

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

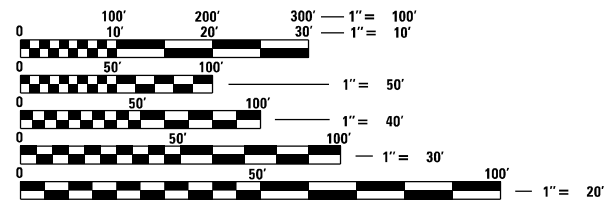
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	1
		ILLINOIS	CONTRACT NO. 72N05	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

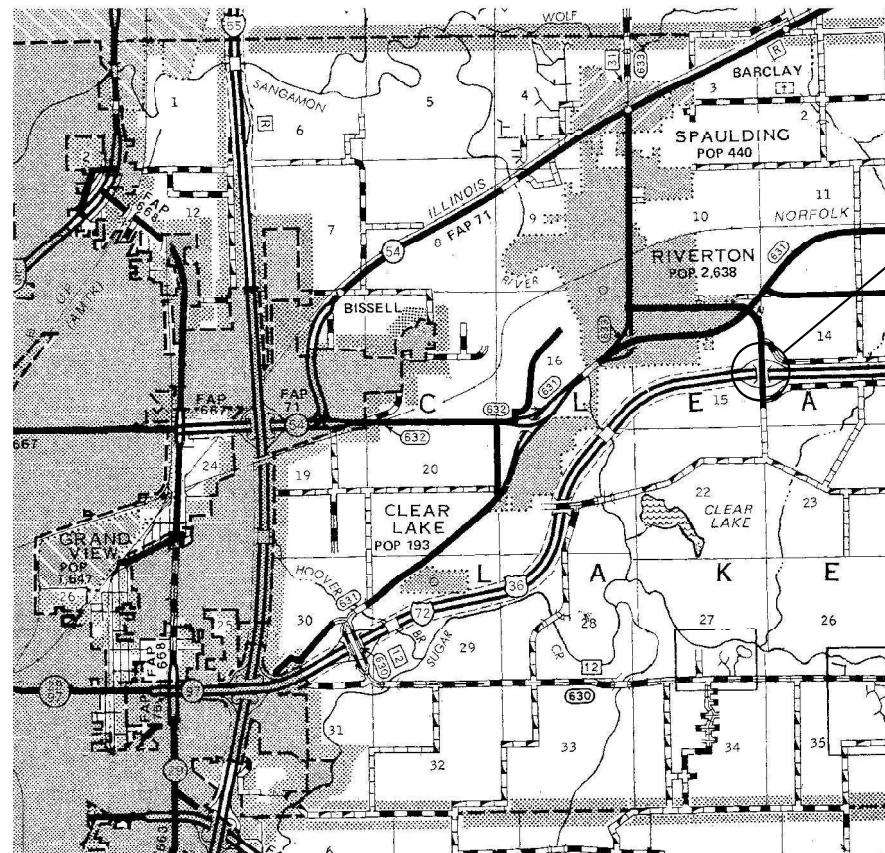
FAI ROUTE 72 (I-72)
SECTION (84-10-1)BP
PROJECT NHPP-R56R(192)
BRIDGE PAINTING
SANGAMON COUNTY

C-96-131-21



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



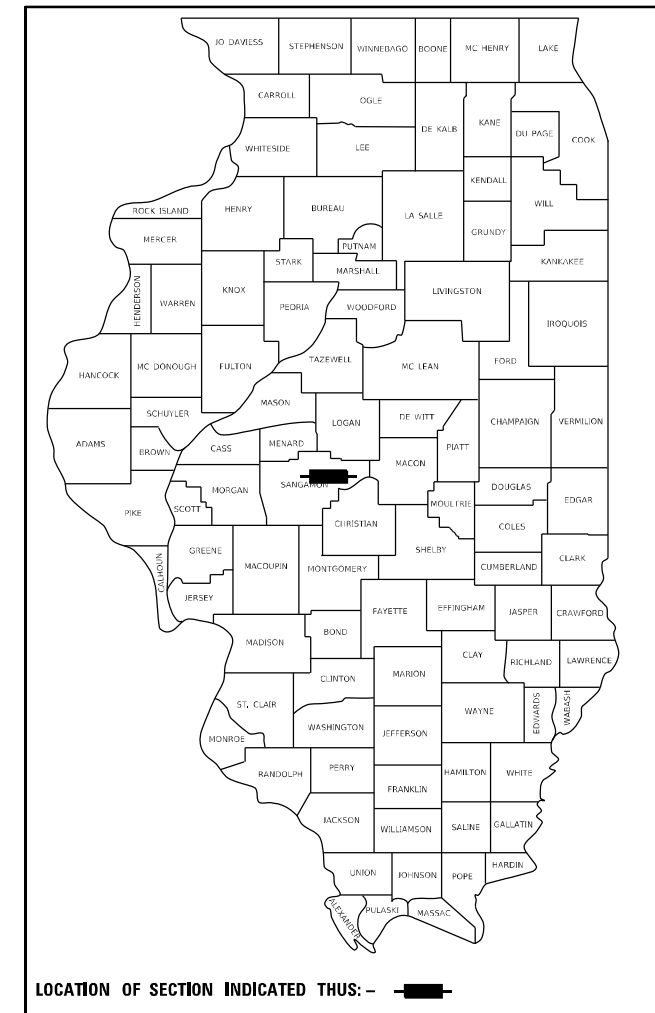
PROJECT LOCATION
SN 084-0154
OVERPASS RD OVER I-72
AT RIVERTON INTERCHANGE

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

GROSS LENGTH = 258 FT. = 0.05 MILE
NET LENGTH = 258 FT. = 0.05 MILE

CONTRACT NO. 72N05

D-96-058-21



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 4, 2021
Greg P. Myer REGIONAL ENGINEER

October 1, 2021
Stephen M. Smith ENGINEER OF DESIGN AND ENVIRONMENT

October 21, 2021
Stephen M. Smith DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

HIGHWAY STANDARDS

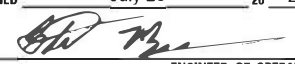

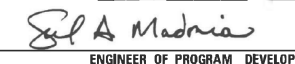
INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-9 EXISTING BRIDGE PLANS, SN 084-0154

- 000001-08
- 001006
- 701101-05
- 701106-02
- 701400-10
- 701402-12
- 701901-08
- 704001-08
- 782006-01

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 <u>July 26</u> 20 <u>21</u>	 ENGINEER OF OPERATIONS
EXAMINED <u>July 26</u> 20 <u>21</u>	 ENGINEER OF PROJECT IMPLEMENTATION
EXAMINED <u>August 3</u> 20 <u>21</u>	 ENGINEER OF PROGRAM DEVELOPMENT

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REV. - MS

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		DRAWN -	REVISED -			72	(84-10-1)BP	SANGAMON	9	2	
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 72N04					
	PLOT DATE = 8/4/2021	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE: SHEET OF SHEETS STA. TO STA.							

