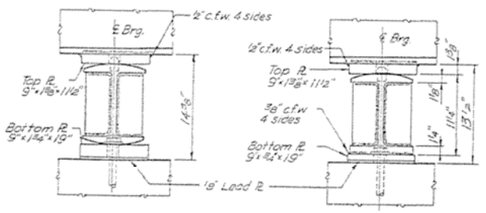
ITEM	UNIT	QUANTITY
STRUCTURAL STEEL IN GIRDERS	LBS.	410,256
STRUCTURAL STEEL IN DIAPHRAGM	LBS.	66,977
STRUCTURAL STEEL IN BEARINGS	LBS.	29,264
STRUCTURAL STEEL IN EXP. DEVICE	LBS.	5,000
TOTAL STRUCTURAL STEEL	LBS.	497,803

4984D



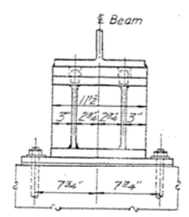


EXPANSION BEARING AT ABUTMENTS & PIER 3
(10 REQ'D)



EXPANSION BEARING AT PIERS 1 & 5
(24 REQ'D)

FIXED BEARING AT PIERS 2 & 4
(24 REQ'D)



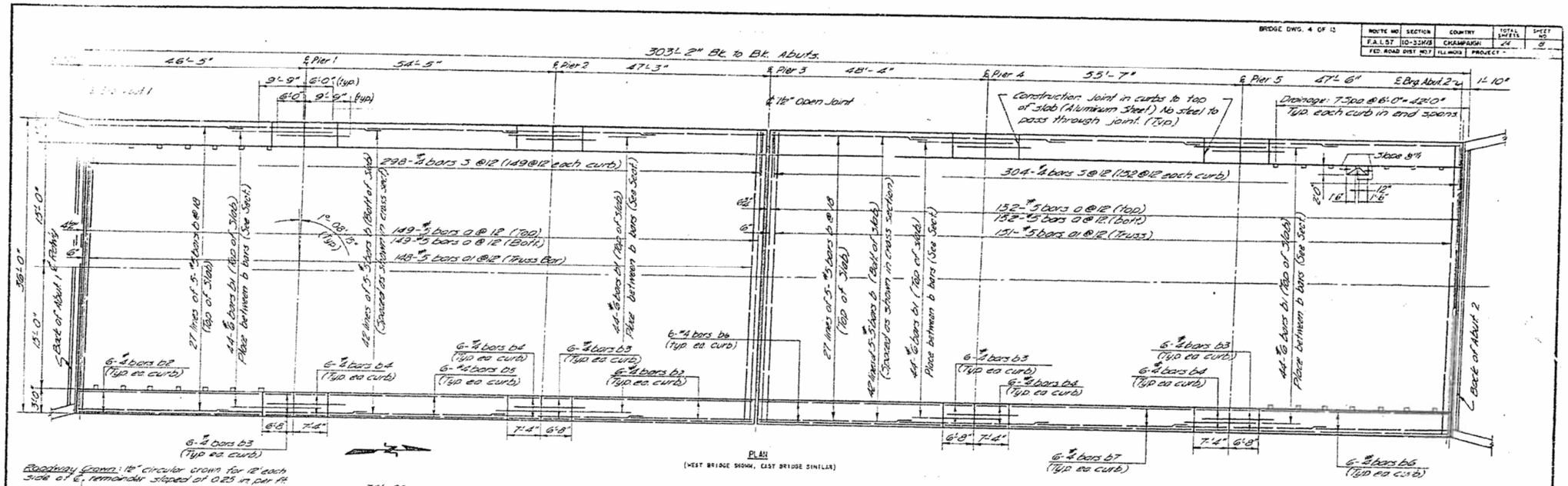
STEEL DETAILS
FAI RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07
BRIDGE DWG. 3 OF 13
JOB NO. 394-V8

REV. 8-5-63 (CORRECTED TOTAL WEIGHT OF STRUCT. STEEL FROM 499,883# TO 497,803# -JB

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378 S.N. 010-0009 (NB) & S.N. 010-0010 (SB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	010-0009 & 0010 As-Built Plans.dgn	DRAWN - TJB	REVISED -			57	10-33HVBR	CHAMPAIGN	88	71
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -						CONTRACT NO. 90951	
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -		SCALE: SHEET 3 OF 9 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

BRIDGE DWG. 4 OF 13

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.I. 57	10-33HVB	CHAMPAIGN	24	8
FED. ROAD DIST NO 7	ILLINOIS	PROJECT -		



BILL OF MATERIAL (TWO BRIDGES)

BAR	NO.	SIZE	LENGTH	SHAPE
a	1204	#5	34'-6"	
a1	398	#5	37'-2"	
b	1380	#5	31'-8"	
b1	332	#6	13'-9"	
b2	48	#4	10'-3"	
b3	96	#4	6'-5"	
b4	96	#4	7'-11"	
b5	24	#4	3'-6"	
b6	48	#4	11'-8"	
b7	24	#4	10'-7"	
d	2672	#5	3'-3"	
3	1204	#6	6'-5"	
CLASS X CONCRETE			CU. YDS.	630.2
REINFORCEMENT BARS			LBS.	139,394
PROTECTIVE COAT			SQ. YDS.	2706

SUPERSTRUCTURE
F.A.I. RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07
BRIDGE DWG 4 OF 13
JOB NO. 394-V8

Rev. 6-17-03: In Bar d, detail a-c length of 36'-12" was corrected to 35'-5½", M.L.K.

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	010-0009 & 0010 As-Built Plans.dgn	DRAWN - TJB	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -

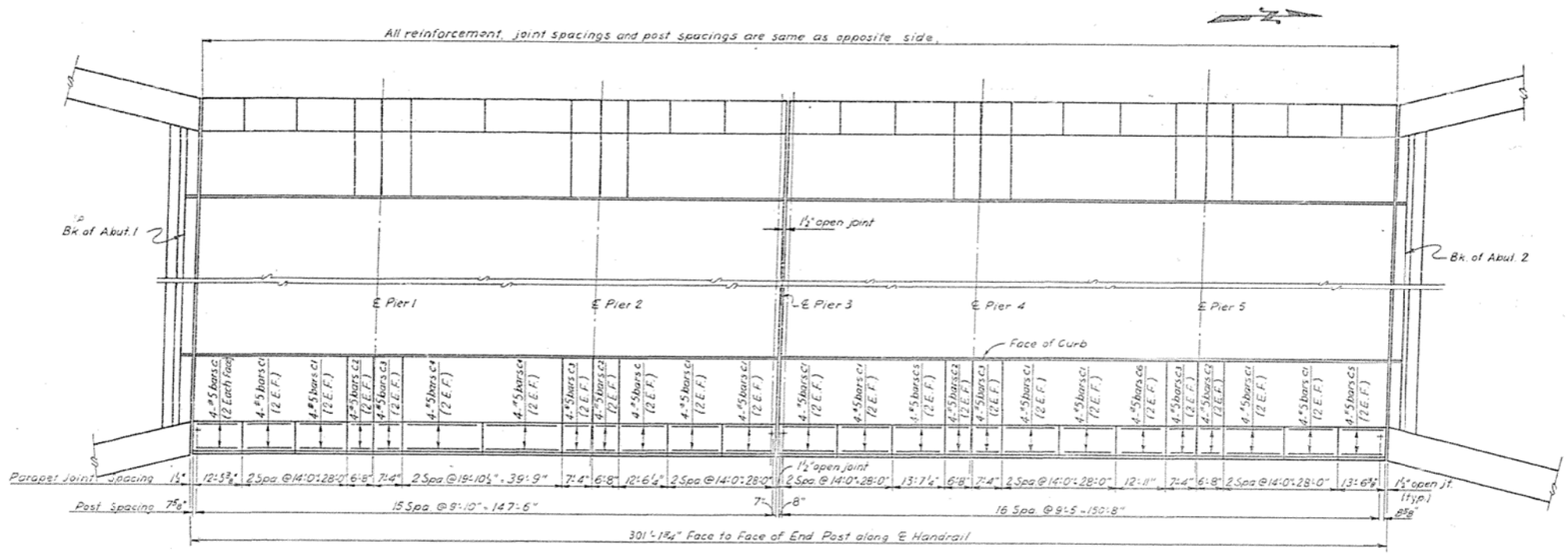
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

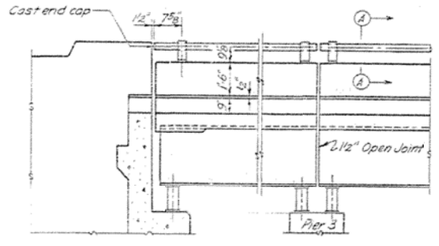
SCALE: | SHEET 4 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	72
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

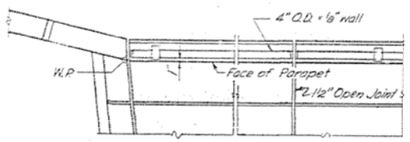
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	10-33HVB	CHAMPAIGN	24	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



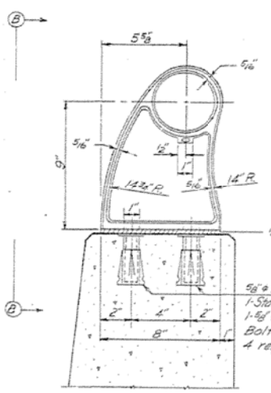
PLAN
(ALL DIMENSIONS GIVEN ALONG ℄ HANDRAIL)



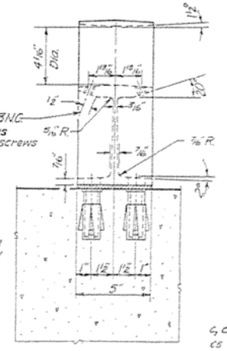
ELEVATION END POST



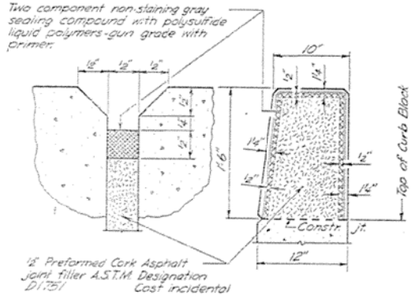
PLAN END POST



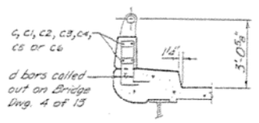
SECTION A-A



VIEW B-B



DETAIL OF JOINT IN PARAPET TYPE HANDRAIL



SECTION THRU CURB

CAST END CAP
DRIVE FIT TYPE, 16 REQUIRED.
INCIDENTAL TO ITEM "ALUMINUM HANDRAIL"

GENERAL NOTES

ALL POSTS SHALL BE PLACED NORMAL TO PARAPET.

ALL POSTS SHALL BE OF ALUMINUM CONFORMING TO ASTM SPECIFICATION B-108 ALLOY 56-T6B-T7.

ALL RAIL TUBING SHALL BE OF ALUMINUM CONFORMING TO ASTM SPECIFICATION B-235 ALLOY 6061-T6.

RAIL TUBING MAY BE CUT TO MAX. THREE PANEL LENGTHS.

FOR MATERIAL COMPOSITION OF PREFABRICATED PIP, SEE ART. 504.2 (f), (BEARINGS AND ANCHORAGE), OF THE STD. SPECS.

SET SCREWS SHALL BE OF ALUMINUM CONFORMING TO ASTM SPECIFICATION B-211 ALLOY 2024-T4.

THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR ALUMINUM HANDRAIL SHALL INCLUDE THE FURNISHING, FABRICATION, TRANSPORTATION AND ERECTION OF ALL MATERIAL.

Aluminum Handrail shall be measured in lineal feet. The length paid for shall be the overall length along the top longitudinal railing member through all posts and gaps.

BILL OF MATERIAL (TWO BRIDGES)

BAR	NO.	SIZE	LENGTH	SHAPE
c	32	#5	12'-3"	
c1	160	#5	13'-9"	
c2	64	#5	6'-5"	
c3	64	#5	7'-1"	
c4	32	#5	19'-7"	
c5	32	#5	13'-4"	
c6	16	#5	12'-8"	
REINFORCEMENT BARS		LBS.	4915	
ALUMINUM HANDRAIL		LIN. FT.	1204	

CLASS X CONCRETE FOR PARAPET WALLS IS INCLUDED IN SUPERSTRUCTURE CONCRETE QUANTITY.

ALUMINUM HANDRAIL
HANDRAIL DETAILS
F.A.I. RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07

BRIDGE DWG. 5 OF 13

JOB NO. 354-V8

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -
	010-0009 & 0010 As-Built Plans.dgn	DRAWN - TJB	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -

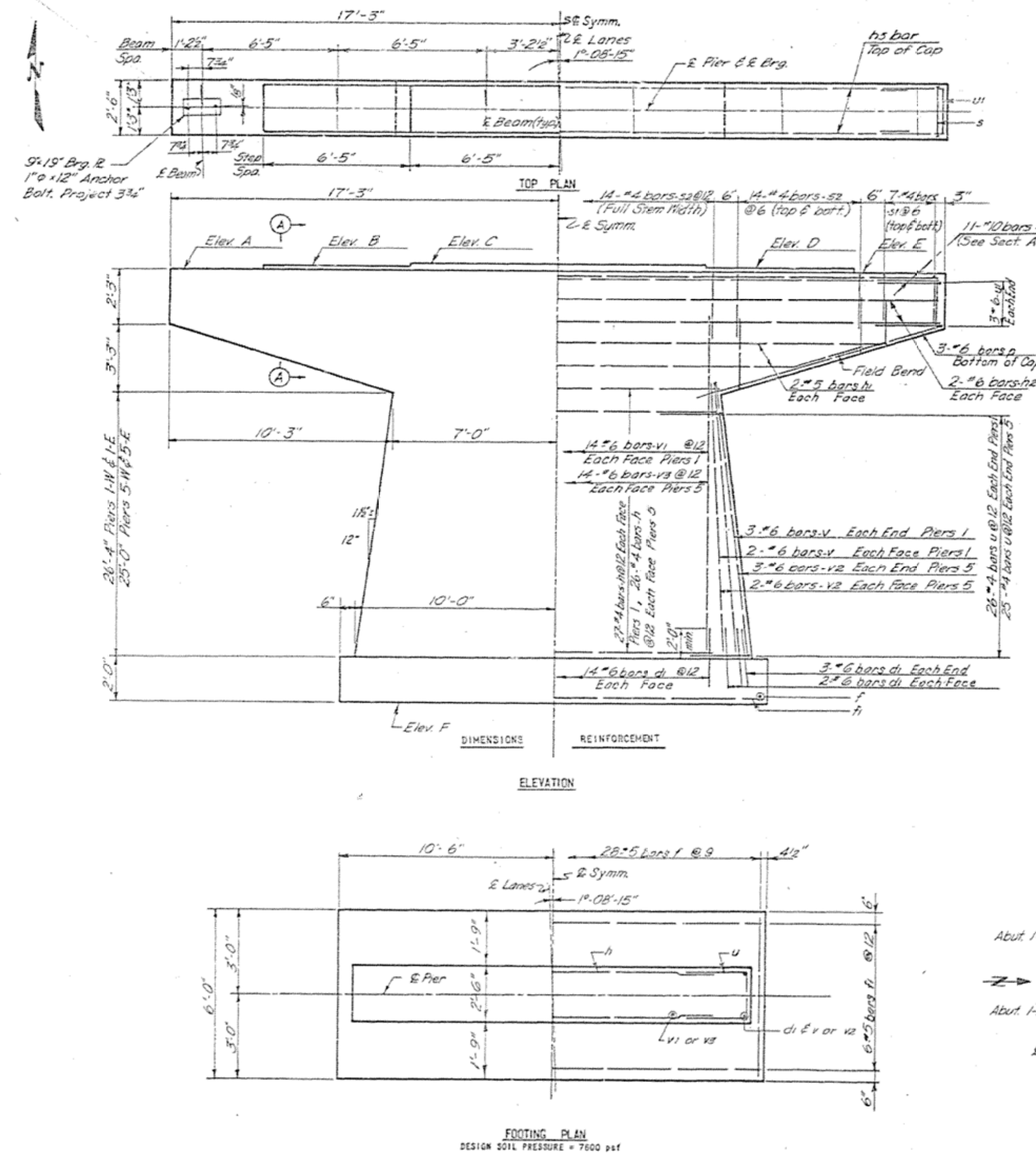
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 5 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	73
		CONTRACT NO. 90951		
	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	10-33HVB	CHAMPAIGN	24	10
FED ROAD DIST. NO. 7	ILLINOIS	PROJECT		



