

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

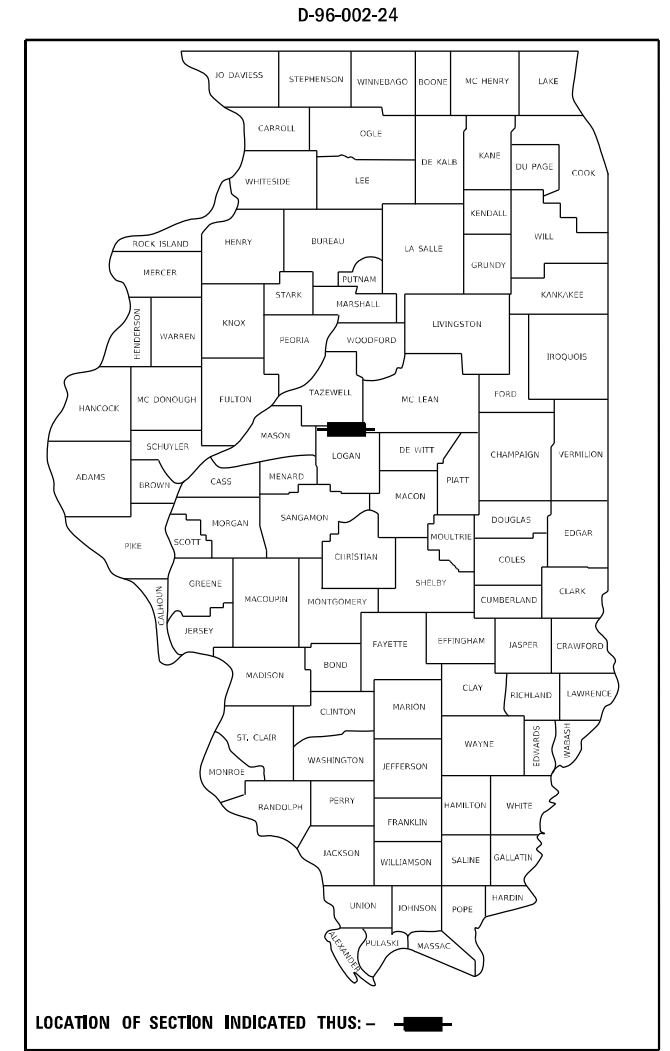
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	D6 BRIDGE PAINTING 2024-1	LOGAN	10	1
* FAI 155 & FAP 315		ILLINOIS	CONTRACT NO. 72720	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

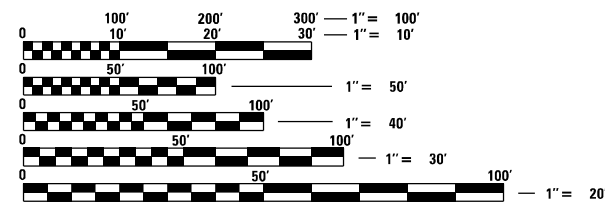
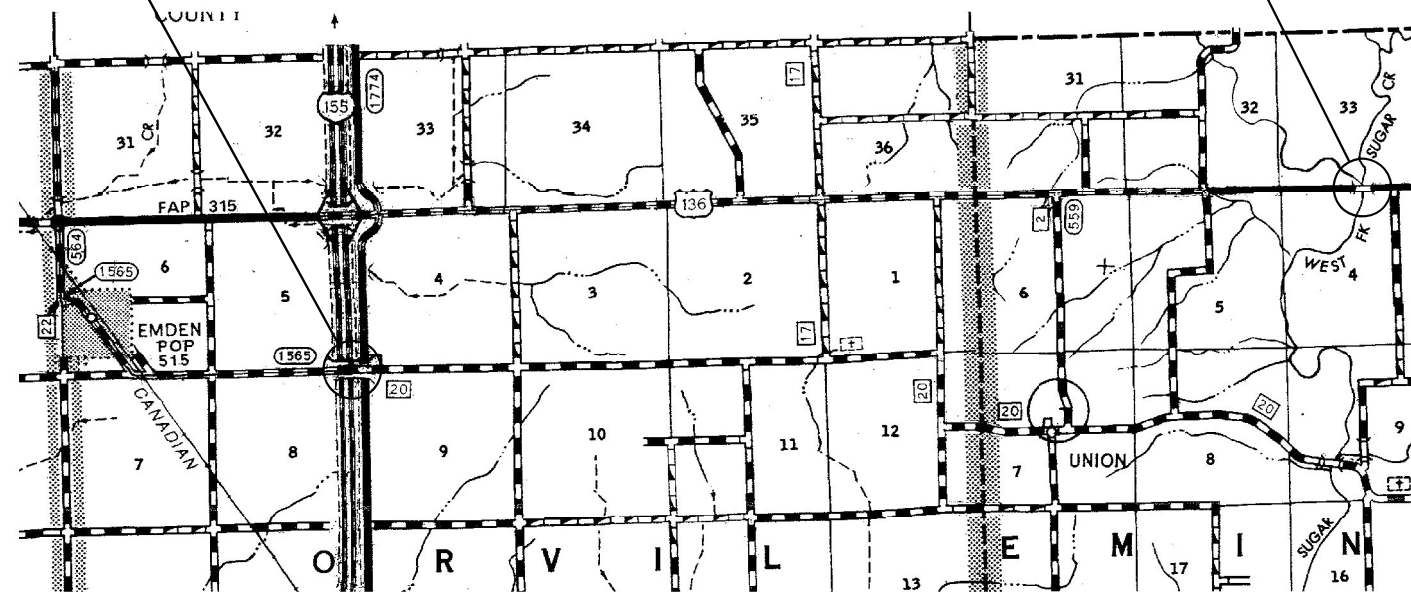
FAI ROUTE 155 (I-155) & FAP 315 (US 136)
SECTION D6 BRIDGE PAINTING 2024-1
PROJECT NHPP-6ZA1(643)
BRIDGE PAINTING
LOGAN COUNTY

C-96-018-24



LOCATION #1
SN 054-0078
EMDEN RD OVER
I-155 & OLD RTE 121
1 MI S US 136

LOCATION #2
SN 054-0026
US 136 OVER
W FORK SUGAR CREEK
1.2 MI W ARMINGTON RD



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

GROSS LENGTH = X.XX FT. = X.XX MILE
NET LENGTH = X.XX FT. = X.XX MILE

CONTRACT NO. 72720

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED October 13, 2023

[Signature]
REGIONAL ENGINEER

December 8, 2023
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

December 8, 2023
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

HIGHWAY STANDARDS




INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-7 EXISTING BRIDGE PLANS, SN 054-0078
- 8-10 EXISTING BRIDGE PLANS, SN 054-0026

- 000001-08
- 001006
- 701001-02
- 701006-05
- 701101-05
- 701106-02
- 701321-18
- 701400-12
- 701402-12
- 701901-09
- 704001-08
- 782006-01
- BLR 21-9

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 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 LOCATIONS AS CALLED OUT IN THE SPECIAL PROVISIONS.
3. THE SSPC-QP-1 AND SSPC-QP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
4. 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.
5. 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	September, 20 20 23
 ENGINEER OF OPERATIONS	
EXAMINED	October, 3 20 23
 ENGINEER OF PROJECT IMPLEMENTATION	
EXAMINED	October, 6 20 23
 ENGINEER OF PROGRAM DEVELOPMENT	

REV. - MS

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	USER NAME = Brandon.Dudley	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STANDARDS, GENERAL NOTES, & SIGNATURES	F.A. RTE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			* D6 BRIDGE PAINTING 2024-1	LOGAN	10	2	
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			* FAI 155 & FAP 315	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 72720	
	PLOT DATE = 10/11/2023	DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0-01377-6003	0-01377-6004
				NHPP 90/10	NHPP 80/20
				SN 054-0078	SN 054-0026
				0047-RURAL	0047-RURAL
				LOGAN	LOGAN
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2	0
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	0	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	0	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	0	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	120	30	90
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1100	600	500
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	600	600	0
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	2	2
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	0
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	0
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR21	L SUM	1	1	0
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	0	1
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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USER NAME = Brandon.Dudley	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 10/11/2023	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