0-01375-6002
NHPP 90/10

SN 084-0154
0047-RURAL
SANGAMON

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
67100100	MOBILIZATION	L SUM	1	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	30	30
70400100	TEMPORARY CONCRETE BARRIER	FOOT	600	600
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	600	600
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1

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	DATE -	REVISED -

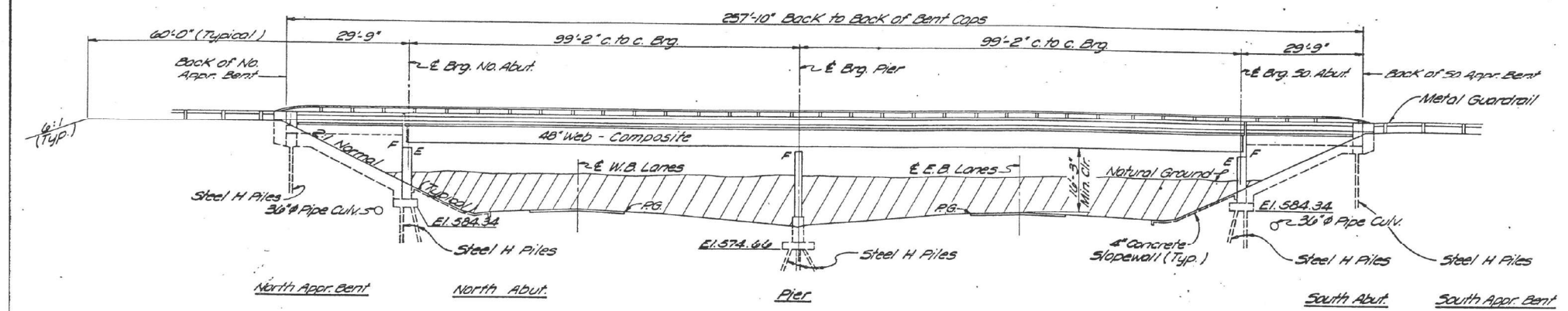
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE:	SHEET	OF	SHEETS	STA.	TO STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	3
CONTRACT NO. 72N04			ILLINOIS FED. AID PROJECT	

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS
FAI-72	84-10	Sangamon	152
DATE	NO. SHEET	NO. STA.	
1/18/22	1		



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts 3/4", open holes 1/2" unless noted.

Calculated weight of Structural Steel = 447,090 Lbs.

The Basic Lead Silica Chromate paint system shall be used for shop and field paint of structural steel.

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 others areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting cross frames over supports.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to the construction of the abutments.

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.

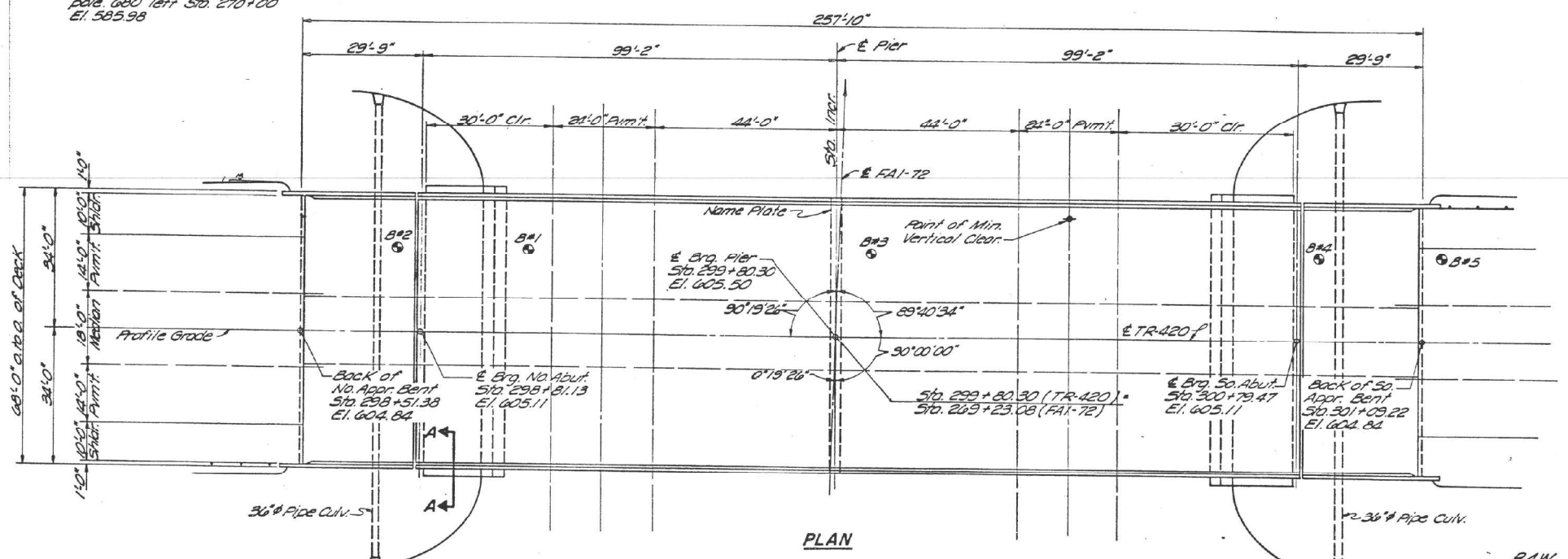
The contractor shall drive 3 test piles in permanent locations (See Sheets 13 & 14) as directed by the Engineer before ordering the remainder of piles.

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

Slope Wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 Sq. Ft.

No Existing Structure

Bench Mark
 B.M. #5 R.R. Spike in power pole, 680' left Sta. 270+00
 El. 585.98



For Footing Layout See Sheet 12 of 17 Sheets.

"The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, webs, and splice plates of the steel girders or wide flange beams."