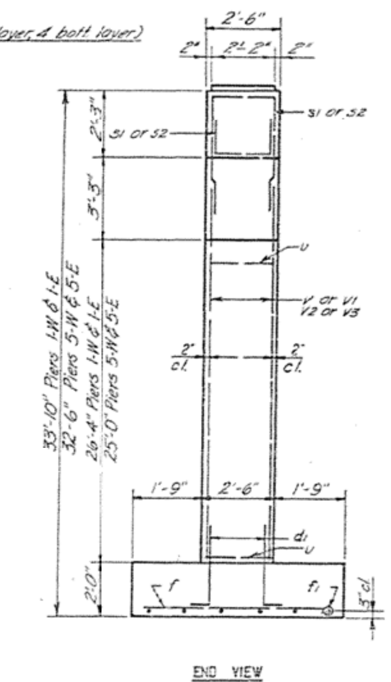
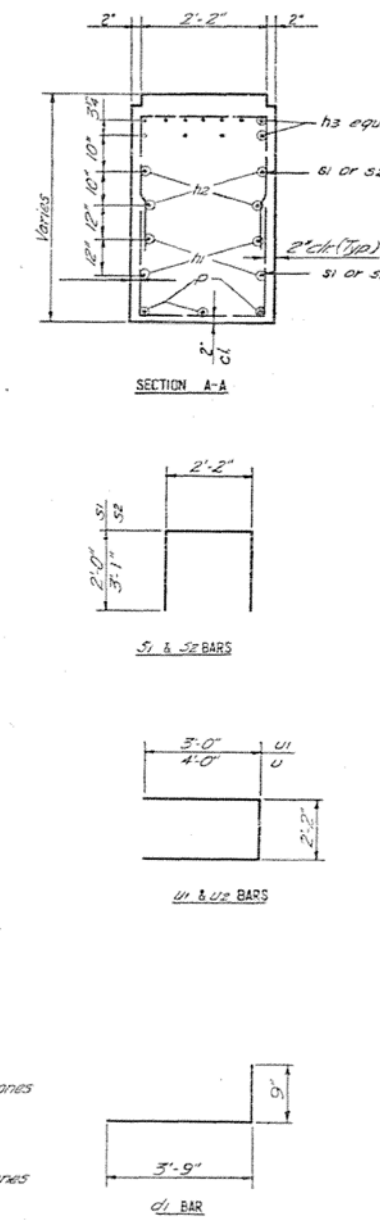


TABLE OF ELEVATIONS

ELEV.	PIER 1-W	PIER 5-W	PIER 1-E	PIER 5-E
A	760.89	760.51	760.88	760.52
B	761.01	760.64	761.01	760.65
C	761.09	760.71	761.08	760.72
D	761.01	760.64	761.01	760.65
E	760.88	760.51	760.83	760.52
F	727.05	728.01	727.05	728.02

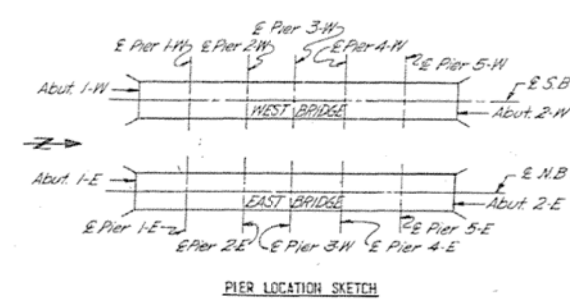
NOTES:

1. ALL EDGES SHALL HAVE STANDARD 3/4" CHAMFERS EXCEPT FOOTINGS.



BILL OF MATERIAL (4 PIERS)

BAR	NO.	SIZE	LENGTH	SHAPE
d1	168	#6	4'-6"	
f	112	#5	5'-6"	
f1	24	#5	20'-6"	
h	212	#4	13'-9"	
h1	16	#5	28'-0"	
h2	16	#6	34'-2"	
h3	44	#10	34'-2"	
p	24	#6	11'-7"	
s1	112	#4	6'-2"	
s2	280	#4	8'-4"	
u	204	#4	10'-2"	
u1	24	#6	8'-2"	
v	28	#6	27'-0"	
v1	56	#6	30'-10"	
v2	28	#6	25'-8"	
v3	56	#6	29'-6"	
CLASS X CONCRETE			CU.YDS.	258.3
REINFORCEMENT BARS			LBS.	25,402
CL. A EXC. FOR STRUCTS.			CU.YDS.	148



PIERS 1-W, 5-W, 1-E & 5-E
FAI RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07

BRIDGE DWG 6 OF 13

JOB NO. 394-V8

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -
		DRAWN - TJB	REVISED -
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 6 OF 9 SHEETS | STA. | TO STA.

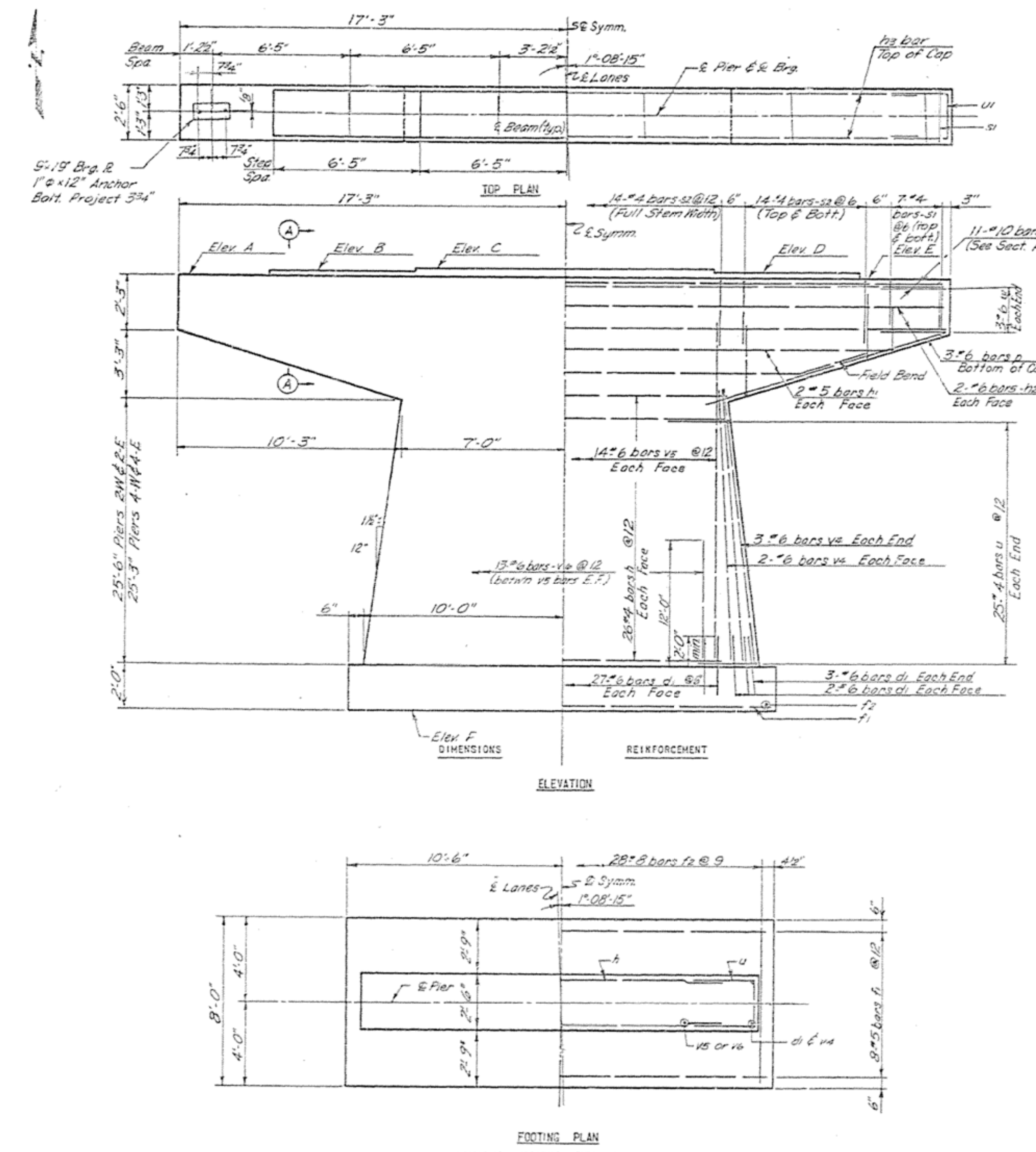
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	74

CONTRACT NO. 90951

ILLINOIS FED. AID PROJECT

BRIDGE DWG. 7 OF 13

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	10-33HVB	CHAMPAIGN	24	11
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



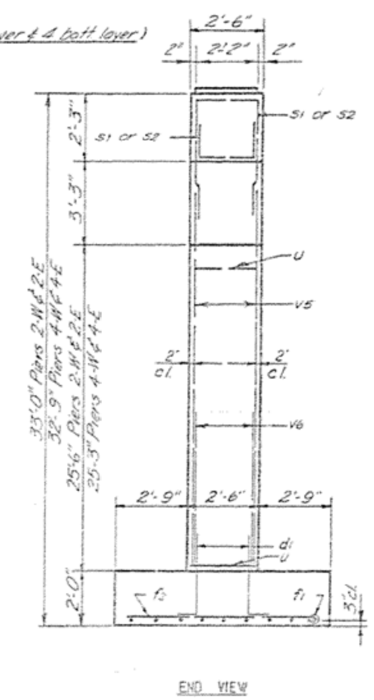
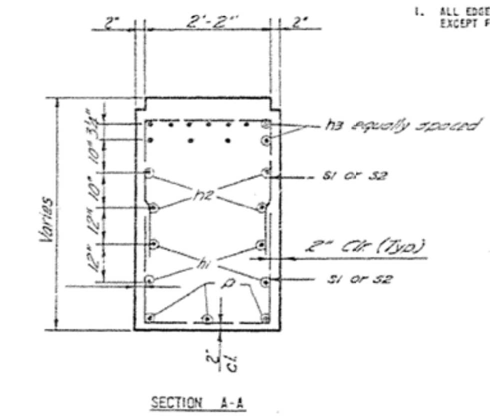


TABLE OF ELEVATIONS

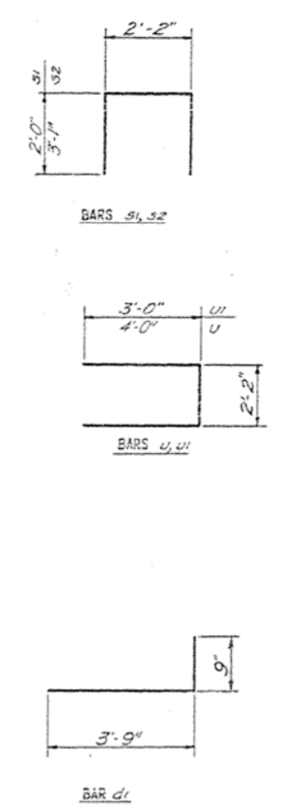
ELEVS.	PIER 2-W	PIER 4-W	PIER 2-E	PIER 4-E
A	760.96	760.79	760.96	760.79
B	761.09	760.92	761.09	760.92
C	761.16	760.99	761.16	760.99
D	761.09	760.92	761.09	760.92
E	760.96	760.79	760.96	760.79
F	727.96	728.04	727.96	728.04

Note: For location of Piers 2-W, 4-W, 2-E & 4-E see Pier Location Sketch on sheet 6 of 13.