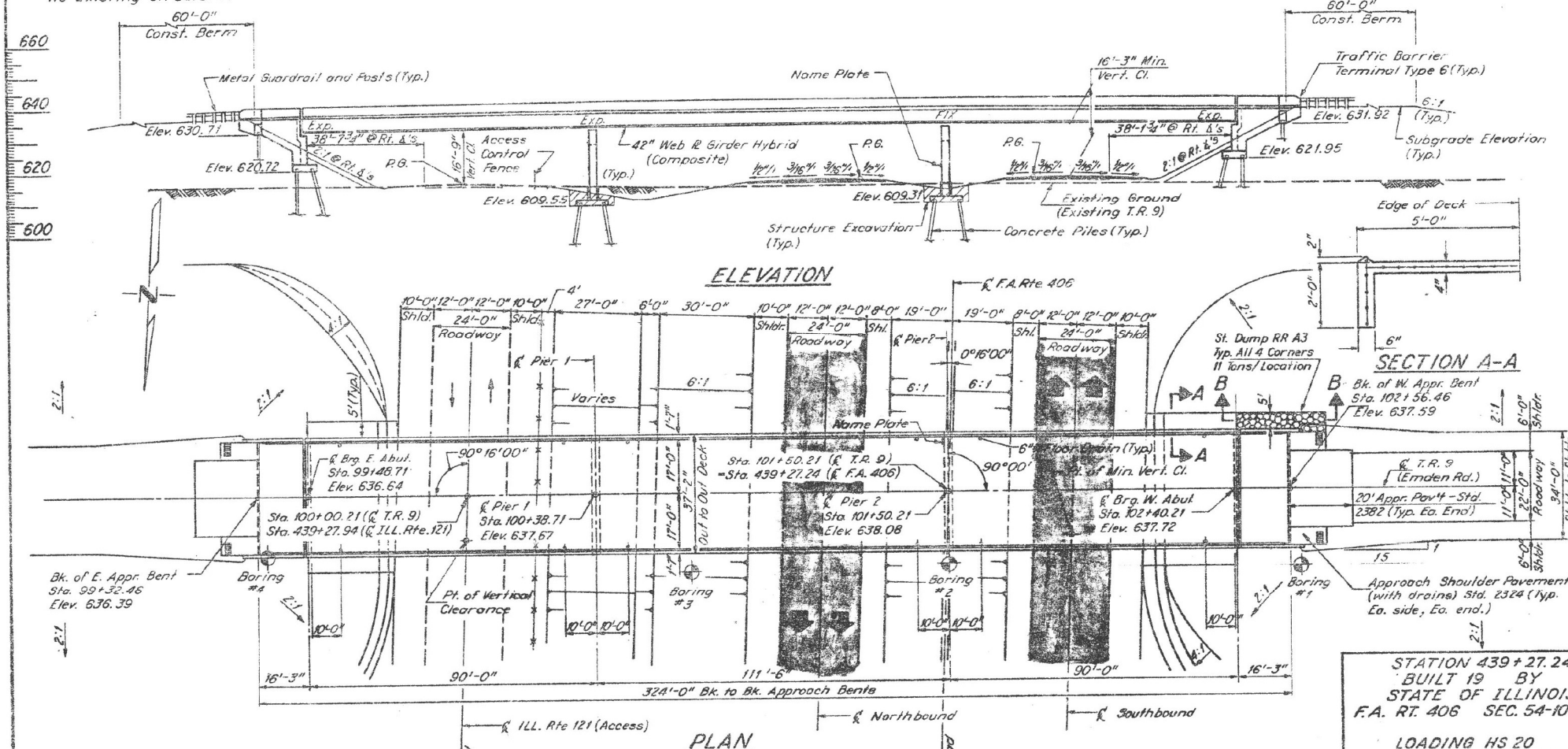
SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	D6 BRIDGE PAINTING 2024-1	LOGAN	10	3
* FAI 155 & FAP 315		CONTRACT NO. 72720		
		ILLINOIS	FED. AID PROJECT	

B.M. No. 507 Chisled on S.W. Corner of Hdwl.
 -34' Rt. Sta. 100+31 T.R. 9 (Emden Rd.) Elev. 615.12
 No Existing Structure.

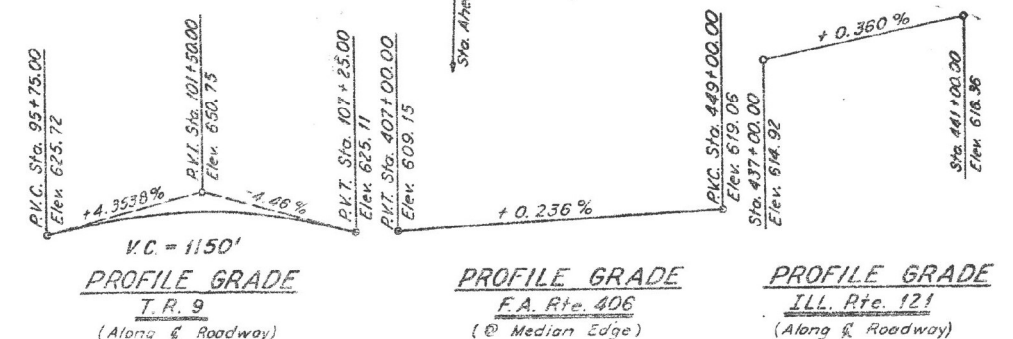
SHEET 1 OF 16	ROUTE NO. 406	SECTION 54-10HB-3	COUNTY LOGAN	TOTAL SHEETS 51	SHEET NO. 18
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJ.		



GENERAL NOTES:
 See Proposal for Boring Data.
 Fasteners shall be high strength bolts. Bolts 7/8" ϕ open holes 1 1/16" ϕ unless otherwise noted.
 Calculated Weight of Structural Steel: M223 = 132450 Lbs. and M163 = 136620 Lbs.
 The zinc-silicate and vinyl paint system shall be used for shop and field painting of structural steel. THE COLOR OF THE FINAL FINISH COAT SHALL BE MUNSELL NO. 7.66 4/B.
 Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
 Anchor bolts shall be set before bolting diaphragms over supports.
 The contractor shall drive one concrete test pile in a permanent location at each substructure unit as directed by the Engineer before ordering the remainder of piles.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustments shall be made either by grinding the surface or by shimming the bearing. Two 1/2" 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 tension flanges, webs and all splice plate material of the steel girders.
 Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53 Grade 60.
 The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
 Concrete piles at approach bents shall be driven in holes prepared thru the embankment in accordance with Article 513.09(C) of the Standard Specifications.

APPROVED
 FOR STRUCTURAL ADEQUACY ONLY
 [Signature]
 Registered Structural Engineer

STATION 439+27.24
 BUILT BY
 STATE OF ILLINOIS
 F.A. RT. 406 SEC. 54-10HB-3
 LOADING HS 20
 STR. NO. 054-0078
 NAME PLATE
 See Std. 2113



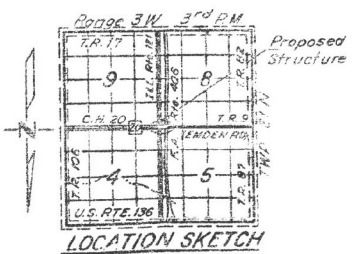
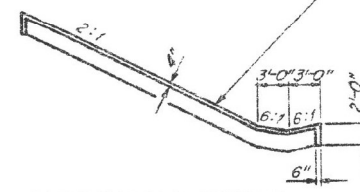
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER-STRUCT.	SUB-STRUCT.	TOTAL
Structure Excavation	Cu. Yds.		132	132
Protective Coat *	Sq. Yds.	1490		1490
Class X Concrete Superstructure	Cu. Yds.	374.7		374.7
Class X Concrete	Cu. Yds.		273.5	273.5
Furnishing and Erecting Structural Steel	Lump Sum	1		1
Reinforcement Bars	Lbs.	4870	29840	34710
Reinforcement Bars - Epoxy Coated	Lbs.	90180	9490	99670
Concrete Piles	Lin. Ft.		3956	3956
Test Piles - Concrete	Each		4	4
Neoprene Expansion Joint (4")	Lin. Ft.	36		36
Preformed Joint Seal (4")	Lin. Ft.	37		37
Name Plates	Each		1	1
Slope Wall	Sq. Yds.		326	326
Stud Shear Connectors	Each	2775		2775
Sand Backfill	Cu. Yds.		156	156
Elastomeric Bearing Assembly Type I	Each		10	10
Elastomeric Bearing Assembly Type II	Each		5	5
Floor Drains	Each	12		12
STONE DUMPED RIPRAP CLASS AS	TON		44	44
BRIDGE SEAT SEALER	L. SUM			1

DESIGN SPECIFICATIONS
 NOTE: See Sheet 14 for 1983 AASHTO & 1984 thru 1988 Interim Specifications
 LOADING HS 20-44

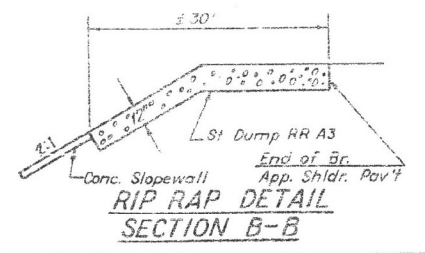
DESIGN STRESSES
 $P_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)
 $f_y = 50,000$ psi (M223, BR50) Flange
 $36,000$ psi (M163) Hybrid Girder

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



SLOPEWALL DETAIL
 STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 GENERAL PLAN
 EMDEN ROAD OVER ILLINOIS ROUTE 121
 F.A. RTE. 406 SECTION 54-10HB-3
 Sta. 101+50.21 (EMDEN ROAD)
 Sta. 439+27.24 (F.A. RTE. 406)
 LOGAN COUNTY
 STRUCTURE NUMBER 054-0078