YIG
 8-6-74
 #42

TOTAL BILL OF MATERIAL

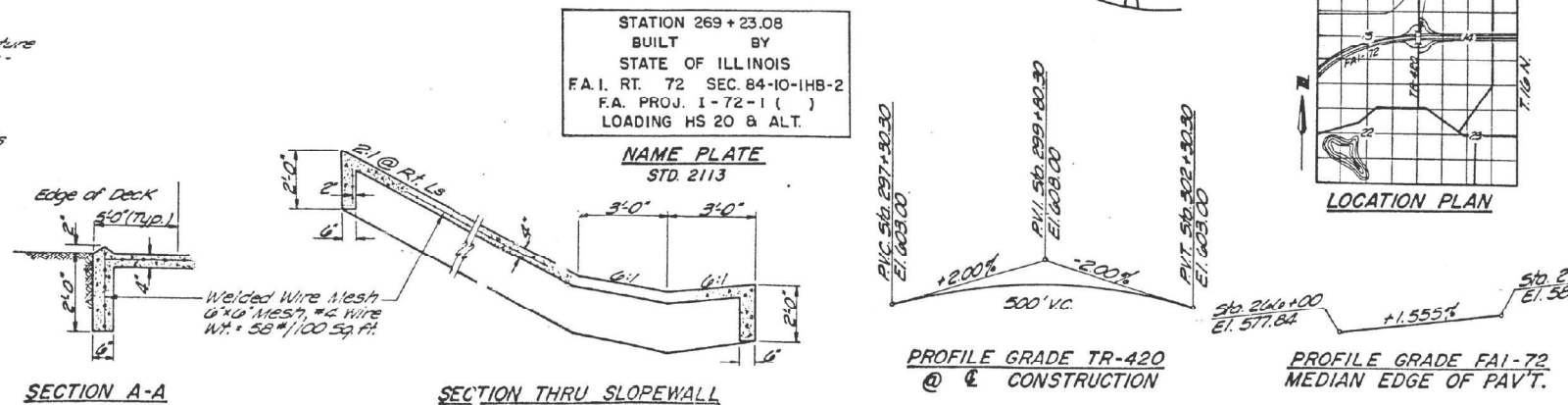
ITEM	UNIT	SUPER	SUB	TOTAL
Bit. Conc. Surf. Cse, CI-1	Tons	116		116
Structure Excavation	Cu. Yds.		372	372
Class X Concrete	Cu. Yds.	549.2	390.2	939.4
Precast Prest. Conc. P.Ans. 3'	Lin. Ft.	389		389
Aluminum Paving	Lin. Ft.	538		538
Steel Piles (HP 10x42)	Lin. Ft.		4,263	4,263
Test Piles - Steel	Eq.		3	3
Name Plates	Eq.	1		1
Slope Wall 4"	Sq. Yds.			377
Waterproof Memb Sys	Sq. Yds.	1,361		1,361
Reinforcement Bars	Lbs.	133,090	44,000	177,090
Structural Steel	Lump Sum	L.S.		L.S.
Preformed Joint Sealer, 2 1/2"	Lin. Ft.	136		136
Protective Coat	Sq. Yds.	726		726
Stud Shear Conn. (3/4")	Eq.	3,636		3,636

DESIGN LOADING
 Live HS 20-44 AA540 1973 Spec.
 Dead Load includes 25# / Sq. Ft. of roadway, for future wearing surf. plus 18# / Sq. Ft. for initial water-proofing.

DESIGN STRESSES
 f_c = 1,400 p.s.i. Substructure, Curbs & Parapets
 f_c = 1,200 p.s.i. Superstructure Slab
 v_c = 75 p.s.i. Footings
 f_s = 20,000 p.s.i. Reinforcing Steel
 f_s = 20,000 p.s.i. Structural Steel
 n = 10

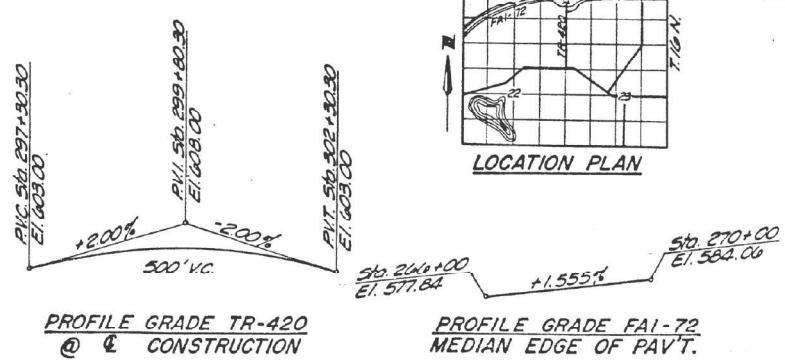
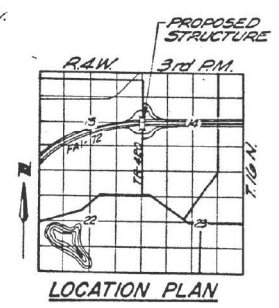
LIVE LOAD DEFLECTION
 L/11200 for composite construction

PRESTRESSED BEAMS
 f₂ = 5,000 p.s.i.
 f₂₁ = 4,000 p.s.i.
 f₂ = 270,000 p.s.i.
 f₂ = 188,700 p.s.i.



STATION 269+23.08
 BUILT BY
 STATE OF ILLINOIS
 F.A.I. RT. 72 SEC. 84-10-1HB-2
 F.A. PROJ. 1-72-1 ()
 LOADING HS 20 & ALT.

NAME PLATE
 STD. 2113



APPROVED
 6-99
 52-2474

GENERAL PLAN
 TR-420 OVER FEDERAL AID INTERSTATE 72
 PROJECT I-72-1 ()
 FAI ROUTE 72 SECTION 84-10-1HB-2
 SANGAMON COUNTY
 STATION 269+23.08 (FAI-72)

Flex Reinf. from 76,850# to 77,090#. Deleted Crea Piles 201 to 38 - 448 Lin. Ft. 6-24-74. W.

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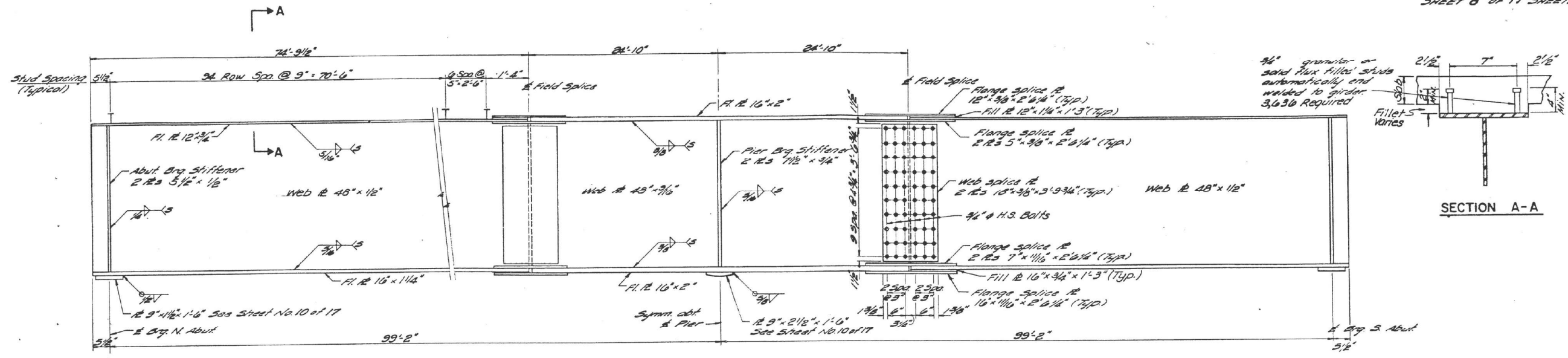
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