NOTES

1. ALL EDGES SHALL HAVE STANDARD 3/4" CHAMFERS EXCEPT FOOTINGS.



BILL OF MATERIAL (4 PIERS)

BAR	NO.	SIZE	LENGTH	SHAPE
d1	272	#6	4'-6"	⌙
f1	32	#5	20'-6"	—
f2	112	#8	7'-6"	—
h	208	#4	13'-9"	—
h1	16	#5	28'-0"	—
h2	16	#6	34'-2"	—
h3	44	#10	34'-2"	—
p	24	#6	11'-7"	—
s1	112	#4	6'-2"	⊓
s2	280	#4	8'-4"	⊓
u	200	#4	10'-2"	⊐
u1	24	#6	8'-2"	⊐
v4	56	#6	26'-6"	—
v5	112	#6	29'-3"	—
v6	104	#6	12'-0"	—
CLASS X CONCRETE			CU. YDS.	268.8
REINFORCEMENT BARS			LBS.	27,547
CL. A EXC. FOR STRUCTS.			CU. YDS.	150

PIERS 2-W, 4-W, 2-E & 4-E
F.A.I. RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07

BRIDGE DWG 7 OF 13

JOB NO. 394-V8

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -
	PLOT SCALE = 40.0000 ' / in.	DRAWN - TJB	REVISED -
	PLOT DATE = 1/13/2015	CHECKED - TJB	REVISED -
		DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 7 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	75

CONTRACT NO. 90951

ILLINOIS FED. AID PROJECT

BRIDGE DWG 8 OF 10

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	10-33HVB	CHAMPAIGN	24	12
FED ROAD DIST. NO 7	ILLINOIS	PROJECT		

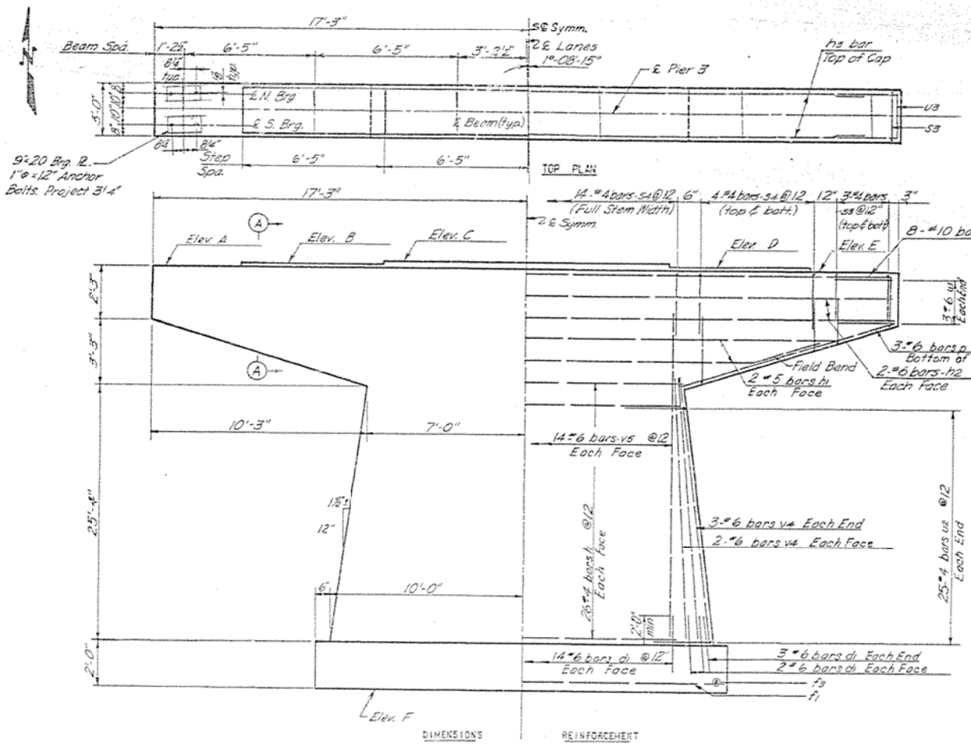
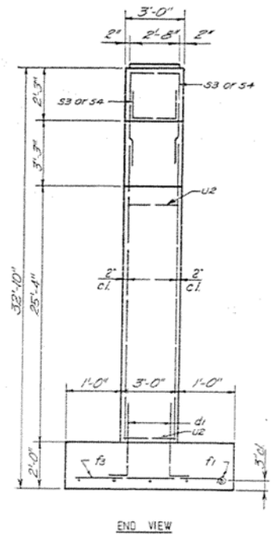
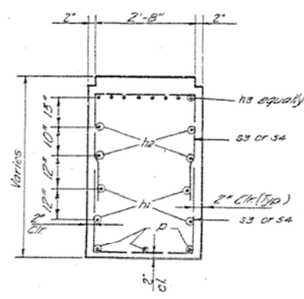


TABLE OF ELEVATIONS

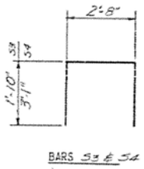
ELEVS.	PIER 3-W	PIER 3-E
A	760.89	760.90
B	761.02	761.03
C	761.09	761.10
D	761.02	761.03
E	760.89	760.90
F	728.06	728.07



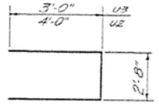
END VIEW



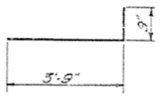
SECTION A-A



BARS S3 & S4



BARS U2 & U3



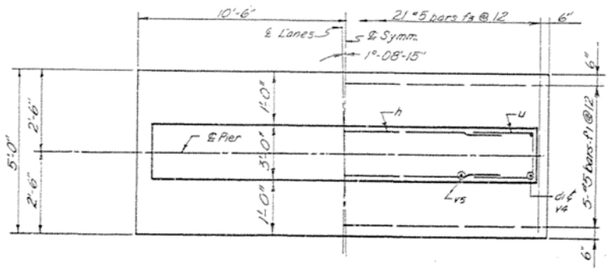
BAR d1

NOTES

1. ALL EDGES SHALL HAVE STANDARD 3/8" CHAMFERS EXCEPT FOOTINGS.

BILL OF MATERIAL (2 PIERS)

BAR	NO.	SIZE	LENGTH	SHAPE
G1	84	#6	4'-6"	⌋
f1	10	#5	20'-6"	—
f3	42	#5	4'-6"	—
h	104	#4	13'-9"	—
h1	8	#5	28'-0"	—
h2	8	#6	34'-2"	—
h3	16	#10	34'-2"	—
P	12	#6	11'-7"	—
S3	24	#4	6'-4"	⌐
S4	60	#4	8'-10"	⌐
U2	100	#4	10'-8"	⊐
U3	12	#6	8'-8"	⊐
v4	28	#6	26'-6"	—
v5	56	#6	29'-3"	—
CLASS X CONCRETE		CU. YDS.	146.8	
REINFORCEMENT BARS		LBS.	10039	
CL. A EXC. FOR STRUCTS.		CU. YDS.	58	



FOOTING PLAN

DESIGN SOIL PRESSURE = 7600 psf

Note: For location of Piers 3-W & 3-E see Pier Location Sketch on sheet 6 of 13.

DESIGNED BY | DRAWN BY | CHECKED BY | DATE | PLOT SCALE | PLOT DATE
TJB | TJB | TJB | 6/30/2014 | 40.0000 ' / in. | 1/13/2015

PIERS 3-W & 3-E
FAI RTE. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07

BRIDGE DWG 8 OF 13

JOB NO. 394-V8

FILE NAME =	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -
c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn		DRAWN - TJB	REVISED -
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	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

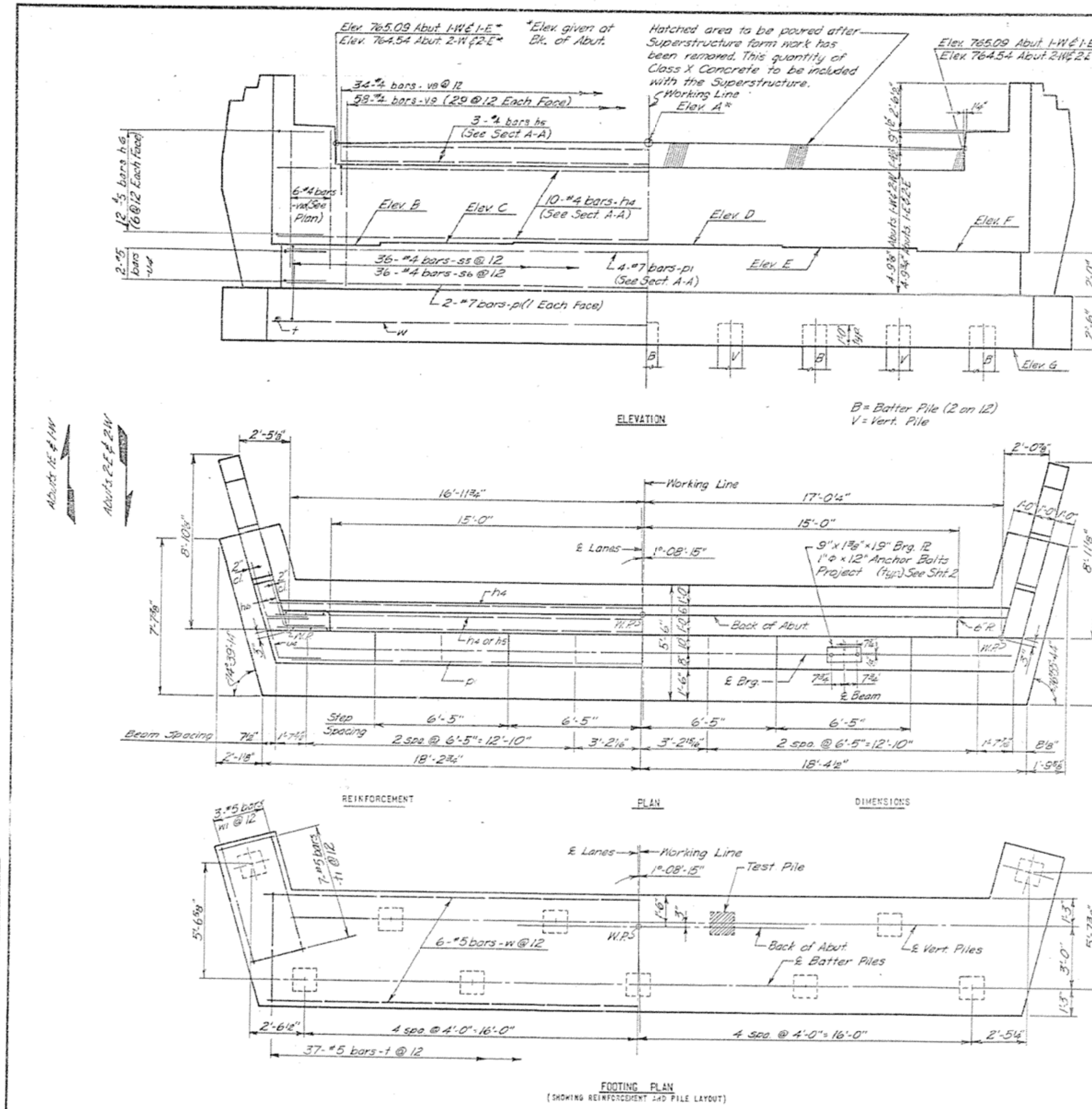
1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 8 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	76
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

BRIDGE DWG. 9 OF 13

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	10-33HVB	CHAMPAIGN	24	13
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



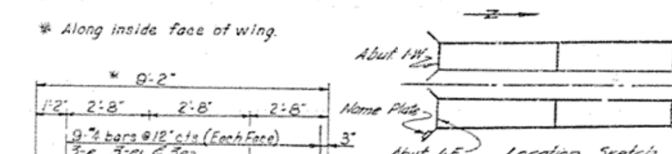
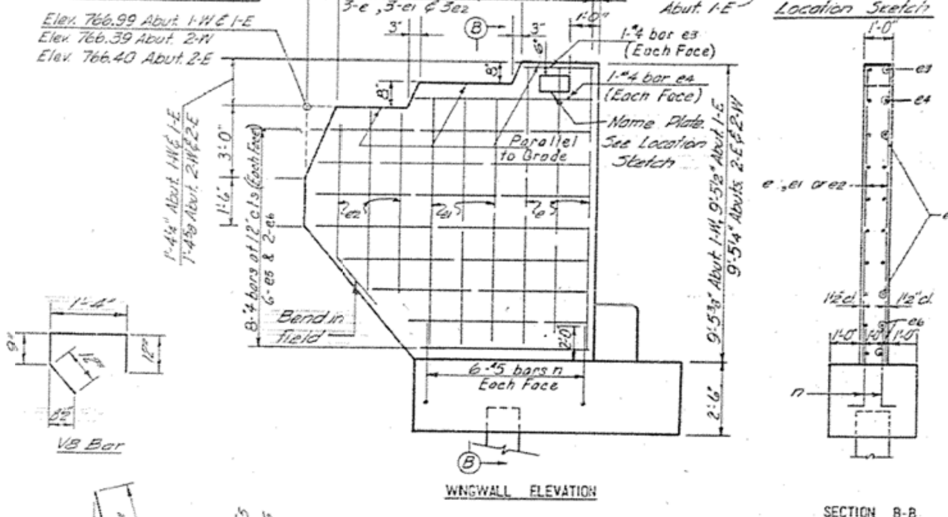
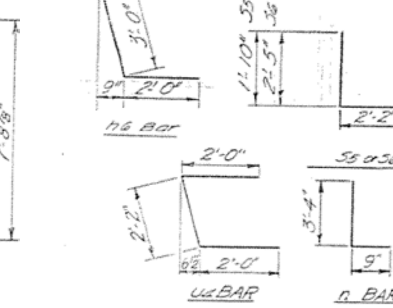


TABLE OF ELEVATIONS

ELEV.	ABUT. 1-W	ABUT. 2-W	ABUT. 1-E	ABUT. 2-E
A	765.28	764.72	765.27	764.75
B	760.89	760.34	760.88	760.35
C	761.02	760.47	761.01	760.48
D	761.09	760.54	761.09	760.55
E	761.02	760.47	761.01	760.48
F	760.89	760.34	760.89	760.35
G	756.39	755.84	756.38	755.85





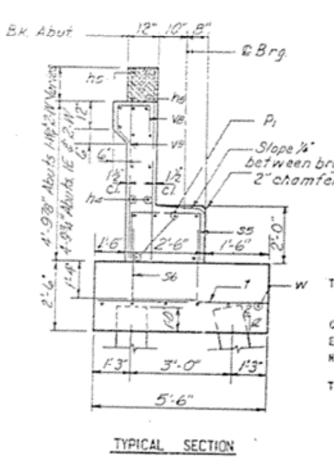
BILL OF MATERIAL (4 ABUTMENTS)

BAR	NO.	SIZE	LENGTH	SHAPE
e	48	#4	9'-5"	—
e1	48	#4	8'-8"	—
e2	48	#4	5'-8"	—
e3	16	#4	2'-6"	—
e4	16	#4	5'-0"	—
e5	96	#4	6'-6"	—
e6	32	#4	5'-6"	—
h4	40	#4	36'-0"	—
h5	12	#4	29'-6"	—
h6	96	#5	5'-0"	
n	96	#5	4'-1"	
p1	24	#7	35'-0"	—
s5	144	#4	5'-10"	
s6	144	#4	7'-0"	
t	148	#5	5'-0"	—
t1	56	#5	2'-6"	—
u4	16	#5	6'-2"	
v8	136	#4	4'-1"	
v9	232	#4	5'-9"	—
v10	48	#4	6'-6"	—
w	24	#5	36'-0"	—
w1	24	#5	6'-3"	—

CLASS X CONCRETE	CU. YDS.	148.1
REINFORCEMENT BARS	LBS.	9978
CONCRETE PILES	LIN. FT.	1400
TEST PILES	EACH	4
NAME PLATES	EACH	2

PILE DATA

TYPE ---------- CONCRETE. SEE SPECIAL PROVISIONS FOR OPTIONAL TYPES.
CAPACITY ---------- 27 TONS.
ESTIMATED LENGTH - 35 FT.
NO. REQUIRED ---- 40 (DOES NOT INCLUDE TEST PILES)
TEST PILES ------ 4 (1 EACH ABUT.)



ABUTMENTS
F.A.I. RTE. 57 SEC 10-33HVB
CHAMPAIGN COUNTY
STA. 456+43.07

BRIDGE DWG 9 OF 13

JOB NO. 394-V8

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	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1964 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 23378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 9 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	77
		CONTRACT NO. 90951		

ILLINOIS FED. AID PROJECT

REVISED BY SPFLD. BRIDGE OFFICE.

Bench Mark: None

Existing Structure: No. 010-0009(N.B.) & 010-0010(S.B.) were built in 1964. In 1977 the structures had waterproofing membrane system installed, bituminous overlay placed, expansion joints reconstructed and patching of the deck was accomplished. The structures consist of six span cast-in-place concrete decks on steel beams supported by solid hammerhead piers and pile bent abutments. Bk. to Bk. of abutments is 303'-2" and Out to Out width is 36'-0" for each structure.