DESIGNED PLH
 CHECKED RBQ
 DRAWN P. Roy
 CHECKED PL4 & RBQ

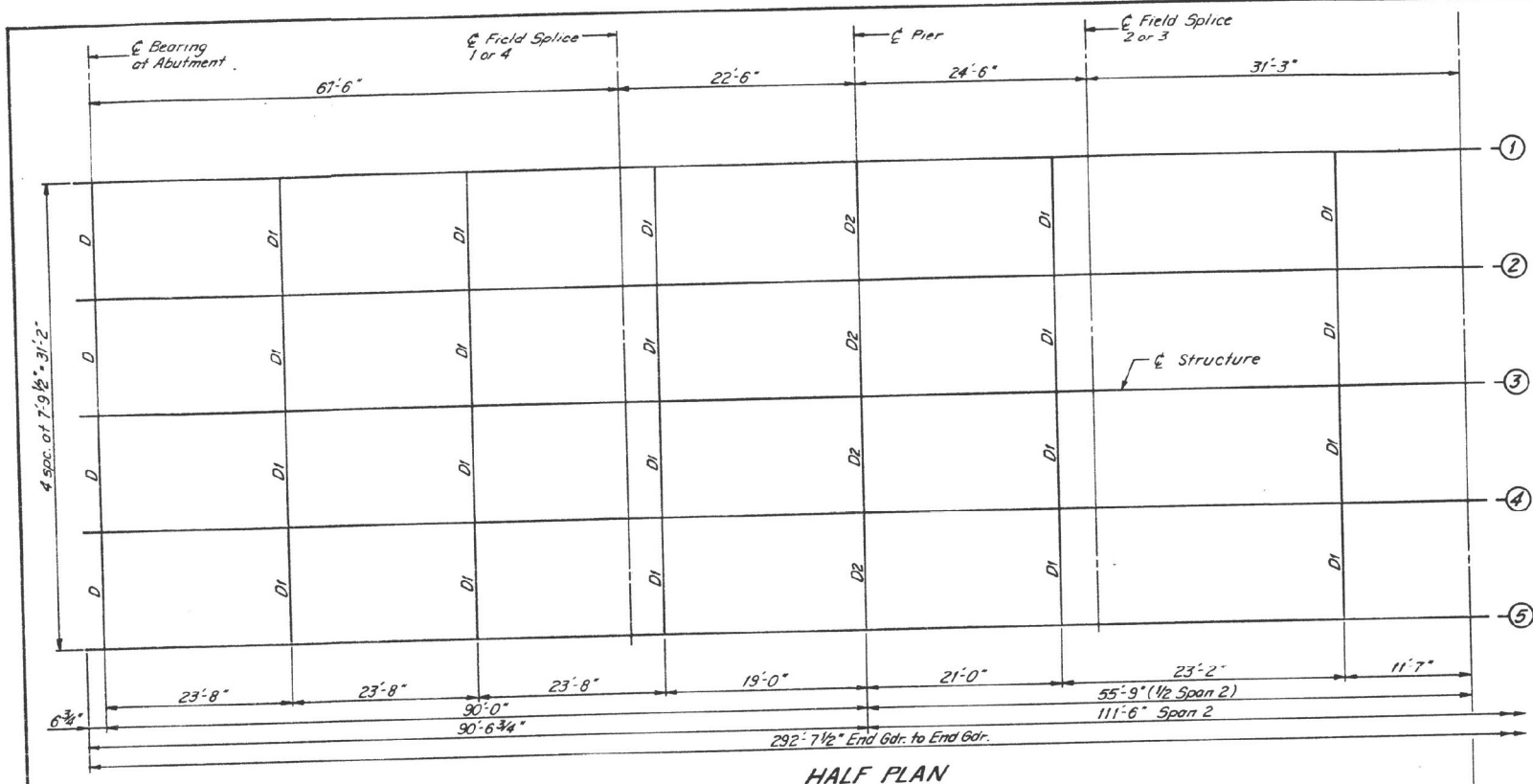


ROBERT B. QUISENBERY
 REGISTERED STRUCTURAL ENGINEER
 STATE OF ILLINOIS
 Robert B. Quisenberry

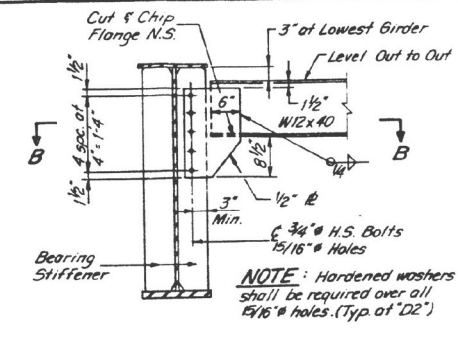
* INCLUDES BRIDGE DECK, APPROACH SLABS, AND FACE AND TOP OF PARAPETS AND PINNACLES
 REV 4-12-70 BY HLC CHANGED REINFORCEMENT BARS FROM 26240 TO 24710 LBS. CHANGED REINFORCEMENT BARS - EPOXY COATED FROM 92490 TO 40190 LBS. ADDED STONE DUMPED RIPRAP CLASS AS 44 TON. ADDED BRIDGE SEAT SEALER 1 L. SUM

SHEET 8 OF 16

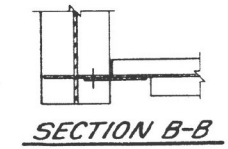
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
406	54-101B-3	LOGAN	51	25
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJ.	



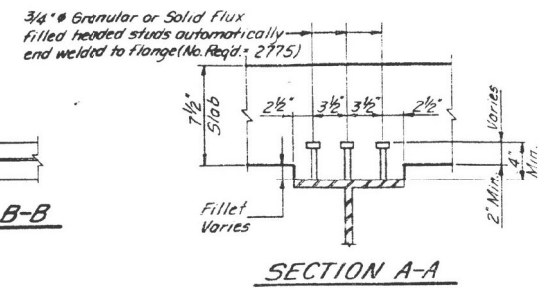
HALF PLAN



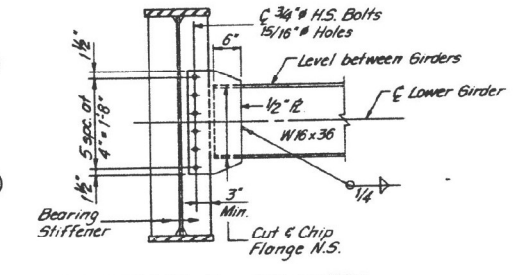
DIAPHRAGM D AT ABUTMENTS (8 Required)



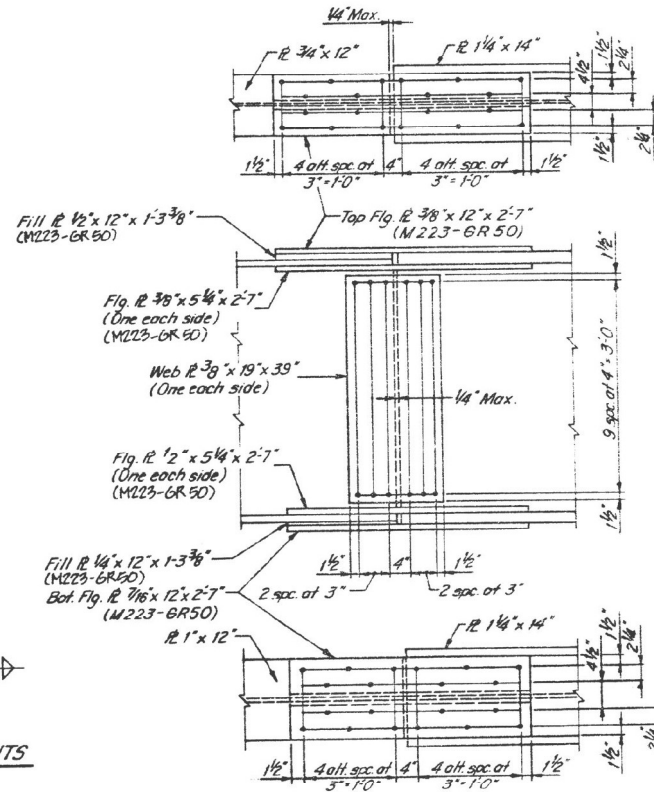
SECTION B-B



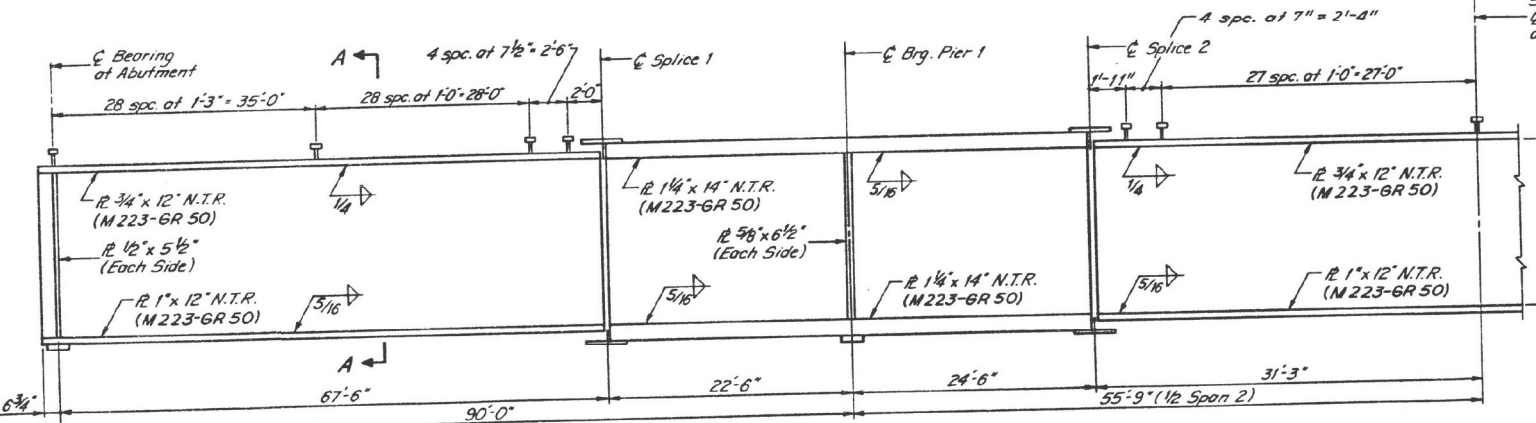
SECTION A-A



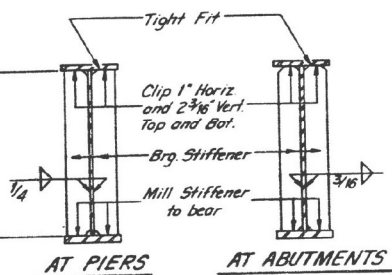
DIAPHRAGM D2 AT PIERS (8 Required)



