03-07-2025 LETTING ITEM 102

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23*	1
	ILLINOIS	CONTRACT NO. 74D01		

* 23 + 12 = 35 TOTAL SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

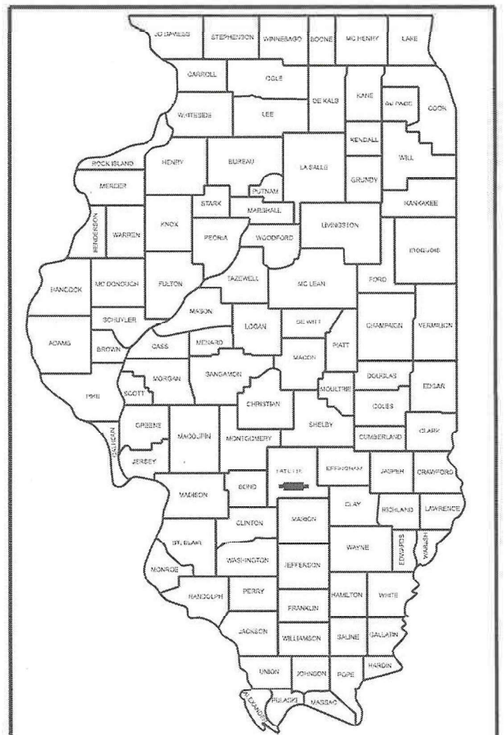
FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED HIGHWAY PLANS

FAI ROUTE 70 (I 70)
SECTION D7 BRIDGE PAINTING 2025-1
PROJECT NHPP-DVCN (385)
BRIDGE PAINTING
FAYETTE COUNTY

C-97-064-24

D-97-033-24



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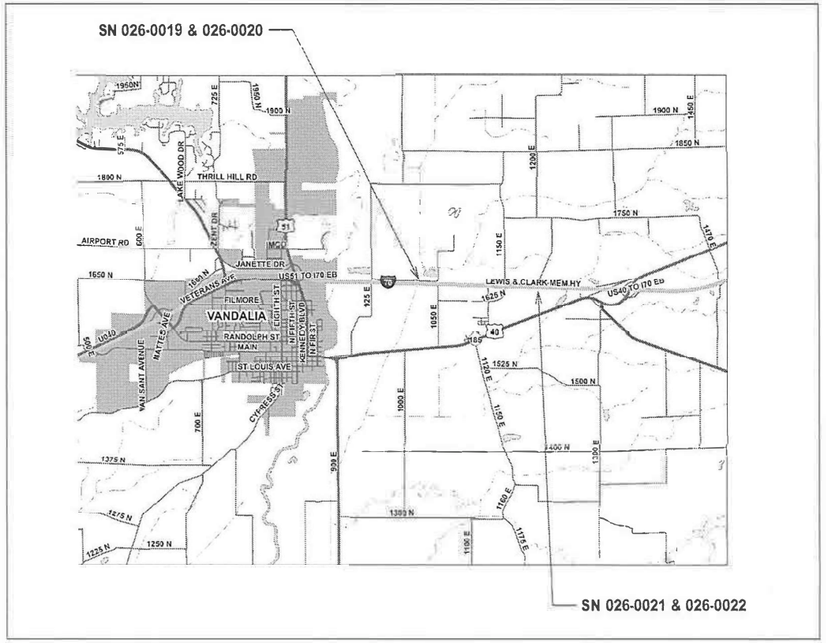

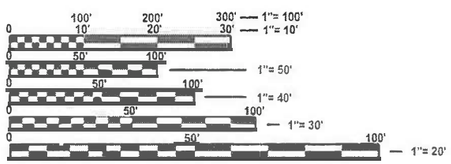

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

GROSS LENGTH = NA FT. = NA MILE
NET LENGTH = NA FT. = NA MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED AUGUST 16 20 24
Jeffrey P Myerlo
REGIONAL ENGINEER

October 4, 2024
ENGINEER OF DESIGN AND ENVIRONMENT

October 4, 2024
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER MATT BOWER
PROJECT MANAGER STACY ANDERSON

CONTRACT NO. 74D01

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV - MS

GENERAL NOTES

THE PROPOSED PROJECT IS LOCATED AT 4 LOCATIONS: IL 70 IN FAYETTE COUNTY.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING THE BRIDGE AS SPECIFIED IN THE PLANS AND SPECIAL PROVISIONS.

THE STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE PLANS AND THE SPECIAL PROVISIONS.

ALL DECK DRAINS SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THEIR OWN EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ONLY STRUCTURAL STEEL IS TO BE PAINTED. ALL OTHER SURFACES WILL BE PROTECTED FROM BEING PAINTED. ALL PAINT AND OVERSPRAY WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

THE SSPC QP1 AND QP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

INDEX OF SHEETS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER THE LAST NUMBERED SHEET:

000001-08	STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
643001-03	SAND MODULE IMPACT ATTENUATORS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701101-05	OFF-RD OPERATIONS, MULT-ILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-05	LANE CLOSURE, 2L, 2W, FOR SPEEDS >= 45 MPH
701400-12	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701901-10	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
782006-01	**GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS**

LOCATION #1

BRIDGE #1
ROUTE: FAI 70
MARKED: IL 70

STATION: 610+43.10
STRUCTURE NUMBER: 026-0019, FAI-70 EB over FR-1187/CAMP CREEK

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all beams, bearings, and diaphragms, within 5' (measured along the beam) of the abutments and any expansion joints shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The outside and bottoms of both fascia beams, for the entire length of the beams, shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

NO air monitors will be required at this location.