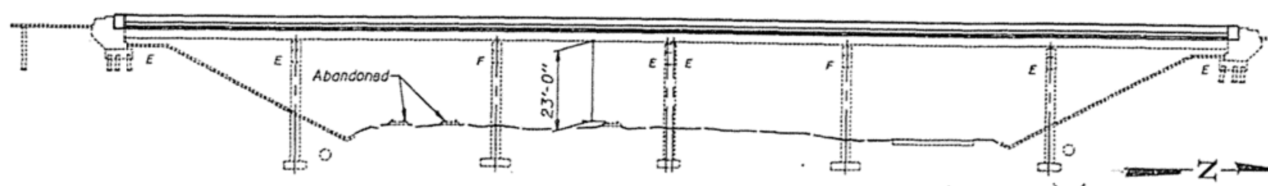
Traffic to be maintained utilizing stage construction.

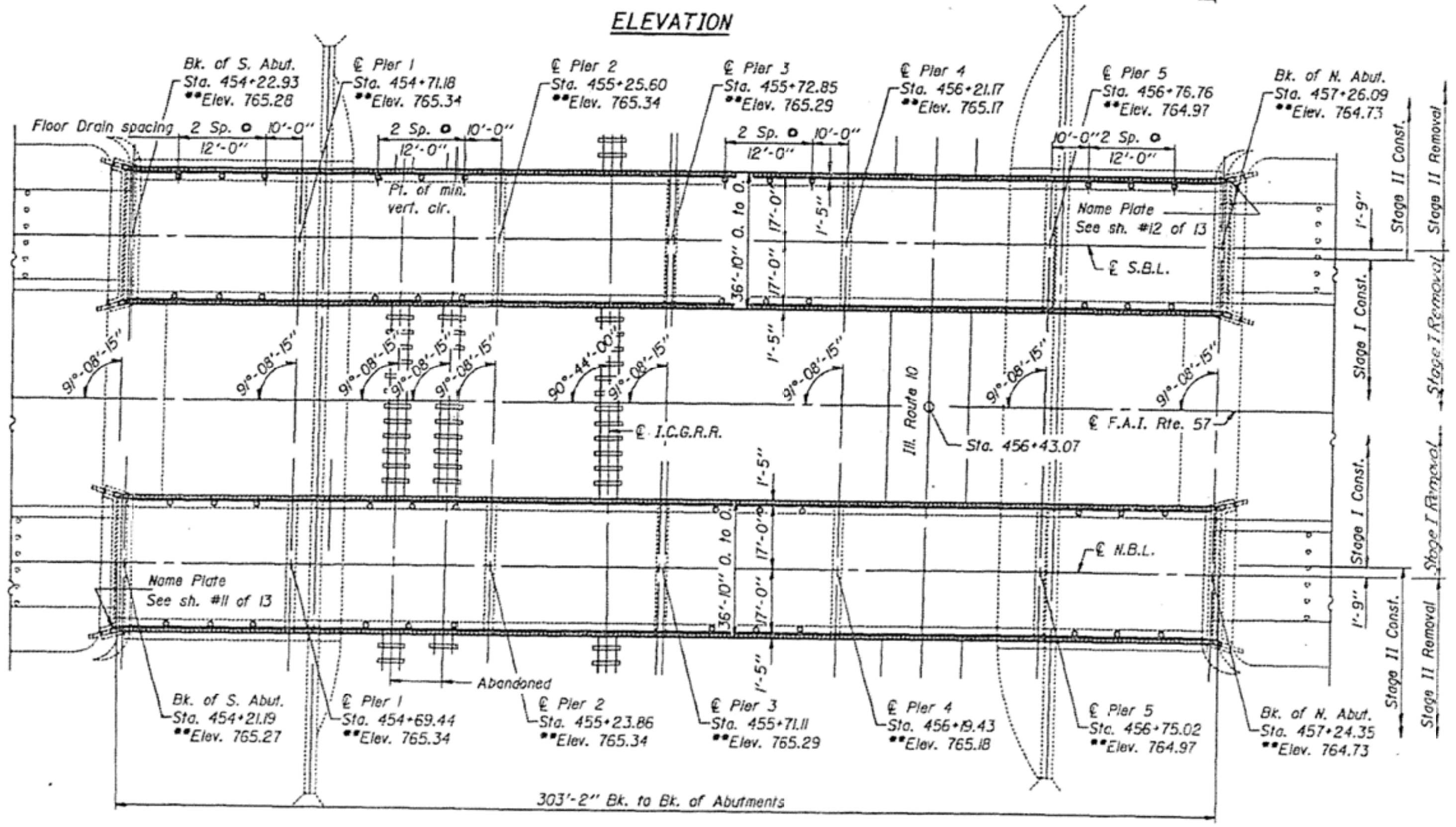
Salvage: Aluminum handrail shall be salvaged and stockpiled within State R.O.W. by the Bridge Contractor for later pickup by District Maintainance forces.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

57	+	CHAMPAIGN	45	19	13 SHEETS

+ 10-33HVB-I





** Top of existing concrete without class I.

PLAN

GENERAL NOTES

All new struct. steel shall be shop painted with two coats of the Basic Lead Silico-Chromate paint system.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Slope wall shall be reinforced with welded wire fabric. 6" x 6" - W4.0 x 4.0, weighing 58 lbs. per 100 sq. ft.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and ¾"ϕ x 12" hooked bolts.

Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Concrete Removal	Cu.Yd.	478	5	483
Expansion Bolts ¾"ϕ	Each		8	8
Handrail Removal	Lin. Ft.	1204		1204
Floor Drains	Each	48		48
Preformed Joint Seal 2½"	Lin. Ft.	74		74
Preformed Joint Seal 4"	Lin. Ft.	148		148
Protective Coat	Sq.Yd.	500		500
Class X Concrete	Cu.Yd.	491.7		491.7
Jack and Reposition Bearings	Each		24	24
Structural Steel	Lb.	8960		8960
Reinforcement Bars	Lb.	22,760		22,760
Reinforcement Bars (Epoxy Coated)	Lb.	87900	360	88260
Slope Wall Removal	Sq.Yd.			47
Slope Wall 4"	Sq.Yd.			47
Deck Slab Repair (Full Depth)	Sq.Yd.	12		12
Deck Slab Repair (Partial)	Sq.Yd.	149		149
Waterproofing Membrane System	Sq.Yd.	1135		1135
Bituminous Concrete Surface Removal	Sq.Yd.	2005		2005
Bituminous Concrete Surface Course Class I	Ton	97		97

DESIGNED	
CHECKED	
DRAWN	W.C.
CHECKED	A.L.C. L.S.H.

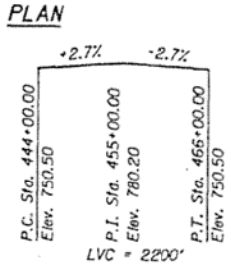
October 1 1986

EXAMINED — ENGINEER OF BRIDGE DESIGN

PASSED — ENGINEER OF BRIDGES AND STRUCTURES

APPROVED — DIRECTOR OF HIGHWAYS

Revised 10/9/86 L.S.H.

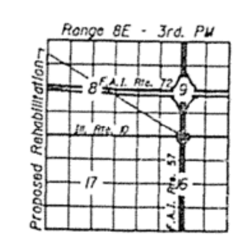


PROFILE GRADE ℄ F.A.I. RT. 57
(Top of existing concrete deck without Class I)

DESIGN SPECIFICATIONS
1983 AASHTO, 1984 and 1985 Interims

LOADING HS20-44
(new construction)

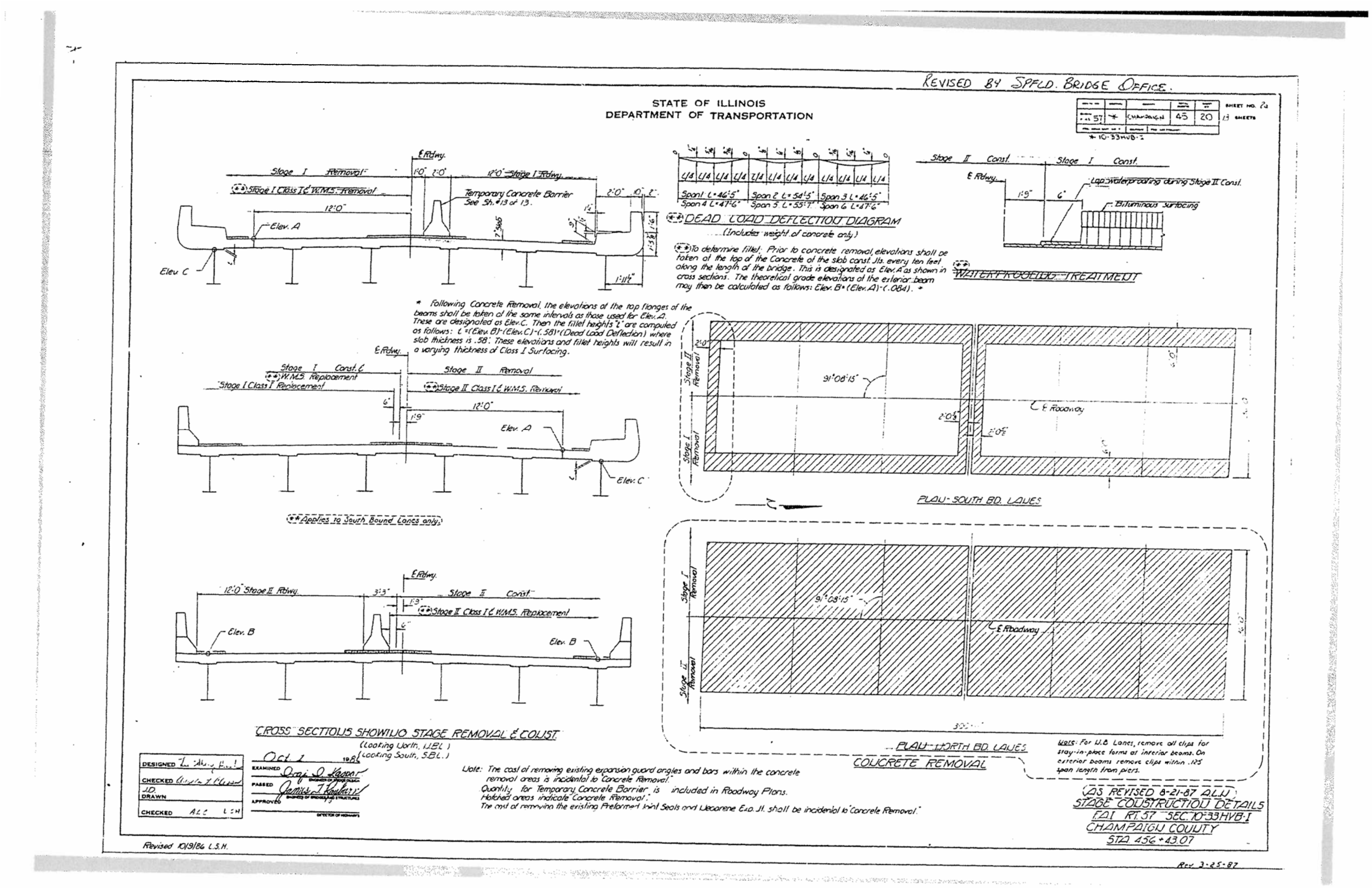
DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinf.)



LOCATION SKETCH

(AS REVISED 8-28-87 A.L.W.)

GENERAL PLAN
F.A.I. RTE. 57 OVER S.B.I. RTE. 10
AND ILLINOIS CENTRAL R.R.
F.A.I. RTE. 57 - SEC. 10-33HVB-I
CHAMPAIGN COUNTY
STRUCTURE NO. 010-0009(N.B.)
STRUCTURE NO. 010-0010(S.B.)
STATION 456+43.07


REVISED BY SPFLD. BRIDGE OFFICE.
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
Stage I Removal
(**)Stage I Class I & W.M.S. Removal
Temporary Concrete Barrier See Sh. #13 of 13.
Elev. A
Elev. C
Span 1 L=46'5"
Span 2 L=54'5"
Span 3 L=46'5"
Span 4 L=47'6"
Span 5 L=55'7"
Span 6 L=47'6"
(**)DEAD LOAD DEFLECTION DIAGRAM
(Includes weight of concrete only)
(**)To determine fillet: Prior to concrete removal, elevations shall be taken at the top of the Concrete of the slab const. Jts. every ten feet along the length of the bridge. This is designated as Elev. A as shown in cross sections. The theoretical grade elevations of the exterior beam may then be calculated as follows: Elev. B=(Elev. A)-(.084). *
Stage II Const.
Stage I Const.
Lap waterproofing during Stage II Const.
Bituminous surfacing
(**)WATERPROOFING TREATMENT
* Following Concrete Removal, the elevations of the top flanges of the beams shall be taken at the same intervals as those used for Elev. A. These are designated as Elev. C. Then the fillet heights "t" are computed as follows: t=(Elev. B)-(Elev. C)-(.58)+(Dead Load Deflection) where slab thickness is .58'. These elevations and fillet heights will result in a varying thickness of Class I Surfacing.
Stage I Const. &
(**)W.M.S. Replacement
Stage I Class I Replacement
Stage II Removal
(**)Stage II Class I & W.M.S. Removal
Elev. A
Elev. C
(**)Applies to South Bound Lanes only.
Stage II Removal
Stage I Removal
91°08'15"
C Roadway
PLAN - SOUTH BD. LANES
12'0" Stage II Rdwy.
Stage II Const.
(**)Stage II Class I & W.M.S. Replacement
Elev. B
Elev. B
Stage I Removal
Stage II Removal
91°08'15"
C Roadway
CROSS SECTIONS SHOWING STAGE REMOVAL & CONST.
(Looking North, NBL)
(Looking South, SBL)
PLAN - NORTH BD. LANES
CONCRETE REMOVAL
Note: For N.B. Lanes, remove all clips for stay-in-place forms at interior beams. On exterior beams remove clips within .125 span length from piers.
Note: The cost of removing existing expansion guard angles and bars within the concrete removal areas is incidental to "Concrete Removal."
Quantity for Temporary Concrete Barrier is included in Roadway Plans.
Hatched areas indicate "Concrete Removal."
The cost of removing the existing Preformed Joint Seals and Neoprene Exp. Jt. shall be incidental to "Concrete Removal."
DESIGNED
CHECKED
DRAWN
CHECKED
Oct 1 1986
EXAMINED
PASSED
APPROVED
(AS REVISED 8-21-87 A.L.N.)
STAGE CONSTRUCTION DETAILS
F.A.I. RT. 57 SEC. 10-33HVB-I
CHAMPAIGN COUNTY
STA. 456+43.07
Revised 10/9/86 L.S.H.
Rev. 3-25-87

FILE NAME =	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378 S.N. 010-0009 (NB) & S.N. 010-0010 (SB)
c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn		DRAWN - TJB	REVISED -		
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	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -		SCALE: SHEET 2 OF 10 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	79
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			

