04-27-2018 LETTING ITEM 065

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	1
	ILLINOIS CONTRACT NO. 64L46			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

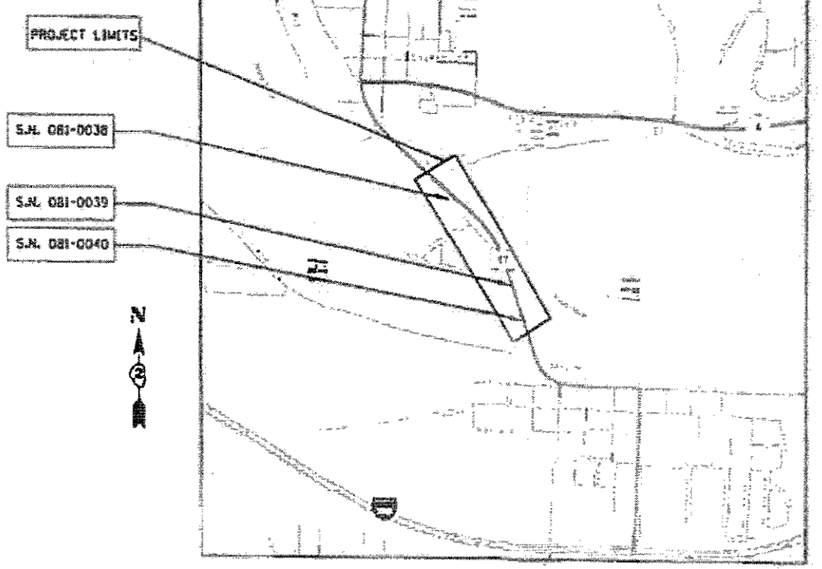
PROJECT:STP-JVGZ(292)
FAP ROUTE 0599 (US 67)
SECTION D2 BRR 2017-1
BRIDGE REHABILITATION
S.N. 081-0038, S.N. 081-0039,
S.N. 081-0040
ROCK ISLAND COUNTY

C -92-077-16

FOR INDEX OF SHEETS AND LIST OF STATE STANDARDS, SEE SHEET NO. 2

TRAFFIC DATA:
FUNCTIONAL CLASSIFICATION
OTHER PRINCIPLE ARTERIAL
2015 ADT = 11,400
EST. TRUCK % = 8%

PROJECT LOCATED IN THE VILLAGE OF MILAN



LOCATION MAP
N.T.S.

R2W
4th PM

T17N

GROSS LENGTH = 3,400 FT. = 0.640 MILE
NET LENGTH = 3,400 FT. = 0.640 MILE

MICHAEL J. LIVERNOIS, P.E.
FOR ALL DRAWINGS NOT INDICATED BELOW

MICHAEL MILLER, P.E.
FOR DRAWINGS 6-15

M. BASAR CIVELEK, P.E., S.E.
FOR DRAWINGS 34,35,38,39,54-59

ANTHONY J. STANDISH P.E., S.E.
FOR DRAWINGS 16-22,29-33,36,37,44,45,48,49,72

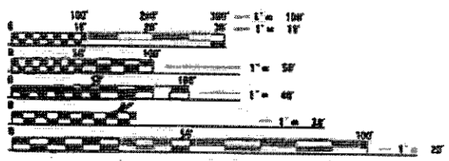
GERALD KOYLASS, P.E., S.E.
FOR DRAWINGS 23-28,46-43,46,47,50-53,60-71

PREPARED BY
WYNNDALCO

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 1-25 2018
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
May 23 2018
ENGINEER OF DESIGN AND ENVIRONMENT
May 23 2018
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: GERALD KOYLASS, P.E., S.E. (312) 256-9090
PROJECT MANAGER: MAHMOUD ETEMADI, P.E. (815) 284-5359

CONTRACT NO. 64L46

INDEX OF SHEETS

HIGHWAY STANDARDS

000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
631006-08 TRAFFIC BARRIER TERMINAL, TYPE 1B
701006-05 OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701306-04 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY FOR SPEEDS >= 45MPH
701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS DAY ONLY

701411-09 LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP FOR SPEEDS >= 45MPH
701431-13 LANE CLOSURE, MULTILANE, UNDIV. WITH CROSSOVER FOR SPEEDS >= 45MPH TO 55MPH
701611-01 URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-07 TRAFFIC CONTROL DEVICES
701206-04 LANE CLOSURE, 2L, 2W, NIGHT ONLY FOR SPEEDS >= 45MPH
704001-08 TEMPORARY CONCRETE BARRIER
780001-05 TYPICAL PAVEMENT MARKINGS
720011-01 METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
728001-01 TELESCOPING STEEL SIGN SUPPORT
729001-01 APPLICATIONS OF TYPES OF A&B METAL POSTS

REGION 2 / DISTRICT 2 STANDARDS

D2 STANDARD 40.1 TYPICAL APPLICATION FOR ROAD CLOSURE
D2 STANDARD 41.1 TYPICAL PAVEMENT MARKINGS

GENERAL NOTES

1. THE CONTRACTOR SHALL COORDINATE WITH THE U.S. COAST GUARD AND PROVIDE THEM WITH A WORK PLAN BEFORE ANY WORK CAN COMMENCE.

2. IN ADDITION TO THE REQUIREMENTS OF ARTICLE 17.46 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT, AS DEFINED IN ARTICLE 101.17 REGARDLESS IF TRACK MOUNTED OR WHEELED.

3. ALL BORROW/WAS/USE SITES MUST BE APPROVED BY THE DEPARTMENT PRIOR TO REMOVING ANY MATERIAL FROM THE PROJECT OR INITIATING ANY EARTH MOVING ACTIVITIES, INCLUDING TEMPORARY STOCKPILING OUT SIDE THE LIMITS OF CONSTRUCTION.

4. PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:

   1. ALL WORDS, SUCH AS "ONLY" SHALL BE 8 FEET HIGH.
   2. ALL NON-FREEWAY ARROWS SHALL BE THE LARGE SIZE.
   3. THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 8 INCHES, NOT 7 INCHES, AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.
   4. CENTERLINE SKIP DASH PAVEMENT MARKING ON MULTI-LANE DIVIDED, MULTI-LANE UNDIVIDED, AND ONE-WAY ROADWAY SHALL BE ACCORDING TO DISTRICT STANDARD 41.1.

UTILITY NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED FOR NON-EMERGENCY WORK.

2. MEMBERS OF JULIE KNOWN TO BE WITHIN OR IMMEDIATELY ADJACENT TO THE LIMITS OF IMPROVEMENT ARE:

   ELECTRIC:
   COMMONWEALTH EDISON COMPANY
   ATTN: DAVE SCHACHT 630-437-2129
   123 ENERGY AVENUE
   ROCKFORD, IL 61109

   CABLE TELEVISION:
   INSIGHT COMMUNICATIONS
   ATTN: MIKE, OWENS, DONNA, ZIES, TOM YUCCAS
   815-395-8977
   4450 KISHWAUKEE STREET
   ROCKFORD, IL 61109

   NATURAL GAS:
   NICOR GAS COMPANY
   ATTN: CONNIE LANE 630-983-8676
   1844 FERRY ROAD
   NAPERVILLE, IL 60563

   TELEPHONE:
   VERIZON
   ATTN: KALIN HINSHAW 815-895-1515
   112 WEST ELM STREET
   SYCAMORE, IL 60178

   TELEPHONE:
   SBC/AMERITECH COMPANY
   ATTN: STEVEN HONES 815-394-7271
   2404 EISHON AVE.
   ROCKFORD, IL 61108

3. NON MEMBERS OF JULIE KNOWN TO BE WITHIN OR IMMEDIATELY ADJACENT TO THE LIMITS OF THE IMPROVEMENT ARE:

   GOVERNMENT:
   IDOT-DISTRICT 2
   ATTN: KRISTIE NYDEREK 815-284-5469
   819 DEPOT AVENUE
   DIXON, IL 61021

4. ALL ELECTRIC LINES WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS OTHERWISE COORDINATED WITH THE UTILITY COMPANY

FILE NAME = Z:\SHARED\Projects\2015-2032\L0 Work Order 113.8 Task 2 -Repair Plans\2081-0042\CADD Sheets\02641-46-SHT-INDEX01.dgn

WYNNDALCO ENTERPRISE
19081 Old LaGrange Rd. Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS
HIGHWAY STANDARDS
GENERAL NOTES
SHEET NO. 1 OF 1 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	2
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

80% FED
20% STATE URBAN

CODE NAME	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				BRIDGE 0013 0081-0038	BRIDGE 0013 0081-0039	BRIDGE 0013 0081-0040	ROADWAY 0004 URBAN
20300100	CHANNEL EXCAVATION	CU YD	568			568	
28100109	STONE RIPRAP, CLASS A5	SQ YD	786			786	
28200200	FILTER FABRIC	SQ YD	786			786	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	1,215	527	313	375	
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	196	44	57	95	
40700100	BITUMINOUS MATERIALS (TACK COAT)	POUND	978	237	282	459	
44000150	HOT-MIX ASPHALT SURFACE REMOVAL, 1/4"	SQ YD	958		313	645	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	150	90		60	
44213200	SAW CUTS	FOOT	239	80	99	60	
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	3	3			
50102400	CONCRETE REMOVAL	CU YD	184	62	16	106	
50300225	CONCRETE STRUCTURES	CU YD	6.3			6.3	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	183.8	62.0	15.9	105.9	
50300300	PROTECTIVE COAT	SQ YD	11,251	4,344	2,555	4,352	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	60,190	16,350		43,840	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	32,260	10,780	2,230	19,250	
50800515	BAR SPLICERS	EACH	368	120	28	220	
50800530	MECHANICAL SPLICERS	EACH	474	450		24	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	1,515	404	131	980	
52100540	ANCHOR BOLTS, 1 1/2"	EACH	16			16	
58700300	CONCRETE SEALER	SQ FT	6,254	1,900	1,660	2,694	

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 1/24/2018	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SHEET NO. 1 OF 3 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	3
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\SHARED\Projects\2015-80320\0 Work Order 1\3.0 Task 3 - Repair Plans\Submittals\Revisions #1\BR\Changed CADD Files\80604_45-5H7-5001.dgn

80% FED
20% STATE URBAN

CODE NAME	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				BRIDGE 0013 0081-0038	BRIDGE 0013 0081-0039	BRIDGE 0013 0081-0040	ROADWAY 0004 URBAN
59000200	EPOXY CRACK INJECTION	FOOT	114	25		89	
60255500	MANHOLES TO BE ADJUSTED	EACH	2		1	1	
60260100	INLETS TO BE ADJUSTED	EACH	1	1			
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	150	90		60	
* 63100041	TRAFFIC BARRIER TERMINAL, TYPE 1B	EACH	1			1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12				12
67100100	MOBILIZATION	LSUM	1				1
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	31,417				31,417
X7030005	Temporary PAVEMENT MARKING REMOVAL	SQFT	10,472				10,472
70400100	TEMPORARY CONCRETE BARRIER	FOOT	2,663				2,663
70400200	RELOCATION TEMPORARY CONCRETE BARRIER	FOOT	2,492				2,492
70500630	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 3	EACH	4				4
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	7				7
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE NARROW), TEST LEVEL 3	EACH	3				3
* 78001110	PERMANENT PAVEMENT MARKING - LINE 4"	FOOT	11,092				11,092
X0327980	PAVEMENT MARKING REMOVAL- WATER BLASTING	SQFT	3,697				3,697
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SQ YD	10,260	3,962	2,352	3,946	
X5030530	FLOOR DRAIN EXTENSION	EACH	194	86	22	86	
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LSUM	1				1
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	4			4	
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	60,190	16,350		43,840	

* SPECIALTY ITEM

FILE NAME = Z:\SHARED\Projects\2016-00802\L8 Work Order 1\3.8 Task 3 -Repair Plans\Submittals\Revisions 011818\Changed CADD Files\D26HL46-SHT-S002.dgn

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MMJL	REVISED	
	CHECKED - GEK	REVISED	
PLOT SCALE =	DRAWN - MMJL	REVISED	
PLOT DATE = 1/24/2018	CHECKED - JCE	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SHEET NO. 2 OF 3 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	4
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

80% FED
20% STATE URBAN

CODE NAME	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE			
				BRIDGE 0013 0081-0038	BRIDGE 0013 0081-0039	BRIDGE 0013 0081-0040	ROADWAY 0004 URBAN
Z0006014	BRIDGE DECK LATEX CONCRETE OVERLAY, 2 1/2 INCHES	SQ YD	10,565	4,121	2,514	3,930	
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	LSUM	1	1			
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	LSUM	1		1		
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	LSUM	1			1	
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1	1			
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	LSUM	1		1		
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	LSUM	1			1	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	11,165	4,121	3,114	3,930	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	206	56	4	146	
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH CREATER THAN 5 INCHES)	SQ FT	775	319	50	406	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	7	3	1	3	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	38	9	7	22	
Z0029090	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	10,260	3,962	2,352	3,946	
Z0034390	MODULAR EXPANSION JOINT 6"	FOOT	69	69			
X0900062	HIGH LOAD MULTI-ROTATIONAL BEARINGS, GUIDED EXPANSION, 1300K	EACH	4			4	
X0900050	JOINT SEAL REPAIR BRIDGE NO. 1	L SUM	1	1			
X0900051	JOINT SEAL REPAIR BRIDGE NO. 3	L SUM	1			1	
Ø Z0076600	TRAINEES	HOUR	500				500
X0900060	HANDRAIL REPAIRS BRIDGE NO. 1	FOOT	173.4	173.4			
Ø Z0076604	TRAINEES - TRAINING PROGRAM GRADUATE	HOUR	500				500
X0900061	HANDRAIL REPAIRS BRIDGE NO. 3	FOOT	112.7			112.7	

Ø 0042

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois | PLOT SCALE = | PLOT DATE = 1/24/2018

DESIGNED - MJL | CHECKED - GEK | DRAWN - MJL | CHECKED - JCE

REVISED | REVISED | REVISED | REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SHEET NO. 3 OF 3 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	02 BRR 2017-1	ROCK ISLAND	84	5
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

FILE NAME = Z:\SHARED\Projects\2016-08021\LR Work Order 1338 Task 3 -Repair Plans\Submittals\Revisions 2018\Changed CADD Files\02815_46-SHT-6003.dgn

CONSTRUCTION STAGING GENERAL NOTES

1. ALL SIGNING MUST BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD ADN BRIDGE CONSTRUCTION" ADOPTED APRIL 1, 2016. THE DETAILS IN THESE PLANS, THE LATEST EDITION OF THE IDOT BUREAU OF DESIGN AND ENVIRONMENT HIGHWAY STANDARDS ADN THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

2. LONGITUDINAL DIMENSIONS SHOWN ON THESE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

3. THE CONTRACTOR MUST BE RESPONSIBLE FOR ENSURING THAT ALL BARRICADES, SIGNS, LIGHTS AND OTHER DEVICES INSTALLED ARE IN PLACE AND OPERATING 24 HOURS EACH DAY INCLUDING SUNDAYS AND HOLIDAYS DURING THE TIME THIS CONSTRUCTION IS IN EFFECT.

4. ALL EXISTING SIGNING THAT IS NOT APPLICABLE WHILE THE CONSTRUCTION IS IN EFFECT MUST BE COMPLETELY COVERED BY THE CONTRACTOR.

5. THE SIZES OF ALL SIGNS NOT SPECIFIED IN THESE PLANS MUST BE AS REQUIRED BY THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

6. AS A MINIMUM, ALL AMBER FLASHING LIGHTS THAT ARE REQUIRED MUST MEET THE REQUIREMENTS FOR TYPE A - LOW INTENSITY FLASHING LIGHTS IN ARTICLE 702.04 OF THE STANDARD SPECIFICATIONS. ALL LIGHTS SHALL OPERATE DURING HOURS OF DARKNESS. ONLY LIGHTS THAT HAVE BEEN APPROVED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION MUST BE USED.

7. THE CONTRACTOR MUST MAINTAIN ACCESS TO ALL PRIVATE AND COMMERCIAL DRIVEWAYS DURING CONSTRUCTION.

8. SIDEWALK ACCESS MUST BE MAINTAINED ON AT LEAST ONE SIDE OF THE STREET AT ALL TIMES. CLOSED SIDEWALKS MUST BE APPROPRIATELY BARRICADED. USE STANDARD 2405.

9. THE "SIDEWALK CLOSED / USE OTHER SIDE" SIGN MUST BE PLACED AT THE NEAREST CROSSWALK OR INTERSECTION TO EACH END OF THE CLOSURE. WHEN THE CLOSURE OCCURS AT A CORNER, THE SIGNS MUST BE ERECTED ON THE CORNER ACROSS THE STREET FROM THE CLOSURE. THE "SIDEWALK CLOSED" SIGNS MUST BE USED AT THE ENDS OF THE ACTUAL CLOSURES.

10. ALL WALKWAYS MUST BE CLEARLY IDENTIFIED AND ADEQUATELY PROTECTED FROM MOTOR VEHICLE TRAFFIC AND FREE OF ANY OBSTRUCTIONS AND HAZARDS SUCH AS HOLES, DEBRIS, MUD, CONSTRUCTION EQUIPMENT, STORED MATERIALS, ETC.

11. ALL HAZARDS, DITCHES, TRENCHES, EXCAVATIONS, ETC. NEAR OR ADJACENT TO WALKWAYS MUST BE CLEARLY DELINEATED AND ADEQUATELY PROTECTED.

12. WHERE A HANDICAPPED PEDESTRIAN RAMP IS RESTRICTED DUE TO CLOSURE, TEMPORARY RAMPS SHALL BE PROVIDED.

13. PROPOSED MAINTENANCE OF TRAFFIC SIGNING MUST BE COVERED OR REMOVED WHEN NOT REQUIRED DURING A SPECIFIC STAGE OF CONSTRUCTION.

14. SEE SUGGESTED MAINTENANCE OF TRAFFIC PLAN FOR ADDITIONAL SIGNING.

15. CHANGEABLE MESSAGE SIGNS TO BE PROVIDED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

16. THE CONTRACTOR MUST CONDUCT HIS WORK IN SUCH A MANNER THAT EMERGENCY VEHICLES WILL HAVE ACCESS TO THE AREA AT ALL TIMES.

17. THE CONTRACTOR MUST NOTIFY THE IDOT BUREAU OF TRAFFIC AS REQUIRED 72 HOURS IN ADVANCE OF BEGINNING WORK (815) 284-5474.

18. SIGN SPACING SHALL BE PER DISTRICT DETAIL TC-21.

19. CONTRACTOR TO BE IN ACCORDANCE WITH IDOT STANDARDS 701306-03, 701311-03, 701321-16, 701611-01, 701901-06, 704001-08, AND 780001-05.

MAINTENANCE OF TRAFFIC - SUMMARY OF QUANTITIES

PAY ITEM	DESCRIPTION	UNIT	QUANTITY
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	31,417
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	FOOT	31,417
70400100	TEMPORARY CONCRETE BARRIER	FOOT	2,663
70400200	RELOCATION TEMPORARY CONCRETE BARRIER	FOOT	2,492
70500630	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 3	EACH	4
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	7
70600352	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3, NARROW	EACH	3
78001110	PERMANENT PAVEMENT MARKING - LINE 4"	FOOT	11,092
X0327980	PAVEMENT MARKING REMOVAL	FOOT	11,092
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	LS	1

DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

$FILES$

USER NAME = dwilcox	DESIGNED - MTM	REVISED -	
	DRAWN - DPW	REVISED -	
PLOT SCALE =	CHECKED - MH	REVISED -	
PLOT DATE = 11/30/2017	DATE - 06/14/2017	REVISED -	

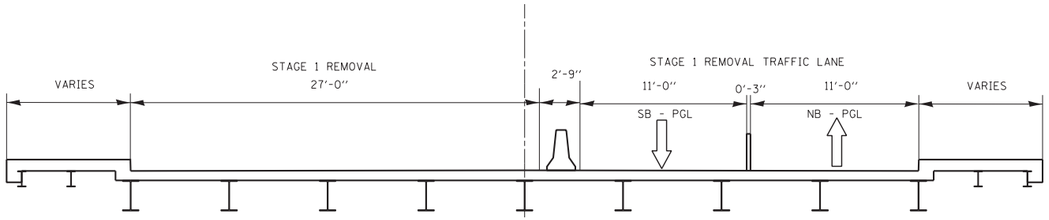
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
GENERAL NOTES AND SUMMARY OF QUANTITIES

SHEET NO. 1 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	6
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

U.S. ROUTE 67



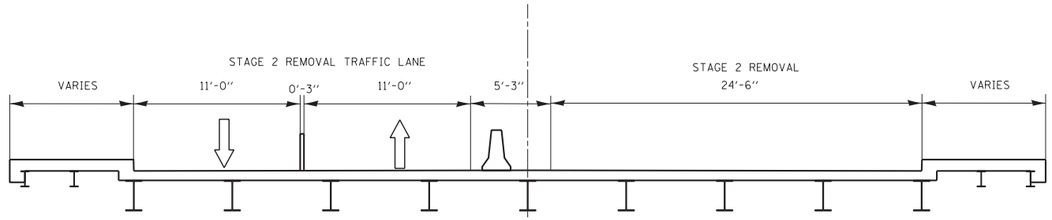
℄ ROADWAY

STRUCTURE NOS. 081-0038, 081-0039, AND 081-0040 OVER ROCK RIVER (LOOKING NORTH)

STAGE 1 REMOVAL DIAGRAM

STA. 28+74 TO STA. 21+51
STA. 40+95 TO STA. 54+21

U.S. ROUTE 67



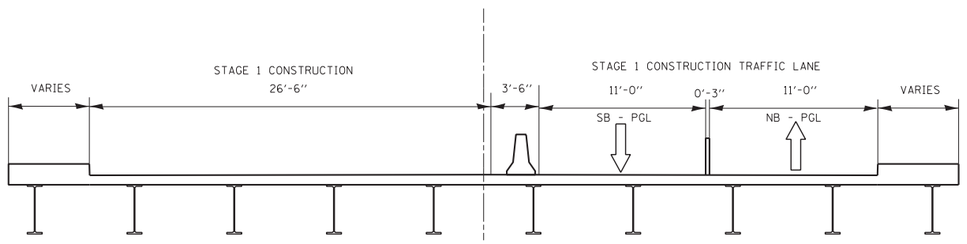
℄ ROADWAY

STRUCTURE NOS. 081-0038, 081-0039, AND 081-0040 OVER ROCK RIVER (LOOKING NORTH)

STAGE 2 REMOVAL DIAGRAM

STA. 28+74 TO STA. 21+51
STA. 40+95 TO STA. 54+21

U.S. ROUTE 67



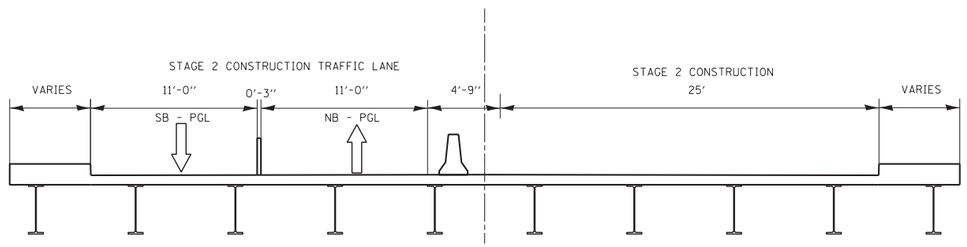
℄ ROADWAY

STRUCTURE NOS. 081-0038, 081-0039, AND 081-0040 OVER ROCK RIVER (LOOKING NORTH)

STAGE 1 CONSTRUCTION DIAGRAM

STA. 28+74 TO STA. 21+51
STA. 40+95 TO STA. 54+21

U.S. ROUTE 67



℄ ROADWAY

STRUCTURE NOS. 081-0038, 081-0039, AND 081-0040 OVER ROCK RIVER (LOOKING NORTH)

STAGE 2 CONSTRUCTION DIAGRAM

STA. 28+74 TO STA. 21+51
STA. 40+95 TO STA. 54+21

Sheet8.dgn

DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

USER NAME = dwilcox	DESIGNED - MTM	REVISED -
	DRAWN - DPW	REVISED -
PLOT SCALE =	CHECKED - MH	REVISED -
PLOT DATE = 8/21/2017	DATE - 06/14/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
STAGE 1 AND 2 TYPICAL SECTIONS

SHEET NO. 2 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	7
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

MATCHLINE STATION 52+00
SEE SHEET 9

SEE SHEET 9 FOR
CONTINUATION

HENNEPIN CANAL

TEMPORARY CONCRETE BARRIER WALL

END OF WORK AREA
STATION 53+94

TEMPORARY CONCRETE
BARRIER WALL
STATION 54+21
OFFSET 3'

HENNEPIN CANAL TRAIL

BIG ISLAND ROAD

W6-3(0)-48

150'

160+00

CONTRACTOR SHALL PROVIDE ALL
NECESSARY EQUIPMENT, MATERIAL, AND
LABOR TO PROTECT HENNEPIN CANAL
TRAIL.

ROAD
CONSTRUCTION
AHEAD
W20-I103(0)-48

R3-2
24"x 24"

R3-2
24"x 24"

200'

B

A

CONTRACTOR SHALL MAINTAIN ACCESS TO BIG
ISLAND ROAD FROM U.S. HIGHWAY 67.

CONTRACTOR SHALL MAINTAIN ACCESS TO
PRIVATE ENTRANCES AND BUSINESSES.

380' TAPER

R3-1
24"x 24"

350' TAPER

160+00

R3-2
24"x 24"

320' TAPER

1ST AVE.

R3-1
24"x 24"

R3-2
24"x 24"

4TH ST.

ROAD
CONSTRUCTION
AHEAD
W20-I103(0)-48

TUBULAR MARKERS TO BE INSTALLED BETWEEN
TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE
REQUIRED TO BE INSTALLED IN ALL TAPERS.

W4-2L(0)-48

LEFT LANE
CLOSED
AHEAD
W20-5L(0)-48

ROAD
CONSTRUCTION
AHEAD
W20-I103(0)-48

200'

200'

200'

165+00

U.S. 67

3RD ST.

ROAD
CONSTRUCTION
AHEAD
W20-I103(0)-48

N

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
- DIRECTION INDICATOR BARRICADE
- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

GRAPHIC SCALE

METERS
20 0 20 40 60 80 100

50 0 50 100 150 200 250
FEET

Sheet13.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 1 TRAFFIC CONTROL PLAN

SHEET NO. 3 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	8
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

SEE SHEET 10 FOR CONTINUATION

TEMPORARY CONCRETE BARRIER WALL

150' TAPER AT 12:1

SEE SHEET 8 FOR CONTINUATION

MATCHLINE STATION 37+00
SEE SHEET 10

TEMPORARY CONCRETE BARRIER WALL TAPER END STATION 39+45 OFFSET 10'

W6-3(0)-48

TEMPORARY CONCRETE BARRIER WALL STATION 40+95

END OF WORK AREA STATION 41+21

MATCHLINE STATION 52+00
SEE SHEET 8

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES AND BUSINESSES.

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
- DIRECTION INDICATOR BARRICADE
- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

GRAPHIC SCALE

METERS: 20 0 20 40 60 80 100

FEET: 50 0 50 100 150 200 250

Sheet10.dgn

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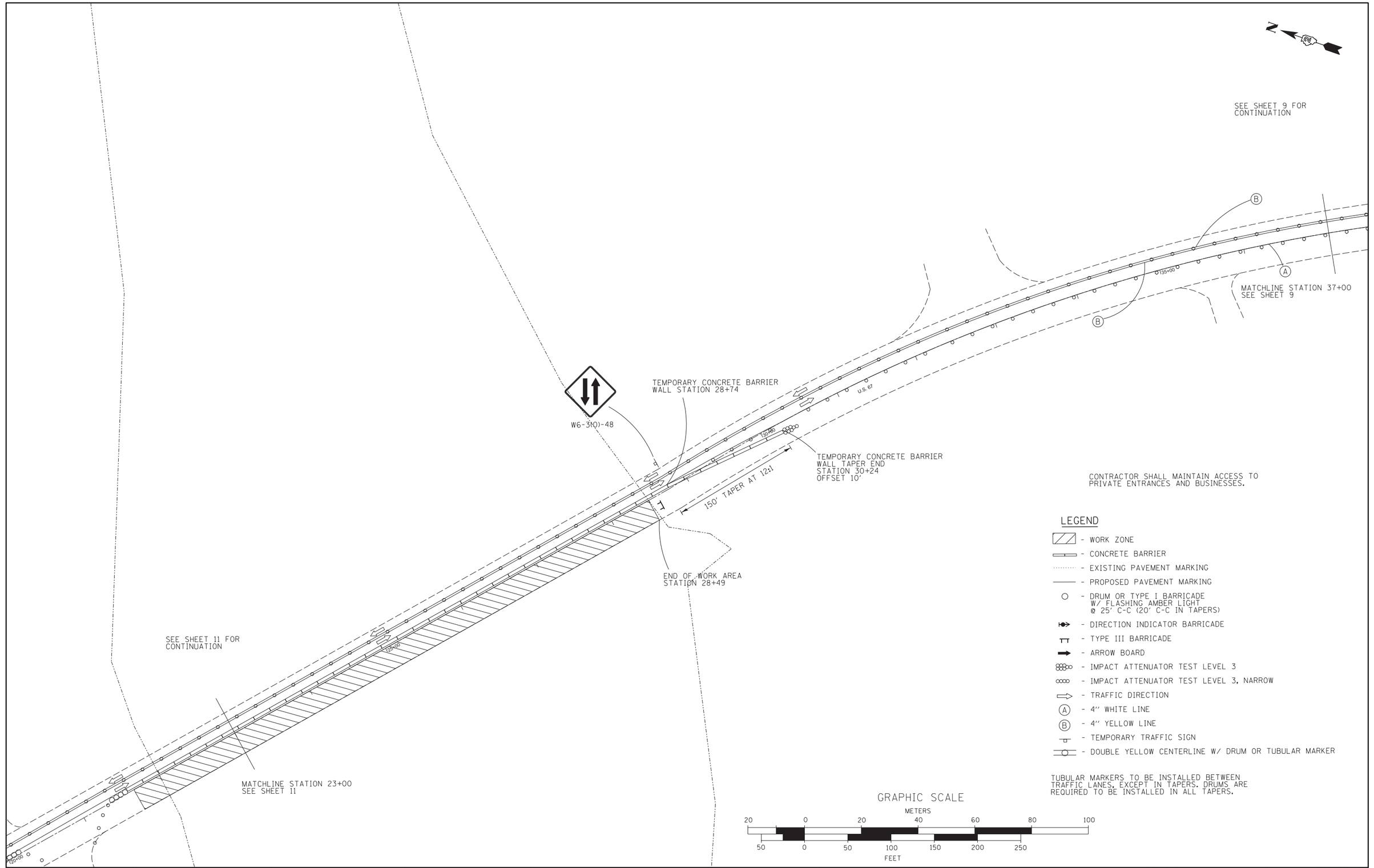
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 1 TRAFFIC CONTROL PLAN

SHEET NO. 4 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	9
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES AND BUSINESSES.

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
- DIRECTION INDICATOR BARRICADE
- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

GRAPHIC SCALE

METERS: 20 0 20 40 60 80 100

FEET: 50 0 50 100 150 200 250

Sheet11.dgn

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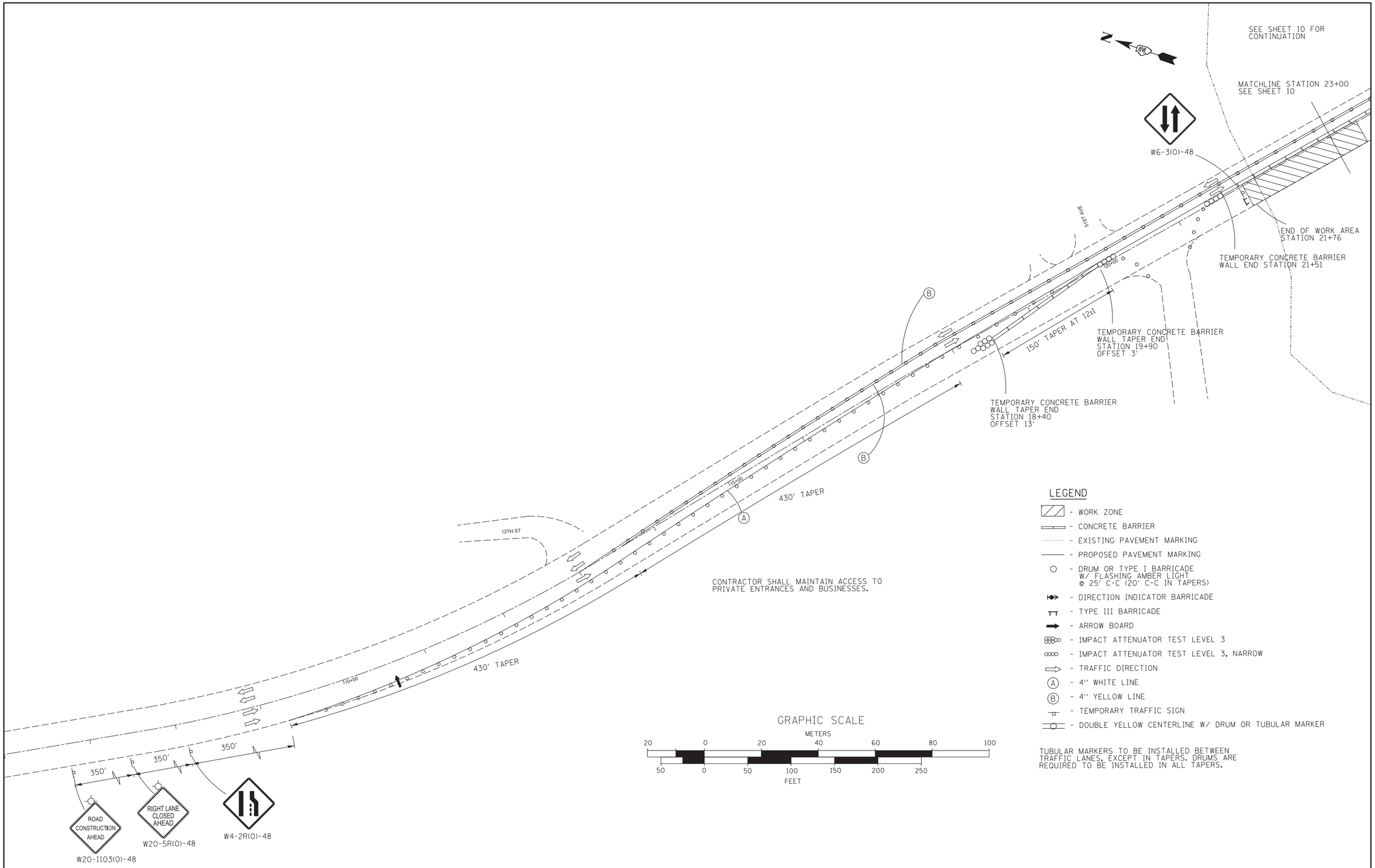
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 1 TRAFFIC CONTROL PLAN

SHEET NO. 5 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	10
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES AND BUSINESSES.

GRAPHIC SCALE

METERS: 20 0 20 40 60 80 100

FEET: 50 0 50 100 150 200 250

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
- DIRECTION INDICATOR BARRICADE
- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) - 4" WHITE LINE
- (B) - 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

Sheet12.dgn

DB STERLIN CONSULTANTS, INC.
193 N. WACKER DRIVE SUITE 2000
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 1 TRAFFIC CONTROL PLAN

SHEET NO. 6 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	11
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

SEE SHEET 13 FOR CONTINUATION

MATCHLINE STATION 52+00
SEE SHEET 13

HENNEPIN CANAL

TEMPORARY CONCRETE BARRIER WALL

TEMPORARY CONCRETE BARRIER WALL
STATION 54+21

END OF WORK AREA
STATION 53+94

150' TAPER AT 12:1

W6-3(0)-48

BIG ISLAND ROAD

TEMPORARY CONCRETE BARRIER WALL
TAPER END
STATION 55+71
OFFSET 10'

CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT, MATERIAL, AND LABOR TO PROTECT HENNEPIN CANAL TRAIL.

ROAD CONSTRUCTION AHEAD

W20-I103(0)-48

R3-2
24"x 24"

R3-2
24"x 24"

200'

CONTRACTOR SHALL MAINTAIN ACCESS TO BIG ISLAND ROAD FROM U.S. HIGHWAY 67.

CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES AND BUSINESSES.

350' TAPER

R3-2
24"x 24"

W4-2R(0)-48

RIGHT LANE CLOSED AHEAD

W20-5R(0)-48

ROAD CONSTRUCTION AHEAD

W20-I103(0)-48

320' TAPER

200'

200'

200'

350' TAPER

1ST AVE.

165+00

U.S. 67

4TH ST.

3RD ST.

ROAD CONSTRUCTION AHEAD

W20-I103(0)-48

R3-2
24"x 24"

N

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
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- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

GRAPHIC SCALE

METERS
20 0 20 40 60 80 100

50 0 50 100 150 200 250
FEET

Sheet13.dgn

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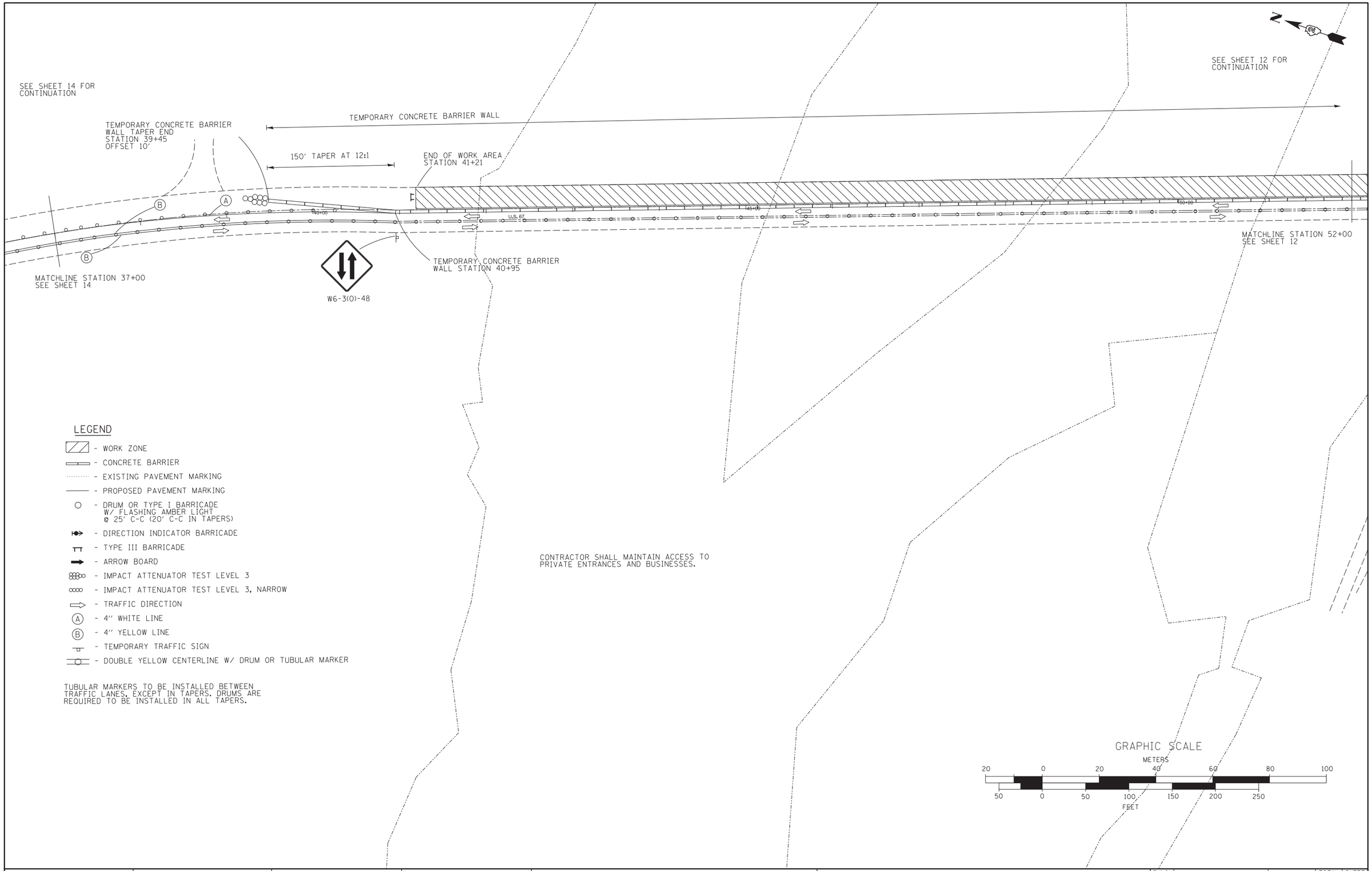
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 2 TRAFFIC CONTROL PLAN

SHEET NO. 7 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	12
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
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- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

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GRAPHIC SCALE

Sheet14.dgn

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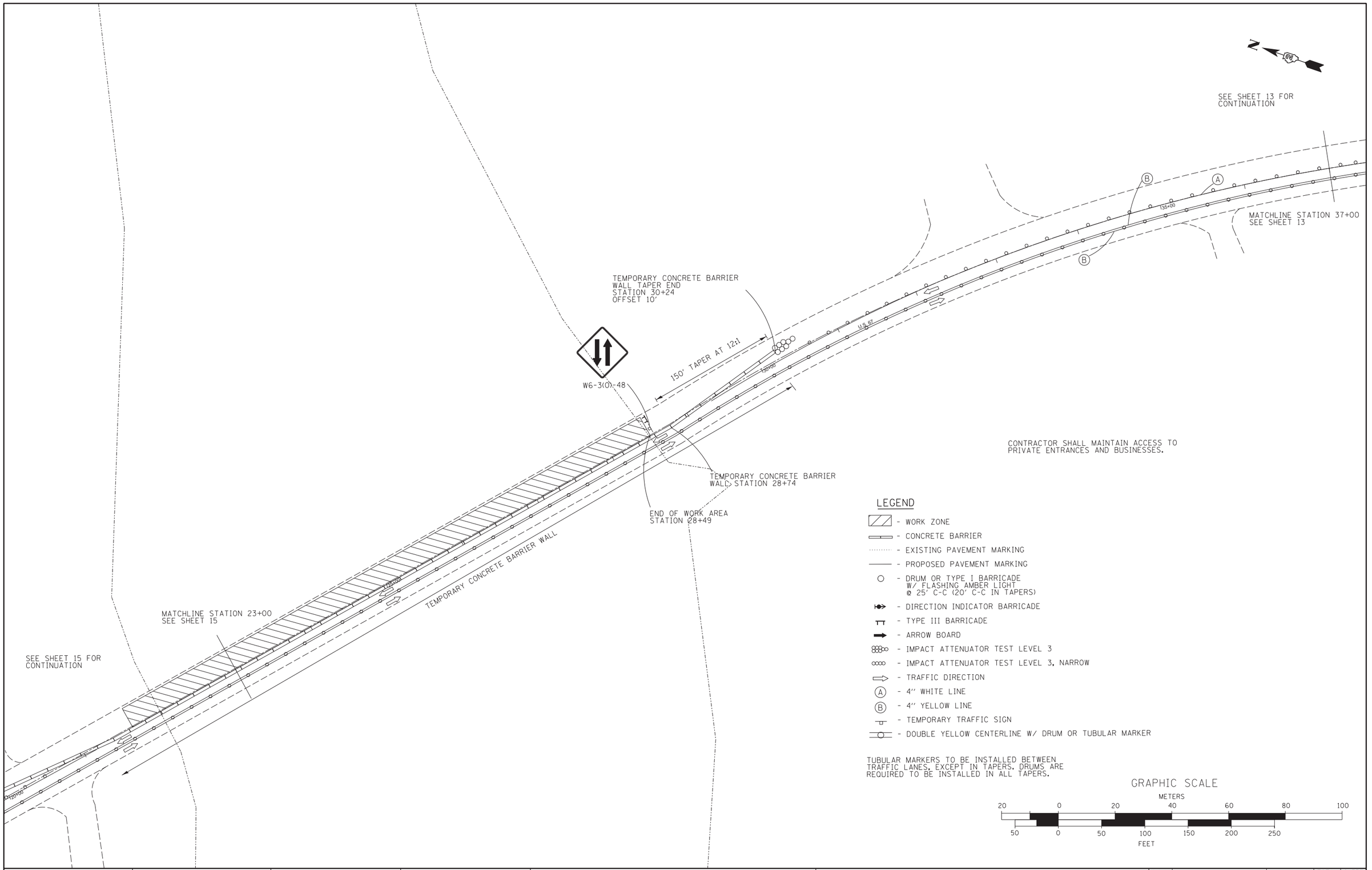
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 2 TRAFFIC CONTROL PLAN
SHEET NO. 8 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	13
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



CONTRACTOR SHALL MAINTAIN ACCESS TO
PRIVATE ENTRANCES AND BUSINESSES.

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
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- DIRECTION INDICATOR BARRICADE
- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
- DOUBLE YELLOW CENTERLINE W/ DRUM OR TUBULAR MARKER

TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

GRAPHIC SCALE

METERS: 20 0 20 40 60 80 100

FEET: 50 0 50 100 150 200 250

Sheet15.dgn

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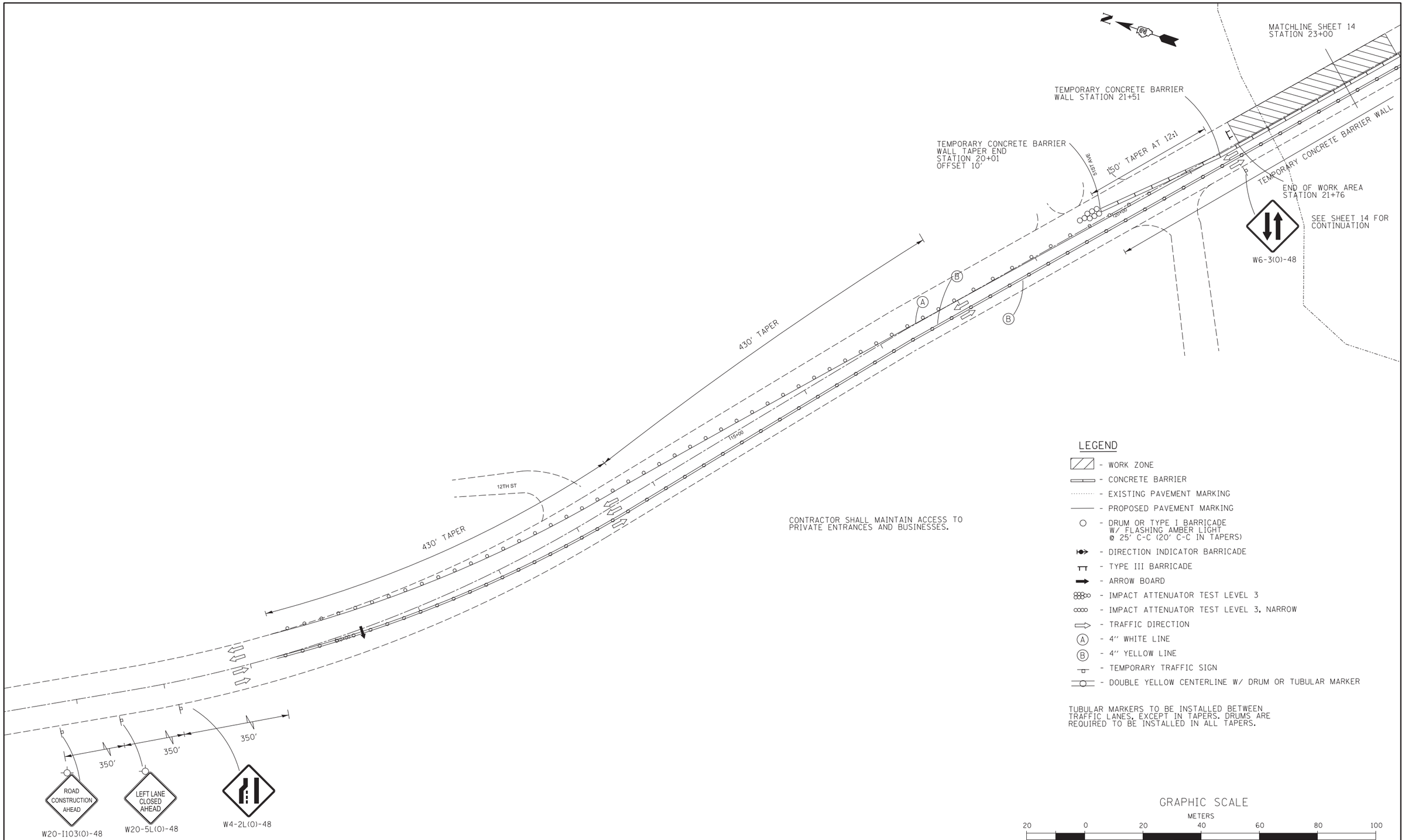
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 2 TRAFFIC CONTROL PLAN

SHEET NO. 9 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	14
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE ENTRANCES AND BUSINESSES.

LEGEND

- WORK ZONE
- CONCRETE BARRIER
- EXISTING PAVEMENT MARKING
- PROPOSED PAVEMENT MARKING
- DRUM OR TYPE I BARRICADE W/ FLASHING AMBER LIGHT @ 25' C-C (20' C-C IN TAPERS)
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- TYPE III BARRICADE
- ARROW BOARD
- IMPACT ATTENUATOR TEST LEVEL 3
- IMPACT ATTENUATOR TEST LEVEL 3, NARROW
- TRAFFIC DIRECTION
- (A) 4" WHITE LINE
- (B) 4" YELLOW LINE
- TEMPORARY TRAFFIC SIGN
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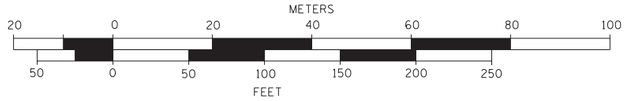
TUBULAR MARKERS TO BE INSTALLED BETWEEN TRAFFIC LANES, EXCEPT IN TAPERS. DRUMS ARE REQUIRED TO BE INSTALLED IN ALL TAPERS.

GRAPHIC SCALE



Sheet16.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PLAN
STAGE 2 TRAFFIC CONTROL PLAN

SHEET NO. 10 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	15
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

Benchmarks: #1 □ Cut in top of N.W. Wing Wall
Sta. 20+86.0, 32' Rt. of ℄ El. 576.10
#2 □ Cut in top of S.E. Wing Wall
Sta. 54+85.2, 35' Lt. of ℄ El. 581.23

Note: Benchmarks are based on 1985 existing plan drawings.

Existing Structure: S.N. 081-0038 was originally constructed in 1948 by IDOT carrying two lanes of eastbound and two lanes of westbound traffic on US 67 over the North Channel of Rock River. The superstructure consists of one steel tied arch and four spans of parallel continuous steel girders located to the south of the tied arch. The existing structure measures 705'-6" back to back of abutments and an overall deck width of 68'-4" at the tied arch span and 62'-8" at the continuous girder spans supported on reinforced concrete stub abutments and wall type piers on timber and steel piles. In 1985, the bridge was rehabilitated by replacing structural steel elements, railing, bearings and deck in addition to complete structure repainting. The existing substructure was repaired with concrete and crack repairs.

Work shall be completed with stage construction.

No Salvage.

SCOPE OF WORK

1. Perform Deck Slab Repairs.
2. Scarify 3/4" from bridge deck slab.
3. Remove and replace deck joints.
4. Apply Bridge Deck Latex Concrete Overlay, 2 1/2" to the bridge deck slab.
5. Perform 1/4" diamond grinding to the 2 1/2" bridge deck latex concrete overlay and reconstructed transverse expansion joints.
6. Perform Bridge Deck Grooving (Longitudinal) to the Bridge Deck Latex Concrete Overlay, 2 1/2".
7. Apply protective coat to reconstructed deck areas.
8. Perform structural steel repairs and replacements.
9. Clean and paint designated areas of structural steel.
10. Clean and paint existing bearings.
11. Perform concrete repairs and crack sealing repairs at the abutments and piers.
12. Clean bridge seats and apply concrete sealant.
13. Replace pavement markings on the top of deck.

INDEX OF SHEETS

KEY NOTES

(1) Clean and paint various steel elements throughout bridge under pay items, Cleaning and Painting Steel Bridge No. 1, Containment and Disposal of Lead Paint Cleaning Residues No. 1.

(2) Remove and replace existing neoprene expansion joint with a modular expansion joint under pay items, Modular Expansion Joint 6", Concrete Removal, Concrete Superstructure, Reinforcement Bars, Epoxy Coated and Mechanical Splicers.

(3) Perform Bridge Deck Scarification $\frac{3}{4}$".

(4) Perform full-depth bridge deck repairs and overlay under pay items, Deck Slab Repair (Full Depth Type I), Deck Slab Repair (Full Depth Type II), and Bridge Deck Latex Concrete Overlay, $2\frac{1}{2}$"

(5) Perform repair of concrete to substructures under pay items, Structural Repair of Concrete (Depth Equal to or Less than 5 Inches), Structural Repair of Concrete (Depth Greater than 5 Inches) and Epoxy Crack Injection, typ.

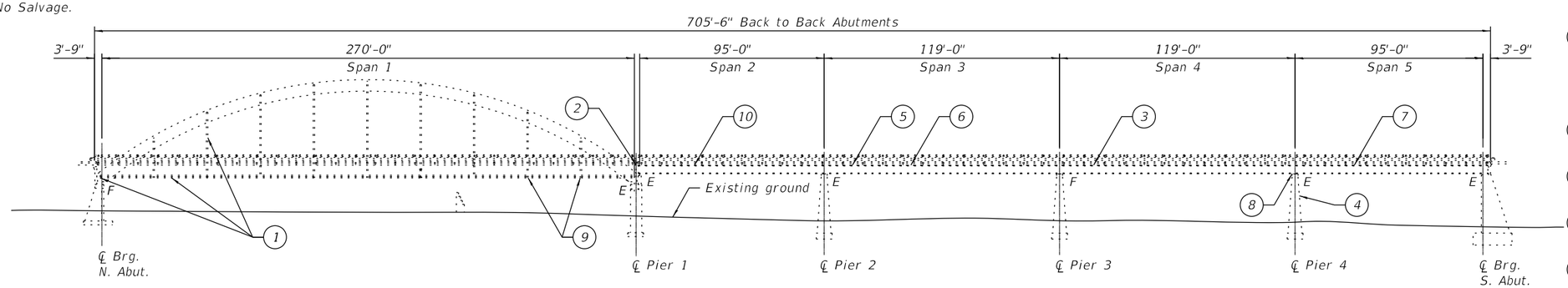
(6) Perform bridge deck diamond grinding under pay item Diamond Grinding (Bridge Section).

(7) Perform bridge deck grooving under pay item Bridge Deck Grooving (Longitudinal).

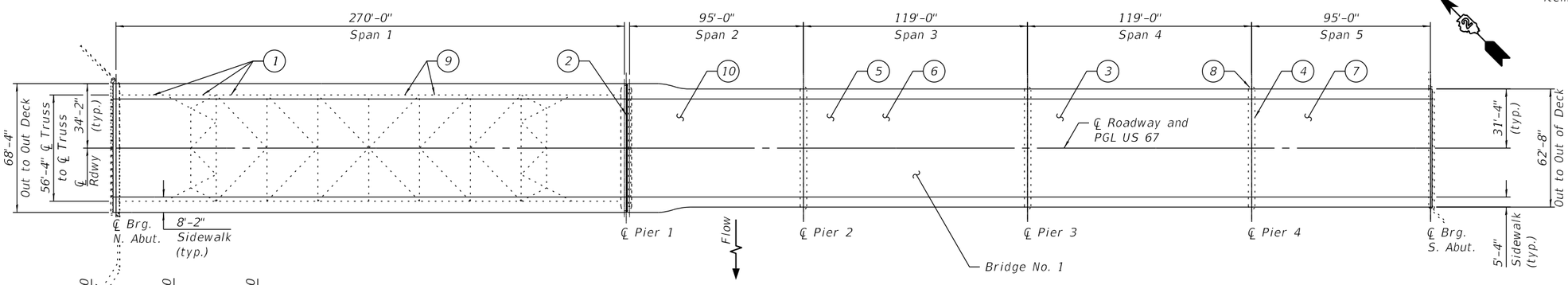
(8) Apply sealer at tops of substructures as indicated in plans under pay item Concrete Sealer.

(9) Various locations of steel removal and replacement under pay items Structural Steel Removal and Furnishing and Erecting Structural Steel.

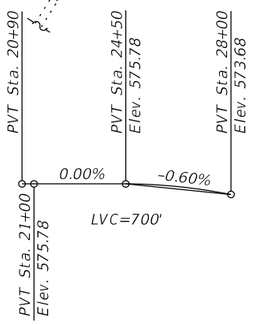
(10) Apply sealer at designated deck locations under pay item Protective Coat.



ELEVATION



PLAN



EXISTING PROFILE GRADE
(Information from 1985 plans)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

LOADING

HS 20-44

DESIGN STRESSES

FIELD UNITS

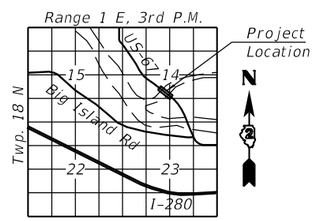
f'c = 4,000 psi (Superstructure Concrete)
f'c = 3,500 psi (Substructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
fy = 36,000 psi (M270 Grade 36)

LICENSED STRUCTURAL ENGINEER
ANTHONY J. STANDISH
081-005819
STATE OF ILLINOIS
Exp 11/30/2018

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS: 16 THRU 22 AND 29 THRU 33

LICENSED STRUCTURAL ENGINEER
GERALD E. KOYLASS
081-005264
STATE OF ILLINOIS
Exp: 11/30/2018

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS: 23 THRU 28



LOCATION SKETCH

GENERAL PLAN AND ELEVATION US ROUTE 67 (F.A.P. ROUTE 599) OVER NORTH CHANNEL OF THE ROCK RIVER ROCK ISLAND COUNTY STRUCTURE NO. 081-0038

FILE NAME = S:\DOL\4400--4499\4416\081\Micros\CADD Sheets\081-0038-02E4L46-001-GPE.dgn

STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/23/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 081-0038
SHEET NO. 1 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	16
		CONTRACT NO. 64L46		
		ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

All new fasteners shall be high strength bolts. Holes shall be 15/16" dia. for 7/8" dia. bolts, unless otherwise noted.

All structural steel plates and angles shall be AASHTO M 270 Grade 36 (except modular expansion joint steel which shall be AASHTO M 270 Grade 50 paid for under Modular Expansion Joint 6". See Special Provisions).

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

Reinforcement bars designated (E) shall be epoxy coated.

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

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding 1/4 inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

Concrete Sealer shall be applied to the designated areas of the abutments and piers under expansion joints.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surface and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue Munsell No. 10B 3/6.

Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

Expansion joints shall be fabricated and installed according to the manufacturer's recommendations and as approved by the Engineer.

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

Joint openings shall be adjusted according to Article 520.03 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

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

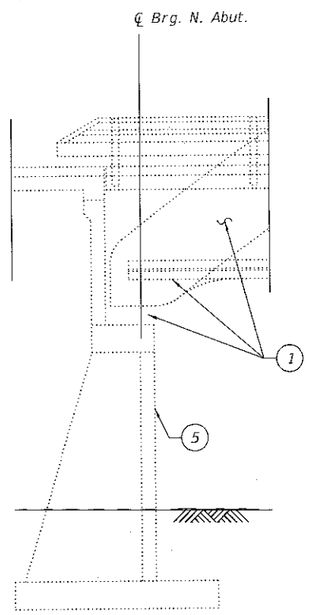
The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system. See special provisions.

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".

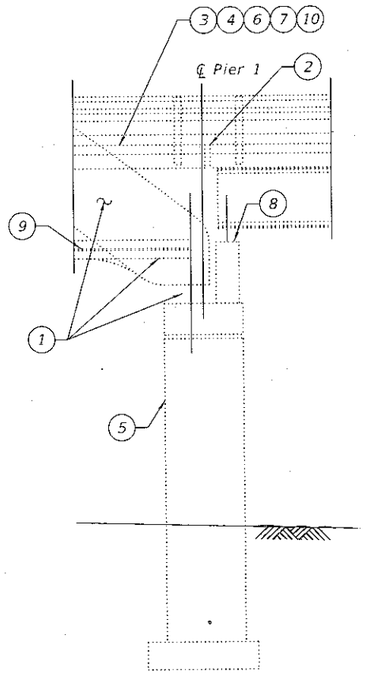
Synthetic fibers shall be added to the Bridge Deck Latex Concrete Overlay. See Special Provisions.

A complete set of existing bridge plans can be obtained by contacting IDOT District 2.

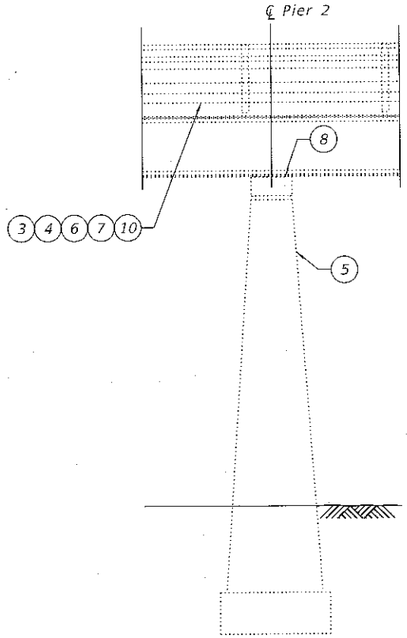
IDOT District 2:
ATTN: Mahmoud Etemadi, P.E. 815-284-5393
819 Depot Avenue
Dixon, IL 61021



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)

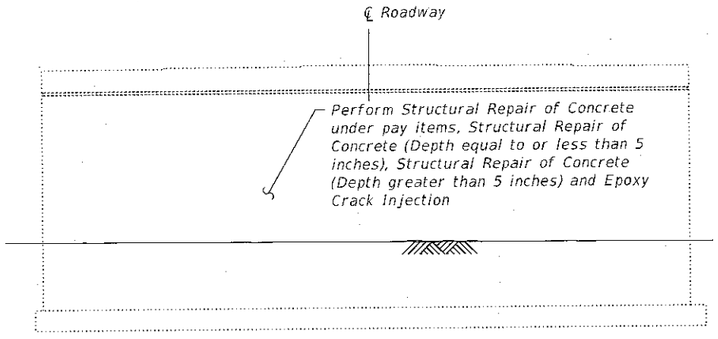


SECTION THRU PIER 1



SECTION THRU PIER
(Pier 2 thru 4)

Note: Callouts in sections thru abutments and piers reference key notes on sheet 1 of 18.



ELEVATION PIER
(Pier 2 thru 4 shown; Pier 1 similar)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Materials (Tack Coat)	Pound	237		237
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq Yd	527		527
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	44		44
Protective Coat	Sq Yd	4344		4344
Combination Curb and Gutter Removal	Foot	90		90
Saw Cuts	Foot	80		80
Aggregate Wedge Shoulder, Type B	Ton	3		3
Concrete Removal	Cu Yd	62		62
Concrete Superstructure	Cu Yd	62		62
Furnishing and Erecting Structural Steel	Pound	16350		16350
Reinforcement Bars, Epoxy Coated	Pound	10780		10780
Bar Splicers	Each	120		120
Mechanical Splicers	Each	450		450
Preformed Joint Strip Seal Foot	Foot	404		404
Concrete Sealer	Sq Ft		1900	1900
Epoxy Crack Injection	Foot		25	25
Inlets to be Adjusted	Each	1		1
Combination Concrete Curb and Gutter, Type B-6.24	Foot	90		90
Bridge Deck Grooving (Longitudinal)	Sq Yd	3962		3962
Floor Drain Extension	Each	86		86
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L Sum	1		1
Structural Steel Removal	Pound	16350		16350
Bridge Deck Latex Concrete Overlay, 2½ Inches	Sq Yd	4121		4121
Cleaning and Painting Steel Bridge No. 1	L Sum	1		1
Bridge Deck Scarification ¾"	Sq Yd	4121		4121
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft		56	56
Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq Ft		319	319
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3		3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	9		9
Diamond Grinding (Bridge Section)	Sq Yd	3962		3962
Handrail Repairs Bridge No. 1	Foot	173.4		173.4
Modular Expansion Joint 6"	Foot	69		69
Joint Seal Repair Bridge No. 1	L Sum	1		1

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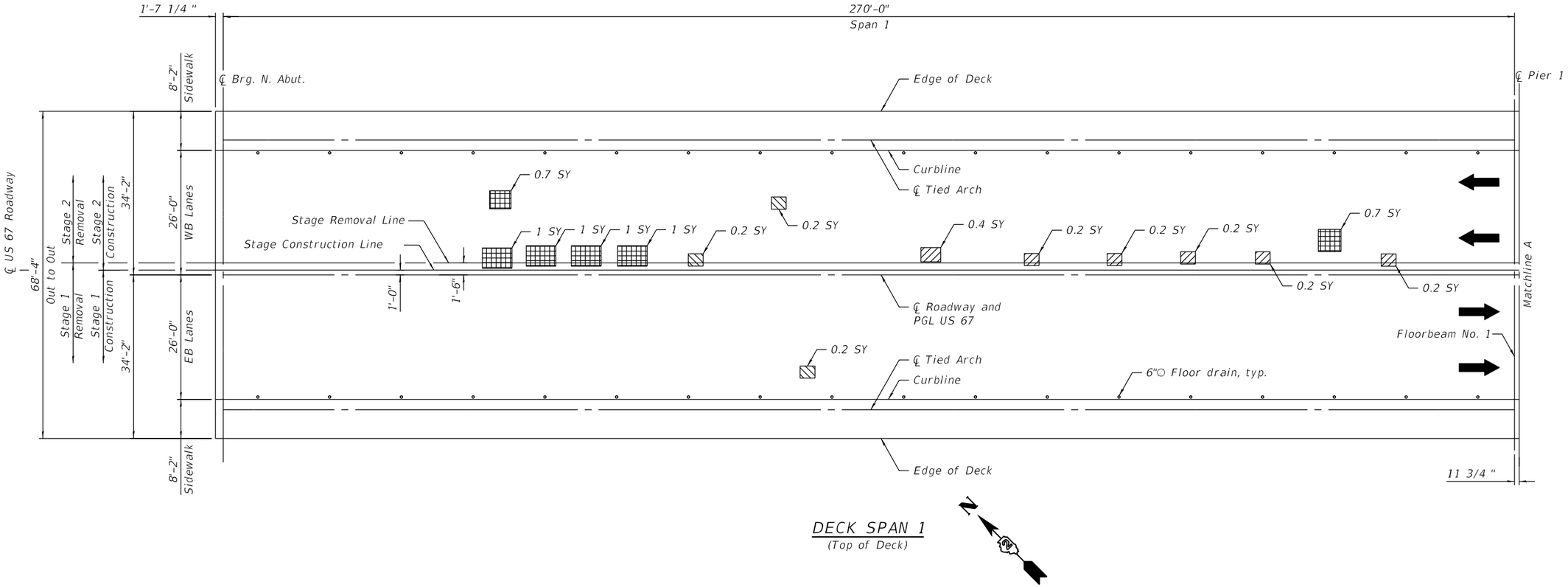
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = Mike Livernois	DESIGNED - BRL	REVISED	
	CHECKED - AJS	REVISED	
PLOT SCALE =	DRAWN - BJF	REVISED	
PLOT DATE = 3/26/2018	CHECKED - BRL	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DETAILS
STRUCTURE NO. 081-0038
SHEET NO. 2 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	17
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



DECK SPAN 1
(Top of Deck)

LEGEND

	Concrete Removal
	Deck Slab Repair, (Partial)
	Deck Slab Repair, (Full Depth, Type I)*
	Deck Slab Repair, (Full Depth, Type II)*
	Traffic Direction
SY	Square Yard
	*See Note 1

NOTES

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction. See Special Provisions.
2. For transverse joint at Pier 1 removal and reconstruction, see sheet 14 of 18 and 15 of 18.
3. For bridge deck final cross section, see sheet 5 of 18.
4. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
5. See Matchline A on sheet 4 of 18.

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Protective Coat	Sq. Yd.	4113
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	3748
Bridge Deck Latex Concrete Overlay, 2½ Inches	Sq. Yd.	3901
Bridge Deck Scarification, ¾"	Sq. Yd.	3901
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	9
Diamond Grinding (Bridge Section)	Sq. Yd.	3748

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IDFPR NO. 184-001273

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	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLANS 1
STRUCTURE NO. 081-0038
SHEET NO. 3 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	18
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

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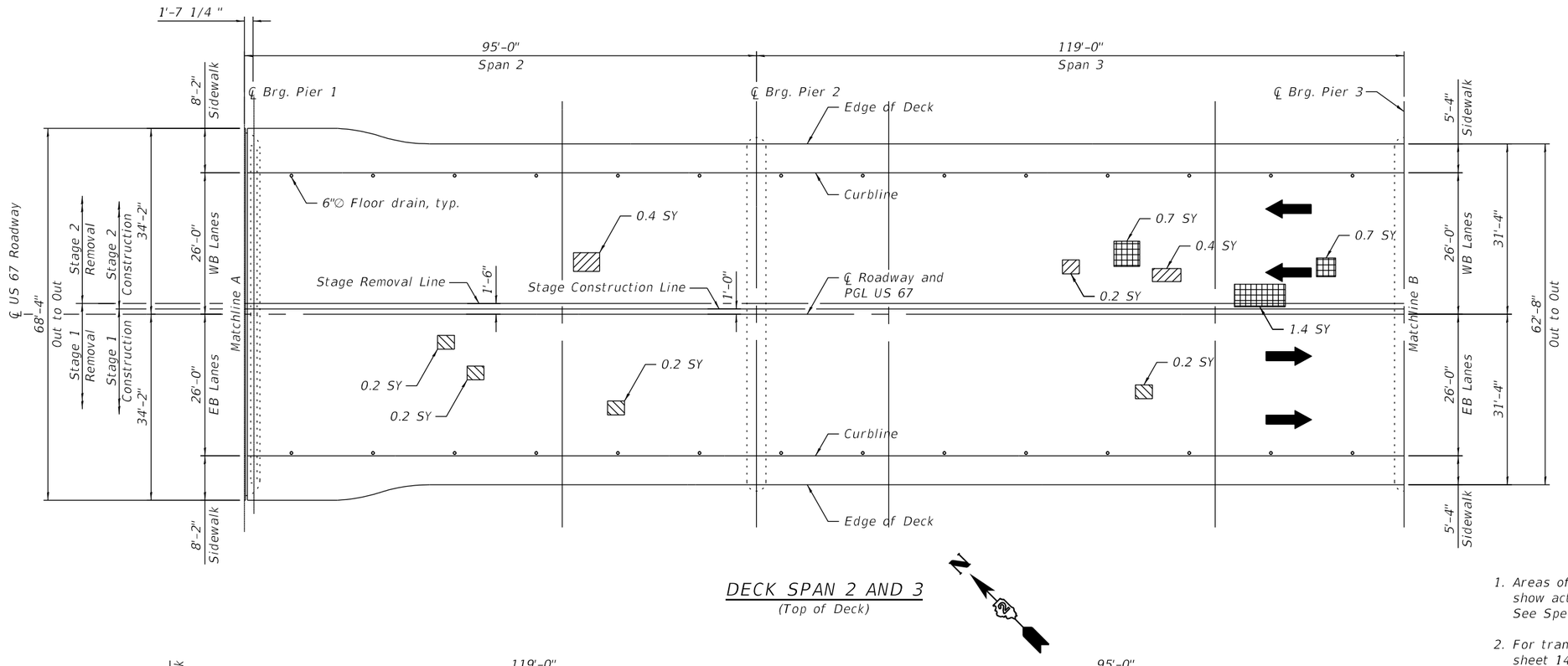
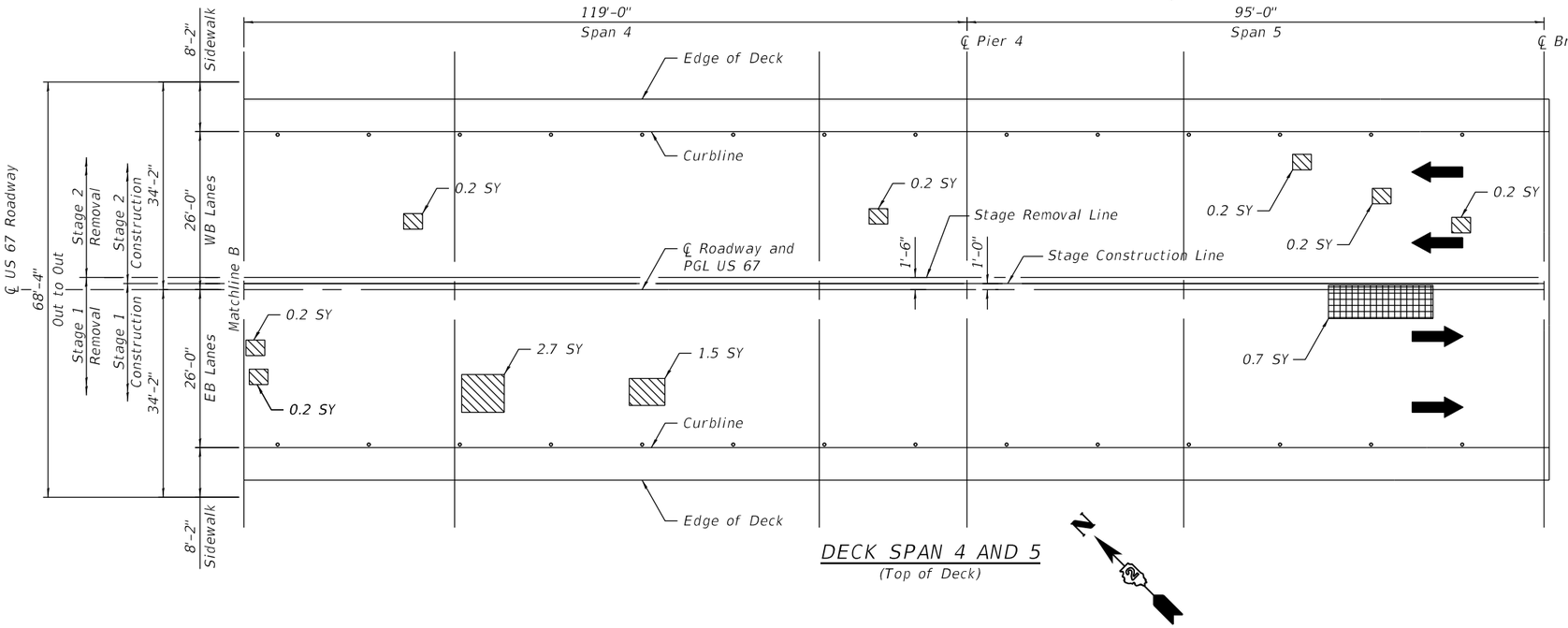


DECK SPAN 2 AND 3
(Top of Deck)



DECK SPAN 4 AND 5
(Top of Deck)

LEGEND

- Concrete Removal
- Deck Slab Repair, (Partial)
- Deck Slab Repair, (Full Depth, Type I)*
- Deck Slab Repair, (Full Depth, Type II)*
- Traffic Direction
- SY — Square Yard
- *See Note 1

NOTES

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction. See Special Provisions.
2. For transverse joint at Pier 1 removal and reconstruction, see sheet 14 of 18 and 15 of 18.
3. For bridge deck final cross section, see sheet 5 of 18.
4. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
5. See Matchline A on sheet 3 of 18.
6. For Bill of Materials see sheet 3 of 18.

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1170 SOUTH HOUBOLT ROAD
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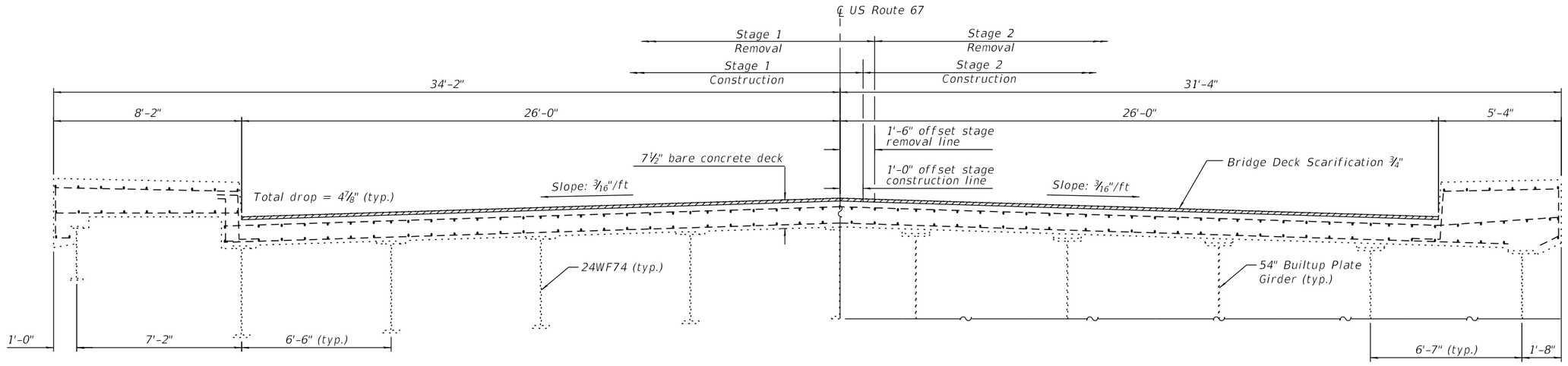
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLANS 2
STRUCTURE NO. 081-0038
SHEET NO. 4 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	19
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		



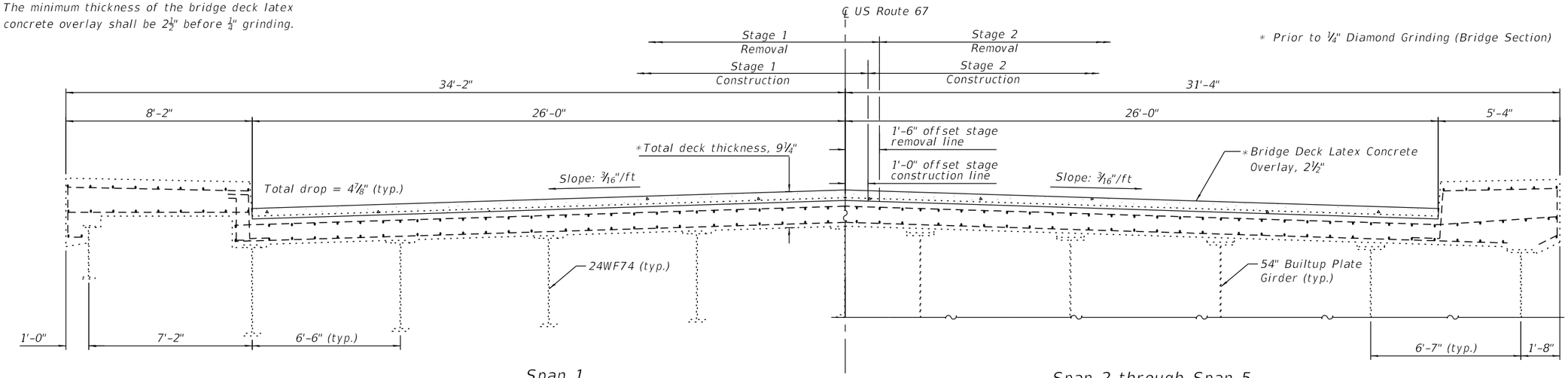
Span 1
(North abutment to pier 1)

Span 2 through Span 5
(Pier 1 to south abutment)

CROSS SECTION SHOWING REMOVAL
(Facing North)

NOTES

1. Span 1 is symmetrical about the centerline of roadway.
2. Span 2 through Span 5 are symmetrical about the centerline of roadway.
3. Parapet and handrail not shown for clarity.
4. For Bill of Materials see sheet 3 of 18.
5. The minimum thickness of the bridge deck latex concrete overlay shall be 2½" before ¼" grinding.



* Prior to ¼" Diamond Grinding (Bridge Section)

Span 1
(North abutment to pier 1)

Span 2 through Span 5
(Pier 1 to south abutment)

CROSS SECTION SHOWING NEW OVERLAY
(Facing North)

LEGEND

Bridge Deck Scarification ¾"

Bridge Deck Latex Concrete Overlay, 2½ Inches *

FILE NAME = S:\JOL\4408--449Rx4416\081\Micros\CADD Sheets\081-0038-D264L46-B05-SUPSTR.dgn

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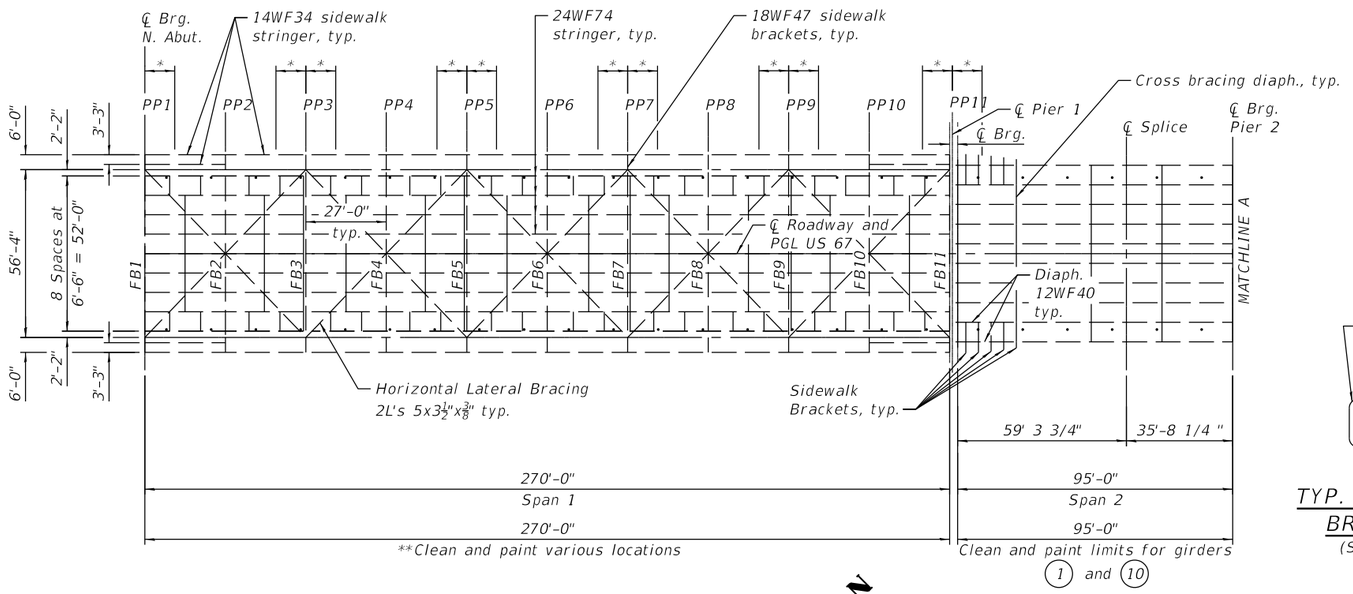
USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE OVERLAY CROSS SECTION
STRUCTURE NO. 081-0038
SHEET NO. 5 OF 18 SHEETS

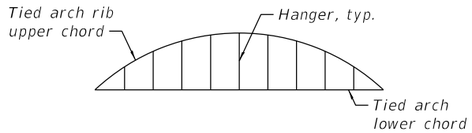
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	20
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



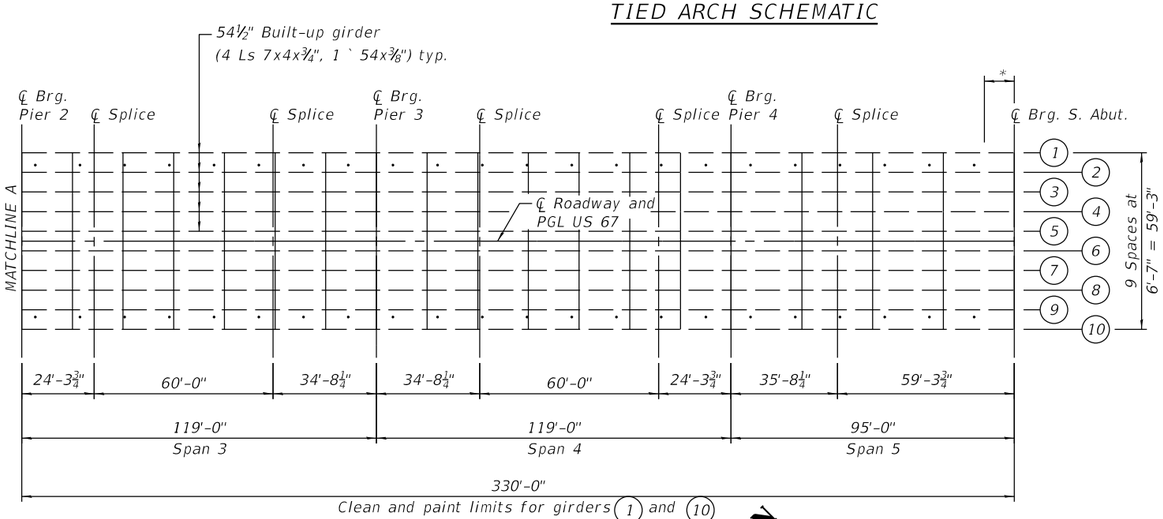
PARTIAL FRAMING PLAN
(Spans 1 and 2)

*Clean and paint limits for superstructure 10'-0" either side of ℄ of joint below the deck surface (Stringes, diaphragms, floorbeams, lower chords, bearings, laterals, gusset plates and connections)

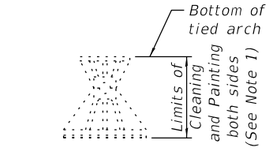
**Clean and paint limits for superstructure 10'-0" above the deck surface (Tied arch chords, hangers, and connections)
FB = floorbeam
PP = panel point



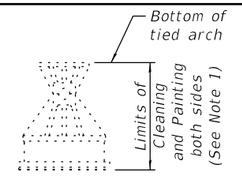
TIED ARCH SCHEMATIC



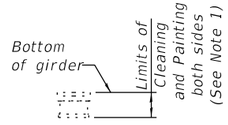
PARTIAL FRAMING PLAN
(Spans 3 thru 5)



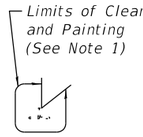
FIXED BEARING
(N. Abut.)



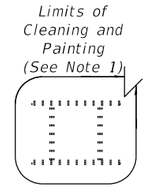
EXPANSION BEARING
(Pier 1 Span 1)



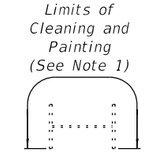
EXPANSION BEARING
(Pier 1 Span 2 and S. Abut.)



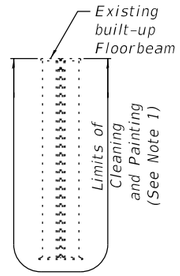
TYP. LATERAL BRACING
(Span 1)



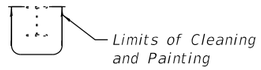
TYP. ARCH RIB UPPER CHORD
(Span 1)



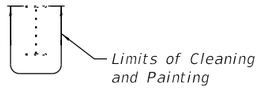
TYP. LOWER CHORD
(Span 1)



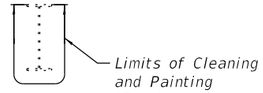
TYP. FLOOR BEAM
(Span 1)



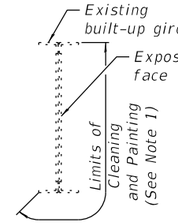
TYP. 12WF25 DIAPHRAGM
(Span 1)



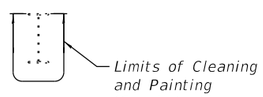
TYP. 18WF47 STRINGER
(Span 1)



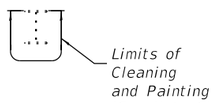
TYP 24WF74 STRINGER
(Span 1)



TYP. FASCIA GIRDER
(Span 2 thru 5)



TYP. 18WF64 HANGER
(Span 1)



TYP. W12x40 END DIAPHRAGM
(Diaphragm at Pier 1 and S. Abut.)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning and Painting Steel Bridge No. 1	L Sum	1
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L Sum	1

NOTES

1. "Cleaning and painting of the existing structural steel shall be specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structure steel within 10 ft (measured along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning – SSPC-SP10. The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Commercial Grade Power Tool Cleaning-SSPC-SP15.

2. The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of Paint System 1 – OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom of bottom flange of the fascia beams shall be Blue, Munsell No. 10B 3/6.

3. The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system. See Special Provisions.

4. A minimum of 2 air monitor(s) will be rquired to monitor abrasive blasting operations at this site. See Special Provisiion for "Containment and Disposal of Lead Paint Cleaning Residues."

FILE NAME = S:\JOL\4408--449h\4416\081\Micros\CADD Sheets\081-0038-02641_46-006-SUPER.dgn

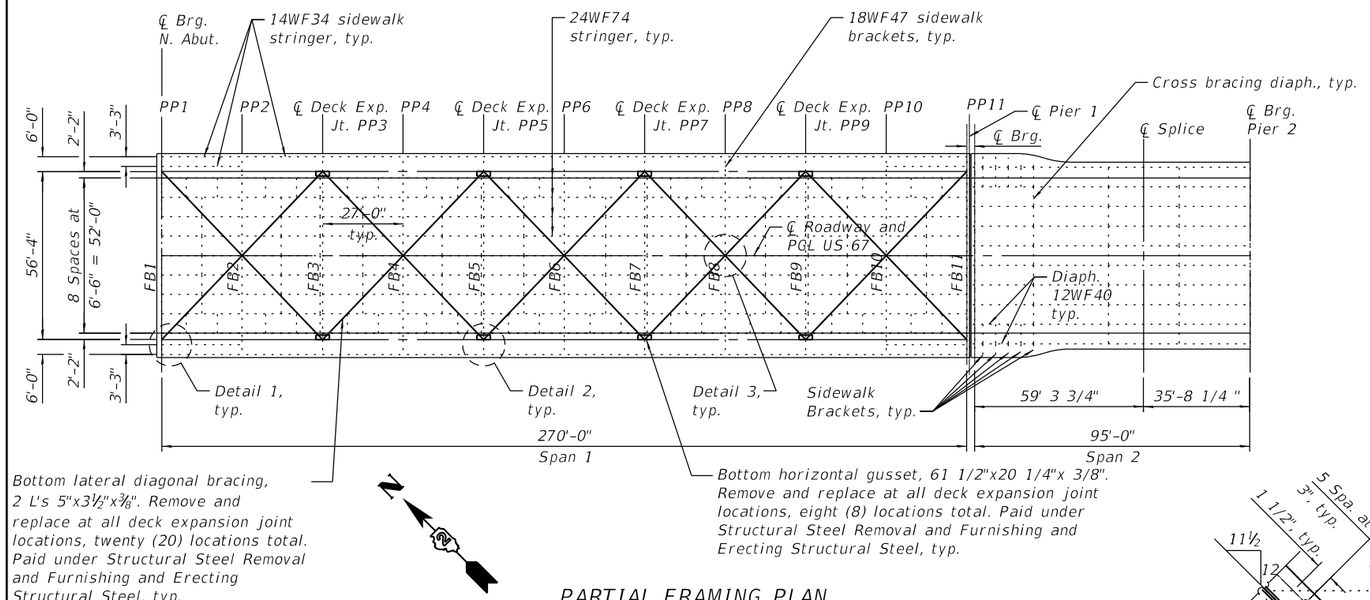
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE PAINTING DETAILS
STRUCTURE NO. 081–0038
SHEET NO. 6 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	21
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



PARTIAL FRAMING PLAN

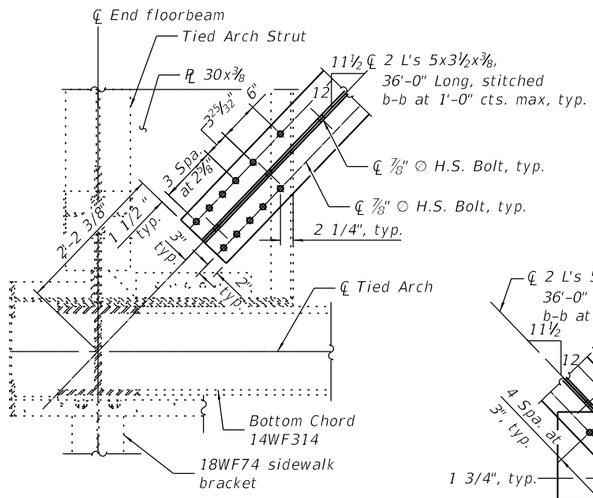
(Spans 1 and 2 only)

LEGEND

- —— New Element
- ⁖ • Exist. bolt or rivet to remain
- ⌖ New bolt in existing and/or new steel. Remove existing rivet or bolt and replace with new 7/8"℄ H.S. bolt unless noted otherwise. Match all existing hole spacings in plates.
- PP1S Panel Point # S=South Tied Arch, C=℄ Bridge, N=North Tied Arch

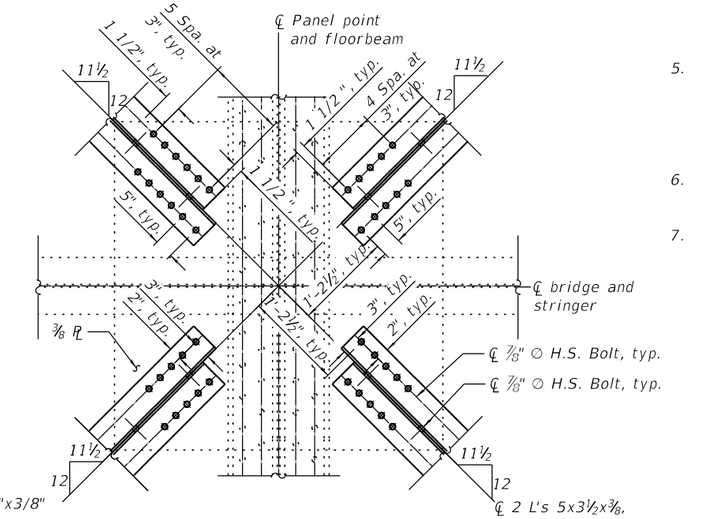
NOTES

1. Structural steel replacement sequence for lower lateral diagonals shall permit one (1) bay at a time with no more than two (2) continuos elements removed. Structural steel replacement sequence for gusset plates shall permit one (1) panel point gusset plate to be replaced at a time. The Contractor may submit calculations and details, signed and stamped by a Structural Engineer licensed in Illinois, for review demonstrating the structural integrity of the bridge is maintained under an alternate steel replacement sequence.
2. Repairs and replacement shown are based on field inspection and original drawings. Conditions in field may have changed. Contractor to verify all components for repair or replacement as directed by the Engineer.
3. When required to completely remove and replace members, remove rivets (and/or existing bolt(s) and replace with ⅞" diameter high strength bolts, unless noted otherwise.
4. New plates, angles and other components shall match existing plates, angles and components in shape, size and hole locations. Existing dimensions are shown for Bo only. The Contractor shall verify all dimensions in field prior to ordering materials. The number and spacing for proposed 7/8"℄ H.S. bolts shall match existing holes. Contractor shall use existing plates, angles and components as templates.
5. Contractor shall field verify the required bolt length and length of thread necessary to install all bolts in accordance with the Standard Specifications and Section 8.2.1 of the 2004 RCSC "Specification for Structural Joints using ASTM A325 or A490 Bolts."
6. Twist-off type fastener systems will not be permitted for the double-nut H.S. bolt for the gusset plate repair.
7. The Contractor shall take care to avoid exposing the threads, nuts and washers of the double-nut H.S. bolts for the gusset plate repair to paint, dirt, moisture or other foreign material that may alter their as -received condition. Fastener components that accumulate rust, dirt or debris shall not be incorporated in the work unless they are requalified as specified in Section 7 of the 2004 RCSC "Specification for Structural Joints using ASTM A325 or A490 Bolts."



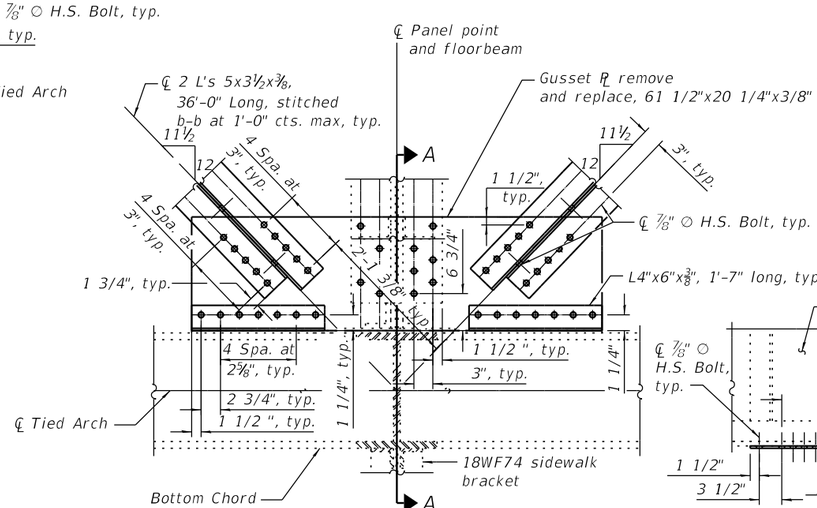
DETAIL 1

(PP1S, PP1N, PP11S, and PP11N)
(4 Locations)



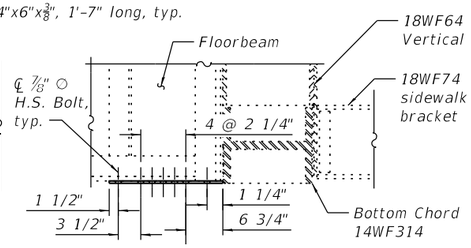
DETAIL 3

(PP2C, PP4C, PP6C, PP8C and PP10C)
(5 Locations)



DETAIL 2

(PP3S, PP3N, PP5S, PP5N, PP7S, PP7N, PP9S, and PP9N)
(8 Locations)



SECTION A-A

STRUCTURAL STEEL REPAIR TABLE

DETAIL	ELEMENT	#OF BOLTS/ELEMENT	QUANTITY	POUNDS
1	Angles L5x3½x⅜	11	-	*
2	Plate 61½x20¼x⅜	26	8	1,015
2	Angles L5x3½x⅜	20	-	*
2	Angles L4x6x⅜	28	16	350
3	Angles L5x3½x⅜	42	40	14,985

* Included under Detail 3 Angle Pounds

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	Pound	16,350
Structural Steel Removal	Pound	16,350

FILE NAME = S:\DOL\4408-4499\4416\081\Micros\CADD Sheets\081-0038-D2641.46-007-STRDET.dgn

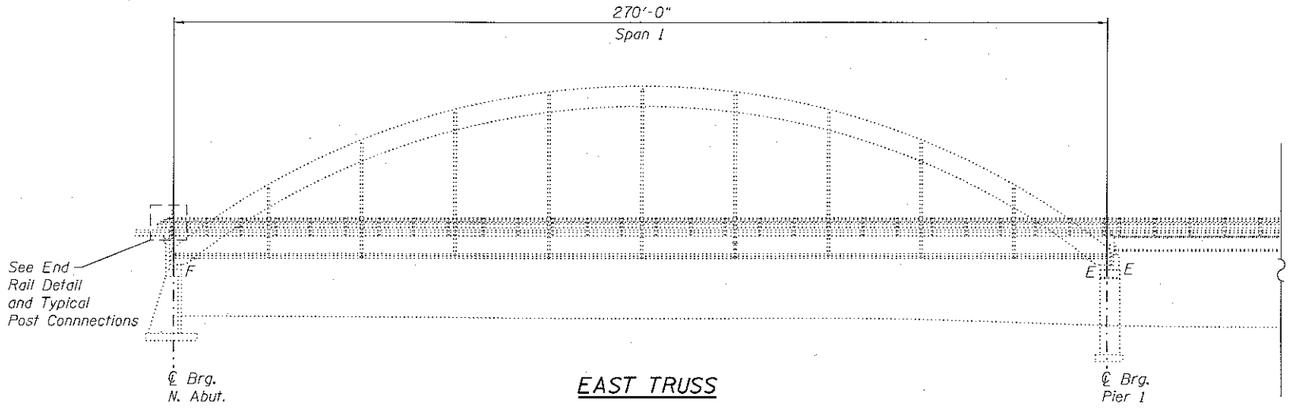
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/23/2017	CHECKED - BRL	REVISED

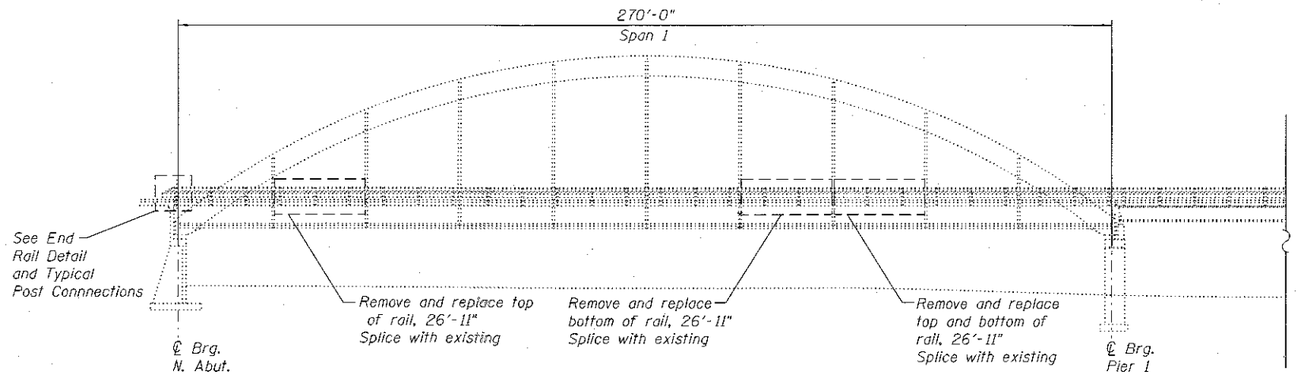
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE STEEL REPAIR DETAILS
STRUCTURE NO. 081-0038
SHEET NO. 7 OF 18 SHEETS

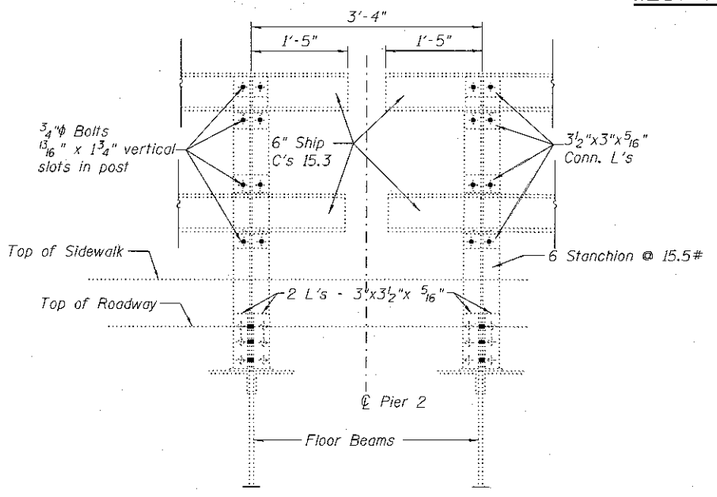
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	22
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



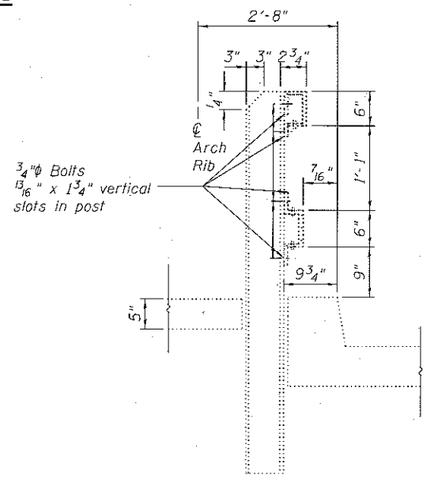
EAST TRUSS



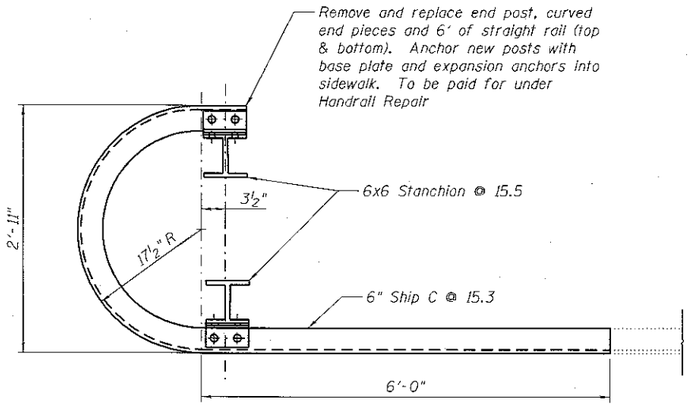
WEST TRUSS



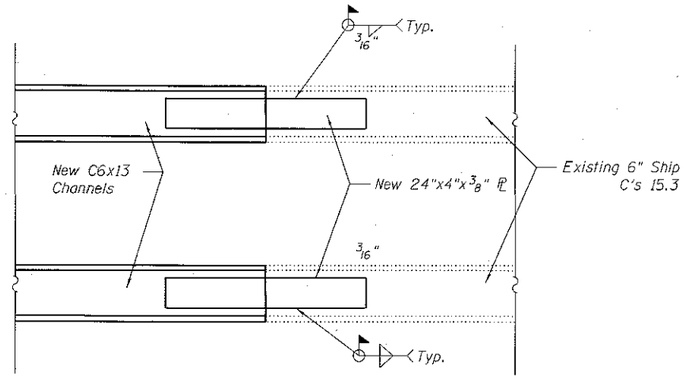
TYPICAL POST CONNECTIONS



SECTION AT RAIL POST



END RAIL DETAIL
(2 Locations at 11'-2")



RAIL SPLICE PL DETAIL
TYPICAL
(2 Locations)

Notes:

All steel rail elements shall be in accordance to 509.05 of the Standard Specifications.

All channels, shims, bolts, and plates shall be paid for under the unit payment, foot, for Handrail Repairs, Bridge No. 1.

All structural steel for Handrail repair shall be AASHTO M 270 Grade 36.

All railing components both above and below deck shall be cleaned and painted according to the details shown on sheet 6 of 18 and shall be paid for under the unit payment, foot, for Handrail Repairs, Bridge No. 1.

BILL OF MATERIALS

Handrail Repairs Bridge No. 1	Foot	173.4

19081 OLD LaGRANGE RD. STE. 106
MOKENA, IL 60448
312.256.9090

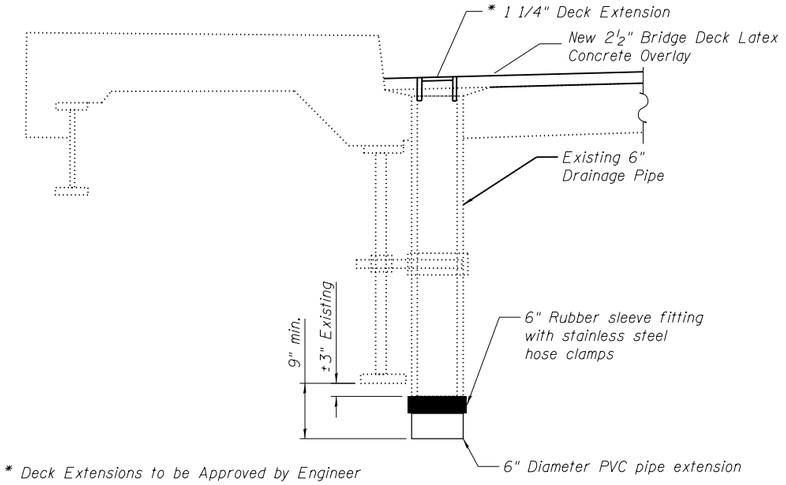
USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 3/26/2018	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAILING REPAIRS
STRUCTURE NO. 081-0038
SHEET NO. 8 OF 18 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	23
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\SHARED\Projects\2015-0802\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0038\CADD Sheets\0810038-64L46-B08-Railing_03.26.2018.dgn

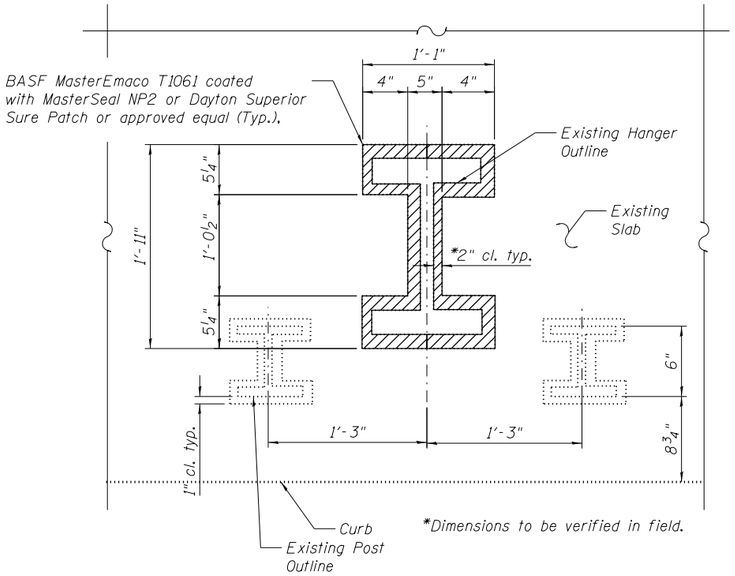


* Deck Extensions to be Approved by Engineer

EXISTING DRAINAGE PIPE TYPICAL

(At 86 Locations Required)

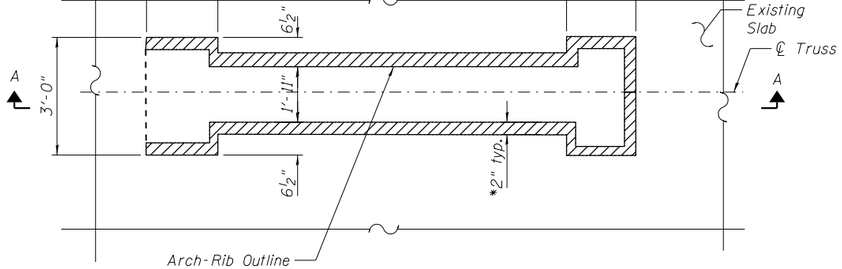
Note: Top & Bottom Drain Extensions are both included under the Pay Item " FLOOR DRAIN EXTENSIONS"



*Dimensions to be verified in field.

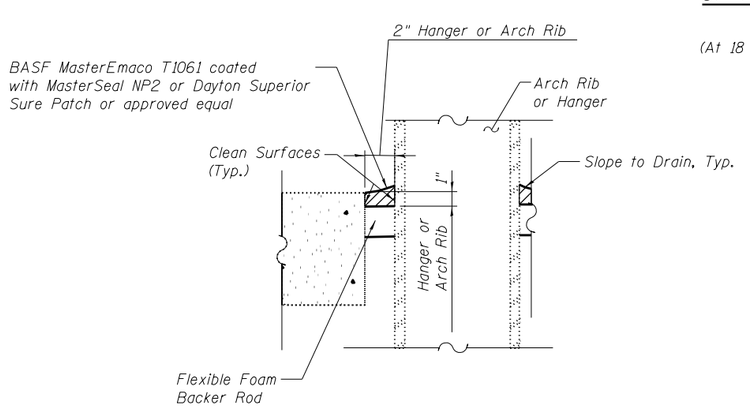
TYPICAL PLAN VIEW OF RAIL POSTS AND HANGERS

(At 18 Hanger Locations Required)

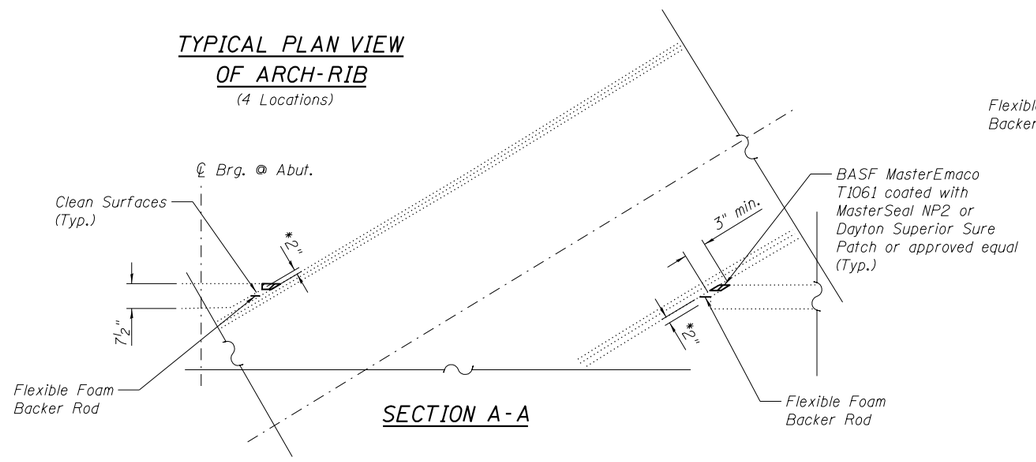


TYPICAL PLAN VIEW OF ARCH-RIB

(4 Locations)



TYPICAL SEAL DETAIL AT HOLES



SECTION A-A

*Dimensions to be verified in field.

BILL OF MATERIALS

Joint Seal Repair Bridge No. 1	L Sum	1.0
Floor Drain Extension	Each	86

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0038\CADD Sheets\0810038-64L46-009-Misc Details.dgn

19081 OLD LaGRANGE RD, STE. 106
MOKENA, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED	
	CHECKED - GEK	REVISED	
PLOT SCALE =	DRAWN - MJL	REVISED	
PLOT DATE = 1/18/2018	CHECKED - JCE	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS
STRUCTURE NO. 081-0038
SHEET NO. 9 OF 18 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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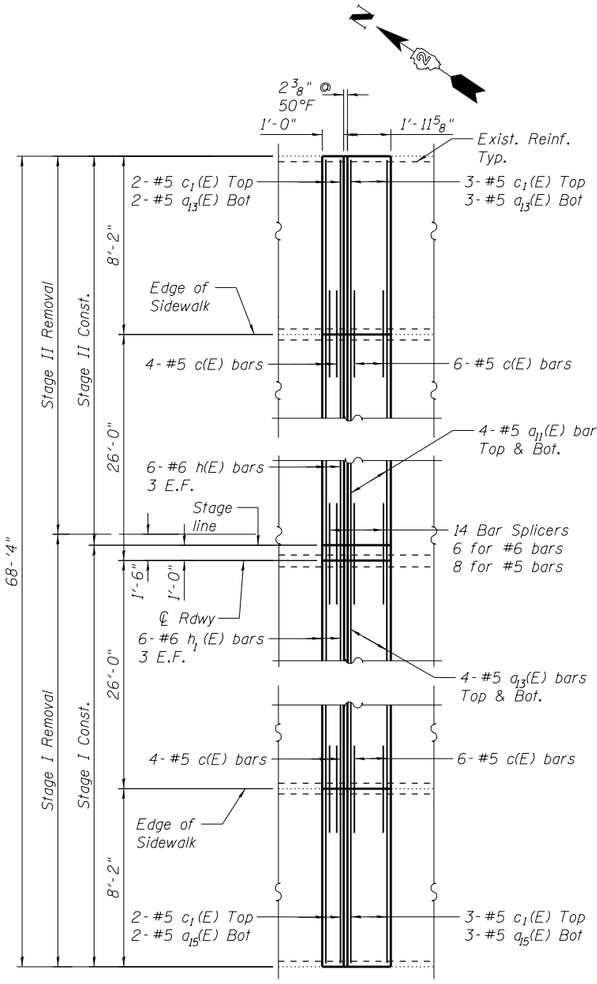
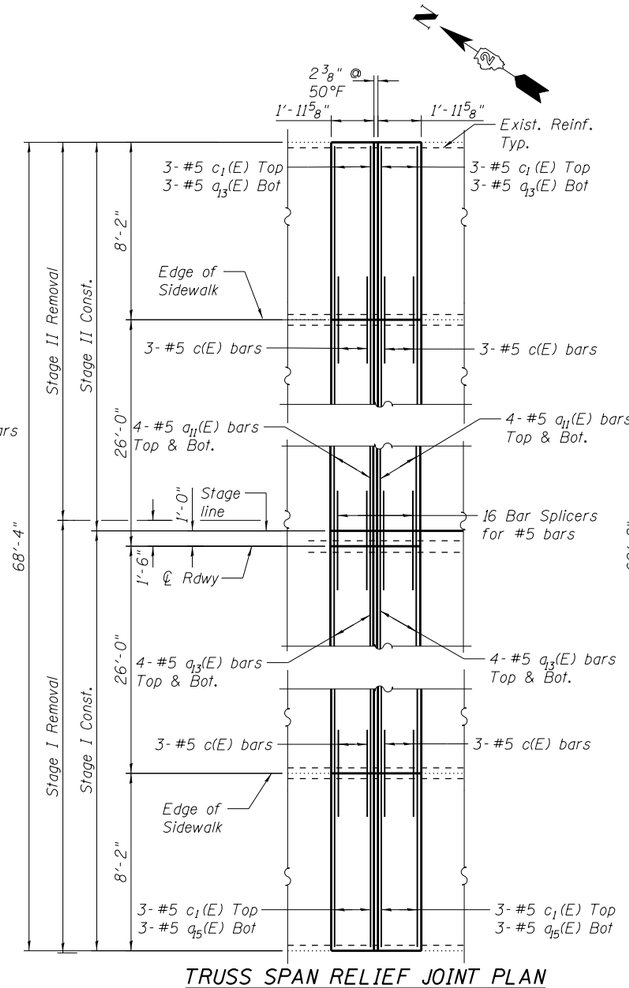
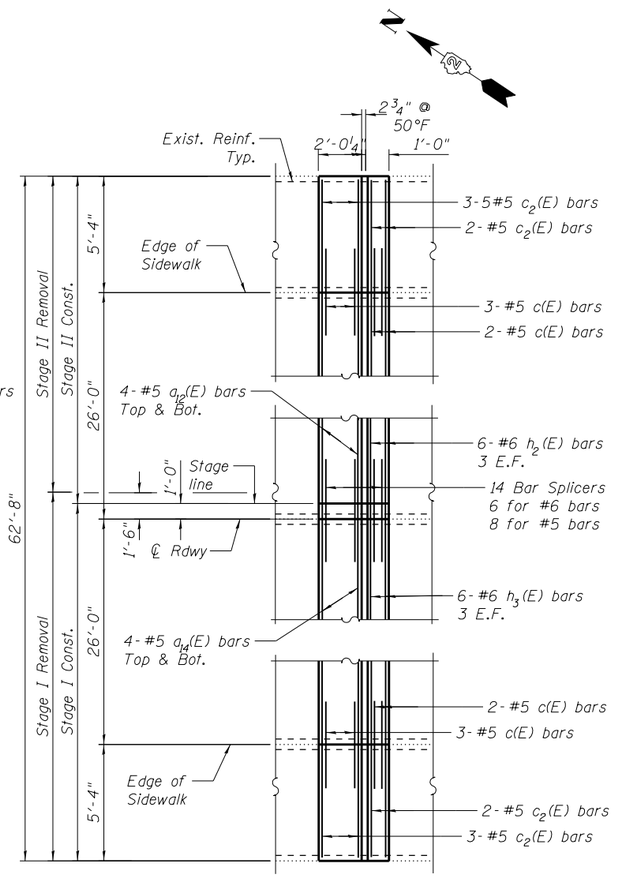
		CONTRACT NO. 64146		
	ILLINOIS FED. AID PROJECT			



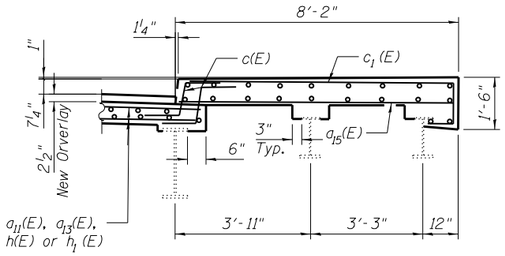
NORTH ABUTMENT PLAN



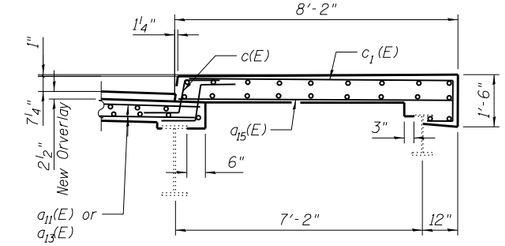
TRUSS SPAN RELIEF JOINT PLAN



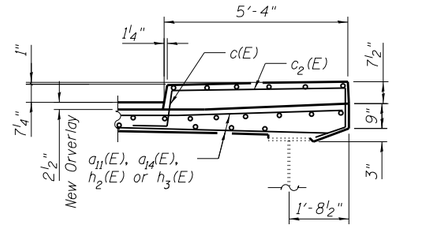
SOUTH ABUTMENT PLAN



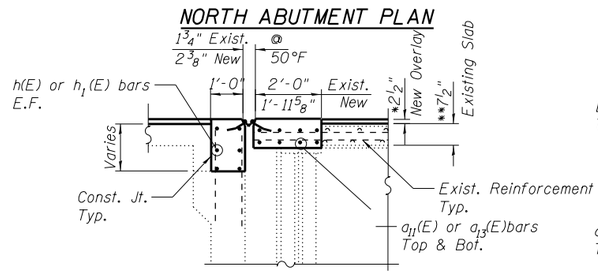
NORTH ABUTMENT AND PIER 1 SECTION AT SIDEWALK



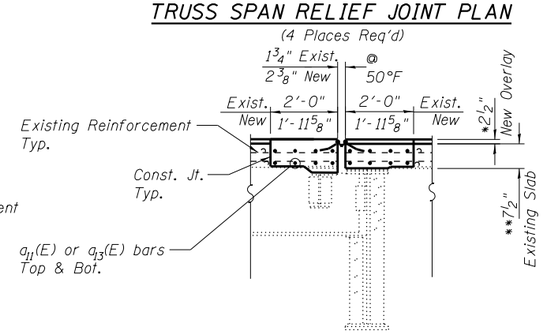
TYPICAL TRUSS RELIEF JOINT SECTION AT SIDEWALK



PIER 1 TO SOUTH ABUTMENT TYPICAL SECTION AT SIDEWALK

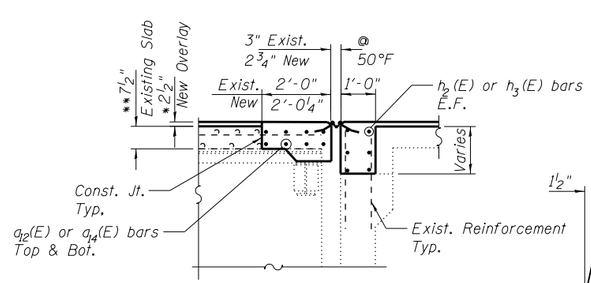


NORTH ABUTMENT SECTION

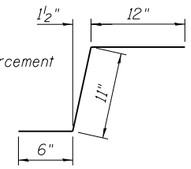


TRUSS SPAN RELIEF JOINT SECTION

(4 Places Req'd)



SOUTH ABUTMENT SECTION

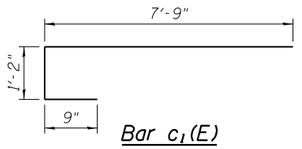


Bar c(E)

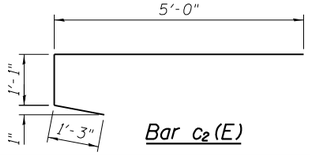
*Prior to 1/4" Diamond Grinding

** Existing Slab to have 3/4" Deck Scarification prior to laying new overlay

Note:
Cost of removing and replacing handrail and posts to complete joint repairs is incidental to the Pay Item "Preformed Joint Strip Seal".



Bar c1(E)



Bar c2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a11(E)	72	#5	27'-8"	
a12(E)	8	#5	32'-0"	
a13(E)	72	#5	25'-8"	
a14(E)	8	#5	30'-0"	
a15(E)	68	#5	7'-10"	
c(E)	88	#5	2'-5"	
c1(E)	68	#5	9'-8"	
c2(E)	10	#5	7'-4"	
h(E)	6	#6	27'-8"	
h1(E)	6	#6	25'-8"	
h2(E)	6	#6	32'-0"	
h3(E)	6	#6	30'-0"	
Concrete Removal		Cu. Yds.	46.0	
Concrete Superstructure		Cu. Yds.	45.9	
Reinforcement Bars, Epoxy Coated		Pound	6,784	
Bar Splicers		Each	92	

WYNNDALCO ENTERPRISES
19081 OLD LaGRANGE RD, STE. 106
MOKENA, IL 60448
312.256.9090

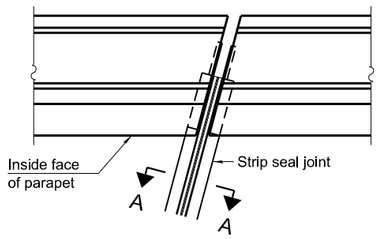
USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

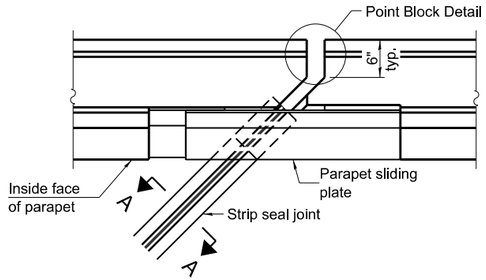
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 081-0038
SHEET NO. 10 OF 15 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	25
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

FILE NAME = Z:\SHARED\Projects\2016-0082\1.0 Work Order 1\3.0 Task 3 - Repair Plans\0081-0038\CADD Sheets\081038-64L46-B10-JNT-2.dgn

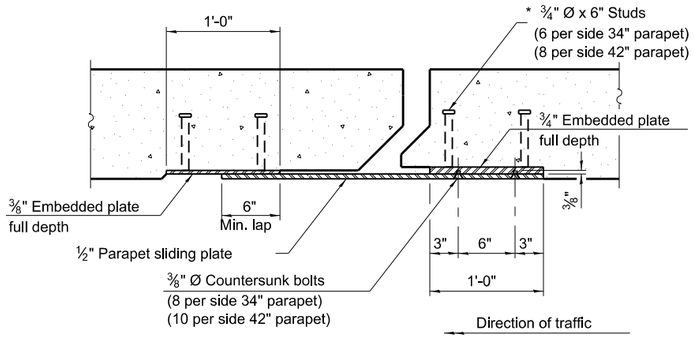


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

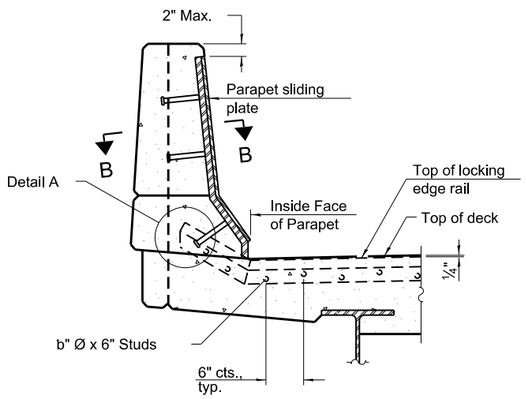
The Maximum space between locking edge rail segments shall be c" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

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

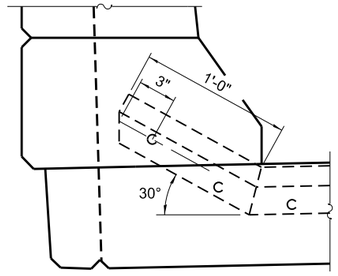
34" F-shape barrier shown, 42" F-shape similar as noted.

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

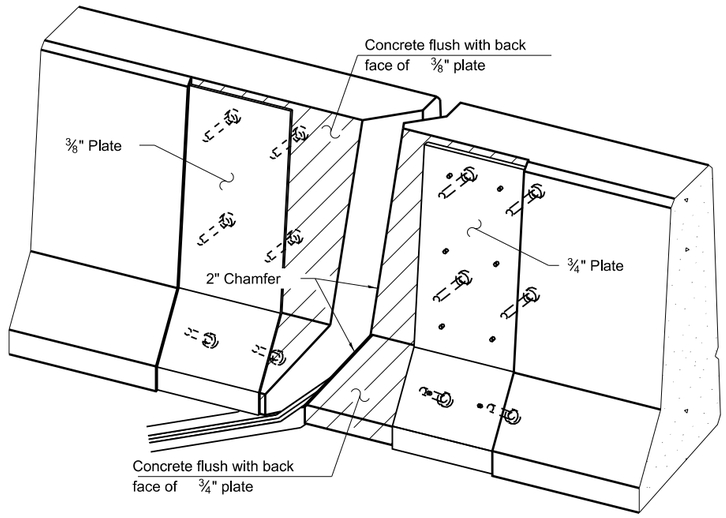


ELEVATION AT PARAPET

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

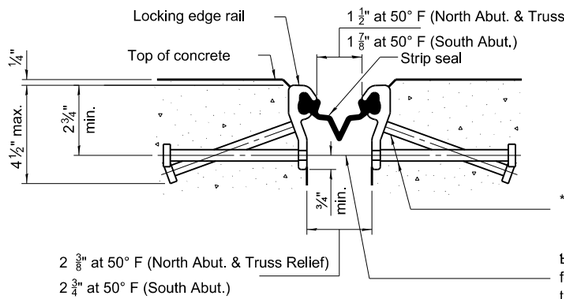


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



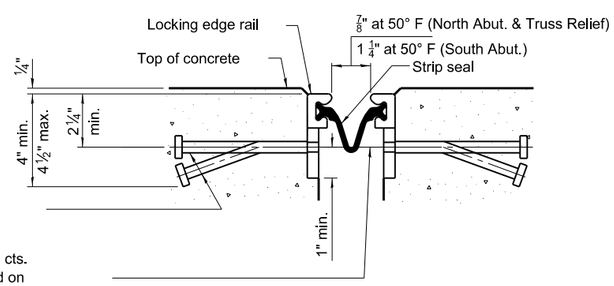
SHOWING ROLLED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

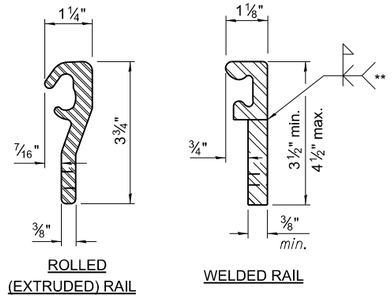
Ь" ϕ threaded rods in Ɗ" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



SHOWING WELDED RAIL JOINT

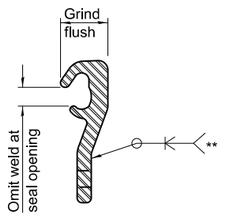


ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	404

EJ-SS-S 8-11-17

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd. Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

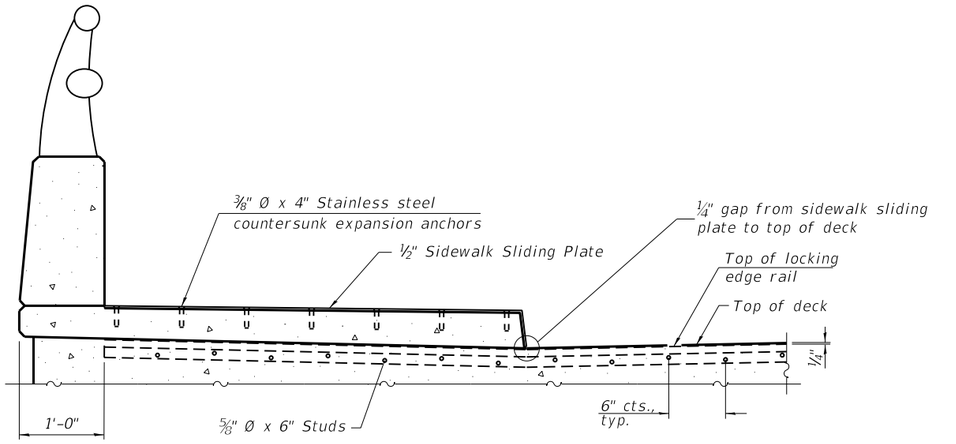
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0038

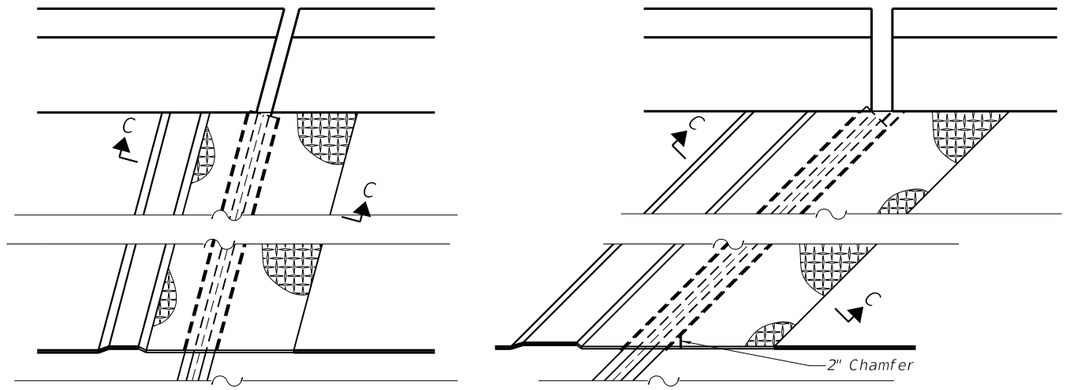
SHEET NO. 11 OF 15 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	26
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0038\C4DD Sheets\0810038-64L46-011-JNT_Details 1 of 3.dgn



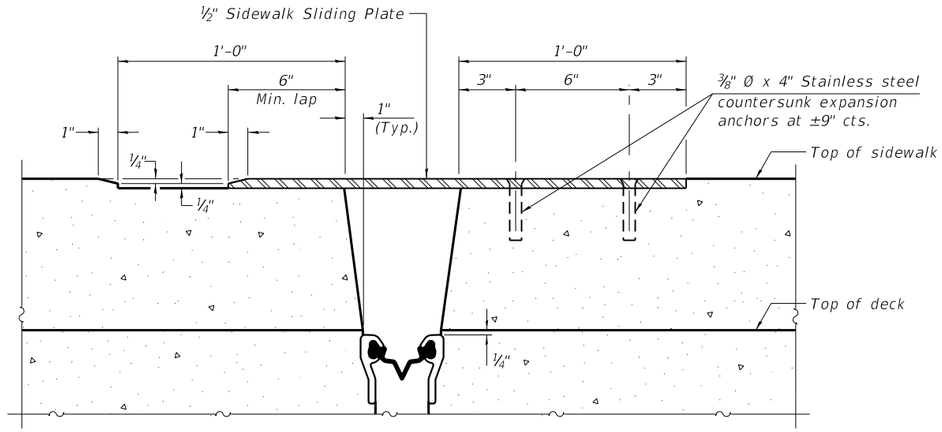
ELEVATION AT RAISED SIDEWALK



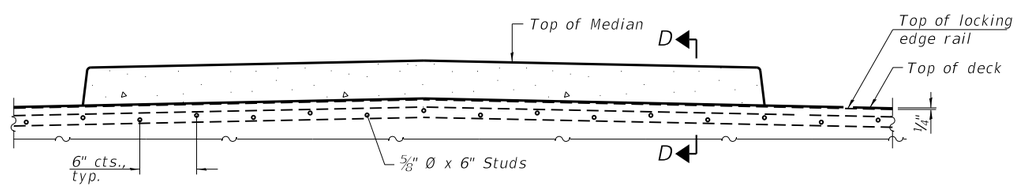
(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT RAISED SIDEWALK

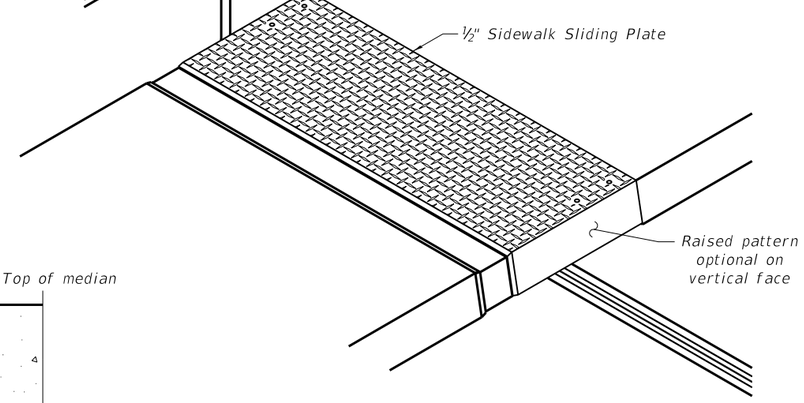


SECTION C-C

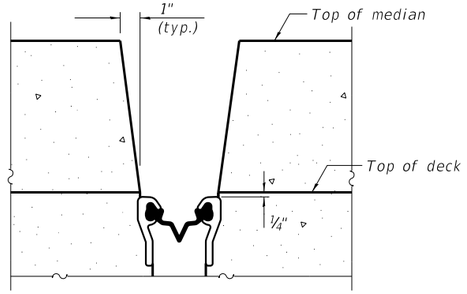


ELEVATION AT MEDIAN

For skews > 30°, chamfer acute corners 2" similar to sidewalk.



TRIMETRIC VIEW



SECTION D-D

(at Rt. ∠'s)

EJ-SS-S 8-11-17

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0038

SHEET NO. 12 OF 15 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	27
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

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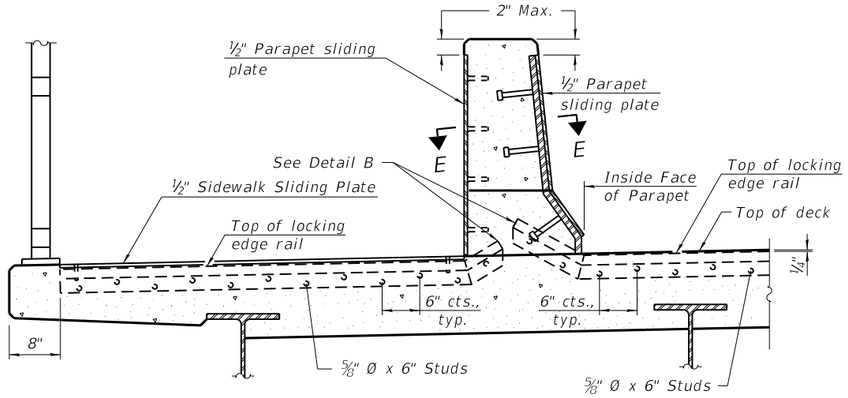
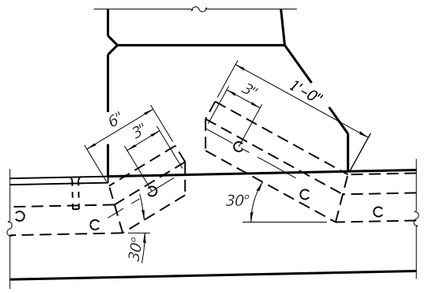
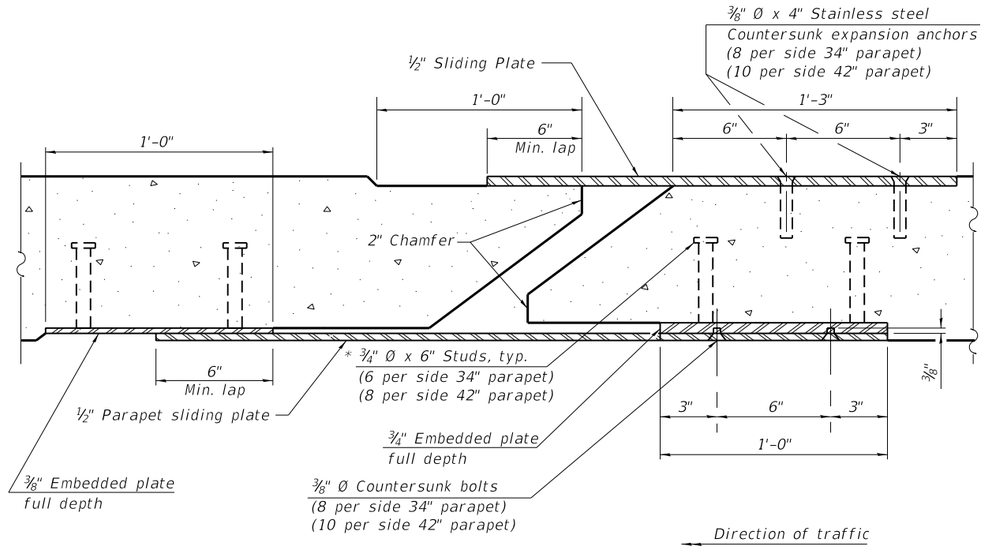


ELEVATION AT DECK LEVEL SIDEWALK

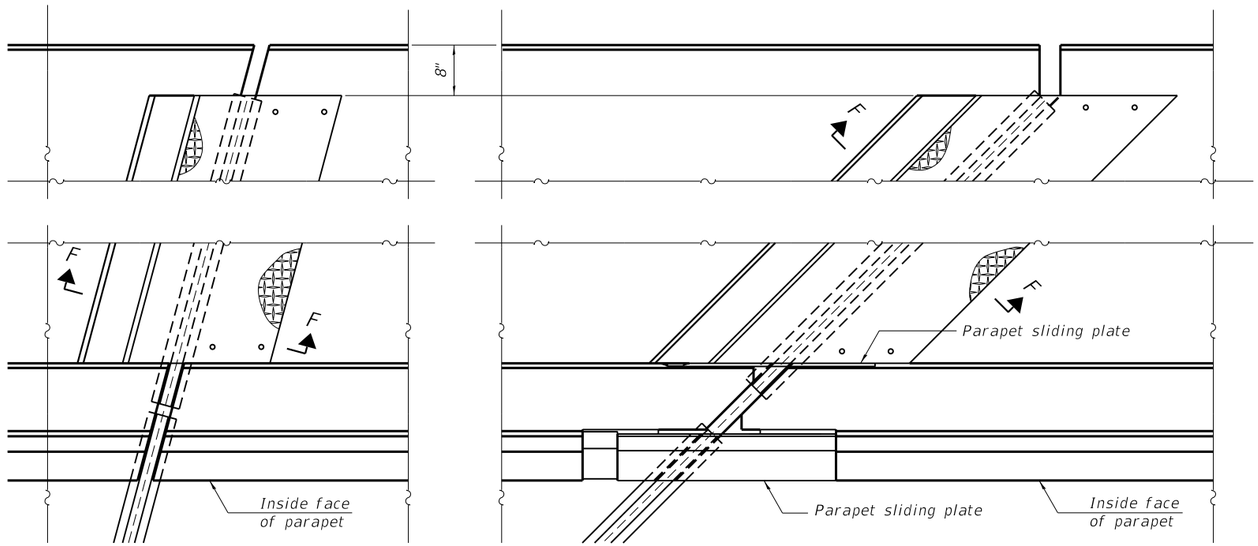
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL B



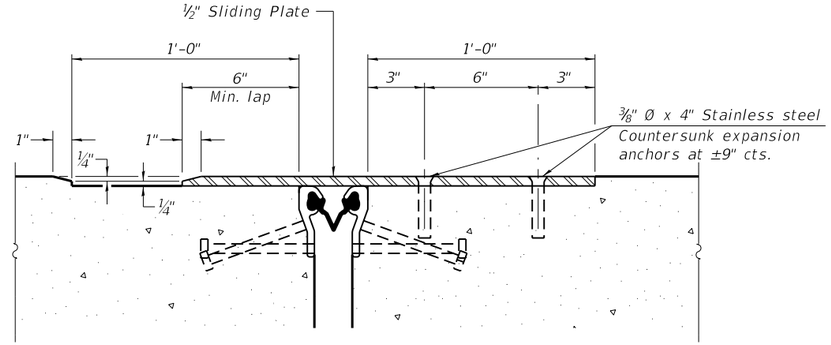
SECTION E-E



(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT DECK LEVEL SIDEWALK



SECTION F-F

EJ-SS-S

8-11-17

(Sheet 3 of 3)

WYNNDALCO ENTERPRISES 19081 Old LaGrange Rd, Suite 106 Mokena, IL 60448 312.256.9090	USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
		CHECKED - GEK	REVISED
	PLOT SCALE =	DRAWN - MJL	REVISED
	PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0038

SHEET NO. 13 OF 15 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	28
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

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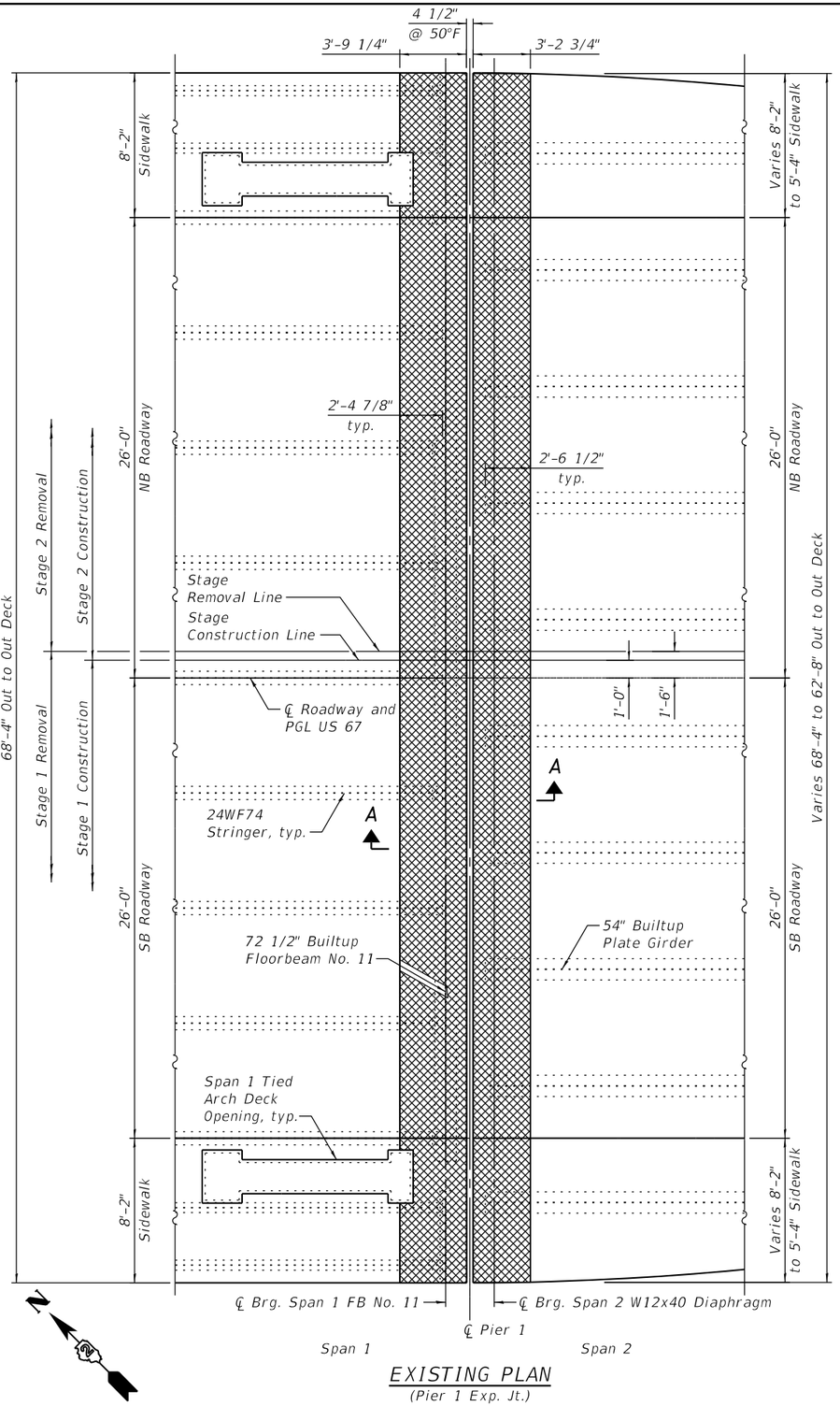
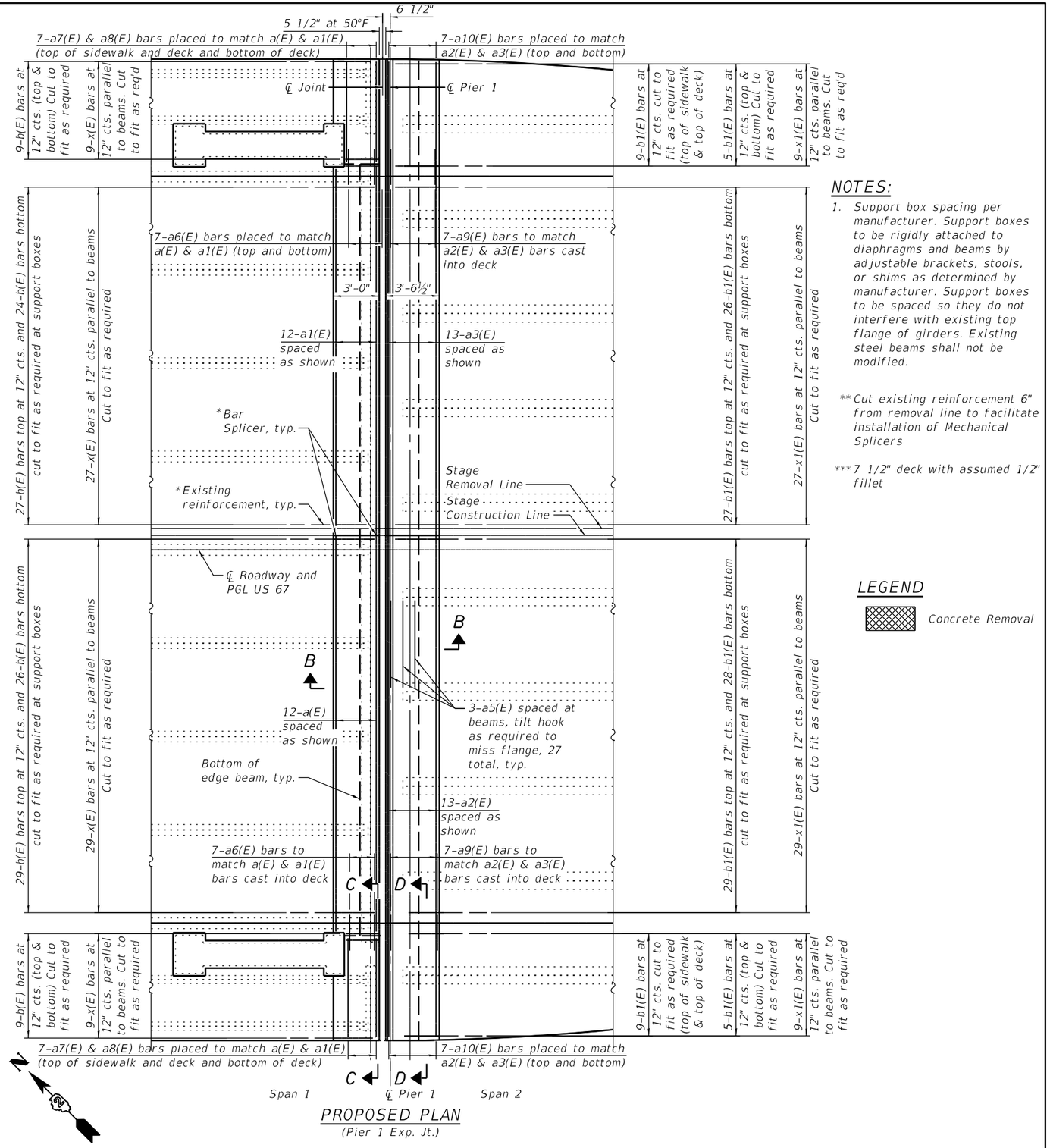


EXISTING PLAN
(Pier 1 Exp. Jt.)



PROPOSED PLAN
(Pier 1 Exp. Jt.)

NOTES:

1. Support box spacing per manufacturer. Support boxes to be rigidly attached to diaphragms and beams by adjustable brackets, stools, or shims as determined by manufacturer. Support boxes to be spaced so they do not interfere with existing top flange of girders. Existing steel beams shall not be modified.

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

*** 7 1/2" deck with assumed 1/2" fillet

LEGEND

Concrete Removal

FILE NAME = S:\JOL\44008-4499\446\001\Micros\CADD Sheets\081-0038-D2E4L46-01-MODJT2.dgn

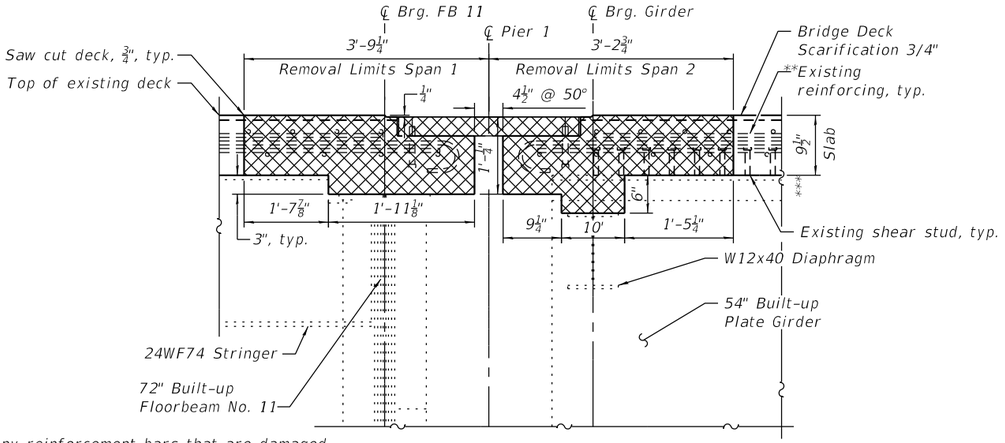
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

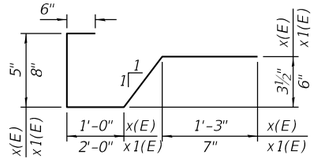
MODULAR JOINT PLAN
STRUCTURE NO. 081-0038
SHEET NO. 14 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	29
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



SECTION A-A
(Near ℄ Roadway)

Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".



BAR x(E) & x1(E)

LEGEND

Concrete Removal

Concrete Superstructure

NOTES:

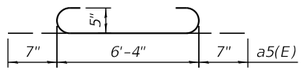
1. Support box spacing per manufacturer. Support boxes to be rigidly attached to diaphragms and beams by adjustable brackets, stools, or shims as determined by manufacturer. Support boxes to be spaced so they do not interfere with existing top flange of girders. Existing steel beams shall not be modified.

* All existing dimensions shall be field verified by the contractor prior to order and fabrication of the modular joint

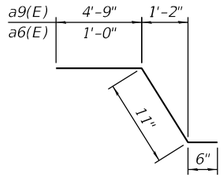
** Cut existing reinforcement 6" from removal line to facilitate installation of Mechanical Splicers

*** 7½" deck with assumed ½" fillet

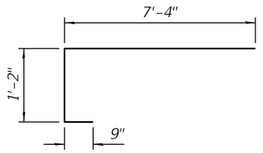
**** Prior to ¼" Diamond Grinding



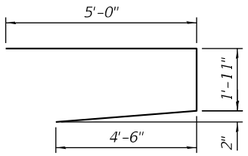
BAR a5(E)



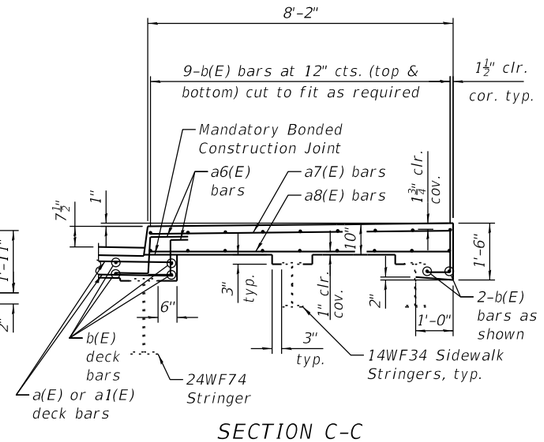
BAR a6(E) & a9(E)



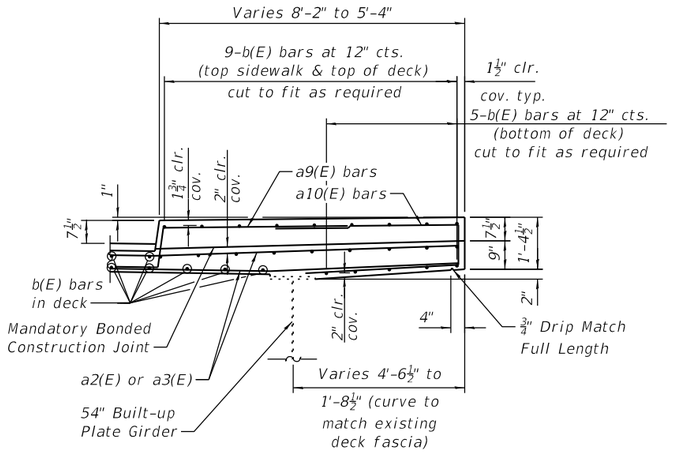
BAR a7(E)



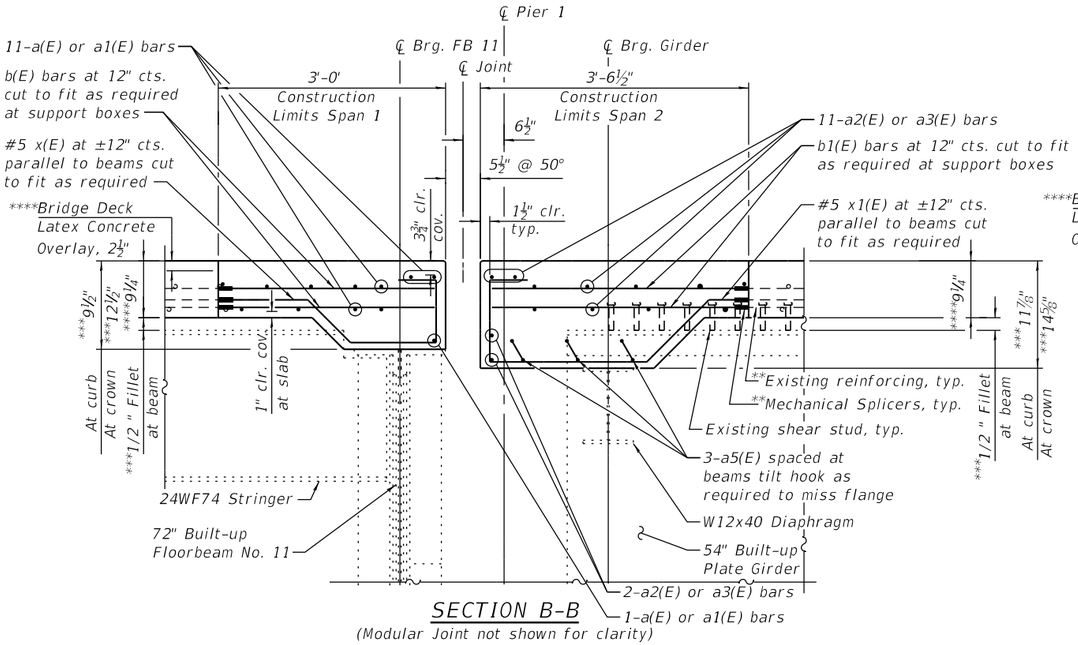
BAR a10(E)



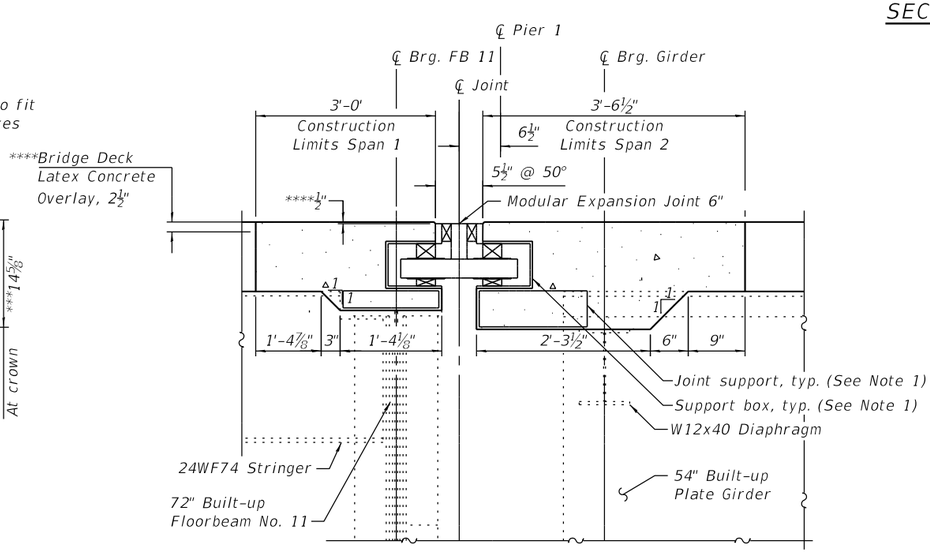
SECTION C-C



SECTION D-D



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



SECTION B-B
(Reinforcement not shown for clarity)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	12	#5	27'-8"	
a1(E)	12	#5	25'-8"	
a2(E)	13	#5	35'-0"	
a3(E)	13	#5	33'-0"	
a5(E)	27	#5	7'-6"	
a6(E)	14	#5	2'-5"	
a7(E)	14	#5	9'-8"	
a8(E)	14	#5	7'-9"	
a9(E)	4	#5	6'-2"	
a10(E)	14	#5	11'-5"	
b(E)	146	#5	2'-10"	
b1(E)	156	#5	3'-5"	
x(E)	74	#5	3'-8"	
x1(E)	74	#5	4'-6"	
Concrete Removal		Cu. Yd.	16	
Concrete Superstructure		Cu. Yd.	16	
Bar Splicers		Each	28	
Mechanical Splicers		Each	450	
Reinforcement Bars, Epoxy Coated		Pound	4,000	
Modular Expansion Joint 6"		Foot	69	

Reinforcement bars designated (E) shall be epoxy coated.

FILE NAME = S:\JOL\4408-4499\4416\001\Micros\CADD Sheets\081-0038-02E4L46-012-MODJTDET.dgn

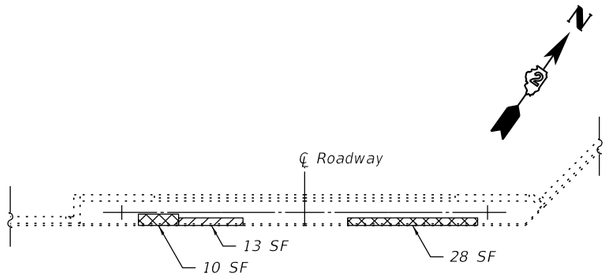
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

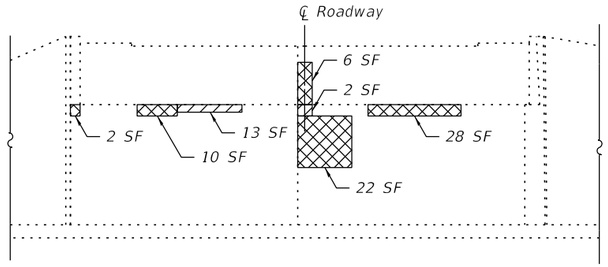
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR JOINT DETAILS
STRUCTURE NO. 081-0038
SHEET NO. 15 OF 18 SHEETS

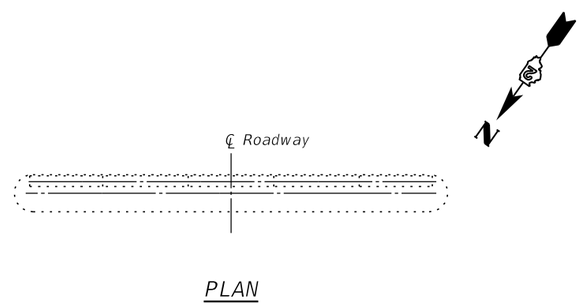
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	30
		CONTRACT NO. 64L46		
	ILLINOIS	FED. AID PROJECT		



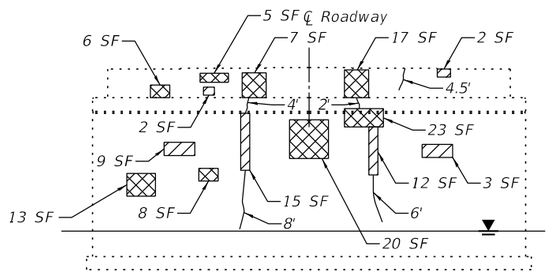
PLAN



ELEVATION
(North Abutment)



PLAN



ELEVATION
(Pier 1)
(Looking South)

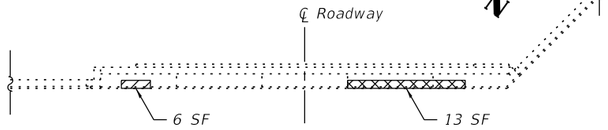
NOTES

1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inspection in November 2016 and included a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with pay item Structural Repair of Concrete (Depth equal to or less that 5").

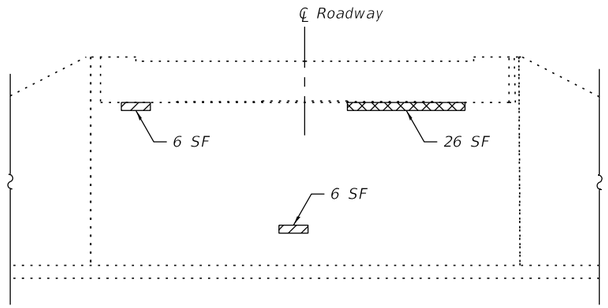
LEGEND

- *Epoxy Crack Injection
- *Structural Repair of Concrete (Depth equal to or less than 5 inches)
- *Structural Repair of Concrete (Depth greater than 5 inches)
- SF Square Feet

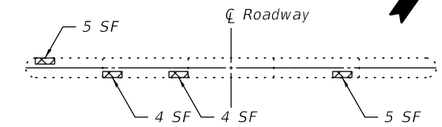
*See Note 1



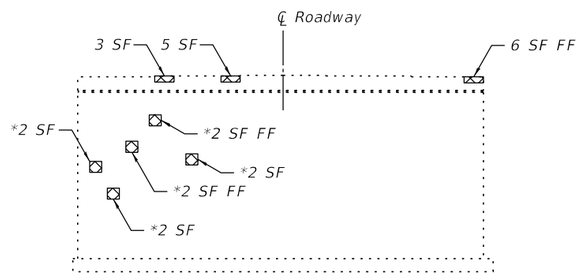
PLAN



ELEVATION
(South Abutment)



PLAN



ELEVATION
(Pier 4 shown; Pier 2 & 3 Similar)
(Looking North)

*Pier 3
Note: Pier 2 had no noted repairs at time of inspection.
NF Near Face
FF Far Face

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	1900
Epoxy Crack Injection	Foot	25
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	56
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	319

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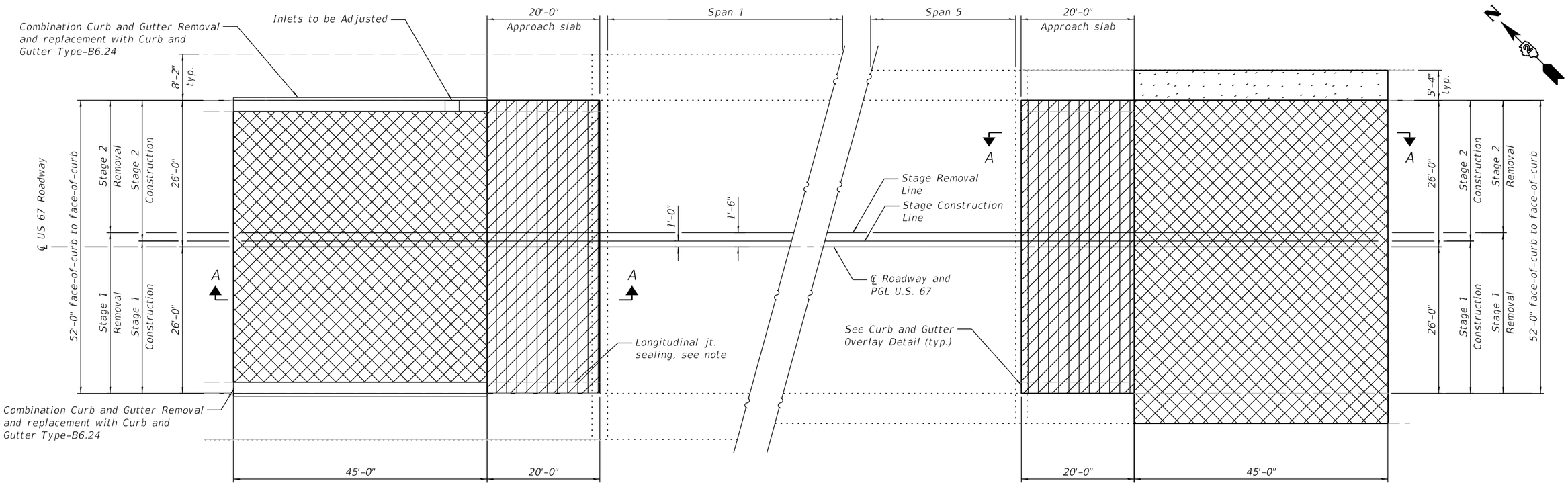
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

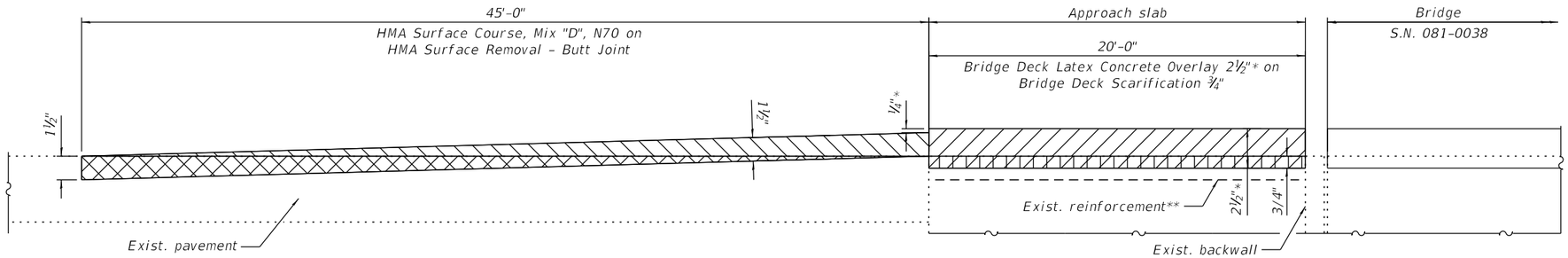
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
STRUCTURE NO. 081-0038
SHEET NO. 16 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	31
		CONTRACT NO. 64L46		
	ILLINOIS	FED. AID PROJECT		



APPROACH PLAN



SECTION A-A

The following Mixture Requirements are applicable for this project:

	Resurfacing
Mixture Use(s):	Surface
PG:	PG 64-22
Design Air Voids	4.0 @ N70
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5
Friction Aggregate	D
20 Year ESAL	3.9
Mix Unit Weight	112 lbs/sy/in

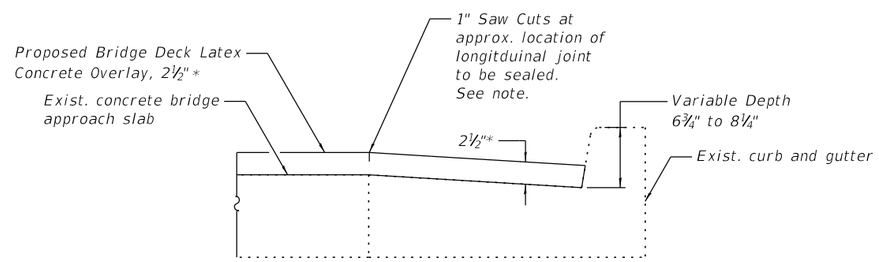
LEGEND

- Aggregate Wedge Shoulder, Type B
- HMA Surface Course, Mix "D", N70
- Bridge Deck Latex Concrete Overlay, 2½" *
- HMA Surface Removal - Butt Joint and HMA Surface Course, Mix "D", N70
- Bridge Deck Scarification ¾" and Bridge Deck Latex Concrete Overlay, 2½" *

Note: Longitudinal sealing on approach slab between Combination Concrete Curb and Gutter, Type B-6.24 shall be paid under Saw Cuts.

* Prior to ¼" Diamond Grinding (Bridge Section)

** 2" clear cover assumed. Existing rebar to remain undisturbed.



CURB AND GUTTER OVERLAY DETIAL

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bituminous Materials (Tack Coat)	Pound	237
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	527
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	45
Combination Curb and Gutter Removal	Foot	90
Protective Coat	Sq. Yd.	232
Saw Cuts	Foot	80
Aggregate Wedge Shoulder, Type B	Ton	3
Inlets to be Adjusted	Each	1
Combination Concrete Curb and Gutter, Type B-6.24	Foot	90
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	214
Bridge Deck Latex Concrete Overlay, 2½"	Sq. Yd.	220
Bridge Deck Scarification, ¾"	Sq. Yd.	220
Diamond Grinding (Bridge Section)	Sq. Yd.	214

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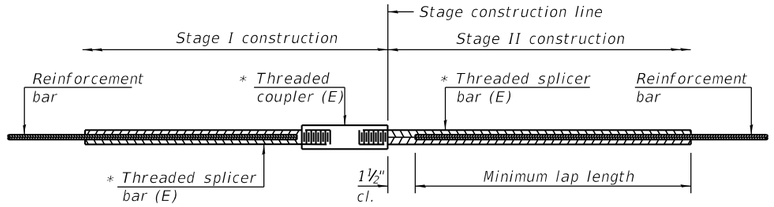
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 1/22/2018	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
STRUCTURE NO. 081-0038
SHEET NO. 17 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	32
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

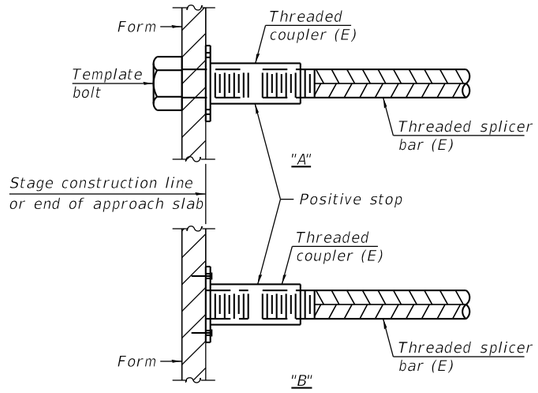


STANDARD BAR SPLICER ASSEMBLY

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

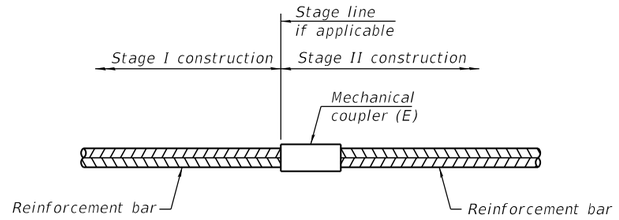
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Pier 1 Exp. Jt. Sp. 1 Stg. 2	#5	12	3'-9"
Pier 1 Exp. Jt. Sp. 2 Stg. 2	#5	16	3'-9"
North Abutment	#5	8	3'-9"
South Abutment	#5	8	3'-9"
Relief Joints	#5	64	3'-9"
North Abutment	#6	6	5'-2"
South Abutment	#6	6	5'-2"



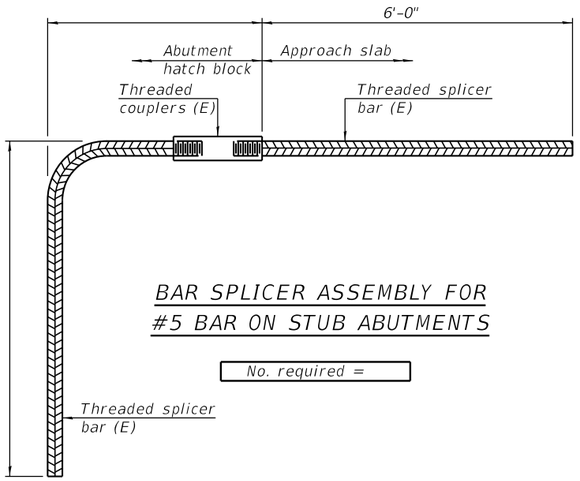
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1 Exp. Jt. Stage 1	#5	231
Pier 1 Exp. Jt. Stage 2	#5	219



NOTES

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

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

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

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

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BSD-1 2-17-2017

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	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

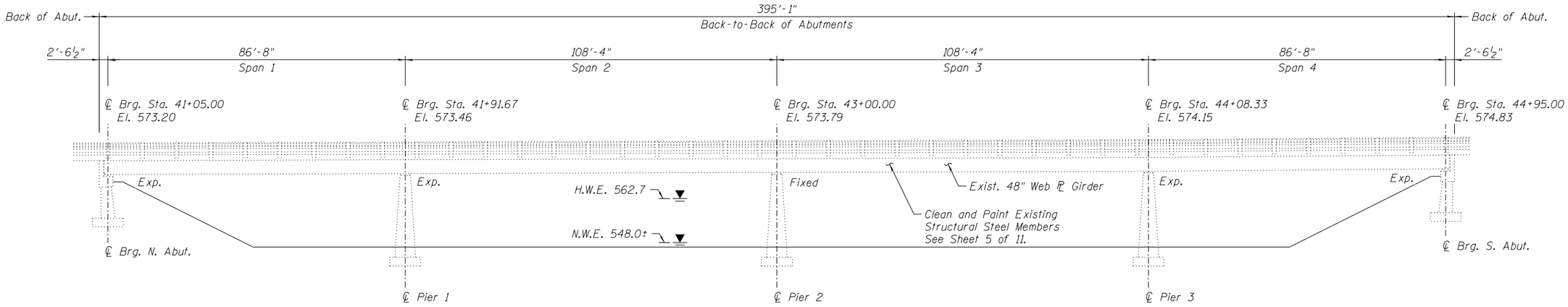
BAR SPLICER ASSEMBLY
STRUCTURE NO. 081-0038
SHEET NO. 18 OF 18 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	33
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

Existing Structure: S.N. 081-0039 was originally constructed in 1948 (S.B.I. Rte 3, Section 17-B-D-E-F-P) and is 61'-7" wide 394'-0 3/4" long. The structure consists of continuous steel girders with a concrete deck supported by concrete piers and abutments. In 1985, the bridge deck was reconstructed and the bridge width was increased from 61'-7" to 62'-8".

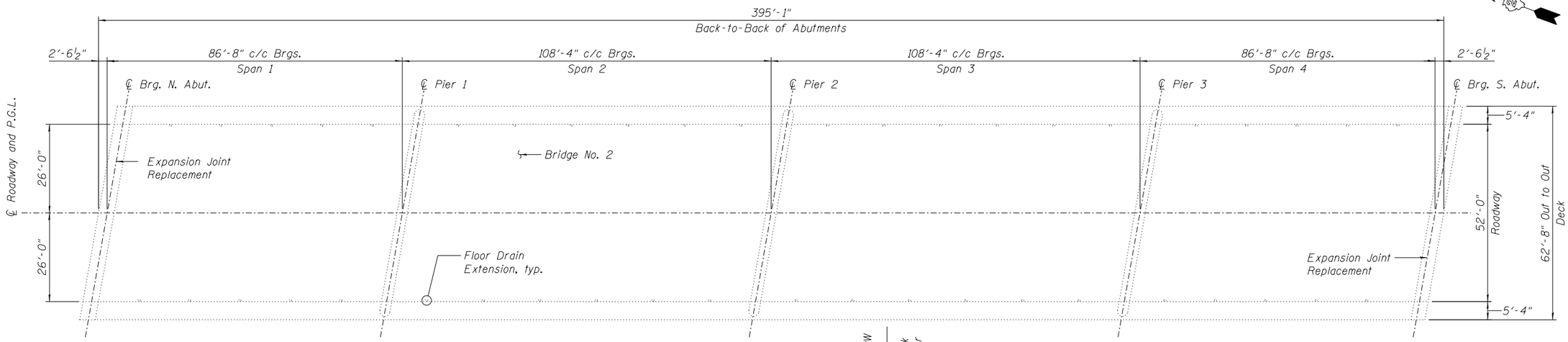
The structure will be open to traffic during staged construction.

No salvage.



ELEVATION

(Looking East)



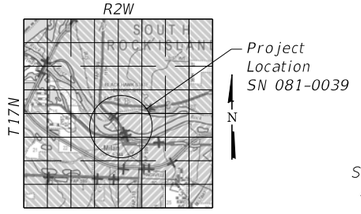
PLAN

NOTES:

1. *For Cleaning and Painting Structural Steel, See Sheet 5 of 12.*

SCOPE OF WORK

1. *Perform deck slab repairs.*
2. *Scarify 3/4" from bridge deck slab.*
3. *Remove and replace deck joints.*
4. *Apply Bridge Deck Latex Concrete Overlay, 2 1/2" to the bridge deck slab.*
5. *Perform 1/4" Diamond Grinding to the 2 1/2" Bridge Deck Latex Concrete Overlay and reconstructed transverse expansion joints.*
6. *Perform Bridge Deck Grooving (longitudinal within driving lanes) to the Bridge Deck Latex Concrete Overlay, 2 1/2".*
7. *Apply Protective Coat to reconstructed deck and parapet areas.*
8. *Clean and paint designated areas of structural steel.*
9. *Clean and paint existing bearings at expansion joints.*
10. *Perform concrete repairs and crack sealing repairs at the abutments and piers.*
11. *Clean bridge seats and apply concrete sealant.*
12. *Replace pavement markings on the top of deck.*



LOCATION SKETCH

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS 40 THRU 43

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS 36, 37, 44, 45

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS 34, 35, 38, 39

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DB STERLIN CONSULTANTS, INC. 123 N. WACKER DRIVE SUITE 2000 CHICAGO, ILLINOIS 60606 TEL. (312)857-1066 FAX. (312)857-1056	USER NAME = gerald	DESIGNED - WPK	REVISED -
		DRAWN - GJS	REVISED -
	PLOT SCALE =	CHECKED - MBC	REVISED -
	PLOT DATE = 8/23/2017	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SN 081-0039
SHEET 1 OF 12

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	34
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

GENERAL NOTES

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

2. Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All girders, cross frames, bearings, anchor bolts, and other structural steel within 10-feet (measured along the girder from the deck joints at each abutment) shall be cleaned per Near White Blast Cleaning SSPC-SP10. Existing steel surfaces not covered in Note 3 shall be painted according to the requirements of Paint System 1-OZ/E/U. The color of the finish coat shall be Gray, Munsell No. 5B 7/1.

3. The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Commercial Grade Power Tool Cleaning and shall be painted according to the requirements of Paint System 1-OZ/E/U. The color of the final finish coat for the exterior and bottom of the bottom flange of the fascia beams shall be Blue, Munsell No. 10B 3/6.

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. The cost will be included in the pay item covering removal of the existing concrete.

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

7. 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 shall be included with Concrete Removal.

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

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

10. A complete set of existing bridge plans can be obtained by contacting IDOT District 2:

    IDOT District 2
    Attn: Mahmoud Etemadi, P.E. 815-284-5393
    819 Depot Avenue
    Dixon, IL 61021

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Materials (Tack Coat)	Pound	282	-	282
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq Yd	313	-	313
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	57	-	57
Hot-Mix Asphalt Surface Removal, 1/4"	Sq Yd	313	-	313
Protective Coat	Sq Yd	2,555	-	2,555
Saw Cuts	Foot	99	-	99
Concrete Removal	Cu Yd	16	-	16
Concrete Superstructure	Cu Yd	15.9	-	15.9
Bridge Deck Grooving (Longitudinal)	Sq Yd	2,352	-	2,352
Reinforcement Bars, Epoxy Coated	Pound	2,230	-	2,230
Bar Splicers	Each	28	-	28
Preformed Joint Seal Strip	Foot	131	-	131
Concrete Sealer	Sq Ft	-	1,660	1,660
Floor Drain Extension	Each	22	-	22
Bridge Deck Latex Concrete Overlay, 2 1/2 inches	Sq Yd	2,514	-	2,514
Containment and Disposal of Lead Paint Cleaning Residue No. 2	L Sum	1	-	1 1
Cleaning and Painting Steel Bridge, No. 2	L Sum	1	-	
Bridge Deck Scarification 3/4 inch	Sq Yd	3,114	-	3,114
Manholes to be Adjusted	Each	1	-	1
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq Ft	-	4	4
Structural Repair of Concrete (Depth Greater than 5 inches)	Sq Ft	-	50	50
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1	-	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	7	-	7
Diamond Grinding (Bridge Section)	Sq Yd	2,352	-	2,352

DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1000 FAX. (312)857-1056

USER NAME = Mike Livernois	DESIGNED - WPK	REVISED -
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 1/24/2018	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DETAILS
SN 081-0039
SHEET 2 OF 12

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	35
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

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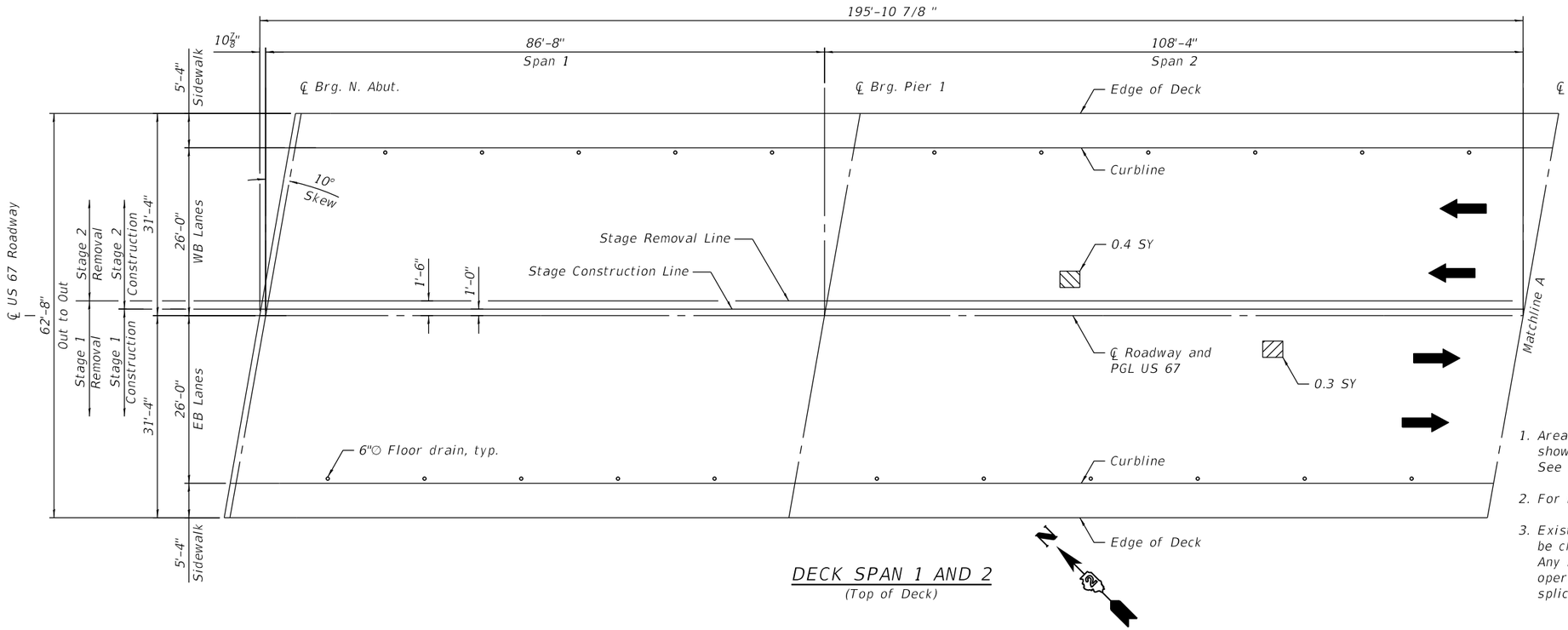
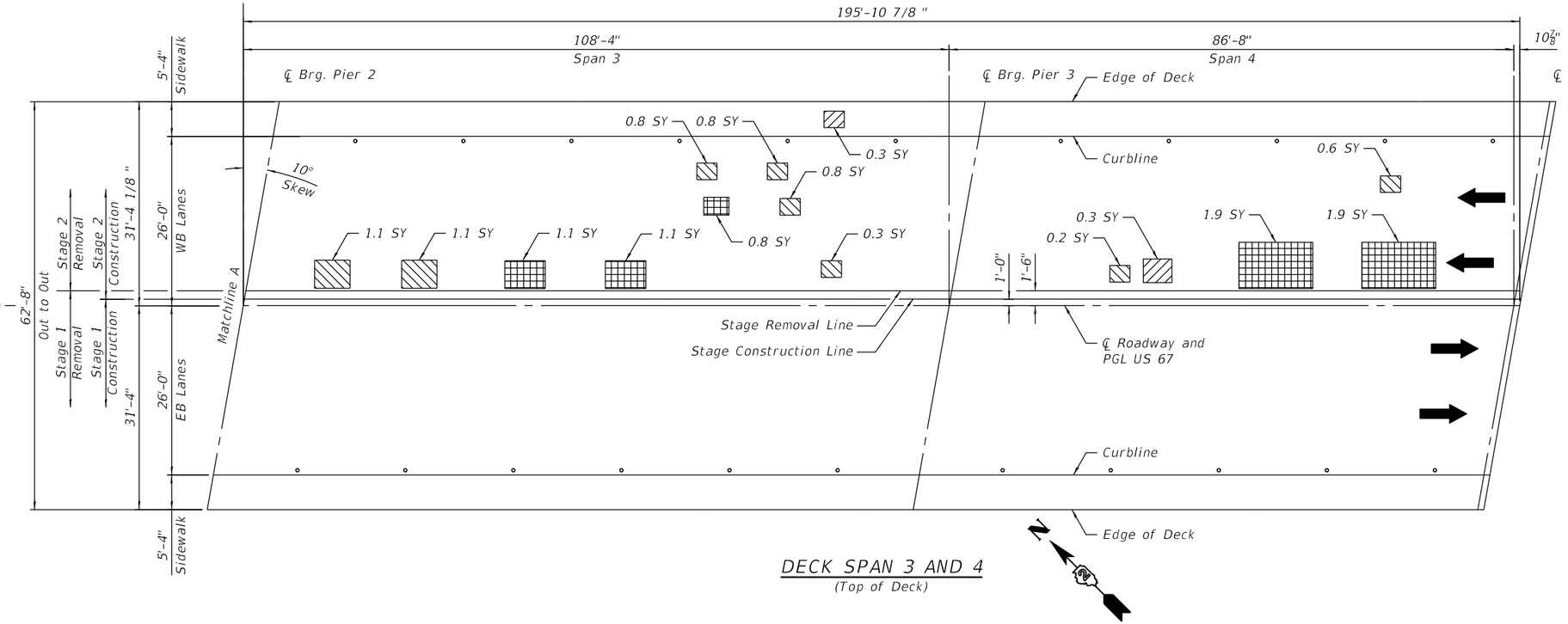


DECK SPAN 1 AND 2
(Top of Deck)



DECK SPAN 3 AND 4
(Top of Deck)

NOTES

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction. See Special Provisions.
2. For bridge deck final cross section, see sheet 4 of 11.
3. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

LEGEND

- Concrete Removal
- Deck Slab Repair, (Partial)
- Deck Slab Repair, (Full Depth, Type I)*
- Deck Slab Repair, (Full Depth, Type II)*
- Traffic Direction
- SY — Square Yard

*See Note 1

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Protective Coat	Sq. Yd.	2271
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	2090
Bridge Deck Latex Concrete Overlay, 2½ Inches	Sq. Yd.	2241
Bridge Deck Scarification, ¾"	Sq. Yd.	2241
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	7
Diamond Grinding (Bridge Section)	Sq. Yd.	2090

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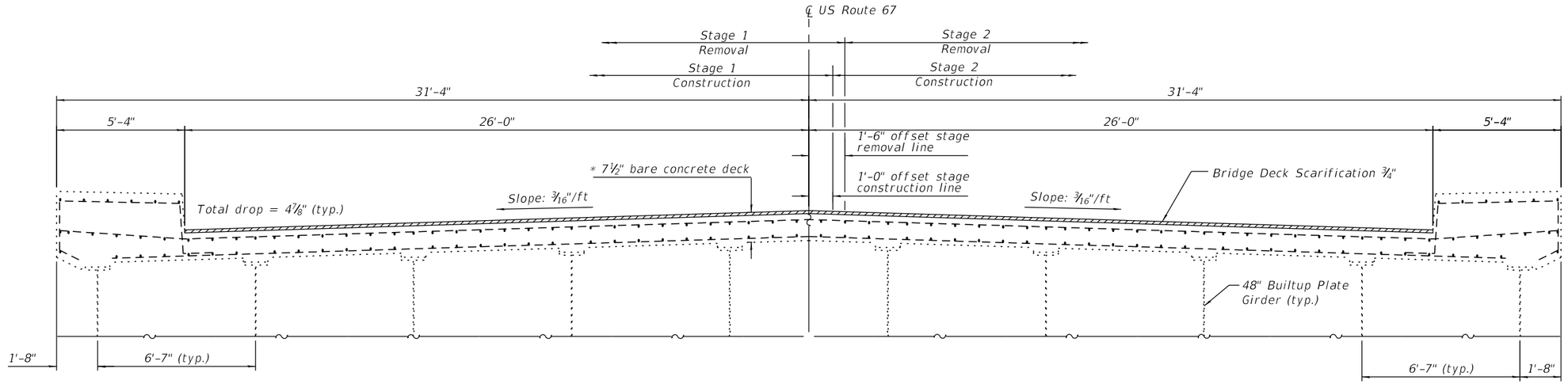
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

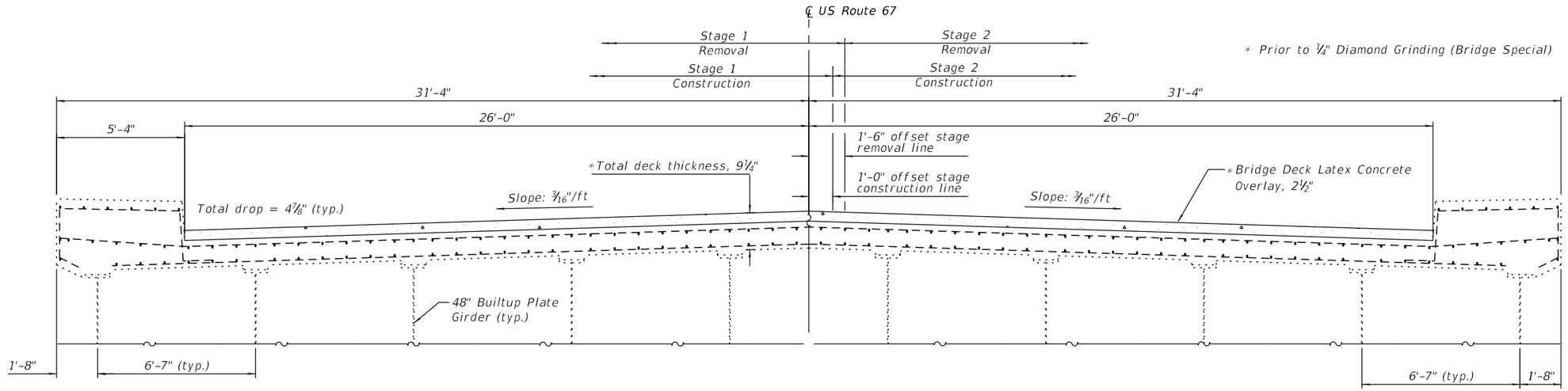
BRIDGE DECK REPAIR PLANS
STRUCTURE NO. 081-0039
SHEET NO. 3 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	36
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



CROSS SECTION SHOWING REMOVAL

(Facing North)



LEGEND

Bridge Deck Scarification ¾"

Bridge Deck Latex Concrete Overlay, 2½ Inches

NOTES

1. Roadway is symmetrical about centerline.
2. Parapet and handrail not shown for clarity.
3. For Bill of Materials see sheet 3 of 11.
4. The minimum thickness of the bridge deck latex concrete overlay shall be 2¼" before ¼" grinding.

CROSS SECTION SHOWING NEW OVERLAY

(Facing North)

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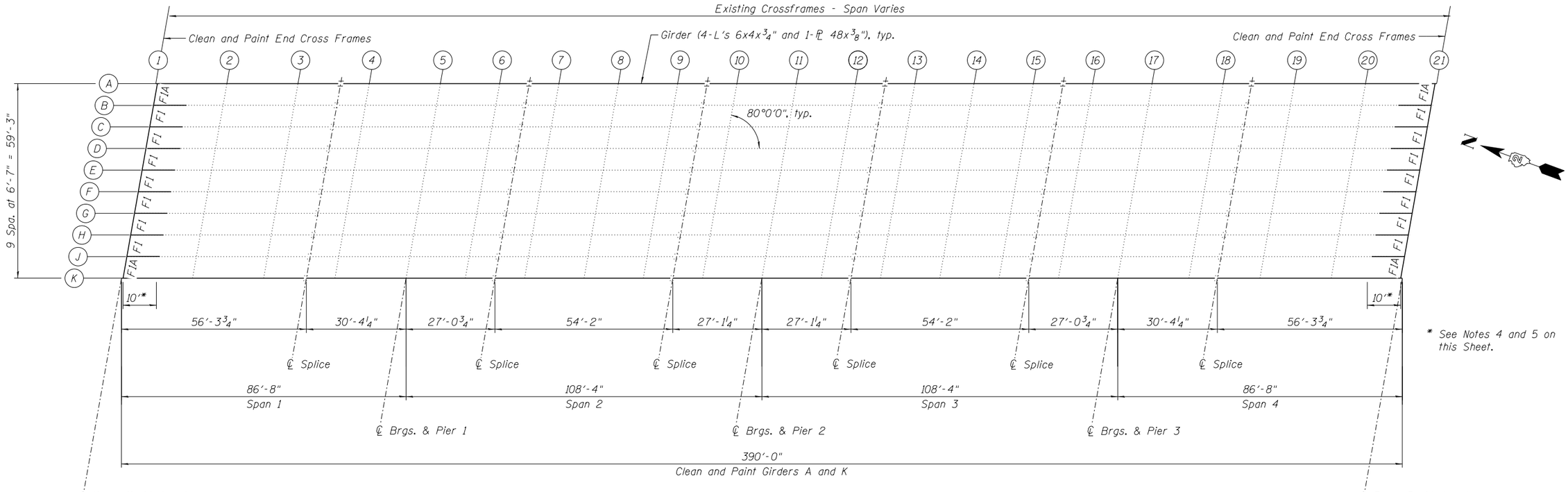
	CHECKED - AJS	REVISED	
PLOT SCALE =	DRAWN - BJF	REVISED	
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

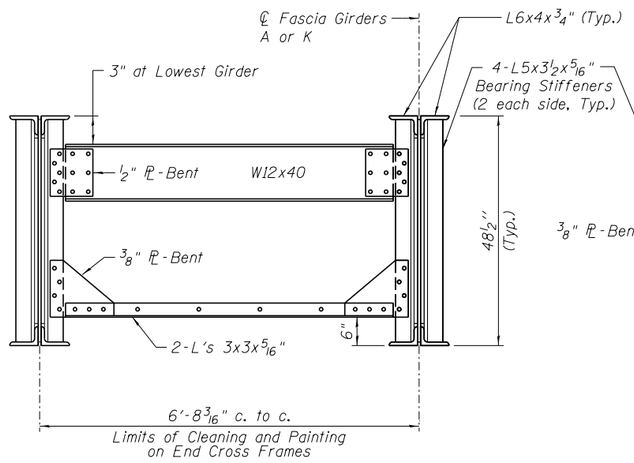
CONCRETE OVERLAY CROSS SECTION
STRUCTURE NO. 081-0039
SHEET NO. 4 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	37
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



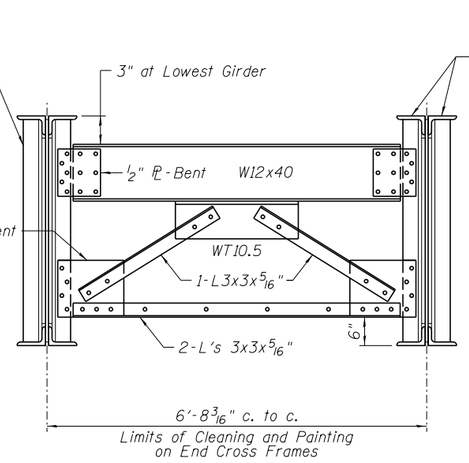
* See Notes 4 and 5 on this Sheet.

FRAMING PLAN



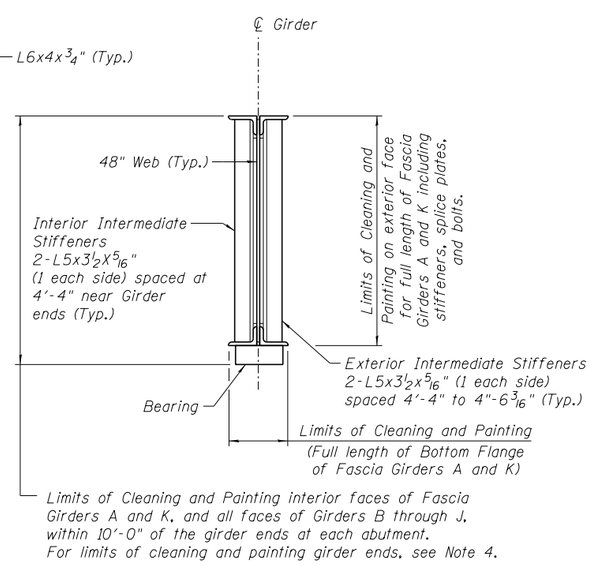
ELEVATION - END CROSS FRAME F1A

(4 Thus)



ELEVATION - END CROSS FRAME F1

(14 Thus)



SECTION - TYP. GIRDER

NOTES:

1. Existing structural steel shall be cleaned and painted to the limits shown on this sheet.
2. See General Notes 2 and 5 for cleaning and painting existing structural steel.
3. Cleaning of existing structural steel shall be performed according to the requirements of special provision "Containment and Disposal of Lead Paint Cleaning Residues No. 2".
4. Cleaning and Painting within 10'-0" of girder ends shall include end cross frames, girder webs and flanges, bearing and intermediate stiffeners, bearings, anchor bolts, and all miscellaneous steel.
5. Existing expansion bearings and anchor bolts at each abutment shall be cleaned and painted. See Sheet 6 of 12 for bearing details and notes.
6. See existing plans for locations and sizes of splice plates and cover plates.

BILL OF MATERIAL

ITEM	UNIT	QUANT.
Cleaning and Painting Steel Bridge, No. 2	L Sum	1
Containment and Disposal of Lead Paint Cleaning Residues, No. 2	L Sum	1

SN081-0039_STR5.dgn

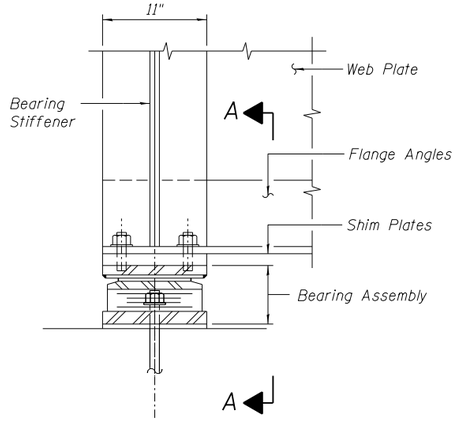
DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

USER NAME = gerald	DESIGNED - WPK	REVISED -	
	DRAWN - GJS	REVISED -	
PLOT SCALE =	CHECKED - MBC	REVISED -	
PLOT DATE = 8/23/2017	DATE - 08/21/2017	REVISED -	

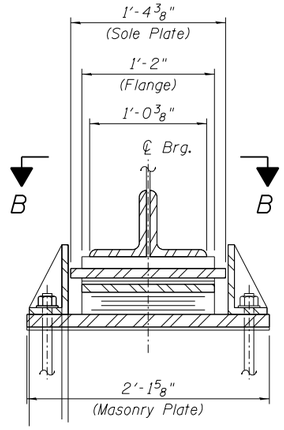
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND PAINTING DETAILS
SN 081-0039
SHEET 5 OF 12

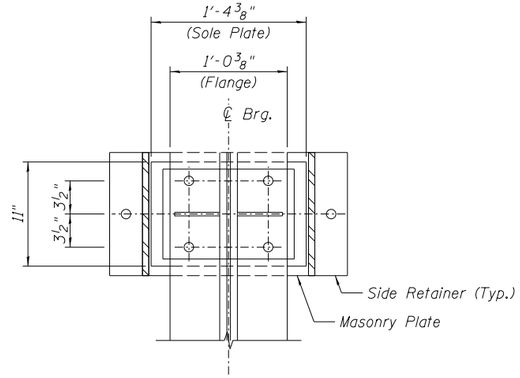
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	38
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



SIDE VIEW



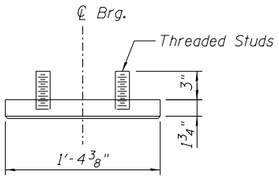
SECTION A-A



SECTION B-B

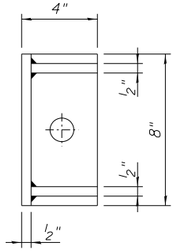
EXISTING ELASTOMERIC EXPANSION BEARINGS

(Total of 20 Elastomeric Expansion Bearings; 10 at each abutment)



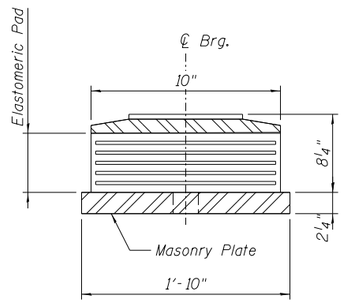
TOP BEARING ASSEMBLY

(Sole Plate)

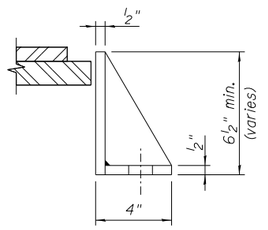


PLAN - SIDE RETAINER

(Total of 40 Side Retainers)



BOTTOM BEARING ASSEMBLY



ELEVATION - SIDE RETAINER

NOTES:

1. Details shown for information purposes only; all existing expansion bearings at each abutment to be cleaned and painted.
2. Contractor to mask elastomeric pad prior to painting.

SN081-0039_STR6.dgn

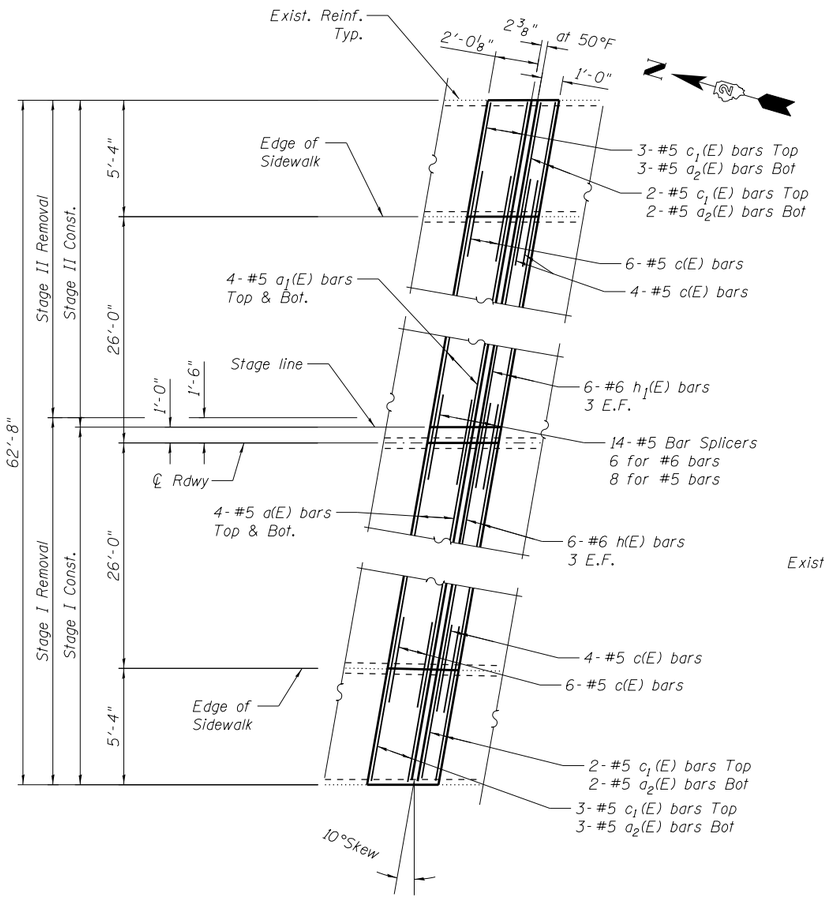
DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

USER NAME = gerald	DESIGNED - WPK	REVISED -
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

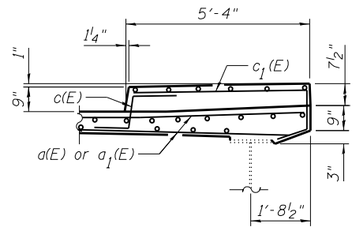
PAINTING DETAILS
SN 081-0039
SHEET 6 OF 12

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	39
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

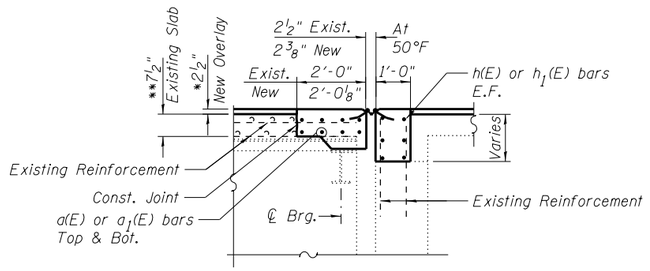


ABUTMENT PLAN

(S. abut. shown)
(N. abut. opp. hand)



ABUTMENT SECTION AT SIDEWALK

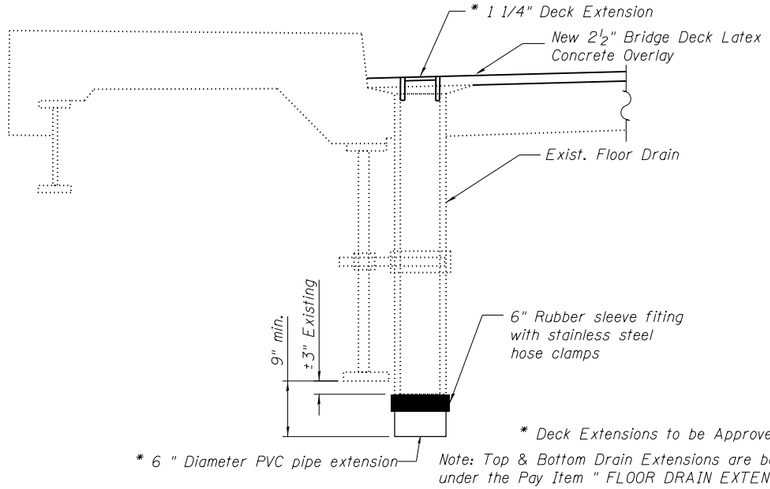


ABUTMENT SECTION

Existing Reinforcement Bars shown are to be cleaned and incorporated into the new construction

*Prior to 1/4" Diamond Grinding

** Existing Slab to have 3/4" Deck Scarification prior to laying new overlay

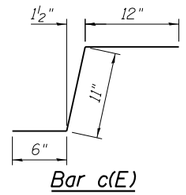


* Deck Extensions to be Approved by Engineer

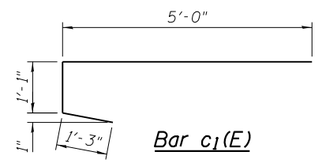
Note: Top & Bottom Drain Extensions are both included under the Pay Item " FLOOR DRAIN EXTENSIONS"

EXISTING DRAINAGE PIPE TYPICAL

(At 22 Locations Required)



Bar c(E)



Bar c_1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	16	#5	32'-6"	
a_1(E)	16	#5	30'-6"	
a_2(E)	20	#5	7'-10"	
c(E)	40	#5	2'-5"	
c_1(E)	40	#5	7'-4"	
h(E)	12	#6	32'-6"	
h_1(E)	12	#6	30'-0"	

Concrete Removal	Cu. Yds.	16.0
Reinforcement Bars, Epoxy Coated	Pound	2,224
Concrete Superstructure	Cu. Yds.	15.9
Floor Drain Extension	Each	22
Bar Splicers	Each	28

19081 Old LaGrange Rd, Ste. 106
Mokena, IL 60448
312.256.9090

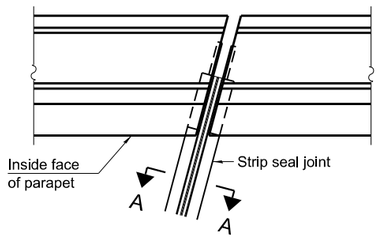
USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 1/18/2018	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

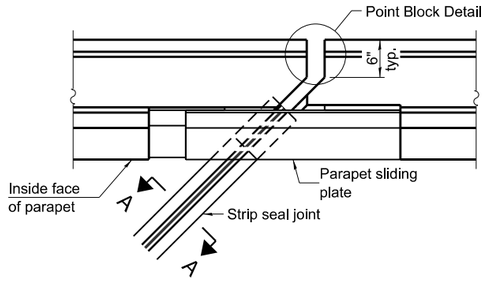
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 081-0039
SHEET NO. 7 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	40
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\SHARED\Projects\2016-0202\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0039\CADD Sheets\08100039-64L46-007-JNT2_MISC DETAILS.dgn

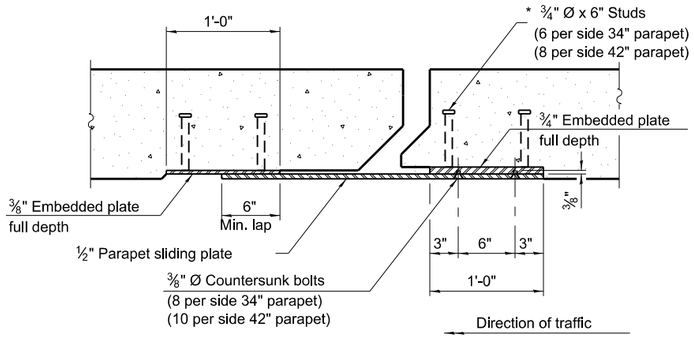


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

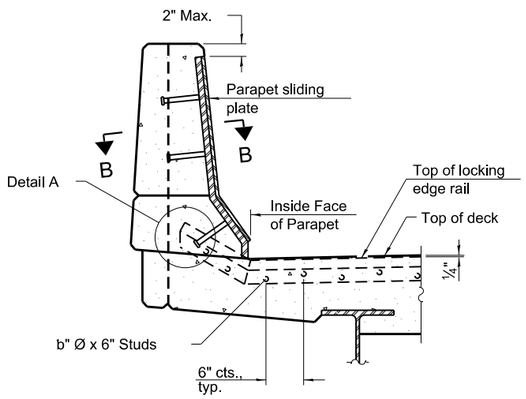
The Maximum space between locking edge rail segments shall be c" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

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

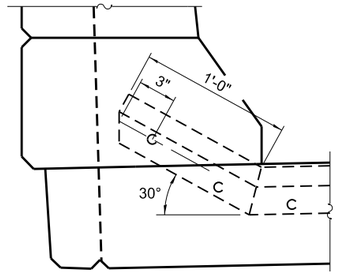
34" F-shape barrier shown, 42" F-shape similar as noted.

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

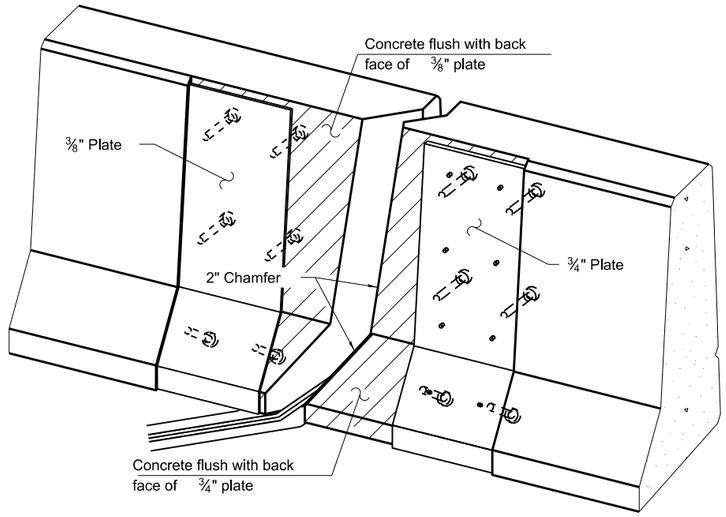


ELEVATION AT PARAPET

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

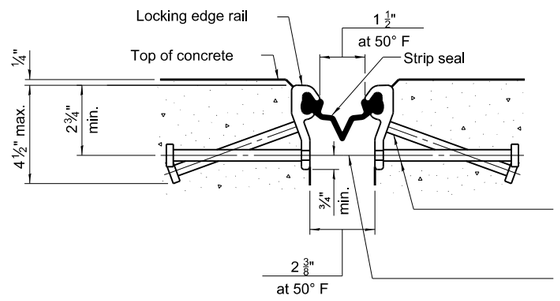


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



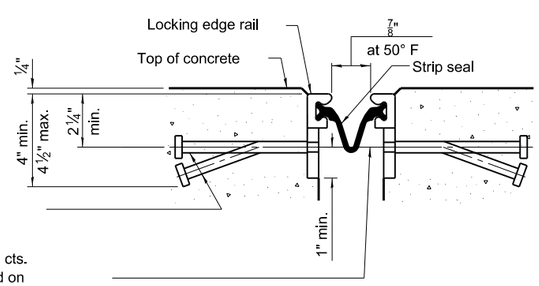
SHOWING ROLLED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

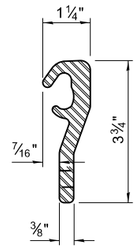
Ь" ϕ threaded rods in Ď" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

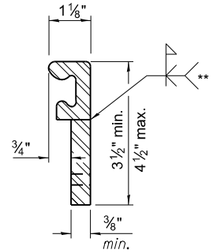
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



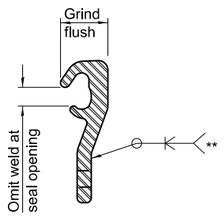
ROLLED
(EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	131

EJ-SS-S 8-11-17

(Sheet 1 of 3)

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0039\CADD Sheets\08100039-64L46-008-JNT_Details 1 of 3.dgn

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

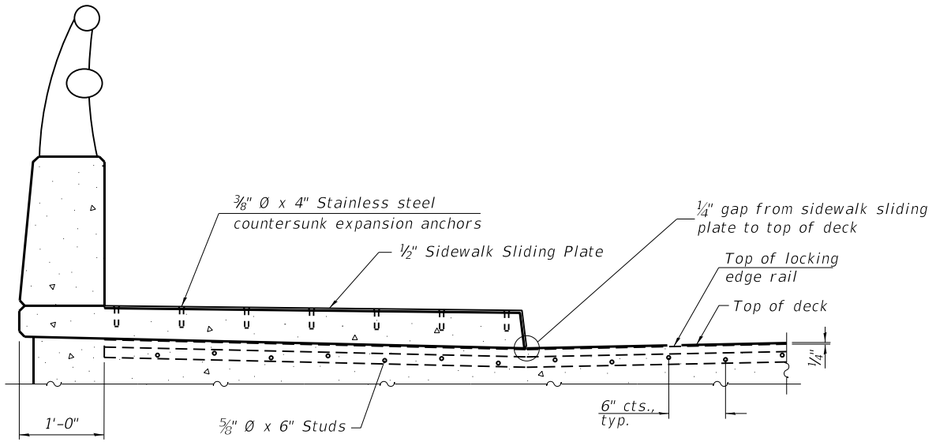
USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

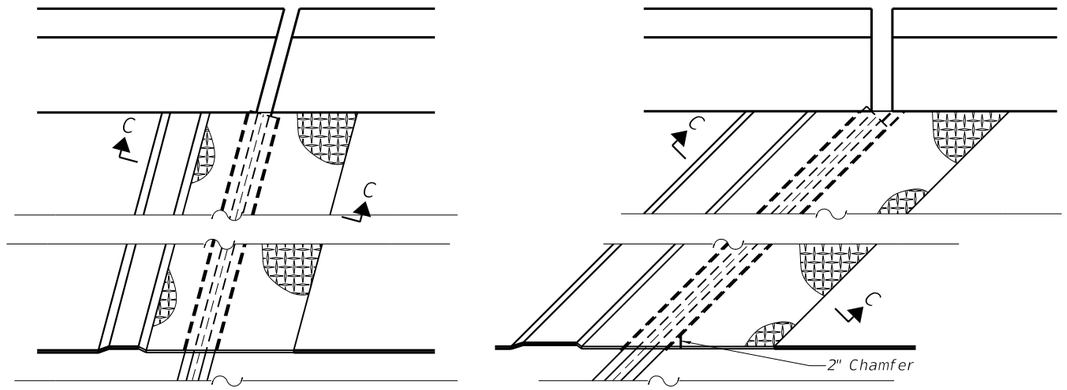
PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0039

SHEET NO. 8 OF 12 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	41
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



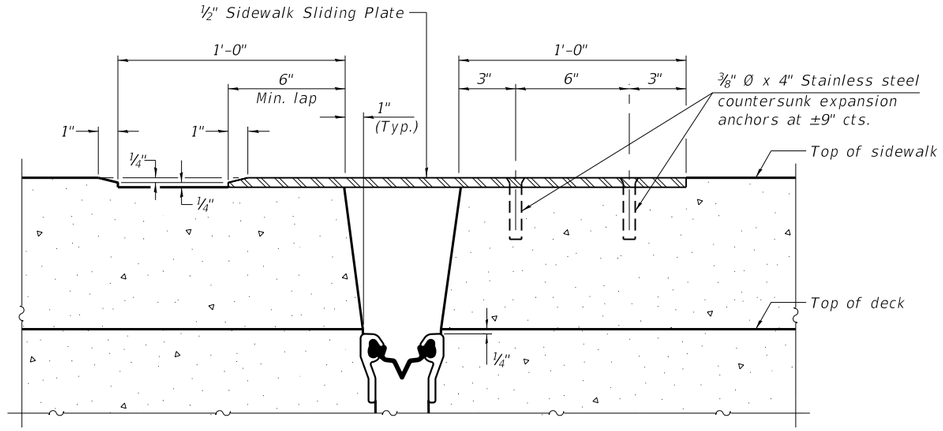
ELEVATION AT RAISED SIDEWALK



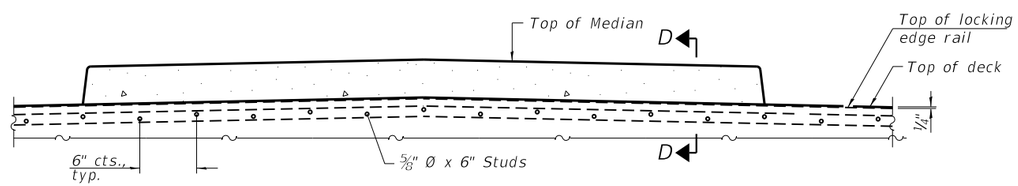
(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT RAISED SIDEWALK

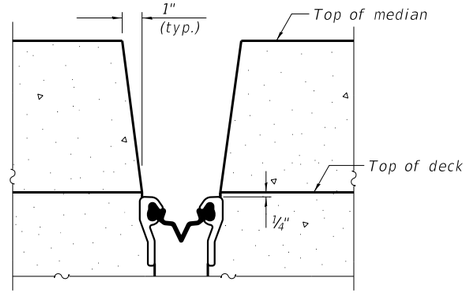


SECTION C-C



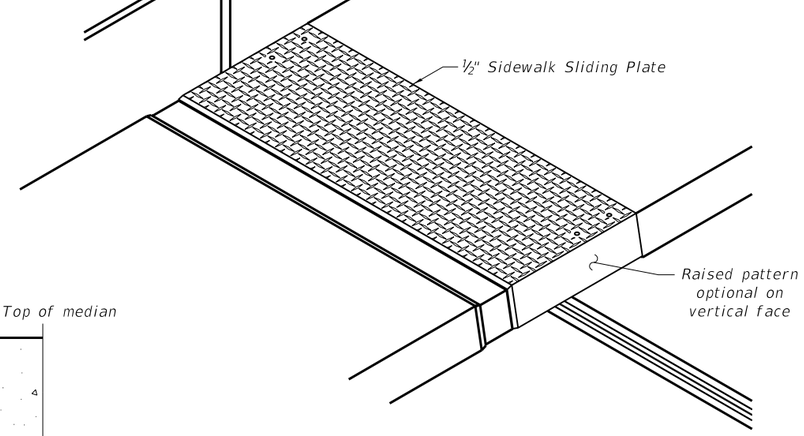
ELEVATION AT MEDIAN

For skews > 30°, chamfer acute corners 2" similar to sidewalk.



SECTION D-D

(at Rt. ∠'s)



TRIMETRIC VIEW

EJ-SS-S 8-11-17

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0039

SHEET NO. 9 OF 12 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	42
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

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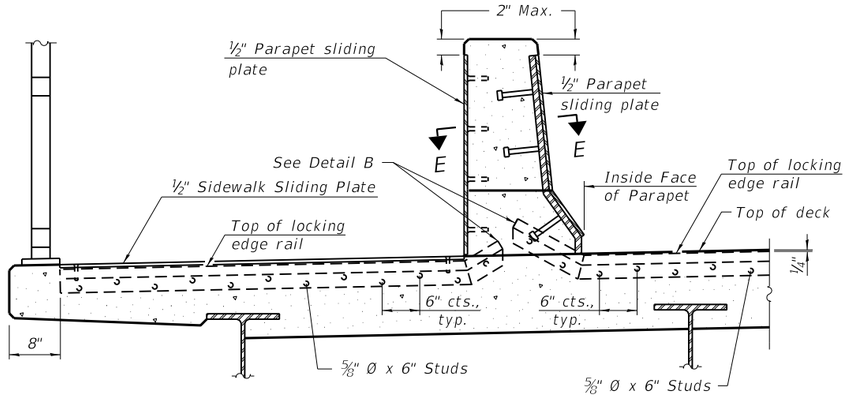
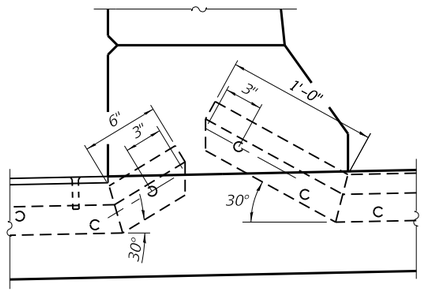
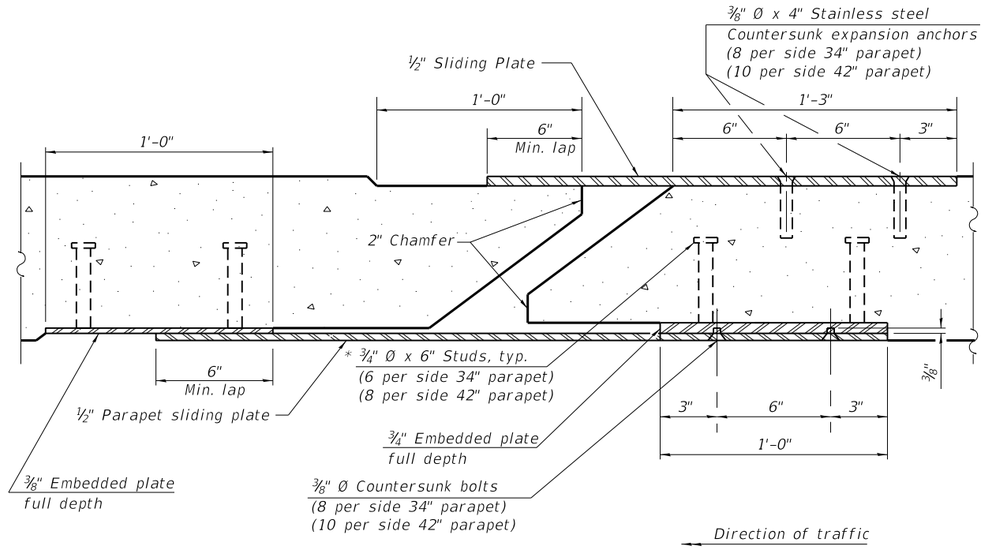


ELEVATION AT DECK LEVEL SIDEWALK

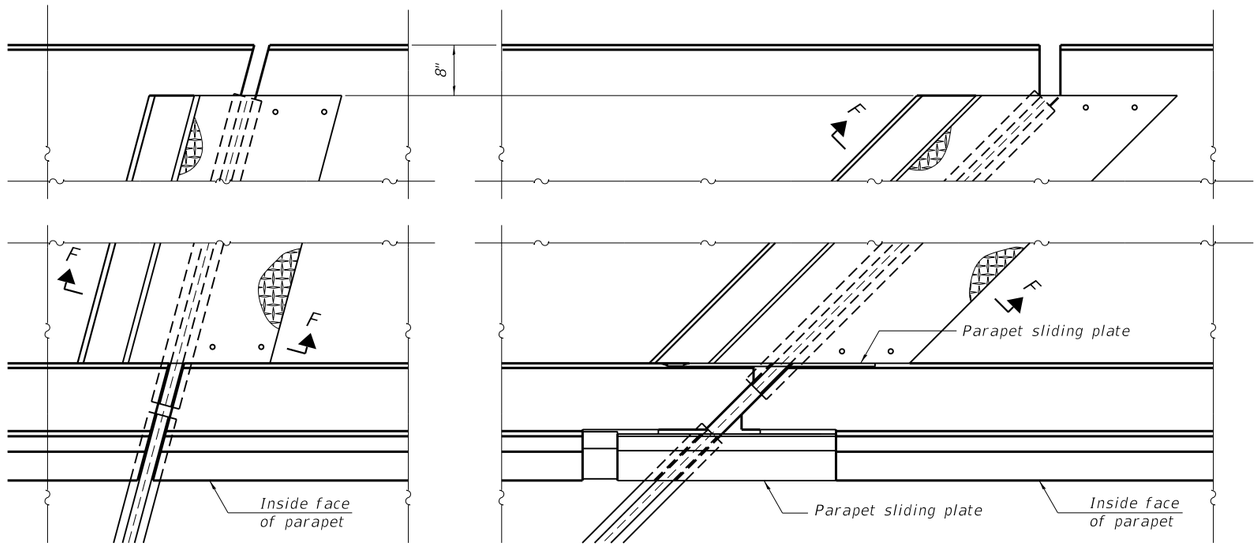
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL B



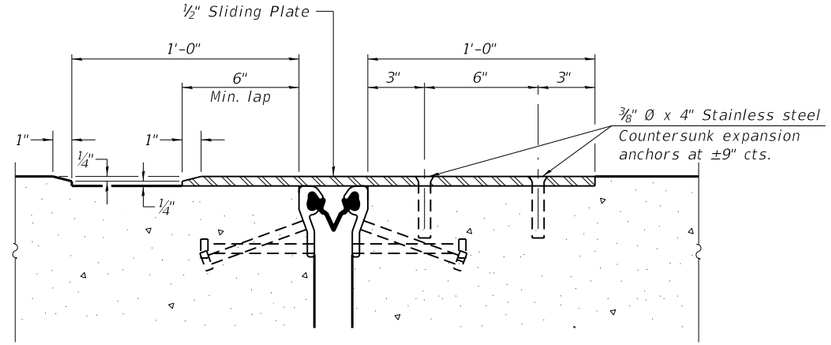
SECTION E-E



(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT DECK LEVEL SIDEWALK



SECTION F-F

EJ-SS-S

8-11-17

(Sheet 3 of 3)

WYNNDALCO ENTERPRISES 19081 Old LaGrange Rd, Suite 106 Mokena, IL 60448 312.256.9090	USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
		CHECKED - GEK	REVISED
	PLOT SCALE =	DRAWN - MJL	REVISED
	PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

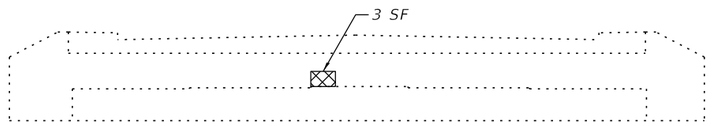
PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0038

SHEET NO. 13 OF 15 SHEETS

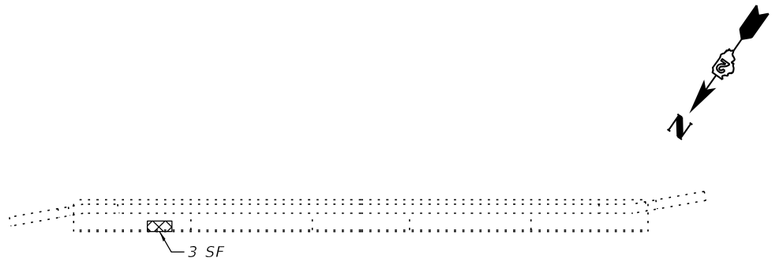
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	28
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0038\CADD Sheets\08100038-64L46-013-JNT_Details 3 of 3.dgn

PLAN



ELEVATION
(North Abutment)



PLAN

ELEVATION
(South Abutment)

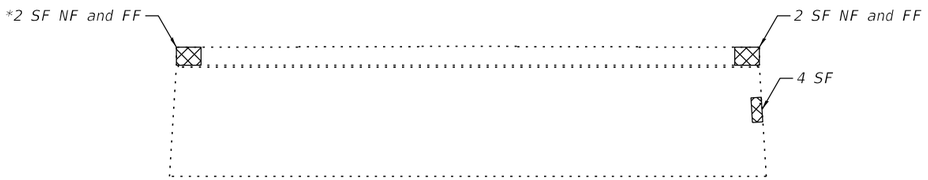
NOTES

1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inspection in November 2016 and included a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support, and reinstall all existing utilities interfering with the work. Cost shall be included with pay item Structural Repair of Concrete (Depth equal to or less that 5").

LEGEND

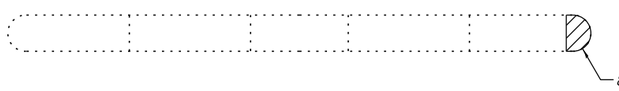
	Epoxy Crack Injection
	Structural Repair of Concrete (Depth equal to or less than 5 inches)
	Structural Repair of Concrete (Depth greater than 5 inches)
SF	Square Feet

PLAN

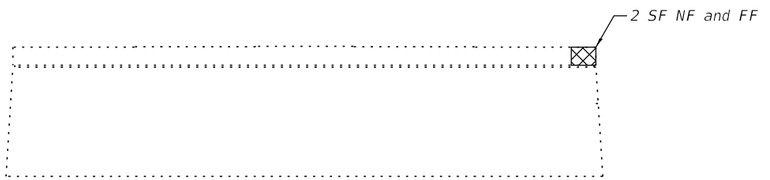


ELEVATION
(Pier 1 Shown; Pier 3 Similar)

*Pier 3
NF Near Face
FF Far Face



PLAN



ELEVATION
(Pier 2)

NF Near Face
FF Far Face

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	1,660
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	4
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	50

FILE NAME = S:\JOL\4408-4499\4416\001\Micros\CADD Sheets\081-0039-D2E4L46-008-SUBSTR.dgn

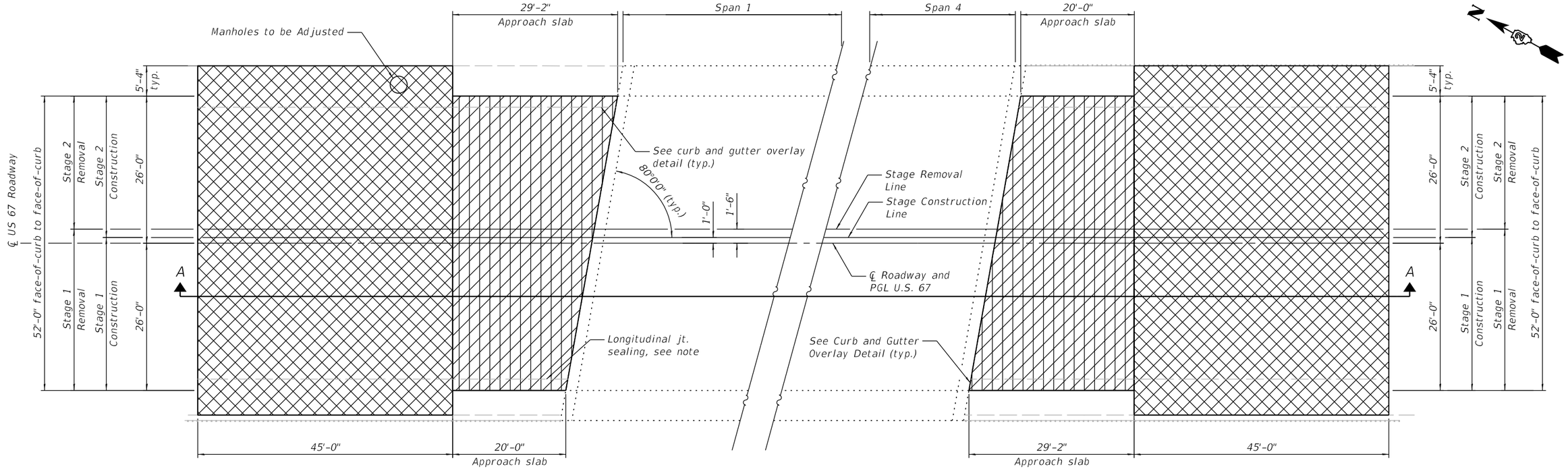
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED	
	CHECKED - AJS	REVISED	
PLOT SCALE =	DRAWN - BJF	REVISED	
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED	

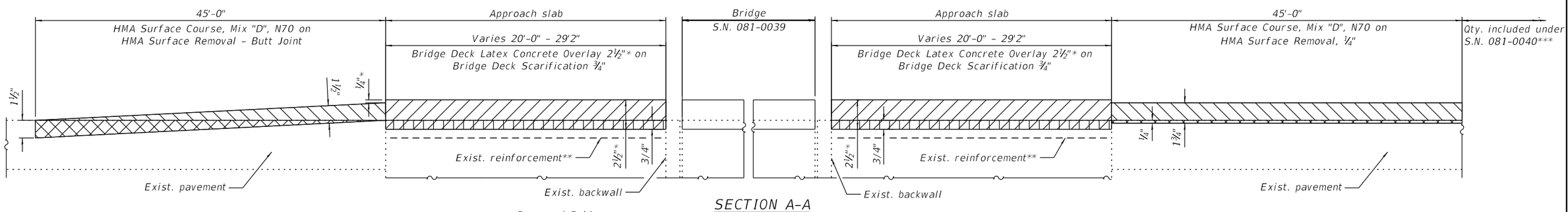
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIRS
STRUCTURE NO. 081-0039
SHEET NO. 11 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	44
		CONTRACT NO. 64L46		
	ILLINOIS	FED. AID PROJECT		



APPROACH PLAN



SECTION A-A

N.T.S.

LEGEND

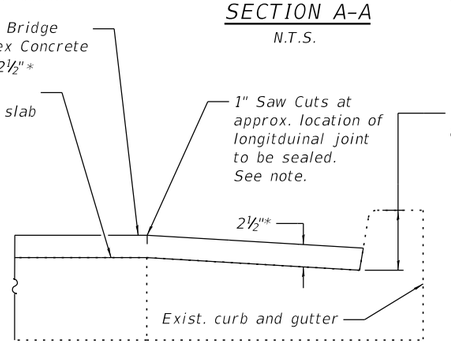
- Aggregate Wedge Shoulder, Type B
- HMA Surface Course, Mix "D", N70
- Bridge Deck Latex Concrete Overlay, 2½" *
- HMA Surface Removal of depth specified and HMA Surface Course, Mix "D", N70
- Bridge Deck Scarification ¾" and Bridge Deck Latex Concrete Overlay,2½" *

Note:
Longitudinal sealing on approach slab between Combination Concrete Curb and Gutter, Type B-6.24 shall be paid under Saw Cuts.

* Prior to ¼" Diamond Grinding (Bridge Section)

** 2" clear cover assumed. Existing rebar to remain undisturbed.

*** HMA Surface Course, Mix "D", N70 on HMA Surface Removal, ¼" 45'-0" beyond end of S.N. 081-0039 appraoch slab shall be paid under S.N. 081-0040



CURB AND GUTTER OVERLAY DETIAL

The following Mixture Requirements are applicable for this project:

	Resurfacing
Mixture Use(s):	Surface
PG:	PG 64-22
Design Air Voids	4.0 @ N70
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5
Friction Aggregate	D
20 Year ESAL	3.9
Mix Unit Weight	112 lbs/sy/in

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bituminous Materials (Tack Coat)	Pound	282
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	313
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	57
Hot-Mix Asphalt Surface Removal, ¼"	Sq. Yd.	313
Protective Coat	Sq. Yd.	284
Saw Cuts	Foot	99
Manholes to be Adjusted	Each	1
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	262
Bridge Deck Latex Concrete Overlay, 2½"	Sq. Yd.	273
Bridge Deck Scarification, ¾"	Sq. Yd.	273
Diamond Grinding (Bridge Section)	Sq. Yd.	262

STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
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IDFPR NO. 184-001273

USER NAME = BenL	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 1/22/2018	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
STRUCTURE NO. 081-0039
SHEET NO. 12 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	45
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = S:\JOL\4408--4499\4416\001\Micros\CADD Sheets\081-0039-D264L46-009-APPR.dgn

Benchmarks:
#1 ☐ Cut in top of N.W. Wing Wall. Note: Benchmarks are based on Sta. 20+86.0, 32' RT of C El 576.10 of 1985 existing plan drawings.
#2 ☐ Cut in top of S.E. WingWall, Sta. 54+85.52, 35' Lt. of C El. 581.23

Existing Structure: S.N. 081-0040 was originally constructed in 1948 by IDOT carrying two lanes of easbound and two lanes of westbound traffic on the US 67 over the South Channel of the Rock River. The structure consists of a double steel arch. The existing structure measures 703'-0" back to back abutment and an overall deck width of 67'-10" and are supported on reinforced concrete stub abutments and wall piers on timber or steel piles. In 1985, the bridge was rehabilitated by replacing structural steel elements, railing and bearings in addition to complete structure repainting and deck replacement. The existing ssubstructure was repaired under concrete and crack repairs.

Work shall be completed with staged construction.

No Salvage

SCOPE OF WORK

1. Perform Deck Slab Repairs.
2. Scarify $\frac{3}{4}$" from bridge deck slab.
3. Remove and replace joints.
4. Apply Bridge Deck Latex Concrete Overlay, $2\frac{1}{2}$" to the bridge deck slab.
5. Perform $\frac{1}{4}$" diamond grinding to the $2\frac{1}{2}$" bridge deck latex concrete overlay and reconstructed transverse expansion joints.
6. Perform Bridge Deck Grooving (Longitudinal) to the Bridge Deck Latex Concrete Overlay, $2\frac{1}{2}$" and reconstructed transverse expansion joints.
7. Apply protective coat to reconstructed deck areas.
8. Perform structural steel repairs and replacements.
9. Clean and paint designated contract areas.
10. Clean and paint existing bearings.
11. Jack and replace specified bearings.
12. Perform structural concrete repairs and crack sealing repairs for the abutments and piers.
13. Clean bridge seats and apply concrete sealant to top of the abutments and piers.
14. Repaint pavement markings on top of the deck.
15. Remove and replace specified areas of handrail.
16. At section where hangars, arch-ribs and handrail posts penetrate through the sidewalk, fill gaps with BASF MasterEmaco T1061 coated with MasterSeal NP2 or Dayton Superior Sure Patch or approved equal.
17. Add neoprene extension with clamp at all downspout locations.
18. Remove existing fill above north and south abutment slope wall and replace with filter fabric, bedding and Stone Riprap, Class A5.

INDEX OF SHEETS

KEY NOTES

(1) Clean and paint various steel elements throughout bridge under pay items, Cleaning and Painting Steel Bridge No. 3, Containment and Disposal of Lead Paint Cleaning Residues No. 3.

(2) Modification to existing finger plate joint to account for raise in grade.

(3) Perform Bridge Deck Scarification $\frac{3}{4}$".

(4) Perform full-depth bridge deck repairs and overlay under pay items, Deck Slab Repair (Full Depth Type I), Deck Slab Repair (Full Depth Type II) and Bridge Deck Latex Concrete Overlay, $2\frac{1}{2}$".

(5) Perform structural repair of concrete to substructures under pay items, Structural Repair of Concrete (Depth Equal to or Less than 5 Inches), Structural Repair of Concrete (Depth Greater than 5 Inches) and Epoxy Crack Injection, typ.

(6) Perform bridge deck diamond grinding under pay item Diamond Grinding (Bridge Section).

(7) Perform bridge deck grooving under pay item Bridge Deck Grooving (Longitudinal).

(8) Apply sealer at tops of substructures as indicated in plans under pay item Concrete Sealer.

(9) Various locations of steel repair or replacement under pay item Furnishing and Erecting Structural Steel.

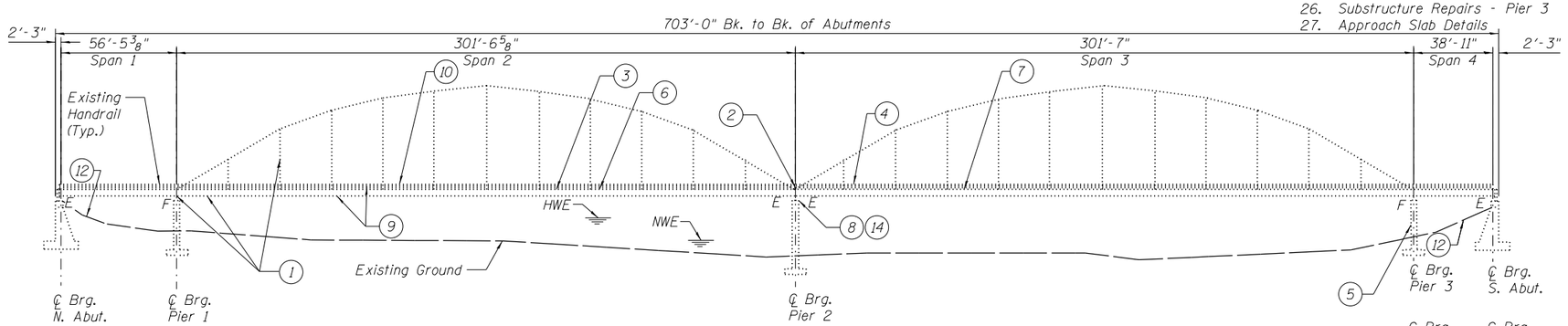
(10) Apply sealer at designated deck locations under pay item Protective Coat.

(11) Cut and Splice to repair handrails at various locations under pay item Furnishing and Erecting Structural Steel. Clean and paint new handrail locations under pay item Cleaning and Painting Structural Steel.

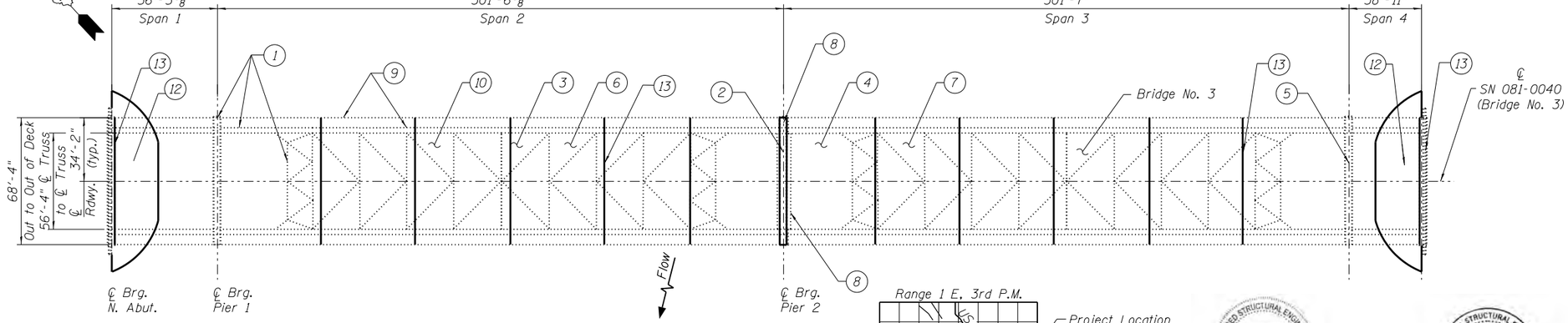
(12) Removal of existing fill at North and South abutments and replace with filter fabric, bedding and Stone Riprap, Class A5.

(13) Removal and replacement of all Strip Seal joints.

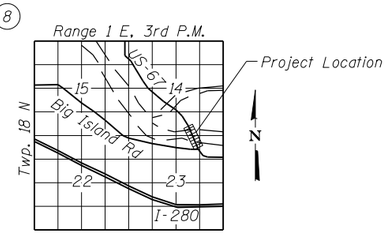
(14) Jack and Replace bearings at Pier 2 at the East and West Locations.



ELEVATION



PLAN



LOCATION SKETCH

DESIGN SPECIFICATIONS

2002 AASHTO
Standard Specifications
for Highway Bridges

LOADING

HS 20-44

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure Concrete)
f'c = 3,500 psi (Substructure Concrete)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
fs = 20,000 psi (AASHTO-M-183)

GERALD E. KOYLASS 081-005264 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS Exp. 11/30/2018

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS: 46,47, 50 THRU 53 & 60 THRU 71

ANTHONY J. STANCISH 081-005819 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS Exp 11/30/2018

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS: 48,49 & 72

STATE OF ILLINOIS MEHMET B. CIVELEK 081-005449 Exp. 11-30-18 CHICAGO, IL LICENSED STRUCTURAL ENGINEER

LICENSED STRUCTURAL ENGINEER APPLIES TO SHEETS: 54 THRU 59

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 8/23/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 1 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	46
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\Projects\2016-0082\1.0 Work Order 1\3.0 Task 3 Repair Plans\0081-0040\CADD Sheets\081004046-64L46-001-GPE.dgn

GENERAL NOTES

All new fasteners shall be high strength bolts. Holes shall be $^{15}/_{16}$" dia. for $^{7}/_{8}$" dia. bolts, unless otherwise noted.

All structural steel shall be AASHTO M 270 Grade 36 (except bearing assembly which shall be AASHTO M 270 Grade 50).

Calculated weight of new structural steel = 35,330 Pounds (M270 Grade 36)
= 8,510 Pounds (M270 Grade 50)

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

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete, 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 Concrete Removal.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding $^{1}/_{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

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

Concrete Sealer shall be applied to the designated areas of the abutments and piers.

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

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surface and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all the interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Blue Munsell No. 10B 3/6.

Expansion joints shall be fabricated and installed according to the manufacturer's recommendations and as approved by the Engineer.

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

Joint opening shall be adjusted according to Article 520.03 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

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

The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system. See special provisions.

A minimum of two (2) air monitors will be required to monitor abrasive blasting operations at this site. See special provision for "Containment and Disposal of Lead Paint Cleaning Residues."

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".

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

A complete set of existing bridge plans can be obtained by contacting IDOT District 2.