LOCATION #2

BRIDGE #2
ROUTE: FAI 70
MARKED: IL 70

STATION: 610+43.10
STRUCTURE NUMBER: 026-0020, FAI-70 WB over FR-1187/CAMP CREEK

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all beams, bearings, and diaphragms, within 5' (measured along the beam) of the abutments and any expansion joints shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. All of fascia beams, for the entire length of the beams, shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

NO air monitors will be required at this location.

LOCATION #3

BRIDGE #3
ROUTE: FAI 70
MARKED: IL 70

STATION: 708+29.47
STRUCTURE NUMBER: 026-0021, FAI-70 EB over CSXT RR

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all beams, bearings, and diaphragms, within 5' (measured along the beam) of the abutments and any expansion joints shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The outside and bottoms of both fascia beams, for the entire length of the beams, shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

NO air monitors will be required at this location.

LOCATION #4

BRIDGE #4
ROUTE: FAI 70
MARKED: IL 70

STATION: 709+54.94
STRUCTURE NUMBER: 026-0022, FAI-70 WB over CSXT RR

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, on all beams, bearings, and diaphragms, within 5' (measured along the beam) of the abutments and any expansion joints all of the 2nd beam from the north shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The outside and bottoms of south fascia beams, for the entire length of the beams, shall be cleaned in their entirety by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

NO air monitors will be required at this location.

REV - MS

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USER NAME = jessica.hille	DESIGNED -	REVISED -	
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	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, GENERAL NOTES SHEETS

SCALE: | SHEET 2 OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	2
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

90% FED 10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0047 SN 026-0019	CONSTRUCTION TYPE CODE 0047 SN 026-0020, 0021, 0022	
67100100	MOBILIZATION	L SUM	1	0.25	0.75	
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	4	1	3	
	701402					
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	0.5	0.5	
	701201					
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	0.25	0.75	
	701401					
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1200	300	900	
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	100	25	75	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1200	300	900	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-	EACH	4	1	3	
	REDIRECTIVE), TEST LEVEL 3					
70600350	IMPACT ATTENUATORS, RELOCATE (NON-	EACH	4	1	3	
	REDIRECTIVE), TEST LEVEL 3					

90% FED 10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0047 SN 026-0019	CONSTRUCTION TYPE CODE 0047 SN 026-0020, 0021, 0022	
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1	1		
	CLEANING RESIDUES NO. 1					
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1		1	
	CLEANING RESIDUES NO. 2					
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1		1	
	CLEANING RESIDUES NO. 3					
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1		1	
	CLEANING RESIDUES NO. 4					
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1		
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1		1	
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1		1	
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1		1	
Z0048665	RAILROAD PROTECTION LIABILITY INSURANCE	L SUM	1		1	

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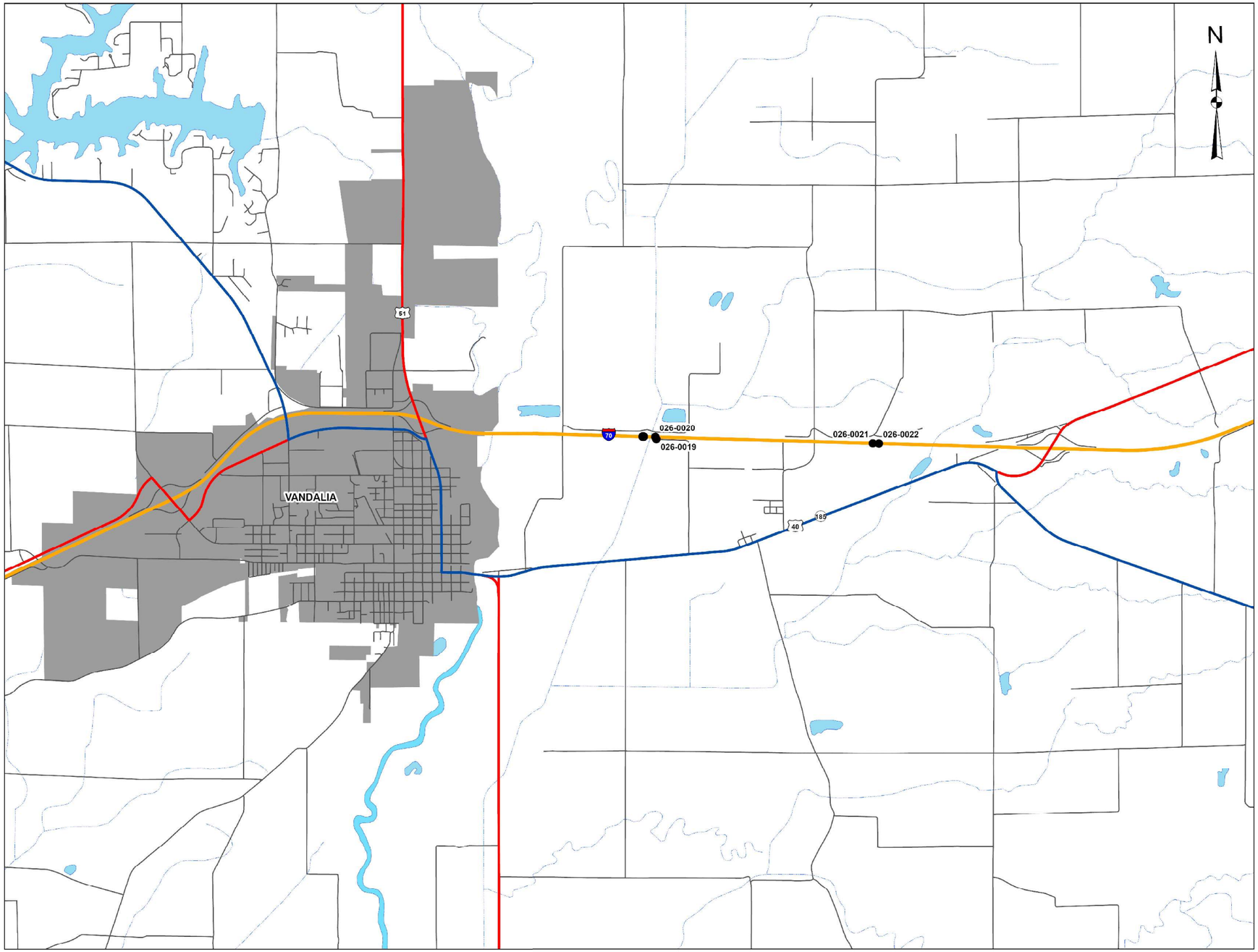
USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITES

SCALE: | SHEET OF 1 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	3
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		



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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/19/2024	DATE -	REVISED -	

LOCATION 1
026-0019 - 026-0022

SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	4
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

BENCHMARK: Chiseled square on top of S.W. Wingwall of EB Bridge (SN 026-0019). Elev. 148.319.

EXISTING STRUCTURE: SN 026-0019, built in 1948 and widened in 1972, is a 14 span bridge carrying eastbound F.A.I. Rte. 70 over Camp Creek. The superstructure consists of a reinforced concrete deck on wide flange rolled steel beams. The clear width is 11.735 m between parapets, and the length is 182.88 m back to back abutments. Traffic shall be maintained utilizing temporary crossovers to the adjacent westbound structure during the rehabilitation of the structure. No salvage.

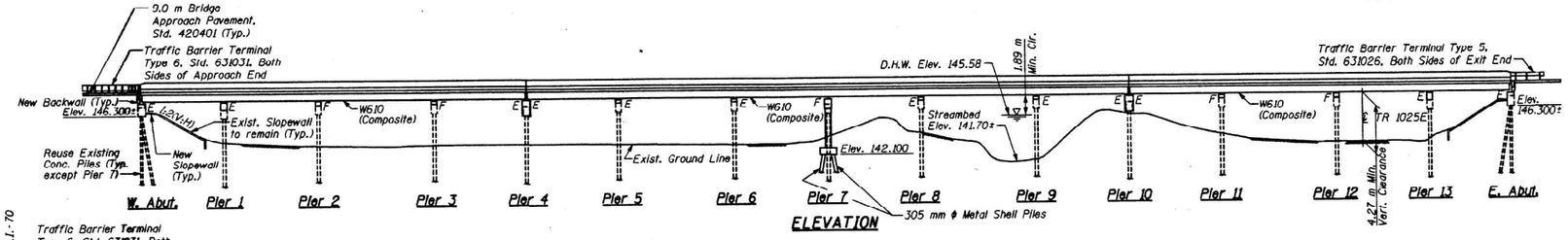
Note: All dimensions are in millimeters (mm) except as noted.

STATION 18+605.974
REBUILT 199_ BY
STATE OF ILLINOIS
F.A.I. RTE. 70 SECTION (26-3B-2)BR
PROTECT ACBHI-70-2(218)69
LOADING MS18 & ALT.
STR. NO. 026-0019

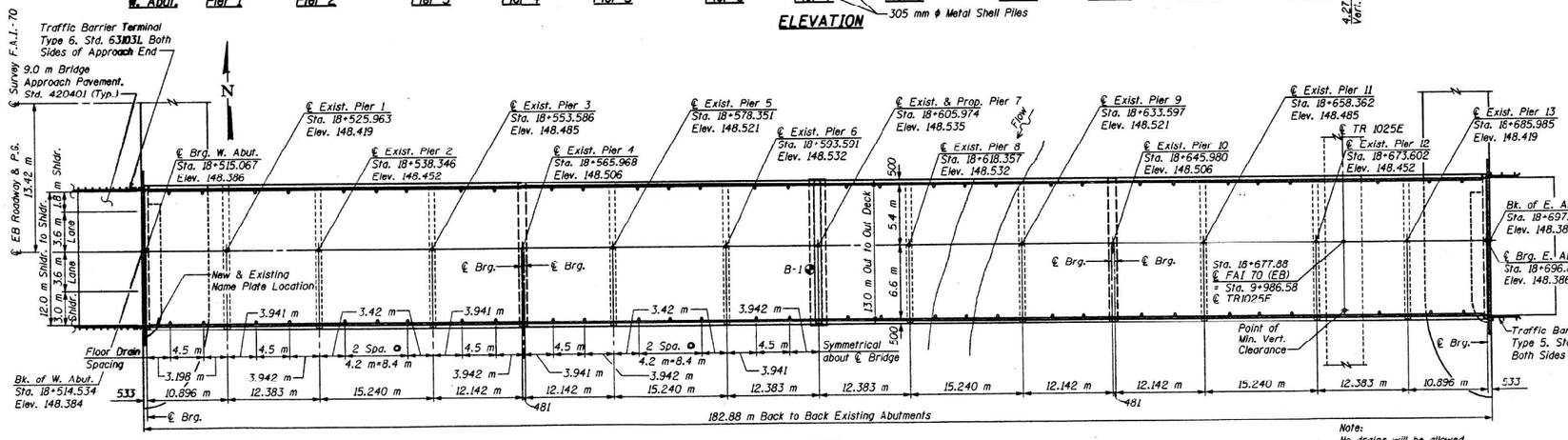
Note: Salvage existing Name Plate & mount adjacent to new Name Plate on new parapet. The cost of salvaging & incorporating exist. Name Plate into new work is included in Name Plates.