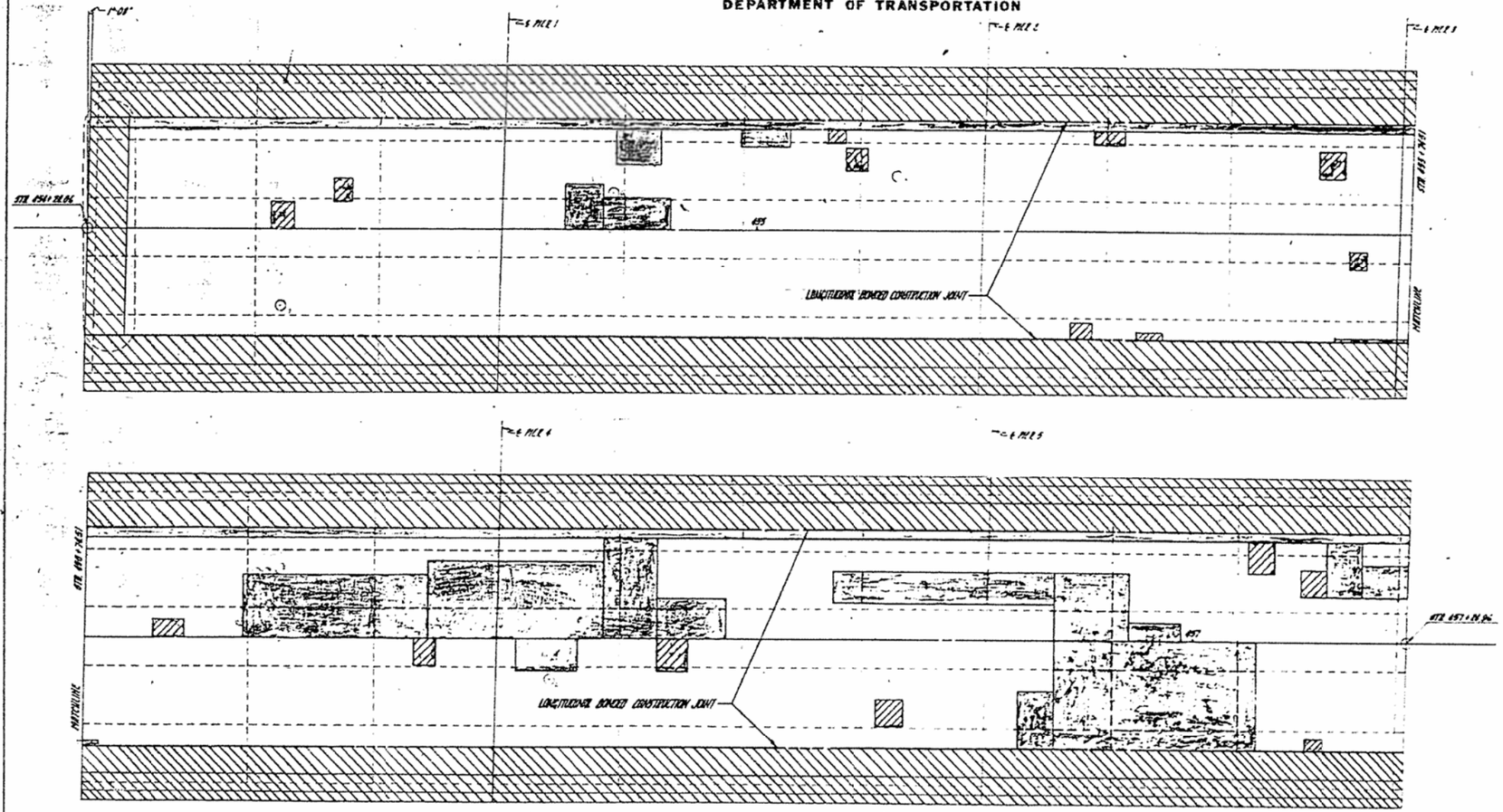
REVISED BY SPFLD. BRIDGE OFFICE

57	10-33HVBR	CHAMPAIGN	4-5	22

010-0010 SB

Sheet No. 4 of 13 Sheets

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Concrete Removal
Deck Slab Repair (Partial)
Deck Slab Repair (Full Depth)

DESIGNED Timothy Bourk
CHECKED Angela K Classen
JD
DRAWN
CHECKED ALC LSH

Oct. 1 1986
EXAMINED Joseph D. Haspa
ENGINEER OF PRECAST DESIGN
PASSED James T. Kaufmann
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

AS REVISED 8-20-87 A.L.N.
SOUTH-BOUND LANES
DECK-SLAB REPAIR
F.A.I. RT. 57 SEC. 10-33HVB-1
CHAMPAIGN COUNTY
STA. 456+43.07

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

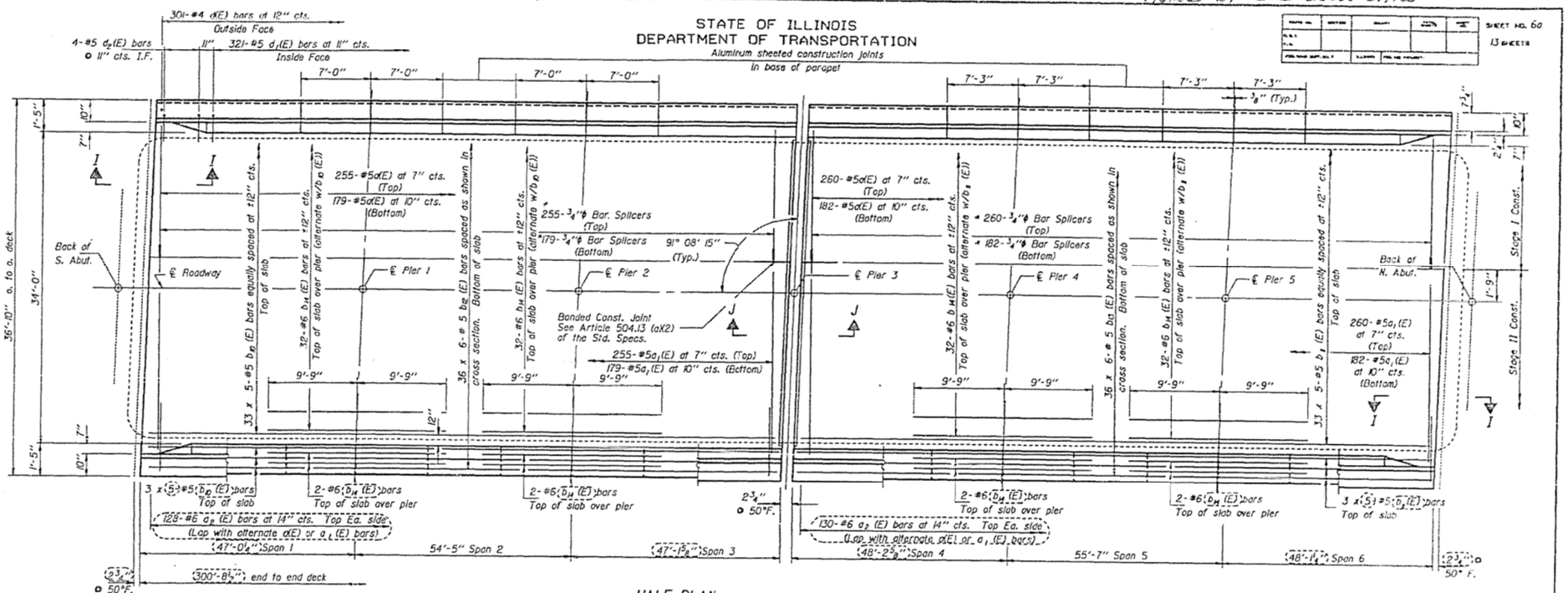
SCALE: | SHEET 3 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	80
		CONTRACT NO. 90951		
		ILLINOIS	FED. AID PROJECT	

REVISED BY SPRD. BRIDGE OFFICE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

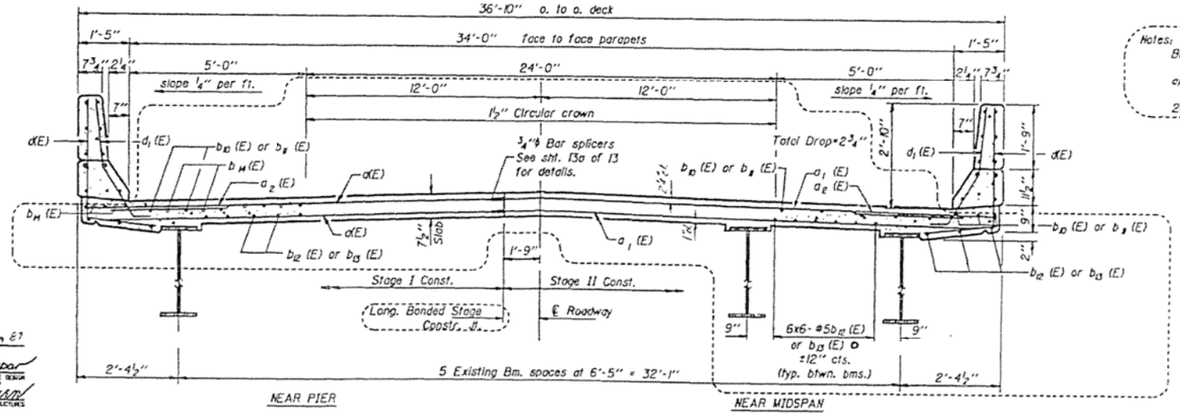
SHEET NO. 6a
13 SHEETS



HALF PLAN

* Lapped bars in these locations shall be tied with double the number of ties normally used.

MIN. BAR LAPS
#5 Bar = 2'-2"



CROSS SECTION
(Looking North)

Notes: See sheets #8a & 9b of 13 for superstructure details.
Bill of Material, and Sections I-I and J-J.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

DESIGNED	Angelos Themistocles	August 26	19 87
CHECKED	Harry M. Kowalski	EXAMINED	Engineer of Field Design
DRAWN	J.T.Downing	PASSED	Engineer of Geotechnical Structures
CHECKED	A.L.N.	APPROVED	Director of Highways

S-1-0 12-1-83

AS REVISED 8-13-87 A.L.N.
NORTH BOUND LANES
SUPERSTRUCTURE
F.A.I. RT. 57 SEC. 10-33HVB-1
CHAMPAIGN COUNTY
STATION 456+43.07

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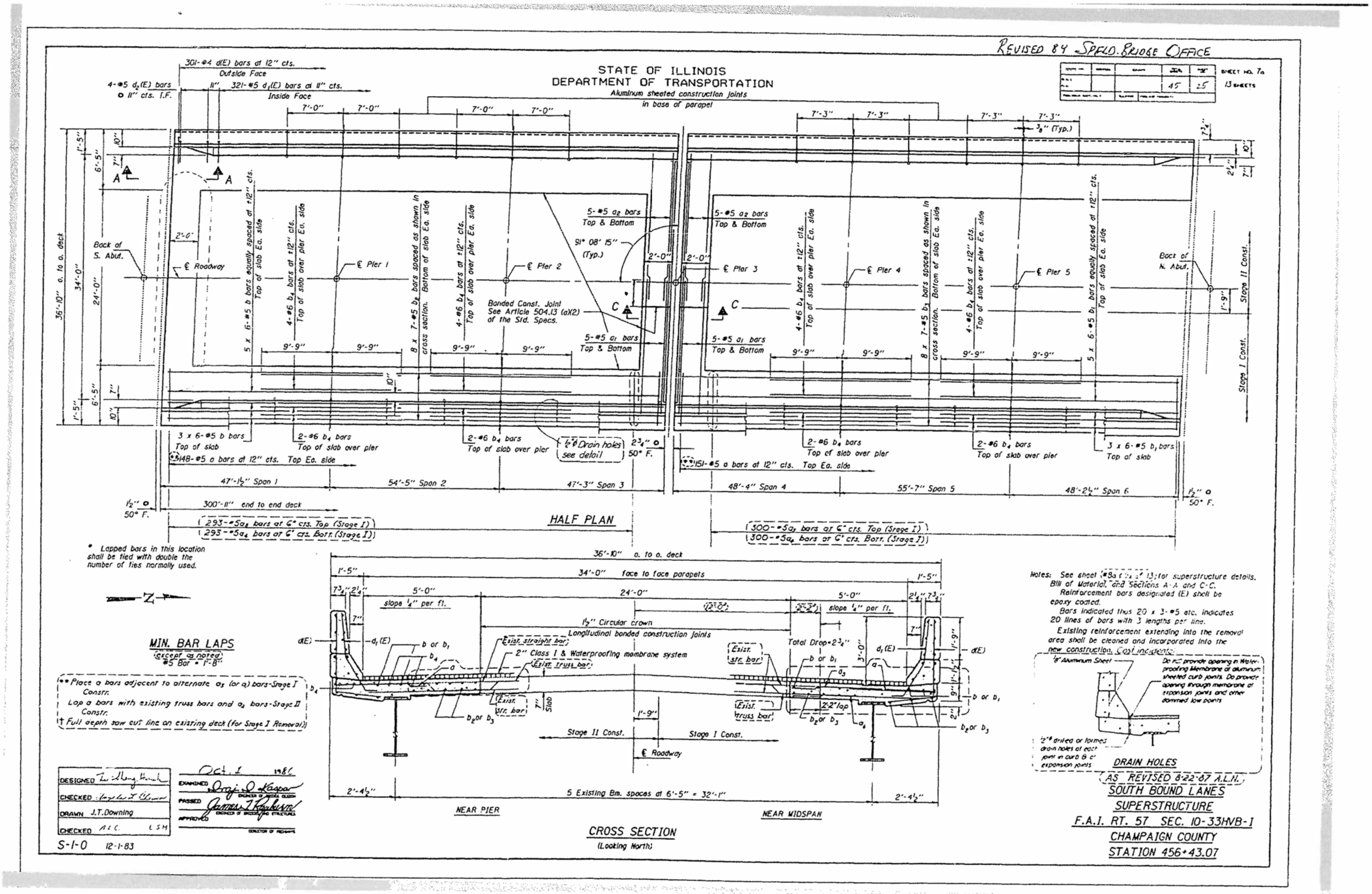
1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 4 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	81
		CONTRACT NO. 90951		
	ILLINOIS FED. AID PROJECT			