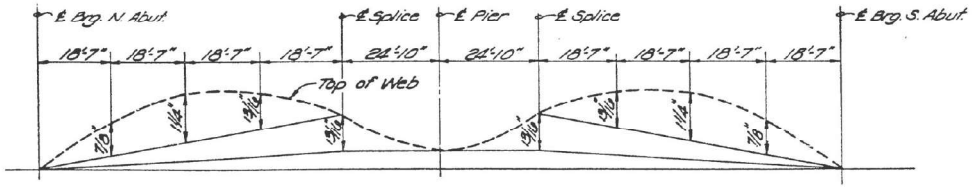
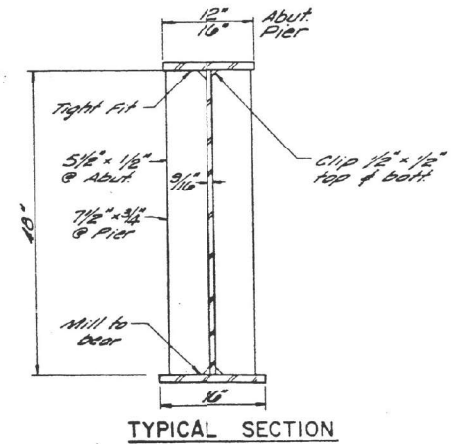
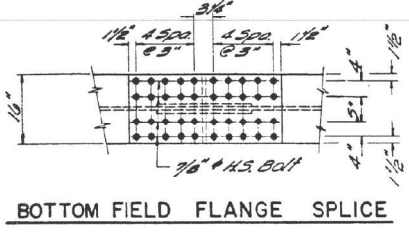
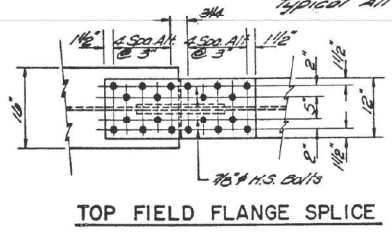
EXISTING BRIDGE PLANS, SN 084-0154
 (FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	4
			CONTRACT NO. 72N04	
		ILLINOIS	FED. AID PROJECT	



ELEVATION OF GIRDER
Typical All Girders



CAMBER DIAGRAM

Note:
For details of welding designations refer to AWS D.2.0-63.
Weight of bearing assemblies with end plates and anchor bolts are included as structural steel.
Estimated weight = 3,160 lb.
Total structural steel = 427,000 lb.

Note: Hardened washers shall be required over 1 5/16" holes.

R GIRDER DETAILS
F.A.I. RT. 72 SEC. 84-10-1HB-2
SANGAMON COUNTY
STATION 269 + 23.08

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

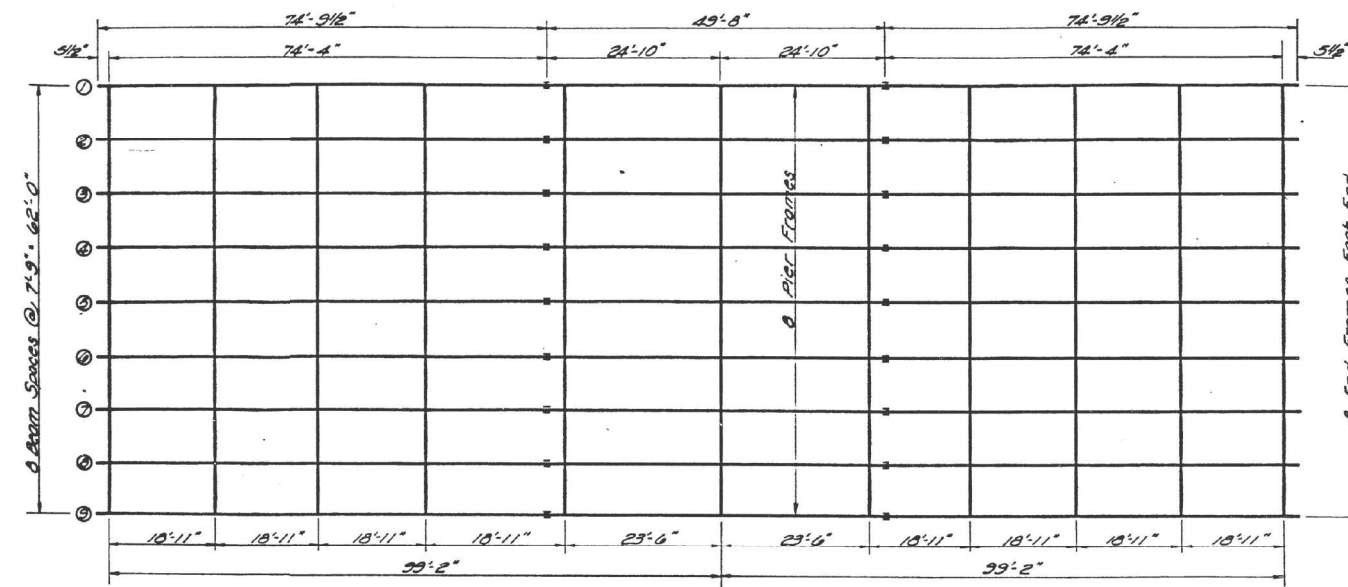
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(FOR INFORMATION ONLY)

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72	(84-10-1)BP	SANGAMON	9	5
			CONTRACT NO. 72N04	
		ILLINOIS FED. AID PROJECT		

FEDERAL AID DISTRICT NO.	INC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-72	08-70	Sangamon	152	36
STA.	NO. STA.			
S.P.A. DIST. NO. 4	REVISION	PROJECT		

Sheet 9 of 17 Sheets

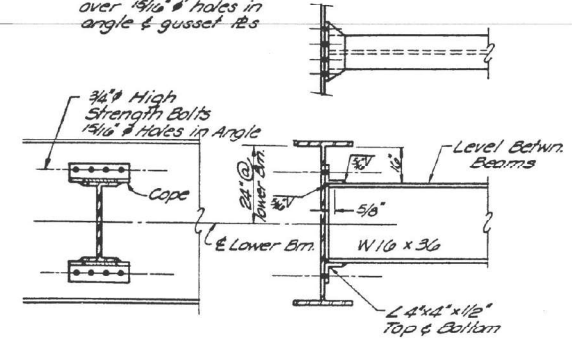


	0.4 Ft.	Pier
I_s (in ⁴)	20,677	45,205
I_c (in ⁴)	56,647	
S_s (in ³)	1,029	1,739
S_c (in ³)	1,420	
DL (K/ft)	1,500	1,500
M DL (I-K)	705	1,838
F_s DL (KSI)	8.2	12.7
S DL (K/ft)	0.475	
MS DL (I-K)	327	
MLL (I-K)	824	805
M IMP (I-K)	184	180
Total (I-K)	1,335	385
F_s LL (KSI)	11.3	6.8
F_s Total (KSI)	19.5	19.5
VR (K)	61.2	