NAME PLATE
See Std. 515001

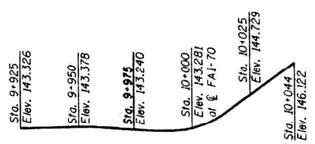
*026-3B-2)BR				
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAI-70	0	FAYETTE	42	17
STRA		TO STRA		
PROJ. ENGR. DIST. NO.	ILLINOIS	FED. AID PROJECT*		
		DWG. NO. 1 OF 26		



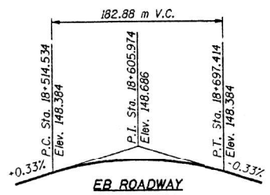
ELEVATION



PLAN



PROFILE GRADE
(Along ℄ TR1025E)



EB ROADWAY
PROFILE GRADE
(Along ℄ EB Roadway)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

ENGINEER OF BRIDGES AND STRUCTURES

WATERWAY INFORMATION

Drainage Area = 81.2 km² Low Grade Elev. 148.231 m ⊙ Sta. 18+697

Flood	Freq. Yr.	Q cms	Opening Sq. m		Nat. H.W.E. m	Head - m		Headwater Elev. - m	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop. **
Design	50	172.9	351.9	351.9	145.58	0.021	0.021	145.60	145.60
Base	100	198.4	382.3	382.3	145.77	0.024	0.024	145.79	145.79
Overtopping	N.A.								
Max. Calc.	500	259.4	449.5	449.5	146.18	0.024	0.024	146.20	146.20

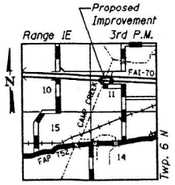
**Headwater Elev. = W.S. Elev. ⊙ Upstream Face of Proposed Structure.

DESIGN SPECIFICATIONS
1996 AASHTO
1995 Seismic Retrofitting Manual for Highway Bridges FHWA-RD-94-052

LOADING MS18 & ALT.
Allow 1.2 kN/m² for future wearing surface.

DESIGN STRESSES
f'_c = 24 MPa
f_y = 400 MPa (Reinf.)
f_y = 345 MPa M270 Grade 345 (Struc. Steel)
f_y = 250 MPa M270 Grade 250 (Struc. Steel)

SEISMIC DATA
Seismic Performance Category (SPC) = A
Bedrock Accoleration Coefficient (A) = 0.075 g
Site Coefficient (S) = 1.0



LOCATION SKETCH

STATE OF ILLINOIS
RICHARD D. PAYNE
No. 4647
LICENSED STRUCTURAL ENGINEER
expires 11-30-98
signature
8/11/97
date

GENERAL PLAN & ELEVATION
FAI-70 OVER CAMP CREEK
FAI-70 SECTION (26-3B-2)BR
FAYETTE COUNTY
STATION 18+605.974
STRUCTURE NO. 026-0019 (EB)

ESCA CONSULTANTS, INC

DESIGNED BY:	MTD	5/97
DRAWN BY:	WEW	5/97
CHECKED BY:	RDP	5/97
APPROVED BY:	RDP	8/97

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USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