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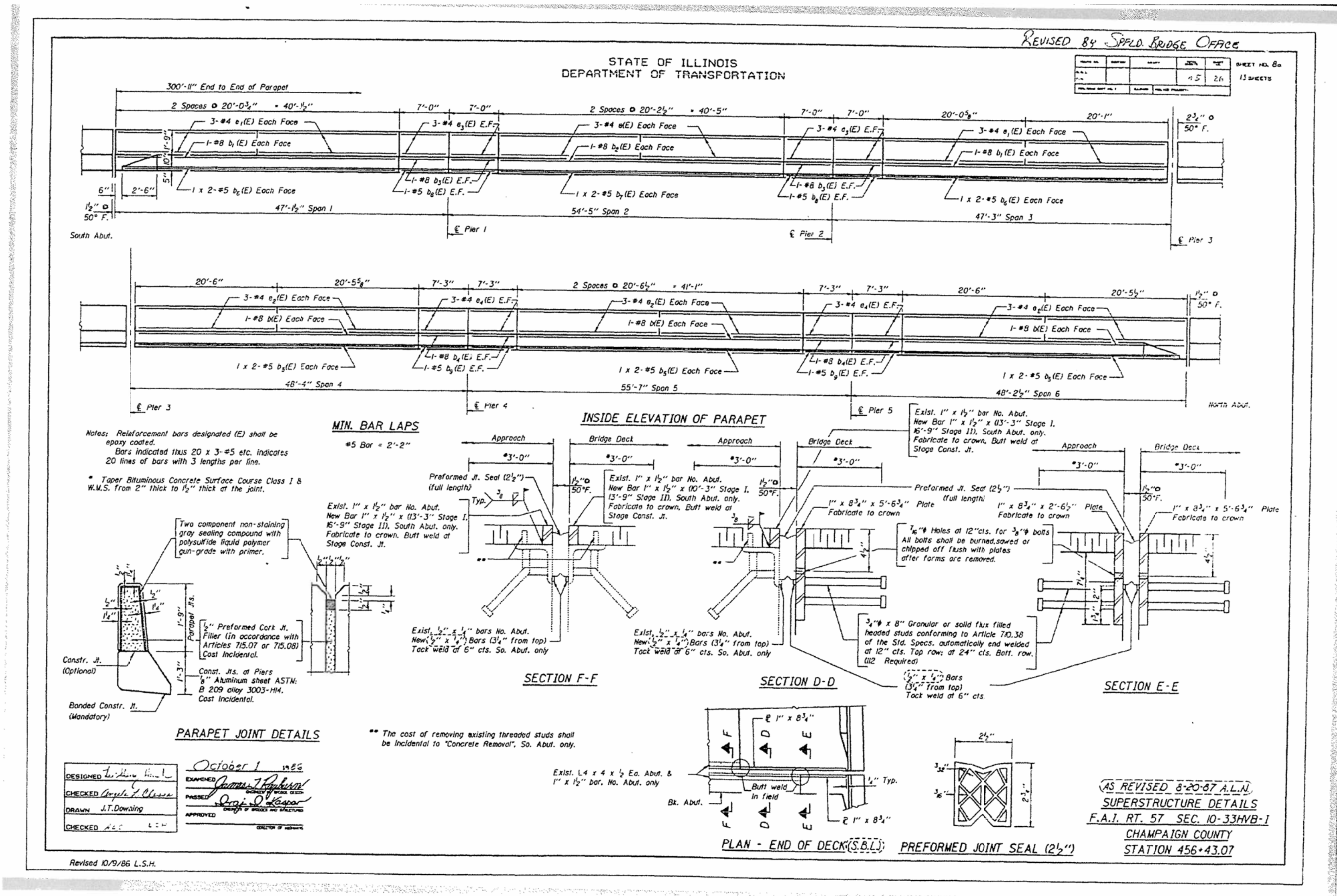
	PLOT SCALE = 40.0000 ' / in.	CHECKED - TJB	REVISED -				CONTRACT NO. 90951		
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -		SCALE: SHEET 5 OF 10 SHEETS STA. TO STA.		ILLINOIS FED. AID PROJECT		



Revised by Spfld. Bridge Office
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SHEET NO. 8a
13 SHEETS
300'-11" End to End of Parapet
2 Spaces @ 20'-0¾" = 40'-1½"
3-#4 e1(E) Each Face
1-#8 b1(E) Each Face
1 x 2-#5 b6(E) Each Face
47'-1½" Span 1
54'-5" Span 2
47'-3" Span 3
South Abut.
℄ Pier 1
℄ Pier 2
℄ Pier 3
2 Spaces @ 20'-2½" = 40'-5"
2 Spaces @ 20'-6½" = 41'-1"
48'-4" Span 4
55'-7" Span 5
48'-2½" Span 6
℄ Pier 4
℄ Pier 5
North Abut.
INSIDE ELEVATION OF PARAPET
MIN. BAR LAPS
#5 Bar = 2'-2"
Notes: Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
* Taper Bituminous Concrete Surface Course Class I & W.M.S. from 2" thick to 1½" thick at the joint.
Two component non-staining gray sealing compound with polysulfide liquid polymer gun-grade with primer.
½" Preformed Cork Jt. Filler (in accordance with Articles 715.07 or 715.08) Cost Incidental.
Const. Jts. at Piers ⅛" Aluminum sheet ASTM: B 209 alloy 3003-H14. Cost Incidental.
Constr. Jt. (Optional)
Bonded Constr. Jt. (Mandatory)
PARAPET JOINT DETAILS
** The cost of removing existing threaded studs shall be incidental to "Concrete Removal", So. Abut. only.
SECTION F-F
SECTION D-D
SECTION E-E
Approach
Bridge Deck
Preformed Jt. Seal (2½") (full length)
3-#4 e5(E) E.F.
1" x 8¾" x 5'-6¾" Plate Fabricate to crown
1" x 8¾" x 2'-6½" Plate Fabricate to crown
¾"ϕ x 8" Granular or solid flux filled headed studs conforming to Article 710.38 of the Std. Specs. automatically end welded at 12" cts. Top row: at 24" cts. Bott. row. (112 Required)
PLAN - END OF DECK (S.B.L.)
PREFORMED JOINT SEAL (2½")
Butt weld in field
Bk. Abut.
AS REVISED 8-20-87 A.L.N.
SUPERSTRUCTURE DETAILS
F.A.I. RT. 57 SEC. 10-33HVB-1
CHAMPAIGN COUNTY
STATION 456+43.07
October 1 1986
DESIGNED
CHECKED
DRAWN J.T.Downing
CHECKED
EXAMINED
PASSED
APPROVED
Revised 10/9/86 L.S.H.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: | SHEET 6 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	83

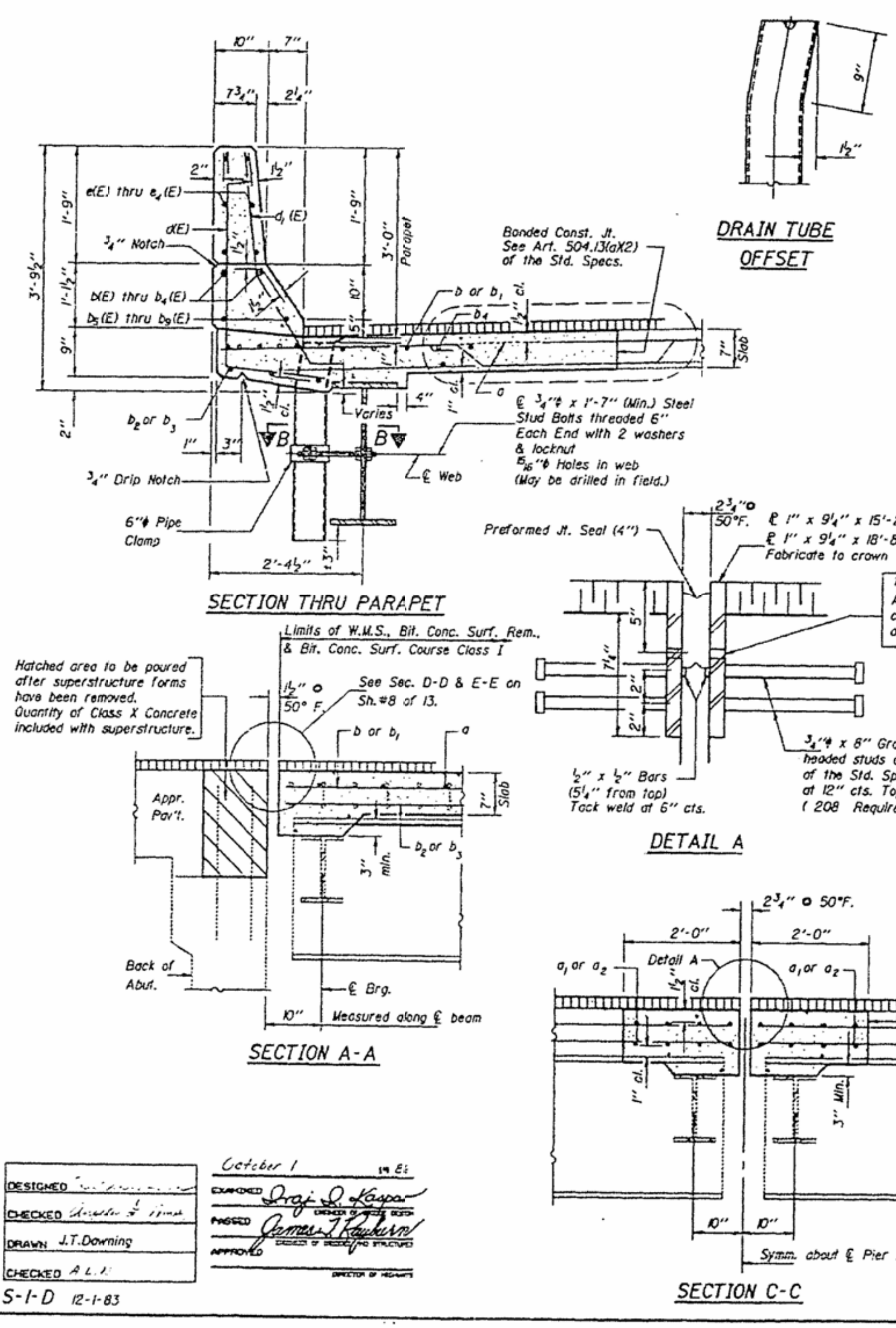
CONTRACT NO. 90951

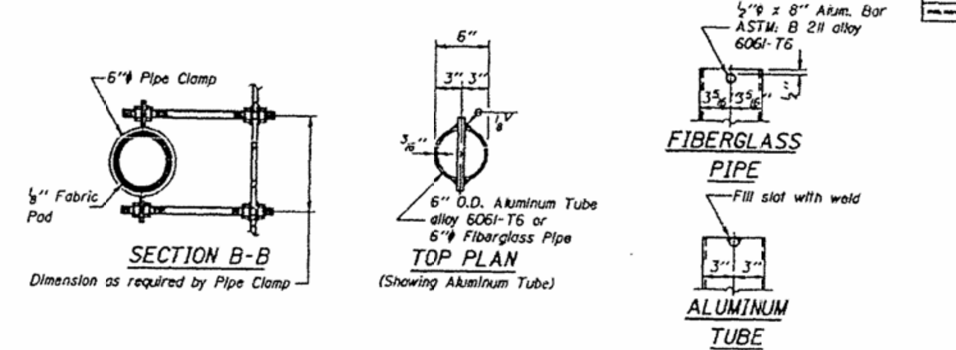
ILLINOIS | FED. AID PROJECT

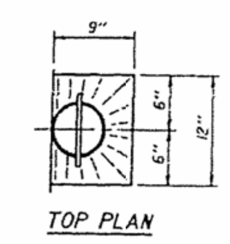
REVISED BY SPFLD. BRIDGE OFFICE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 9a
13 SHEETS



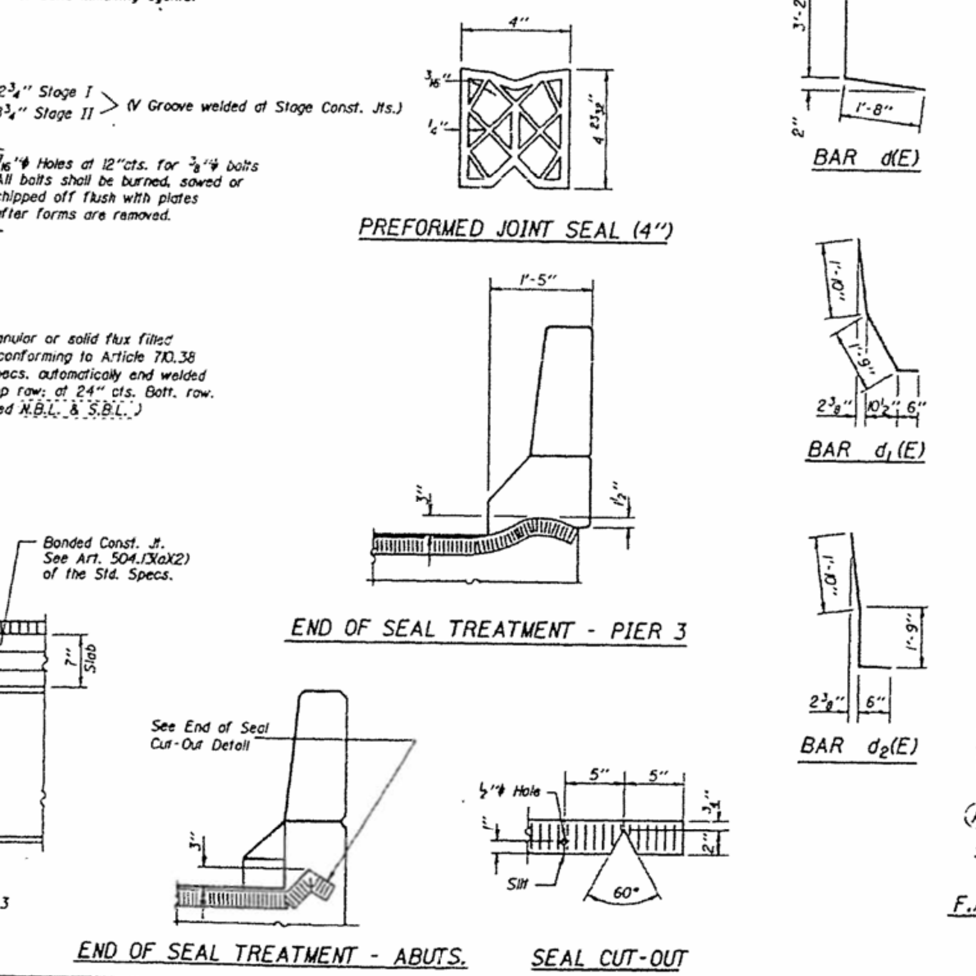




Notes:

The exterior surfaces of the Floor Drain shall be painted with the Basic Lead Silica Chromate painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SPI & SSPC-Paint 27 prior to painting.

Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



ONE SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	598	#5	4'-0"	——
a1	20	#5	18'-0"	——
a2	20	#5	19'-9"	——
a3	593	#5	6'-1"	——
a4	593	#5	5'-11"	——
b	96	#5	26'-3"	——
b(E)	12	#8	40'-9"	——
b1	96	#5	26'-9"	——
b1(E)	8	#8	39'-9"	——
b2	112	#5	22'-6"	——
b2(E)	4	#8	40'-2"	——
b3	112	#5	23'-3"	——
b3(E)	16	#8	6'-9"	——
b4	48	#6	19'-6"	——
b4(E)	16	#8	7'-0"	——
b5(E)	24	#5	21'-6"	——
b6 (E)	16	#5	21'-0"	——
b7 (E)	8	#5	21'-3"	——
b8 (E)	16	#5	6'-9"	——
b9 (E)	16	#5	7'-0"	——
d(E)	602	#4	4'-10"	L
d1(E)	642	#5	4'-1"	L
d2(E)	16	#5	4'-1"	L
e(E)	24	#4	20'-0"	——
e1(E)	48	#4	19'-9"	——
e2(E)	72	#4	20'-3"	——
e3(E)	48	#4	6'-9"	——
e4(E)	48	#4	7'-0"	——
Reinforcement Bars (Epoxy Coated)		Lbs.	11,580	
Class X Concrete		Cu. Yds.	158.3	
Reinforcement Bars		Lbs.	22,740	
Concrete Removal		Cu. Yds.	166	

Reinforcement bars designated (E) shall be epoxy coated.