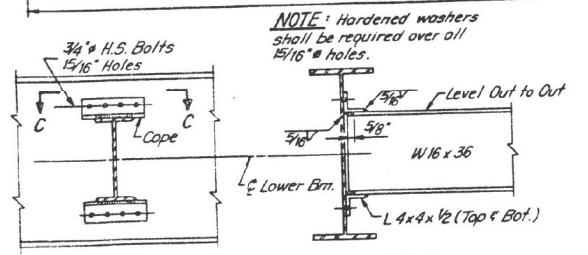
FIELD SPLICE DETAIL (Same for all Splices - 20 Req'd.)



HALF GIRDER ELEVATION



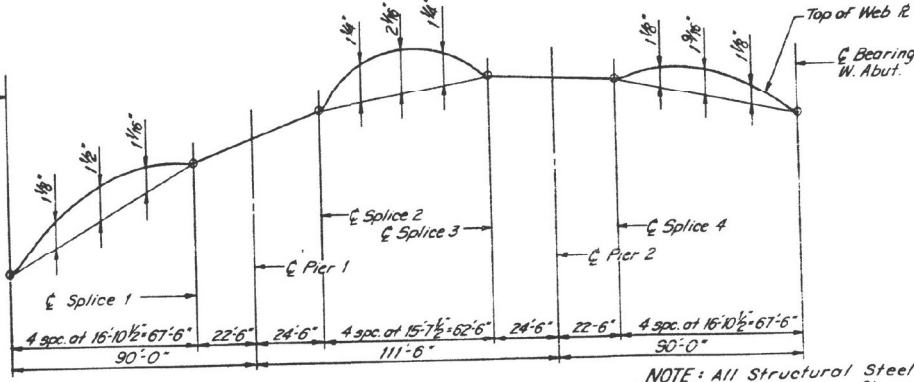
BEARING STIFFENERS AT PIERS AT ABUTMENTS



INTERIOR DIAPHRAGM D1 (40 Required)

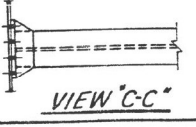
⊗ Elevations for fabrication only

TOP OF WEB ELEVATIONS ⊗					
GIRDER LOCATION	①	②	③	④	⑤
⊗ Brq. E. Abut.	635.62	635.77	635.89	635.77	635.62
⊗ Splice 1	636.42	636.57	636.69	636.57	636.42
⊗ Pier 1	636.61	636.76	636.88	636.76	636.61
⊗ Splice 2	636.79	636.94	637.06	636.94	636.79
⊗ Splice 3	637.02	637.17	637.29	637.17	637.02
⊗ Pier 2	637.02	637.17	637.29	637.17	637.02
⊗ Splice 4	637.00	637.15	637.27	637.15	637.00
⊗ Brq. W. Abut.	636.70	636.85	636.97	636.85	636.70



CAMBER DIAGRAM (Showing Top of Girder Web)

DESIGNED	PLH
CHECKED	RBO
DRAWN	VDLK
CHECKED	PLH & RBO



VIEW C-C

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
EMDEN ROAD OVER ILLINOIS ROUTE 121
F.A. RTE. 406 SECTION 54-101B-3
Sta. 101+50.21 (EMDEN ROAD)
Sta. 439+27.24 (F.A. RTE. 406)
LOGAN COUNTY
STRUCTURE NO. 054-0078

MODEL: Default; FILE NAME: S:\bridge\Bridges\054-0078-3.dwg; LOGAN Co. plant; 2024-10-11 10:23:23

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DRAWN	-	CHECKED	-	REVISED	-
PLOT SCALE	= 100,0000' / in.	DATE	-	REVISED	-
PLOT DATE	= 10/11/2023				

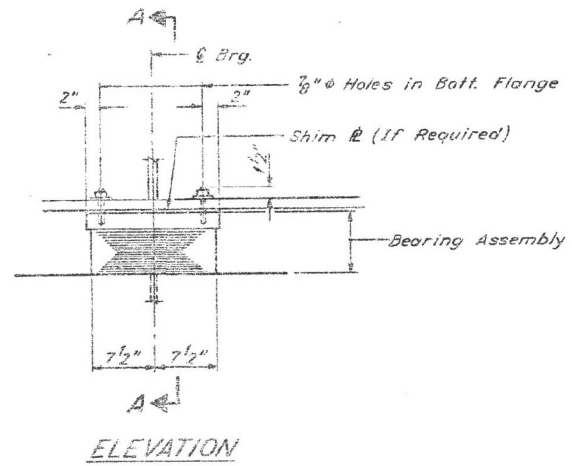
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 054-0078
(FOR INFORMATION ONLY)

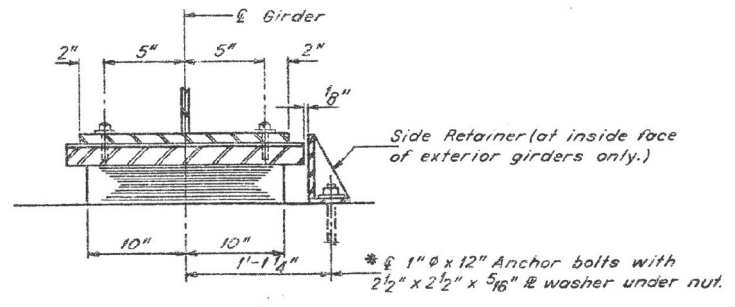
SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	D6 BRIDGE PAINTING 2024-1	LOGAN	10	5
* FAI 155 & FAP 315		CONTRACT NO. 72720		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
406	54-10H3	LOGAN	51	26
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJ.		

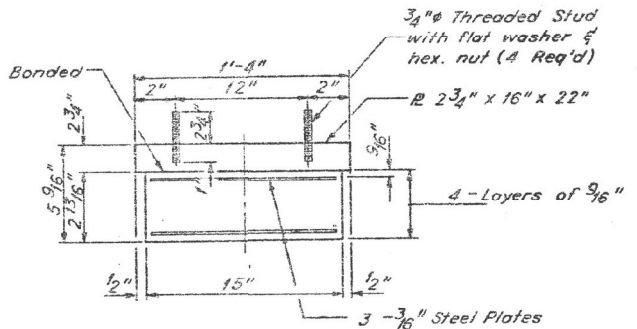


ELEVATION



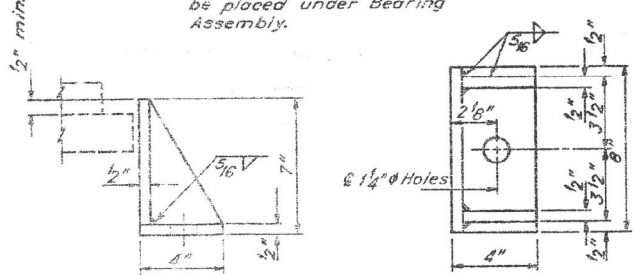
SECTION A-A

NOTE: Bill of Material for Elastomeric Bearing Assemblies is on sheet #10.



BEARING ASSEMBLY PIER 1 TYPE I ELASTOMERIC EXP. BRG.

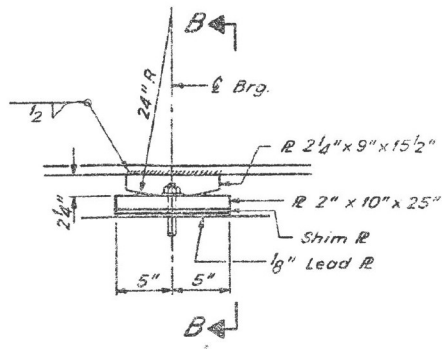
NOTE: Shim plates shall not be placed under Bearing Assembly.



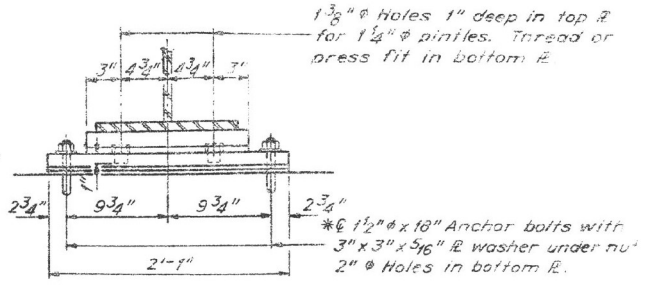
SIDE RETAINER

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

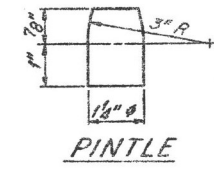
DESIGNED	PLH
CHECKED	RBQ
DRAWN	P. Roy
CHECKED	PLH



ELEVATION



SECTION B-B



PINTLE

PIER 2 FIXED BEARING

* NOTES: Anchor bolts at fixed bearings may be built into masonry. See sheet #16 for Anchor Bolt installation.

	0.4 Sp.1	Pier 1	0.5 Sp.2	Pier 2	0.6 Sp.3
I_s (in.4)	12649	19549	12649	19549	12649
I_c (in.4)	31291		31291		31291
S_s (in.3)	619	879	619	879	619
S_c (in.3)	851		851		851
ϕ (K/i)	0.910	0.965	0.910	0.965	0.910
$M\phi$ (K)	473.0	1042.8	387.9	1042.8	473.0
$S\phi$ (K/i)	0.333		0.333		0.333
$M_s\phi$ (K)	192.1	329.0	188.5	329.0	192.1
$M\phi$ (K)	800.8	657.4	836.9	657.4	800.8
M_{imp} (K)	176.2	144.6	184.1	144.6	176.2
$S_{\phi}(M\phi + I)$ (K)	1628.3	1336.7	1701.7	1336.7	1628.3
M_o (K)	2984.7	3523.6	2965.0	3523.6	2984.7
M_u (K)	3423.3	3581.8	3423.3	3581.8	3423.3
f_s (non-compl.) (k.s.i)	9.17	14.24	7.52	14.24	9.17
f_s (comp.) (k.s.i)	2.96	4.49	2.91	4.49	2.96
$f_s S_3 (k + I)$ (k.s.i)	22.99	18.28	24.03	18.28	22.99
f_s (Overload) (k.s.i)	35.12	37.01	34.46	37.01	35.12
f_s (Total) (k.s.i)	45.66	48.11	44.80	48.11	45.66
V_R (K)	66.2		47.6		66.2

	E. Abut.	Pier 1	Pier 2	W. Abut.
R_R (K)	40.8	142.9	142.9	40.8
R_L (K)	49.6	71.3	71.3	49.6
Imp (K)	10.9	15.7	15.7	10.9
R_{Total} (K)	101.3	229.9	229.9	101.3

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s (Total & Overload).
 V_R is the maximum & + Impact shear range in span. Structure is composite in Positive Moment regions only.
 M_o (Applied Moment) = $1.3[M\phi + M_s\phi + S_3(M\phi + I)]$
 M_u is the full Moment Capacity for the section.
 f_s (Overload) is the sum of the stresses due to $M\phi + M_s\phi + S_3(M\phi + I)$
 f_s (Total) is the sum of the stresses due to $1.3[M\phi + M_s\phi + S_3(M\phi + I)]$

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 BEARING DETAILS
 EMDEN ROAD OVER ILLINOIS ROUTE 121
 F.A. RTE. 406 SECTION 54-10H3-3
 Sta. 101+50.21 (EMDEN ROAD)
 Sta. 439+27.24 (F.A. RTE. 406)
 LOGAN COUNTY
 STRUCTURE NO. 054-0078

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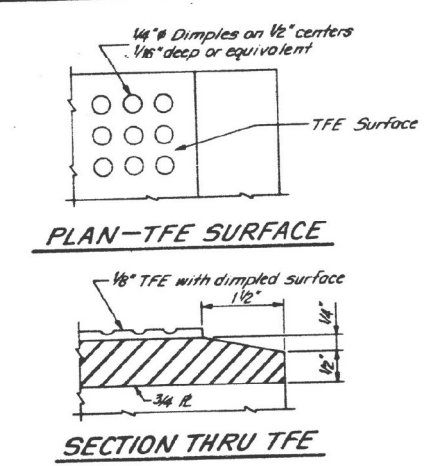
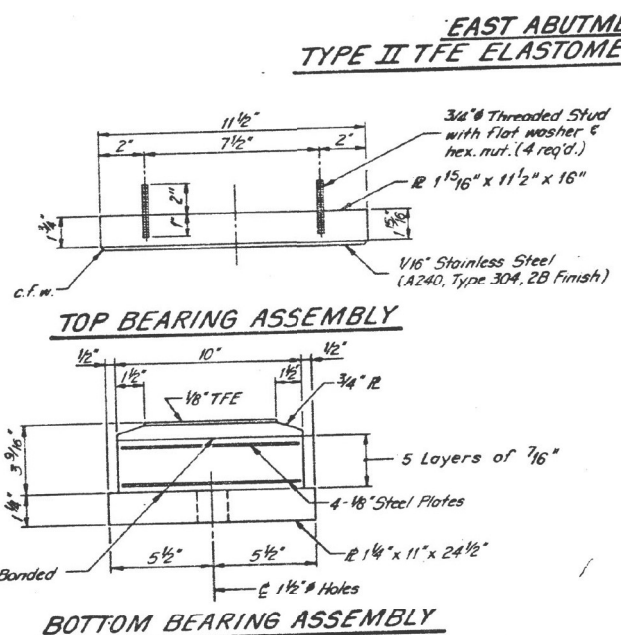
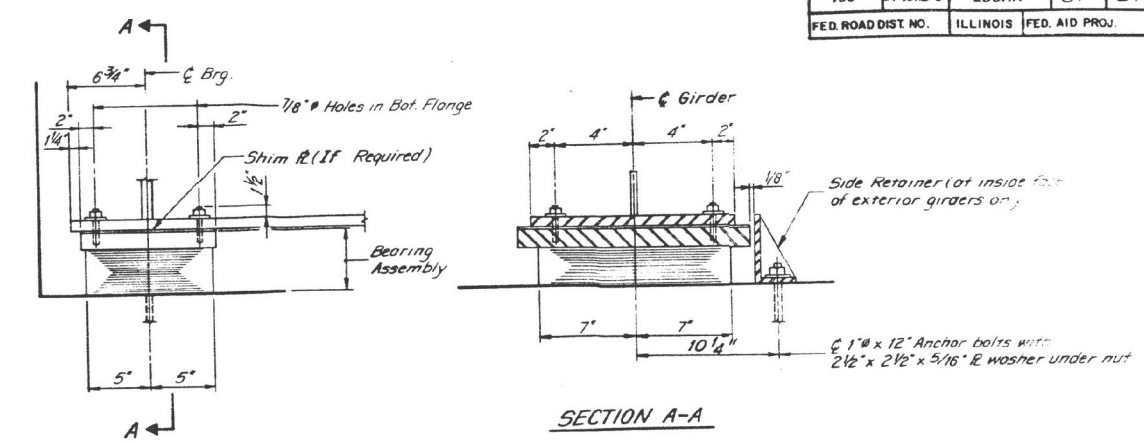
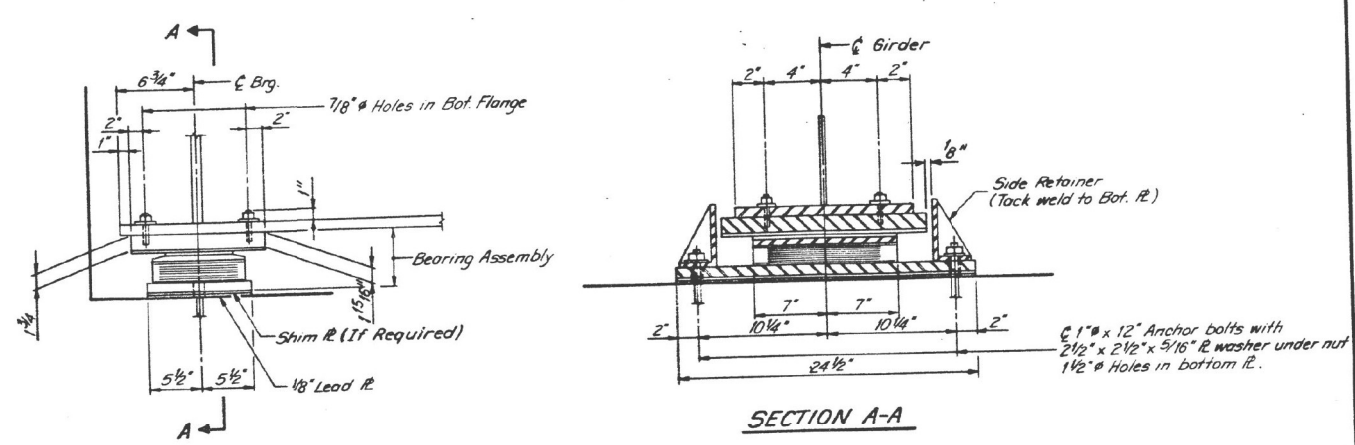
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PLOT DATE = 10/11/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 054-0078 (FOR INFORMATION ONLY)	SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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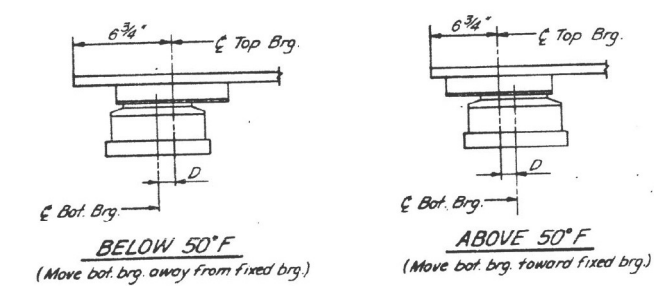
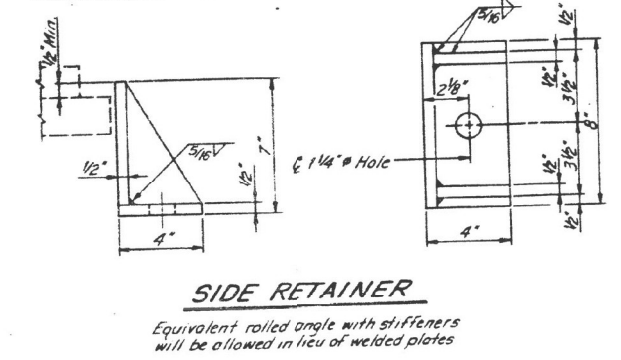
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
406	D6 BRIDGE PAINTING 2024-1	LOGAN	10	6
* FAI 155 & FAP 315	CONTRACT NO. 72720			
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
406	54-10HB-3	LOGAN	51	27
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJ.		

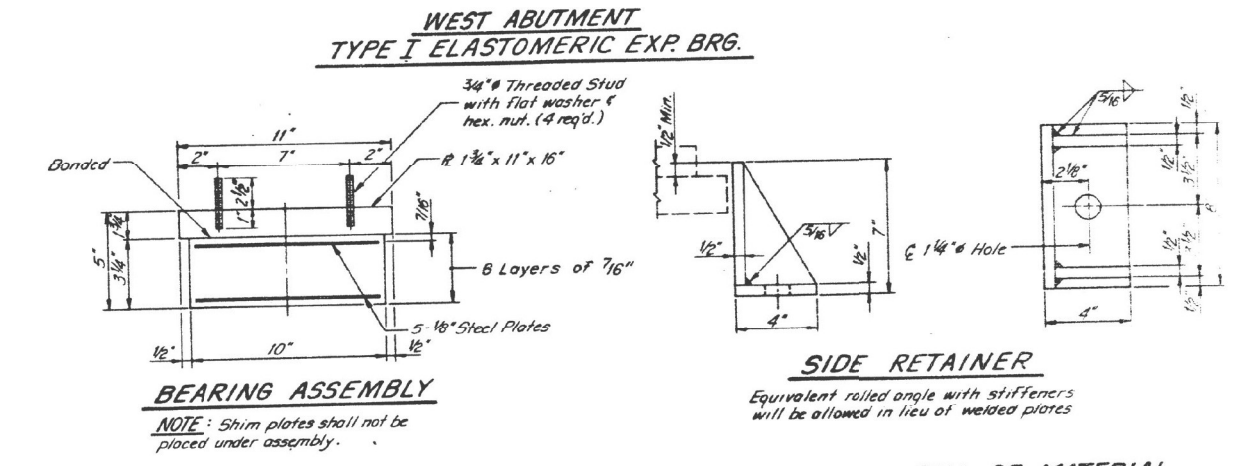


NOTE: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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.



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



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type I	Each	10
Elastomeric Bearing Assembly Type II	Each	5

DESIGNED	PLH
CHECKED	RBQ
DRAWN	VOLK
CHECKED	PLH & RBQ

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
EMDEN ROAD OVER ILLINOIS ROUTE 121
F.A. RTE. 406 SECTION 54-10HB-3
Sta. 101+50.21 (EMDEN ROAD)
Sta. 439+27.24 (F.A. RTE. 406)
LOGAN COUNTY
STRUCTURE NO. 054 0078

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PLOT DATE = 10/11/2023	CHECKED -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 054-0078
(FOR INFORMATION ONLY)

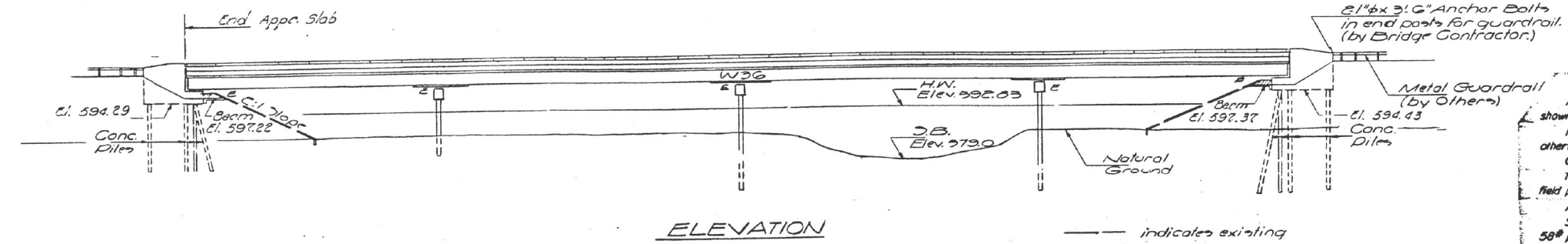
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
* D6 BRIDGE PAINTING 2024-1		LOGAN	10	7
* FAI 155 & FAP 315			CONTRACT NO. 72720	
		ILLINOIS	FED. AID PROJ.	

B.M. - 1" cut on N.E. wingwall of bridge Station 768+00 Elev. 603.68
 Existing Structure - Old Station 767+10 Built 1937 on 221' Dia. 119A
 Sec. 117B, P.C. Slab on Steel I Bms. P.C. Pile Bent Piers and Spill
 thru Abutments. Superstructure to be removed. No Salvage
 Substructure to be widened.
 Temporary Bridge to furnish 800' waterway opening HS 15 Loading.
 Existing Structure is 285'-8" ft. long & 27'-2" wide.

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117B		LOGAN	45	13
F.A. 155 & FAP 315		ILLINOIS		FED. AID PROJECT



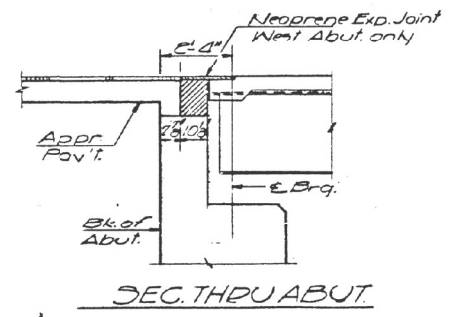
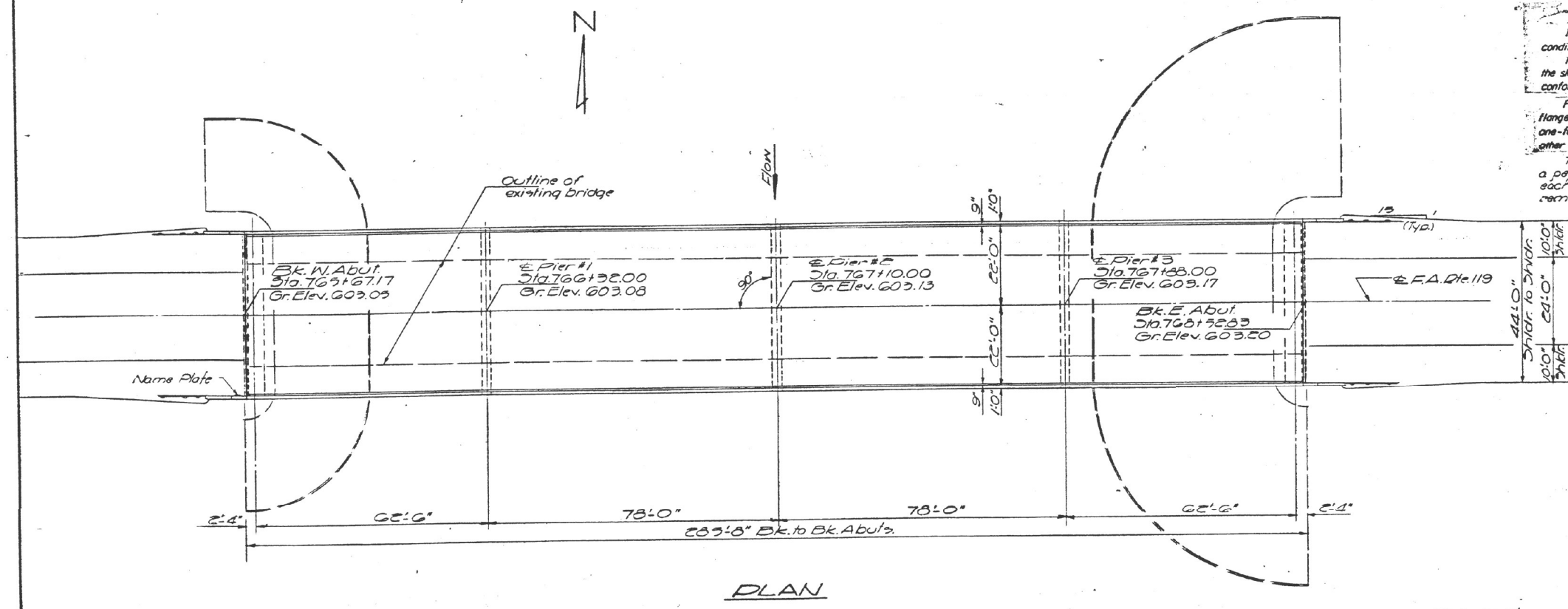
GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
 Fasteners shall be high strength bolts. Bolts 3/4"; open holes 1 1/2", unless otherwise noted.
 Calculated weight of Structural Steel = 340,580 Lbs.
 The Basic Lead Silica Chromate paint system shall be used for shop and field painting of structural steel.
 Anchor bolts shall be set before bolting diaphragms over supports.
 Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58# per 100 sq. ft.
 Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

It shall be the responsibility of the Contractor, to verify all dimensions and conditions existing in the field prior to construction and ordering of materials. The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

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

The Contractor shall drive one Concrete test pile in a permanent location at West Abutment & Pier 3 one each as directed by the Engineer before ordering the remainder of piles.



DESIGNED	James W. Bente	EXAMINED	John J. ...
CHECKED	James Powell	PASSED	W. Blummann
DRAWN	Jos	APPROVED	Richard H. ...
CHECKED	JP		

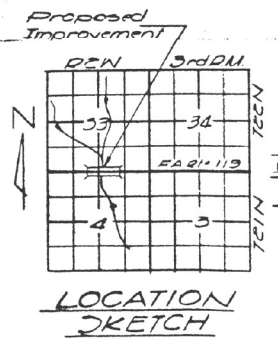
WATERWAY INFORMATION

Drainage Area ----- 106.3 Sq. Miles
 Character ----- rolling, hilly, clay
 Present Opening ----- 2040 Sq. Ft.
 Required Opening - (30 Yr. Flood) ----- 2040 Sq. Ft.
 Proposed Opening ----- 2040 Sq. Ft.
 Q(30) = 12,280 cfs.

DESIGN STRESSES

$f_c = 1500$ psi - Deck Slab
 $f_c = 1400$ psi - Curb, Parapet, Sub.
 $f_s = 50,000$ psi - Reinf.
 $f_s = 50,000$ psi - Struct.
 $f_c = 72$ psi - Flg.
 $n = 10$

Allowable Future W 2 23# 12q.Ft.
 Design Specifications
 1969 AA 7HO as applicable



GENERAL PLAN & ELEVATION OVER WEST FORK SUGAR CREEK

F.A. ROUTE 119
 SECTION 117B
 LOGAN COUNTY
 STATION 767+10

LOADING H 20-44
 #30 S-1-73

6-85

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	DRAWN -	REVISED -
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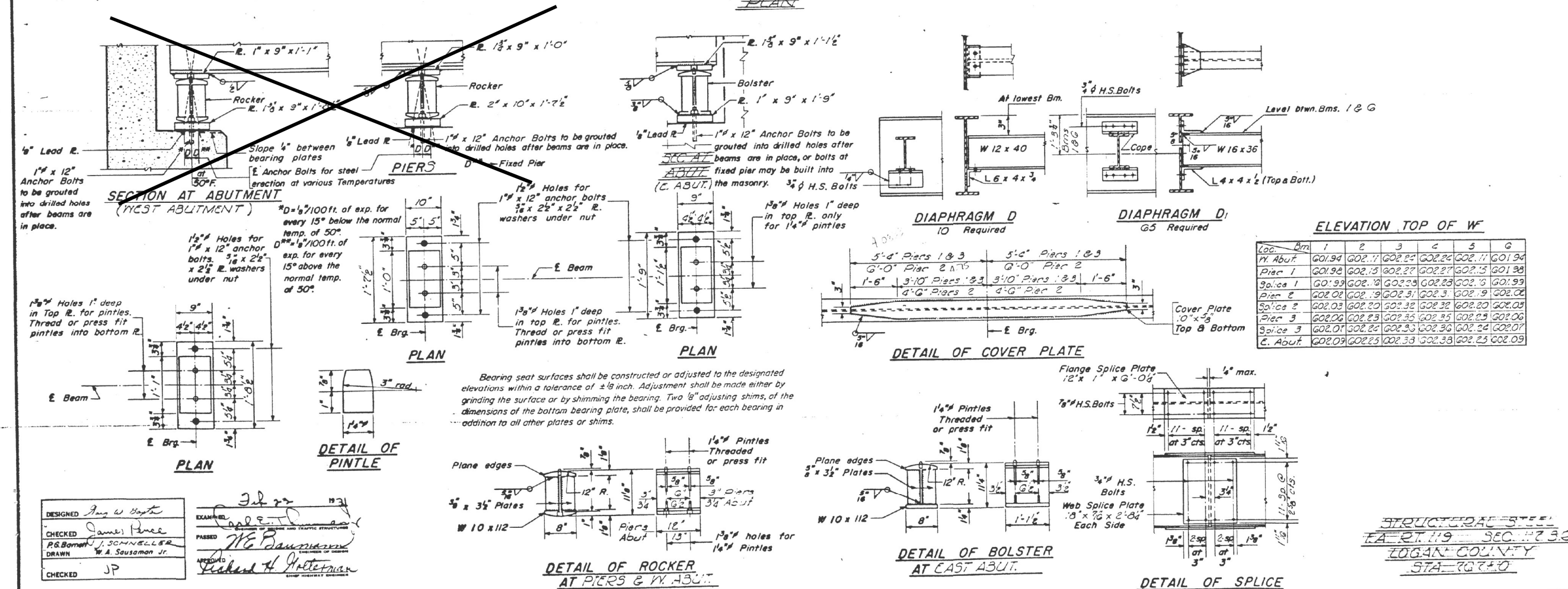
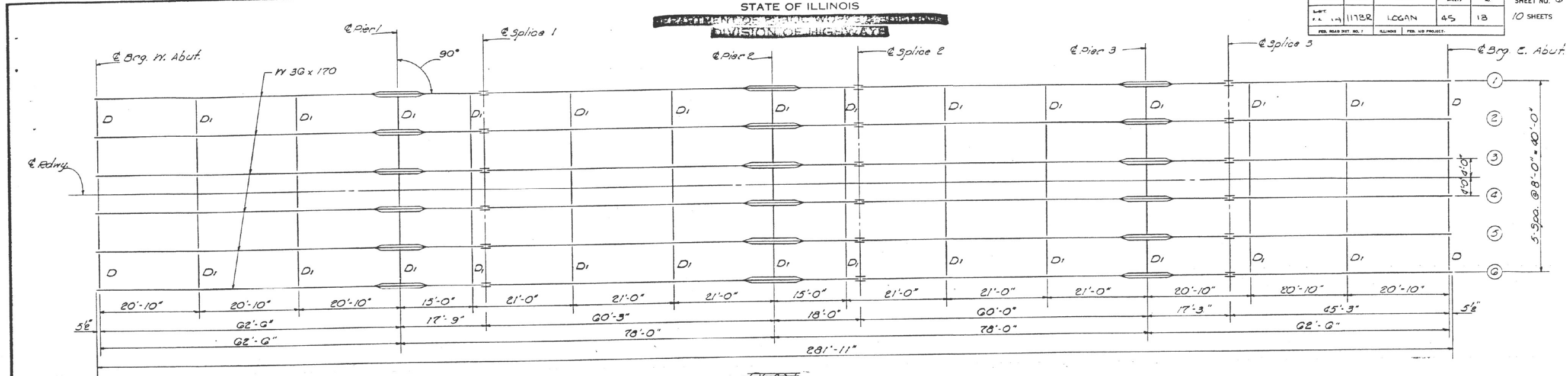
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 054-0026	
(FOR INFORMATION ONLY)	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
*	D6 BRIDGE PAINTING 2024-1	LOGAN	10	8
* FAI 155 & FAP 315		CONTRACT NO. 72720		
ILLINOIS		FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
117R	LOGAN	45	18	10



ELEVATION TOP OF W

Loc.	1	2	3	4	5	6
W. Abut.	G01.94	G02.17	G02.27	G02.27	G02.11	G01.94
Pier 1	G01.98	G02.15	G02.27	G02.27	G02.15	G01.98
Splice 1	G02.03	G02.19	G02.31	G02.31	G02.19	G02.03
Pier 2	G02.02	G02.19	G02.31	G02.31	G02.19	G02.02
Splice 2	G02.03	G02.20	G02.32	G02.32	G02.20	G02.03
Pier 3	G02.02	G02.23	G02.35	G02.35	G02.23	G02.02
Splice 3	G02.01	G02.22	G02.33	G02.33	G02.22	G02.01
E. Abut.	G02.03	G02.25	G02.33	G02.33	G02.25	G02.03