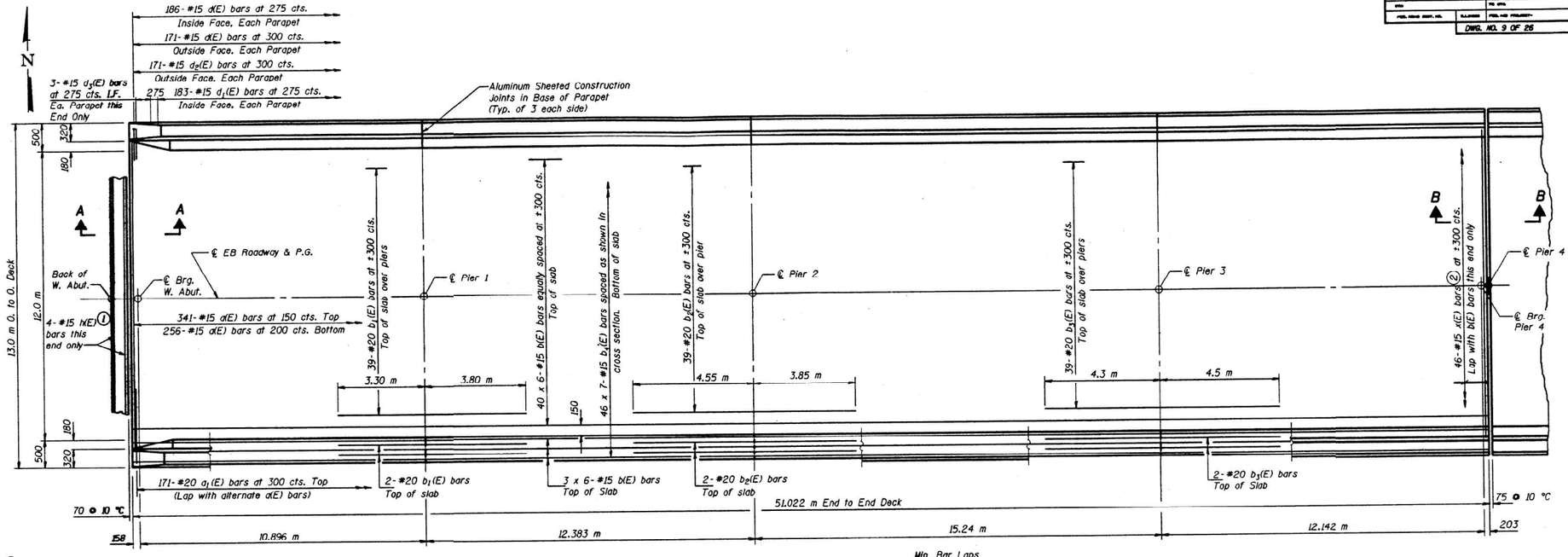
EXISTING STRUCTURE PLANS

SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	5
		CONTRACT NO. 74D01		
		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	6	FAYETTE	42	25
AREA		TYPE OF WORK		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
		DWG. NO. 9 OF 26		

*126-38-2BR

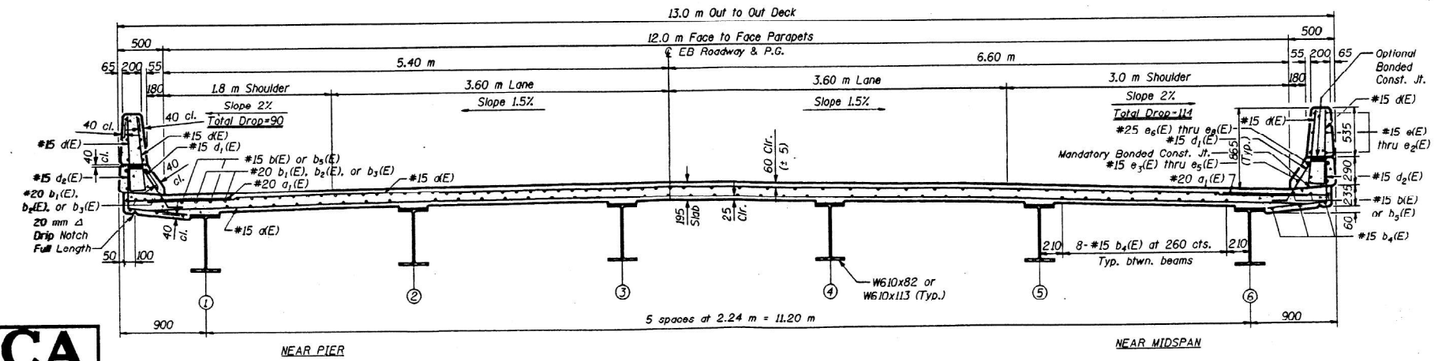


(1) See Section A-A on Dwg. No. 12 of 26.

(2) See Section B-B on Dwg. No. 12 of 26.

WEST END UNIT PLAN

Min. Bar Laps
#15.....510



CROSS SECTION
(Looking East)

NOTES

1. See Dwgs. 11 & 12 of 26 for superstructure details and Bill of Material.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Bars indicated thus: 40 x 6-#15 etc. indicates 40 lines of bars with 6 lengths per line.
4. All dimensions are in millimeters (mm) except as noted.
5. See Dwg. No. 12 of 26 for Sections A-A & B-B.
6. Only Aluminum Sheeted Joints in parapets are shown on this drawing. Location of all other parapet joints are shown on Dwg. No. 11 of 26.
7. 1-#15 h_1(E) bar placed in each face of ea. wing as shown on Dwg. No. 21 of 26 is included with the superstructure.

WEST UNIT SUPERSTRUCTURE
FAI-70 OVER CAMP CREEK
FAI-70 SECTION (26-3B-2)BR
FAYETTE COUNTY
STATION 18+605.974
STRUCTURE NO. 026-0019 (EB)

ESCA CONSULTANTS, INC		
DESIGNED BY:	MTD	5/97
DRAWN BY:	WEM	5/97
CHECKED BY:	RDP	5/97
APPROVED BY:	RDP	8/97

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/16/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

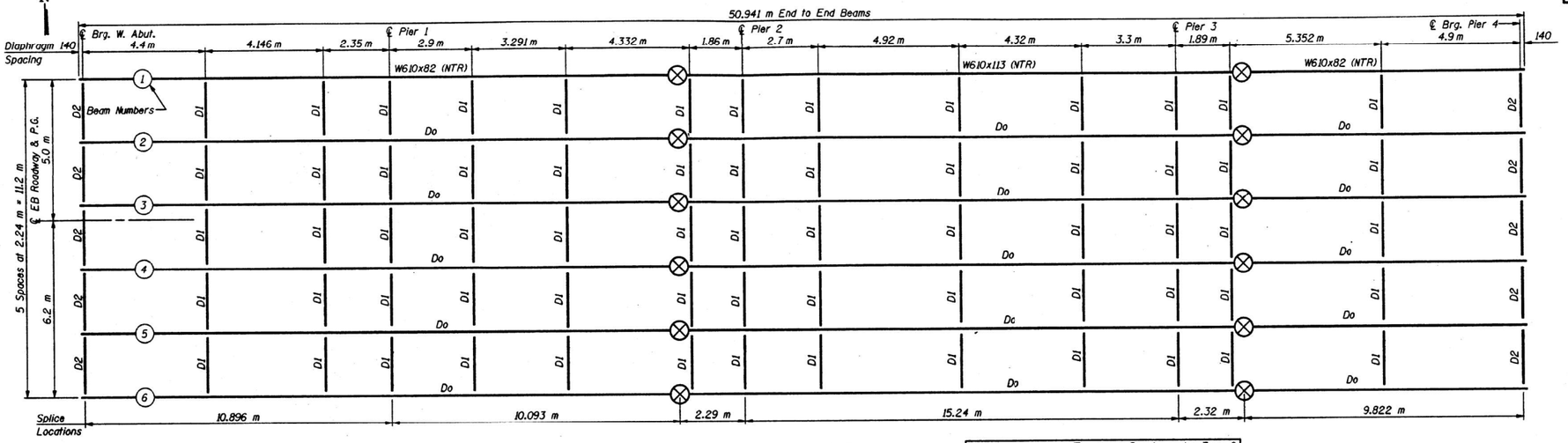
SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	6
		CONTRACT NO. 74D01		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-70	*	FAYETTE	42	30
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

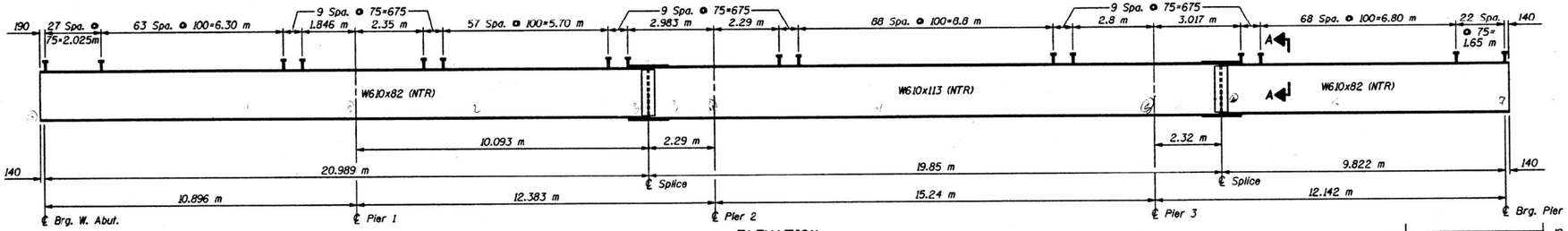
CONT. NO. 14 OF 26

*026-3B-2BR



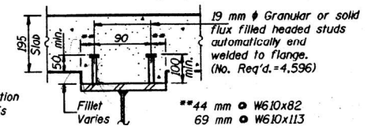
STEEL FRAMING PLAN

NTR Indicates Notch Toughness Requirements, Zone 2



ELEVATION

(Showing Spacing for Stud Shear Connectors)



SECTION A-A

TABLE OF ELEVATIONS- TOP OF STEEL BEAMS

Beam	W. Abut.	Pier 1	Splice	Pier 2	Pier 3	Splice	Pier 4
1	148.093	148.113	148.132	148.137	148.170	148.175	148.213
2	148.134	148.153	148.173	148.177	148.210	148.216	148.254
3	148.167	148.187	148.206	148.211	148.244	148.249	148.287
4	148.149	148.169	148.188	148.193	148.226	148.231	148.269
5	148.114	148.134	148.153	148.158	148.191	148.196	148.234
6	148.069	148.089	148.108	148.113	148.146	148.151	148.189

Note: Elevations shown are top of flange (Not Splice Plate), at splice locations. elevations shown are top of W610x113 flanges; they do not include deflection, and are intended for use in fabrication of steel beams.

INTERIOR BEAM REACTION TABLE

	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4
RP (kN)	69.7	198.4	224.9	251.7	71.3
RL (kN)	152.4	185.9	194.3	195.3	157.0
Imp. (kN)	45.7	55.8	57.0	57.5	47.1
R (Total) (kN)	267.8	440.1	476.2	504.5	275.4

INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.5 Sp. 3	Pier 3	0.6 Sp. 4
Is	(10^6 mm⁴)	562	562	562	874	874	874	562
Ic (n)	(10^6 mm⁴)	2115	-	2115	-	2885	-	2115
Ic (3n)	(10^6 mm⁴)	1663	-	1663	-	2226	-	1663
Ss	(10^3 mm³)	1878	1878	1878	2877	2877	2877	1878
Sc (n)	(10^3 mm³)	3345	-	3345	-	4647	-	3345
Sc (3n)	(10^3 mm³)	3018	-	3018	-	4225	-	3018
Q	(kN/m)	11.53	15.98	11.53	16.29	11.84	16.29	11.53
MP	(kN-m)	104.7	189.7	52.0	253.5	125.8	313.9	106.9
sP	(kN/m)	4.45	-	4.45	-	4.45	-	4.45
MsP	(kN-m)	46.7	-	34.0	-	63.6	-	50.9
ML	(kN-m)	308.1	134.8	302.3	183.8	422.4	189.1	340.9
M (Imp)	(kN-m)	92.4	40.4	90.7	53.9	120.7	55.6	102.3
5_3(ML+M(Imp))	(kN-m)	667.5	292.0	655.0	396.2	905.2	407.8	738.7
Ma	(kN-m)	1064.6	625.2	963.3	844.6	1422.9	938.3	1165.4
Mu	(kN-m)	1161.7	-	-	-	-	-	1175.5
fsP non-comp	(MPa)	55.50	101.08	27.37	88.12	43.44	109.08	56.88
fsP (comp)	(MPa)	15.44	-	11.17	-	14.96	-	16.82
fs5_3(L+Imp)	(MPa)	158.91	155.61	195.60	137.69	193.74	141.83	220.56
fs (Overload)	(MPa)	269.85	256.69	234.14	225.81	252.14	250.91	294.26
fs (Total)	(MPa)		333.70	304.39	293.55	327.78	326.18	-
VR	(kN)	212.1	-	233.8	-	241.4	-	225.8

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

fs (Total) is the sum of the stresses due to 1.3[MP + MsP + 5_3(ML + M(Imp))].

fs (Overload) is the sum of the stresses due to MP + MsP + 5_3(ML + M(Imp)).

MP-Moment due to dead loads on non-composite section.

MsP-Moment due to dead loads on composite section.

ML-Moment due to live load on non-composite or composite section.

M (Imp) -Moment due to live load impact on non-composite or composite section.

Ma (Applied Moment)=1.3[MP + MsP + 5_3(ML + M(Imp))].

Mu is the Plastic Moment Capacity computed according to AASHTO 10.48.1 and 10.50.1.1.

NOTES

1. See Dwg. No. 17 of 26 for Diaphragms D1 & D2 and Splice details.
2. All elevations are in meters.

WEST UNIT STEEL FRAMING PLAN FAI-70 OVER CAMP CREEK FAI-70 SECTION (26-3B-2)BR FAYETTE COUNTY STATION 18+605.974 STRUCTURE NO. 026-0019 (EB)

ESCA CONSULTANTS, INC		
DESIGNED BY:	MTD	5/97
DRAWN BY:	WEM	5/97
CHECKED BY:	RDP	5/97
APPROVED BY:	RDP	8/97

MODEL: Default
FILE NAME: c:\pw_work\pwidot\illinois_gov-stacy.anderson@illinois.gov\d0989262\D7774D01-sht-elan.dgn

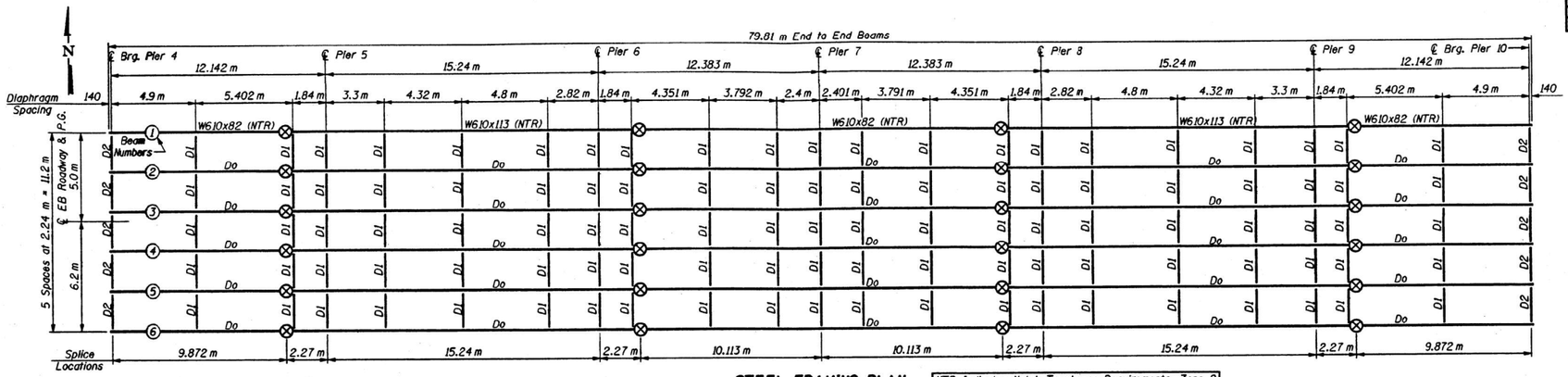
USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0019