(AS REVISED 8-22-87 A.L.N.)

SUPERSTRUCTURE DETAILS

(SOUTH BOUND LANES)

F.A.I. RT. 57 SEC. 10-33HVB-I

CHAMPAIGN COUNTY

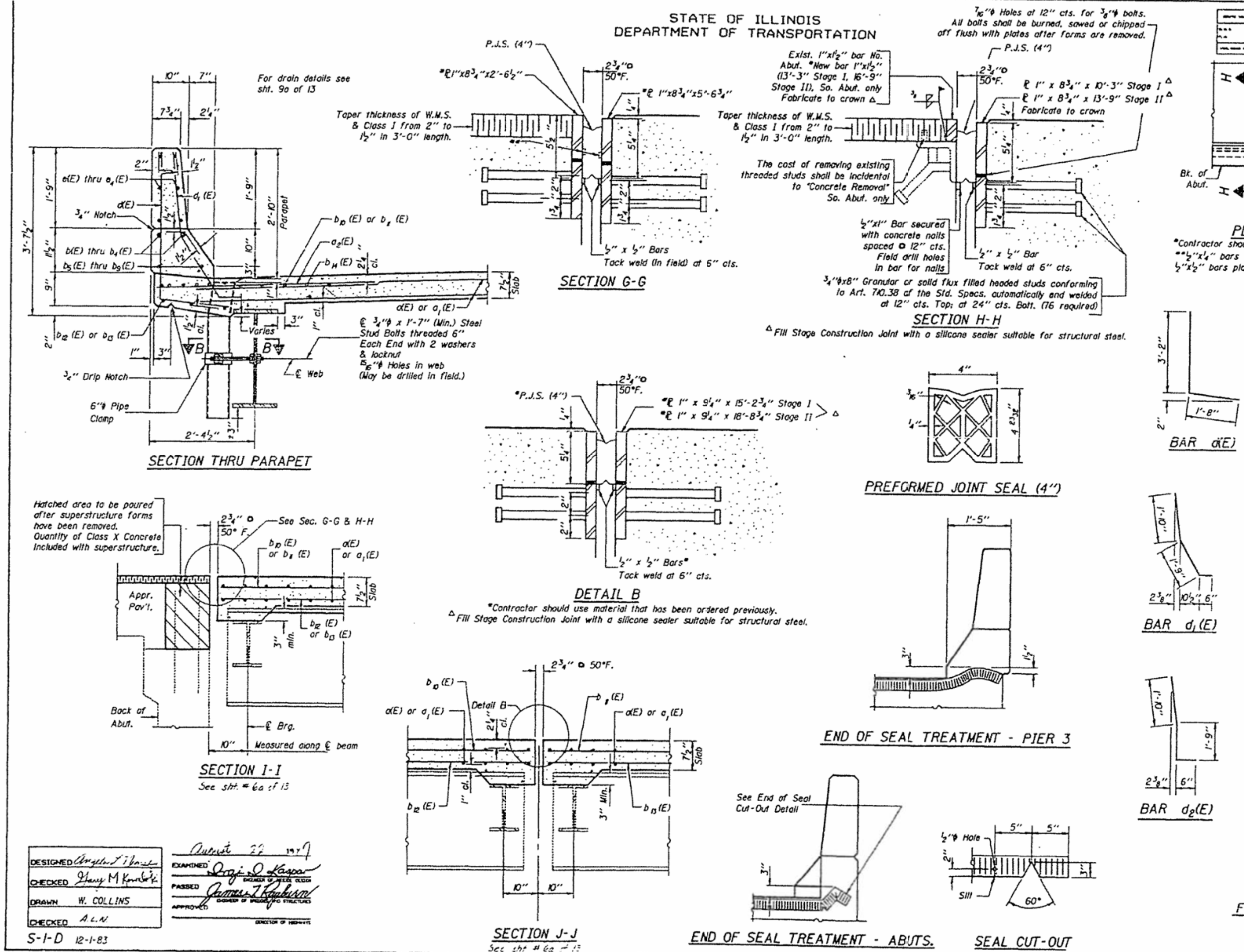
STATION 456+43.07

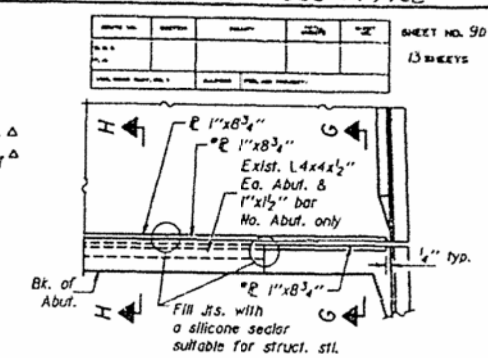
DESIGNED
CHECKED
DRAWN J.T.Downing
CHECKED A.L.N.
S-1-D 12-1-83

October 1 19 83
EXAMINED
PASSED
APPROVED

FILE NAME = c:\pw_work\pwidot\brandenburgtj\d0151571\010-0009 & 0010 As-Built Plans.dgn	USER NAME = brandenburgtj	DESIGNED - TJB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378 S.N. 010-0009 (NB) & S.N. 010-0010 (SB)	F.A.I. RTE. 57	SECTION 10-33HVBR	COUNTY CHAMPAIGN	TOTAL SHEETS 88	SHEET NO. 84
	PLOT SCALE = 40.0000 ' / in.	DRAWN - TJB	REVISED -							
		CHECKED - TJB	REVISED -			CONTRACT NO. 90951				
	PLOT DATE = 1/13/2015	DATE - 6/30/2014	REVISED -		SCALE: SHEET 7 OF 10 SHEETS STA. TO STA.	ILLINOIS FED. AID PROJECT				

REVISED BY SPFLD. BRIDGE OFFICE





PLAN - END OF DECK

*Contractor should use material that has been ordered previously.
**½"x¼" bars on plates shall be removed and replaced with ½"x½" bars placed as shown

ONE SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	876	#5	16'-0"	——
a₁(E)	876	#5	19'-6"	——
a₂(E)	516	#6	4'-0"	——
b(E)	12	#8	40'-9"	——
b₁(E)	8	#8	39'-9"	——
b₂(E)	4	#8	40'-2"	——
b₃(E)	[illegible]	#8	6'-9"	——
b₄(E)	16	#8	7'-0"	——
b₅(E)	24	#5	21'-6"	——
b₆(E)	16	#5	21'-0"	——
b₇(E)	8	#5	21'-3"	——
b₈(E)	16	#5	6'-9"	——
b₉(E)	15	#5	7'-0"	——
b₁₀(E)	195	#5	31'-5"	——
b₁₁(E)	195	#5	32'-1"	——
b₁₂(E)	216	#5	25'-6"	——
b₁₃(E)	216	#5	27'-1"	——
b₁₄(E)	144	#6	19'-6"	——
d(E)	602	#4	4'-10"	L
d₁(E)	642	#5	4'-1"	L
d₂(E)	16	#5	4'-1"	L
e(E)	24	#4	20'-0"	——
e₁(E)	48	#4	19'-9"	——
e₂(E)	72	#4	20'-3"	——
e₃(E)	48	#4	6'-9"	——
e₄(E)	48	#4	7'-0"	——
Reinforcement Bars (Epoxy Coated)			Lbs.	76,320
Class X Concrete			Cu. Yds.	333.4
Concrete Removal			Cu. Yds.	3.2

Reinforcement bars designated (E) shall be epoxy coated.

AS REVISED 8-22-87 A.L.N.

SUPERSTRUCTURE DETAILS
NORTH BOUND LANES
F.A.I. RT. 57 SEC. 10-33HVB
CHAMPAIGN COUNTY
STATION 456+43.07

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)
SCALE: SHEET 8 OF 10 SHEETS STA. TO STA.

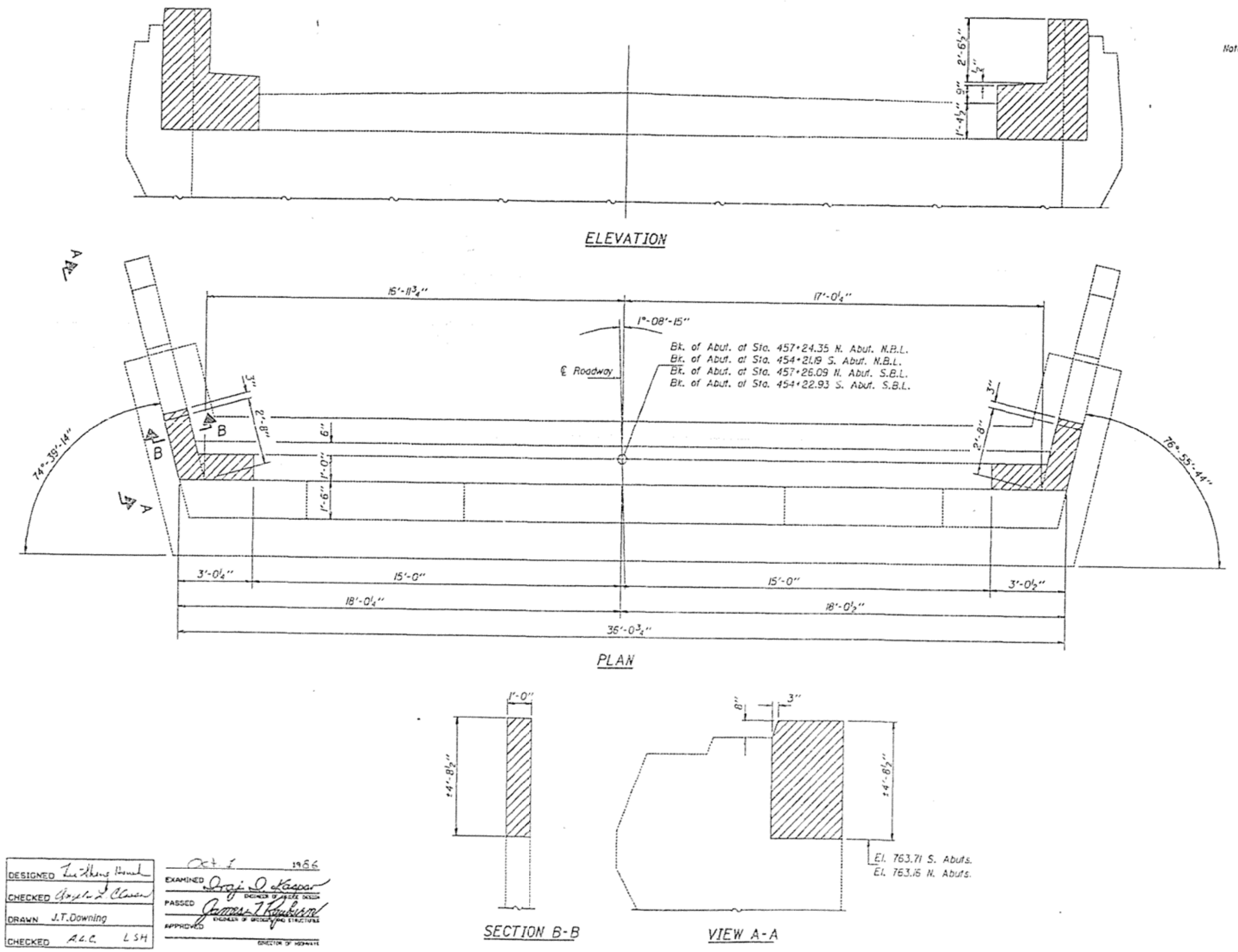
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	85

CONTRACT NO. 90951
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 10
13 SHEETS

Notes: Hatched areas Indicate Concrete Removal.
See sh. 2 of 13 for Stage Removal Details.



FOUR ABUTMENTS
BILL OF MATERIAL

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	5

COUCRETE REMOVAL
FAI RT. 57 SEC. 10-33HVB-I
CHAMPAIGN COUNTY
STATION 456+43.07

DESIGNED	[signature]
CHECKED	[signature]
DRAWN	J.T.Downing
CHECKED	A.L.C. L.S.H.

Oct 1 1986
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

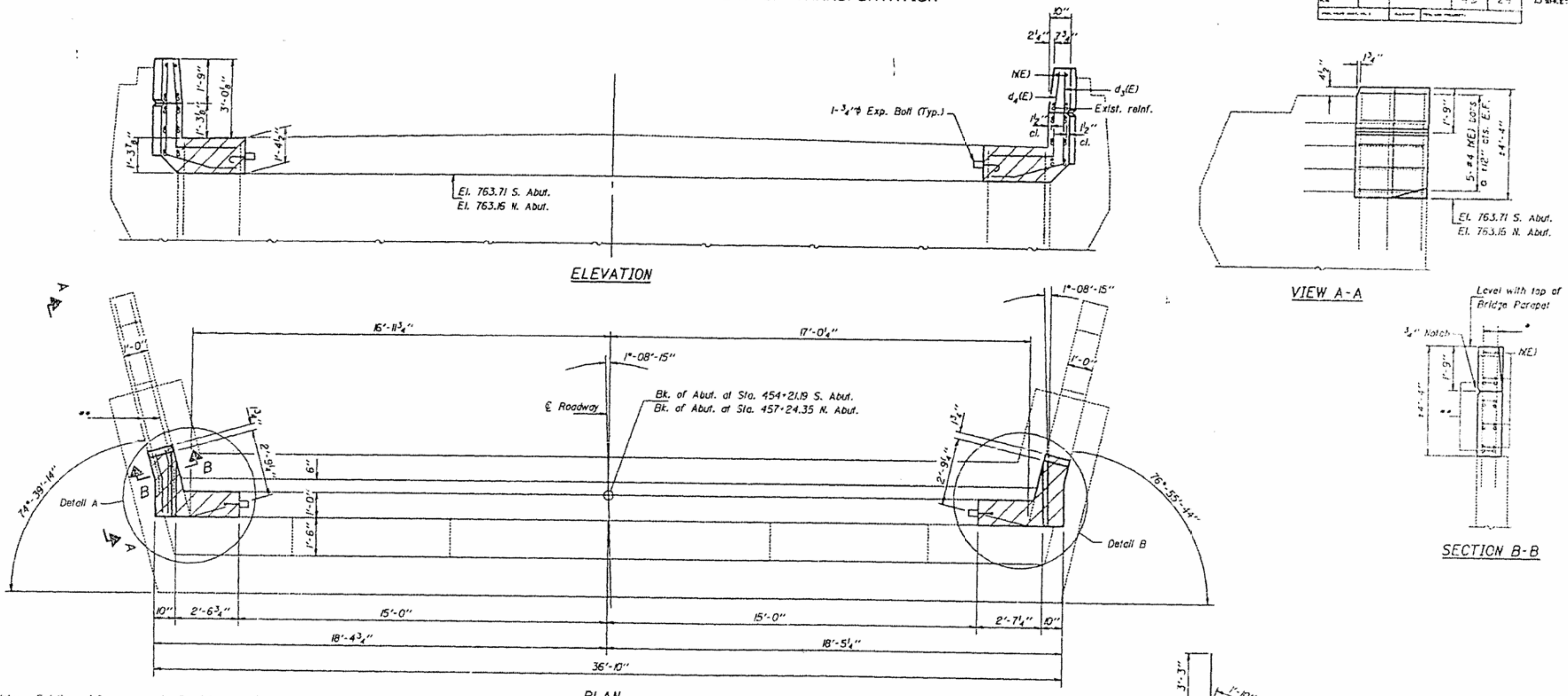
SCALE: | SHEET 9 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	86

CONTRACT NO. 90951
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 11 — 13 SHEETS



Notes: Existing reinforcement extending into removal area shall be cleaned, straightened and incorporated into the new construction. Cost incidental.