	Abut.	Pier
R DL (K)	55.7	185.7
R LL (K)	44.7	43.4
Imp (K)	10.0	11.0
R Total (K)	110.4	240.1

Note: Hardened washers shall be required over 1 1/2" holes in angle & gusset ribs

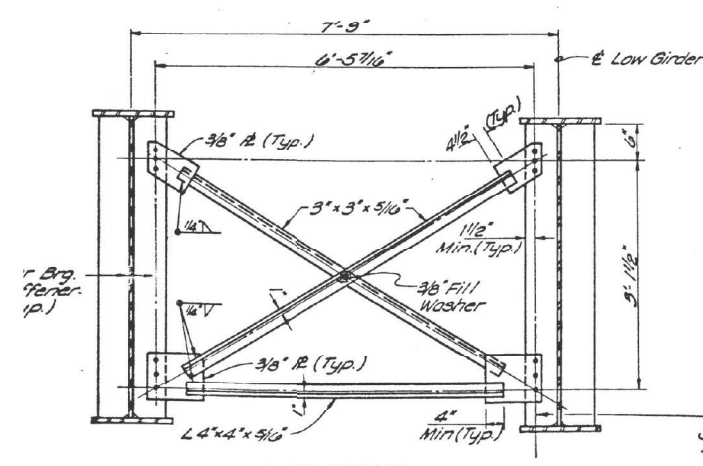
PLAN



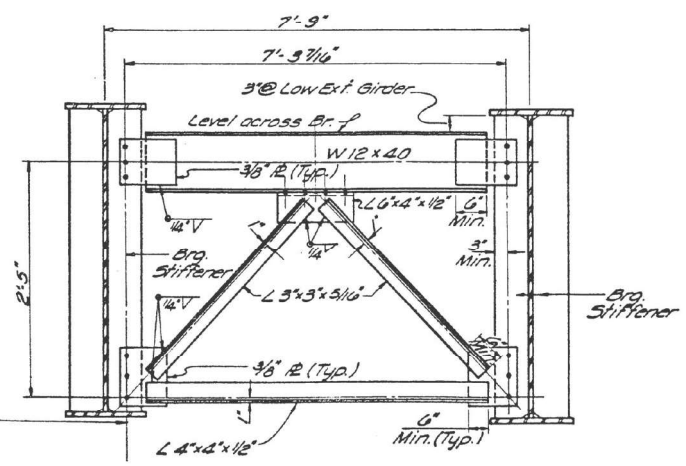
INTERIOR DIAPHRAGM
6 Required

BEAM LOCATION	1	2	3	4	5	6	7	8	9
E. Brg. N. Abutment	603.769	603.890	604.011	604.132	604.253	604.132	604.011	603.890	603.769
E. Splice #1	604.069	604.190	604.311	604.432	604.553	604.432	604.311	604.190	604.069
E. Pier	604.001	604.122	604.243	604.364	604.485	604.364	604.243	604.122	604.001
E. Splice #2	604.069	604.190	604.311	604.432	604.553	604.432	604.311	604.190	604.069
E. Brg. S. Abutment	603.769	603.890	604.011	604.132	604.253	604.132	604.011	603.890	603.769

* For Fabrication Only



PIER FRAME
8 Required



TYPICAL END CROSS FRAME
16 Required

FRAMING PLAN
FAI ROUTE 72 SEC. 84-10-1HB-2
SANGAMON COUNTY
STA. 269 + 23.08

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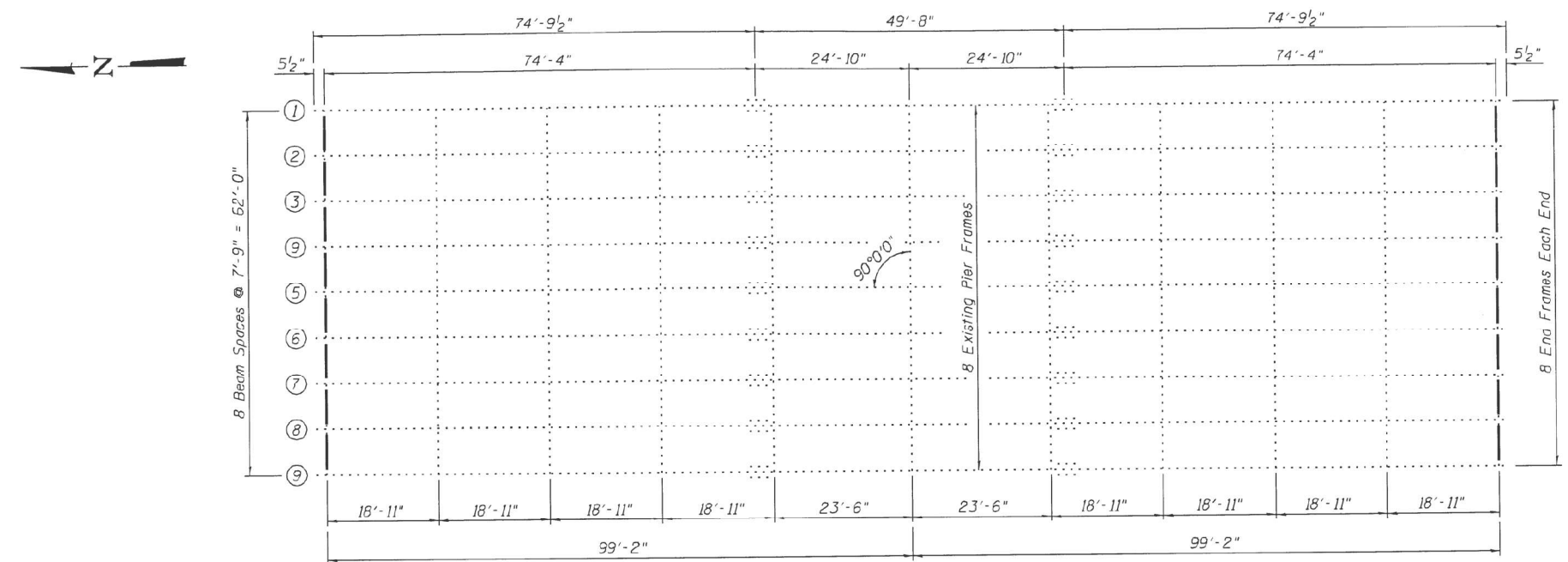
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

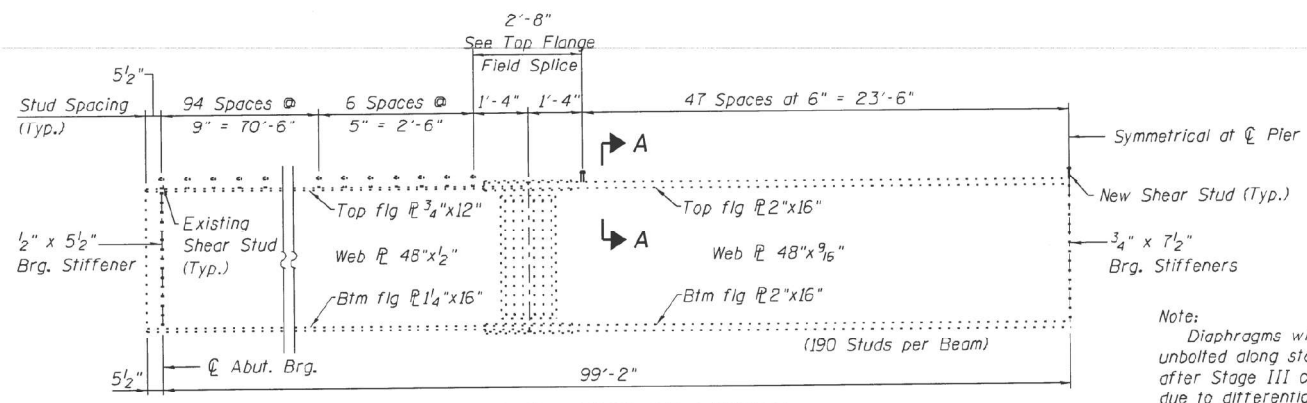
EXISTING BRIDGE PLANS, SN 084-0154
(FOR INFORMATION ONLY)

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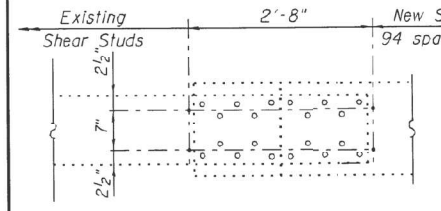
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72	(84-10-1)BP	SANGAMON	9	6
			CONTRACT NO. 72N04	
		ILLINOIS FED. AID PROJECT		



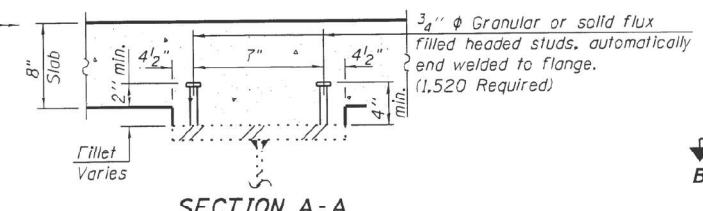
PLAN



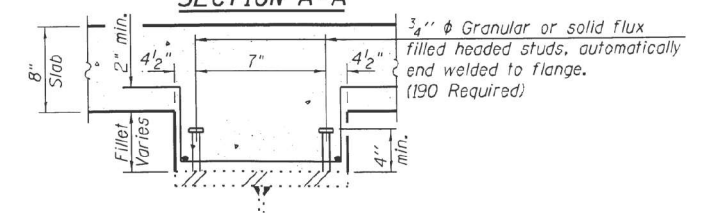
ELEVATION OF GIRDER
(Typical All Girders)



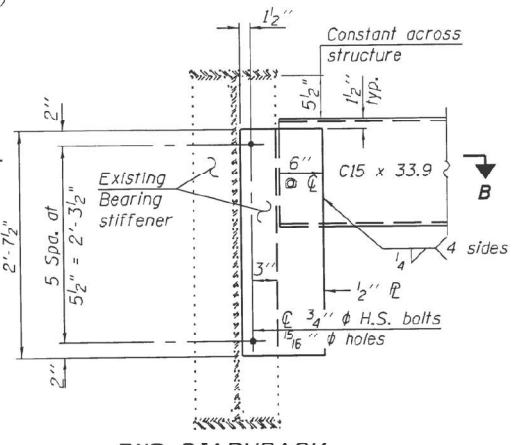
TOP FLANGE FIELD SPLICE
(Solid Circles Indicate Shear Studs
Open Circles Indicate Splice Plate Bolts)



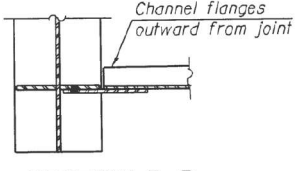
SECTION A-A



SECTION A-A
(Deep Fillet Section @ Beam 5)



END DIAPHRAGM



SECTION B-B

INTERIOR BEAM MOMENT TABLE		
	0.4 Sp. 1 of 0.6 Sp. 2	Pier
I_s	(in ⁴) 20,679	45,205
$I_c(n)$	(in ⁴) 60,462	52,030
$I_c(3n)$	(in ⁴) 42,912	52,030
S_s	(in ³) 1,029	1,739
$S_c(n)$	(in ³) 1,462	1,833
$S_c(3n)$	(in ³) 1,340	1,833
ρ	(k/')	1.030
M_D	(k)	601
s_D	(k/')	0.528
M_{sD}	(k)	330
M_L	(k)	866
M_{LM}	(k)	193
$S_3(M_L + I)$	(k)	1,765
M_a	(k)	3,505
M_u	(k)	5,255
f_s non-comp	(ksi)	7.0
f_s comp	(ksi)	3.0
f_s $S_3(M_L + M_{Lj})$	(ksi)	14.5
f_s (Overload)	(ksi)	24.5
f_s (Total)	(ksi)	-
VR	(k)	48.9

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

INTERIOR BEAM REACTION TABLE		
	Abutts.	Pier
R _P	(k) 53.2	206.8
R _L	(k) 45.1	74.7
R _I	(k) 10.1	16.7
R _{Total}	(k) 108.4	298.2

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

ρ : Un-factored non-composite dead load (kips/ft.).
 M_D : Un-factored moment due to non-composite dead load (kip-ft.).
 s_D : Un-factored long-term composite (superimposed) dead load (kips/ft.).
 M_{sD} : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
 M_L : Un-factored live load moment (kip-ft.).
 M_I : Un-factored moment due to impact (kip-ft.).
 M_a : Factored design moment (kip-ft.).
 $1.3 [M_D + M_{sD} + \frac{3}{8} (M_L + M_I)]$
 M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
 f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M_D + M_{sD} + \frac{3}{8} (M_L + M_I)$
 f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M_D + M_{sD} + \frac{3}{8} (M_L + M_I)]$
 VR: Maximum M_L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	15,210
Structural Steel Removal	Pound	17,140
Stud Shear Connectors	Each	1,710

Notes:
 Two hardened washers required for each set of oversized holes.
 Existing end diaphragms at abutments shall be removed and replaced. Cost included with Structural Steel Removal.
 Field drill 5/16" ϕ holes for 3/4" ϕ bolts.
 Contractor will be responsible for checking to see if proposed hole locations conflict with existing holes. In such a case, match existing holes.

FILE NAME = TR420 over FAI-72.dgn	USER NAME =	DESIGNED - SAL	REVISION 7 1/21/2014 A.J.F
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		DRAWN - T.J.W	REVISION -
		CHECKED - MTH	REVISION -

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FRAMING PLAN & BEAM DETAILS
 OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154
 SHEET NO. 15 OF 25 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-12) RS-3	SANGAMON	194	162
			CONTRACT NO. 72C90	

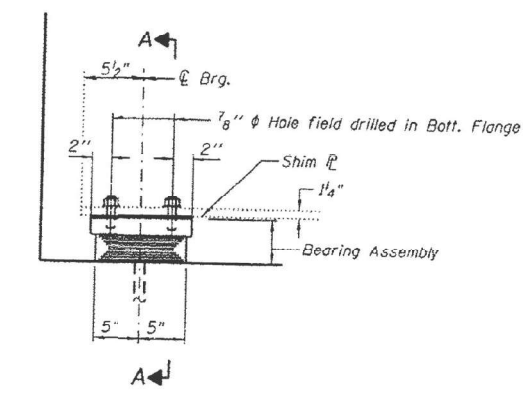
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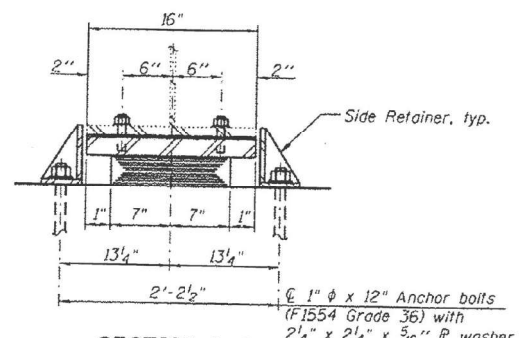
EXISTING BRIDGE PLANS, SN 084-0154
 (FOR INFORMATION ONLY)

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	7
			CONTRACT NO. 72N04	

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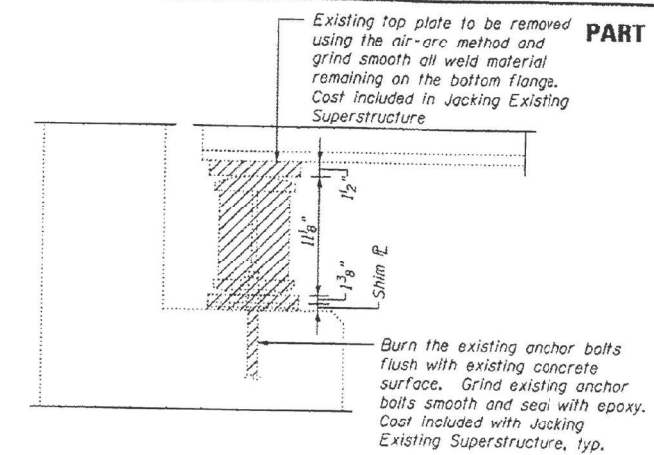


ELEVATION AT ABUT.

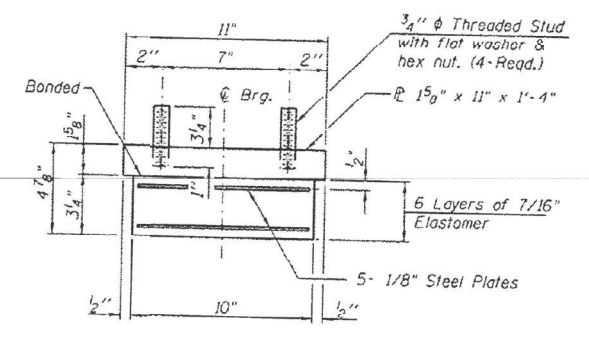


SECTION A-A
 1" x 12" Anchor bolts (F1554 Grade 36) with 2 1/4" x 2 1/4" x 5/16" washer under nut

TYPE I ELASTOMERIC EXP. BRG.



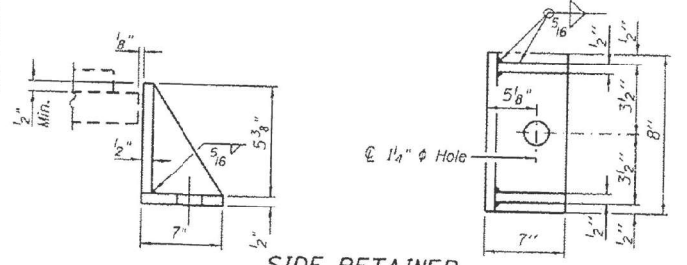
EXISTING ABUTMENT BEARING REMOVAL



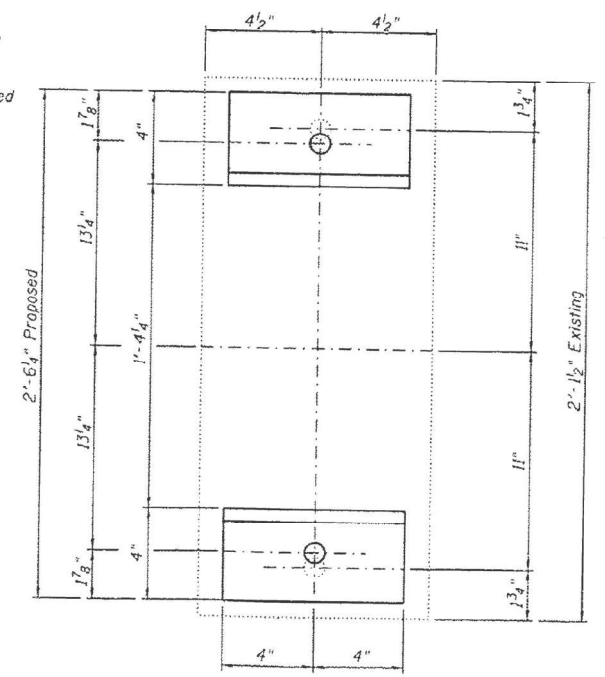
BEARING ASSEMBLY

Notes:
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
 Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.

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.



ANCHOR BOLT LAYOUT

Note: Shown for visual only, new bearing soots will prevent interference with existing anchor bolts.

