

049

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

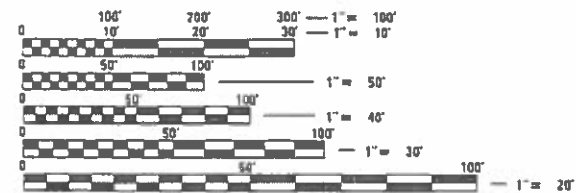
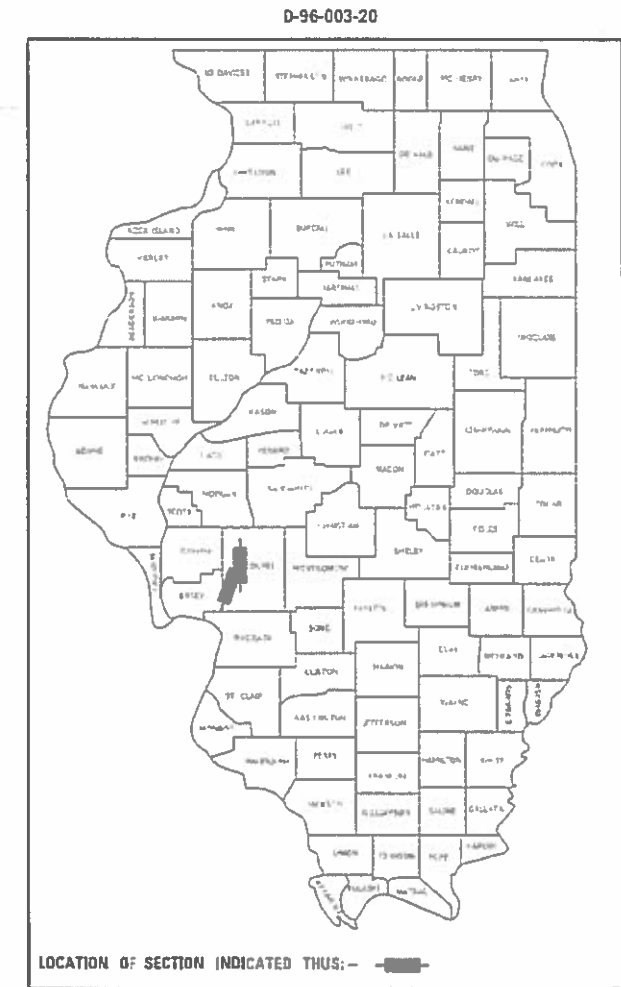
F.A.P. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761.608	(107,126) BP	MACOUPIN	14	1
CONTRACT NO. 72L41				

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

FAP ROUTE 761, 608 (IL 108, 111)
SECTION (107, 126) BP
PROJECT STP-QQWS(996)
BRIDGE PAINTING
MACOUPIN COUNTY

C-96-018-20

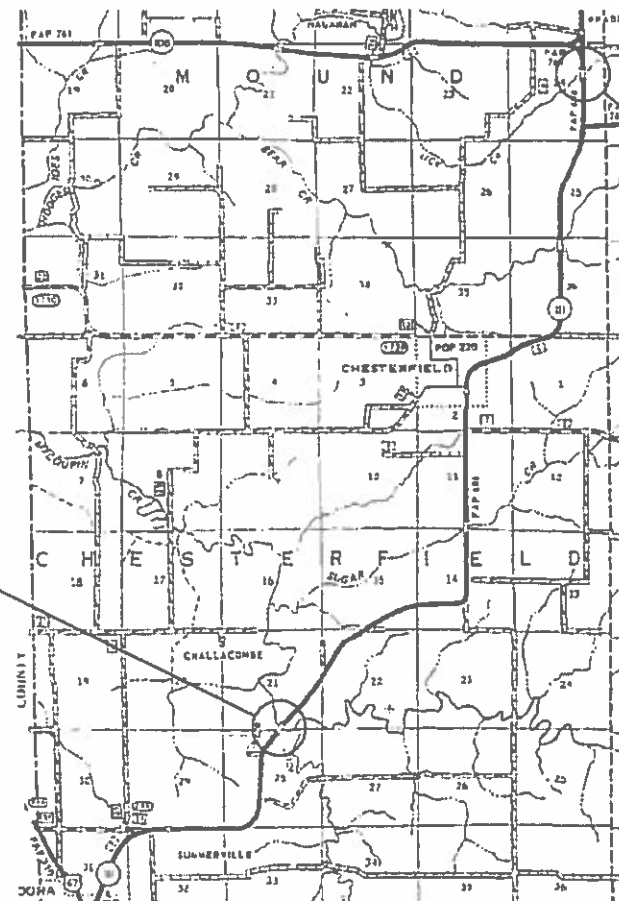


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

CONTRACT NO. 72L41



LOCATION #1
SN 059-0016
IL 111 OVER MACOUPIN CR.
7.9 MI S IL 108

LOCATION #2
SN 059-0013
IL 111 OVER LICK CR.
0.5 MI N IL 108

GROSS LENGTH = x.xx FT. = x.xxx MILE
NET LENGTH = x.xx FT. = x.xxx MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *October 10 2019*

John P. M...
REGIONAL ENGINEER

Dec 10 2019
ENGINEER OF DESIGN AND ENVIRONMENT

Paul P. Ch...
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

HIGHWAY STANDARDS

INDEX OF SHEETS


1	COVER SHEET
2	INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
3	SUMMARY OF QUANTITIES
4-11	EXISTING BRIDGE PLANS LOCATION #1: SN 059-0016
12-14	EXISTING BRIDGE PLANS LOCATION #2: SN 059-0013


000001-07
001006
701001-02
701006-05
701201-05
701301-04
701316-12
701901-08


GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED (EXCEPT OVERCOATED AREAS CALLED OUT IN THE SPECIAL PROVISIONS) SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT LOCATION #1 ONLY.
3. CONTAINMENT OF CLEANING RESIDUE IS REQUIRED TO CONTROL NUISANCE DUST. SEE SPECIAL PROVISIONS.
4. SSPC OP1 (AND SSPC OP2) CERTIFICATION IS REQUIRED FOR THIS CONTRACT.
5. CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. RUBBER COMPONENTS SHALL NOT BE PAINTED.
6. UPON COMPLETION OF PAINTING OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6**

EXAMINED 10/3 20 19

 ENGINEER OF OPERATIONS

EXAMINED 10-7 20 19

 ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED October 20 19

 ENGINEER OF PROGRAM DEVELOPMENT

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SCALE: SHEET OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	6-01414-0010	6-01414-0010
				STP 80/20	STP 80/20
				SN 059-0016 0047 MACOUPIN	SN 059-0013 0047 MACOUPIN
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	0	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	0
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	0	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	0	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	30	0	30
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	0	1
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	0
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	0
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	0	1

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

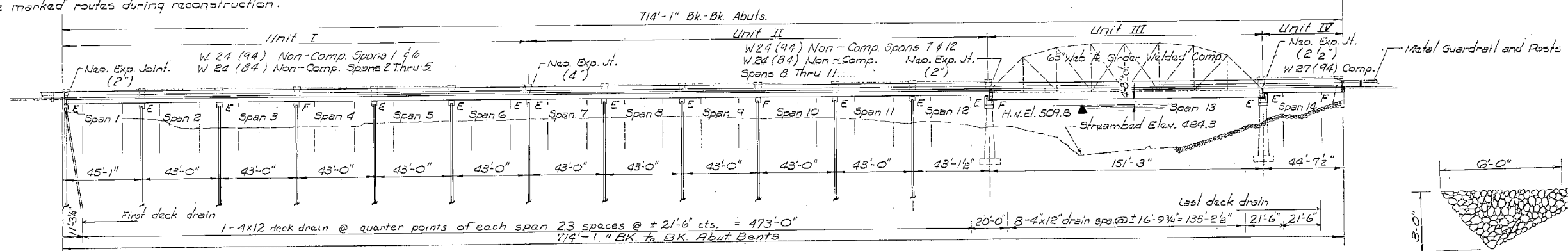
SUMMARY OF QUANTITIES			
SCALE:	SHEET	OF	SHEETS
		STA.	TO STA.

F.A.P. RTE. 761.608	SECTION (107,126) BP	COUNTY MACOUPIN	TOTAL SHEETS 14	SHEET NO. 3
CONTRACT NO. 72L41			ILLINOIS FED. AID PROJECT	

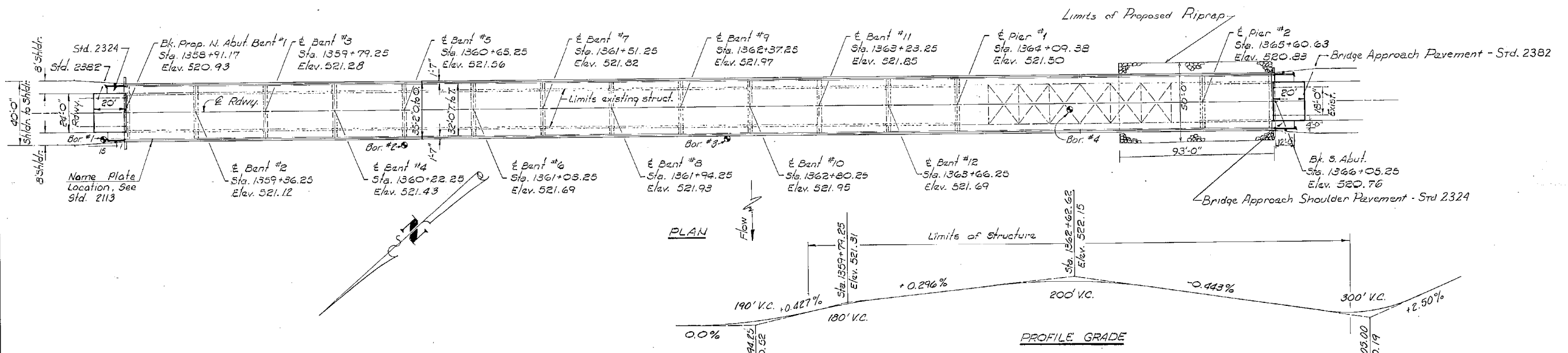
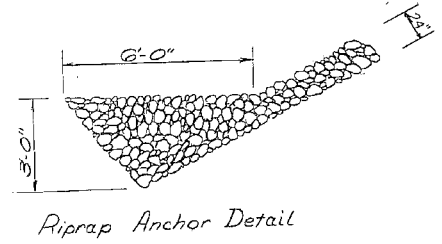
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
111	126 BR	MACOUPIN	40	8
SHEET NO. 1 30 SHEETS				

B.M. "a" cut in North end of West wheel guard Sta. 1358±93
Elev. 520.84
Existing Structure: #059-0016 Built as S.B.I. Rte. 111, Sec. 126
B & C of Sta. 1362+50 in 1930.
The existing thirteen spans with steel I beams and
one truss span superstructure shall be removed and the
substructure consisting of conc. pile bents and conc. piers
widened to accommodate the new widened superstructure.
24'-2" o.o. deck, 713'-6" bk-bk abuts.
Traffic shall be detoured
over state marked routes during reconstruction.



ELEVATION



PLAN

PROFILE GRADE

WATERWAY INFORMATION

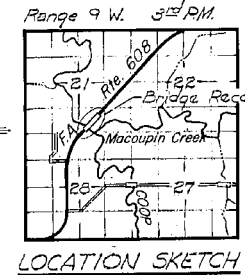
Drainage Area = 394 Sq. Mi. Low Grade Elev. 520.52 @ Sta. 1357+00									
Flood	Freq. Yr.	Q	Opening Sq. Ft.		Not. H.W.E.	Head Ft.		Headwater Elev.	
Design	50	22,422	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Base	100	25,371			510.6	0.0	0.0		
Overtopping									
Max. Calc.	500								

Design Specifications: 1977 AASHTO, 1978 and 1979 Interim Specifications.
Allow 25^{sq}/sq. ft. for future wearing surface.

DESIGN STRESSES

$f_c = 3500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Structural)
 $n = 9$

LOADING HS 20-44



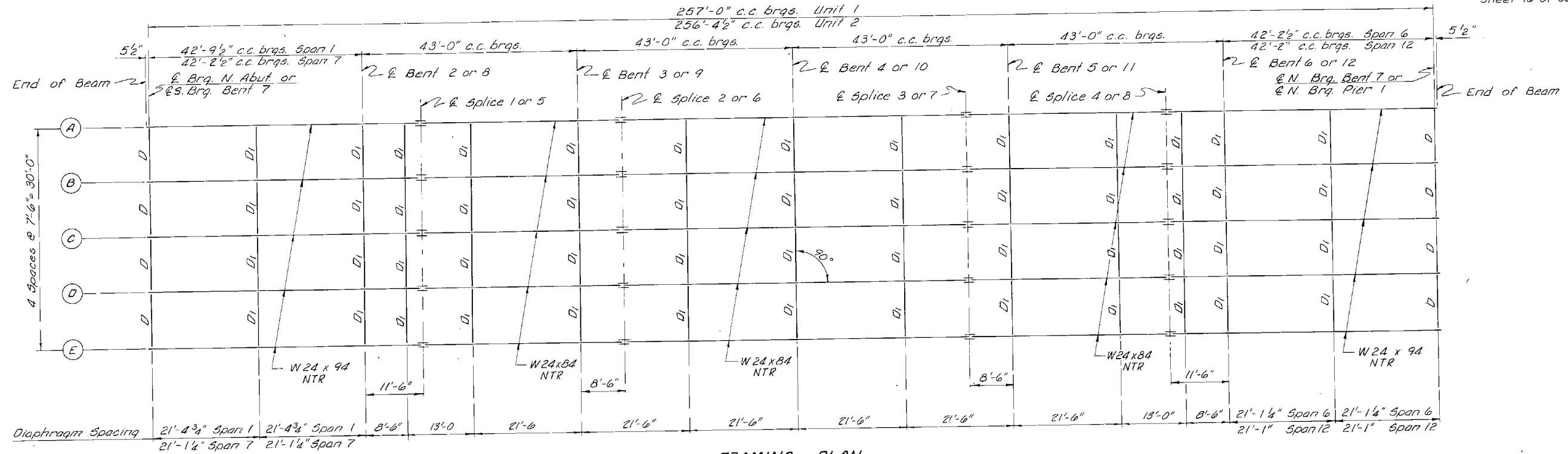
APPROVED FOR STRUCTURAL ADEQUACY ONLY

GENERAL PLAN & ELEVATION
F.A. Rte. 608 Over MACOUPIN CREEK
F.A. Rte. 608 Section 126 BR
MACOUPIN-COUNTY
Sta. 1362+50.00

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED	J.K.K.
CHECKED	F.S.
DRAWN	M.G., J.B., T.S.
CHECKED	J.K.K.

Rev 2-81 MWG



**FRAMING PLAN
UNIT I AND UNIT II**

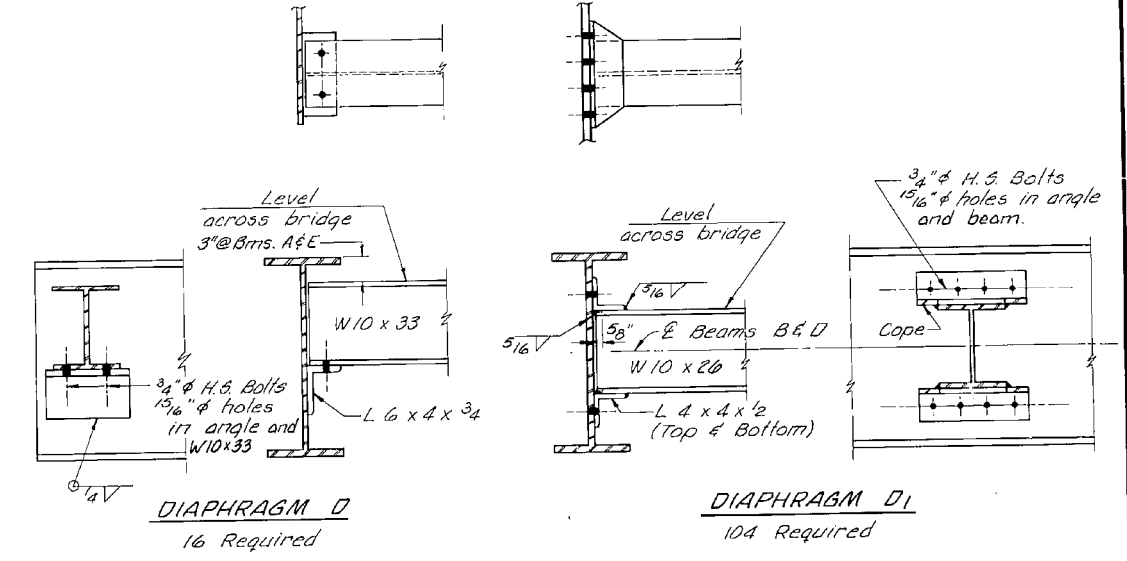
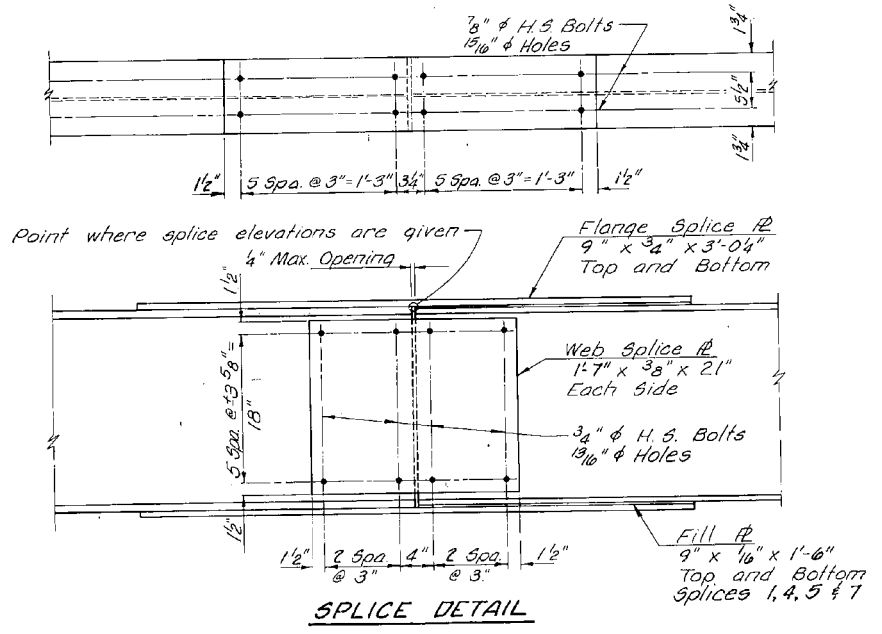
***TOP OF BEAM ELEVATIONS - UNIT I**

Location	Beams A & E	Beams B & D	Beam C
⊕ Brq. N. Abut.	520.03	520.17	520.28
⊕ Brq. Bent 2	520.15	520.29	520.40
⊕ Splice 1	520.18	520.32	520.43
⊕ Brq. Bent 3	520.30	520.44	520.55
⊕ Splice 2	520.33	520.47	520.58
⊕ Brq. Bent 4	520.45	520.59	520.70
⊕ Splice 3	520.56	520.70	520.81
⊕ Brq. Bent 5	520.58	520.72	520.83
⊕ Splice 4	520.68	520.82	520.93
⊕ Brq. Bent 6	520.73	520.87	520.98
⊕ N. Brq. Bent 7	520.90	521.04	521.15

* For fabrication only

***TOP OF BEAM ELEVATIONS - UNIT II**

Location	Beams A & E	Beams B & D	Beam C
⊕ S. Brq. Bent 7	520.90	521.04	521.15
⊕ Brq. Bent 8	520.96	521.10	521.21
⊕ Splice 5	520.97	521.11	521.22
⊕ Brq. Bent 9	520.99	521.13	521.24
⊕ Splice 6	520.99	521.13	521.24
⊕ Brq. Bent 10	520.94	521.08	521.19
⊕ Splice 7	520.90	521.04	521.15
⊕ Brq. Bent 11	520.81	521.01	521.12
⊕ Splice 8	520.76	520.90	521.01
⊕ Brq. Bent 12	520.72	520.86	520.97
⊕ N. Brq. Pier 1	520.59	520.73	520.84



Note: Hardened washers shall be required over 15/16\"/>

NTR denotes that this material shall conform to the Supplemental Requirements for Notch Toughness (Zone 2).

FRAMING DETAILS - UNITS I & II

F.A. RT. 608 SECTION 126 BR
MACOUPIN COUNTY
STATION 1362 +50

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED J.K.K. CHECKED F.S.
DRAWN T.S. DATE 12-11-79 NO. 1487

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	DATE -	REVISED -

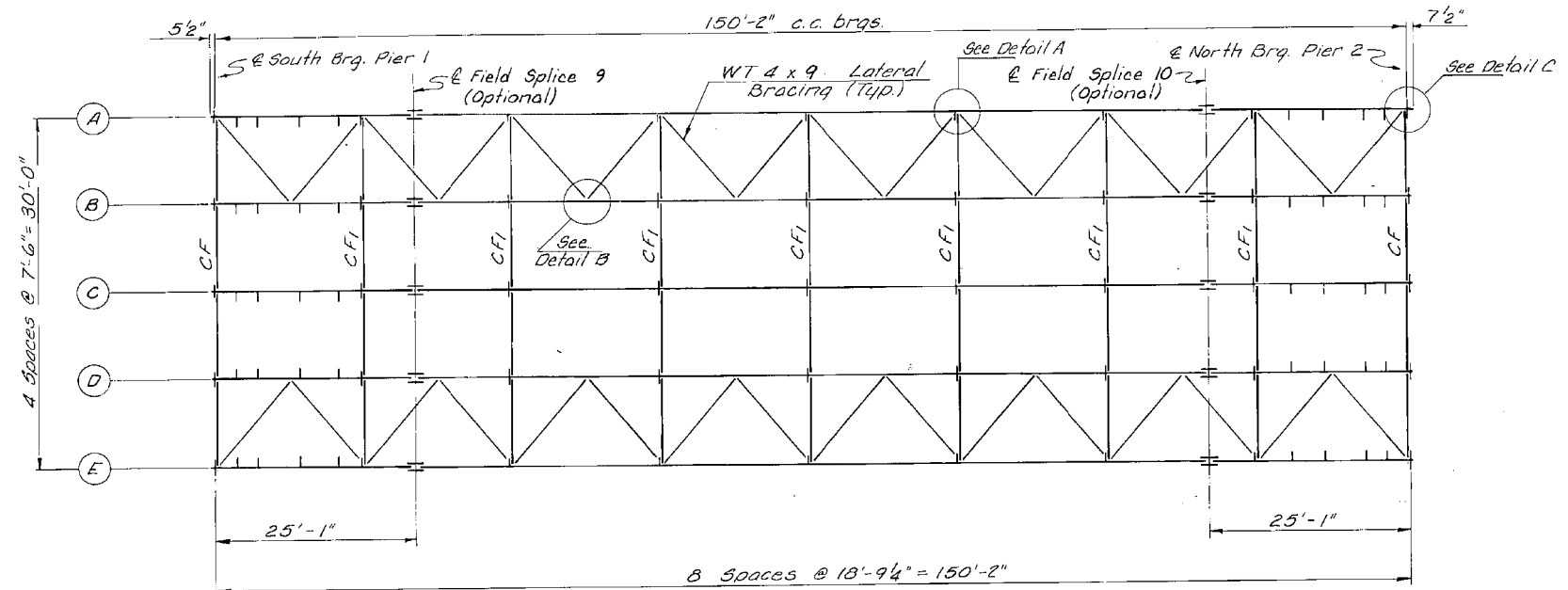
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING BRIDGE PLANS, SN 059-0016
(FOR INFORMATION ONLY)**

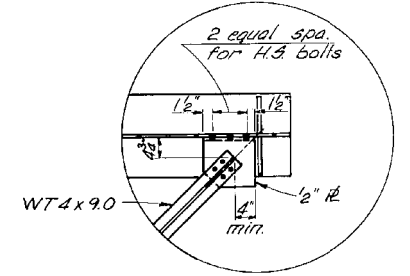
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761.608	(107,126) BP	MACOUPIN	14	5
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72L41	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
724 608	126 BR	MACOUPIN	40	24
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT BR-F-608(10)		Sheet 17 of 30	

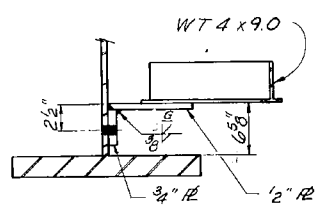


FRAMING PLAN
(See sheet 18 for alternate shop splice detail)

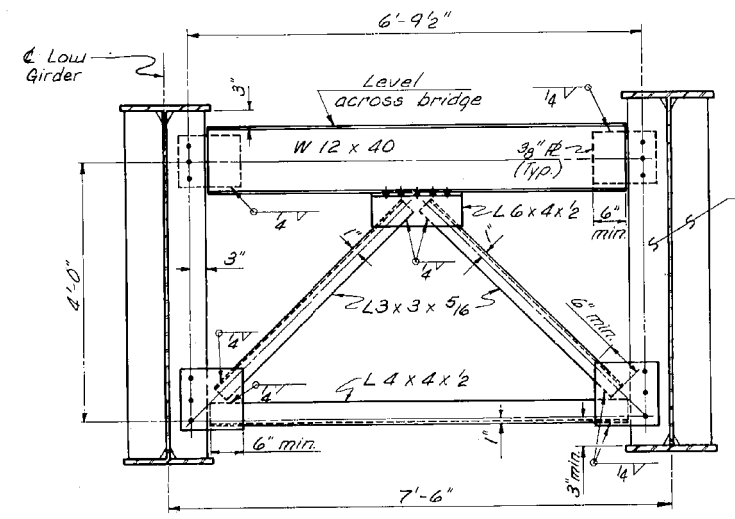


DETAIL C

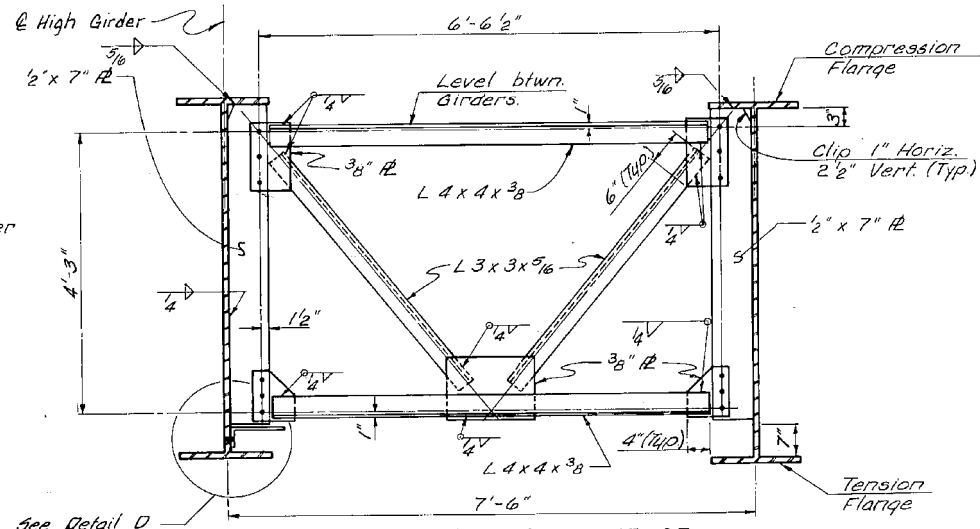
Note: Use 1 5/16" ϕ holes in gusset R's and connection R's for 3/4" H.S. Bolts. Use hardened washers over 1 5/16" ϕ holes in gusset R's and connection R's. (Typical)



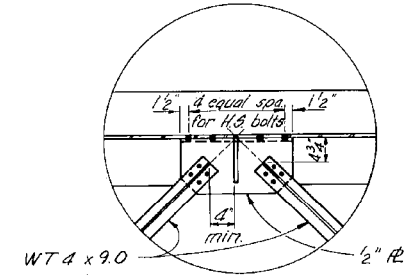
SECTION J-J



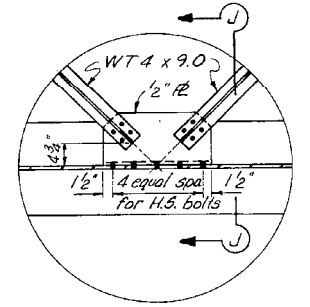
END CROSS FRAME CF
8 Req'd.



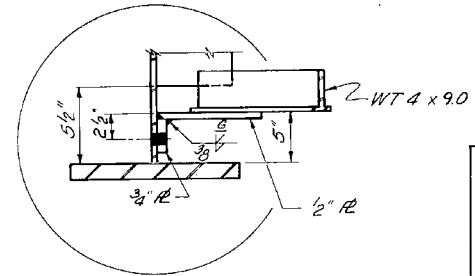
INTERIOR CROSS FRAME CF1
28 Req'd.



DETAIL A



DETAIL B



DETAIL D

FRAMING DETAILS- UNIT III
F.A. RT. 608 SECTION 126 BR
MACOUPIN COUNTY
STATION 1362 + 50

COLLINS AND RICE
CONSULTING ENGINEERS
DESIGNED J.K.K. CHECKED F.S.
DRAWN T.S. DATE 12-11-79 NO. 1487

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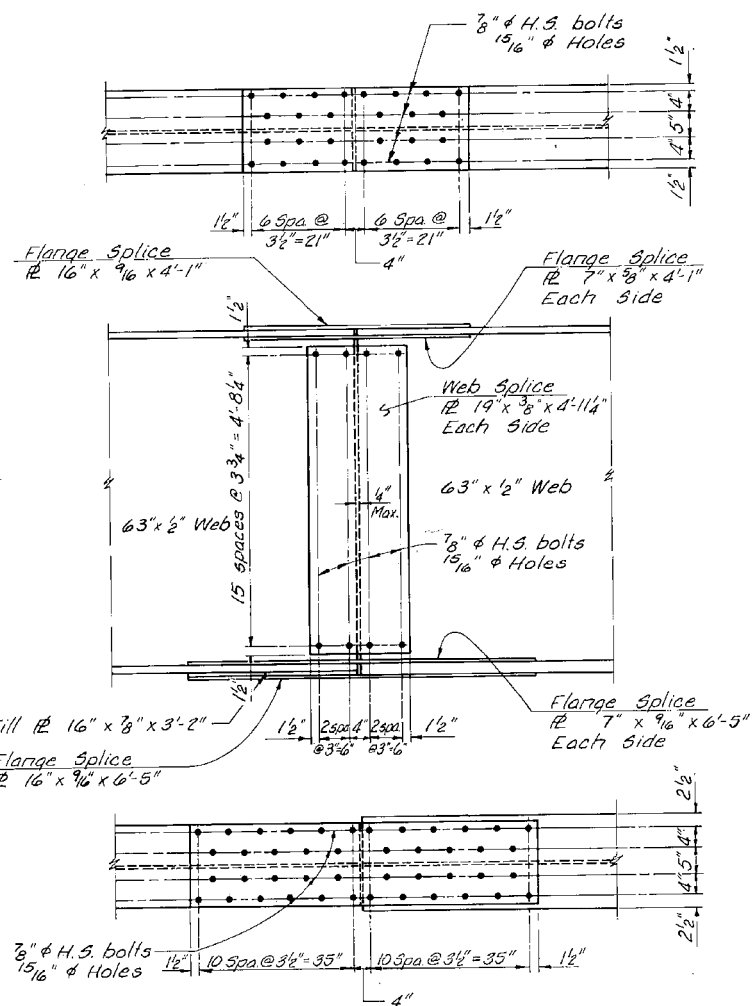
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PLOT DATE = 10/10/2019	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

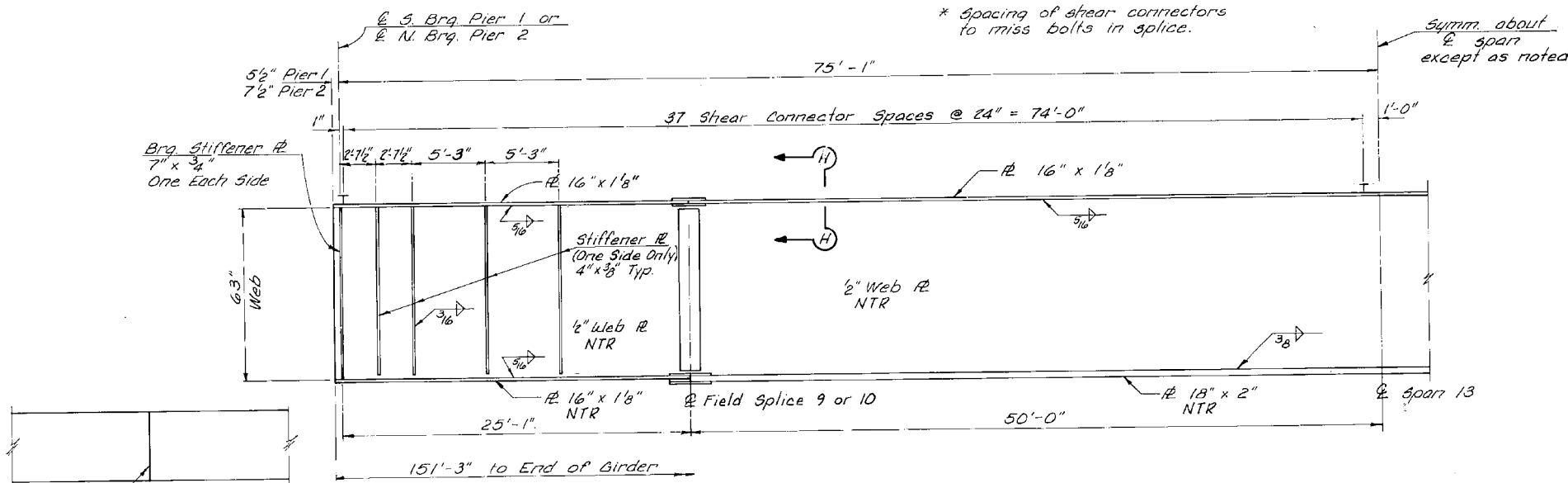
EXISTING BRIDGE PLANS, SN 059-0016
(FOR INFORMATION ONLY)

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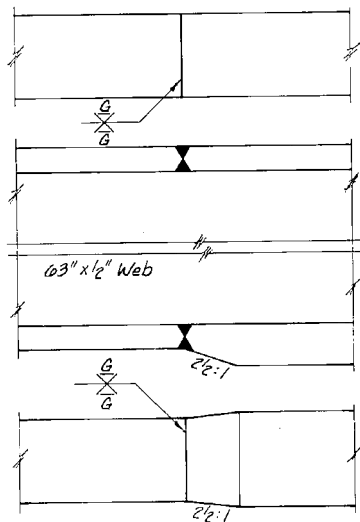
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761.608	(107,126) BP	MACOUPIN	14	6
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72L41	



SPlice DETAIL



HALF ELEVATION

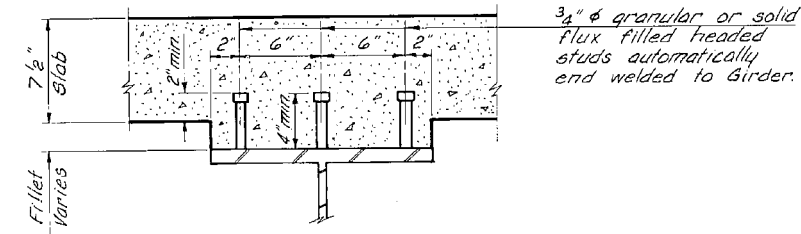


ALTERNATE SHOP SPLICE

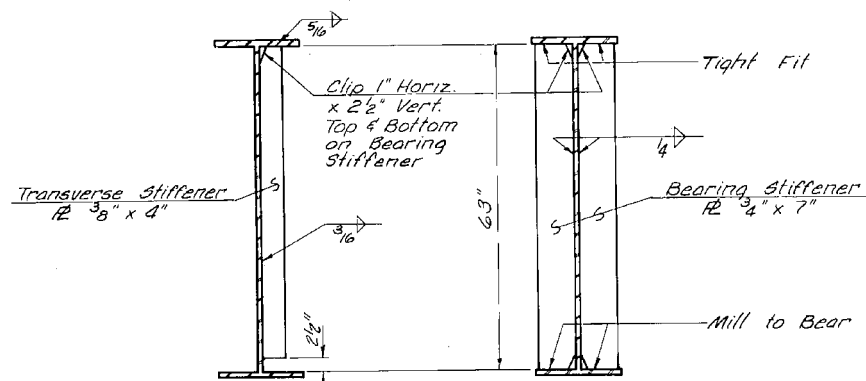
TOP OF WEB ELEVATIONS
(For Fabrication Only)

GIRDER	E S BRG PIER 1	E SPLICE 9	E SPLICE 10	E N BRG PIER 2
A & E	520.48	520.62	520.18	519.82
B & D	520.62	520.76	520.32	519.96
C	520.73	520.87	520.43	520.07

Elevations of splices have been adjusted for dead load deflection.

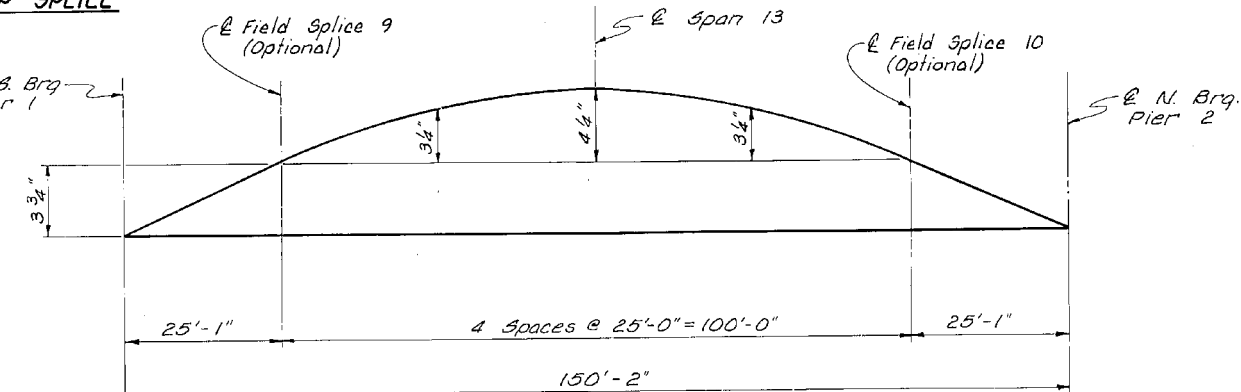


SECTION H-H
22B Req'd. Each Girder
Contractor shall order length of studs needed after forms have been erected.



TRANSVERSE STIFFENERS

BEARING STIFFENERS



CAMBER DIAGRAM

NTR denotes that this material shall conform to the supplemental requirements for Notch Toughness (Zone 2).

GIRDER DETAILS - UNIT III
F.A. RT. 608 SECTION 126 BR
MACOUPIN COUNTY
STATION 1362 + 50

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED J.K.K.
DRAWN T.S.

CHECKED F.S.
DATE 12-11-79 NO. 1487

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	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

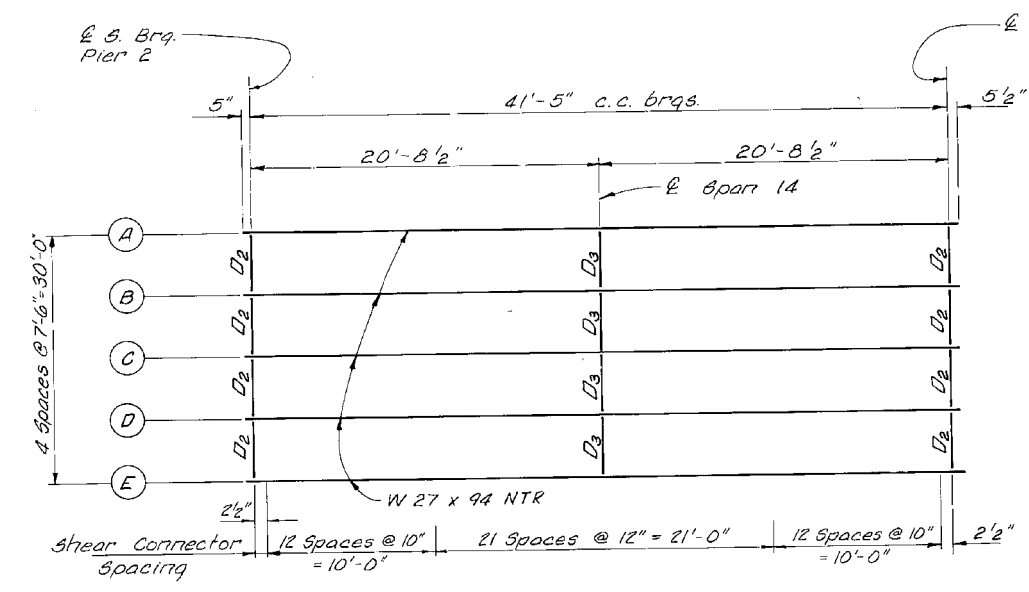
EXISTING BRIDGE PLANS, SN 059-0016
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 761.608	SECTION (107,126) BP	COUNTY MACOUPIN	TOTAL SHEETS 14	SHEET NO. 7
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72L41	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 608	126 BR	MACOUPIN	40	26
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT	BR-F-608(10)		

Sheet 19 of 30

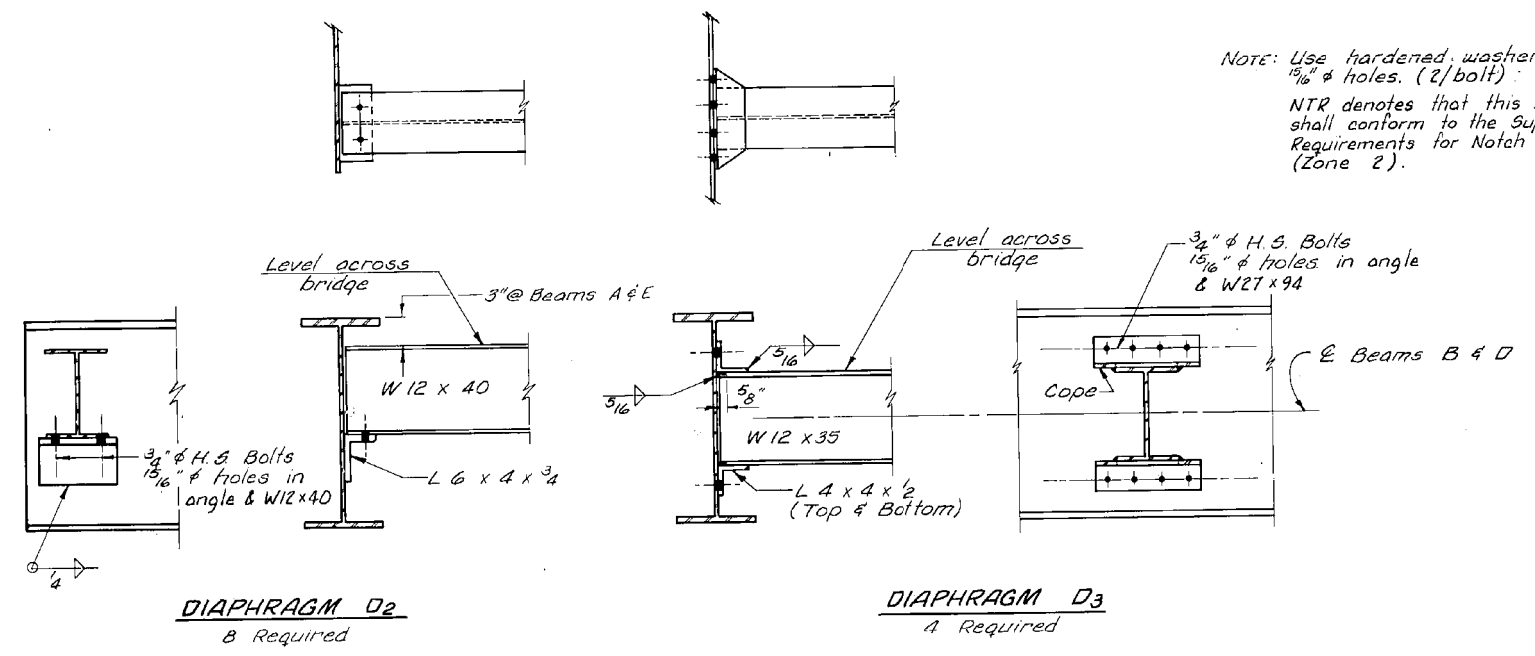


FRAMING PLAN

TOP OF BEAM ELEVATIONS
(For fabrication only)

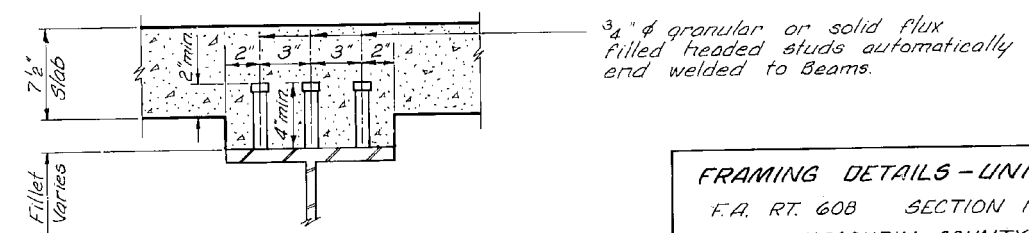
Location	E. S. Brq. Pier 2	E. Brq. S. Abut.
Beams A & E	519.89	519.81
Beams B & D	520.03	519.95
Beam C	520.14	520.06

Note: Use hardened washers over 5/16" holes. (2/bolt)
NTR denotes that this material shall conform to the Supplemental Requirements for Notch Toughness (Zone 2).



DIAPHRAGM D2
8 Required

DIAPHRAGM D3
4 Required



SHEAR CONNECTORS
CROSS SECTION

138 Req'd. Each beam Contractor shall order length of studs needed after forms have been erected.

FRAMING DETAILS - UNIT IV
F.A. RT. 608 SECTION 126 BR
MACOUPIN COUNTY
STATION 1362+50

COLLINS AND RICE
CONSULTING ENGINEERS

DESIGNED J.K.K. CHECKED F.S.
DRAWN T.S. DATE 12-11-79 NO. 1487

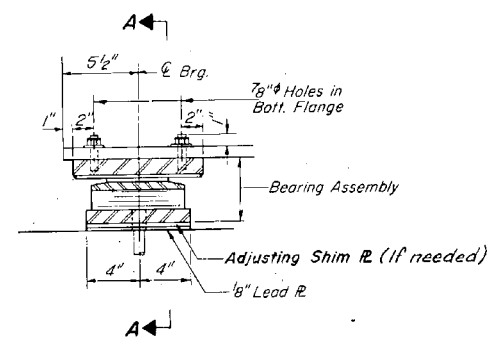
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	DATE -	REVISED -

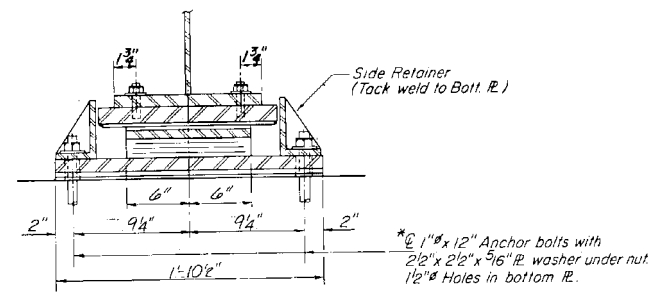
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 059-0016 (FOR INFORMATION ONLY)			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

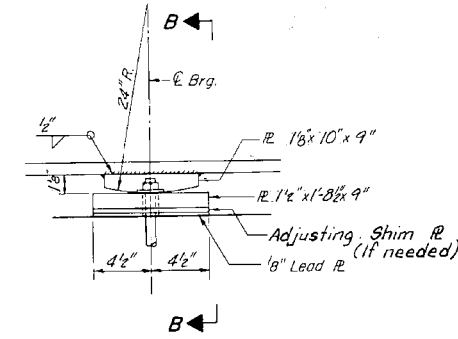
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761.608	(107,126) BP	MACOUPIN	14	8
CONTRACT NO. 72L41				
ILLINOIS FED. AID PROJECT				



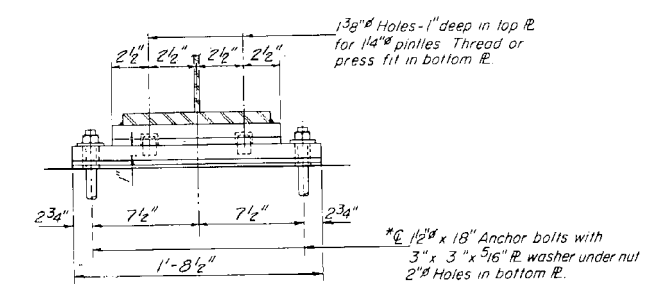
ELEVATION



SECTION A-A

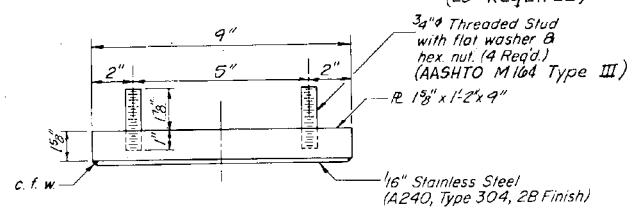


ELEVATION AT BENTS

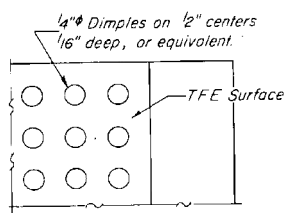


SECTION B-B

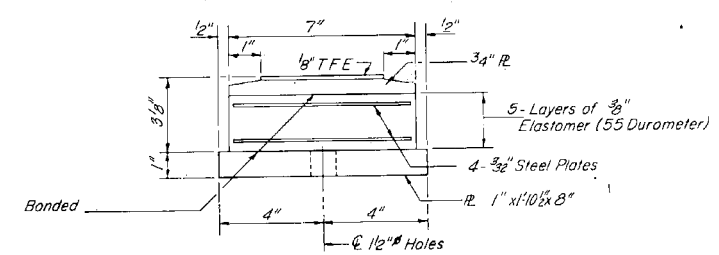
TYPE II TFE ELASTOMERIC EXP BRG.
 Located @ N. Abut., Bent 7 (N. & S. Brqs.), Pier 1 (N. Brq.)
 (20 Required)



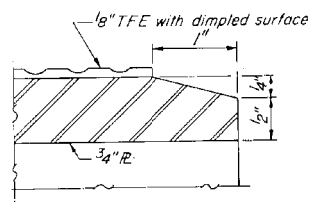
TOP BEARING ASSEMBLY



PLAN - TFE SURFACE



BOTTOM BEARING ASSEMBLY

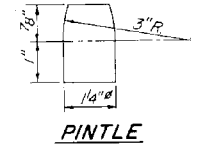


SECTION THRU TFE

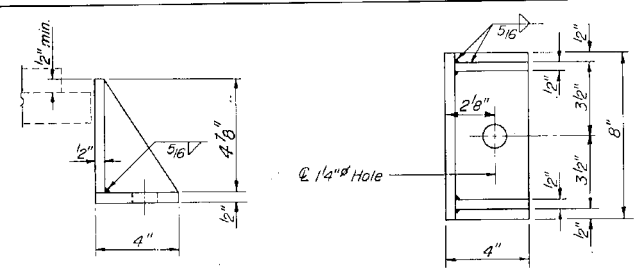
*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

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

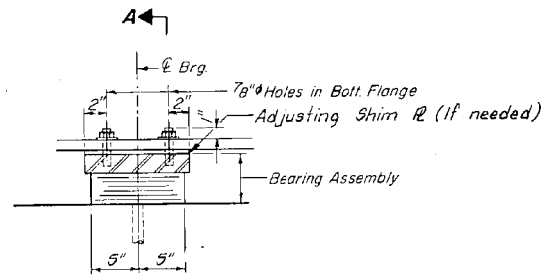
FIXED BEARING
 Located @ Bents 4 & 10
 (10 Required)



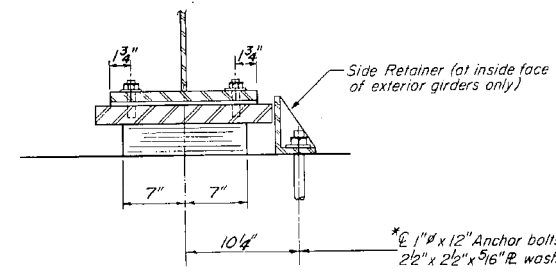
PINTLE



SIDE RETAINER

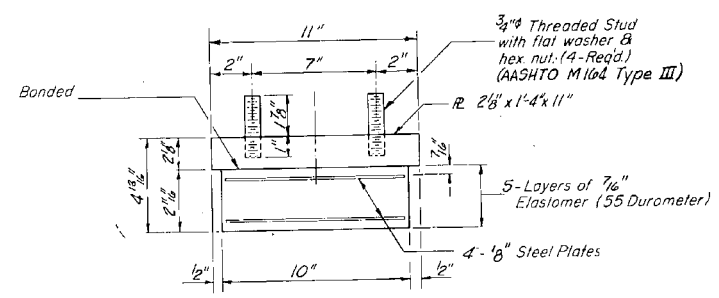


SECTION AT BENTS



SECTION A-A

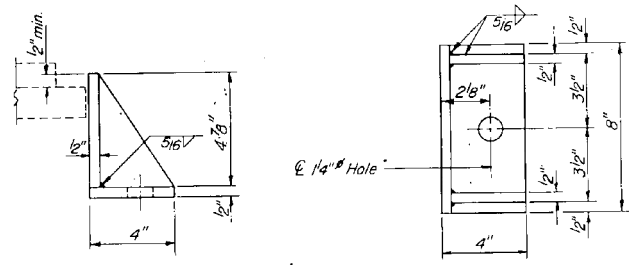
TYPE I ELASTOMERIC EXP BRG.
 Located @ Bents 2, 3, 5, 6, 8, 9, 11 & 12
 (40 Required)



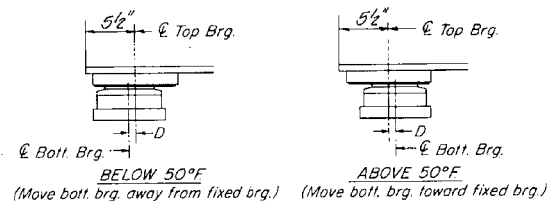
BEARING ASSEMBLY

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

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



SIDE RETAINER



SETTING ANCHOR BOLTS AT EXP. BRG.

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

BEARINGS - UNITS I & II
 F.A. RT. 608 SECTION 126 BR
 MACOUPIN COUNTY
 STATION 1362+50

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED J.K.K. CHECKED F.S.
 DRAWN J.B. DATE 12-11-79 NO. 1487

MODEL: Defaut FILE NAME: C:\CENTRAL\DESIGN\OPERATIONS\Bridges\Bridgplans_CAD\72L41 - IL 1111.pml\pbrnsheet.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/10/2019	DATE -	REVISED -

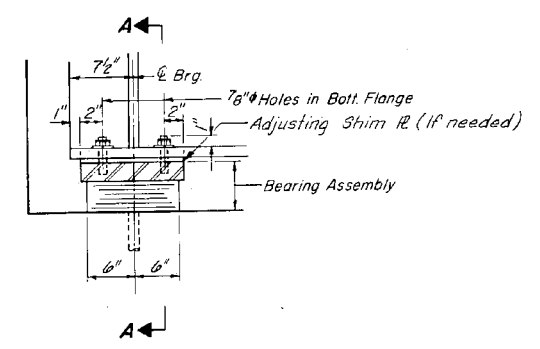
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 059-0016
(FOR INFORMATION ONLY)

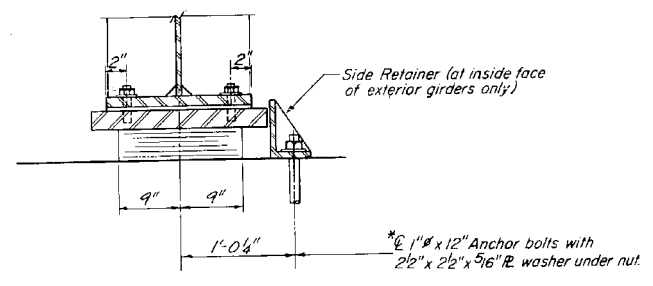
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761.608	(107,126) BP	MACOUPIN	14	9
ILLINOIS FED. AID PROJECT				

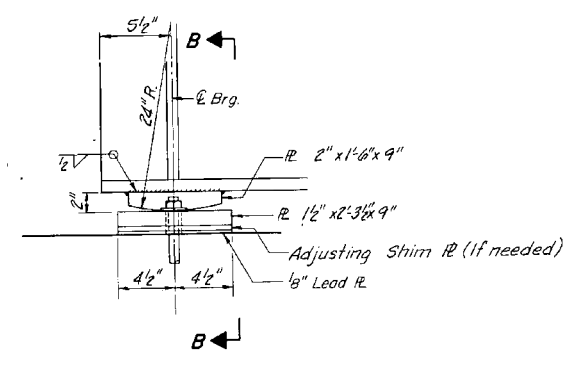
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA. 608	126 BR	MACOUPIN	40	29
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT BR-F-608(10)		Sheet 22 of 30	



SECTION AT PIER 2 (N. BRG.)

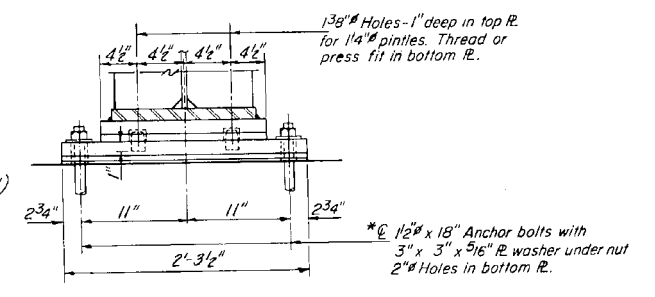


SECTION A-A



ELEVATION AT PIER 1 (S. BRG.)

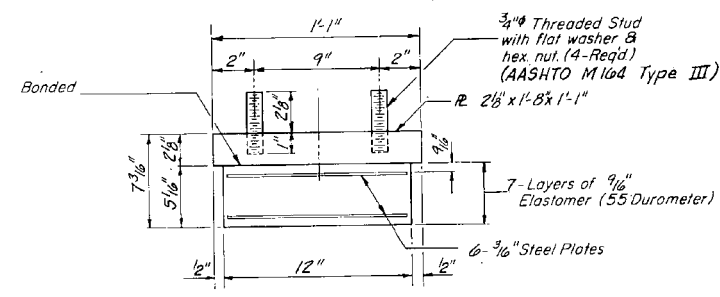
**FIXED BEARING
(5 Required)**



SECTION B-B

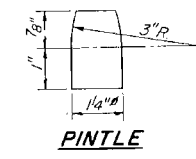
**TYPE I ELASTOMERIC EXP. BRG.
(5 Required)**

*Note: After girders have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

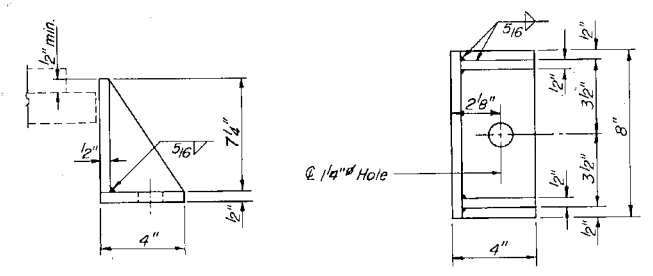


BEARING ASSEMBLY

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



PINTLE



SIDE RETAINER

BEARINGS - UNIT III
 F.A. RT. 608 SECTION 126 BR
 MACOUPIN COUNTY
 STATION 1362+50

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED J.K.K. CHECKED F.S.
 DRAWN J.B. DATE 12-11-79 NO. 1487

MODEL: Default
 FILE NAME: \\CENTRALDESKTOP\OPERATIONS\Bridges\Bridges\CAD\72L41 - IL 1111.pain\pibpbrsec.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/10/2019	DATE -	REVISED -

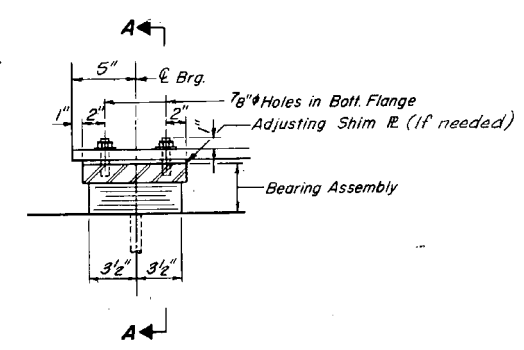
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

EXISTING BRIDGE PLANS, SN 059-0016 (FOR INFORMATION ONLY)			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

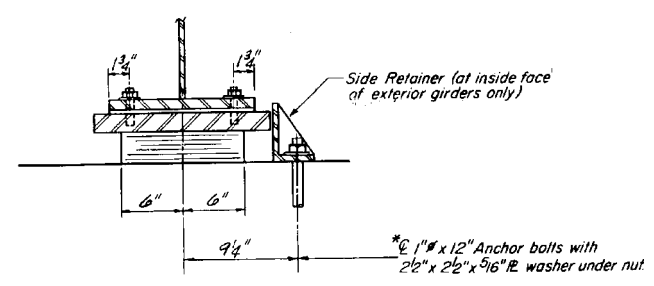
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761.608	(107.126) BP	MACOUPIN	14	10
			CONTRACT NO. 72L41	
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 608	126 BR	MACOUPIN	40	30
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT BR-F-608(10)		

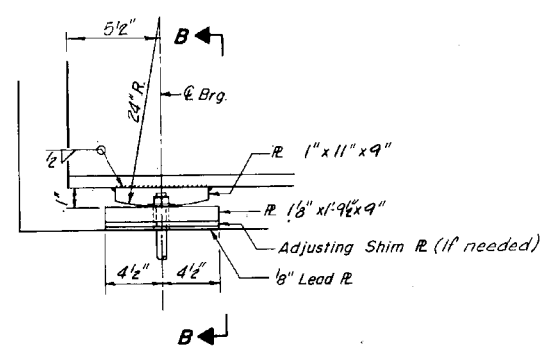
Sheet 23 of 30



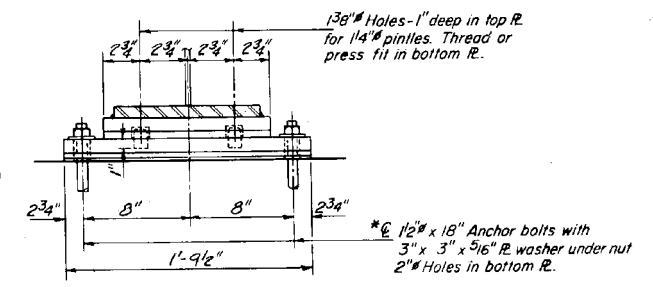
SECTION AT PIER 2 (S. BRG.)



SECTION A-A



ELEVATION AT S. ABUT.

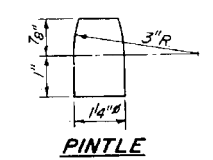


SECTION B-B

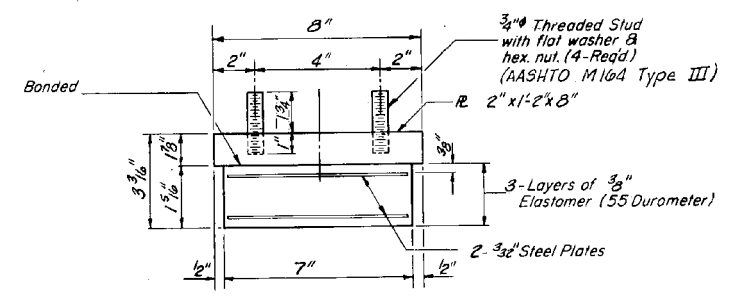
**FIXED BEARING
(5 Required)**

**TYPE I ELASTOMERIC EXP. BRG.
(5 Required)**

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

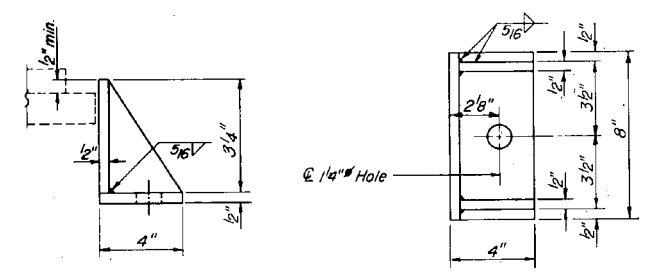


PINTLE



BEARING ASSEMBLY

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



SIDE RETAINER

BEARINGS - UNIT II	
F.A. RT. 608 SECTION 126 BR	
MACOUPIN COUNTY	
STATION 1362+50	
COLLINS AND RICE	
CONSULTING ENGINEERS	
DESIGNED J.K.K.	CHECKED F.S.
DRAWN J.B.	DATE 12-11-79 NO. 1487

MODEL: Default
FILE NAME: \\CENTRALDB\OPERATIONS\Bridges\Bridges\CAD\72L41 - IL 111.pain\pibpbrsec.dgn

USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/10/2019	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING BRIDGE PLANS, SN 059-0016 (FOR INFORMATION ONLY)	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761.608	(107.126) BP	MACOUPIN	14	11
CONTRACT NO. 72L41				
ILLINOIS FED. AID PROJECT				

3.M. #2 - Chiseled "D" on Southwest wingwall of South abutment.
18" Ri. Sta. 909+38. Elev. 547.96.

Existing Structure - Two span concrete deck girder, solid concrete pier, closed concrete abutments, 21'-0" cl. rdwy., 86.4' bk.-bk. abut.
Str. No. 059-0013
Contractor shall remove existing superstructure and portions of existing substructure and replace with a wider steel I beam and concrete superstructure with longer concrete caps added to the existing substructure. No salvage. Traffic shall be maintained at all times utilizing stage construction.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
608	107 BR-2	Macoupin	22
ILLINOIS PROJECT 87-608			60

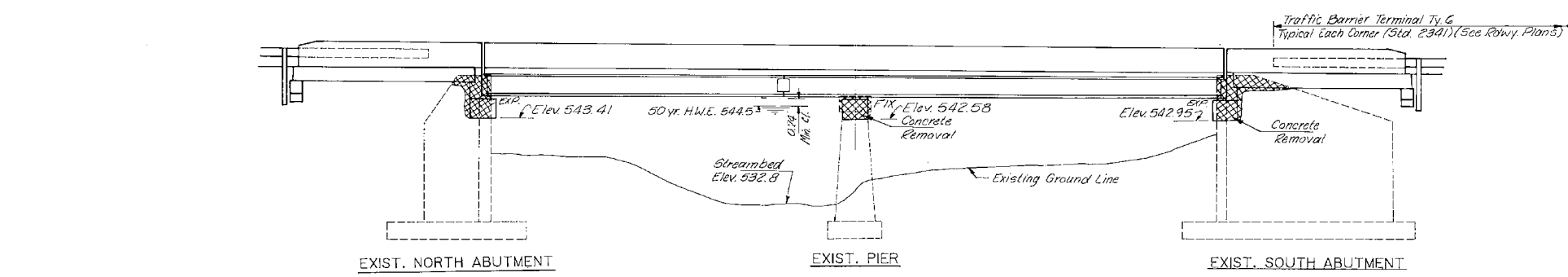
GENERAL NOTES

CLASS X CONCRETE SHALL BE USED THROUGHOUT.
THE STANDARD SPECIFICATIONS ADOPTED BY THE DEPARTMENT OF TRANSPORTATION JULY 1, 1988 SHALL APPLY TO THIS WORK.
THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED.
FOR CANTILEVER FORMING BRACKETS, SEE SPECIAL PROVISIONS
FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8" INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" INCH ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS. (FOR TYPE I ELASTOMERIC BEARINGS, SHIMS OF THE DIMENSIONS OF THE TOP PLATE SHALL BE PROVIDED AND PLACED AS DETAILED).
THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE WIDE FLANGE BEAMS AND ALL THEIR SPLICE PLATE MATERIAL.
REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
CALCULATED WEIGHT OF STRUCTURAL STEEL 36,780 LBS (M223)
12,440 LBS (M183)
PASTERNS SHALL BE HIGH STRENGTH BOLTS. BOLTS 7/8" DIA., OPEN HOLES 15/16" DIA., UNLESS OTHERWISE NOTED.
PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.
THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS FOR THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS AS REQUIRED, SUBJECT TO THE APPROVAL OF THE ENGINEER.
SHOULDER TRANSITION TO WINGWALL SHALL BE SHAPED WITH BROKEN CONCRETE. COST INCIDENTAL.
BRIDGE SEAT SEALER SHALL BE APPLIED TO THE SEAT AREA OF THE ABUTMENTS. ESTIMATED QUANTITY = 129.6 SQ. FT.

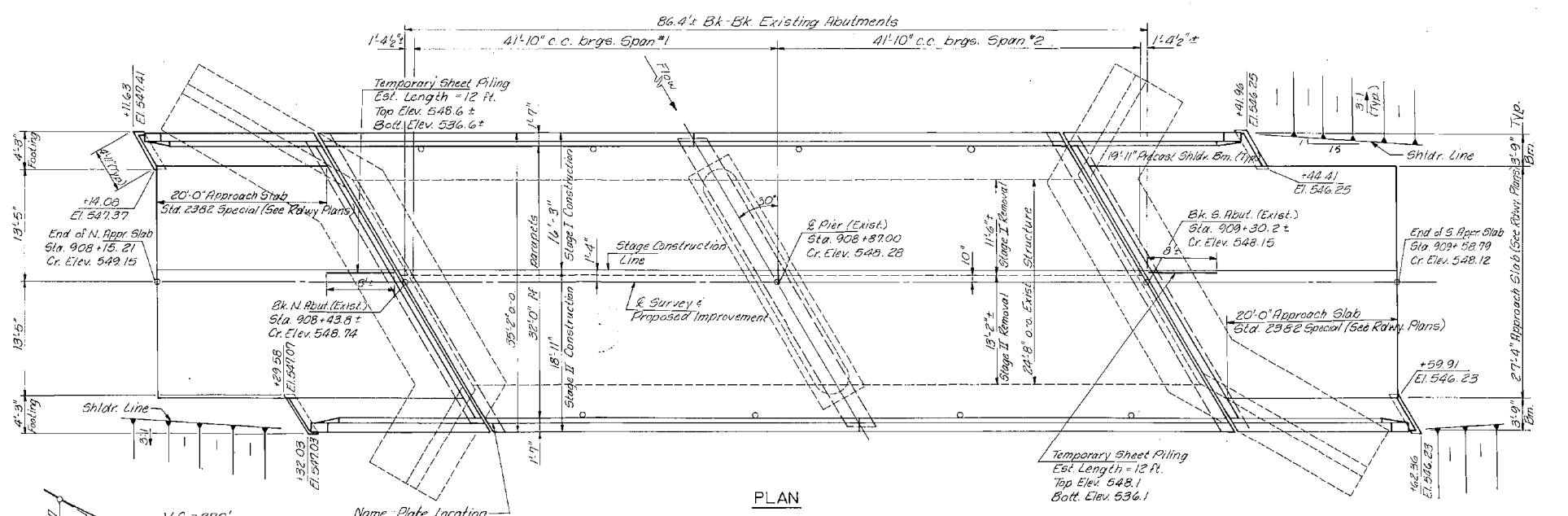
BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each			1
Concrete Removal	Cu. Yd.		18.5	18.5
Structure Excavation	Cu. Yd.		45	45
Preformed Joint Seal, 2 1/2"	Lin. Ft.	80		80
Class X Concrete Superstructure	Cu. Yd.	104.0		104.0
Protective Coat	Sq. Yd.	86		86
Elastomeric Bearing Assembly, Type I	Each		12	12
Class X Concrete	Cu. Yd.		40.5	40.5
Precast Concrete Bridge Slab	Sq. Ft.	299		299
Furnishing & Erecting Structural Steel	L. Sum			
Slud Shear Connectors	Each	1,344		1,344
Temporary Bridge Rail	Lin. Ft.	86		86
Reinforcement Bars	Pound		1,960	1,960
Reinforcement Bars, Epoxy Coated	Pound	22,090	4,820	26,910
Temporary Sheet Piling	Sq. Ft.		192	192
Name Plates	Each			1
Temporary Concrete Barrier	Lin. Ft.	90		90
Floor Drains	Each	8		8
Bridge Seal Sealer	L. Sum			

**Quantity does not include bridge deck surface.



ELEVATION



PLAN

WATERWAY INFORMATION

Drainage Area 8.13 Sq. Miles Low Grade Elev. 547.48 at Sta. 910+58							
Flood Yr.	Freq.	Q. C.F.S.	Opening Sp. Ft.	Not. H.W.E.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	2490	735	735	0.44	0.38	544.85
Base	100	2855	751	751	0.50	0.50	545.93
Max. Calc.	500	3700	760	760	0.57	0.57	546.11

DESIGN STRESSES

SUPERSTRUCTURE
f'c=3,500 p.s.i.
fy=50,000 p.s.i. (AASHTO-M223)
fy=60,000 p.s.i. (Reinf.)

SUBSTRUCTURE
f'c=3,500 p.s.i.
fy=60,000 p.s.i. (Reinf.)

Design provides for future wearing surface of 25 pounds per square foot.

Loading HS 20-44

The design complies with requirements of the 1989 AASHTO Standard Specifications for Highway Bridges and applicable Interims.

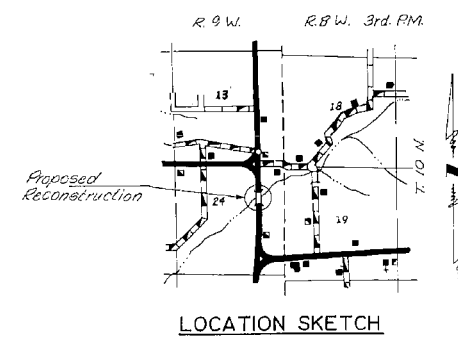
APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James J. Rybicki
Incorporator of Bridges and Structures

Robert E. Hutto
Illinois Structural
No. 2675



PROPOSED PROFILE GRADE
STATION 908+87
BUILT 19 BY
STATE OF ILLINOIS
FAP 608 SECTION 107 BR-4
LOADING HS-20
STR. NO. 059-0013

LETTERING FOR NAME PLATE
Locate name plate at northwest end of concrete parapet. See Standard 2113.



LOCATION SKETCH

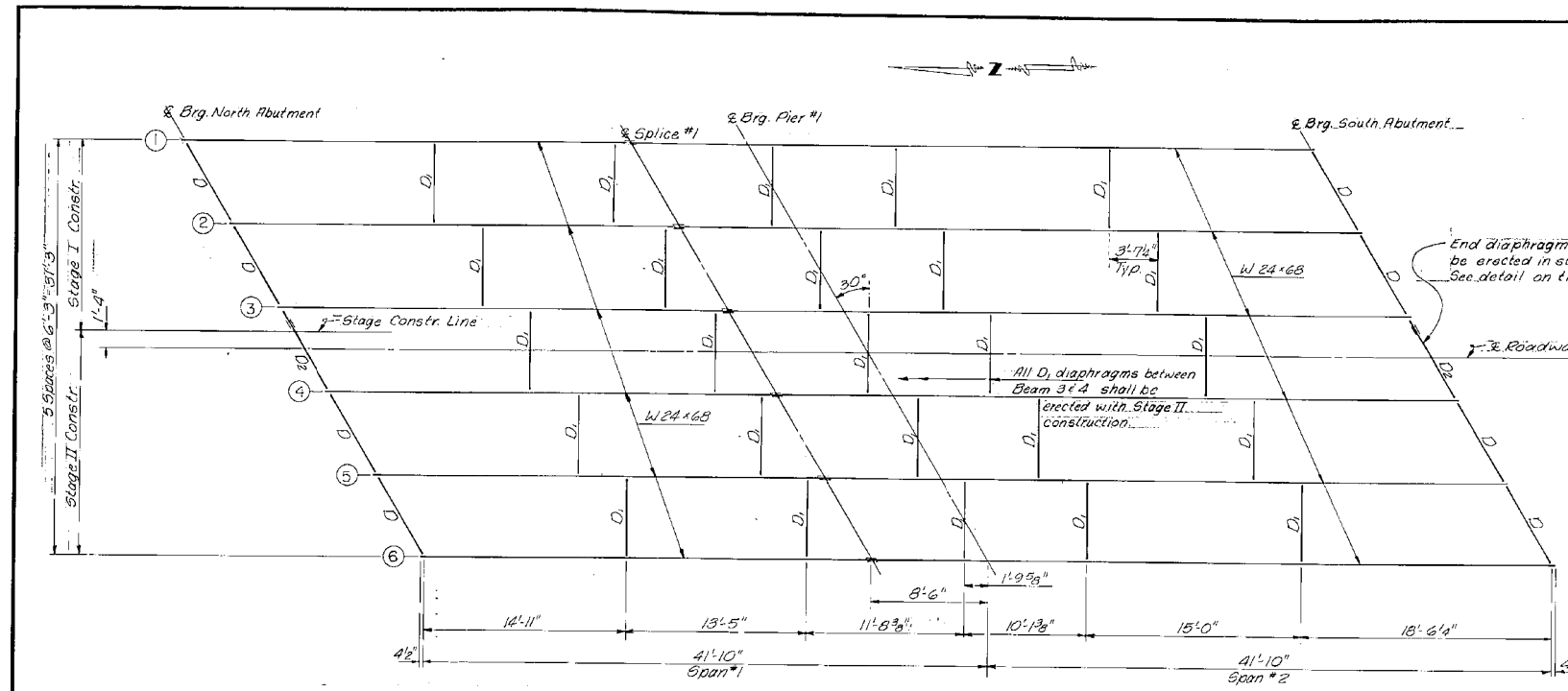
GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 108 OVER
LICK CREEK
FAP 608 SECTION 107 BR-4
STATION 908+87
MACOUPIN COUNTY
STR. NO. 059-0013

aby, oglesby & bartolomucci
1323 south first street / Springfield, Illinois 62704

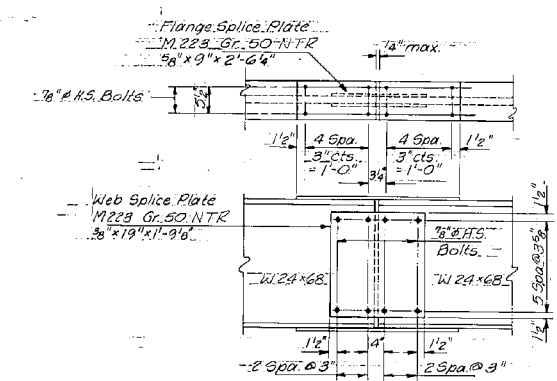
CONSULTING ENGINEERS
AND SURVEYORS
PLANNERS

DRAWN TMM
CHECKED PEB
DATE Aug. 14, 1989
JOB NO. 87-62
SHEET NO. 1 of 14

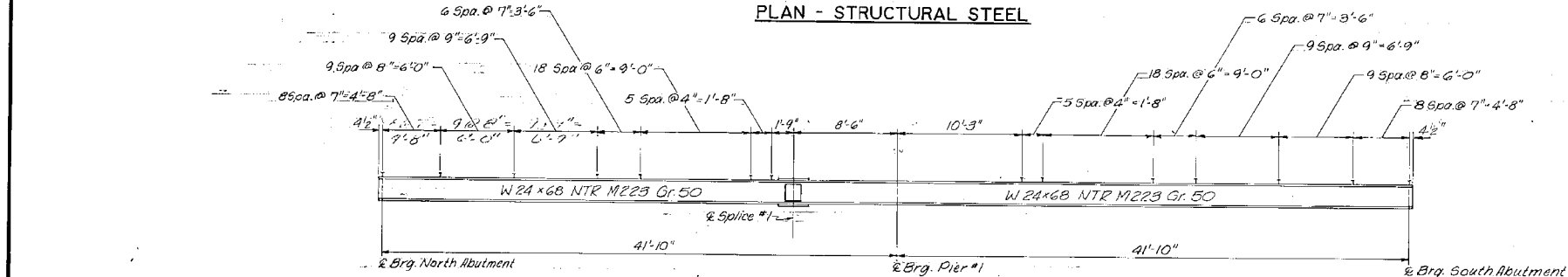
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603	107 BR-4	Macoupin	22	13
ILLINOIS PROJECT 059-0013				