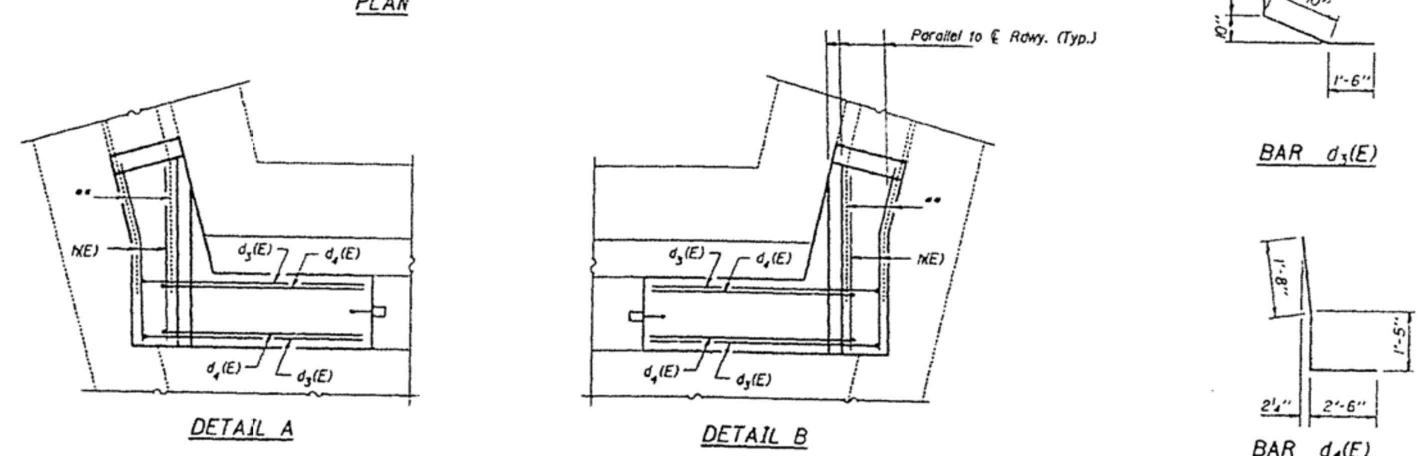
For Stage Construction details see sh.# 2 of 13.

Existing name plate shall be removed, cleaned and reinstalled. Cost incidental to Class X Concrete. For location see sheet# 1 of 13 sheets.

* Cut off excess length of existing reinforcement bars, as directed by the Engineer.

** Bend existing reinforcement bars to meet new geometry requirements, as directed by the Engineer.

Hatched area shall be poured after superstructure forms have been removed. Class X Concrete quantity is included with superstructure.



TWO ABUTMENTS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_3(E)	8	#4	6'-7"	
d_4(E)	8	#5	5'-7"	
▫ h(E)	40	#4	3'-7"	
Reinforcement Bars Epoxy Coated			Lb.	180
Expansion Bolts ¾"φ			Each	4

▫ Bend in field

NORTH BOUND LANES ABUTMENTS
F.A.I. RT. 57 SEC. 10-33HVB-I
CHAMPAIGN COUNTY
STATION 456+43.07

DESIGNED [signature]
CHECKED [signature]
DRAWN J.T.Downing
CHECKED A.L.C. L.S.H.

Oct. 1 1986
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED [signature] ENGINEER OF BRIDGES AND STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

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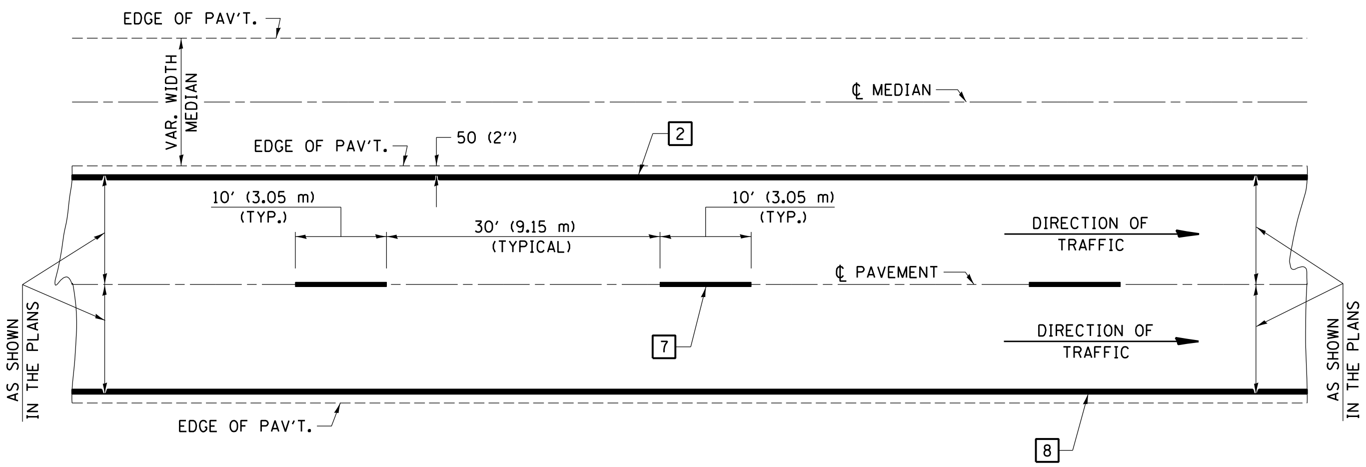
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

1987 AS-BUILT PLANS (FOR INFORMATION ONLY); CN 42378
S.N. 010-0009 (NB) & S.N. 010-0010 (SB)

SCALE: SHEET 10 OF 10 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	87
CONTRACT NO. 90951				
ILLINOIS FED. AID PROJECT				

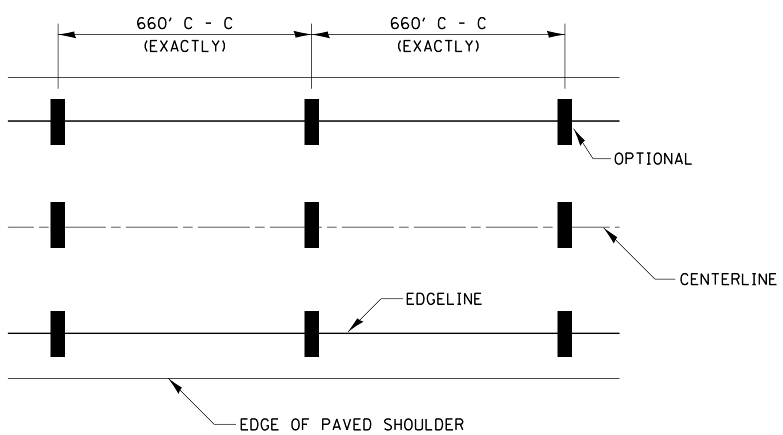
CENTERLINE INTERSTATE OR MULTI-LANE TWO WAY DIVIDED HIGHWAY



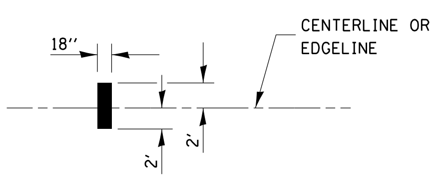
NOTE: PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.

NOTE: SEE ARTICLES 780.04 & 781.03 FOR LOCATION OF STRIPES AND MARKERS RELATIVE TO EDGES OR JOINTS.

FOR RAISED REFLECTIVE PAVEMENT MARKERS, REFER TO STANDARD 781001.



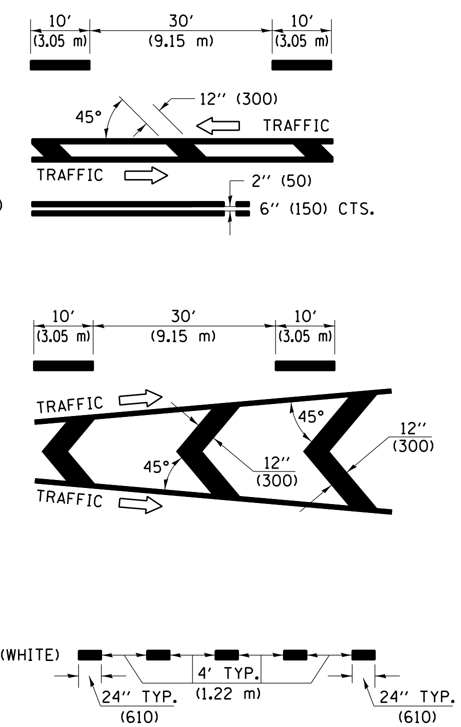
IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF MEASUREMENT CAN BE ATTESTED TO IN COURT.

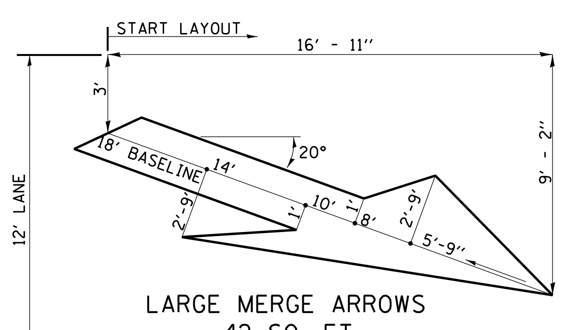


AERIAL SPEED CHECK ZONES

TYPICAL PAVEMENT MARKING LEGEND

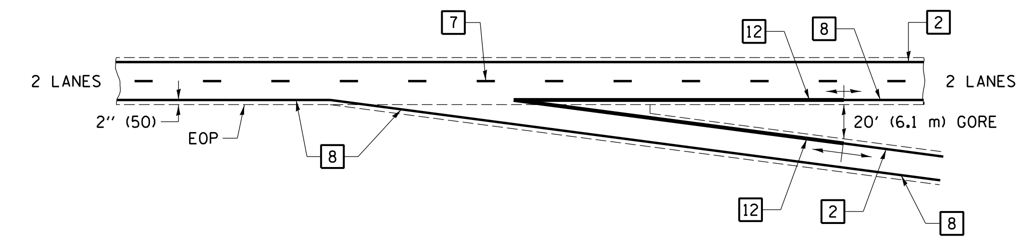
1. 4" (100) SKIP-DASH (YELLOW)
2. 4" (100) SOLID (YELLOW)
3. 12" (300) DIAGONAL (YELLOW)
4. 4" (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 4" (100) SKIP-DASH (WHITE)
8. 4" (100) SOLID (WHITE)
9. 12" (300) DIAGONAL (WHITE)
10. 6" (150) SOLID (WHITE)
11. 24" (600) STOP BAR (WHITE)
12. 8" (200) SOLID (WHITE)
13. 4" (100) LANE LINE EXTENSIONS (WHITE)



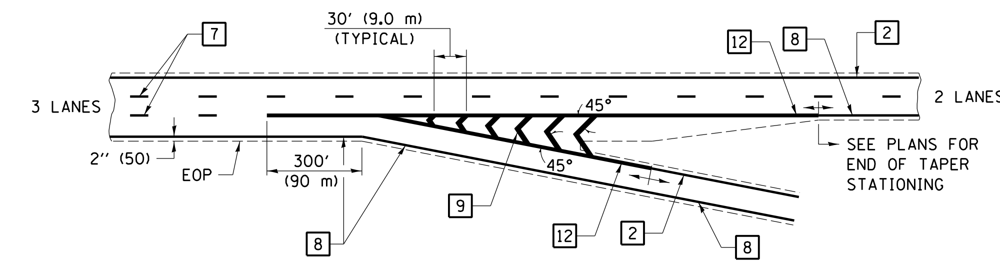


LARGE MERGE ARROWS
42 SQ. FT.

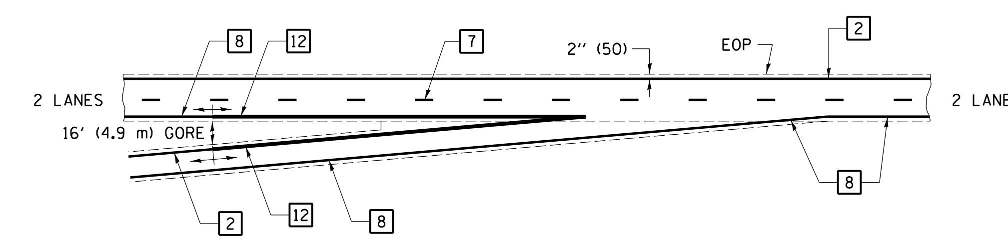
TYPICAL EXIT RAMP TERMINAL



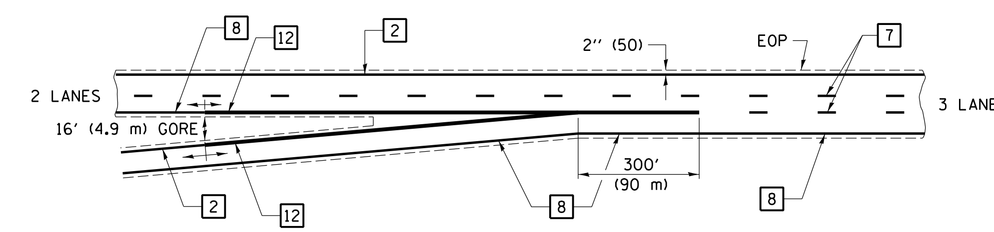
EXIT RAMP TERMINAL with EXCLUSIVE (auxiliary) LANE



TYPICAL ENTRANCE RAMP TERMINAL



ENTRANCE RAMP TERMINAL with EXCLUSIVE LANE



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800BBBB

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 5\Projects\D50... Data\Structures\90951 Cover & SOG ...s.dgn	USER NAME = brandenburgtj	DESIGNED -	REVISED - 11/06
	PLOT SCALE = 40.0000 ' / in.	DRAWN -	REVISED -
		CHECKED -	REVISED -
	PLOT DATE = 11/19/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING (INTERSTATE & MULTI-LANE APPLICATIONS)

SCALE: | SHEET NO. OF SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	10-33HVBR	CHAMPAIGN	88	88

CONTRACT NO. 90951

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT