

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 57 NB / FAI ROUTE 57 SB
OVER FAS 2936 (OLD RTE US 51)
OVER CACHE RIVER & TR 163B
SECTION D9 BRIDGE REPAIR 2016-1
PULASKI AND ALEXANDER COUNTIES

FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BR. REPAIR 2016-1	VARIABLE	8	1
ILLINOIS			CONTRACT NO. 78517	

TRAFFIC DATA

I-57 TRAFFIC DATA

2013 ADT = 9,450
32% TRUCKS

TOWNSHIPS:

COUNTY UNIT ROAD DISTRICT

D-99-019-16

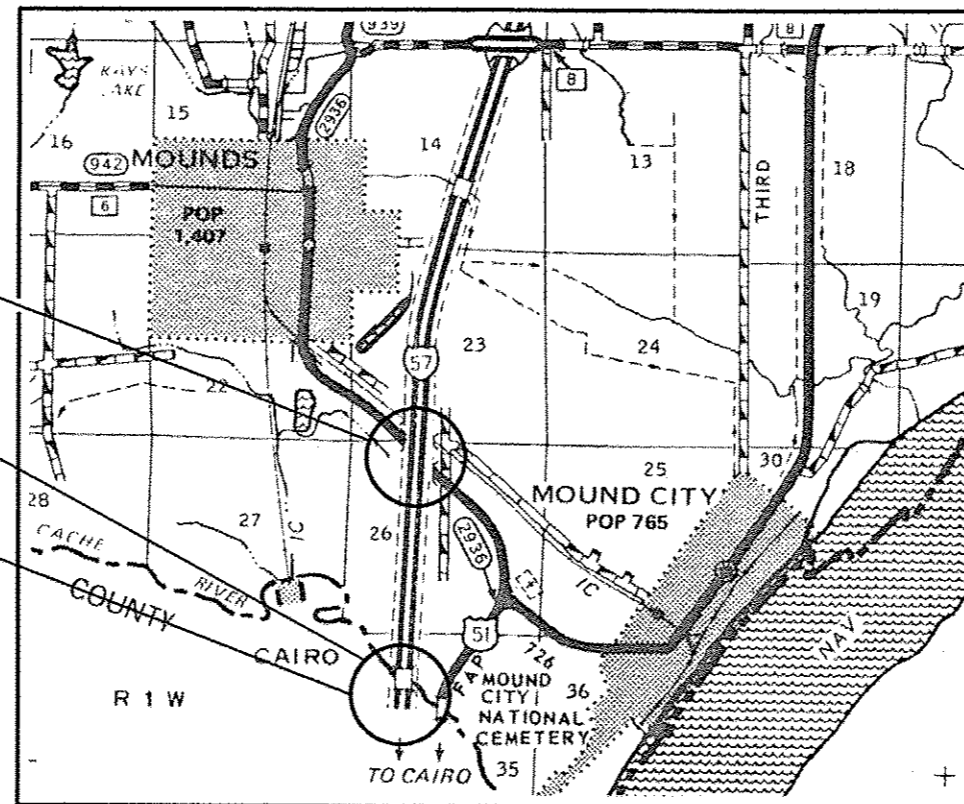


C-99-019-16

EXISTING STRUCTURE NO. 077-0001
FAI 57 (I-57) NB
EXISTING STRUCTURE NO. 077-0002
FAI 57 (I-57) SB

EXISTING STRUCTURE NO. 002-0003
FAI 57 (I-57) NB
EXISTING STRUCTURE NO. 002-0004
FAI 57 (I-57) SB

EXISTING STRUCTURE NO. 002-0001
FAI 57 (I-57) NB
EXISTING STRUCTURE NO. 002-0002
FAI 57 (I-57) SB



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

PROJECT ENGINEER: DAVID PICHE (618) 351-5227
DESIGNER: T. WAYNE HALSTEAD (618) 351-5228

CONTRACT NO. 78517

SN 077-0001 (NB)
BRIDGE LENGTH = 1013.16 FT
NET LENGTH = 1013.16 FT

SN 077-0002 (SB)
BRIDGE LENGTH = 1085.48 FT
NET LENGTH = 1085.48 FT

SN 002-0001 (NB)
BRIDGE LENGTH = 1707.92 FT
NET LENGTH = 1707.92 FT

SN 002-0002 (SB)
BRIDGE LENGTH = 1770 FT
NET LENGTH = 1770 FT

SN 002-0003 (NB)
BRIDGE LENGTH = 714.33 FT
NET LENGTH = 714.33 FT

SN 002-0004 (SB)
BRIDGE LENGTH = 714.33 FT
NET LENGTH = 714.33 FT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *March 10 2016*

Jeffrey L. Keiser
REGION FIVE ENGINEER

May 16 2016
Maureen M. Addis, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

May 16 2016
Annelle White
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS**

FILE NAME: s:\NLE\6448\BIDDING\Illinois\p\78517\Documents\DOT Office\District 9\Projects\78517\C002\as\CAD\Sheet\78517-sh.dgn

GENERAL NOTES

- 1) IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 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 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 2) COMMITMENTS: NONE AS OF MARCH 18, 2016.