IDOT District 2:
ATTN: Mahmoud Etemadi, P.E. 815-284-5393
819 Depot Avenue
Dixon, IL 61021

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Materials (Tack Coat)	Pound	459		459
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	375		375
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	95		95
Hot-Mix Asphalt Surface Removal, 1/4"	Sq. Yd.	645		645
Channel Excavation	Cu Yd		568	568
Stone Riprap, Class A5	Sq Yd		786	786
Filter Fabric	Sq Yd		786	786
Saw Cuts	Foot	60		60
Concrete Removal	Cu Yd	106		106
Concrete Structures	Cu Yd		6.3	6.3
Concrete Superstructure	Cu Yd	105.9		105.9
Protective Coat	Sq Yd	4,352		4,352
Furnishing And Erecting Structural Steel	Pound	43,840		43,840
Reinforcement Bars, Epoxy Coated	Pound	18,070	1,180	19,250
Bar Splicers	Each	220		220
Mechanical Splicers	Each		24	24
Preformed Joint Strip Seal	Foot	980		980
Anchor Bolts, 1 1/2"	Each		16	16
Concrete Sealer	Sq Ft		2,694	2,694
Epoxy Crack Injection	Foot		89.1	89.1
Combination Curb and Gutter Removal	Foot	60		60
Combination Concrete Curb and Gutter, Type B-6.24	Foot	60		60
Manholes to be Adjusted	Each	1		1
Traffic Barrier Terminal, Type 1B	Each	1		1
Bridge Deck Grooving (Longitudinal)	Sq Yd	3,946		3,946
Floor Drain Extension	Each	86		86
Jack And Remove Existing Bearings	Each		4	4
Structural Steel Removal	Pound	43,840		43,840
Bridge Deck Latex Concrete Overlay, 2 1/2 Inches	Sq Yd	3,930		3,930
Containment And Disposal Of Lead Paint Cleaning Residues No. 3	L Sum	1		1
Cleaning And Painting Steel Bridge No. 3	L Sum	1		1
Bridge Deck Scarification 3/4"	Sq Yd	3,710		3,710
Bridge Deck Scarification 2 1/4"	Sq Yd	220		220
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq Ft		145.9	145.9
Structural Repair Of Concrete (Depth Greater Than 5 Inches)	Sq Ft		405.9	405.9
Deck Slab Repair (Full Depth, Type I)	Sq Yd	3		3
Deck Slab Repair (Full Depth, Type II)	Sq Yd	22		22
Diamond Grinding (Bridge Section)	Sq Yd	3,946		3,946
Handrail Repairs Bridge No. 3	Foot	112.7		112.7
Joint Seal Repair Bridge No. 3	L Sum	1		1
High Load Multi-Rotational Bearings, Guided Expansion, 1300K	Each		4	4

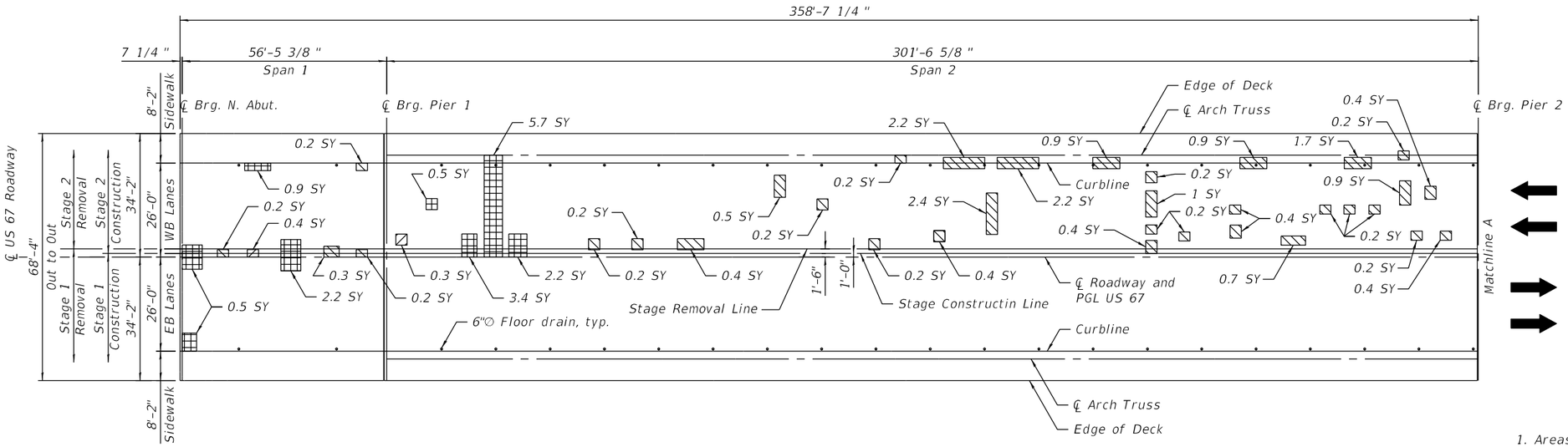
1908 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - CEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 3/26/2018	CHECKED - JCE	REVISED

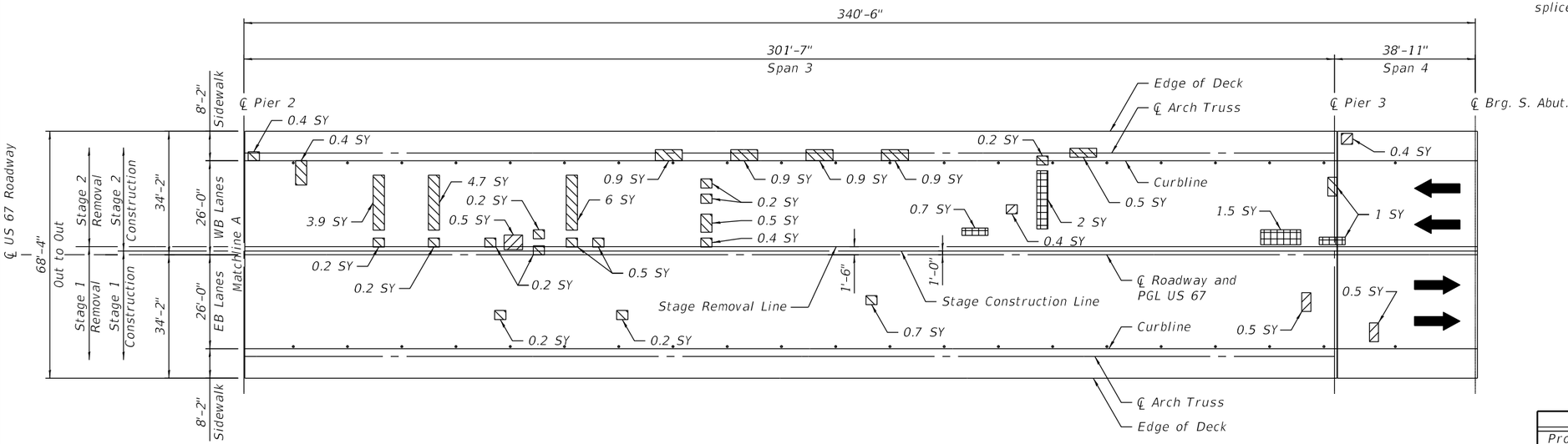
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 2 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	47
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		



DECK SPAN 1 AND 2
(Top of Deck)



DECK SPAN 3 AND 4
(Top of Deck)

NOTES

1. Areas of deck repair shown are estimated. The Engineer shall show actual locations of deck repairs at the time of construction. See Special Provision.
2. For bridge deck final cross section, see sheet 4 of 24.
3. Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

LEGEND

- Concrete Removal
- Deck Slab Repair (Partial)*
- Deck Slab Repair, (Full Depth, Type I)
- Deck Slab Repair, (Full Depth, Type II)
- Traffic Direction
- SY — Square Yard

*See Note 1

BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Protective Coat	Sq. Yd.	4117
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	3732
Bridge Deck Latex Concrete Overlay, 2½ Inches	Sq. Yd.	3710
Bridge Deck Scarification, ¾"	Sq. Yd.	3710
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	3
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	22
Diamond Grinding (Bridge Section)	Sq. Yd.	3732

FILE NAME = S:\IDL\4400--4499\4416\081\Micros\CADD Sheets\081-0040-D264L46-003-SUPSTR-2.dgn

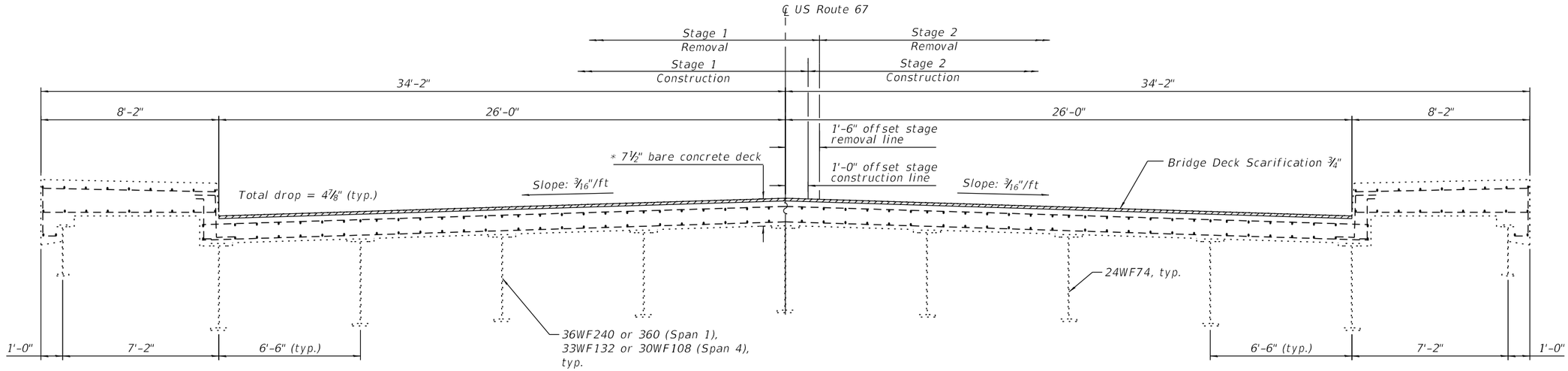
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK REPAIR PLANS
STRUCTURE NO. 081-0040
SHEET NO. 3 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	48
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		



SPAN 1 & 4

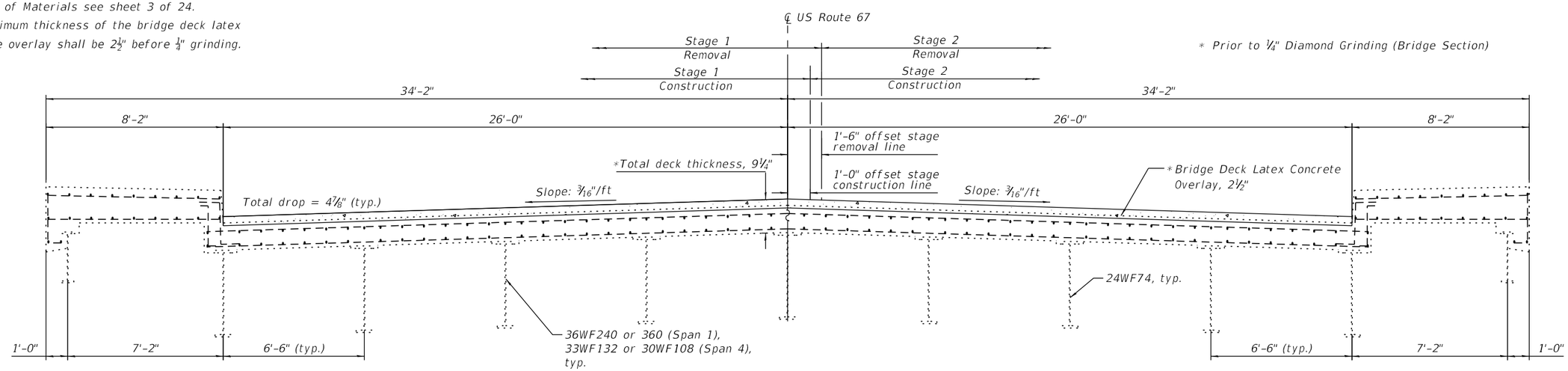
SPAN 2 & 3

CROSS SECTION SHOWING REMOVAL

(Facing North)

NOTES

1. Span 1 is symmetrical about the centerline of roadway.
2. Span 2 through Span 4 are symmetrical about the centerline of roadway
3. Parapet and handrail not shown for clarity.
4. For Bill of Materials see sheet 3 of 24.
5. The minimum thickness of the bridge deck latex concrete overlay shall be 2½" before ¼" grinding.



* Prior to ¼" Diamond Grinding (Bridge Section)

SPAN 1 & 4

SPAN 2 & 3

CROSS SECTION SHOWING NEW OVERLAY

(Facing North)

LEGEND

Bridge Deck Scarification ¾"

Bridge Deck Latex Concrete Overlay, 2½ Inches

FILE NAME = S:\JOL\4400-4499\4416\001\Micros\CADD Sheets\081-0040-D264L46-004-SUPSTR.dgn

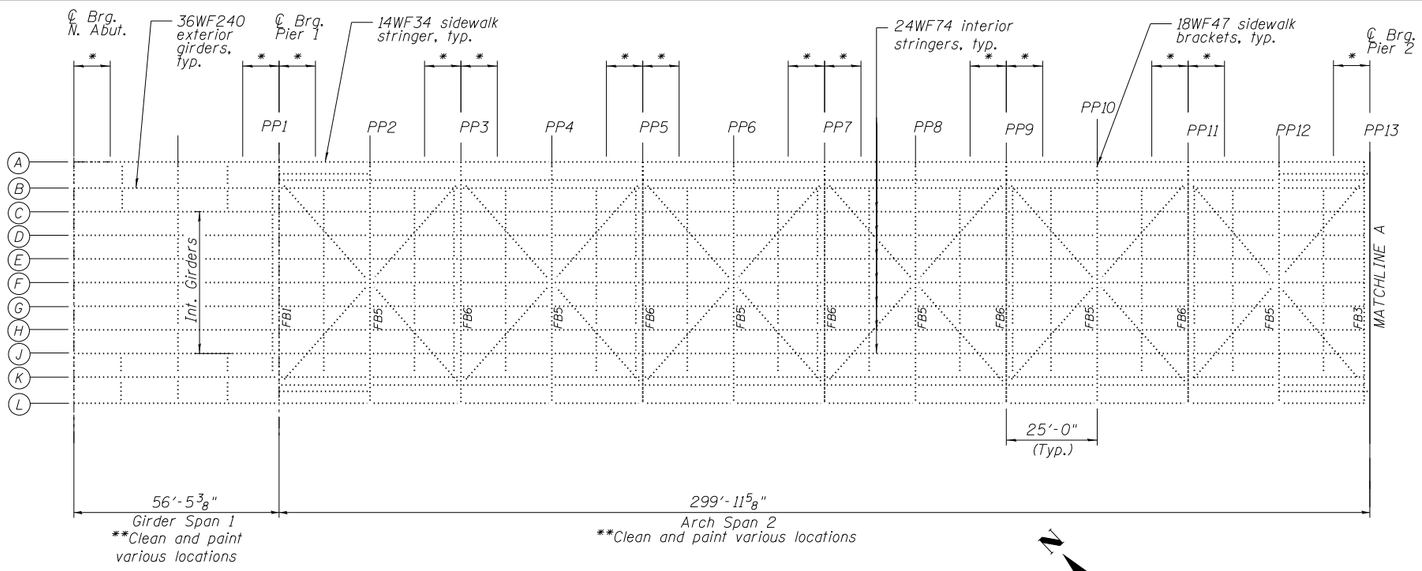
STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = benl	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 8/21/2017	CHECKED - BRL	REVISED

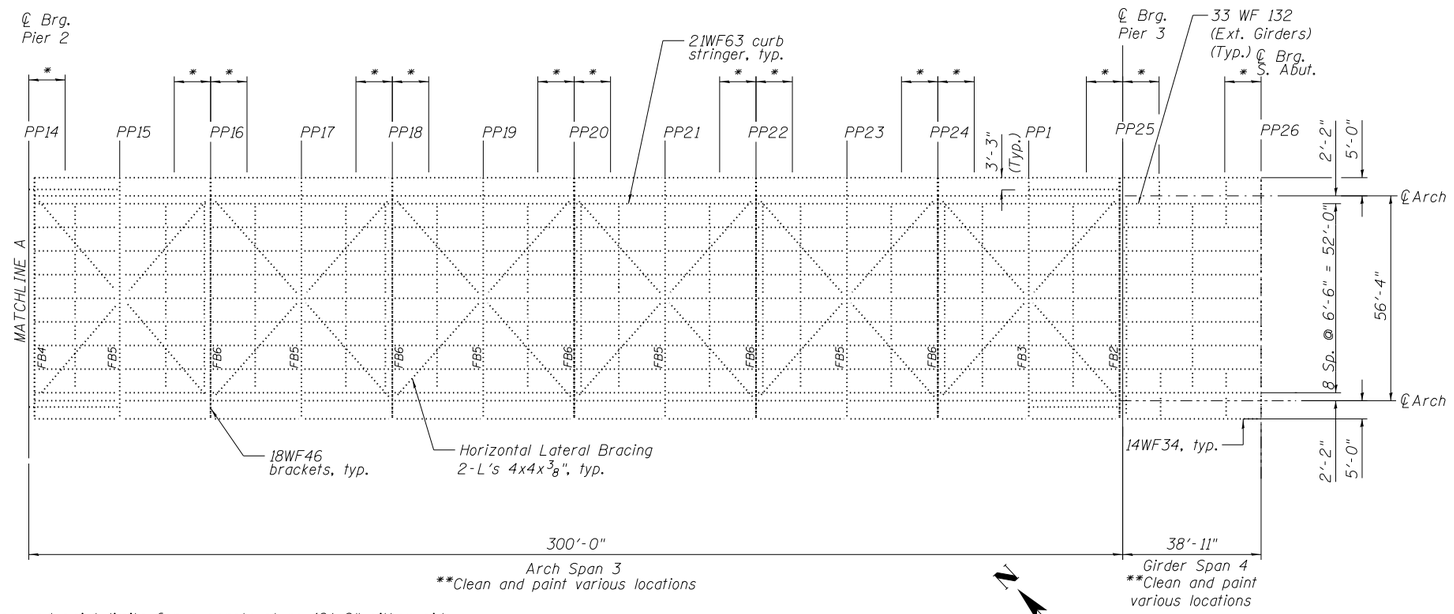
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE OVERLAY CROSS SECTION
STRUCTURE NO. 081-0040
SHEET NO. 4 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	49
		CONTRACT NO. 64L46		
	ILLINOIS	FED. AID PROJECT		



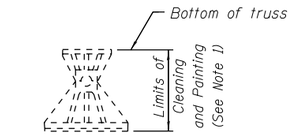
PARTIAL FRAMING PLAN
(Spans 1 and 2)



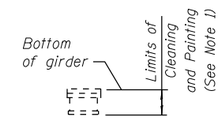
PARTIAL FRAMING PLAN
(Spans 3 and 4)

*Clean and paint limits for superstructure 10'-0" either side of ℄ of joint below the deck surface (Stringes, diaphragms, floorbeams, lower chords, bearings, laterals, gusset plates and connections)

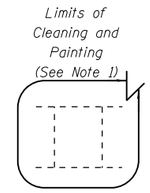
**Clean and paint limits for superstructure 10'-0" above the deck surface (Truss chords, hangers, and connections)
FB = floorbeam
PP = panel point



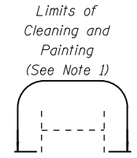
FIXED BEARING
(Pier 1 & 3)



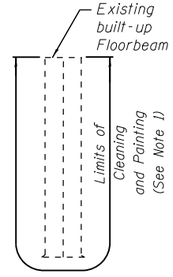
EXPANSION BEARING
(N. Abut. and S. Abut.)



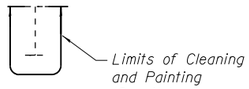
TYP. ARCH RIB UPPER CHORD
(Span 2 & 3)



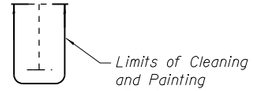
TYP. LOWER CHORD
(Span 2 & 3)



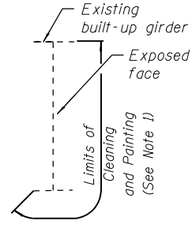
TYP. FLOOR BEAM
(Span 2 & 3)



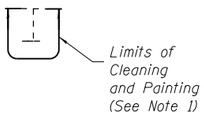
TYP. 18WF47 BRACKET



TYP 24WF74 STRINGER
(Span 2 & 3)



TYP. FASCIA GIRDER
(Span 1 & 4)



TYP. W12x27 END DIAPHRAGM
(Diaphragm at Pier 1 &3 and N. & S. Abut.)

NOTES

1. Cleaning and painting of the existing structural steel shall be specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structure steel within 10 ft (measured along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP10. The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Commercial Grade Power Tool Cleaning-SSPC-SP15.

2. The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom of the bottom flange of the fascia beams shall be Blue, Munsell No. 10B 3/6.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cleaning and Painting Steel Bridge, No. 3	L Sum	1
Containment and Disposal of Lead Paint Cleaing Residues, No. 3	L Sum	1

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

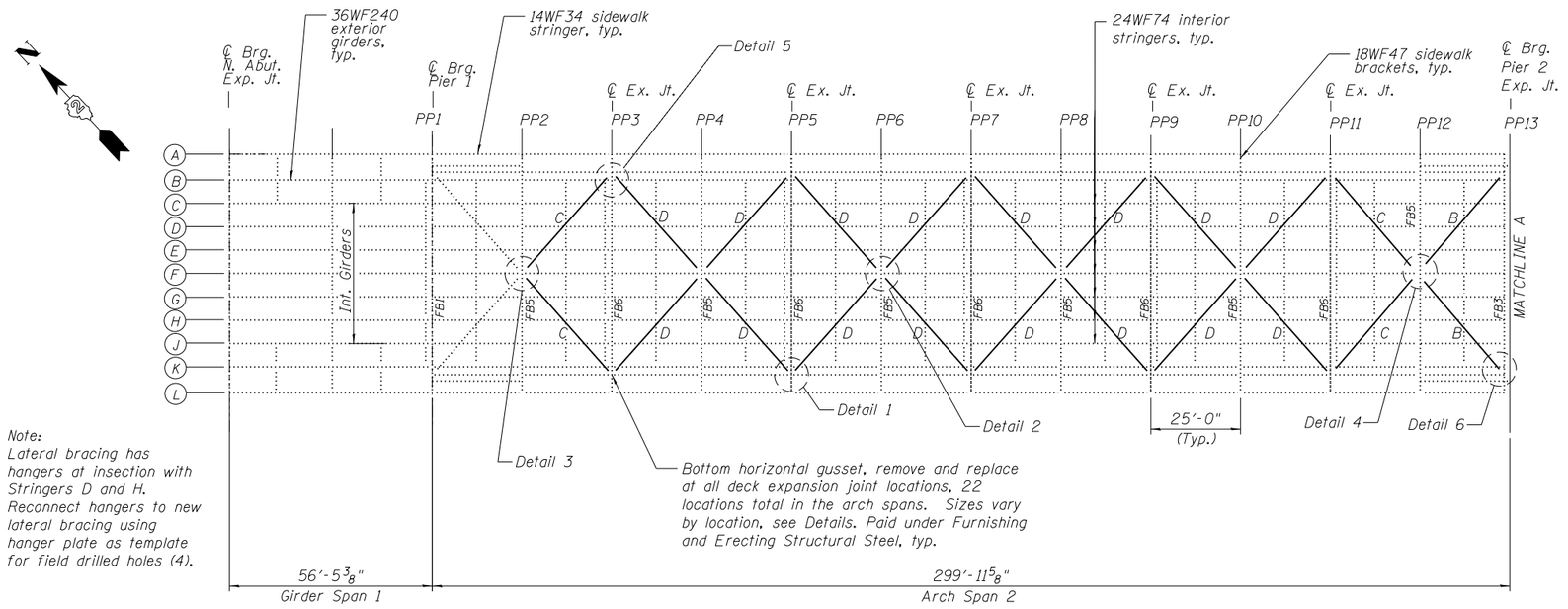
USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/1/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAINTING DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 5 OF 27 SHEETS

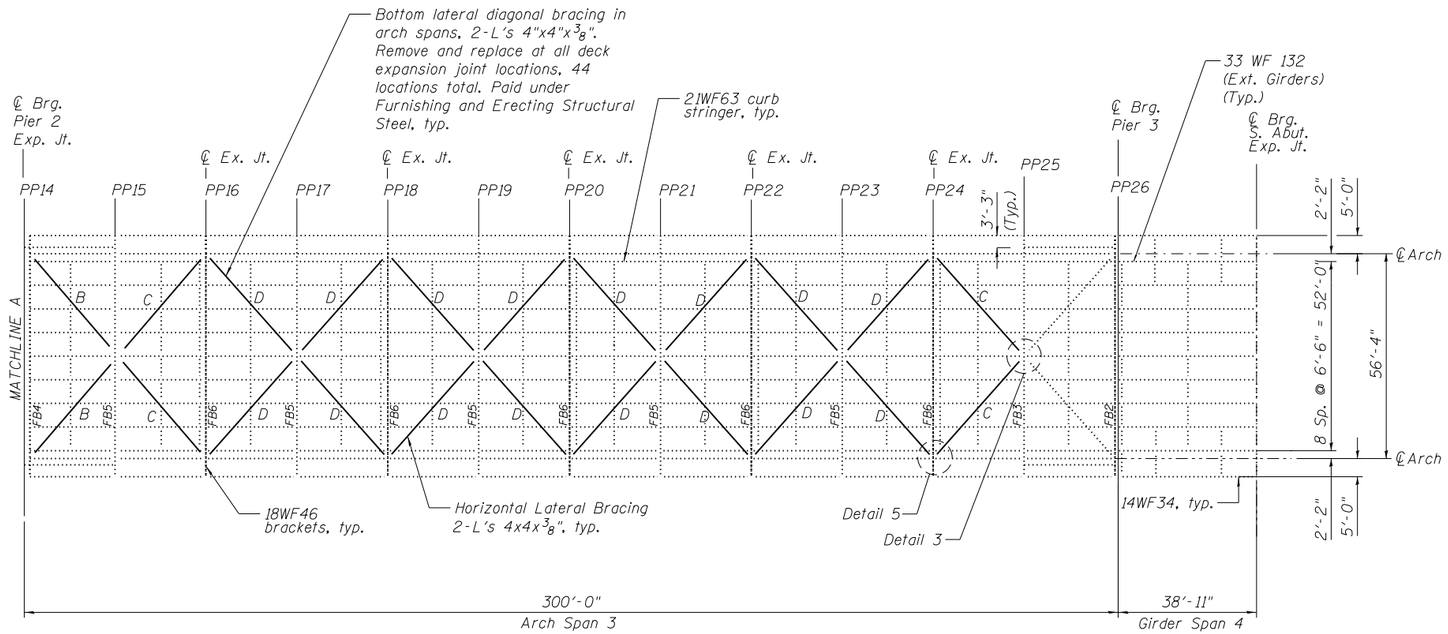
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	50
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\Projects\2016-0082\1.0 Work Order 1\3.0 Task 3 Repair Plans\0081-0040\CADD Sheets\081004O-64L46-005-Painting Details.dgn



PARTIAL FRAMING PLAN
(Spans 1 and 2)

L LENGTHS
B = 34'-2 3/4"
C = 34'-4"
D = 34'-4"



PARTIAL FRAMING PLAN
(Spans 3 and 4)

NOTES

1. Structural steel replacement sequence for lower lateral diagonals shall permit one (1) bay at a time with no more than two (2) continuous elements removed. Structural steel replacement sequence for gusset plates shall permit one (1) panel point gusset plate to be replaced at a time. The Contractor may submit calculations and details, signed and stamped by a structural Engineer licensed in Illinois, for review demonstrating the structural integrity of the bridge is maintained under an alternate steel replacement sequence.
2. Portions of these drawings are extracted from the original drawings for this bridge. Details shown are provided to illustrate the work to be performed. Original drawings available upon request.
3. Repairs and replacement shown are based on field inspection conditions which may have changed. Contractor to verify all components for repair or replacement as directed by the Engineer.
4. The number and spacing for proposed 7/8" ϕ H.S. Bolts shall match existing holes. Contractor shall use existing plates, angles and components as templates.
5. Contractor shall field verify the required bolt length and length of thread necessary to install all bolts in accordance with Standard Specifications and Section 8.2.1 of the 2004 RCSC "Specification for Structural Joints using ASTM A325 or A490 Bolts".
6. Twist-off type fastener systems will not be permitted for the double nut H.S. Bolt for the gusset plate repair.
7. The Contractor shall take care to avoid exposing the threads, nuts and washers of the double nut H.S. bolts for the gusset repair to paint, dirt, moisture or other foreign material that may alter their as received condition. Fastener component that accumulate rust, dirt or debris shall not be incorporated in the work unless they are requalified as specified in Section 7 of the 2004 RCSC "Specification for Structural Joints using ASTM A325 or A490 Bolts."

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

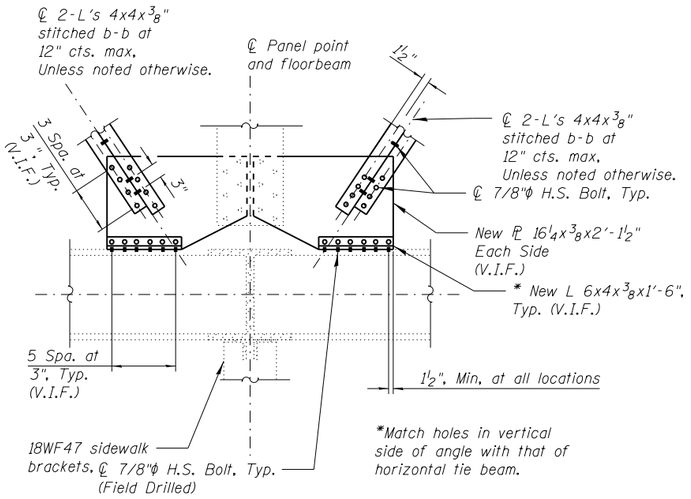
USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/1/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE STEEL REPAIR
STRUCTURE NO. 081–0040
SHEET NO. 6 OF 27 SHEETS

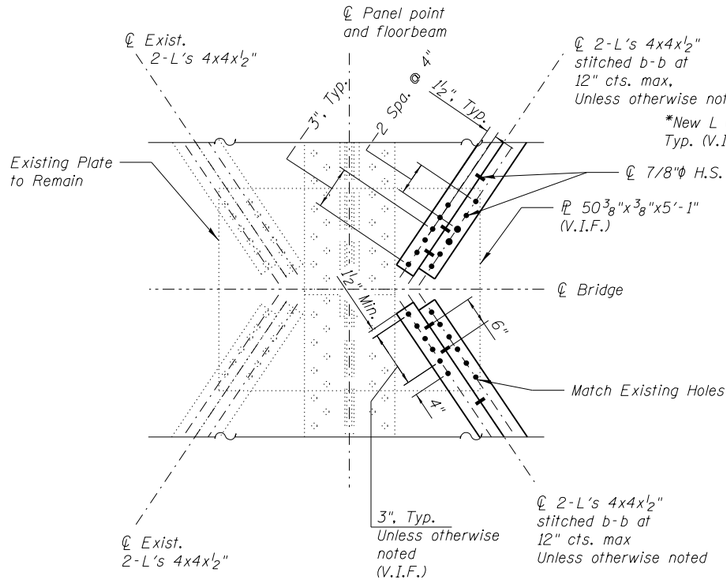
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	51
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 Repair Plans\0081-0040\CADD Sheets\08100040-64L46-006-Superstructure Repairs.dgn



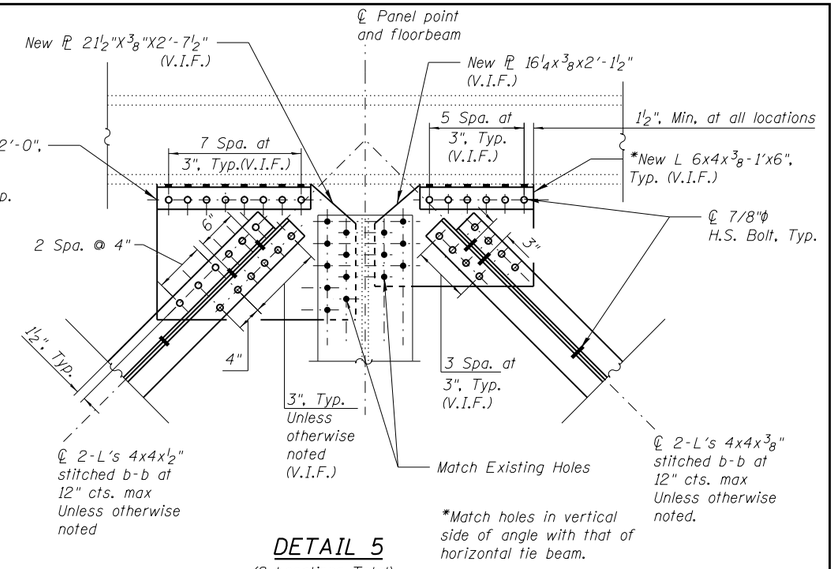
DETAIL 1

(12 Locations)



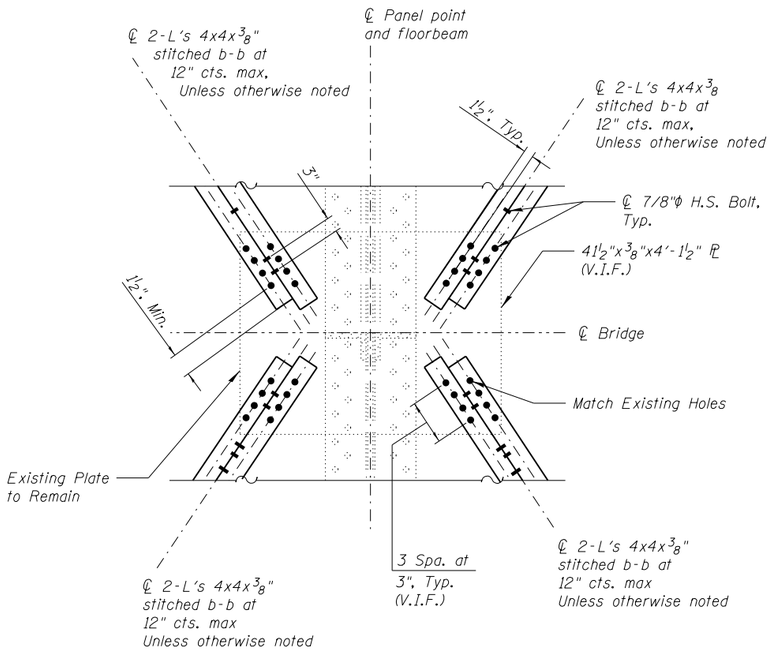
DETAIL 3

(2 Locations Total)



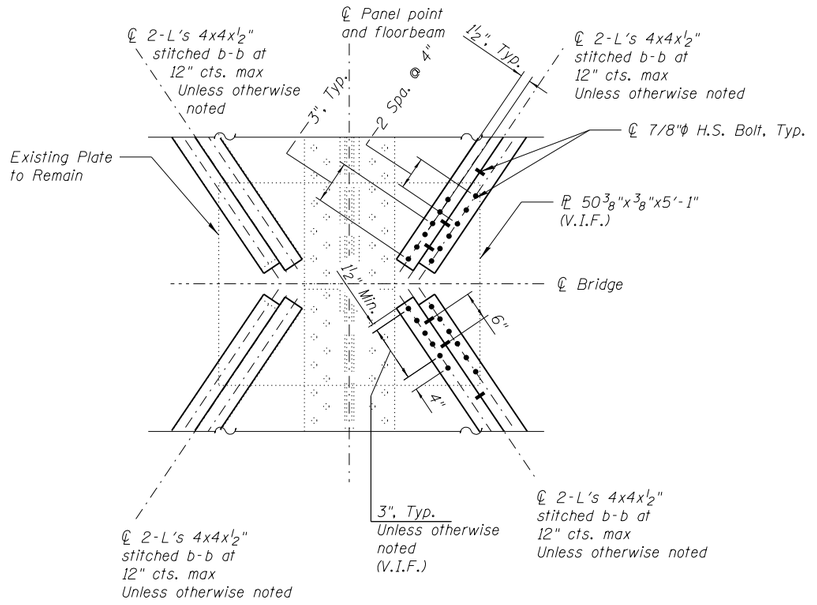
DETAIL 5

(8 Locations Total)



DETAIL 2

(8 Locations)



DETAIL 4

(2 Locations Total)

DETAIL 6

(4 Locations Total)

LEGEND

- ● Field Drilled
- ○ Pre-Fabricated
- —— New Element
- ..... Existing to Remain

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	35,330
Structural Steel Removal	Pound	35,330

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 - Repair Plans\0081-0040\CADD Sheets\081004D-64L46-007-Superstructure Repairs Details.dgn

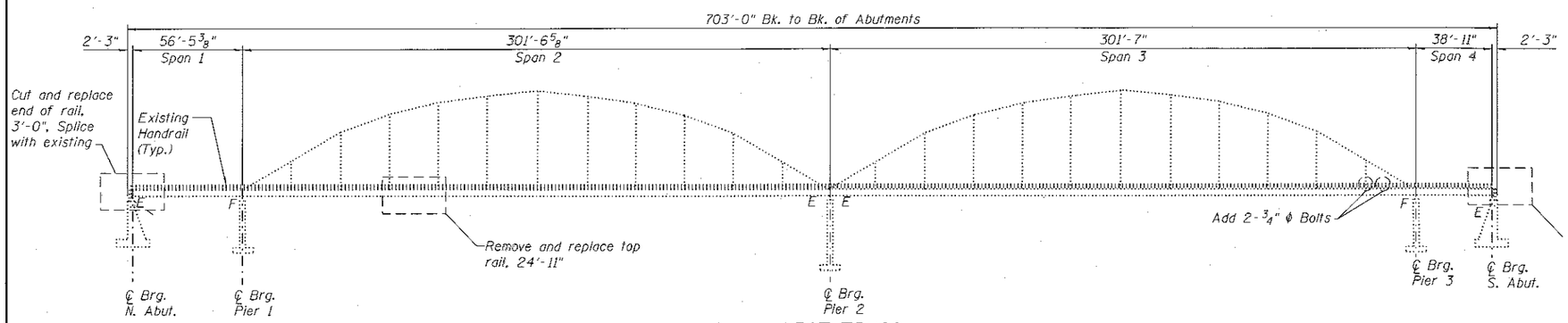
WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

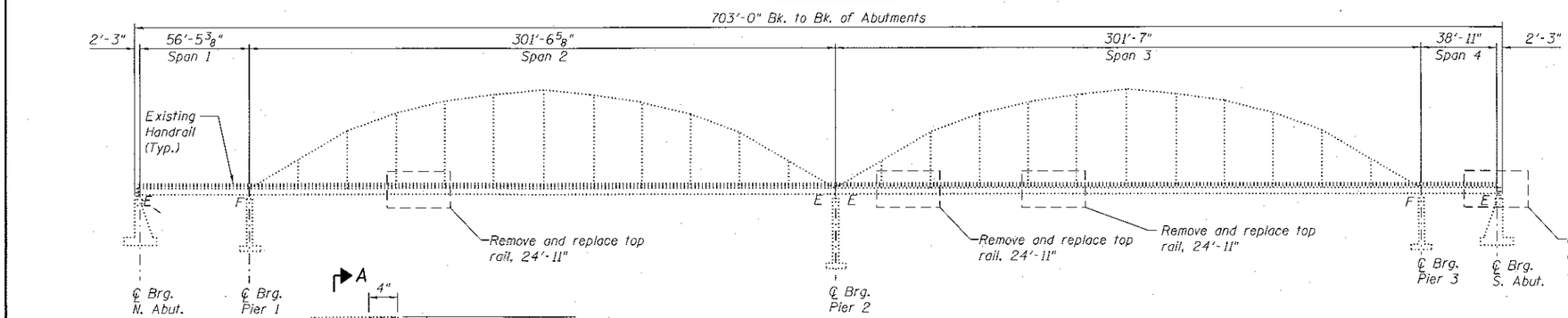
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE STEEL REPAIR DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 7 OF 27 SHEETS

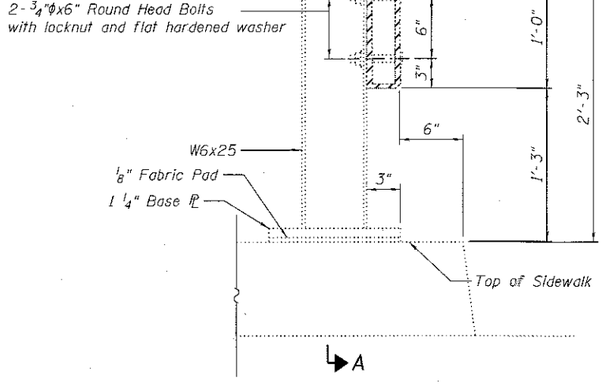
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	52
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



WEST TRUSS

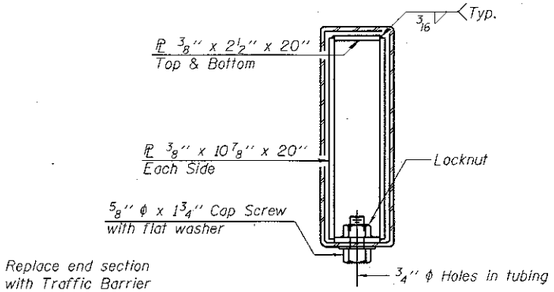


EAST TRUSS



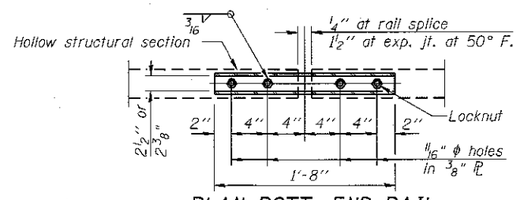
SECTION AT EXISTING RAIL POST

(Spans 1 and 4)



SECTIONS AT END RAIL SPLICE

(Spans 1 and 4)



PLAN-BOTT. END RAIL SPLICE PL TYPICAL

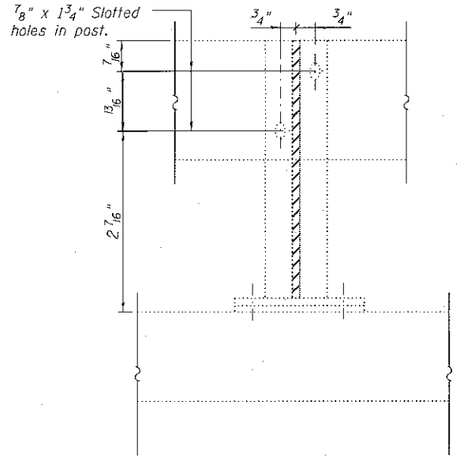
Notes:

All steel rail elements shall be in accordance to 509.05 of the Standard Specifications.

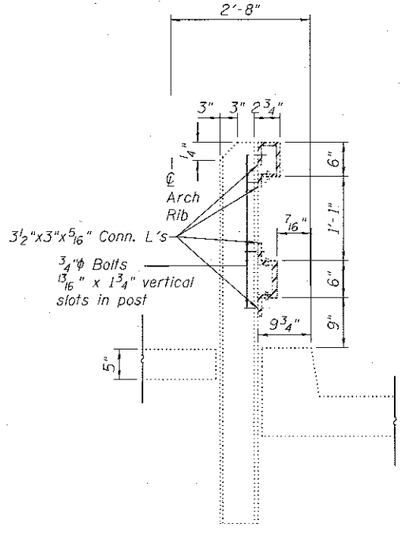
All channels, shims, bolts, and plates shall be paid for under the unit payment, foot, for Handrail Repairs, Bridge No. 3.

All structural steel for Handrail repair shall be AASHTO M 270 Grade 36.

All railing components both above and below deck shall be cleaned and painted according to the details shown on sheet 5 of 27 and shall be paid for under the unit payment, foot, for Handrail Repairs, Bridge No. 3.



SECTION A-B

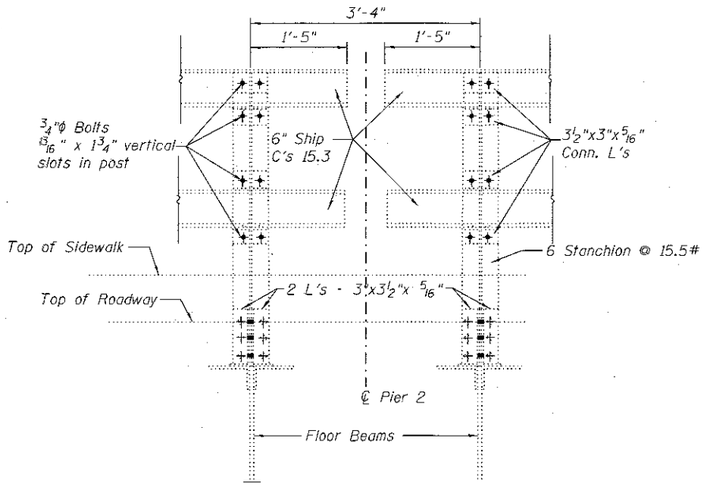


SECTION AT EXISTING RAIL POST

(Spans 2 and 3)

BILL OF MATERIALS

Handrail Repairs Bridge No. 3	Foot	112.7
Traffic Barrier Terminal, Type 1B	Each	1



TYPICAL POST CONNECTIONS

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd. Suite 106
Mokena, IL 60448
312.256.9090

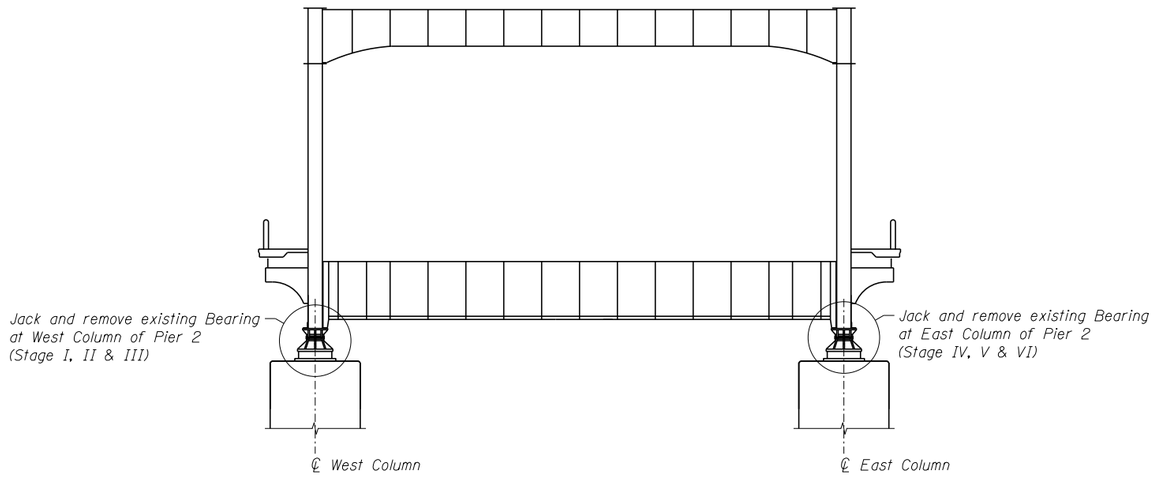
USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - CEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 3/26/2018	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAILING REPAIRS
STRUCTURE NO. 081-0040
SHEET NO. 8 OF 27 SHEETS

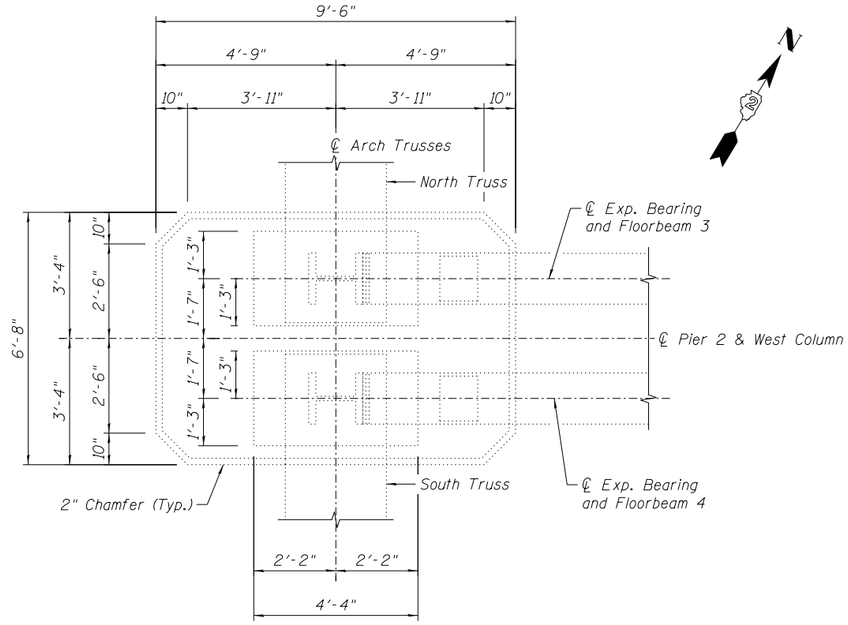
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	53
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\SHARED\Projects\2016-0082\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\081D040-64L46-08-Railing_03.26.2018.dgn



SECTION AT PIER 2

(Looking Northwest)



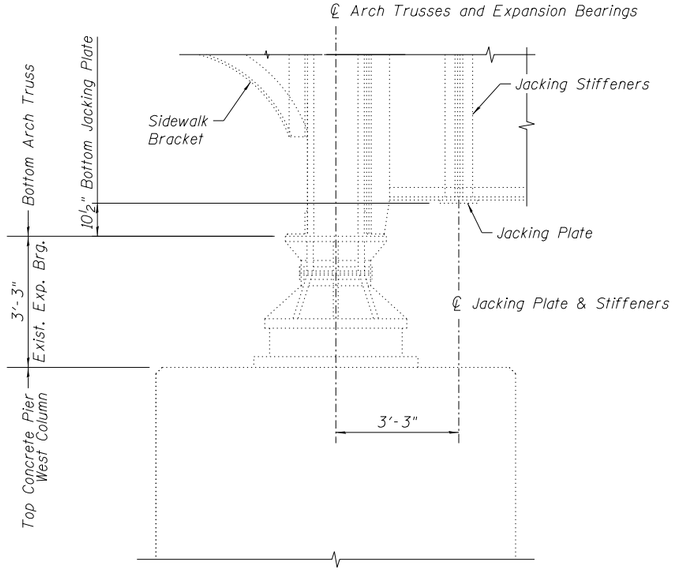
PLAN - PIER 2

NOTES:

1. Reinforcement bars shall have a yield strength, fy = 60,000 psi (ASTM A706 Grade 60).
2. Concrete shall have an unconfined compressive strength, f'c = 3,500 psi at 14 days; IDOT Class SI Concrete. Concrete used for pier repairs or for the new pedestals at Pier 2 shall attain an unconfined compressive strength, f'c = 2,500 psi prior to transfer of the jacking loads or new bearing loads.
3. All exposed concrete edges shall have a $\frac{3}{4}$-inch by 45 degree chamfer, except where shown otherwise.
4. New steel shall have a yield strength, fy = 50,000 psi (AASHTO M270 Grade 50).
5. All new and/or retrofit bolted connections shall use galvanized $\frac{7}{8}$-inch diameter A325 high strength bolts with heavy hex nuts and washers, unless otherwise noted. Existing holes shall be field reamed to a diameter of $\frac{15}{16}$-inches as required for hole alignment.
6. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection.

JACKING NOTES:

1. Live-load traffic and construction loads will not be allowed on the lanes that are closed during pier repairs, jacking operations, construction of the new concrete pedestal, and installation of the new bearings.
2. The existing columns at Pier 2 shall be repaired before jacking procedures are initiated. See repair details.
3. The dead load on the jacks shall be supported by the hydraulics on a temporary basis only, as the bridge is being raised. Once in the raised position, the jacks shall be locked with the internal locking mechanism, and the hydraulic system pressures shall be released.
4. The jack has been designed to be capable of supporting 1.5 times the expected loads.
5. Jacking operations will be allowed at one bearing only. Jacking procedures at another location will not be allowed until the bridge is lowered onto the new bearing and the corresponding jack has been removed.
6. Jacking shall be limited to $\frac{1}{8}$ inch maximum.



ELEVATION - PIER 2

(Looking Northwest)

EXISTING CONDITIONS

BILL OF MATERIAL

ITEM	UNIT	QUANT.
Jack and Remove Existing Bearings	Each	4

SN081-0040_STR09.dgn

DB STERLIN CONSULTANTS, INC.
223 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
TEL. (312)857-1006 FAX. (312)857-1056

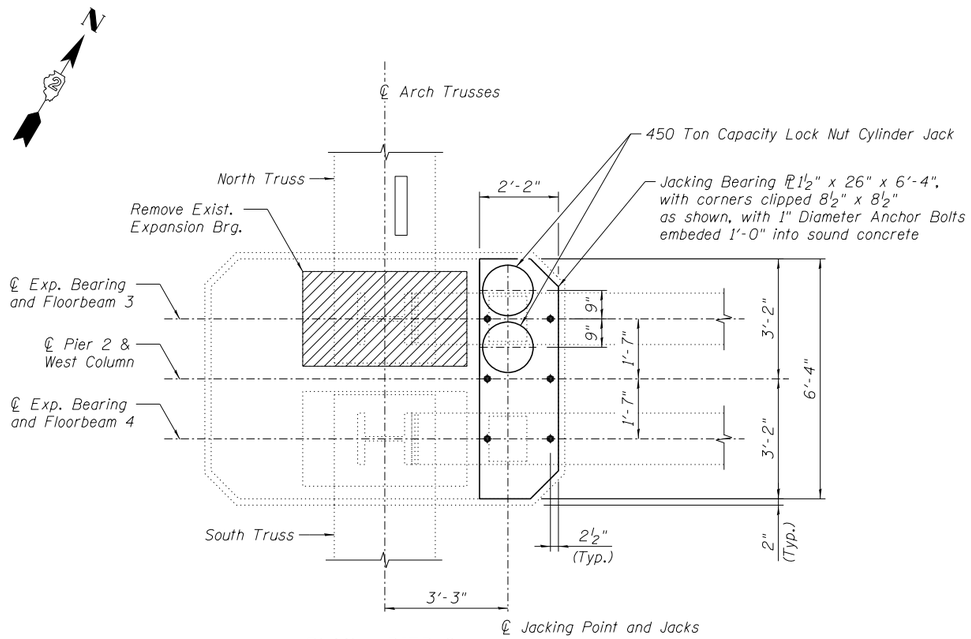
USER NAME = gerald	DESIGNED - WPK	REVISED -
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

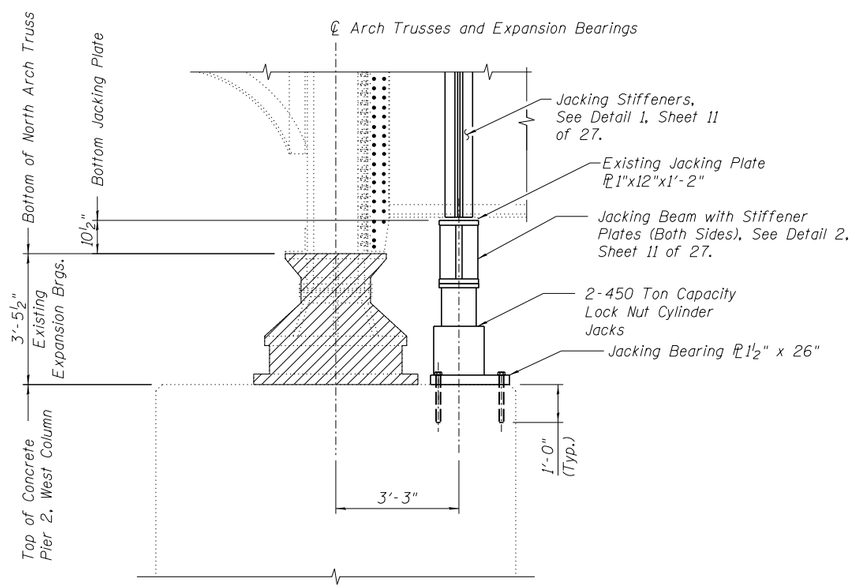
PIER 2 CAP MODIFICATIONS AND JACKING PROCEDURES – I
SN 081–0040

SHEET 9 OF 27

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	54
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



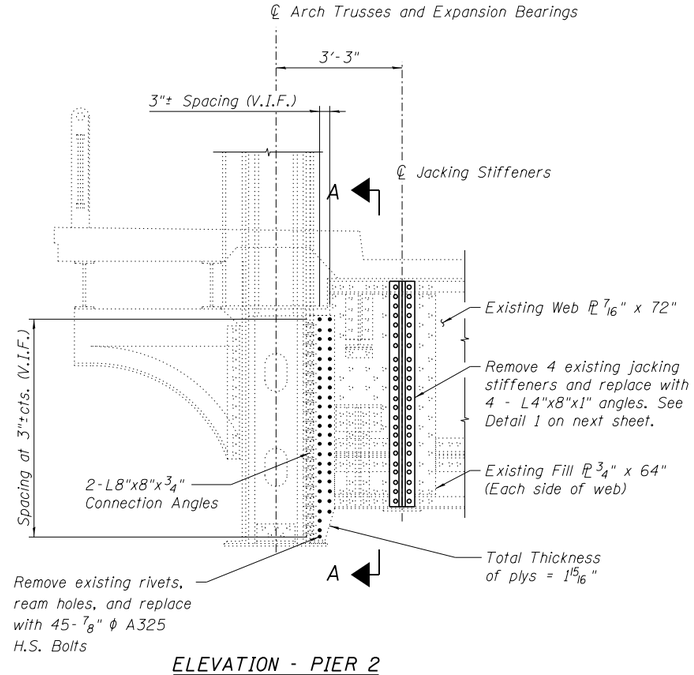
PLAN - PIER 2



ELEVATION - PIER 2

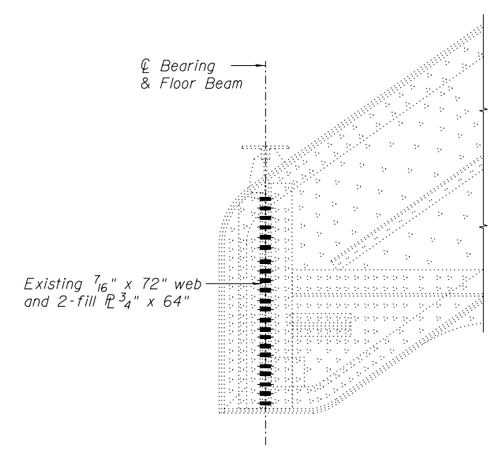
(Looking Northwest)

STAGE I



ELEVATION - PIER 2

(Looking Northwest)



SECTION A-A

FLOORBEAM RETROFIT

JACKING PROCEDURE:

STAGE I - Pier 2 West Column

1. Close traffic in (southbound) lanes over west column. Maintain one lane of traffic in each direction on the east half of bridge.
2. Retrofit existing jacking stiffeners (Remove existing jacking stiffeners and replace with L6x6x1, M270 Grade 50, and ⅞" ϕ H.S. Bolts, A325).
3. Retrofit existing bolted connections of north and south floorbeam to bridge trusses. (Remove existing rivets, ream holes, and install A325 High Strength Bolts, two at a time).
4. Install north Jacking Bearing Plate, just to the east of existing bearing. See plan.
5. Install two 450-ton hydraulic lock nut cylinder jacks and jacking beam beneath existing jacking plate and angles of floorbeam.
6. Jack north bridge, transferring load to jacking system. (Maximum lift = ⅛-inch).
7. Lock jacks in place with locking mechanism.
8. Remove existing north expansion bearing.

NOTES:

1. The Jacking Bearing Plate at each Pier 2 column shall remain permanently in place.

SN081-0040_STR10.dgn

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123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
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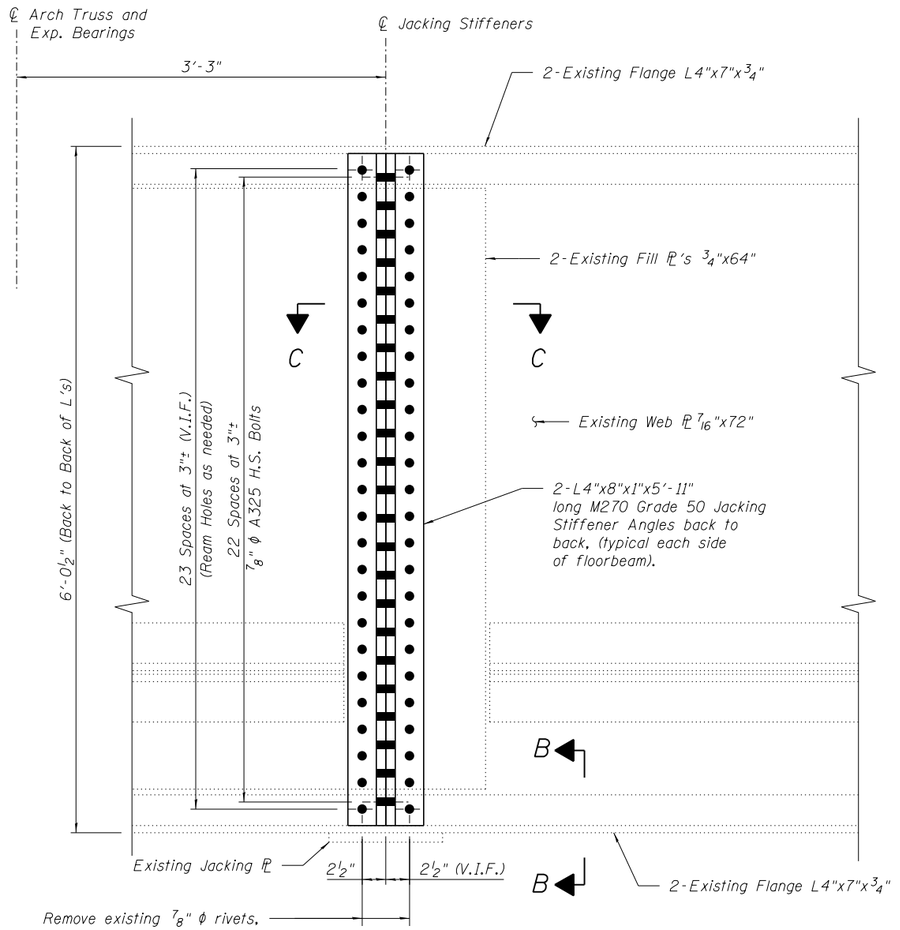
USER NAME = gerald	DESIGNED - WPK	REVISED -
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -

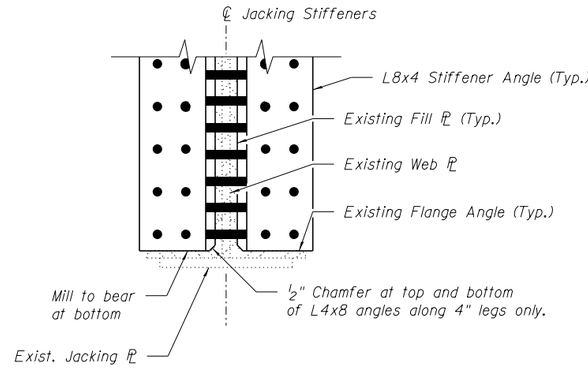
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 CAP MODIFICATIONS AND JACKING PROCEDURES – II
SN 081–0040
SHEET 10 OF 27

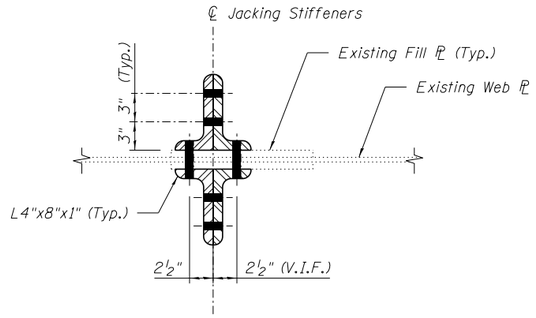
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	55
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



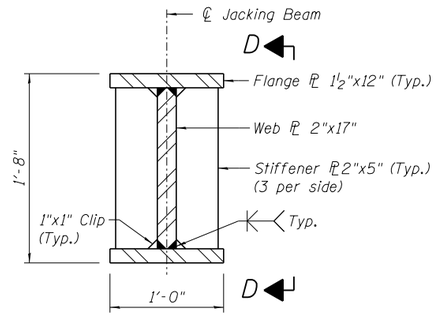
DETAIL 1



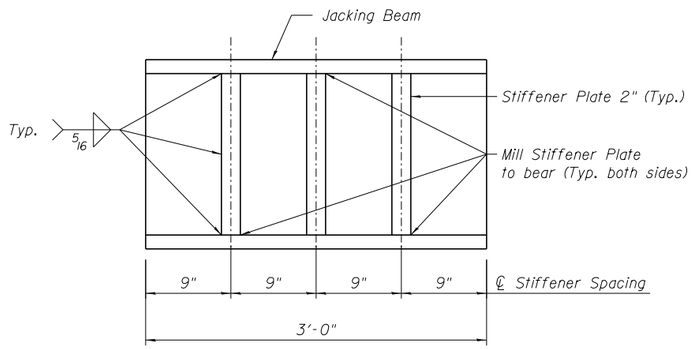
SECTION B-B



SECTION C-C



DETAIL 2



SECTION D-D

SN081-0040_STR11.dgn

DB STERLIN CONSULTANTS, INC.
123 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
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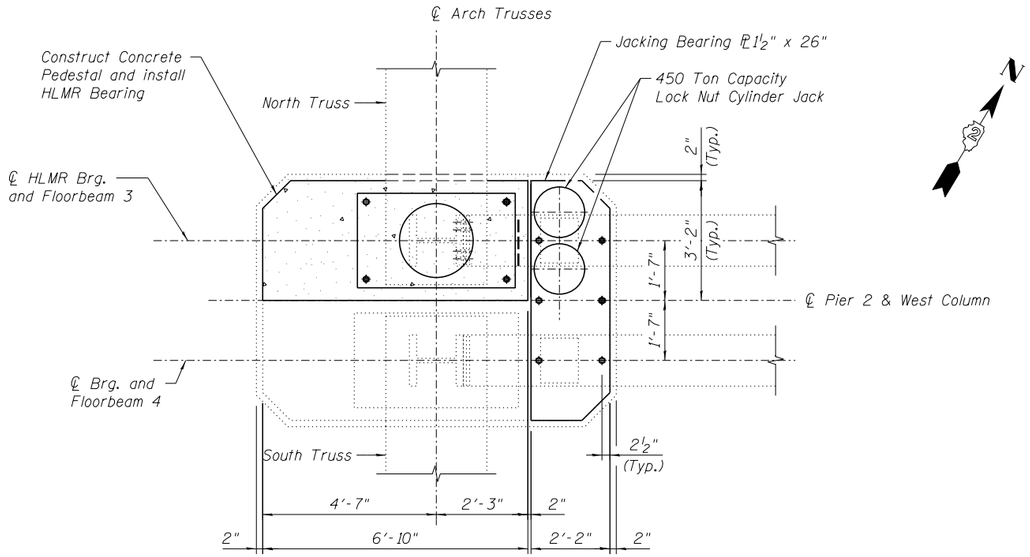
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

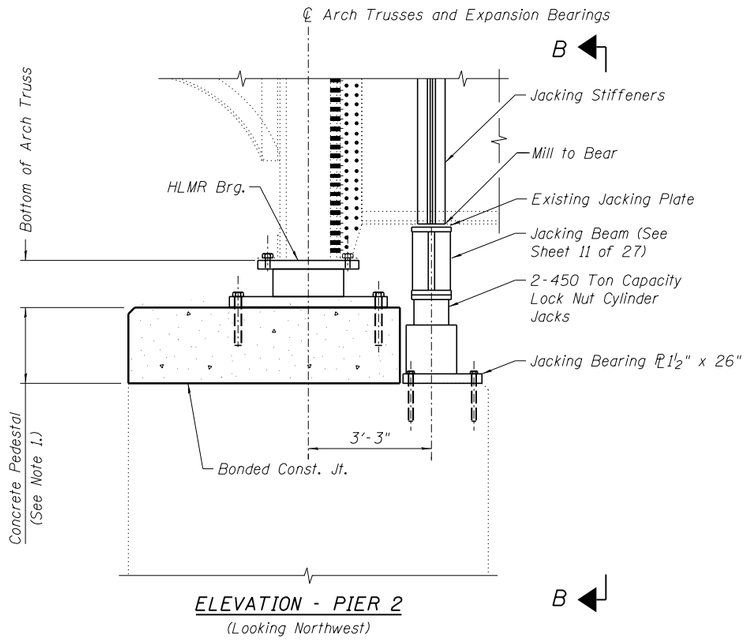
PIER 2 CAP MODIFCATIONS AND JACKING PROCEDURES – III
SN 081–0040

SHEET 11 OF 27

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	56
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



PLAN - PIER 2

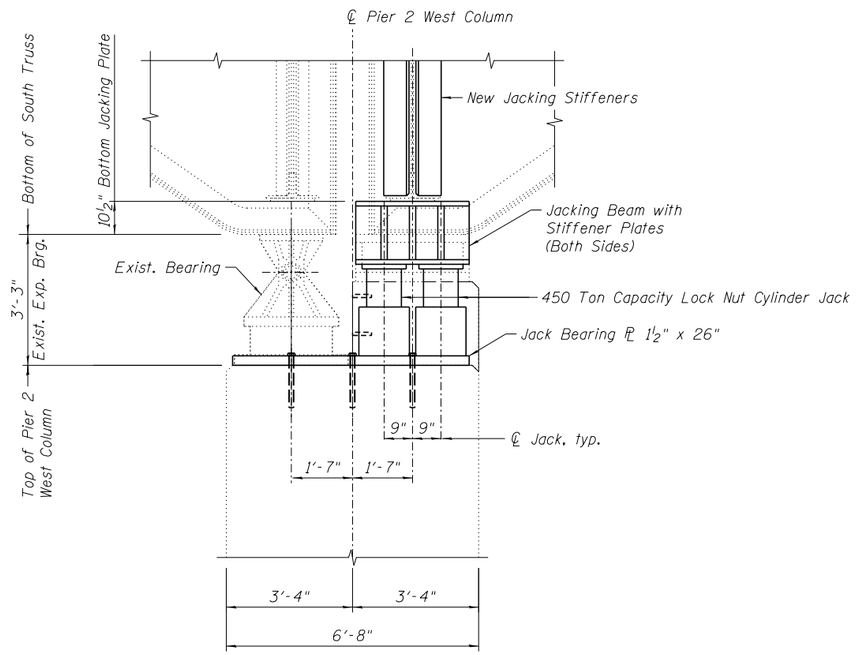


ELEVATION - PIER 2

(Looking Northwest)

STAGE II

(Pedestal reinforcing not shown for clarity)



SECTION B-B

JACKING PROCEDURE:

STAGE II - Pier 2 West Column

1. Clean existing concrete surface, drill and install anchor rods, place new epoxy coated reinforcement and north portion of concrete pedestal.
2. Install new north HLMR bearing.
3. Re-engage hydraulics for jacks. Disengage jack locking mechanism. Lower bridge onto new bearing.
4. Relocate jacks from north side of column.

NOTES:

1. See Sheet No. 14 of 27 for concrete pedestal details and reinforcing.
2. See Detail 1 on Sheet 11 of 27 for Jacking Stiffener details.
3. See Detail 2 on Sheet 11 of 27 for Jacking Beam details.

SN081-0040_STR12.dgn

DB STERLIN CONSULTANTS, INC.
223 N. WACKER DRIVE SUITE 2000
CHICAGO, ILLINOIS 60606
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USER NAME = gerald	DESIGNED - WPK	REVISED -	
	DRAWN - GJS	REVISED -	
PLOT SCALE =	CHECKED - MBC	REVISED -	
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 CAP MODIFICATIONS AND JACKING PRODEDURES – IV
SN 081–0040
SHEET 12 OF 27

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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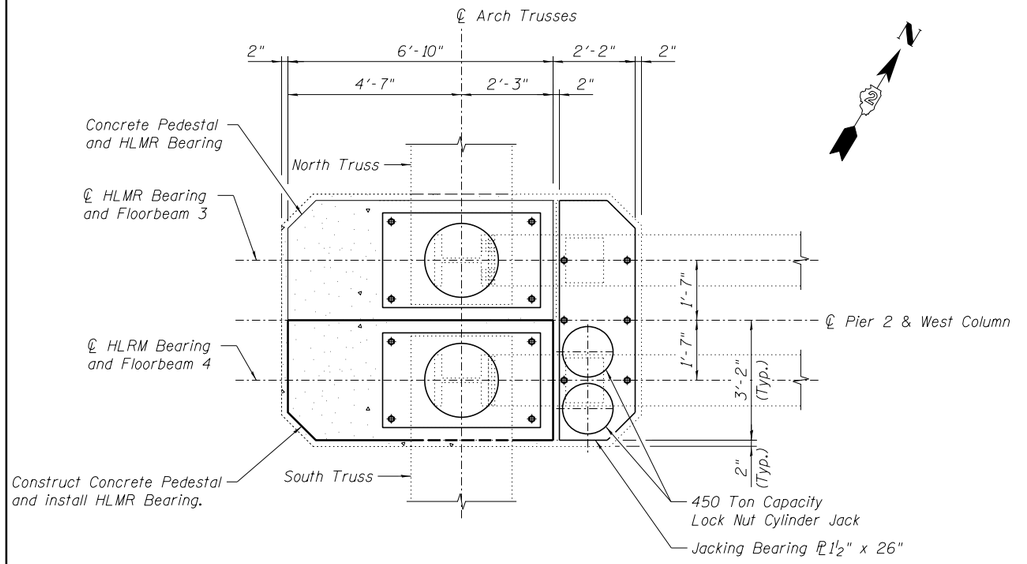
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		



PLAN - PIER 2

JACKING PROCEDURE:

STAGE III - Pier 2 West Column

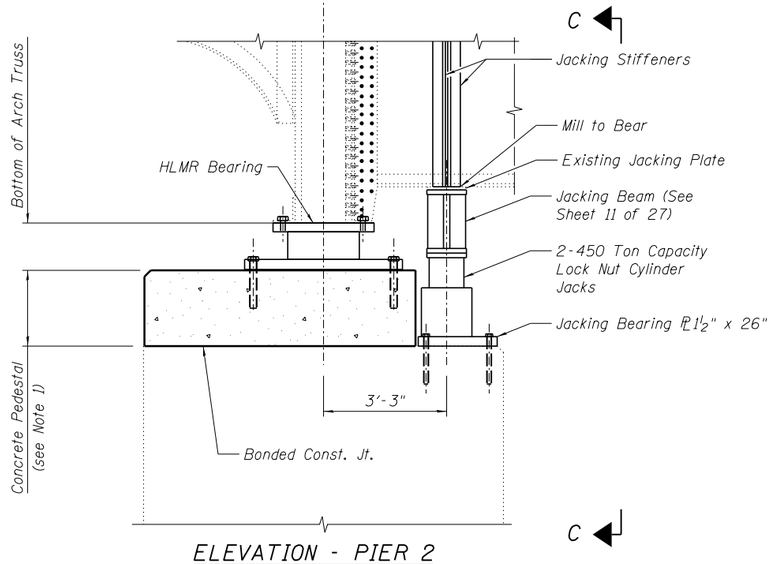
1. Relocate jacks and jacking beam to existing jacking plate of Floorbeam 4 of the south bridge.
2. Jack the south bridge, transferring the load to the jacking system. (Maximum lift = 1/8 inch per IDOT).
3. Lock jacks in place with locking mechanism.
4. Remove existing south bearing.
5. Clean existing concrete surfaces, drill anchor rods, place epoxy coated reinforcement and south portion of concrete pedestal.
6. Install south HLMR bearing.
7. Re-engage hydraulics for jacks. Dis-engage jack locking mechanism. Lower bridge onto HLMR bearing.
8. Remove jacks from west column.
9. Re-open all traffic lanes of bridge.

STAGE IV, V and VI - Pier 2 East Column

1. Close traffic in (northbound) lanes over east pedestal.
2. Repeat procedures detailed in Stages I, II and III for replacement of the bearings at the east pedestal.

NOTES:

1. See Sheet No. 14 of 27 for concrete pedestal details and reinforcing.
2. See Detail 1 on Sheet 11 of 27 for Jacking Stiffener details.
3. See Detail 2 on Sheet 11 of 27 for Jacking Beam details.

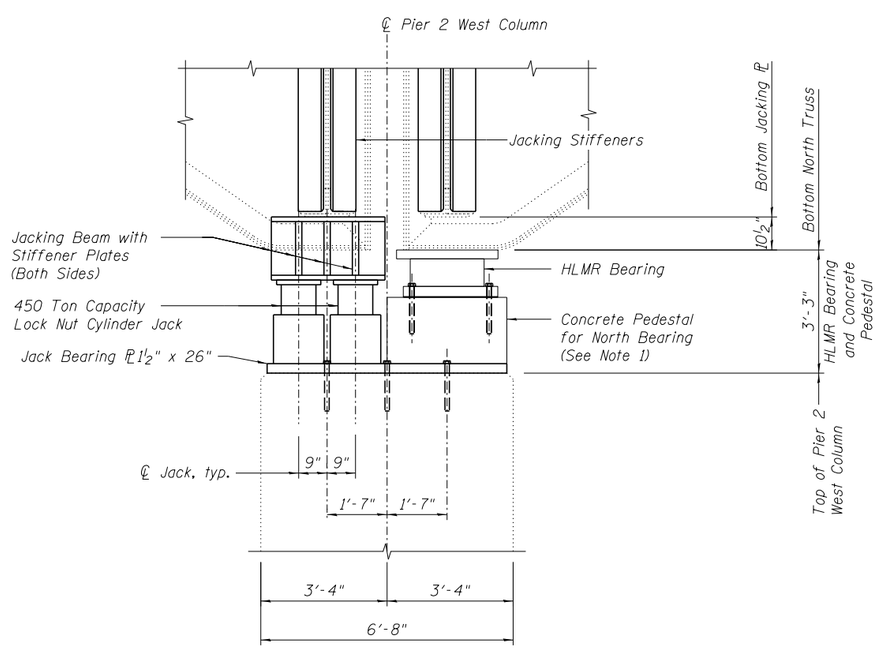


ELEVATION - PIER 2

(Looking Northwest)

STAGE III

(Pedestal reinforcing not shown for clarity)

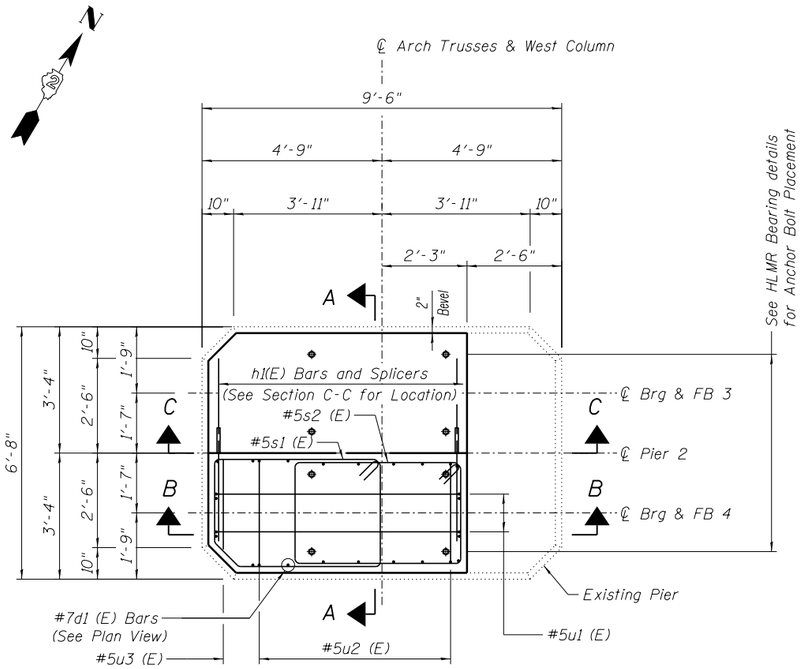


SECTION C-C

SN081-0040_STR13.dgn

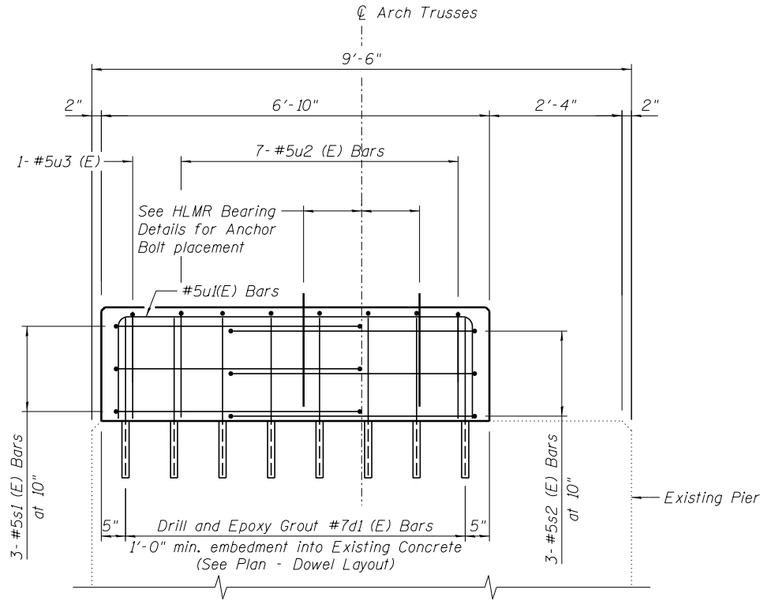
DB STERLIN CONSULTANTS, INC. 155 N. WACKER DRIVE SUITE 2000 CHICAGO, ILLINOIS 60606 TEL. (312)857-1006 FAX. (312)857-1056	USER NAME = gerald	DESIGNED - WPK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 2 CAP MODIFICATIONS AND JACKING PROCEDURES – V SN 081–0040
		DRAWN - GJS	REVISED -		
	PLOT SCALE =	CHECKED - MBC	REVISED -		SHEET 13 OF 27
	PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	58
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

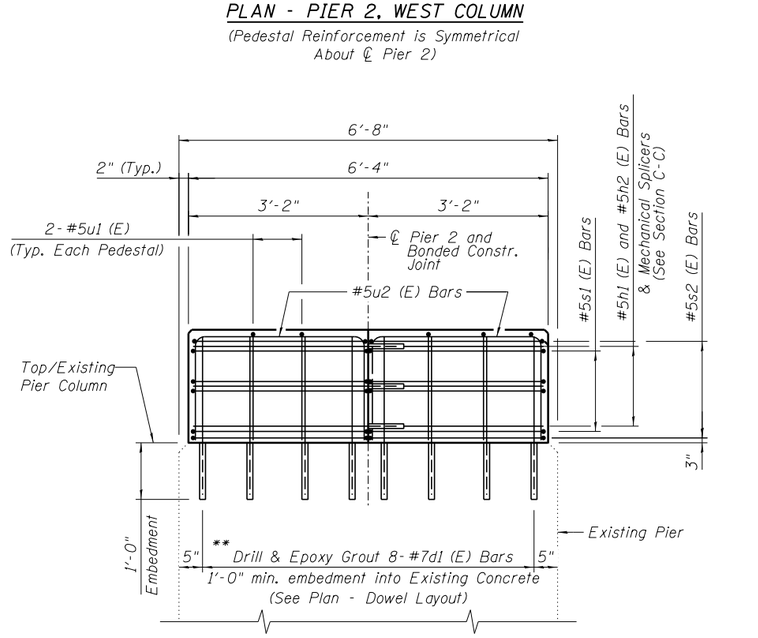


PLAN - PIER 2, WEST COLUMN

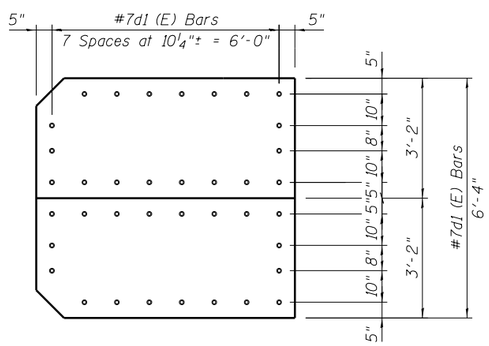
(Pedestal Reinforcement is Symmetrical About ℄ Pier 2)



SECTION B-B

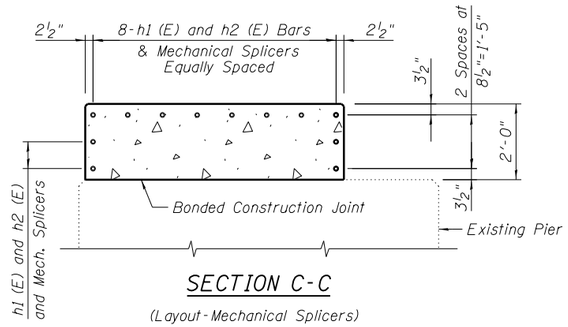


SECTION A-A



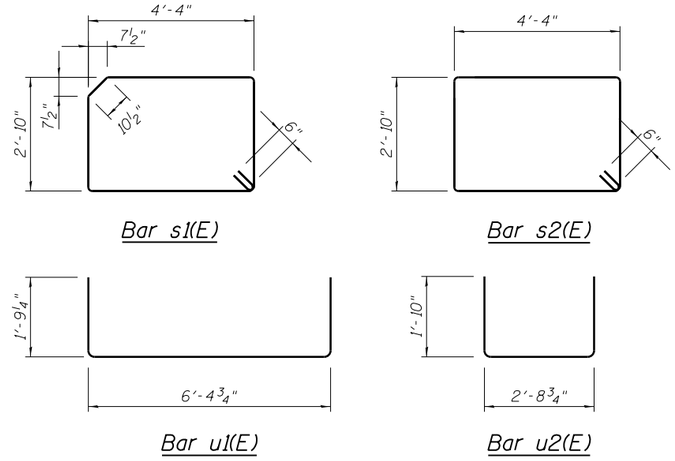
PLAN - DOWEL LAYOUT

(Layout - #7d1 (E) Dowels)



SECTION C-C

(Layout - Mechanical Splicers)



* BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1 (E)	76	7	1'-10"	
h1 (E)	24	6	3'-0"	
h2 (E)	24	6	3'-0"	
u1 (E)	8	5	9'-11"	
u2 (E)	28	5	6'-5"	
u3 (E)	4	5	5'-11"	
s1 (E)	12	5	15'-0"	
s2 (E)	12	5	15'-4"	

Item	Unit	Quantity
Concrete Structures	Cu Yd	6.3
Reinforcement Bars, Epoxy Coated	Pound	1,180
Mechanical Splicers	Each	24

* Quantities shown are for both the East and West Columns of Pier 2. See HLMR drawing for anchor bolt material and quantities.

** In accordance with Section 584 of the Standard Specifications.

NOTES:

1. Details shown are for the west column of Pier 2. Details for the east column of Pier 2 are opposite hand.
2. Construction staging of the new pedestal is dependent upon the stages of the jacking details. Coordinate this sheet with the staging requirements shown on the jacking details drawings.
3. See HLMR Bearing drawing for details of the new bearings supported by the pedestals.
4. Contractor shall complete required repairs at Pier 2 columns prior to constructing pedestals.
5. All Reinforcement bars designated (E) shall be epoxy coated.
6. Minimum concrete cover for reinforcement shall be 2" U.N.O.

SN081-0040_STR14.dgn

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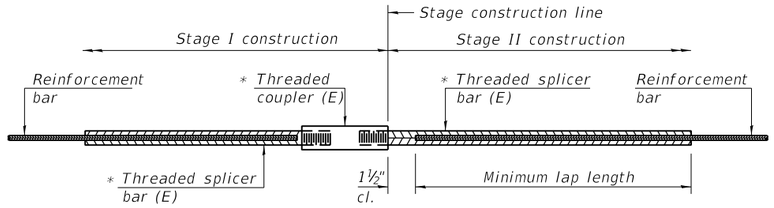
	DRAWN - GJS	REVISED -
PLOT SCALE =	CHECKED - MBC	REVISED -
PLOT DATE = 8/22/2017	DATE - 08/21/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 PEDESTAL DETAILS
SN 081-0040
SHEET 14 OF 27

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	59
		CONTRACT NO. 64L46		
FED. ROAD DIST. NO. 2	ILLINOIS	FED. AID PROJECT		

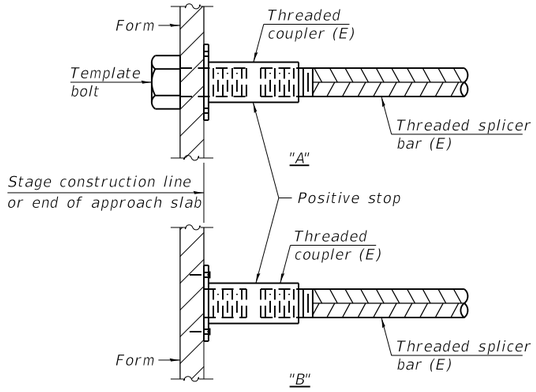


STANDARD BAR SPLICER ASSEMBLY

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

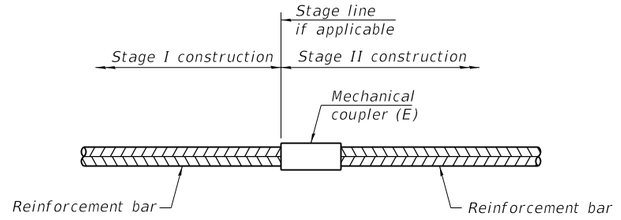
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut.	#5	8	3'-6"
N. Abut.	#6	6	4'-10"
S. Abut.	#5	8	3'-6"
S. Abut.	#6	6	4'-10"
Relief Joints	#5	192	3'-6"



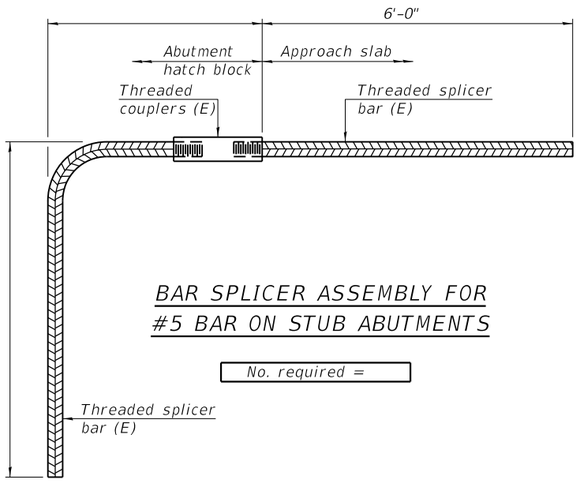
INSTALLATION AND SETTING METHODS

"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 2 (West)	#6	12
Pier 2 (East)	#6	12



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.

FILE NAME = Z:\Projects\2016-08002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\0810040-64L46-015-SPLICER.dgn

WYNNDALCO ENTERPRISES
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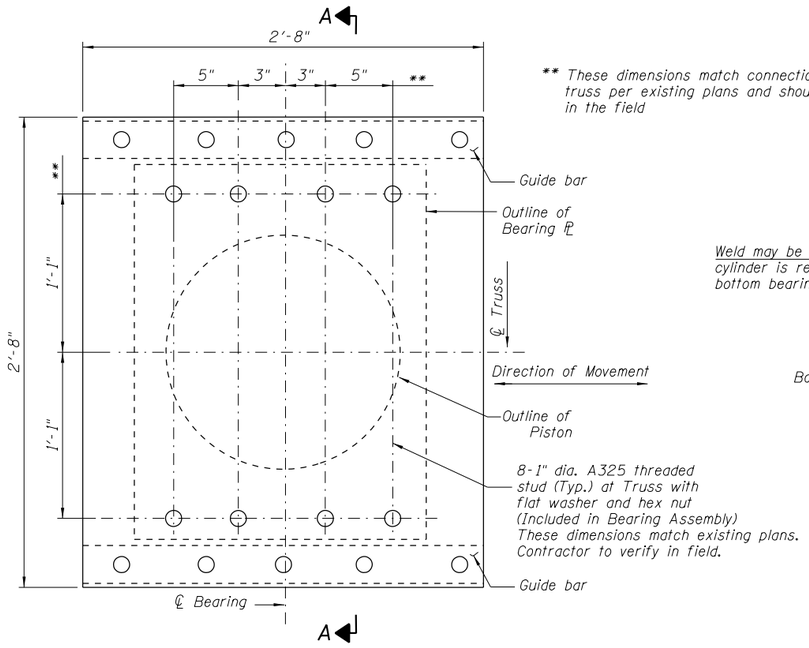
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

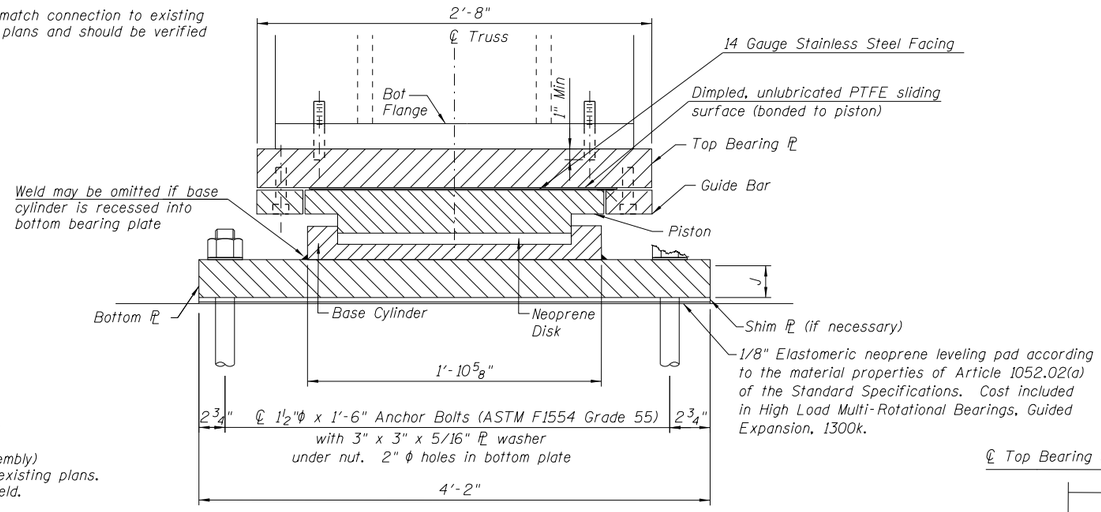
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 15 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	60
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



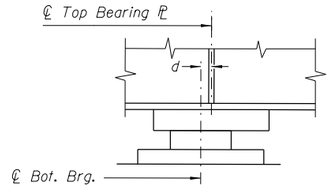
** These dimensions match connection to existing truss per existing plans and should be verified in the field

TOP BEARING PLATE AND PISTON PLAN



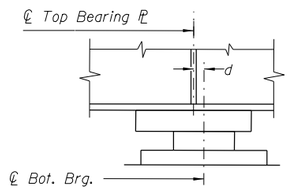
SECTION A-A

* As an alternate to the welded connection shown, the guide bars may be bolted or fabricated as a single piece.



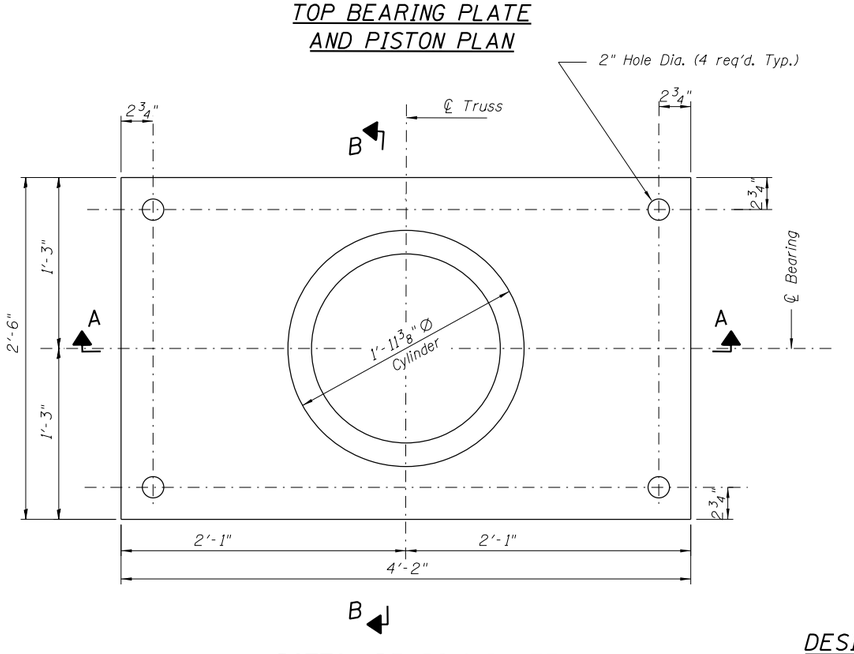
BELOW 50° F

(Move bottom bearing away from fixed bearing)

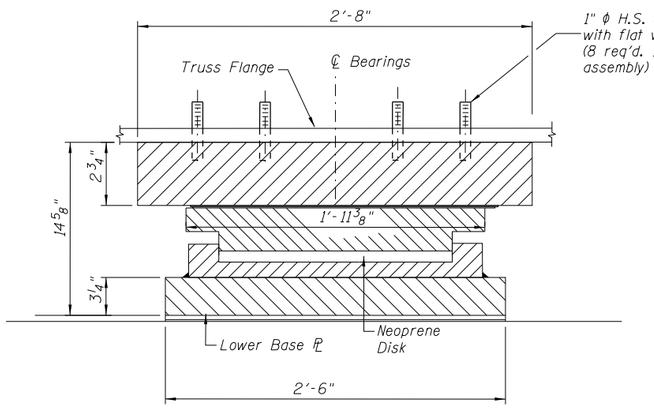


ABOVE 50° F

(Move bottom bearing toward fixed bearing)



BOTTOM BEARING PLATE AND BASE CYLINDER PLAN



SECTION B-B

SETTING ANCHOR BOLTS AT EXPANSION BEARINGS

NOTE: $d = \frac{1}{8}$" per each 100' of expansion for every 15°F temperature change from the normal temperature of 50°F.

Notes:
1. See Sheet No. pedestal drawing for anchor bolt locations.
2. Anchor bolts shall be ASTM F1554 all thread (or an Engineer-approved alternate material) of the diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
3. The structural steel plates for the bearings shall be AASTHO M270 Grade 50.
4. Drill and set anchor bolts shall be installed according to article 521.06 of the Standard Specifications.
5. Dimensions shown per Cosmec, Inc. Dimensions may vary if a different manufacturer is used.

DESIGN DATA

Bearing Manufacturer Design Criteria	Pier 2
Vertical Design Load (kips)	1218
Horizontal Design Load (kips)	244
Design Rotation (rad)	.03
Total Required Movement (in.)	4.5

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 1300k	Each	4
Anchor Bolts, 1 1/2"	Each	16

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PLOT DATE = 8/21/2017	CHECKED - JCE	REVISED

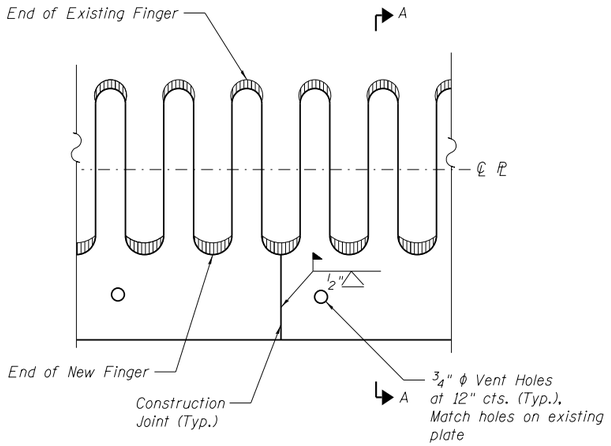
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR BEARINGS
STRUCTURE NO. 081-0040

SHEET NO. 16 OF 27 SHEETS

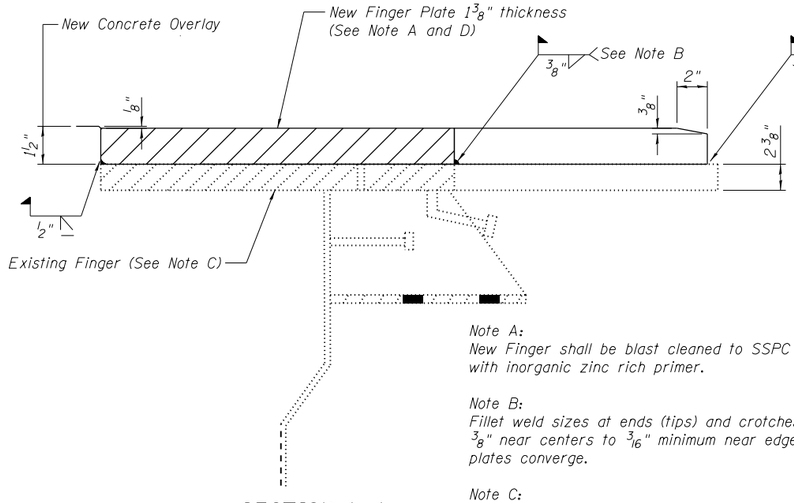
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	61
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\SHARED\Projects\2016-0082\1.0 Work Order 1\3.0 Task 3 Repair Plans\0081-0040\CADD Sheets\08100040-64L46-016-Bearings.dgn



FINGER PLATE PLAN

(M270-Gr. 50)



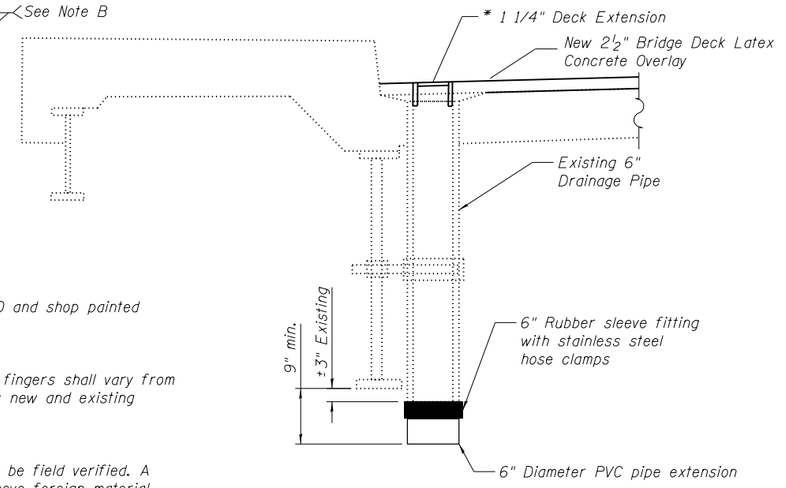
SECTION A-A

Note A:
New Finger shall be blast cleaned to SSPC SP10 and shop painted with inorganic zinc rich primer.

Note B:
Fillet weld sizes at ends (tips) and crotches of fingers shall vary from 3/8" near centers to 3/16" minimum near edges as new and existing plates converge.

Note C:
Existing Finger widths and exact locations must be field verified. A template shall be made to insure alignment. Remove foreign material that would prevent uniform contact between new and existing plates by method approved by the Engineer.

Note D:
New finger and cleaning of trough shall be paid for under the pay item Furnishing and Erecting Structural Steel.



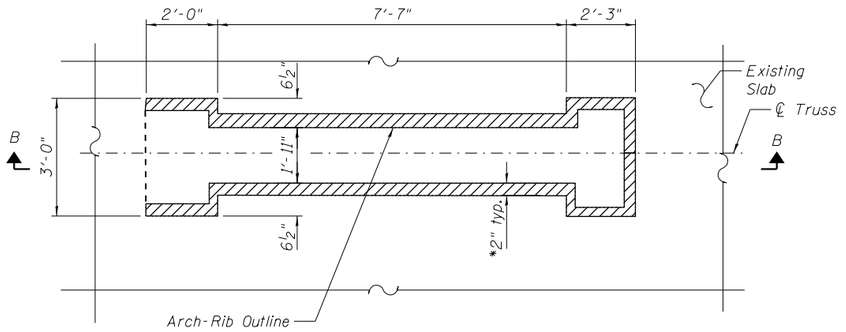
* Deck Extensions to be Approved by Engineer

Note: Top & Bottom Drain Extensions are both included under the Pay Item " FLOOR DRAIN EXTENSIONS"

EXISTING DRAINAGE PIPE TYPICAL

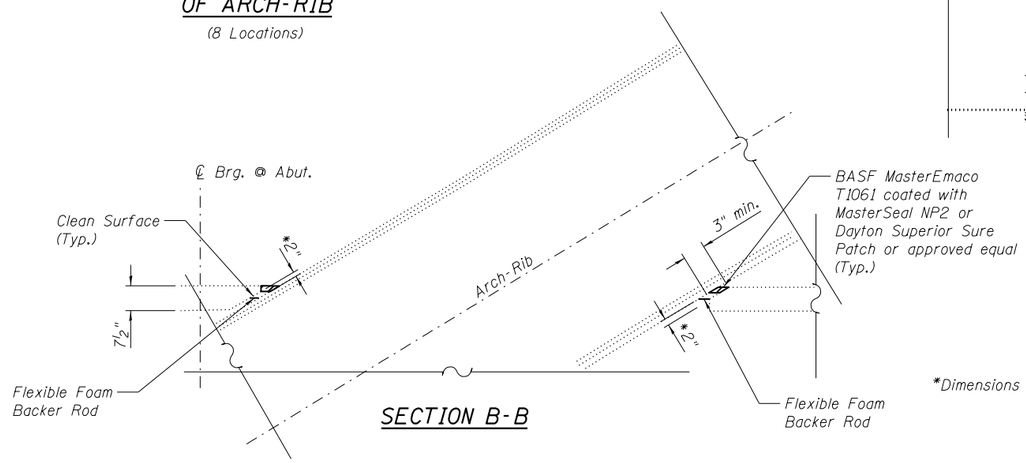
(At 86 Locations Required)

FINGER PLATE MODIFICATIONS

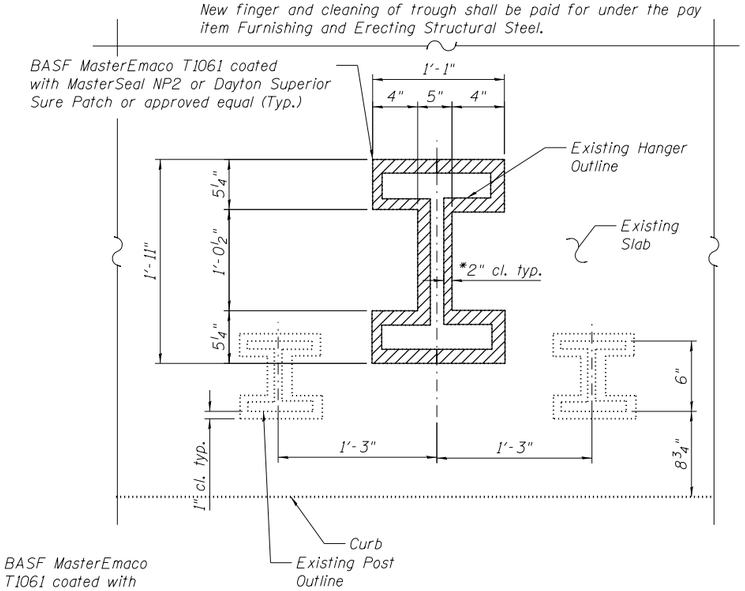


TYPICAL PLAN VIEW OF ARCH-RIB

(8 Locations)



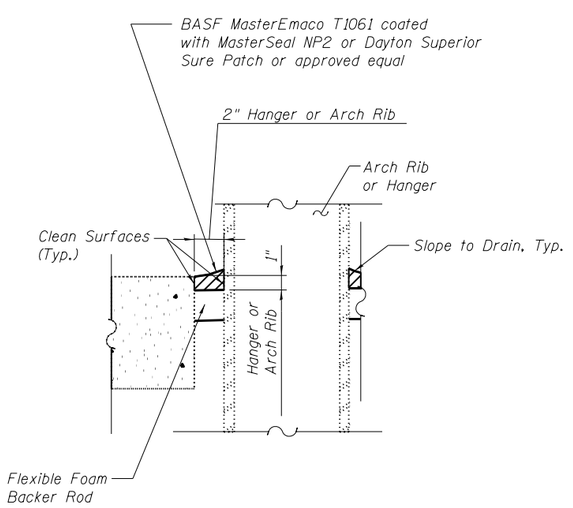
SECTION B-B



TYPICAL PLAN VIEW OF RAIL POSTS AND HANGERS

(At 44 Hanger Locations Required)

*Dimensions to be verified in field.



TYPICAL SEAL SECTION DETAIL

BILL OF MATERIALS

Joint Seal Repair Bridge No. 3	L Sum	1.0
Floor Drain Extension	Each	86
Furnishing and Erecting Structural Steel	Pound	8,510

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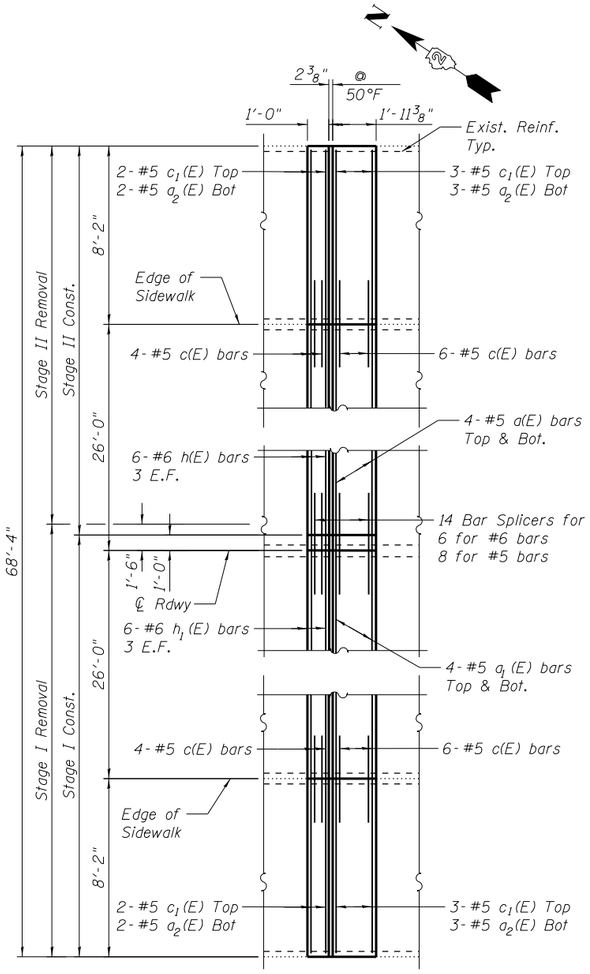
PLOT DATE = 1/18/2018	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

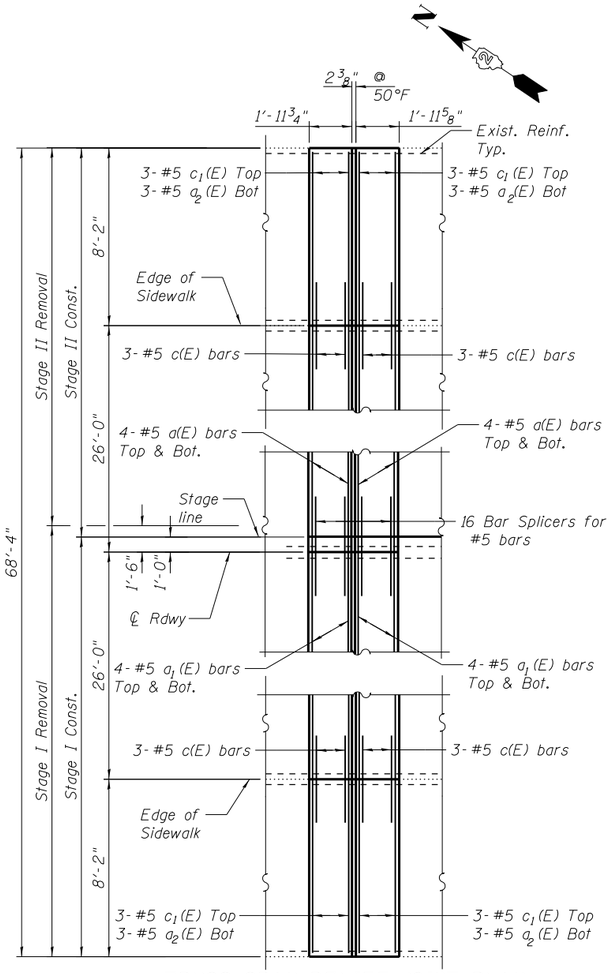
MISCELLANEOUS DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 17 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	62
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\0810040-64L46-017-Misc Details.dgn

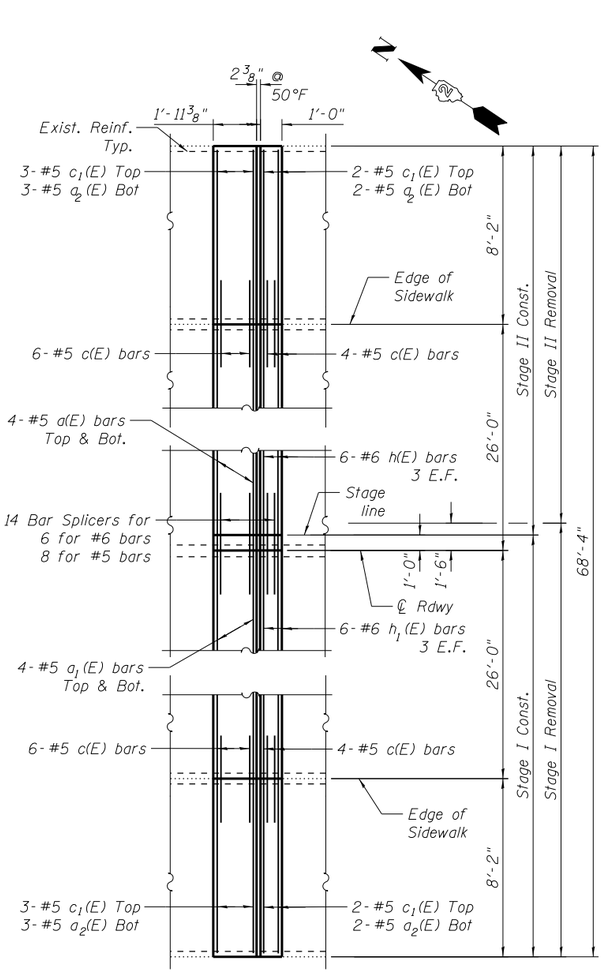


NORTH ABUTMENT PLAN

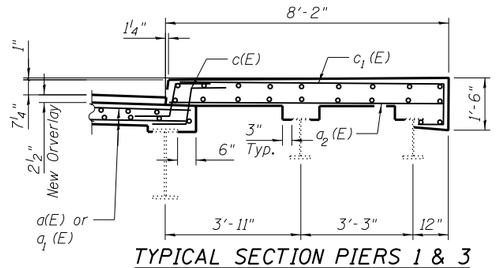


TRUSS SPAN RELIEF JOINT PLAN

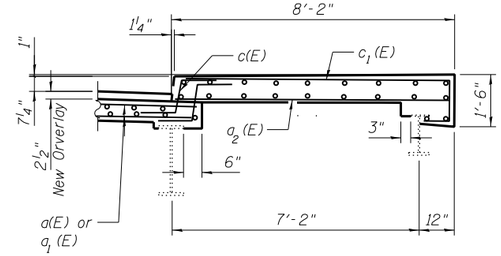
(12 Places Req'd)



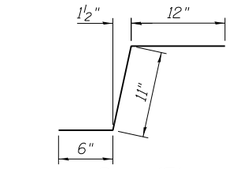
SOUTH ABUTMENT PLAN



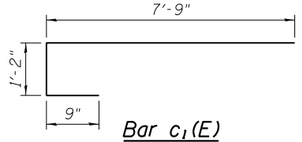
TYPICAL SECTION PIERS 1 & 3 AT SIDEWALK



TYPICAL TRUSS RELIEF JOINT AND ABUTMENT SECTION AT SIDEWALK



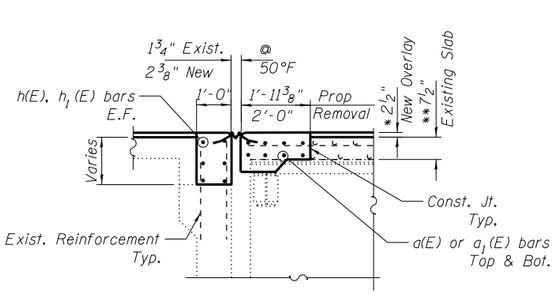
Bar c(E)



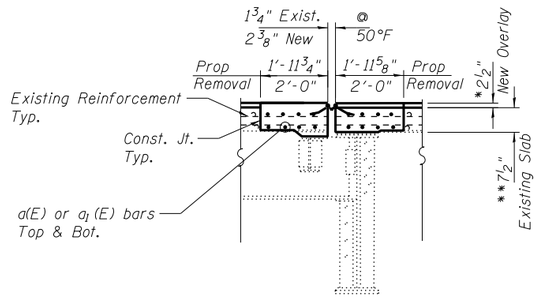
Bar $c_1(E)$

BILL OF MATERIAL

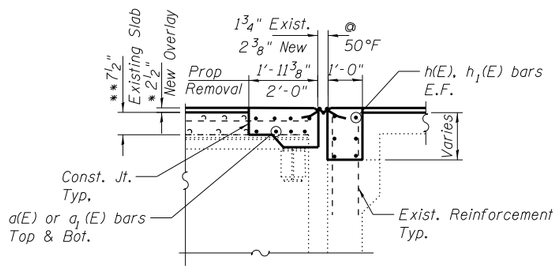
Bar	No.	Size	Length	Shape
a(E)	240	#5	27'-8"	
a_1 (E)	240	#5	25'-8"	
a_2 (E)	188	#5	7'-10"	
c(E)	208	#5	2'-5"	
c_1(E)	188	#5	9'-8"	
h(E)	12	#6	32'-6"	
h_1(E)	12	#6	30'-0"	
Concrete Removal		Cu. Yds.	106.0	
Concrete Superstructure		Cu. Yds.	105.9	
Reinforcement Bars, Epoxy Coated		Pound	18,064	
Bar Splicers		Each	220	



NORTH ABUTMENT SECTION



TRUSS SPAN RELIEF JOINT SECTION



SOUTH ABUTMENT SECTION

*Prior to 1/4" Diamond Grinding

** Existing Slab to have 3/4" Deck Scarification prior to laying new overlay

Note:
Cost of removing and replacing handrail and posts to complete joint repairs is incidental to the Pay Item "Preformed Joint Strip Seal".

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PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 081–0040
SHEET NO. 18 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	63
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

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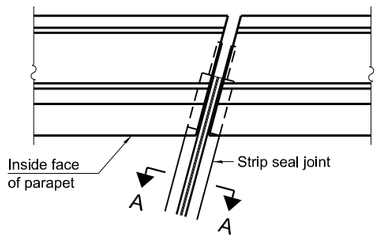
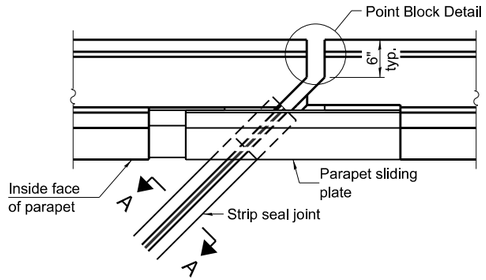
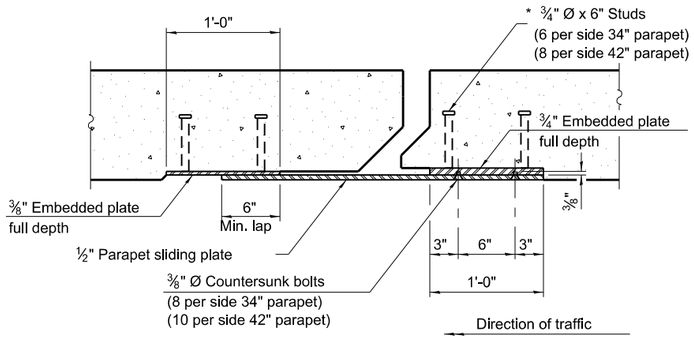


FOR SKEWS ≤ 30°



FOR SKEWS > 30°

PLAN AT PARAPET



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

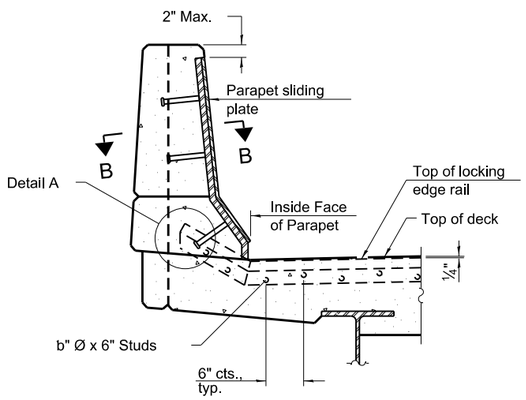
The Maximum space between locking edge rail segments shall be 0" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

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

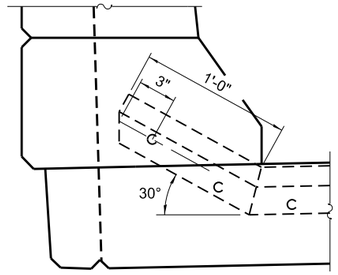
34" F-shape barrier shown, 42" F-shape similar as noted.

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

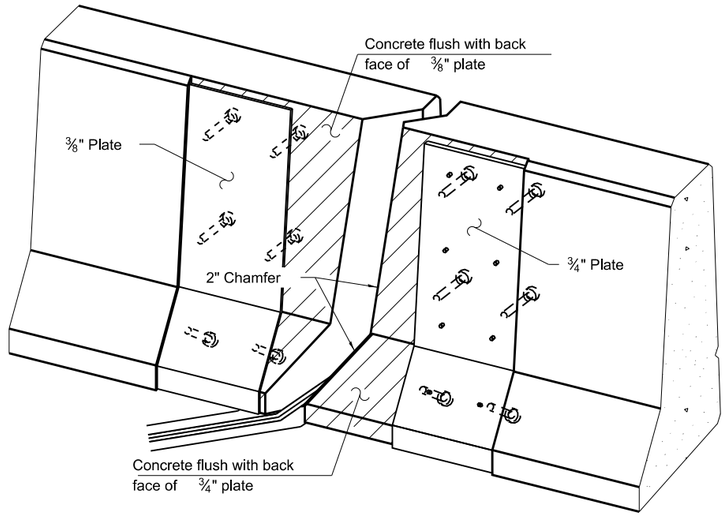


ELEVATION AT PARAPET

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

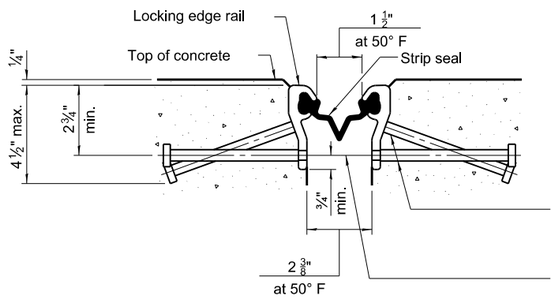


DETAIL A



TRIMETRIC VIEW

(Showing embedded plates only)



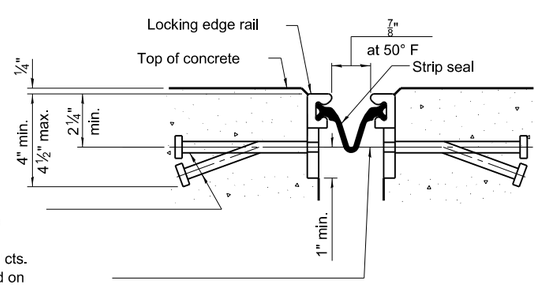
SHOWING ROLLED RAIL JOINT

* ⅝" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

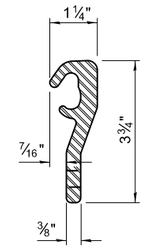
b" ϕ threaded rods in D" ϕ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

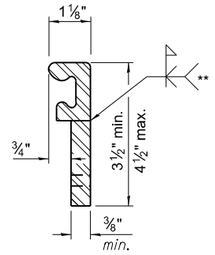
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



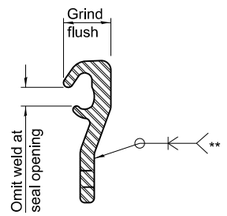
ROLLED
(EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	980

EJ-SS-S 8-11-17

(Sheet 1 of 3)

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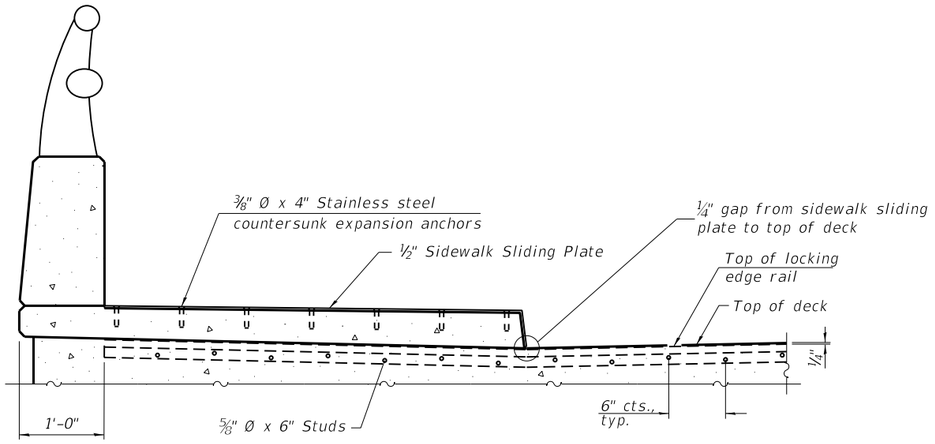
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

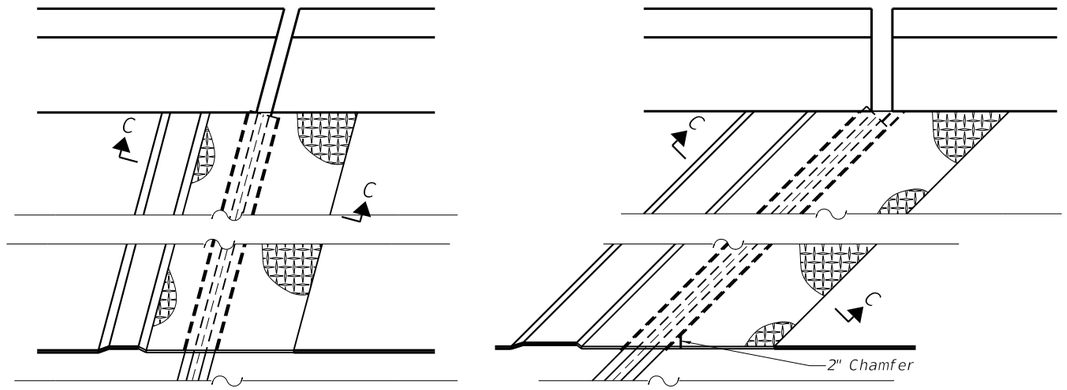
PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0040

SHEET NO. 19 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	64
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			



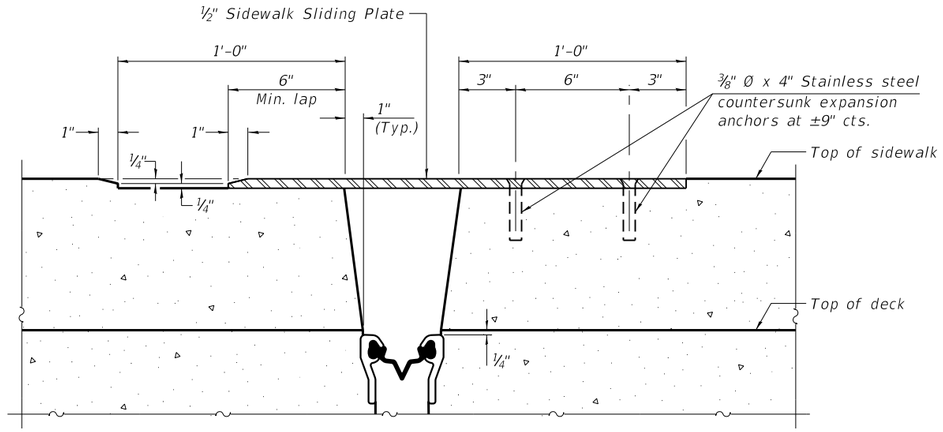
ELEVATION AT RAISED SIDEWALK



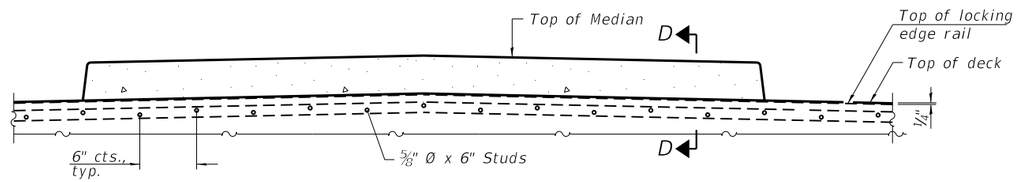
(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT RAISED SIDEWALK

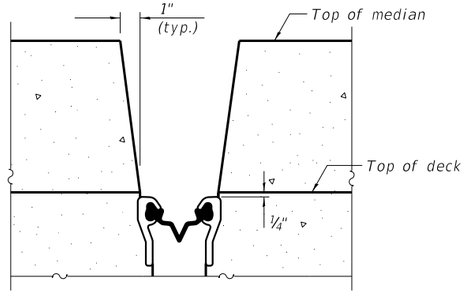


SECTION C-C



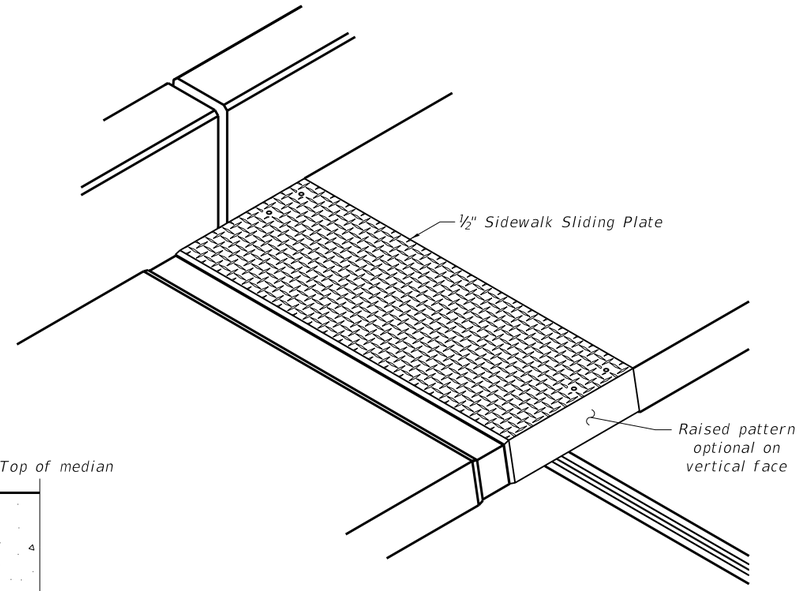
ELEVATION AT MEDIAN

For skews > 30°, chamfer acute corners 2" similar to sidewalk.



SECTION D-D

(at Rt. ∠'s)



TRIMETRIC VIEW

EJ-SS-S 8-11-17

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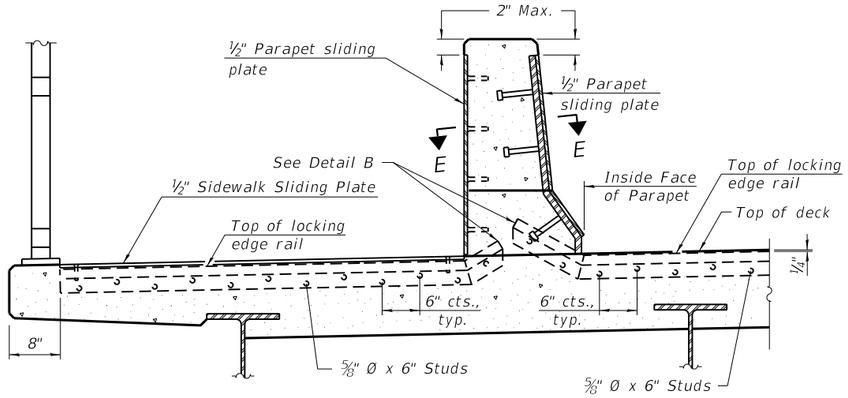
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0040

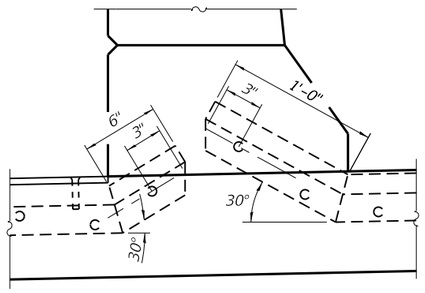
SHEET NO. 20 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	65
		CONTRACT NO. 64L46		
		ILLINOIS	FED. AID PROJECT	

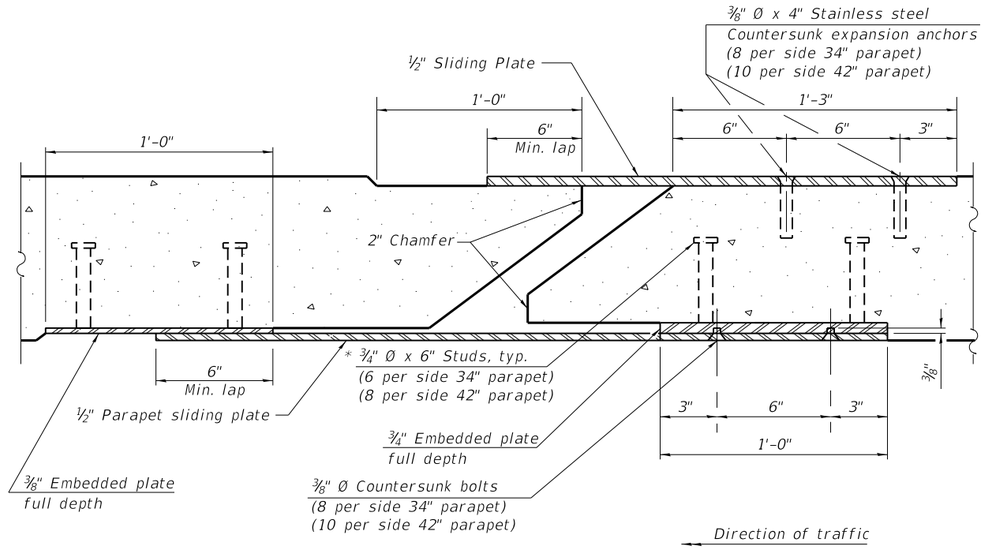


ELEVATION AT DECK LEVEL SIDEWALK

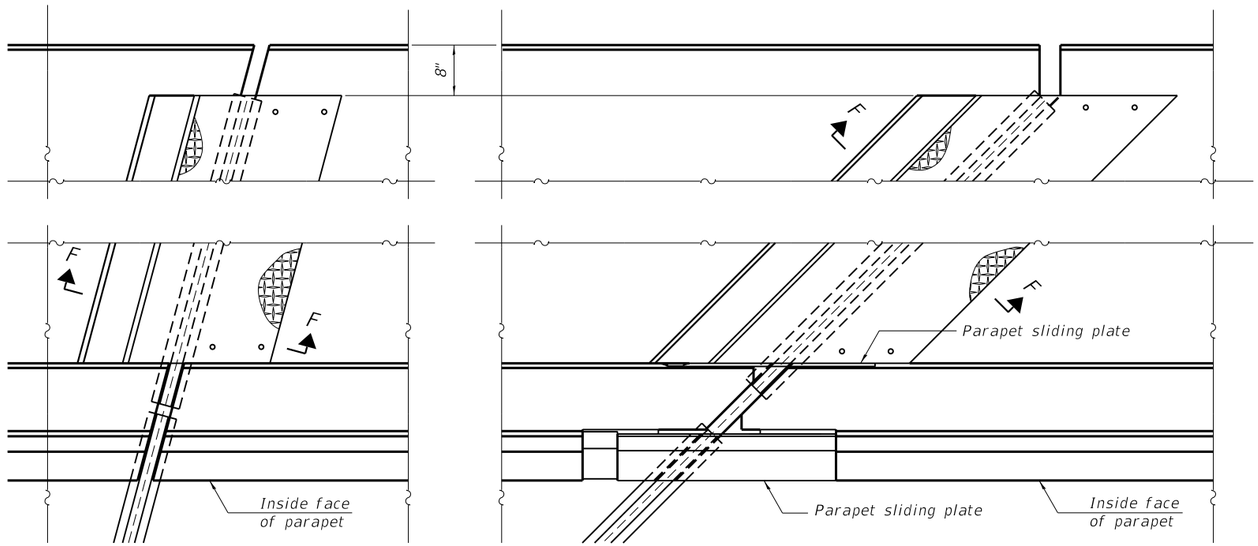
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL B



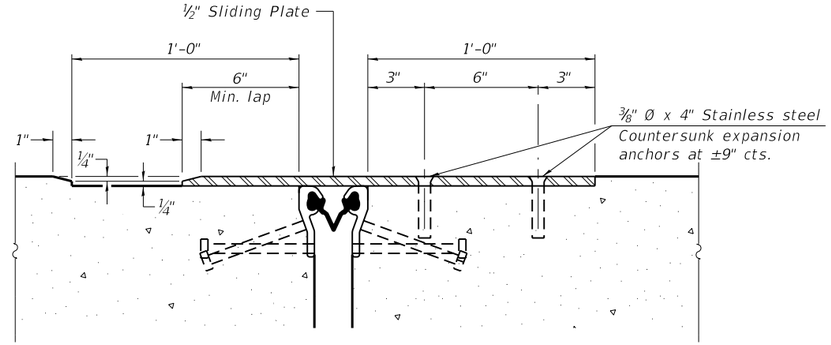
SECTION E-E



(FOR SKEWS ≤ 30°)

(FOR SKEWS > 30°)

PLAN AT DECK LEVEL SIDEWALK



SECTION F-F

EJ-SS-S

8-11-17

(Sheet 3 of 3)

WYNNDALCO ENTERPRISES 19081 Old LaGrange Rd, Suite 106 Mokena, IL 60448 312.256.9090	USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
		CHECKED - GEK	REVISED
	PLOT SCALE =	DRAWN - MJL	REVISED
	PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

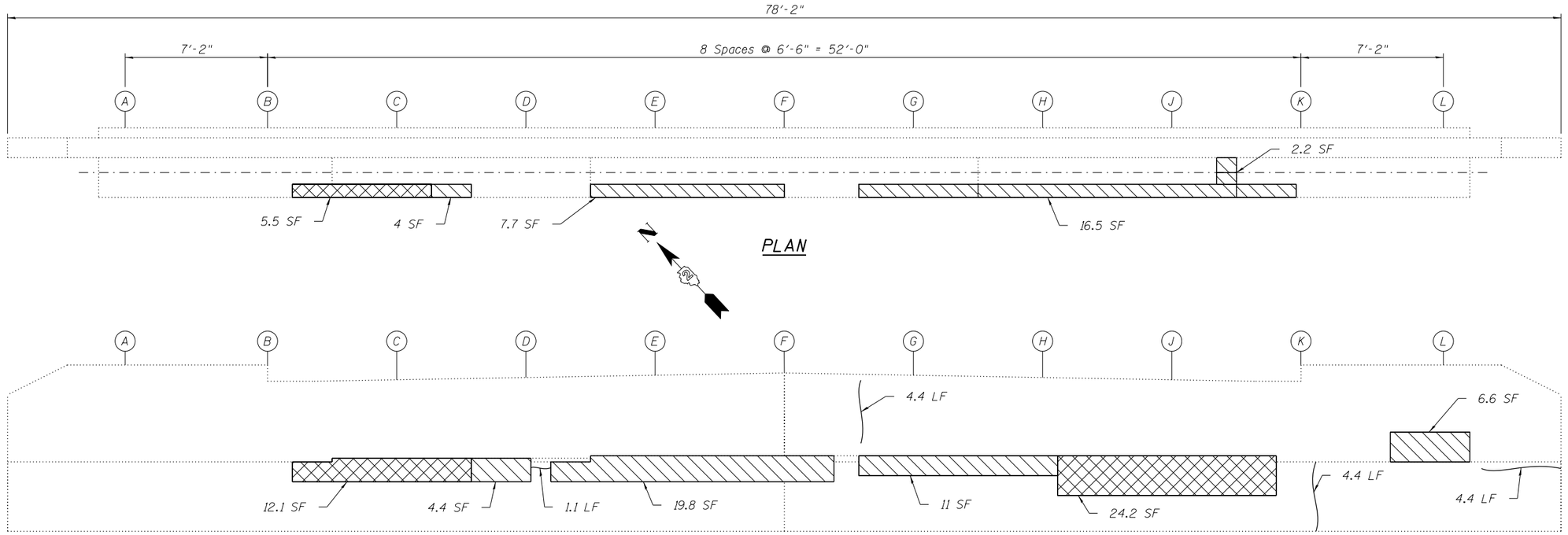
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL - SIDEWALK
STRUCTURE NO. 081-0040

SHEET NO. 21 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	66
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

FILE NAME = Z:\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\081004064L46-021-JNT_Details 3 of 3.dgn

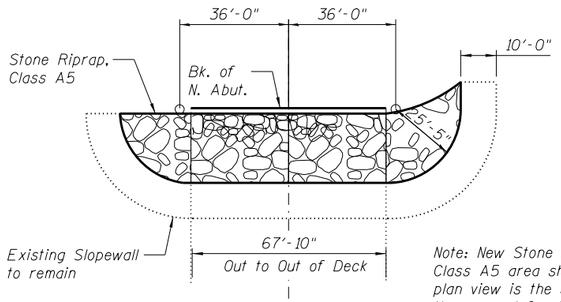


PLAN

ELEVATION

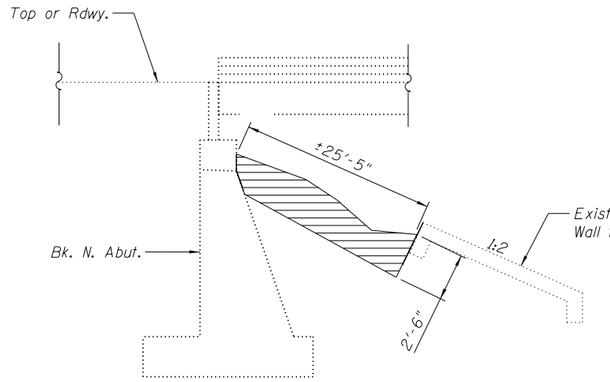
NOTES

1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inpection in Novemvber 2016 and include a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support and reinstall all existing utilities interfering with the work. Cost shall be included with the pay item Structural Repair of Concrete (Depth Equal to or Less Than 5").

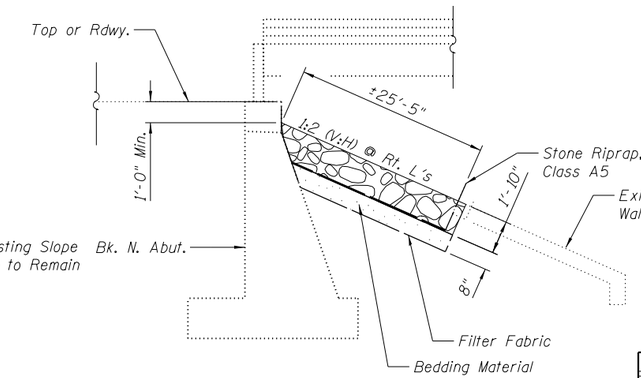


PROPOSED RIPRAP PLAN
NORTH ABUTMENT

Note: New Stone Riprap Class A5 area shown in plan view is the same for the removal for Channel Excavation



EXISTING SECTION THRU
NORTH ABUTMENT



PROPOSED SECTION THRU
RIPRAP NORTH ABUTMENT

LEGEND

- * Epoxy Crack Injection
- * Structural Repair of Concrete (Depth equal or less than 5 inches)
- * Structural Repair of Concrete (Depth greater than 5 inches)
- Channel Excavation
- SF - Square Foot
- LF - Linear Foot
- * See Note 1

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	516
Epoxy Crack Injection	Foot	14.3
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	72.2
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	41.8
Channel Excavation	Cu. Yd.	311
Filter Fabric	Sq. Yd.	356
Stone Riprap, Class A5	Sq. Yd.	356

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

USER NAME = Mike Livernois	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 8/23/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 22 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	67
		CONTRACT NO. 64L46		
		ILLINOIS FED. AID PROJECT		

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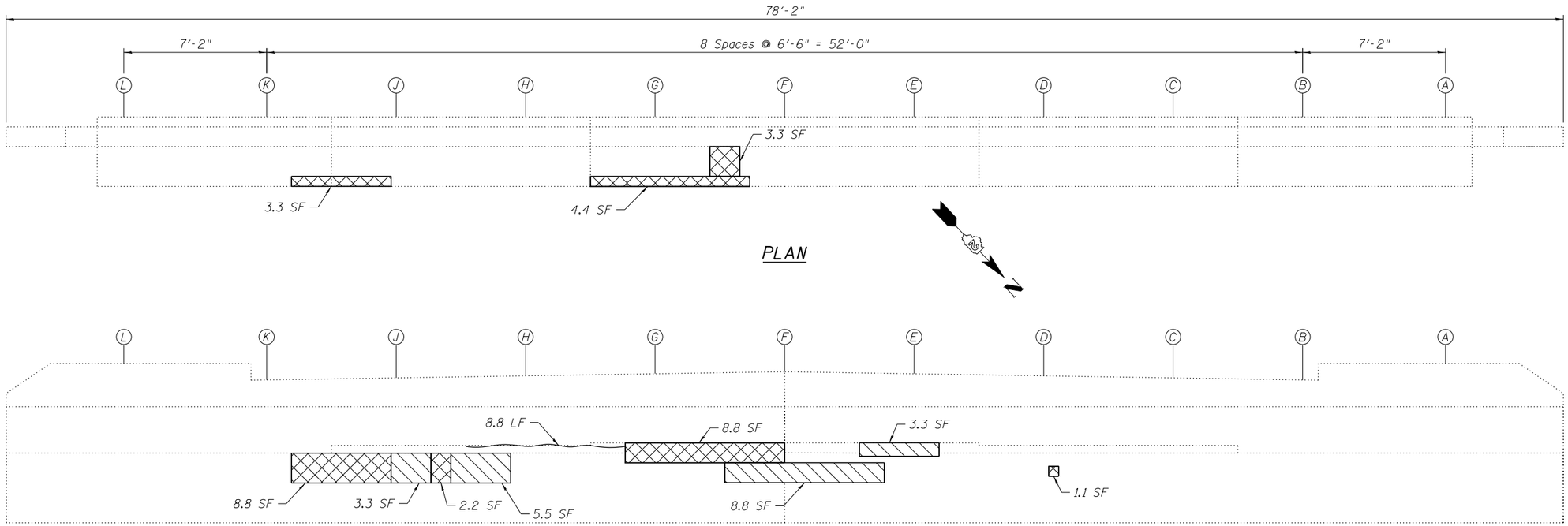
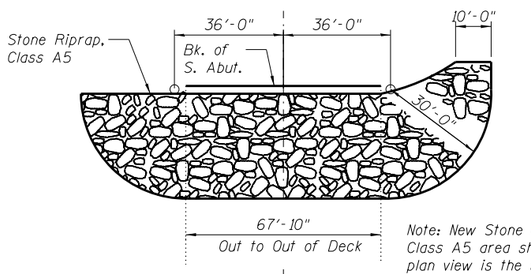


PLAN

ELEVATION

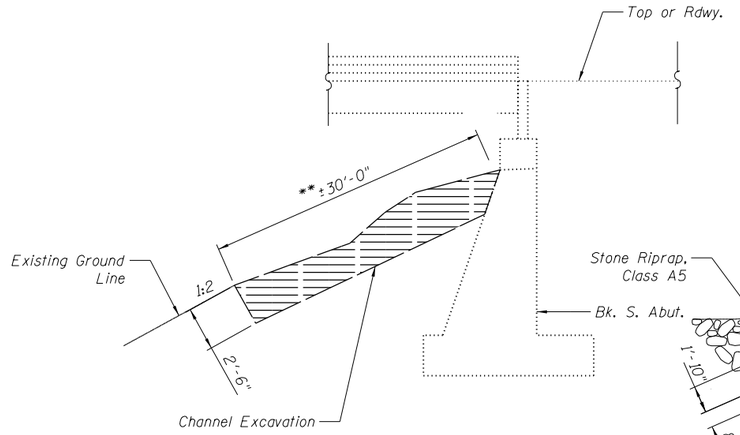
NOTES

1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inpection in Novemvber 2016 and include a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support and reinstall all existing utilities interfering with the work. Cost shall be included with the pay item Structural Repair of Concrete (Depth Equal to or Less Than 5").

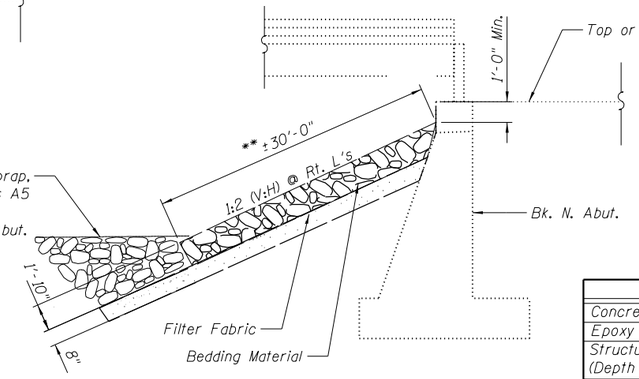


Note: New Stone Riprap Class A5 area shown in plan view is the same for the removal for Channel Excavation

PROPOSED RIPRAP PLAN
SOUTH ABUTMENT



EXISTING SECTION THRU
SOUTH ABUTMENT



PROPOSED SECTION THRU
RIPRAP SOUTH ABUTMENT

** Verify in Field. Required length to meet 2:1 slope. Layout of slope protection system may be varied to suit ground conditions.

LEGEND

- * Epoxy Crack Injection
- * Structural Repair of Concrete (Depth equal or less than 5 inches)
- * Structural Repair of Concrete (Depth greater than 5 inches)
- Channel Excavation
- SF - Square Foot
- LF - Linear Foot

* See Note 1

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	516
Epoxy Crack Injection	Foot	8.8
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	20.9
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	31.9
Channel Excavation	Cu. Yd.	257
Filter Fabric	Sq. Yd.	430
Stone Riprap, Class A5	Sq. Yd.	430

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
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FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 Repair Plans\0081-0040\CADD Sheets\08100040-64L46-023-SAbut.dgn

USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 11/2/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 23 OF 27 SHEETS

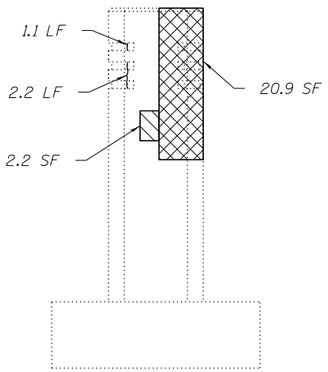
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	68
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

NOTES

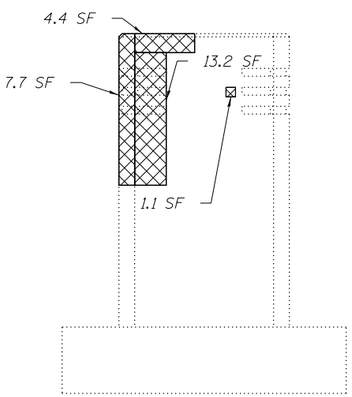
1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inpection in Novemvber 2016 and include a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support and reinstall all existing utilities interfering with the work. Cost shall be included with the pay item Structural Repair of Concrete (Depth Equal to or Less Than 5").

PIER 1 EAST
PLAN VIEW

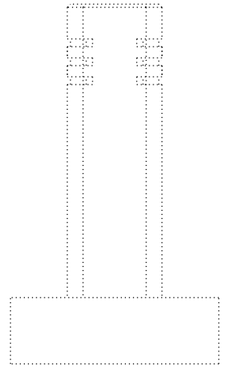
PIER 1 WEST
PLAN VIEW



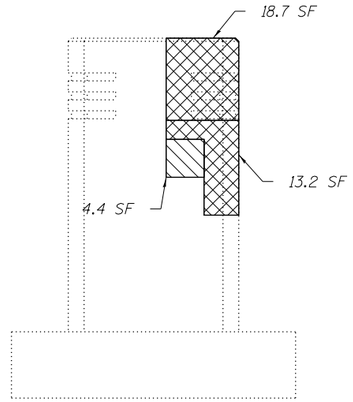
PIER 1 EAST LOOKING EAST
(WEST FACE)



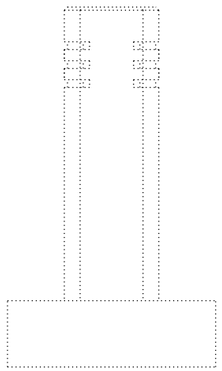
PIER 1 EAST LOOKING NORTH
(SOUTH FACE)



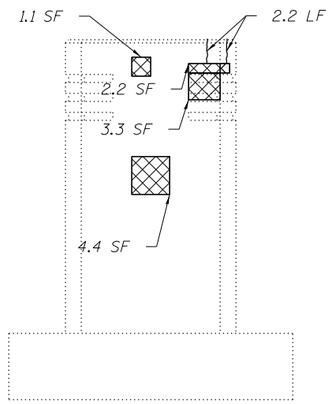
PIER 1 WEST LOOKING EAST
(WEST FACE)



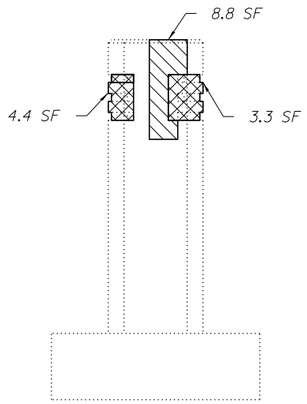
PIER 1 WEST LOOKING NORTH
(SOUTH FACE)



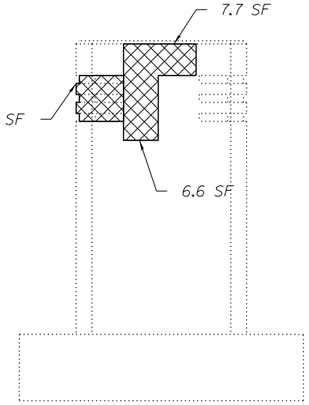
PIER 1 EAST LOOKING WEST
(EAST FACE)



PIER 1 EAST LOOKING SOUTH
(NORTH FACE)



PIER 1 WEST LOOKING WEST
(EAST FACE)



PIER 1 WEST LOOKING SOUTH
(NORTH FACE)

LEGEND

- * Epoxy Crack Injection
- * Structural Repair of Concrete (Depth equal or less than 5 inches)
- * Structural Repair of Concrete (Depth greater than 5 inches)

SF - Square Foot

LF - Linear Foot

* See Note 1

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	554
Epoxy Crack Injection	Foot	7.7
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	15.4
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	119.9

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\08100040-64L46-024-Pier1.dgn

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

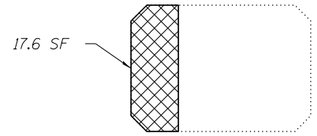
USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 8/22/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

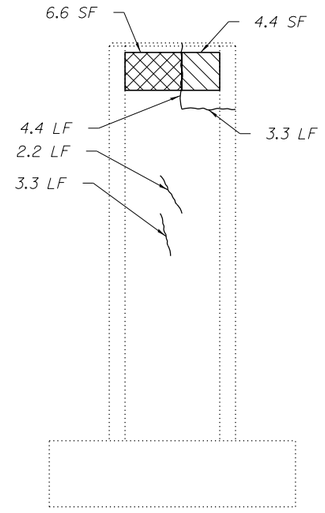
PIER 1 PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 24 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	69
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

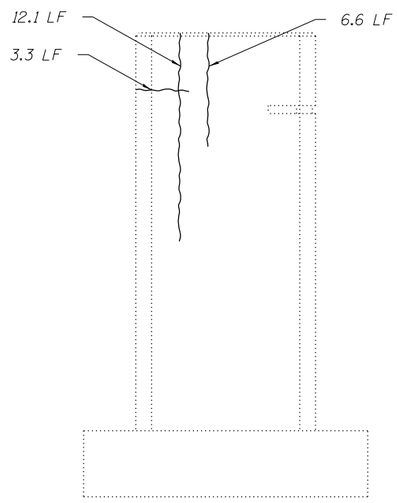
PIER 2 EAST
PLAN VIEW



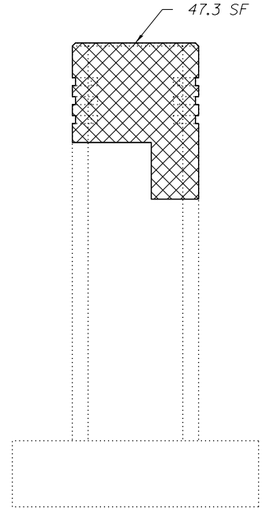
PIER 2 WEST
PLAN VIEW



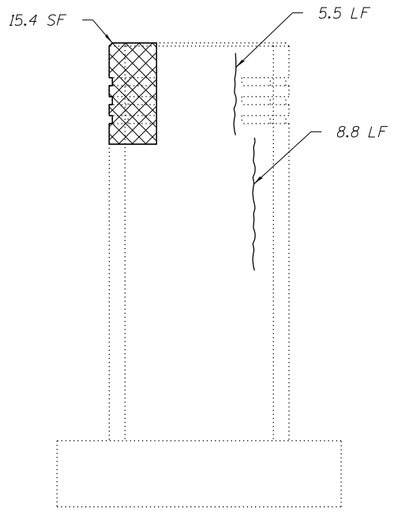
PIER 2 EAST LOOKING EAST
(WEST FACE)



PIER 2 EAST LOOKING NORTH
(SOUTH FACE)



PIER 2 WEST LOOKING EAST
(WEST FACE)



PIER 2 WEST LOOKING NORTH
(SOUTH FACE)

NOTES

1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inpection in Novemvber 2016 and include a 20% increase.
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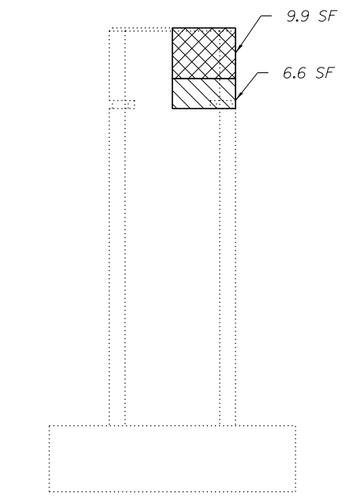
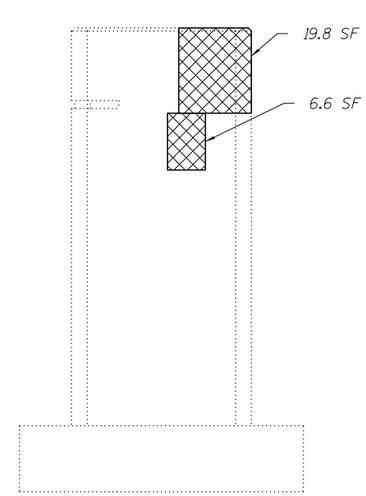
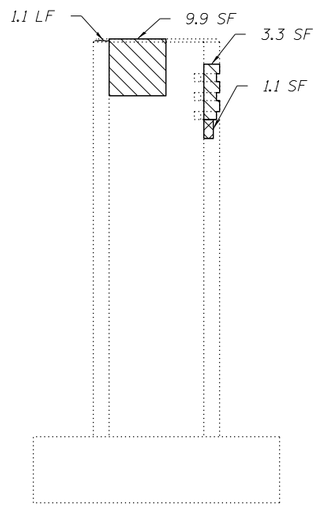


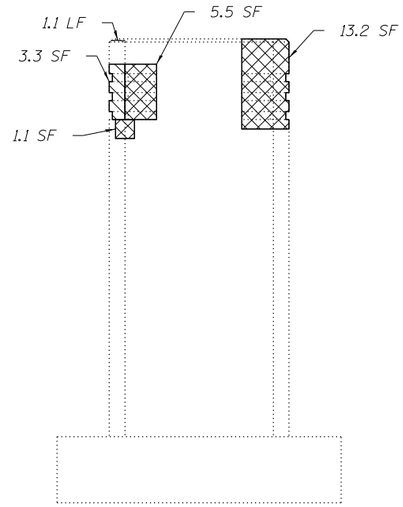
PIER 2 EAST LOOKING WEST
(EAST FACE)



PIER 2 EAST LOOKING SOUTH
(NORTH FACE)



PIER 2 WEST LOOKING WEST
(EAST FACE)



PIER 2 WEST LOOKING SOUTH
(NORTH FACE)

LEGEND

~ * Epoxy Crack Injection

▨ * Structural Repair of Concrete (Depth equal or less than 5 inches)

▨ * Structural Repair of Concrete (Depth greater than 5 inches)

SF - Square Foot

LF - Linear Foot

* See Note 1

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	554
Epoxy Crack Injection	Foot	51.7
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	27.5
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	144.1

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\08100040-64L46-025-Pier2.dgn

WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

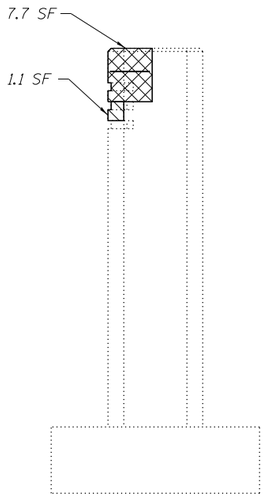
USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 8/21/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

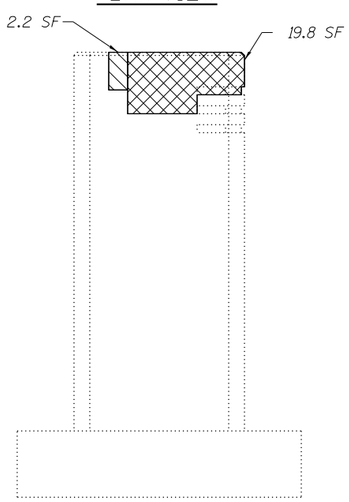
PIER 2 PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 25 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	70
		CONTRACT NO. 64L46		
	ILLINOIS FED. AID PROJECT			

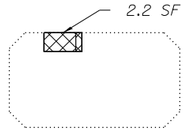
PIER 3 EAST
PLAN VIEW



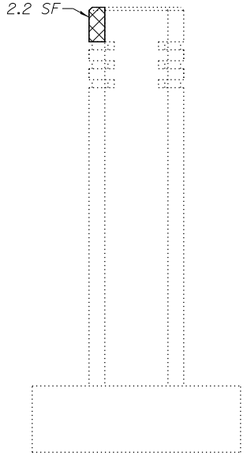
PIER 3 EAST LOOKING EAST
(WEST FACE)



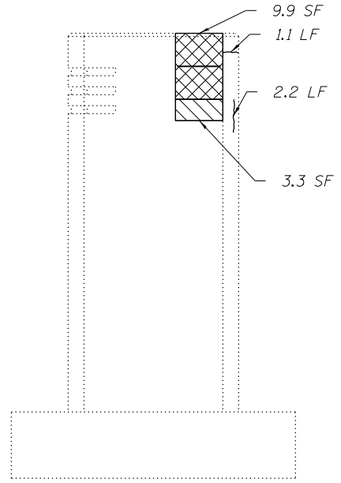
PIER 3 EAST LOOKING NORTH
(SOUTH FACE)



PIER 3 WEST
PLAN VIEW



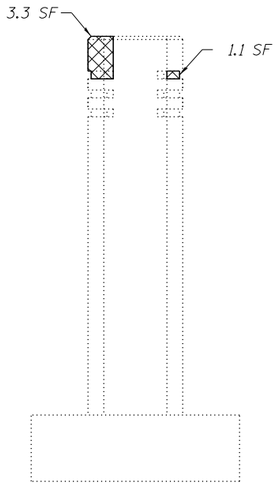
PIER 3 WEST LOOKING EAST
(WEST FACE)



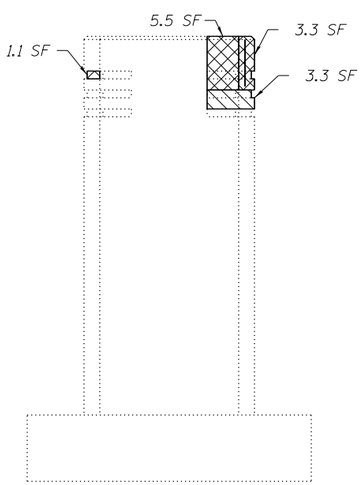
PIER 3 WEST LOOKING NORTH
(SOUTH FACE)

NOTES

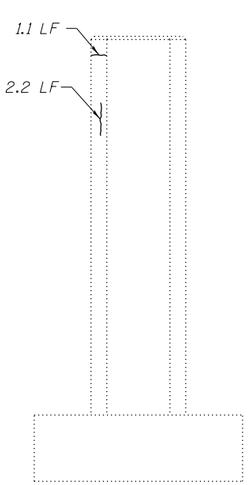
1. Quantities and limits shown are estimated for bidding purposes only. Actual areas to be repaired and the type(s) of repairs to be used will be determined by the Engineer in the field at the time of construction. Quantities reflect inpection in Novemvber 2016 and include a 20% increase.
2. Concrete Sealer shall be applied to the top of piers and abutment beam seats under expansion joints.
3. The contractor is responsible to remove, support and reinstall all existing utilities interfering with the work. Cost shall be included with the pay item Structural Repair of Concrete (Depth Equal to or Less Than 5").



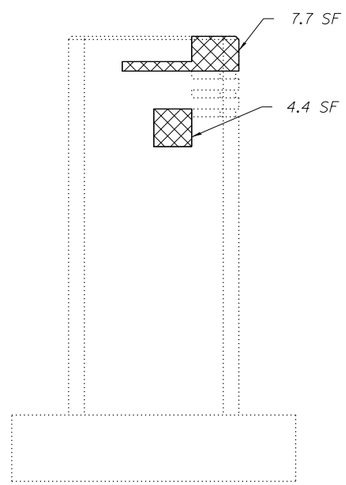
PIER 3 EAST LOOKING WEST
(EAST FACE)



PIER 3 EAST LOOKING SOUTH
(NORTH FACE)



PIER 3 WEST LOOKING WEST
(EAST FACE)



PIER 3 WEST LOOKING SOUTH
(NORTH FACE)

LEGEND

- * Epoxy Crack Injection
- * Structural Repair of Concrete (Depth equal or less than 5 inches)
- * Structural Repair of Concrete (Depth greater than 5 inches)

SF - Square Foot

LF - Linear Foot

* See Note 1

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Sealer	Sq. Ft.	554
Epoxy Crack Injection	Foot	6.6
Structural Repair of Concrete (Depth Equal to or less than 5 inches)	Sq. Ft.	9.9
Structural Repair of Concrete (Depth greater than 5 inches)	Sq. Ft.	68.2

FILE NAME = Z:\SHARED\Projects\2016-0002\1.0 Work Order 1\3.0 Task 3 -Repair Plans\0081-0040\CADD Sheets\08100040-64L46-026-Pier3.dgn

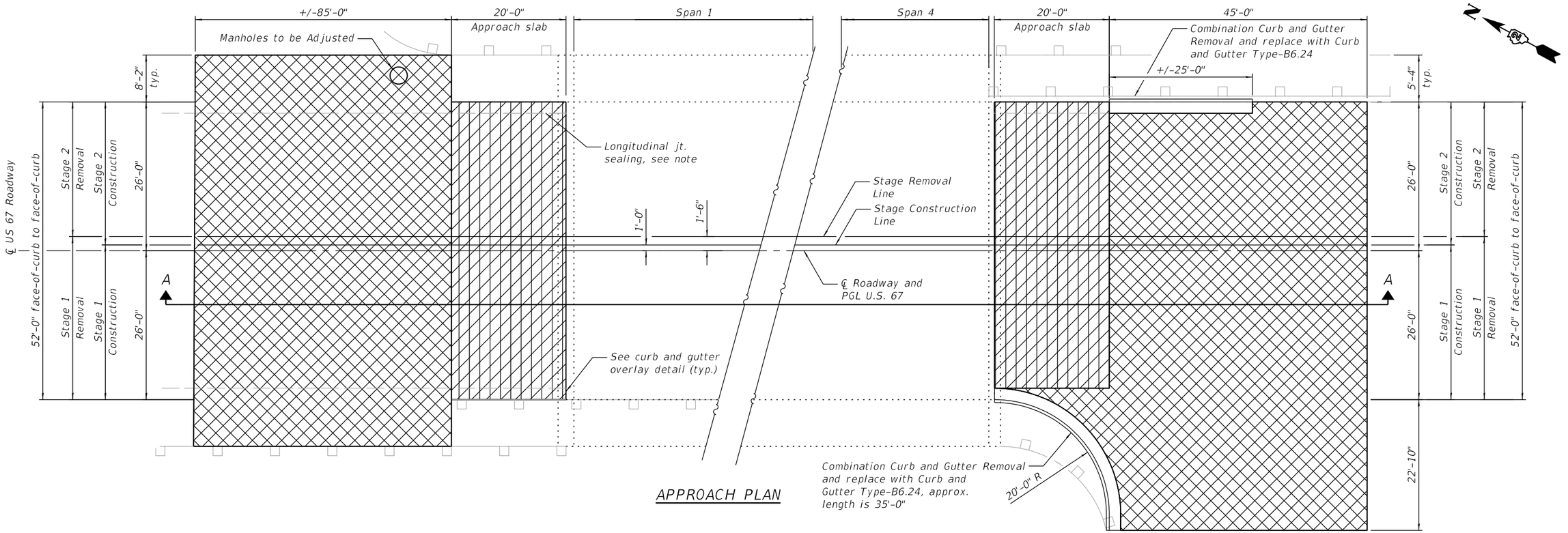
WYNNDALCO ENTERPRISES
19081 Old LaGrange Rd, Suite 106
Mokena, IL 60448
312.256.9090

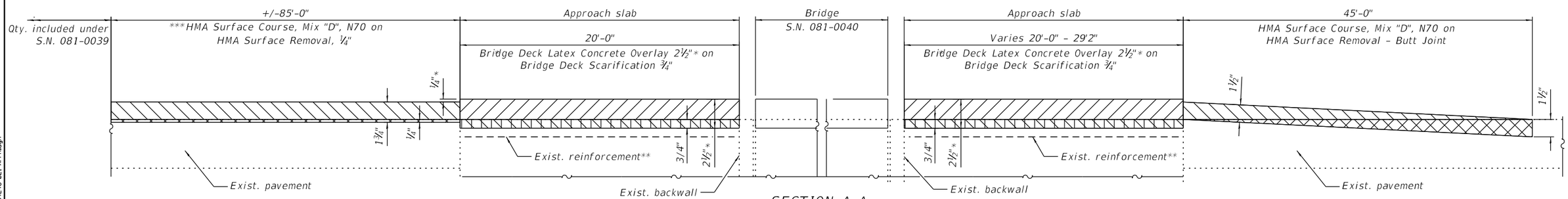
USER NAME = Jeff Ehrhart	DESIGNED - MJL	REVISED
	CHECKED - GEK	REVISED
PLOT SCALE =	DRAWN - MJL	REVISED
PLOT DATE = 8/21/2017	CHECKED - JCE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 PLAN AND ELEVATION
STRUCTURE NO. 081-0040
SHEET NO. 26 OF 27 SHEETS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	71
		CONTRACT NO. 64L46		
	ILLINOIS	FED. AID PROJECT		





SECTION A-A

N.T.S.

LEGEND

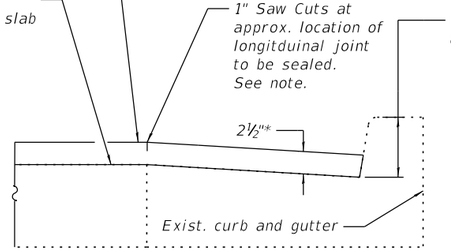
- Aggregate Wedge Shoulder, Type B
- HMA Surface Course, Mix "D", N70
- Bridge Deck Latex Concrete Overlay, 2½" *
- HMA Surface Removal of depth specified and HMA Surface Course, Mix "D", N70
- Bridge Deck Scarification ¾" and Bridge Deck Latex Concrete Overlay,2½" *

Note:
Longitudinal sealing on approach slab between Combination Concrete Curb and Gutter, Type B-6.24 shall be paid under Saw Cuts.

* Prior to ¼" Diamond Grinding (Bridge Section)

** 2" clear cover assumed. Existing rebar to remain undisturbed.

*** HMA Surface Course, Mix "D", N70 on HMA Surface Removal, ¼" 45'-0" from end of S.N. 081-0039 appraoch slab shall be paid under S.N. 081-0040



CURB AND GUTTER OVERLAY DETIAL

The following Mixture Requirements are applicable for this project:

	Resurfacing
Mixture Use(s):	Surface
PG:	PG 64-22
Design Air Voids	4.0 @ N70
Mixture Composition (Gradation Mixture)	IL 9.5 or 12.5
Friction Aggregate	D
20 Year ESAL	3.9
Mix Unit Weight	112 lbs/sy/in

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bituminous Materials (Tack Coat)	Pound	459
Hot-Mix Asphalt Surface Removal - Butt Joint	Sq. Yd.	375
Hot-Mix Asphalt Surface Course, Mix "D", N70	Ton	95
Hot-Mix Asphalt Surface Removal, ¼"	Sq. Yd.	645
Combination Curb and Gutter Removal	Foot	60
Protective Coat	Sq. Yd.	235
Saw Cuts	Foot	60
Manholes to be Adjusted	Each	1
Combination Concrete Curb and Gutter, Type B-6.24	Foot	60
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	214
Bridge Deck Latex Concrete Overlay, 2½"	Sq. Yd.	220
Bridge Deck Scarification, ¾"	Sq. Yd.	220
Diamond Grinding (Bridge Section)	Sq. Yd.	214

STRAND ASSOCIATES®
1170 SOUTH HOUBOLT ROAD
JOLIET, ILLINOIS 60431
(815) 744-4200
IDFPR NO. 184-001273

USER NAME = BenL	DESIGNED - BRL	REVISED
	CHECKED - AJS	REVISED
PLOT SCALE =	DRAWN - BJF	REVISED
PLOT DATE = 1/22/2018	CHECKED - BRL	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS
STRUCTURE NO. 081-0040
SHEET NO. 27 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	D2 BRR 2017-1	ROCK ISLAND	84	72
		CONTRACT NO. 64L46		
		ILLINOIS	FED. AID PROJECT	

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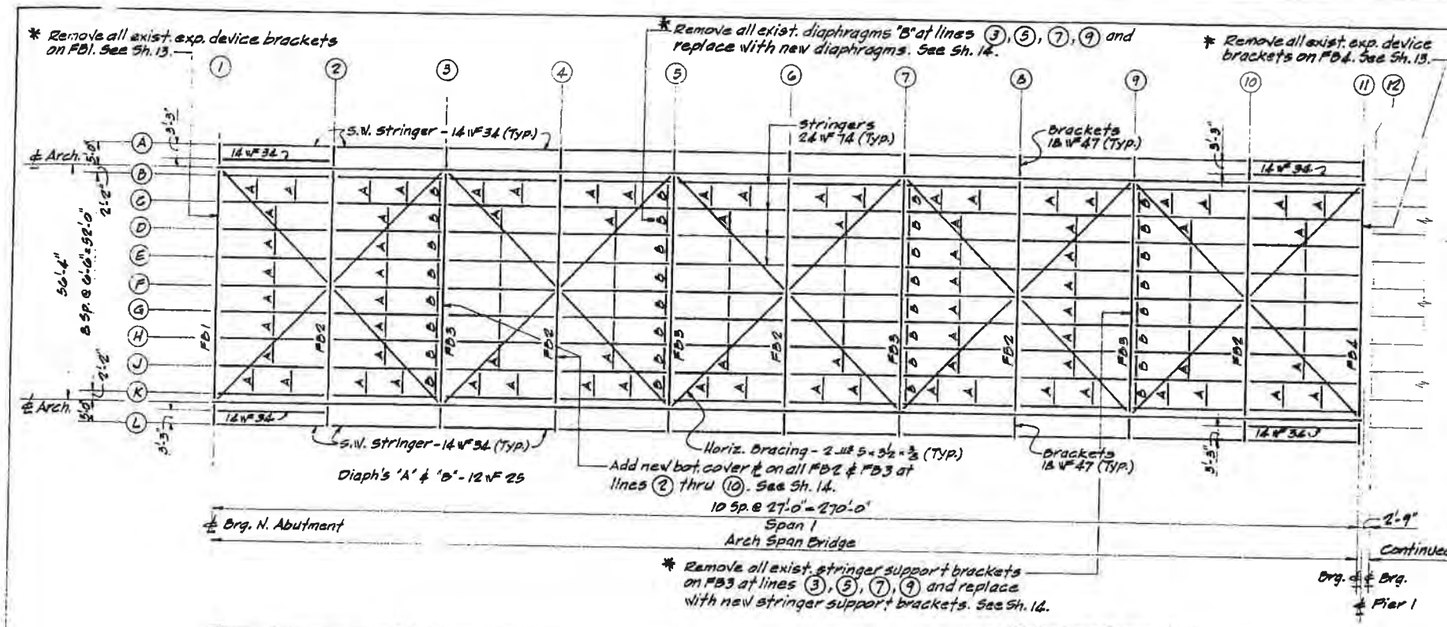


INTERIOR GIRDER MOMENT TABLE

		4 Sp 2 or 5	Pier 2 or 4	5 Sp 3 or 4	Pier 3
Is (in⁴)		25000	45200	25000	46600
Ic n=2X (in⁴)		38800		38800	
Ic n=8 (in⁴)		32200		32200	
Ss (in³)		885	1500	885	1543
Sc n=2T (in³)		1040		1040	
Sc n=8 (in³)		1152		1152	
D.L. (ft-k)		0.85	1.07	0.85	1.08
M D.L. (ft-k)		416	1206	415	1203
fs D.L. (ksi)		5.45	9.65	5.63	9.36
S.D.L. (ft-k)		0.10		0.10	
Ms D.L. (ft-k)		65		65	
fs S.D.L. n=8 (ksi)		0.75		0.75	
M L.L. (ft-k)		709	682	754	744
M I.M. (ft-k)		161	147	155	152
Total (ft-k)		870	829	909	896
fs n=9 (ksi)		9.06	6.65	9.47	6.97
fs Total (ksi)		16.26	16.28	15.85	16.33
VR (k)		50.3		46.9	

INTERIOR GIRDER REACTION TABLE

		Pier 1 or 4 Nom.	Pier 2 or 4	Pier 3
R D.L.	(k)	321	116.3	114.9
R L.L.	(k)	426	72.3	74.9
I.m.p.	(k)	9.7	10.8	10.4
R Total	(k)	844	199.4	200.2

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

Sht. 12 of 25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RTE. 599	17(D) BR	ROCK ISLAND	80	25
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ.	BR-F-599(3)	

FLOOR BEAM MAX. MOMENTS (Ft-k), SHEAR (K) & STRESSES (ksi/in²)

MARK	MOMENT	STRESS	SHEAR	STRESS
FB1 & FB4	217.9	15.9	18.2	5.78
FB2 & FB3	302.6	18.8	22.6	9.58

INCLUDES D.L. (STEEL + CONCRETE), L.L. & IMPACT.

Maximum Moment, Shear & Stresses for 27'-0" Stringers: *

Moment = 24.2 FT-K
Flexure Stress = 17.1 KSI
Shear = 45.0 K
Shear Stress = 7.7 KSI

Includes D.L. (Steel & Concrete), L.L. + Impact

* @ ℄ of Span

PLAN

* Cost of Removal of existing structural steel is incidental to "Structural steel"

All structural steel shown on this sheet is existing, unless otherwise noted.

Work this sheet with sheets 13 thru 18

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D) BR
ROCK ISLAND COUNTY

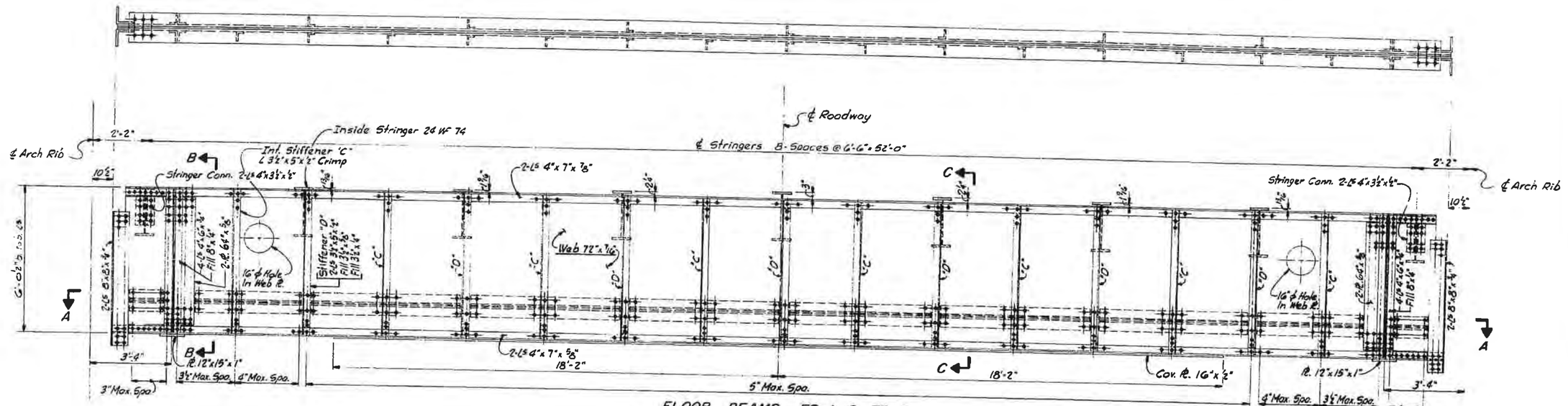
STEEL FRAMING PLAN - NORTH CHANNEL

Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

TORNROSE, CAMPBELL & ASSOCIATES

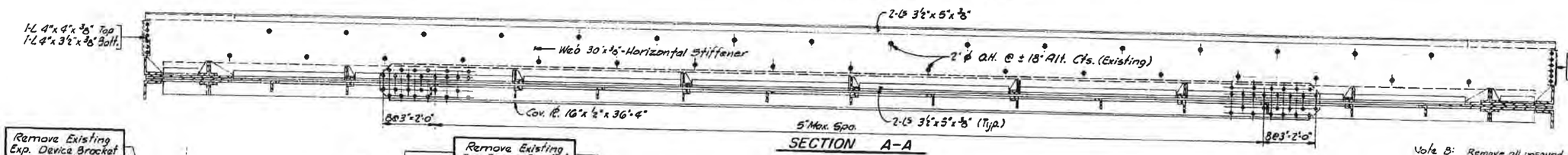
Sht. 13 of 25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA RTE 599	17(D)BR	ROCK ISLAND	80	26
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		



FLOOR BEAMS FB-1 & FB-4

Note: FB-1 & FB-4 similar except for Exp Device Brackets.

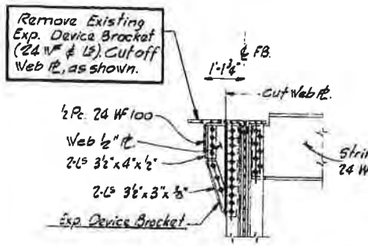


SECTION A-A

Note B: Remove all unsound, loose, and deteriorated rivets one @ a time as identified by the Engineer and replace with ⅞" H.S Bolts, A-325 F Billed as "Rivet Removal and Replacement. (Typ., See Special Provision)

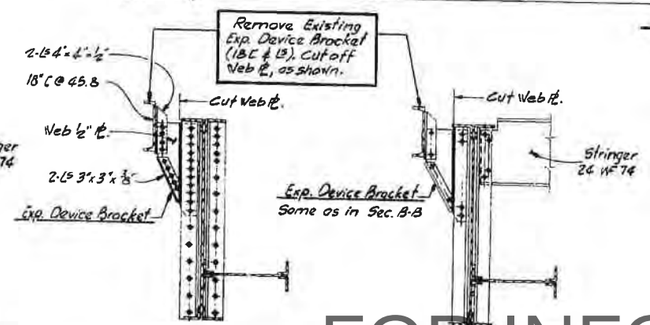
Est. Wt. = 1720 Lbs. (for two FB)

All structural steel shown on this sheet is existing, unless otherwise noted.



SECTION B-B
Sec. C-C Similar

DETAIL AT NORTH ABUT.
FB-1



SECTION B-B

SECTION C-C

DETAILS AT PIER # 1

FB-4

Work this sheet with sheet 12

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599

PROJECT BR-F-599(3) SECTION 17(D)BR

ROCK ISLAND COUNTY

END FLOOR BEAMS-NORTH CHANNEL

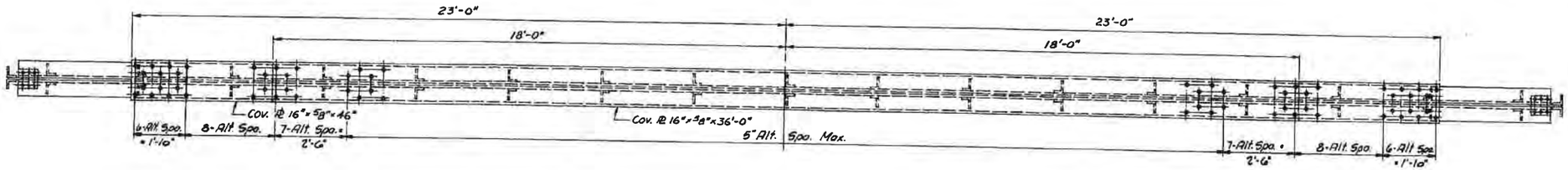
Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

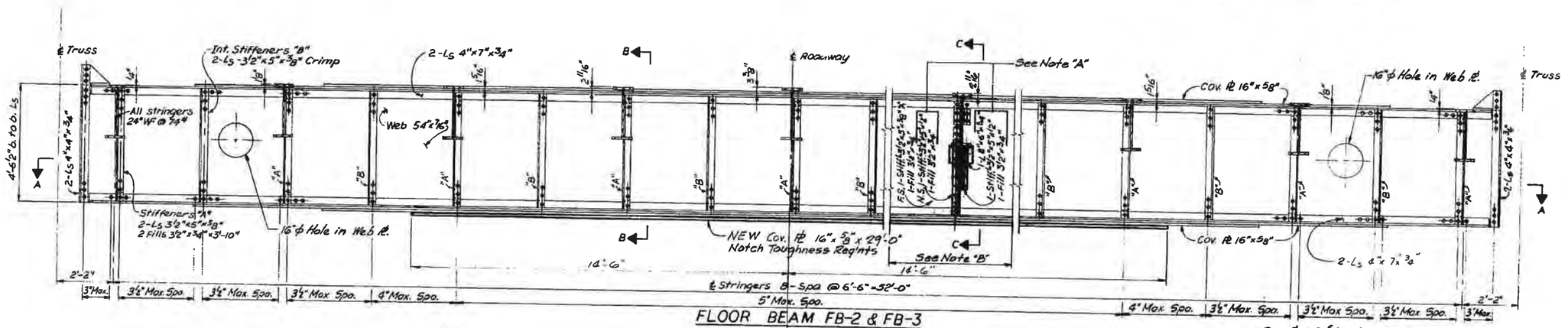
Revised

TORNROSE, CAMPBELL & ASSOCIATES

Sht. 14 of 29

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.RTE 599	17(D)BR	ROCK ISLAND	80	27
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		





FLOOR BEAM FB-2 & FB-3

Note "A"

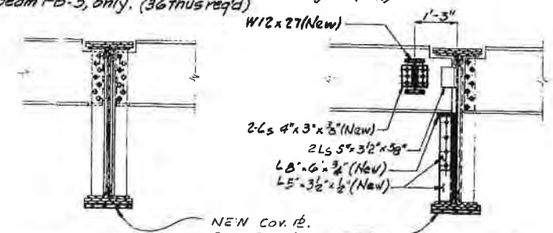
Remove all existing Stringer Support Brackets on all Floor Beams FB-3 and replace With New Stringer Support Brackets, as shown. All connections to be made With ⅞"ϕ H.S. Bolts.

Note "B"

Stringer Support Brackets are located at all Stringers (N.S.) of Floor Beam FB-3, only. (36 thus reqd)

Note "C"

Existing Gage lines may not be 3"-Verify in field.



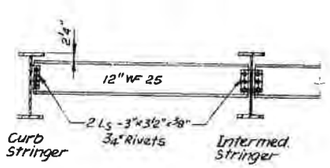
SECTION B-B

Showing typical conn's for stringers to FB-2

SECTION C-C

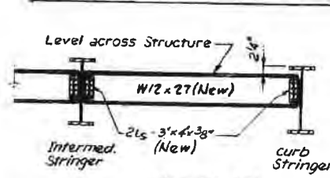
Showing typical conns for stringers to FB-3

SECTION A-A



DIAPH. "A"

All structural steel shown on this sheet is existing, unless otherwise noted.



DIAPH. "B" (32 THUS)

Remove all existing diaphragms "B" at floor beam lines ③, ⑤, ⑦ & ⑨ and replace with New diaphragms as shown. All connections to be made with ⅞"ϕ H.S. bolts

DETAIL OF DIAPHRAGMS

Step by step procedure for the installation of New Plate on the bottom flange of the existing interior floor beam.

1. Clamp flange material at ± 8 feet intervals.
2. Remove existing rivet heads from the underside of the flange cover plates. Only mechanical means of removal will be allowed. Do not remove top heads and rivet shank at this time.
3. Clean the existing bottom flange plates that are to be in contact with new cover plates by Method 1 in accordance with the Std. Specs. .
4. Loosen clamps insert new plate, and tighten clamps. Note: Do not prime faces of new plates in contact with existing. Clean per Art. 509.03.
5. Drill through existing rivets and new plates after removal of top rivet heads. Replace drilled out rivets with High Strength Bolts. No more than 4 (four) rivets will be drilled out prior to being replaced with ⅞" diameter High Strength Bolts. During Stage I, rivet removal shall begin at the East end of cover plate and progress to the center of the floor beam. During Stage II, rivet removal shall begin at the center of the floor beam and progress to the west end (See Note 'B' on sheet 13.)
6. Remove clamps.

Estimated fasteners for 5-FB2 & 4-FB3 = 5860-⅞"ϕ H.S. Bolts, including fasteners for new Plate installation.

See note 'B' on sheet 13.
Work this sheet with sheet 12.

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D)BR
ROCK ISLAND COUNTY
INTERIOR FLOOR BEAMS & DETAILS-NORTH CHANNEL

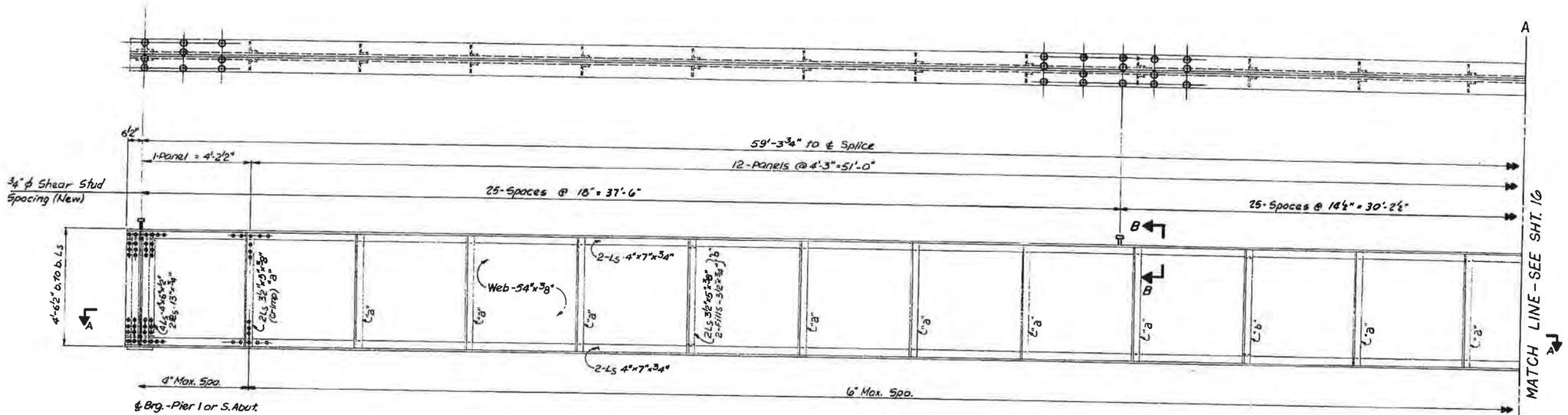
Designed By: SK	Drawn By: JC	Quantities By: RS
Checked By: DK	Checked By: SK	Checked By: SK

Revised July 19, 1984 RWS

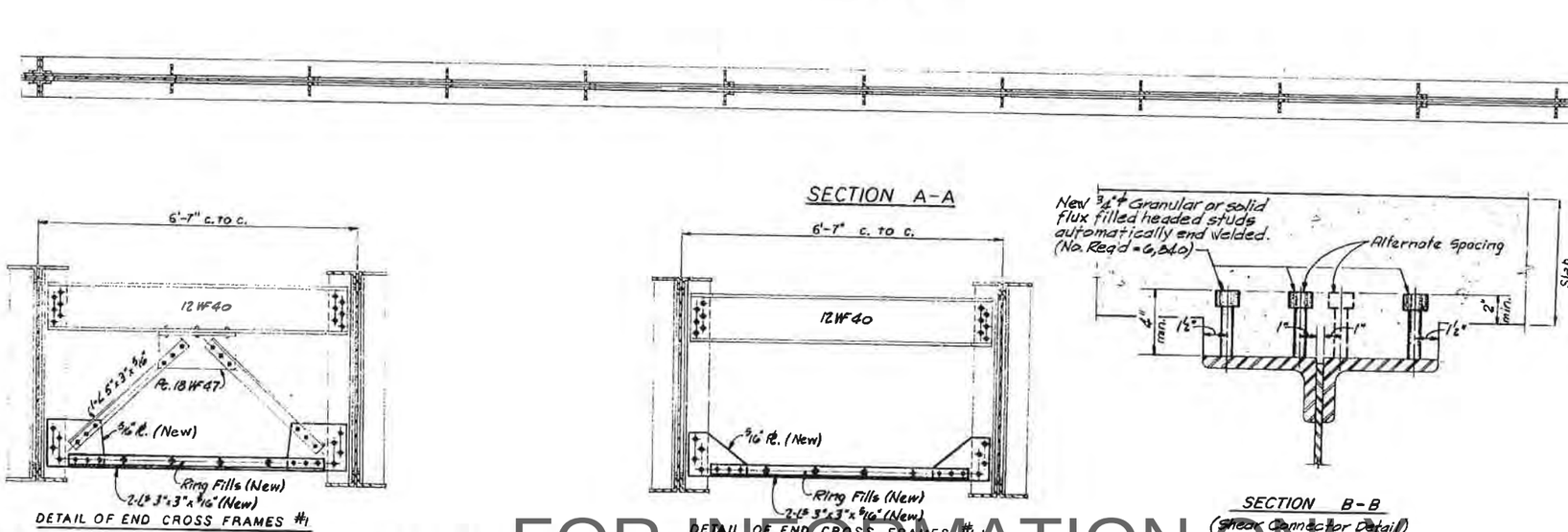
TORNROSE, CAMPBELL & ASSOCIATES

Sht. 15 of 25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA RTE. 599	17(D)BR	ROCK ISLAND	80	28
FED. ROAD DST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		



ELEVATION



All structural steel shown on this sheet is existing, unless otherwise noted.

See note 'B' on sheet 13.
Work this sheet with sheets 12 & 13.
Estimated fasteners for all girder(10) & Cross bracing = 11720 - ⅞"ϕ H.S. Bolts

Remove bottom chord and connection ℒ's of all existing end crossframes #1 and replace with new angles and ℒ's, as shown. All connections to be made with ⅞"ϕ H.S. Bolts. Also remove existing rivets which connect existing Ls 5"x3½"x5/16 to existing Pc. 18 WF 47 and replace with ⅞"ϕ H.S. Bolts.

Remove bottom chord and connection ℒs of all existing end crossframes #1A and replace with new angles and ℒ's, as shown. All connections to be made with ⅞"ϕ H.S. Bolts.

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599

PROJECT BR-F-599(3) SECTION 17(D)BR

ROCK ISLAND COUNTY

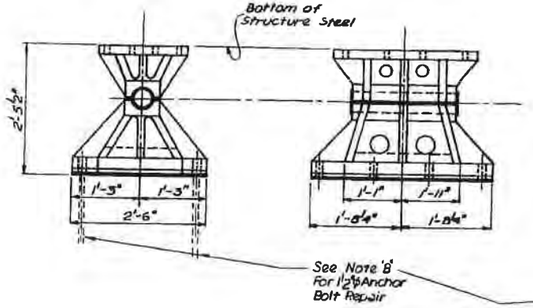
TYPICAL GIRDER & DETAILS - NORTH CHANNEL

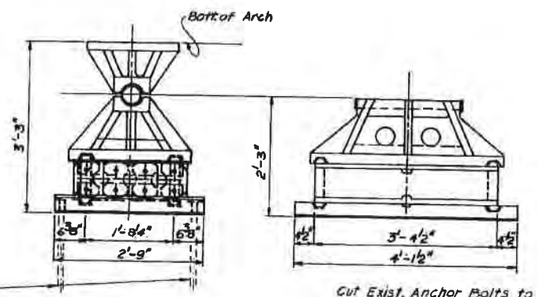
Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

Revised July 19, 1988 RVS

TORNROSE, CAMPBELL & ASSOCIATES

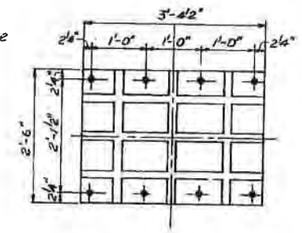
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RTE 599	17(D)BR	ROCK ISLAND	80	32
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		





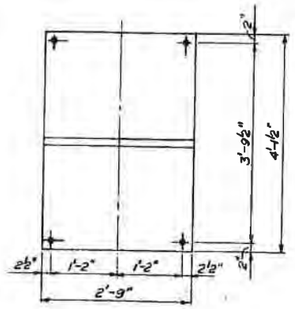
NOTE

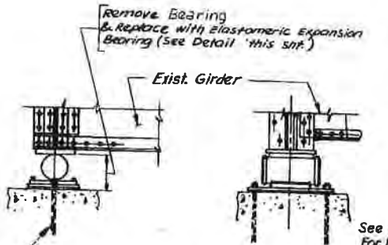
Drill and Replace ½ of Total Number of Anchor Bolts at one time, Alternate Bolt Replacement.



FIXED BEARING

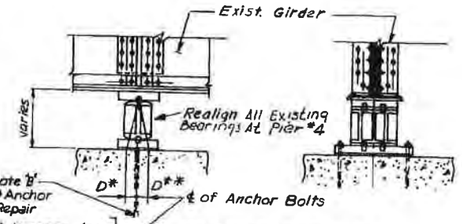
N. Abut.





BEARING DETAILS

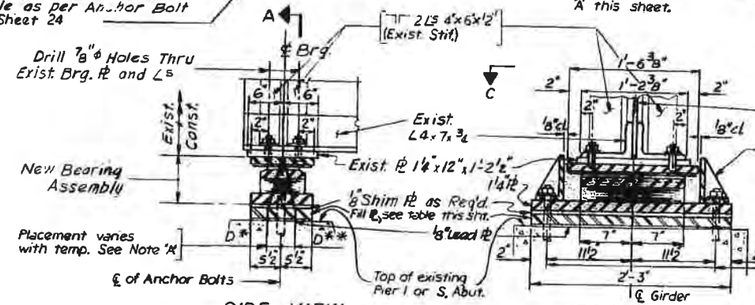
pier 1 & S. Abut.



BEARING DETAILS

piers 2 & 4

Adjust Pier 4 bearings for temp. if D* or D** are ½" off values as determined in Note 'A' this sheet.



SIDE VIEW

SECTION A-A

SECTION C-C

NEW ELASTOMERIC EXPANSION BEARING

Pier #1 Span #2 & S. Abut.

5/16

EXPANSION BEARING

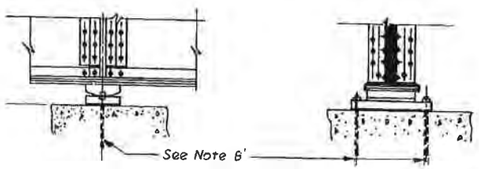
Pier 1, Span #1

Note: All work Shown on this sheet is Existing unless otherwise indicated

FILL PLATE DIMENSIONS

Pier 1 & So. Abutment

BMS	M	N	P	R	S	T	U	V	W	X
Fill Pl Thick.	2 5/8"	3 5/16"	2 5/8"	3 5/16"	2 5/8"	2 5/8"	3 5/16"	2 5/8"	3 5/16"	2 5/8"
Fill Pl W x L	All Pl's 11" x 2'-3"									



BEARING DETAILS

pier 3

NOTE "A" For Setting of Anchor Bolts at Exp. Brg.

D* = (Side of Brg. Away From Fixed Bearing)
D* = ⅛" Per 100 Ft. of Exp. for every 15° Below the Normal Temp. of 50°
D** = (Side of Brg. Toward Fixed Bearing)
D** = ⅛" Per 100 Ft. of Exp. for every 15° Above the Normal Temp. of 50°

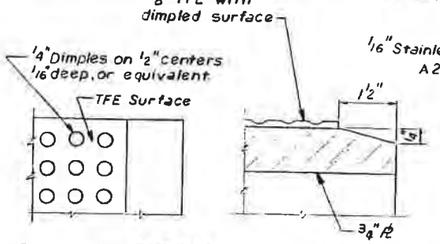
NOTE "B" ¾"ϕx18" anchor bolts and epoxy grout as per detail shown on Sht. 24 - Cost incidental to Structural Steel.

All loose bolts shall be pulled out and replaced with new

Total No. required:
NO. Abut & Pier 1, Span 1 = 10
Piers 2, 3, & 4 = 20

All anchor bolts with corroded heads shall be welded to new washer and bearing assy. - Cost incidental to Struct. Steel.

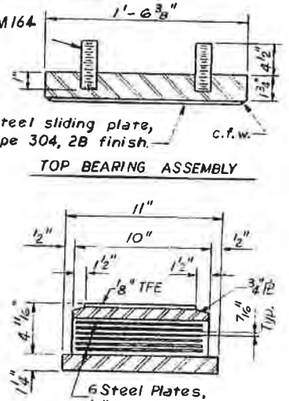
Total No. required:
NO. Abut & Pier 1, Span 1 = 5
Piers 2, 3, & 4 = 10



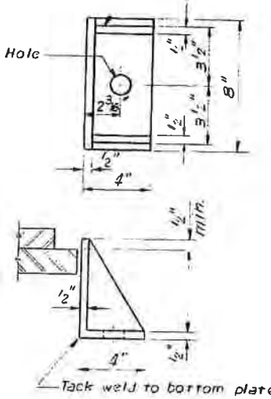
PLAN TFE SURFACE

SECTION THRU TFE

NOTE:
The ⅛" TFE 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" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



BOTTOM BEARING ASSEMBLY



SIDE RETAINER

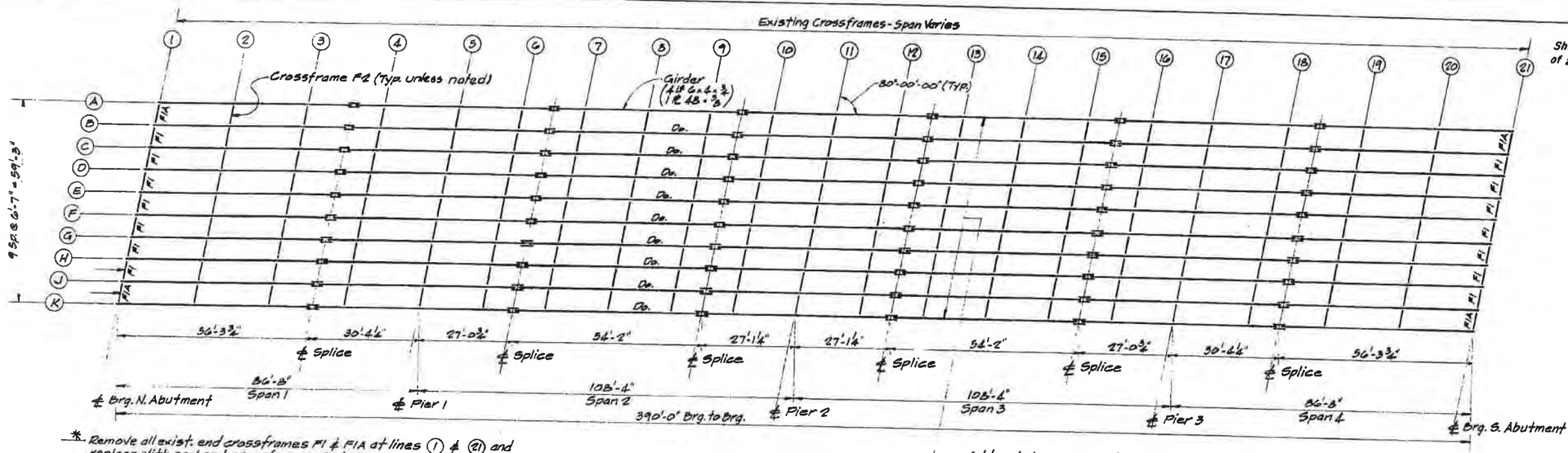
Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS		
F.A. ROUTE 599		
PROJECT BR-F-599(3) SECTION 17(D)BR		
ROCK ISLAND COUNTY		
BEARING DETAILS- NORTH CHANNEL		
Designed By: SK	Drawn By: LK	Quantities By: LK
Checked By: ED	Checked By: ED	Checked By: RE

TORNROSE, CAMPBELL & ASSOCIATES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FARTE 599	17(D)BR-1	ROCK ISLAND	80	46
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

Sht. 9 of 20

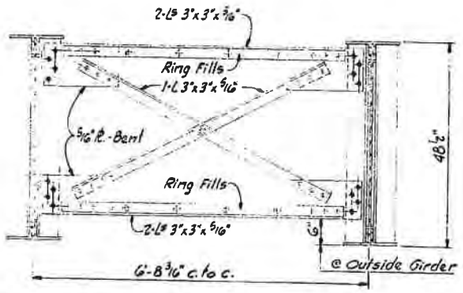


* Remove all exist. end crossframes F1 & F1A at lines ① & ㉑ and replace with new end crossframes F1 & F1A.

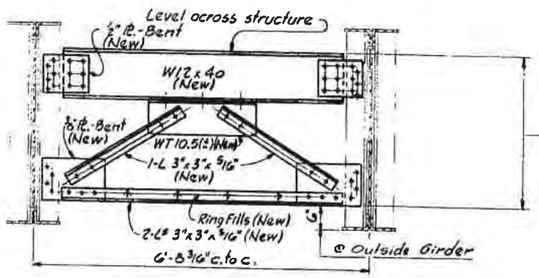
Add new shear connectors to all girders. See Sh. 10 thru 13.

PLAN

All structural steel shown on this sheet is existing, unless otherwise noted.

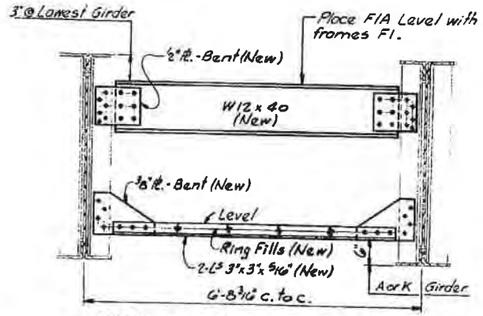


DETAIL OF INTERMEDIATE CROSS FRAMES – F2



DETAIL OF END CROSS FRAMES – F1

* Remove all existing end crossframes #1 and replace with new crossframes, as shown. All connections to be made with new 7/8" ϕ H.S. bolts.



DETAIL OF END CROSS FRAMES – F1A

Remove all existing end crossframes F1A and replace with new crossframes, as shown. All connections to be made with new 7/8" ϕ H.S. bolts.

Contractor to field verify height dimension of existing end crossframes F1 which are to be removed. New crossframes are to be fabricated to the same height.

* Cost of Removal of existing structural steel is incidental to "structural steel"

INTERIOR GIRDER MOMENT TABLE

		.4 Sp. 1 or 4	Pier 1 or 3	.5 Sp. 2 or 3	Pier 2
Is	(in^4)	17750	32600	17750	33650
Ic n=27	(in^4)	29000	——	29000	——
Ic n=9	(in^4)	38550	——	38550	——
Ss	(in^3)	705	1204	705	1240
Sc n=27	(in^3)	849	——	849	——
Sc n=9	(in^3)	924	——	924	——
D.L.	(k/i.)	0.83	1.04	0.83	1.05
M D.L.	('k)	411	945	359	973
fs D.L.	(ksi)	7.00	9.42	6.11	9.42
S.D.L.	(k/i.)	0.10	——	0.10	——
Ms.DL	('k)	56	——	57	——
fssDL n=27	(ksi)	0.79	——	0.79	——
M LL	('k)	640	548	691	610
M Imp	('k)	151	123	148	130
Total	('k)	791	671	839	740
fs n=9	(ksi)	10.27	6.69	10.90	7.16
fs Total	(ksi)	18.06	16.11	17.80	16.58
VR	(k)	49.8	——	46.6	——

INTERIOR GIRDER REACTION TABLE

		Abuts	Pier 1 or 3	Pier 2
R DL.	(k)	295	102.1	103.2
R LL.	(k)	42.1	67.1	69.7
Imp	(k)	10.1	10.7	10.3
R Total	(k)	81.7	179.9	183.2

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

Work this sheet with sheets 10 thru 13.

Sta. 43+00.00

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D)BR-1
ROCK ISLAND COUNTY
STEEL FRAMING PLAN & DETAILS - MIDDLE CHANNEL

Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

TORNROSE, CAMPBELL & ASSOCIATES

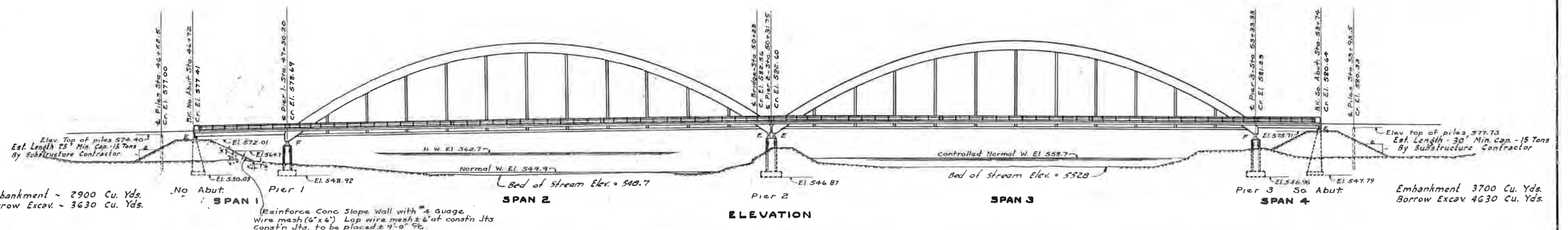
B.M. Bronze Tablet set in masonry in lowest step, 1.7' from west end of N. Abutment of Canal Bridge 300' Rt. of Sta. 49+70 - El. 559.62 (1929 General Adjustment)
Existing Bridge to be removed by others.

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3	17P	Rock Island	13	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

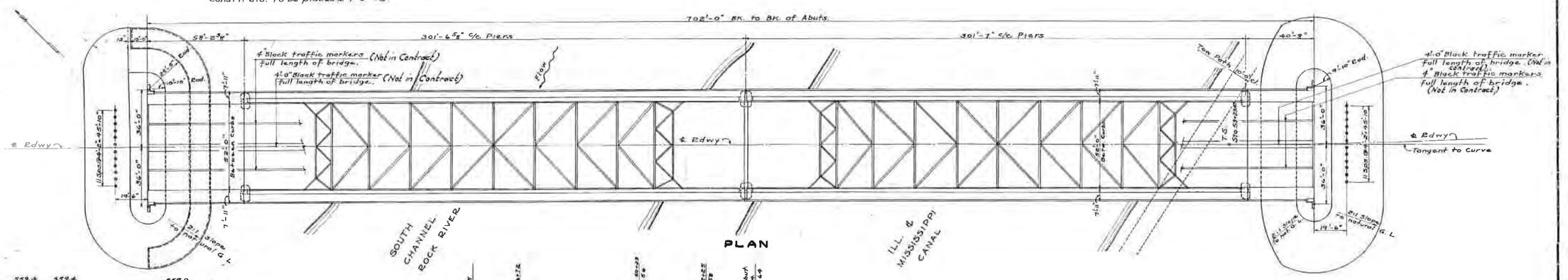
BOND ISSUE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3	17BF E D	Rock Island	40 92	22 45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO 1
SHEETS 18

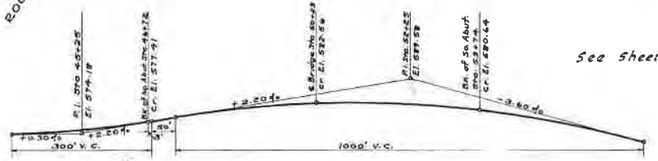


ELEVATION

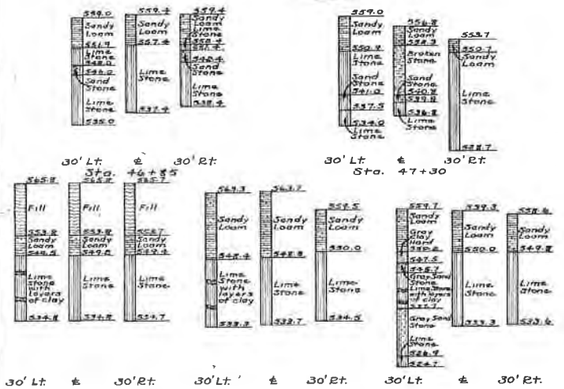
(Reinforce Conc. Slope Wall with #4 Guage Wire mesh (6"x6") Lap wire mesh ± 6" at constn Jts Constn Jts. to be placed ± 9'-0" ℄



PLAN



PROFILE ALONG EDGE OF MEDIAN



Note: Boring Data are shown on the drawings only as a guide to bidders in estimating soil conditions which may be encountered in the work.

BORING DATA

STANDARD	COMPUTED	H.B. Hainsworth
	CHECKED	A.A. Fraser
	DRAWN	B.M. Kane. B.M. Kane.
	CHECKED	A.A.F. A.L.N.
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 2-22-1943
PASSED
APPROVED

Revised - Aug. 27-45 - L.A.N.
Nov. 19-45 - V.N.R.
Jan. 4-46 - R.L.S. MGP

See Sheet #8 for setting of Bearings at Pier #2

GENERAL NOTES

Class X concrete shall be used throughout except in piers.
Handrail concrete shall be used in handrail posts.
Class A concrete shall be used in piers.
Concrete floor slab shall be finished in accordance with Art. 61.3 (c) of the Standard Specifications.
Premolded joint filler shall conform to any one of Articles 115.67 to 115.72 of the Standard Specifications.
Nicks ℄ ℄ except as noted.
Pinching and Reaming - See Special Provisions.

For roadway hand-rail provide one lock washer on all bolts connecting rail to post. Ring provide 1-⅛" and ⅞" shims for rail connections to 10" ℄ of post. Railings shall be adjusted to true vertical alignment after sidewalks have been poured.

All Rollers, Bearing Plates, Load Plates and Anchor Bolts shall be furnished, painted and set in accordance with Art. 84.3 (a) of the Standard Specifications and are included for payment as structural steel.

Inspection of all steel is to be made by the Illinois Division of Highways before painting.

Erection - The Erector shall furnish the Department for approval detail plans of the falsework and proposed method of erection. The Arch ring shall be swung prior to the placing of the floor and expansion devices.

Embankment around abutments, shall be constructed in accordance with Sec. 16 of the Standard Specifications and shall be compacted by water soaking, in addition to Mechanical compaction.

Embankment around abutments shall be made by the Sec. 17-B Contractor from Spring excavation before superstructure is placed. All Borrow Excavation shall be furnished by Contractor for Sec. 17-B.

For all painting, both shop & field, see special provisions.

For layout of lighting and telephone conduits see Sheet #L-1.

TOTAL BILL OF MATERIAL

Items		Sec B	Sec D	Sec F	Sec E	Sec P
Class X Concrete	Cu. Yds.	280.6	1051.4			
Class A Concrete	Cu. Yds.	347.1				
Handrail Concrete	Cu. Yds.		2.8			
Reinforcement Bars	Lbs.	45800	249580			
Structural Steel	Lbs.		52000	3342000	3290000	
Cast Steel	Lbs.			26600	26600	
Floor Drains	Each		96			
Painting Structural Steel	Lbs.					3368600 *
Lighting Conduit	Lin. Ft.		1470			
Junction Boxes	Each		12			
Untreated Piles (Est 30 Ft. Lg.)	Lin. Ft.	360				
Untreated Piles (Est 25 Ft. Lg.)	Lin. Ft.	300				
Rock Excavation - Class A	Cu. Yds.	210				
Borrow Excavation	Cu. Yds.	8260				
Slope Wall	Sq. Yds.	340				
Compaction by Watersoaking	Cu. Yds.	6600				
Name Plate	Each		One			

* Includes 26,600 lbs Cast Steel.

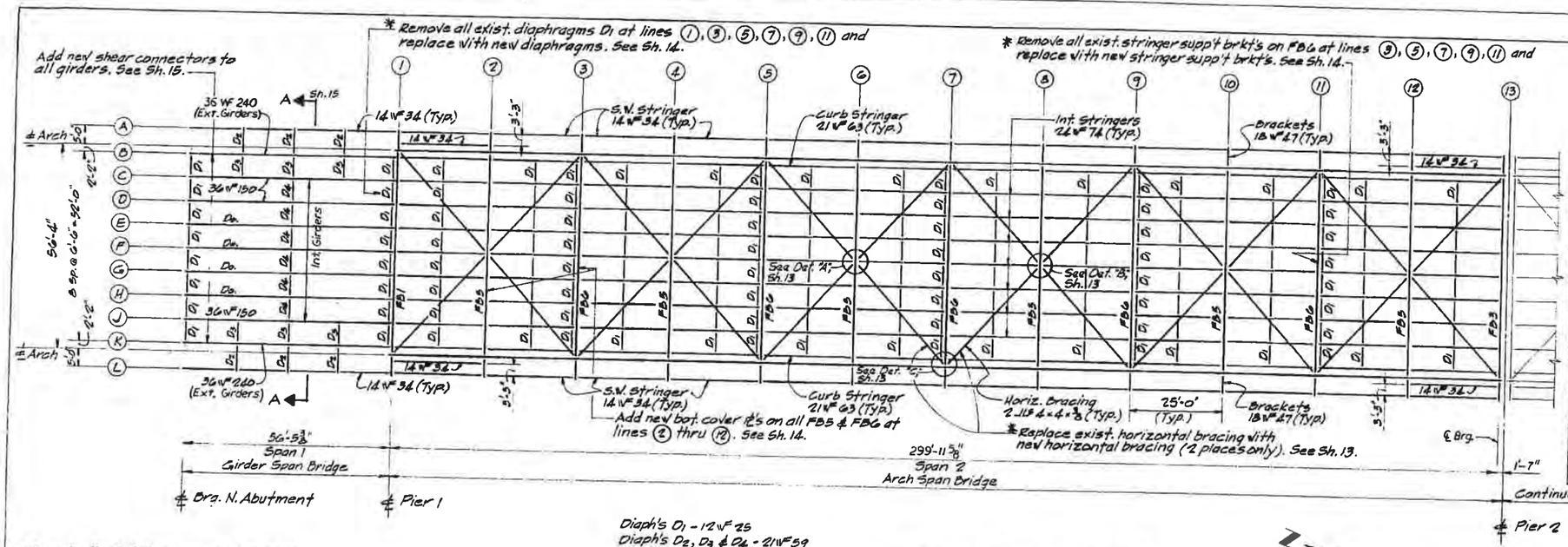
Unit Stresses
fc = 1200
fs (Reinf.) 18000
fs (Struc.) See Sheet 2

H-20-41 LOADING

BRIDGE OVER
SO. CHANNEL ROCK RIVER - I & M CANAL
PROJECT UI-253(1)
S.B.I. ROUTE 3 SEC. 17 B-D-F-E-P
ROCK ISLAND COUNTY
STA. 50+23.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA RTE 599	17(D)BR-2	ROCK ISLAND	80	66
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

Sht. 10 of 24



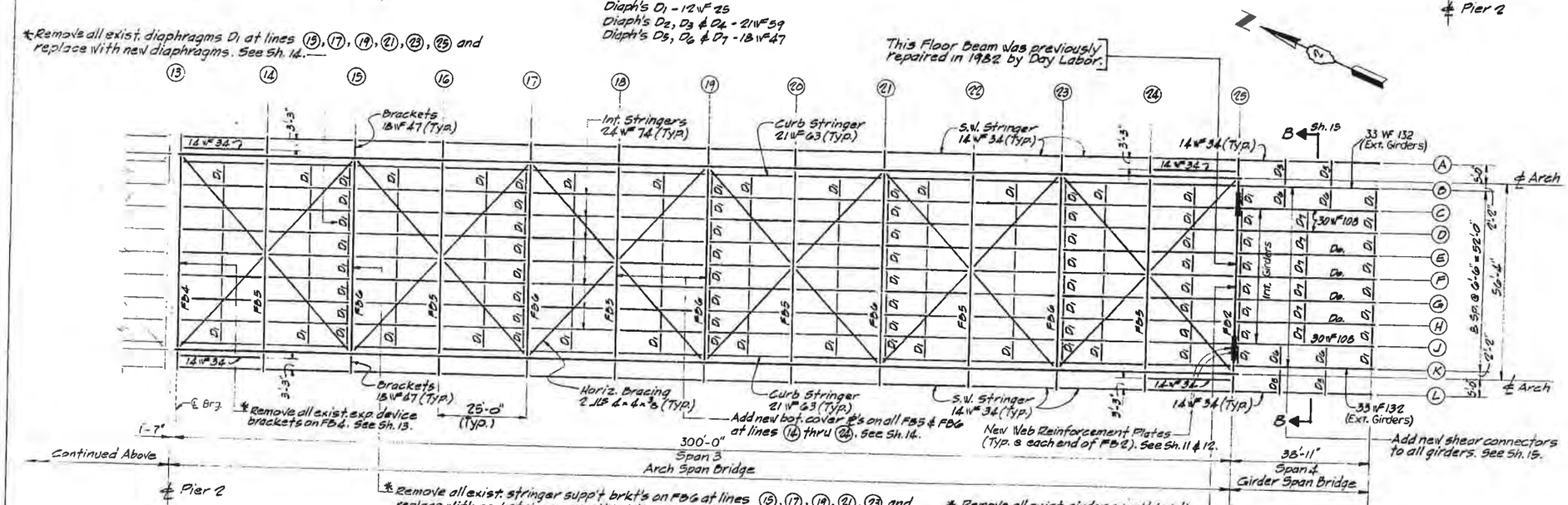
GIRDER MOMENT TABLE

		SPAN 4		SPAN 1	
		Interior	Exterior	Interior	Exterior
Is	(in⁴)	4470	6110	9040	16100
Ic n=27	(in⁴)				
Ic n=9	(in⁴)	12970	17280	22730	26570
Ss	(in³)	299	406	504	895
Sc n=27	(in³)				
Sc n=9	(in³)	463	629	729	1005
D.L.	(k/ℓ)	0.76	2.17	0.80	2.28
M D.L.	('k)	141	402	319	910
fs D.L.	(ksi)	5.66	11.88	7.60	12.20
M L.L.	('k)	250	221	440	409
M IMP.	('k)	75	44	121	71
Total	('k)	325	265	561	480
fs n=9	(ksi)	8.42	5.06	9.24	5.73
fs Total	(ksi)	14.08	16.94	16.84	17.93

GIRDER REACTION TABLE

R D.L.	(k)	14.6	41.8	22.6	64.4
R L.L.	(k)	32.2	26.6	35.5	31.5
Imp.	(k)	9.7	5.7	9.8	5.7
R Total	(k)	56.5	74.1	67.9	101.6

Is and Ss are the moment of inertia and section modulus of the steel section.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs.



PLAN

* Cost of Removal of existing Structural Steel is incidental to "Structural Steel"

All structural steel shown on this sheet is existing, unless otherwise noted.

FLOOR BEAM MAX. MOMENTS (ft.k), SHEAR (k) & STRESSES (k/in²)

MARK	MOMENT	STRESS	SHEAR	STRESS
FB1	3860	19.3	300	9.5
FB2	2618	16.1	253	8.0
FB3&FB4	2156	18.3	160	5.1
FB5&FB6	2880	15.1	215	9.1

INCLUDES D.L. (STEEL + CONCRETE), L.L. & IMPACT.

MAXIMUM MOMENT, SHEAR & STRESSES FOR 25'-0" STRINGER

MOMENT = 211 'k
FLEXURAL STRESS = 14.9 ksi
SHEAR = 42.0 k
SHEAR STRESS = 5.4 ksi
INCLUDES D.L. (STEEL + CONCRETE), L.L. & IMPACT

Work this sheet with sheets 11 thru 15.

Sta. 50+23.00

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D)BR-2
ROCK ISLAND COUNTY

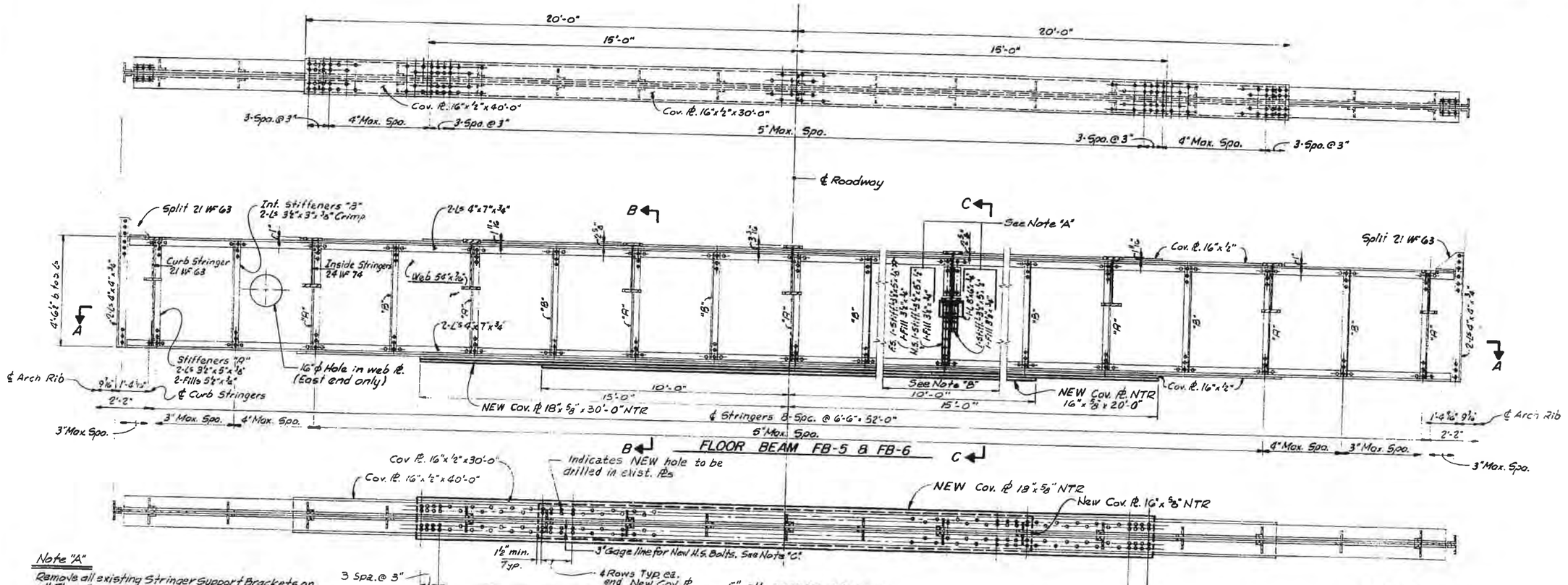
STEEL FRAMING PLAN - SOUTH CHANNEL

Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

TORNROSE, CAMPBELL & ASSOCIATES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RTE. 599	17(D)BR-2	ROCK ISLAND	80	70
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

Sht. 14 of 24



FLOOR BEAM FB-5 & FB-6

Note "A"

Remove all existing Stringer Support Brackets on all Floor Beams FB-5 & 6 and replace with New Stringer Support Brackets as shown. All connections to be made with ⅞" ϕ H.S. Bolts.

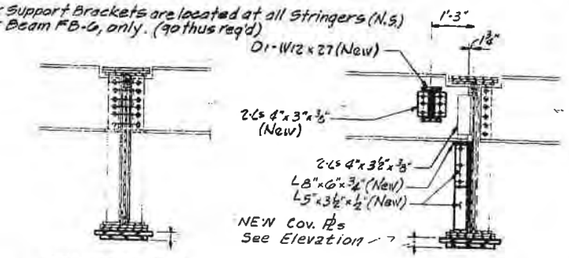
Note "B"

Stringer Support Brackets are located at all Stringers (N.S.) of Floor Beam FB-6, only. (90 thus req'd)

Note "C"

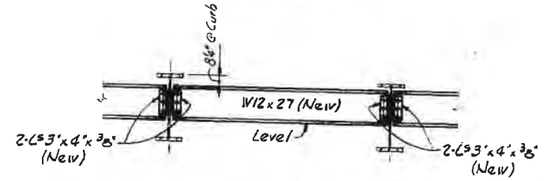
Existing Gage lines may not be 3"-Verify in field.

SECTION A-A



SECTION B-B
Showing Typical Conn's. For Stringers To FB-5

SECTION C-C
Showing Typical Conn's. For Stringers To FB-6



DIAPHRAGM - D1 (90 THUS)

Remove all existing diaphragms D1 of floor beam lines ①,③,⑤, ⑦,⑨,⑪,⑮,⑰,⑲,㉑,㉓ & ㉕ and replace with New diaphragms as shown. All connections to be made with ⅞" ϕ H.S. Bolts

Step by step procedure for the installation of New Plate on the bottom flange of the existing interior floor beam.

1. Clamp flange material at ± 8 feet intervals.
2. Remove existing rivet heads from the underside of the flange cover plates. Only mechanical means of removal will be allowed. Do not remove top heads and rivet shank at this time.
3. Clean the existing bottom flange plates that are to be in contact with new cover plates by Method 1 in accordance with the Std. Spec's.
4. Loosen clamps insert new plate, and tighten clamps. Note: Do not prime faces of new plates in contact with existing. Clean per Art. 509.03.
5. Drill through existing rivets and new plates after removal of top rivet heads. Replace drilled out rivets with High Strength Bolts. No more than 4 (four) rivets will be drilled out prior to being replaced with ⅞" diameter High Strength Bolts. During Stage I, rivet removal shall begin at the East end of cover plate and progress to the center of the floor beam. During Stage II, rivet removal shall begin at the center of the floor-beam and progress to the west end. (See Note 'B' on sheet 11.)
6. Remove clamps.

All structural steel shown on this sheet is existing, unless otherwise noted.

NT2 indicates Notch Toughness Requirement

See Note "B" on sheet 11. Mark this sheet with sheet 10.

Estimated amount of replaced rivets for 12-FB5 & 10-FB6 = 12500 Lbs.*
*Includes stringers & diaphragms

Sta. 50+23.00

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D)BR-2
ROCK ISLAND COUNTY
INTERIOR GIRDER-SOUTH CHANNEL

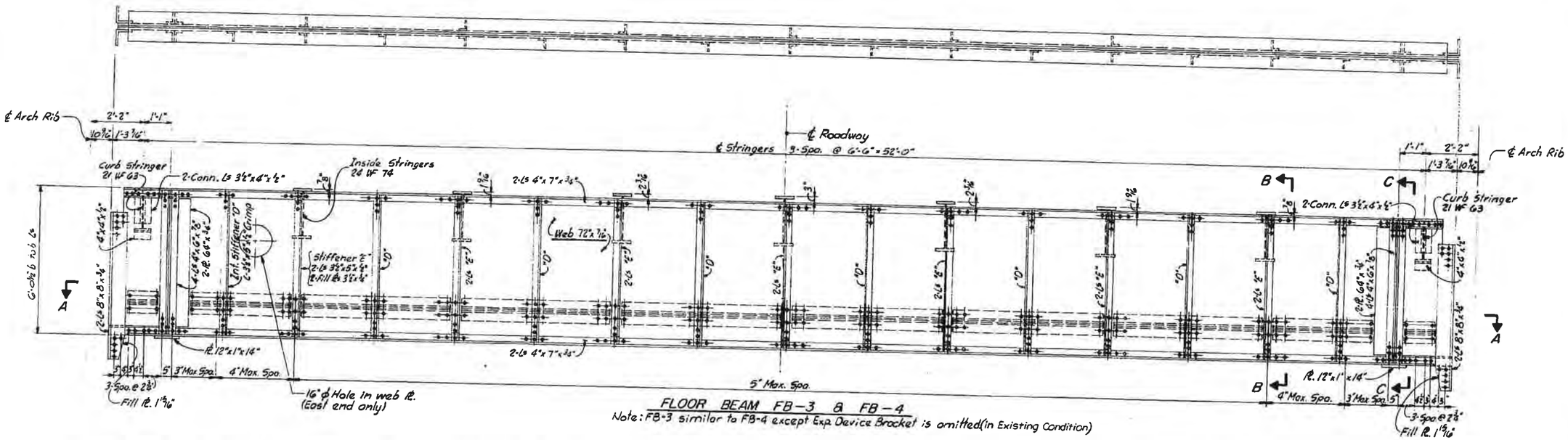
Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

Revised July 19, 1984 RWS

TORNROSE, CAMPBELL & ASSOCIATES

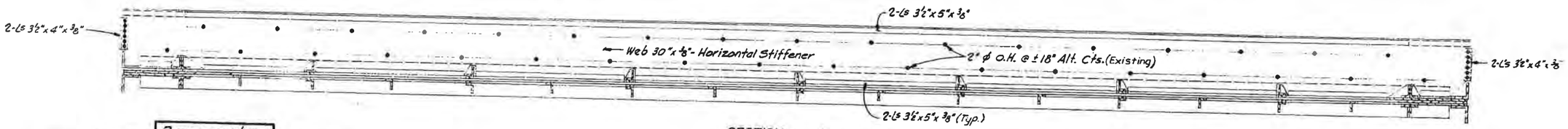
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA RTE 599	17(D)BR-2	ROCK ISLAND	80	69
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

Sht. 13 of 24

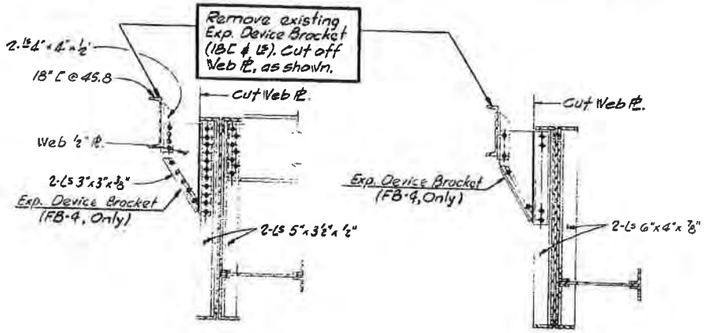


FLOOR BEAM FB-3 & FB-4

Note: FB-3 similar to FB-4 except Exp. Device Bracket is omitted (in Existing Condition)



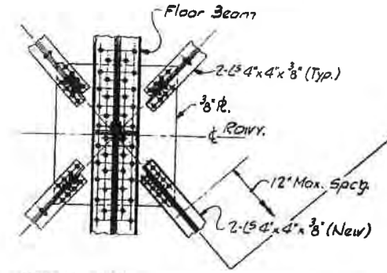
SECTION A-A



SECTION B-B

SECTION C-C

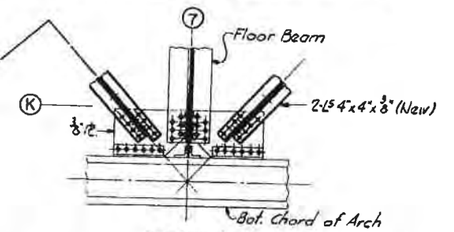
Note: FB-3 similar to FB-4 except Exp. Device Bracket omitted (in Existing Condition)



DETAIL "A" (AS SHOWN) - 1 THUS

DETAIL "B" (SAME BUT OPP. HAND) - 1 THUS

All structural steel shown on this sheet is existing, unless otherwise noted.



DETAIL "C" - 1 THUS

Remove existing Horizontal Bracing at floor beam line 7 & stringer line K and replace with New Horizontal Bracing, as shown. All connections to be made with ¾" H.S. bolts.

See note "B" on sheet 11. Work this sheet with sheet 10.

Estimated amount of replaced rivets for FB-3 & FB-4 = *2850#

*Includes Stringers & diaphragms

Sta. 50+23.00

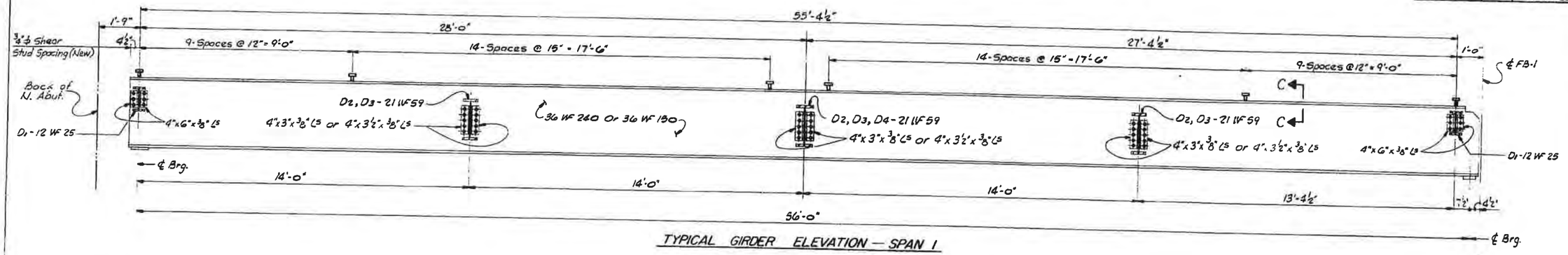
ILLINOIS DIVISION OF HIGHWAYS		
F.A. ROUTE 599		
PROJECT BR-F-599(3) SECTION 17(D)BR-2		
ROCK ISLAND COUNTY		
END FLOOR BEAMS--SOUTH CHANNEL		
Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

Revised July 19, 1984 RWS

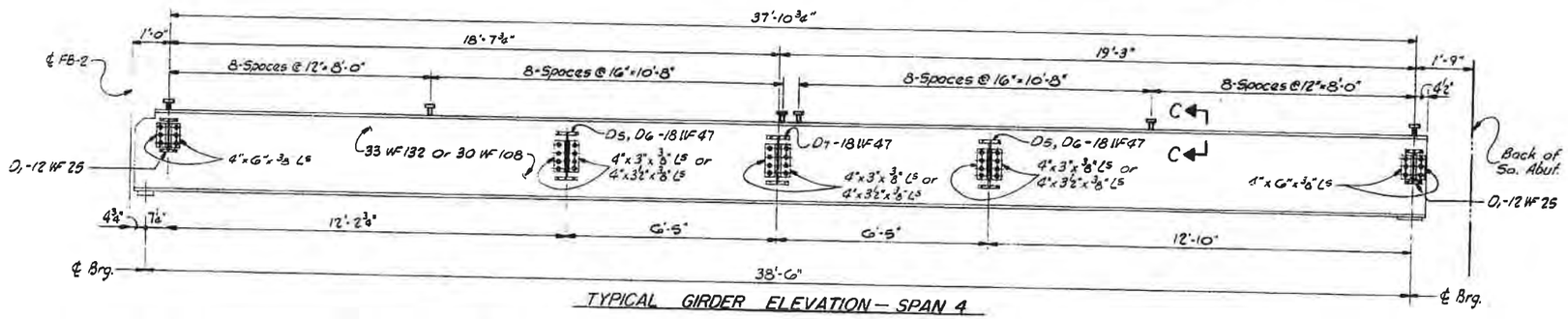
TORNROSE, CAMPBELL & ASSOCIATES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.RTE 599	17(D)BR-2	ROCK ISLAND	80	77
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

Sht. 15 of 24

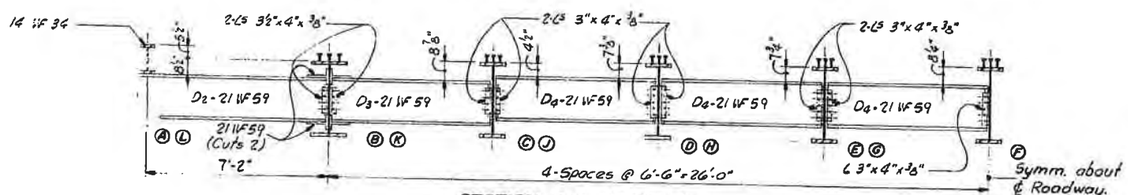


TYPICAL GIRDER ELEVATION — SPAN 1

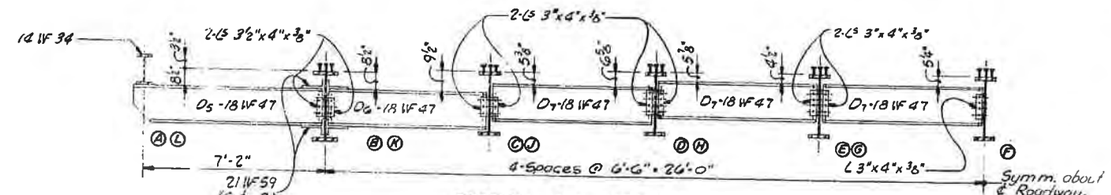


TYPICAL GIRDER ELEVATION — SPAN 4

Note:
Diaphragm connections not present in all girders, for locations see framing plan sheet 10.

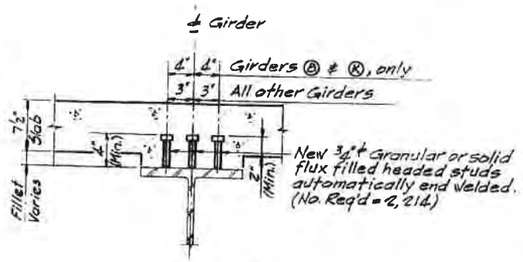


SECTION A-A (SPAN 1)
Ref. Sheet 10



SECTION B-B (SPAN 4)
Ref. Sheet 10

All structural steel shown on this sheet is existing, unless otherwise noted.



SECTION C-C
(Shear Connector Detail)

See note 'B' on sheet 11.
Work this sheet with sheet 10.

Sta. 50+23.00

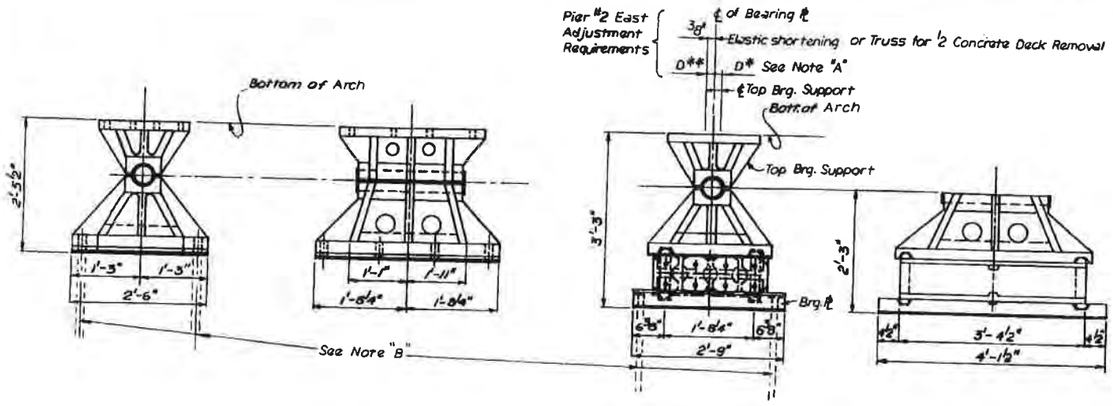
ILLINOIS DIVISION OF HIGHWAYS		
F.A. ROUTE 599		
PROJECT BR-F-599(3) SECTION 17(D)BR-2		
ROCK ISLAND COUNTY		
TYPICAL GIRDER & SECTIONS- SOUTH CHANNEL		
Designed By: SK	Drawn By: JC	Quantities By: RB
Checked By: DK	Checked By: SK	Checked By: SK

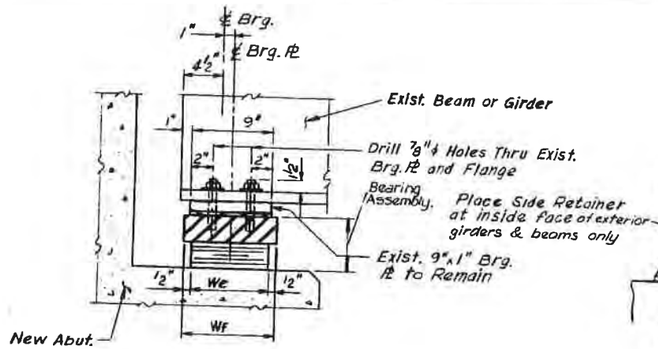
Revised July 19, 1984 AWS

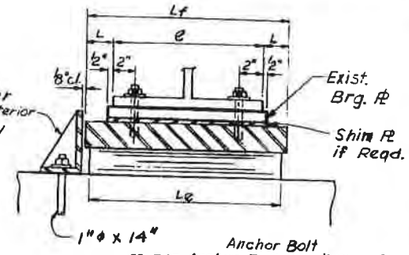
TORNROSE, CAMPBELL & ASSOCIATES

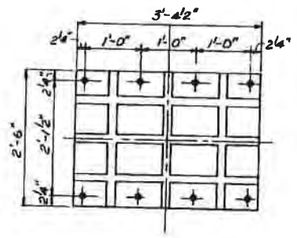
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RTE. 599	17 (D) BR-2	ROCK ISLAND	80	72
FED. ROAD DIST. NO. 7	ILLINOIS	PROJ. BR-F-599(3)		

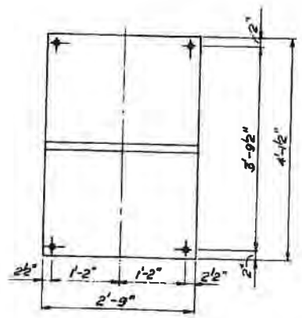
Sht. 16 of 24





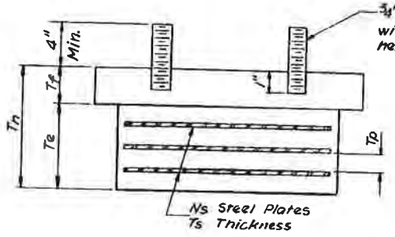


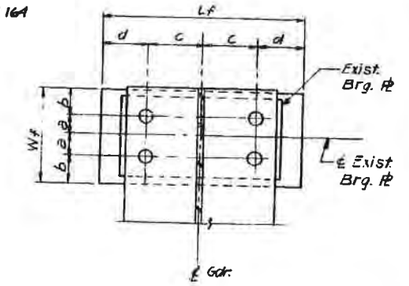


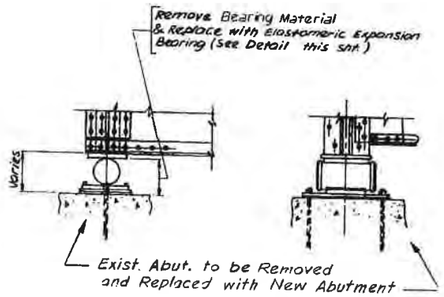


FIXED BEARING
Pier 1 & 3

REALIGN PIER #2
East Bearing only - See Sht. 18
Clean & Paint all Bearings at Pier #2 as per Method I
See sht #18 for jacking requirements for Pier #2 East.







BEARING DETAILS
N. & S. Abut.

NOTE "A": For Setting of Anchor Bolts At Exp. Brg.
D* = (Side of Brg. away from Fixed Bearing.)
D* = 1/8" Per 100 Ft. of Exp. for every 15°F above the normal Temp. of 50°F.
D** = (Side of Brg. toward Fixed bearing)
D** = 1/8" per 100 Ft. of Exp. for every 15°F below the normal Temp. of 50°F.

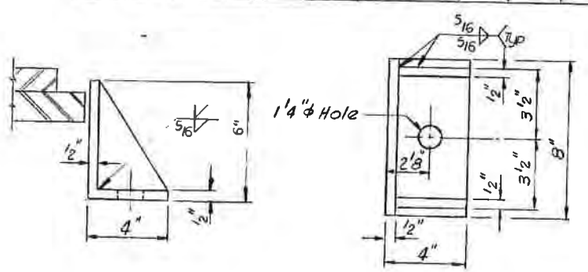
EXPANSION BEARING
Pier 2

Exist. Fixed and Expansion Bearings for Pier 1, 2 & 3 to Remain. Rehab with New Anchor Bolts as noted.

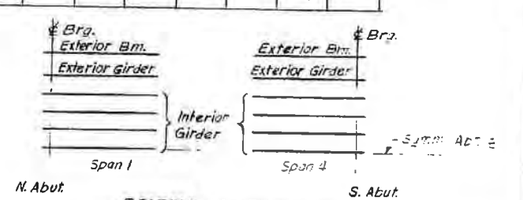
NOTE "B": All loose bolts shall be pulled out and replaced with new 1¼"ϕ x 18" anchor bolts and epoxy grout as per detail shown on Sht. 20 - Cost incidental to Structural Steel.
Total No. required:
Piers #1 & #3 = 10
Pier #2 = 6
All anchor bolts with corroded heads shall be welded to new washer and bearing assy. - Cost incidental to Struct. Steel.
Total No. required:
Piers #1 & #3 = 3
Pier #2 = 3

NEW ELASTOMERIC EXPANSION BEARING (TYPE I)
North & South Abut.

LOCATION	L	Le	Lf	Ns	Te	Tn	Tp	Ts	Tf	We	Wf	a	b	c	d	e
N. Abut. Ext. Grds.	1½"	16"	19"	3	2 3/8"	5⅛"	½"	⅛"	2¾"	11"	12"	3½"	2½"	6¼"	3½"	16"
N. Abut. Int. Grds.	1½"	12"	15"	3	1¾"	3¾"	⅜"	3/32"	2"	7"	8"	2"	2"	4"	3½"	12"
S. Abut. Ext. Grds.	1½"	12"	14½"	4	2¼"	4¼"	⅜"	3/32"	2"	9"	10"	3"	2"	3¾"	5½"	11½"
S. Abut. Int. Grds.	1¾"	12"	14"	2	1 5/16"	3 5/16"	⅜"	3/32"	2"	7"	8"	2"	2"	3¼"	3¾"	10½"
North & South Abut. Exterior Brs.	1¾"	12"	14"	2	1 5/16"	3 5/16"	⅜"	3/32"	2"	7"	8"	2"	2"	3¼"	3¾"	10½"



NEW SIDE RETAINER



BEARING LOCATION PLAN
Sta. 50+23.00

ILLINOIS DIVISION OF HIGHWAYS

F. A. ROUTE 599
PROJECT BR-F-599(3) SECTION 17(D)BR-2.
ROCK ISLAND COUNTY

BEARING DETAILS- SOUTH CHANNEL

Designed By: SK	Drawn By: LK	Quantities By: LK
Checked By: ED	Checked By: ED	Checked By: ED

TORNROSE, CAMPBELL & ASSOCIATES