DESIGNED: *James W. Hance*
 CHECKED: *James Hance*
 DRAWN: *W. A. Sausman Jr.*
 APPROVED: *Richard H. Holterman*

I-2-C 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63 Rev. 8-1-70

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

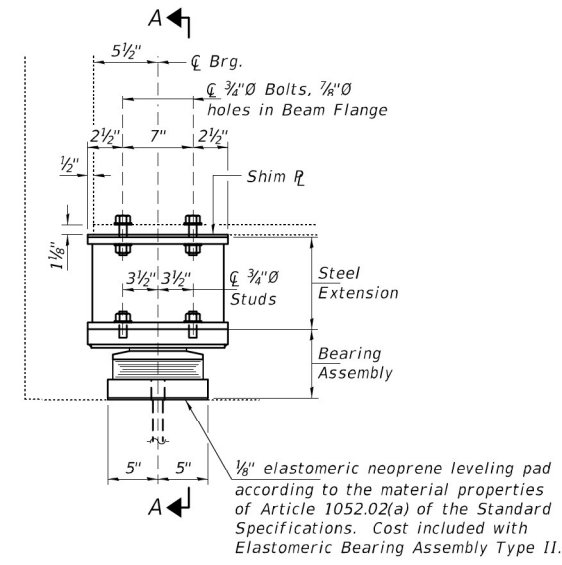
EXISTING BRIDGE PLANS, SN 054-0026
(FOR INFORMATION ONLY)

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PLOT DATE = 10/11/2023	CHECKED -	REVISED -
	DATE -	REVISED -

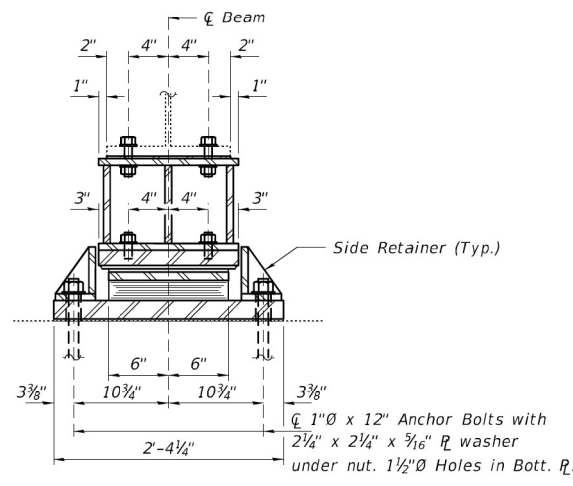
SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
* D6 BRIDGE PAINTING 2024-1	LOGAN	10	9	
* FAI 155 & FAP 315	CONTRACT NO. 72720			

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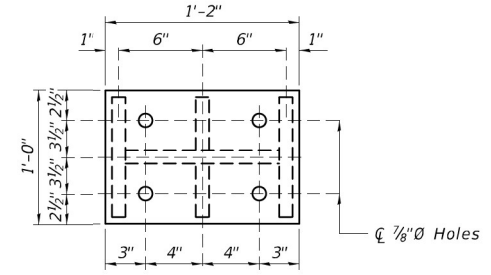


ELEVATION AT ABUTMENT
TYPE II TFE ELASTOMERIC EXP. BRG.

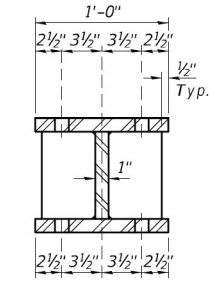


SECTION A-A

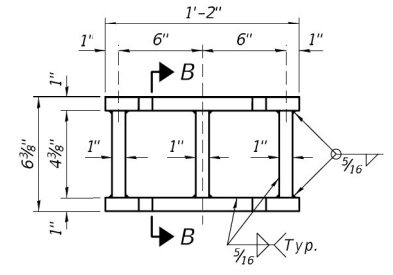
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).
Min. jack capacity = 44 Tons.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.
The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
New bearing plates, steel extensions, shim plates, side retainers, anchor bolts, connection bolts, nuts and washers shall be hot dip galvanized according to Special Provision "Hot Dip Galvanizing for Structural Steel".



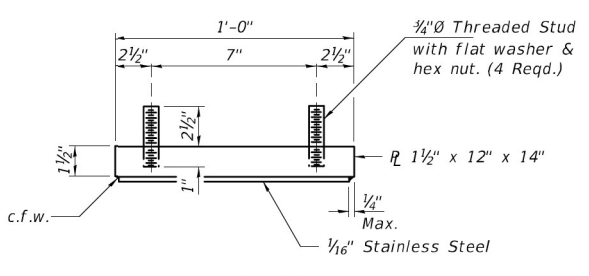
PLAN TOP AND BOTTOM PLATE



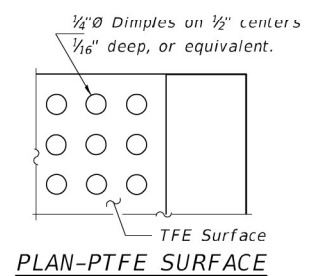
SECTION B-B



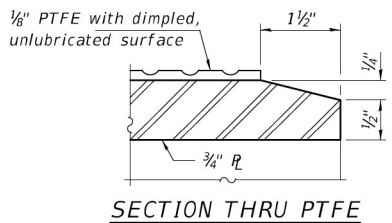
STEEL EXTENSION DETAIL



TOP BEARING ASSEMBLY



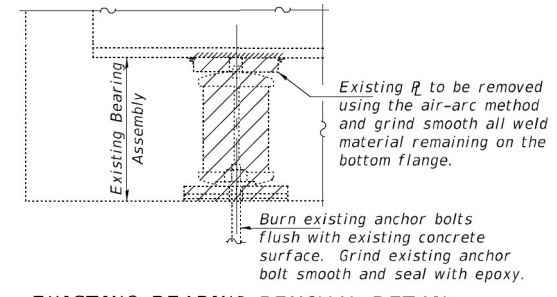
PLAN-PTFE SURFACE



SECTION THRU PTFE

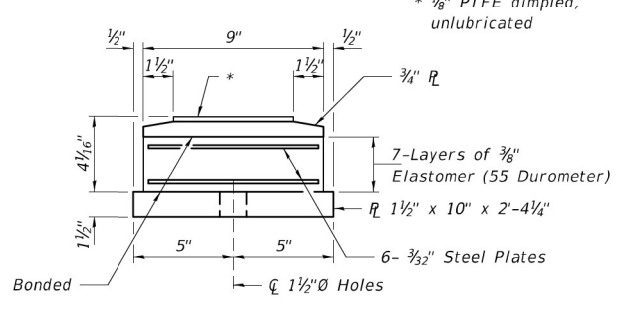
BEAM REACTIONS

R _l	(K)	30.36
R _t	(K)	42.70
Imp.	(K)	11.39
R (Total)	(K)	84.45

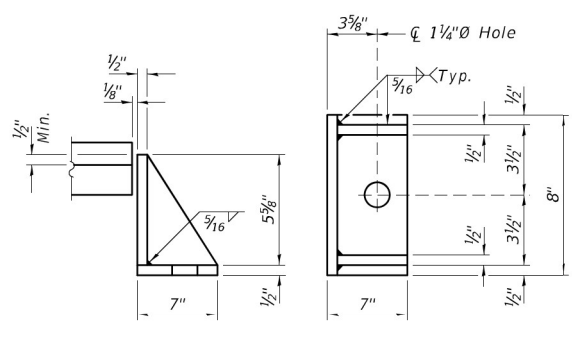


EXISTING BEARING REMOVAL DETAIL

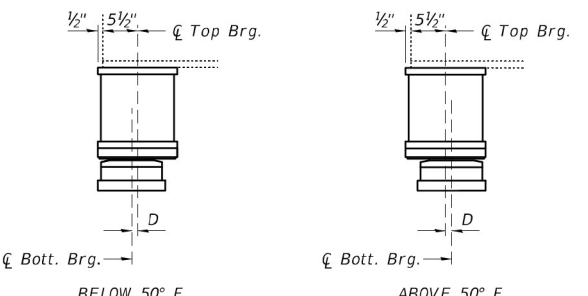
Cost included with Jack and Remove Existing Bearings.



BOTTOM BEARING ASSEMBLY



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



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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	926
Anchor Bolts 1"Ø	Each	12

TYII/REPS 08-08-2018

DESIGNED - VHV	EXAMINED - Timothy A. ...	DATE - SEPTEMBER 30, 2021
CHECKED - CCC	PASSED - ...	REVISED -
DRAWN - daburdell	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
CHECKED - VHV CCC		REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT - WEST ABUTMENT SN 054-0026

F.A.P. RTE. 315	SECTION (117)RS-10,BP (118)RS-4,BP	COUNTY LOGAN	TOTAL SHEETS 53	SHEET NO. 48
CONTRACT NO. 72K81				ILLINOIS FED. AID PROJECT

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PLOT DATE = 10/11/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 054-0026 (FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. *	SECTION D6 BRIDGE PAINTING 2024-1	COUNTY LOGAN	TOTAL SHEETS 10	SHEET NO. 10
* FAI 155 & FAP 315				CONTRACT NO. 72720
ILLINOIS FED. AID PROJECT				