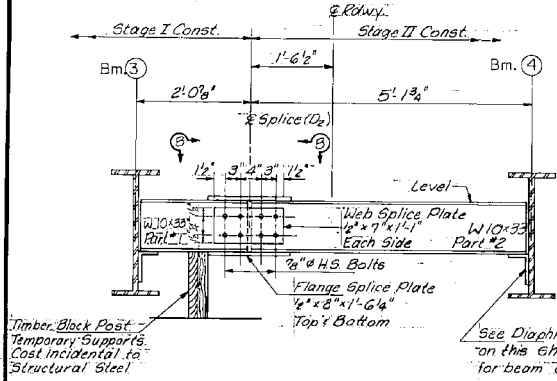
PLAN - STRUCTURAL STEEL



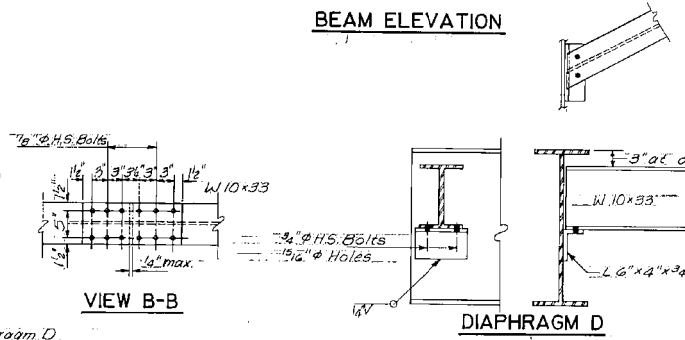
DETAIL OF SPLICE



BEAM ELEVATION

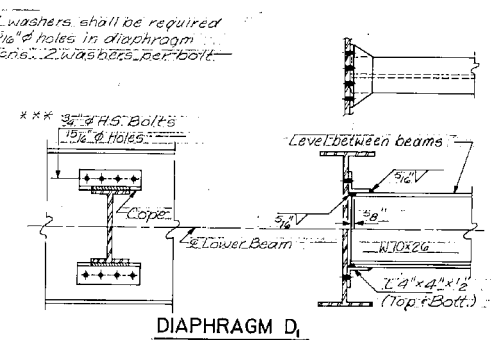


- DIAPHRAGM D₂ CONSTRUCTION SEQUENCE**
1. Attach part #1, with top splice plate attached, to Beam #3 during Stage I Construction.
 2. Place Temporary Support System between part #1 of diaphragm D₂ and the abutment bearing seat and complete Stage I Construction.
 3. Attach part #2 of diaphragm D₂ to both Beam #4 and part #1 during Stage II Construction.
 4. Remove Temporary Support System.



Notes:
 - Wideners washers shall be required over all 1/8" holes in diaphragm connections... 2 washers per bolt.
 - Level between beams.
 - Fillet Varies.

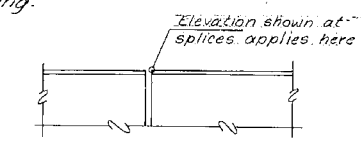
DIAPHRAGM D
8 Required



DIAPHRAGM D₁
25 Required

TOP OF BEAM ELEVATIONS
(For Fabrication Only) See Detail A

	EBRG. N. ABUT.	CSPLICE NO. 1	EBRG. PIER NO. 1	EBRG. S. ABUT.
Beam "1"	547,933	547,453	547,416	547,232
Beam "2"	547,992	547,535	547,503	547,346
Beam "3"	548,035	547,600	547,575	547,439
Beam "4"	547,983	547,570	547,547	547,435
Beam "5"	547,835	547,446	547,427	547,335
Beam "6"	547,670	547,304	547,289	547,214



DETAIL A

INTERIOR BEAM MOMENT TABLE

		C.4 SPAN 1	PIER NO. 1
		C.6 SPAN 2	
I _s	in. ⁴	1830	1830
I _c	in. ⁴	6073	
S _s	in. ³	154	154
S _c	in. ³	252	
DL	(K-ft)	0.702	0.972
M _{DL}	(ft-k)	91	209
S _{DL}	(K-ft)	0.270	
M _{SOL}	(ft-k)	41	
M _{LL}	(ft-k)	245	112
M _{IMP}	(ft-k)	74	34
Σ ₃ (M _{LL} + I _{IMP})	(ft-k)	532	243
M ₂	(ft-k)	863	580
M _u	(ft-k)	1499	
f _s (DL)	(ksi)	71	163
f _s (S _{DL})	(ksi)	2.2	
f _s Σ ₃ (M _{LL} + I _{IMP})	(ksi)	25.3	18.9
f _s (Overload)	(ksi)	34.6	35.2
f _s (Total)	(ksi)		45.8
V _e	(k)	42.8	

INTERIOR BEAM REACTION TABLE

	ABUTMENT	PIER
R _{DL} (K)	16.0	51.5
R _{LL} (K)	30.9	36.4
R _{IMP} (K)	9.2	10.8
R _{TOTAL} (K)	56.1	98.7

M_a (Applied Moment) = 1.3[M_{DL} + M_{SOL} + Σ₃(M_{LL} + I_{IMP})]
 * M_u = Full Plastic Moment Capacity for Compact, Braced Section.
 ** Non-Compact Section
 I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s(Total) and (Overload).
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s(Total) and (Overload).
 V_e is the maximum impact shear range in span.
 The Fully Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1.4 (10.50.1.1).
 f_s(Total) is the sum of the stresses due to 1.3[M_{DL} + M_{SOL} + Σ₃(M_{LL} + I_{IMP})].
 f_s(Overload) is the sum of the stresses due to M_u + M_{SOL} + Σ₃(M_{LL} + I).

BILL OF MATERIAL

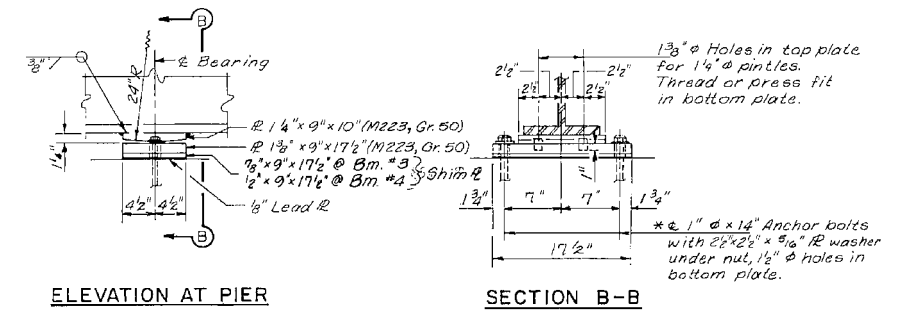
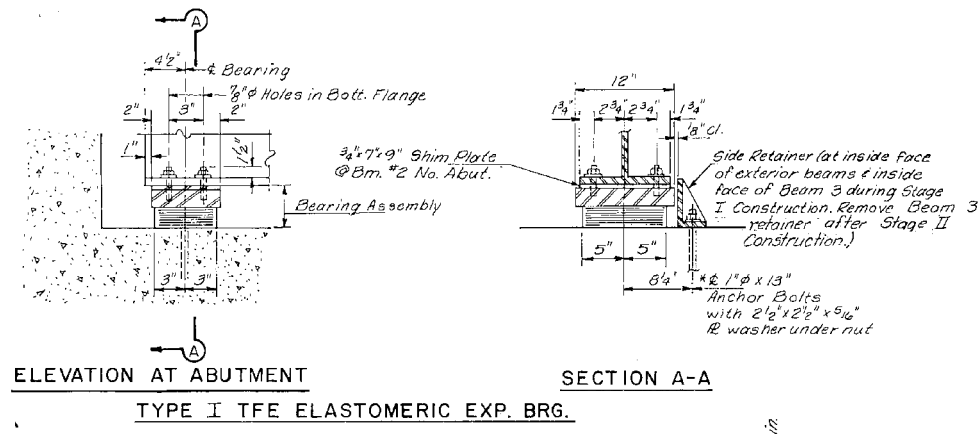
ITEM	QUANTITY
Furnishing and Erecting Lump Sum	
Structural Steel	
Stud Shear Connectors	Each 1344

Note:
 N.T.R. indicates Notch Toughness Requirements are applicable.

STRUCTURAL STEEL & DETAILS
 ILLINOIS ROUTE 108 OVER
 LICK CREEK
 FAP 608 SECTION 107 BR-4
 STATION 908+87
 MACOUPIN COUNTY
 STRUCTURE NUMBER 059-0013

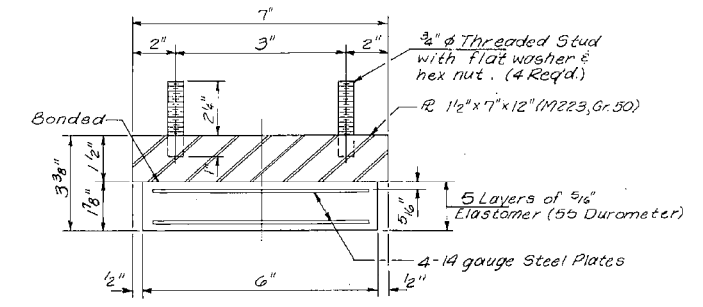
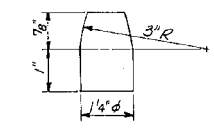
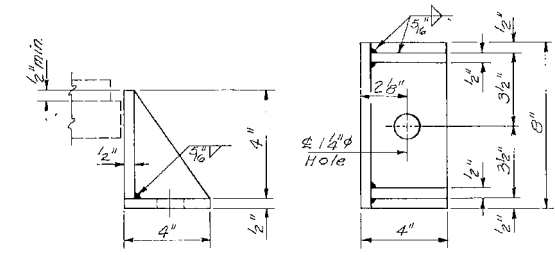
aubyn oglesby & bartolomucci consulting engineers and surveyors planners
 1323 south first street / springfield, illinois 62704
 DRAWN TMM DATE Aug. 14, 1989 JOB NO. 87-62 SHEET NO. 8 of 14
 CHECKED REG

F.A. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
606	107126	Macoupin	22 / 144
F.W.A. NO.	ILLINOIS	PROJECT	BR-4001



Notes:
 Anchor bolts at fixed bearings may be built into the masonry.
 See Sheet 10 of 14 for Anchor Bolt Installation.

FIXED BEARING
 C.G. Required R



BILL OF MATERIAL

ITEM	QUANTITY
Elastomeric Bearing Assembly, Type I	Each 12

BEARINGS
 ILLINOIS ROUTE 108 OVER
 LICK CREEK
 FAP 608 SECTION 107 BR-4
 STATION 908+87
 MACOUPIN COUNTY
 STR. NO. 059-0013

2 1/4"

auby, oglesby & bartolomucci consulting engineers
 land surveyors
 planners

1323 south first street / springfield, illinois 62704

DRAWN TMM	DATE	JOB NO.	SHEET NO.
CHECKED PEG	Aug. 14, 1989	87-62	9 of 14

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USER NAME = dudleybm	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/10/2019	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 059-0013
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761.608	(107,126) BP	MACOUPIN	14	14
			CONTRACT NO. 72L41	
			ILLINOIS FED. AID PROJECT	