STANDARDS

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 701101-05 OFF-ROAD, MULTILANE 15' TO PAVEMENT EDGE
 701400-08 APPROACH TO LANE CLOSURE FREEWAY/EXPRESSWAY
 701401-09 LANE CLOSURE FREEWAY/EXPRESSWAY, WITH DRUMS OR BARRICADES
 701901-05 TRAFFIC CONTROL DEVICES

INDEX OF SHEETS

- 1 COVER SHEET
 2 INDEX OF SHEETS; GENERAL NOTES; STANDARDS
 3 SUMMARY OF QUANTITIES
 4 GENERAL PLAN AND ELEVATION (SN 077-0001/2)
 5 GENERAL PLAN AND ELEVATION (SN 002-0003/4)
 6 GENERAL PLAN AND ELEVATION (SN 002-0001/2)
 7 SILICONE JOINT DETAILS
 8 INFORMATION ONLY, EXISTING PREFORMED JOINT STRIP SEAL DETAILS

Prepared By: *[Signature]*
 DISTRICT STUDIES & PLANS ENGINEER
 Examined By: *[Signature]*
 DISTRICT LAND ACQUISITION ENGINEER
 Examined By: *[Signature]*
 DISTRICT PROGRAM DEVELOPMENT ENGINEER
 Examined By: *[Signature]*
 DISTRICT OPERATIONS ENGINEER
 Examined By: *[Signature]*
 DISTRICT PROJECT IMPLEMENTATION ENGINEER
 Examined By: *[Signature]*
 DISTRICT CONSTRUCTION ENGINEER
 Examined By: *[Signature]*
 DISTRICT MATERIALS ENGINEER

USER NAME : holstead*	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE : 1/8" = 1'-0"	CHECKED -	REVISED -
PLOT DATE : 3/2/2016	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

GENERAL NOTES, STANDARDS, INDEX OF SHEETS

SCALE: SHEET NO. 2 OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	09 BR REPAIR 2016-1	VARIABLE	8	2
CONTRACT NO. 78517				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

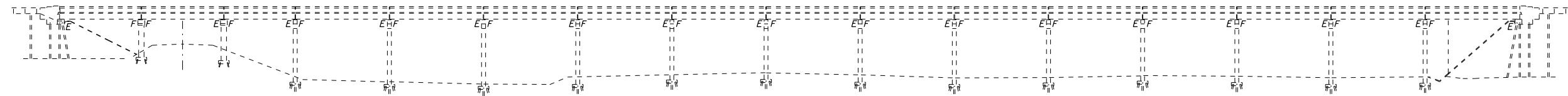
FILE NAME : p:\ALBRECHT\ENR\661\projects\PM\0101\05\concrete\DOT_Offices\DOT\Project\78517\CAD\Drawings\CD\Drawings\78517-sh.dgn

SUMMARY OF QUANTITIES

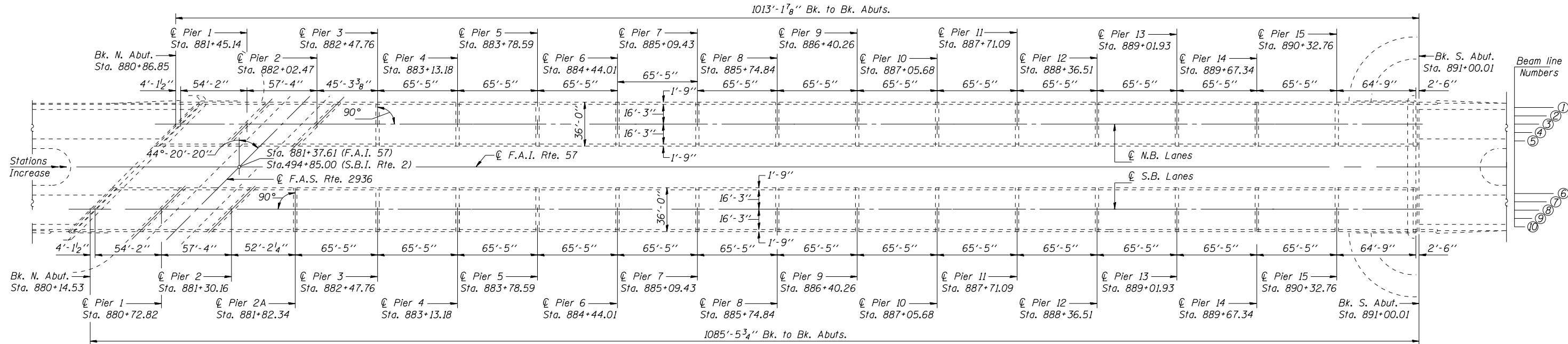
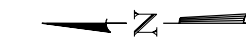
100% STATE

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	100% STATE	
				PULASKI COUNTY	ALEXANDER COUNTY
				0014	0014
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	1	0.5	0.5
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70104205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 1	EACH	2	2	
70104210	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 2	EACH	2		2
x7010410	SPEED DISPLAY TRAILER	CAL MO	2	1	1
Z0021906	SILICONE JOINT SEALER, 1.5"	FOOT	171	101	70

6



ELEVATION



PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Silicone Joint Sealer, 1.5"	Foot	101

GENERAL NOTES

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.

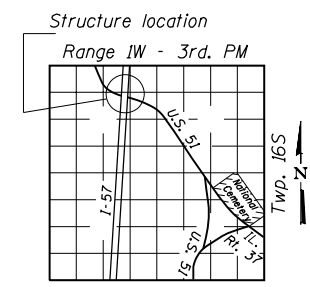
DESIGN STRESSES

ORIGINAL CONSTRUCTION
 Field Units
 $f_c = 1,400$ psi (super & sub)
 $f_s = 20,000$ psi (reinforcement)
 $vc = 75$ psi
 $n = 10$

Precast Prestressed Units
 $f_c = 5,000$ psi
 $f_{ci} = 4,000$ psi
 $f_s = 248,000$ psi ($\frac{7}{16}$ " ϕ stress relieved strands)
 $f_{si} = 173,600$ psi ($\frac{7}{16}$ " ϕ stress relieved strands)

SCOPE OF WORK

- Clean and Remove existing Silicone Joint Sealer at the parapet joints (70 Locations)
- Install new Silicone Joint Sealer at parapets



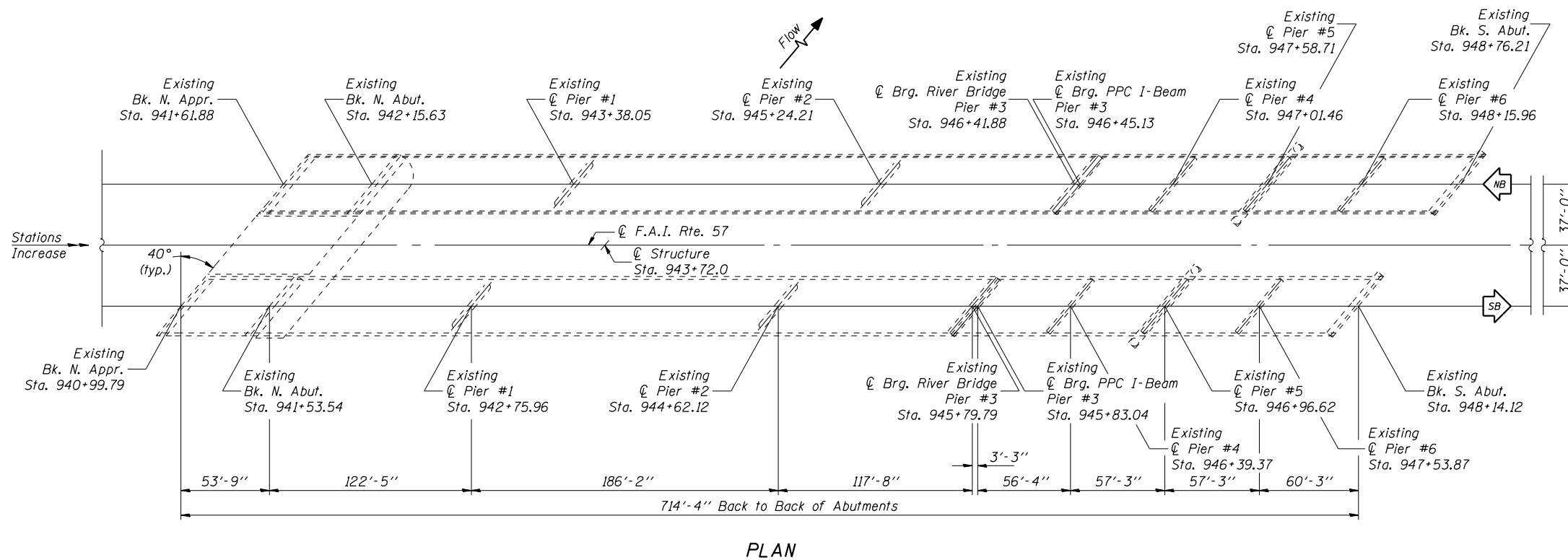
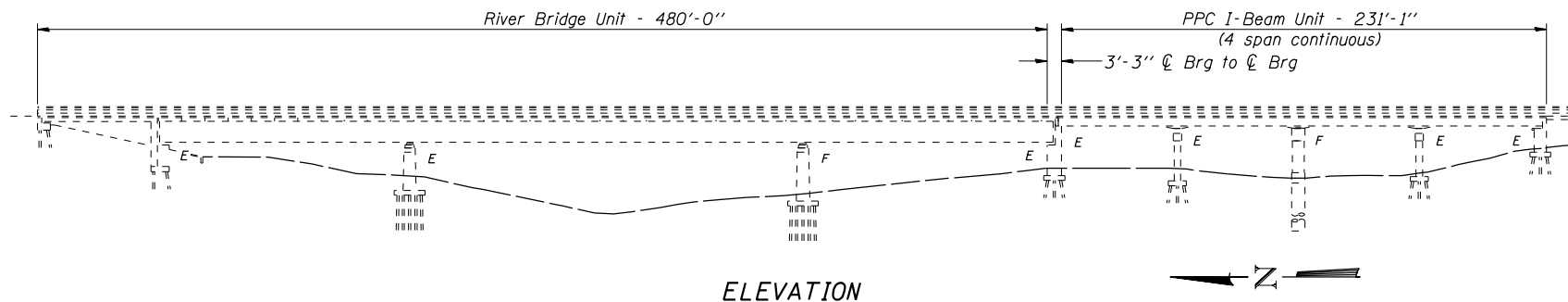
LOCATION SKETCH

GENERAL PLAN
SECTION D9 BRIDGE REPAIR 2016-1
F.A.I. RTE. 57 OVER F.A.S. 2936
PULASKI COUNTY
STRUCTURE NO. 077-0001 (N.B.)
STRUCTURE NO. 077-0002 (S.B.)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Silicone Joint Sealer, 1.5"	Foot	12

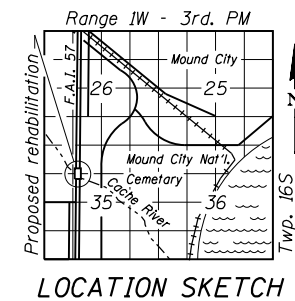
SCOPE OF WORK

- Clean and Remove existing Silicone Joint Sealer at the parapet joints (8 Locations)
- Install new Silicone Joint Sealer at parapets

DESIGN STRESSES

ORIGINAL CONSTRUCTION
Field Units
 $f_c = 1,400$ psi (super & sub)
 $f_s = 20,000$ psi (reinforcement)
 $f_s = 20,000$ psi (structural steel)
 $vc = 75$ psi
 $n = 10$

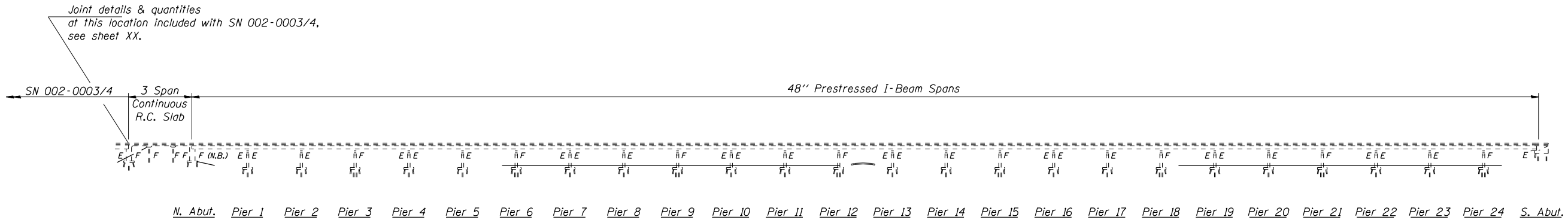
Precast Prestressed Units
 $f_c = 5,000$ psi
 $f_{ci} = 4,000$ psi
 $f_s = 248,000$ psi ($7/16"$ stress relieved strands)
 $f_{si} = 173,600$ psi ($1/16"$ stress relieved strands)



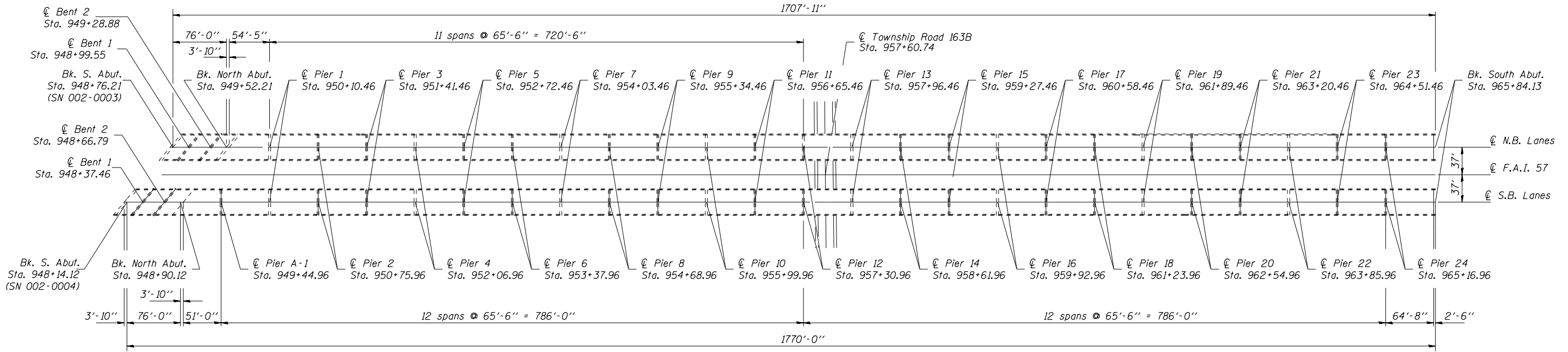
GENERAL PLAN
F.A.I. ROUTE 57 OVER CACHE RIVER
SECTION D9 BRIDGE REPAIR 2016-1
ALEXANDER COUNTY
STRUCTURE NO. 002-0003 (N.B.)
STRUCTURE NO. 002-0004 (S.B.)

FILE NAME =	USER NAME = halsteadtw	DESIGNED - TWH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN AND ELEVATION SN 002-0003 & 002-0004	F.A.I. RTE. 57	SECTION D9 BR REPAIR 2016-1	COUNTY ALEXANDER	TOTAL SHEETS 8	SHEET NO. 5	
pw:\IL\084EBID\INTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\78517\Drawings\CAD\Sheet\TWH\8517-sht.dgn	DESIGNED - TWH	CHECKED - MAS	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 78517		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT
PLOT SCALE = 32.0000' / in.	CHECKED - MAS	DATE - 2/16/16	REVISED -								
PLOT DATE = 3/17/2016	DATE - 2/16/16	REVISED -									

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Silicone Joint Sealer, 1.5"	Foot	58

GENERAL NOTES

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.

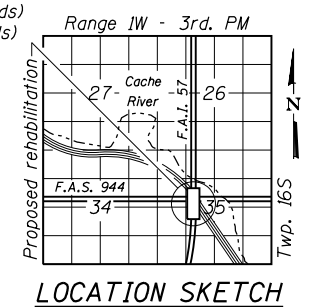
DESIGN STRESSES

ORIGINAL CONSTRUCTION
Field Units
 $f_c = 1,400$ psi (super & sub)
 $f_s = 20,000$ psi (reinforcement)
 $vc = 75$ psi
 $n = 10$

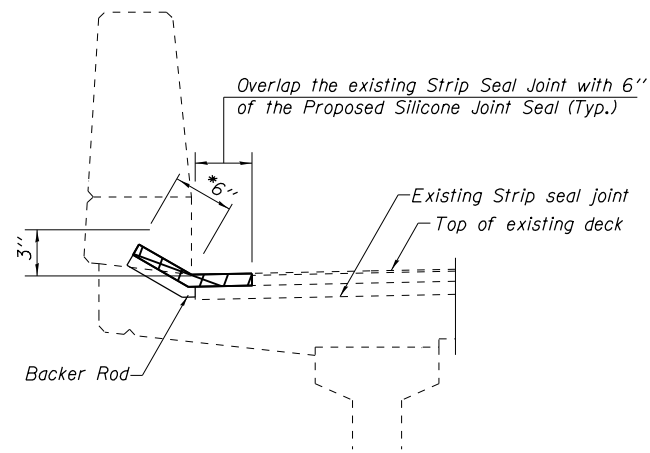
Precast Prestressed Units
 $f_c = 5,000$ psi
 $f_{ci} = 4,000$ psi
 $f_s = 248,000$ psi ($7/16$ " ϕ stress relieved strands)
 $f_{si} = 173,600$ psi ($7/16$ " ϕ stress relieved strands)

SCOPE OF WORK

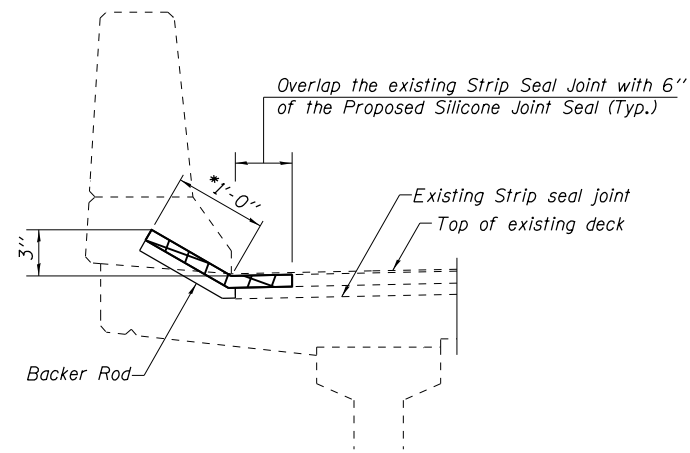
- Clean and Remove existing Silicone Joint Sealer at the parapet joints (40 Locations)
- Install new Silicone Joint Sealer at parapets



GENERAL PLAN
SECTION D9 BRIDGE REPAIR 2016-1
F.A.I. RTE. 57 OVER TOWNSHIP ROAD 163B
ALEXANDER COUNTY
STRUCTURE NO. 002-0001 (N.B.)
STRUCTURE NO. 002-0002 (S.B.)



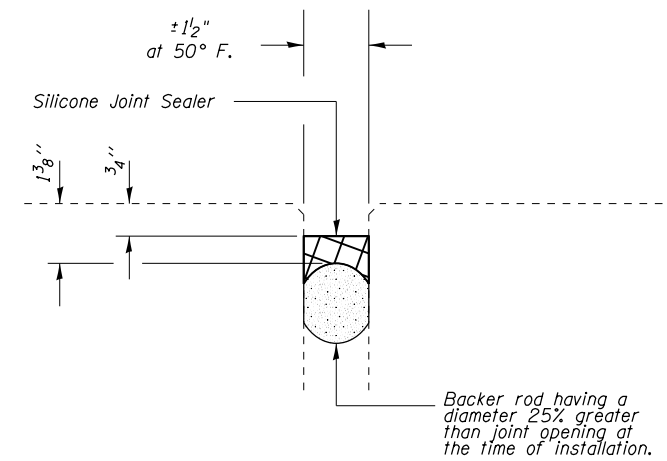
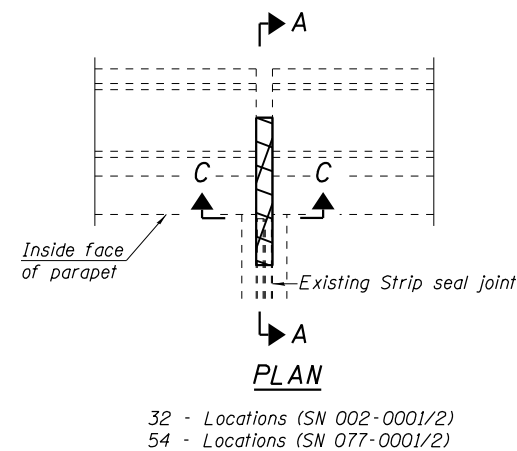
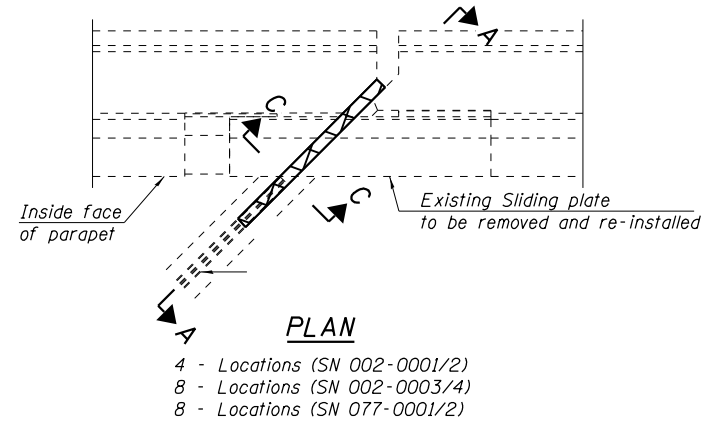
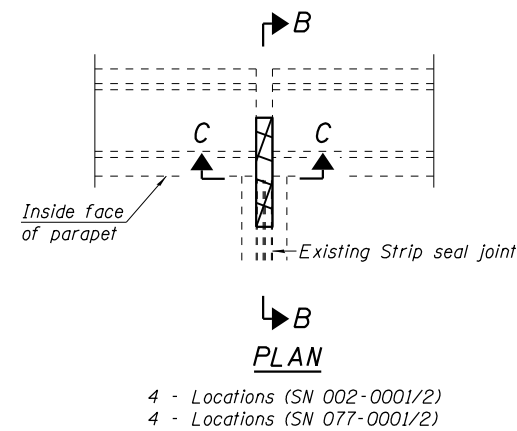
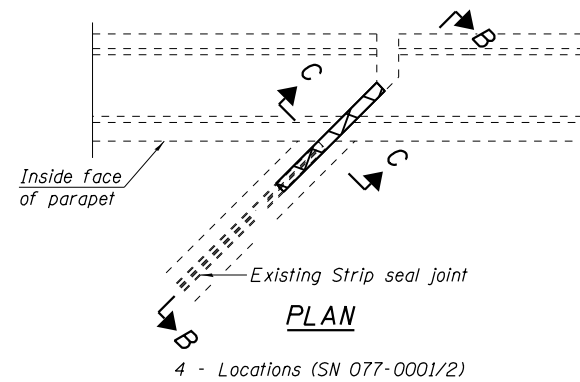
SECTION B-B



SECTION A-A

Notes:
 The manufacturer's recommended installation methods shall be followed. The supplier and the Bridge Maintenance Engineer (Casey Teckenbrock) shall be present on the first day of operation.
 The existing joint opening where the proposed Silicone Joint Sealer will be used, shall be thoroughly cleaned and sandblasted per the manufacturer's recommendation. The contractor shall also clean the rest of the existing joint, full width with compressed air as approved by the Engineer.
 The removal and re-installation of all sliding plates shall be included in the cost of Silicone Joint Sealer.

* Along the length of the Joint.



**SECTION C-C
 SILICONE JOINT SEALER DETAIL**



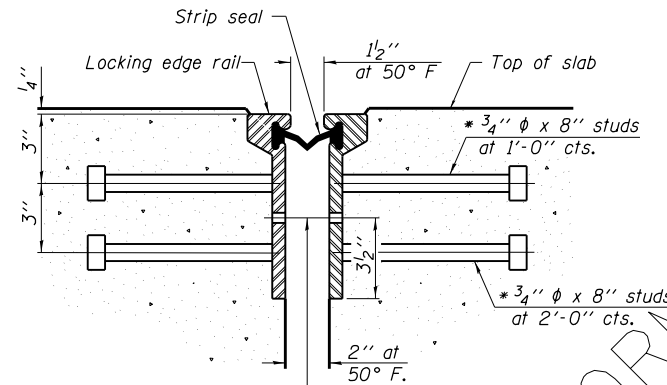
BILL OF MATERIAL

Item	Unit	Total
Silicone Joint Sealer, 1.5"	Foot	171

**JOINT DETAILS
 ALEXANDER & UNION
 COUNTY**

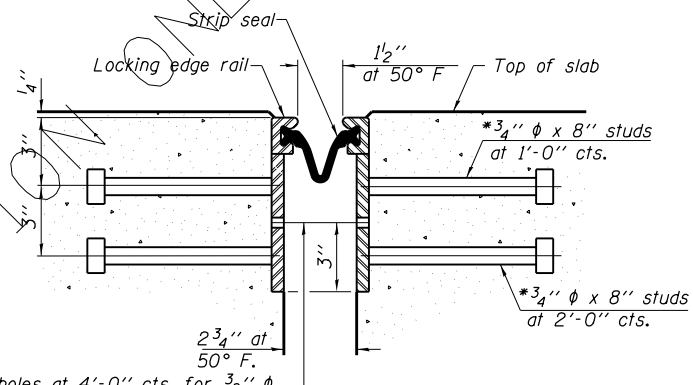
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BR REPAIR 2016-1	VARIABLE	8	7
CONTRACT NO. 78517				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

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



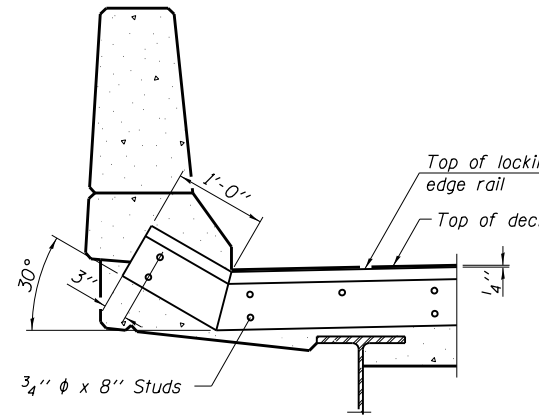
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



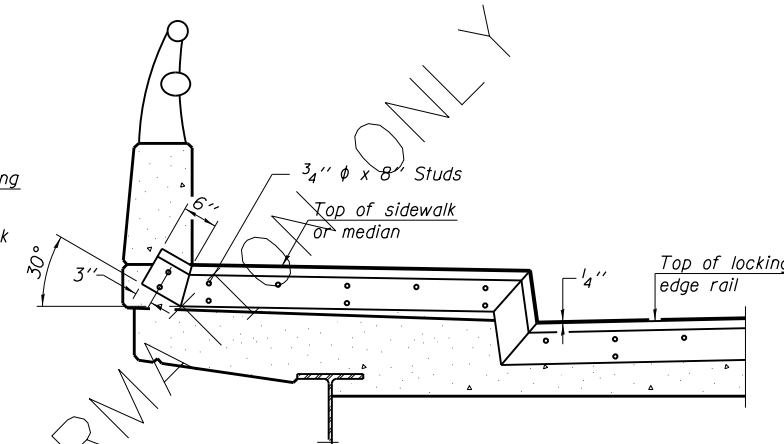
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT



AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

Notes:

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

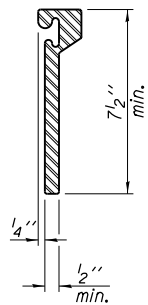
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

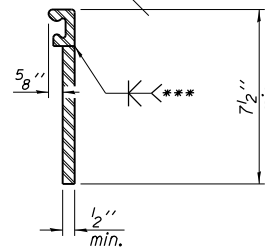
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications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

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

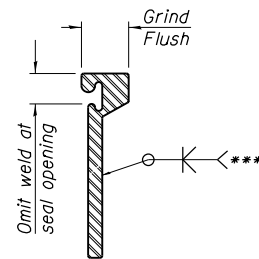
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.



ROLLED EXTRUDED RAIL



WELDED RAIL

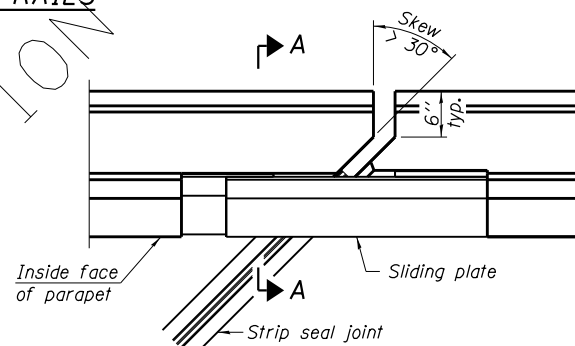


*** Back gouge not required if complete joint penetration is verified by mock-up.

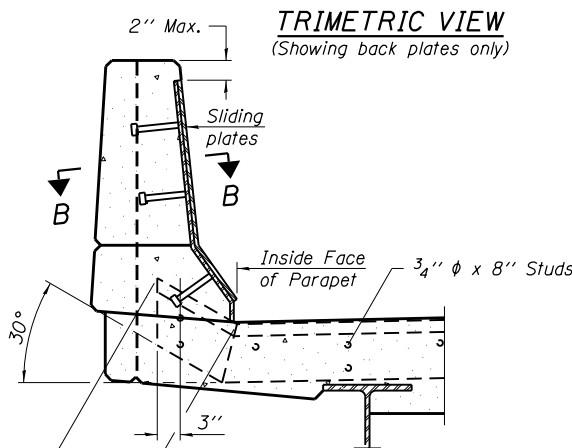
LOCKING EDGE RAIL SPLICE

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

LOCKING EDGE RAILS

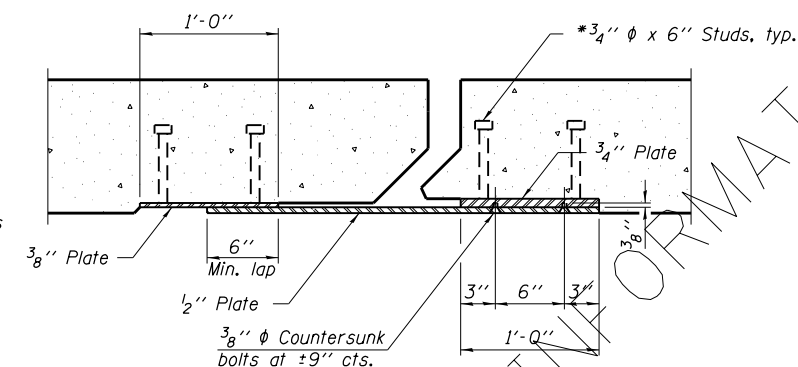


PLAN



SECTION A-A

POINT BLOCK DETAILS (for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	XXX

PREFORMED JOINT STRIP SEAL ALEXANDER & PULASKI COUNTY

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BR REPAIR 2016-1	VARIABLE	8	8
CONTRACT NO. 78517				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		