JACK AND REMOVE EXISTING BEARING PROCEDURE

(North and South Abutments)

- The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
- Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
- Prior to ordering any material, the Contractor shall verify shim plate thickness required of each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
- There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
- For limitations on lift amounts, see Special Provisions.
- The new bearing shall be in place and the jacks shall be lowered before the new concrete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
- Jacking against diaphragms is prohibited.
- Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
- Re-bolt existing diaphragms after completion of Stage III deck pour.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BEAM REACTIONS

(Steel only)

R _D	(k)	13.2
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Min. Jack Capacity = 10 Ton (Without Deck)

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18
Anchor Bolts, 1"	Each	36
Jacking Existing Superstructure	L. Sum	1

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		DRAWN - TJW	REVISED -
		CHECKED - MTH	REVISED -

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 DEPARTMENT OF TRANSPORTATION

ABUTMENT BEARING DETAILS
 OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	194	163
* (84-10-1RS-3, 84-10-2RS-RIBR.1)				
FED. ROAD DIST. NO. 6 [ILLINOIS] FED. AID PROJECT				

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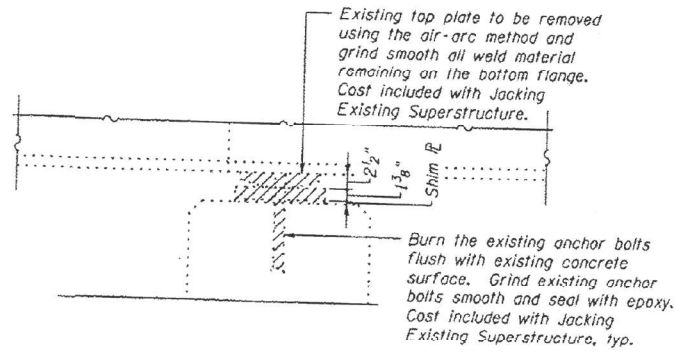
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PLOT DATE = 8/4/2021	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 084-0154
 (FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	8
CONTRACT NO. 72N04				
ILLINOIS FED. AID PROJECT				



EXISTING PIER BEARING REMOVAL

JACK AND REMOVE EXISTING BEARING PROCEDURE
(Center Pier)

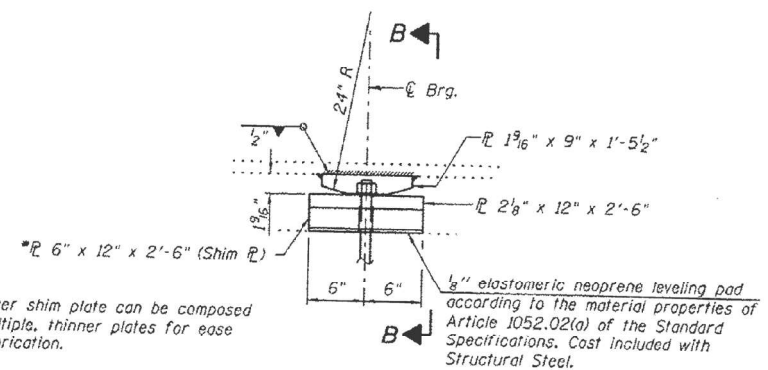
1. The Contractor shall submit for approval by the Engineer, plans for jacking existing beams and installing new bearings prior to commencing any related work.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the concrete deck.
3. Prior to ordering any material, the Contractor shall verify shim plate thickness required at each bearing so that total height of new bearing and fill matches height of existing bearing and shim.
4. There shall be at least one jack per bearing, and the Jack shall be placed close to the bearings.
5. For limitations on lift amounts, see Special Provisions.
6. The new bearing shall be in place and the jacks shall be lowered before the new concrete deck is poured. Existing diaphragms to be unbolted due to differential deflections during stage construction.
7. Jacking against diaphragms is prohibited.
8. Cross frames are to be removed at the stage line prior to jacking and re-installed prior to the final deck pour.
9. Re-bolt existing diaphragms after completion of Stage III deck pour.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

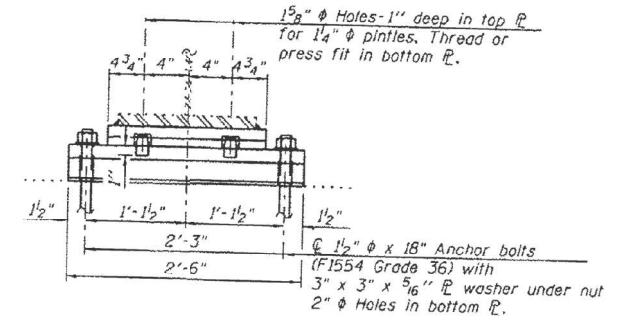
BEAM REACTIONS
(Steel only)

R ₀	(k)	38
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Min. Jack Capacity = 30 Ton (Without Deck)

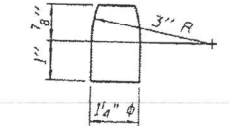


ELEVATION AT PIER



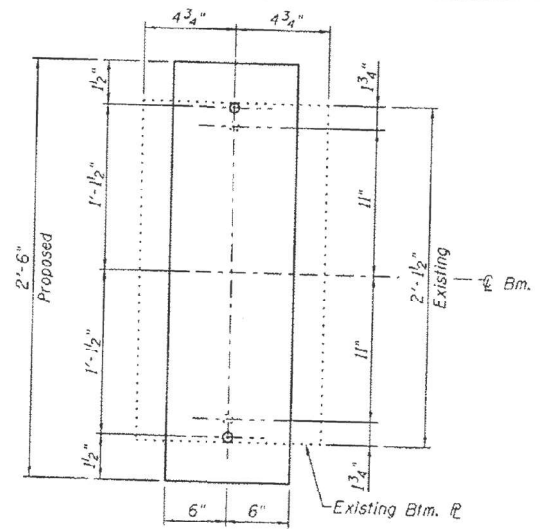
SECTION B-B

FIXED BEARING



PINTLE

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at fixed bearings shall be installed in holes drilled after the supported member is in place. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as needed and as shown on bearing details.



ANCHOR BOLT LAYOUT

Note: Some elements not to scale for clarity.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	8230
Anchor Bolts, 1 1/2"	Each	18
Jacking Existing Superstructure	L. Sum	1

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER BEARING DETAILS
OVERPASS RD. (TR-420) OVER F.A.I.-72 - S.N. 084-0154

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1,2) RS-3	SANGAMON	194	164
CONTRACT NO. 72C90			FED. ROAD DIST. NO. 6 ILLINOIS FED. AID PROJECT	

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PLOT DATE = 8/4/2021	DATE -	REVISED -

STATE OF ILLINOIS
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EXISTING BRIDGE PLANS, SN 084-0154
(FOR INFORMATION ONLY)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	(84-10-1)BP	SANGAMON	9	9
CONTRACT NO. 72N04			ILLINOIS FED. AID PROJECT	