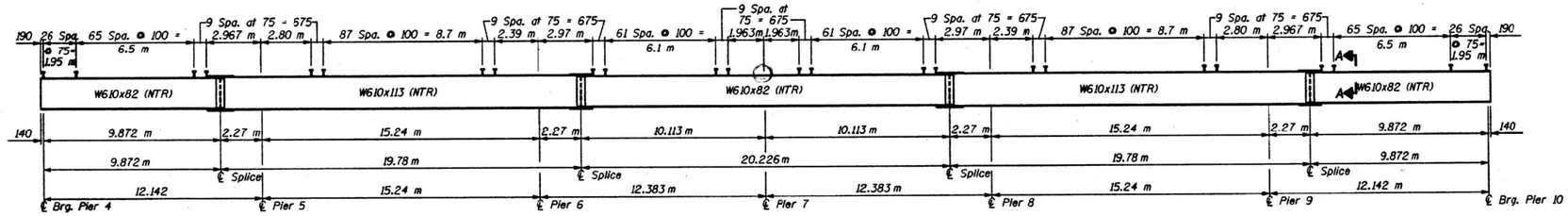
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	7
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		



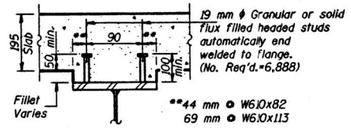
STEEL FRAMING PLAN

NTR Indicates Notch Toughness Requirements, Zone 2



ELEVATION

(Showing Spacing for Stud Shear Connectors)



SECTION A-A

TABLE OF ELEVATIONS- TOP OF STEEL BEAMS

Beam	Pier 4 or 10	Splice	Pier 5 or 9	Pier 6 or 8	Splice	Pier 7
1	148.213	148.204	148.206	148.217	148.219	148.219
2	148.254	148.245	148.247	148.258	148.260	148.260
3	148.287	148.278	148.280	148.291	148.293	148.293
4	148.269	148.260	148.262	148.273	148.275	148.275
5	148.234	148.225	148.227	148.238	148.240	148.240
6	148.189	148.180	148.182	148.193	148.195	148.195

Note: Elevations shown are top of flange (Not Splice Plate), at splice locations elevations shown are top of W610x113 flange; they do not include deflection, and are intended for use in fabrication of steel beams.

INTERIOR BEAM REACTION TABLE

	Pier 4 or 10	Pier 5 or 9	Pier 6 or 8	Pier 7
RP (kN)	71.4	250.8	228.6	181.9
RL (kN)	157.0	195.4	194.3	185.8
Imp. (kN)	47.1	57.5	57.0	55.7
R (Total) (kN)	275.5	503.7	479.9	423.4

INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 5 or 0.6 Sp. 10	Pier 5 or 9	0.5 Sp. 6 or Span 9	Pier 6 or 8	0.5 Sp. 7 or Sp. 8	Pier 7
Is (10^6 mm⁴)	562	874	874	874	562	562
Ic (n) (10^6 mm⁴)	2115	-	2885	-	2115	-
Ic (3n) (10^6 mm⁴)	1663	-	2226	-	1663	-
Ss (10^3 mm³)	1878	2877	2877	2877	1878	1878
Sc (n) (10^3 mm³)	3345	-	4647	-	3345	-
Sc (3n) (10^3 mm³)	3018	-	4225	-	3018	-
D (kN/m)	11.53	16.29	11.84	16.29	11.53	15.98
MP (kN-m)	107.7	311.7	122.7	262.0	61.3	161.7
sP (kN/m)	4.45	-	4.45	-	4.45	-
MsP (kN-m)	50.9	-	63.3	-	35.5	-
ML (kN-m)	340.7	189.2	422.5	185.6	303.4	140.4
M (Imp) (kN-m)	102.2	55.7	120.7	54.5	91.0	42.1
S_3[ML+M(Imp)] (kN-m)	738.2	408.2	905.3	400.2	657.3	304.2
Ma (kN-m)	1165.8	935.8	1418.7	860.8	980.4	605.6
Mu (kN-m)	1176.4	-	-	-	-	-
fsP non-comp (MPa)	57.36	108.32	41.78	91.08	32.41	86.12
fsP (comp) (MPa)	16.89	-	14.89	-	11.65	-
fsS_3(L+Imp) (MPa)	220.43	141.89	193.81	139.07	196.02	162.03
fs (Overload) (MPa)	294.68	250.21	250.48	230.15	240.08	248.15
fs (Total) (MPa)	-	325.27	325.62	299.20	312.10	322.60
VR (kN)	225.9	-	241.4	-	233.6	-

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

fs (Total) is the sum of the stresses due to 1.3[MP + Ms P + S_3(M L + M(Imp))].

fs (Overload) is the sum of the stresses due to MP + Ms P + S_3(M L + M(Imp)).

MP - Moment due to dead loads on non-composite section.

Ms P - Moment due to dead loads on composite section.

ML - Moment due to live load on non-composite or composite section.

M (Imp) - Moment due to live load impact on non-composite or composite section.

Ma (Applied Moment)=1.3[M P + Ms P + S_3(M L + M(Imp))].

MU is the Plastic Moment Capacity computed according to AASHTO 10.48.1 and 10.50.1.1.

NOTES

1. See Dwg. No. 17 of 26 for Diaphragms D1 & D2 and Splice details.
2. All elevations are in meters.

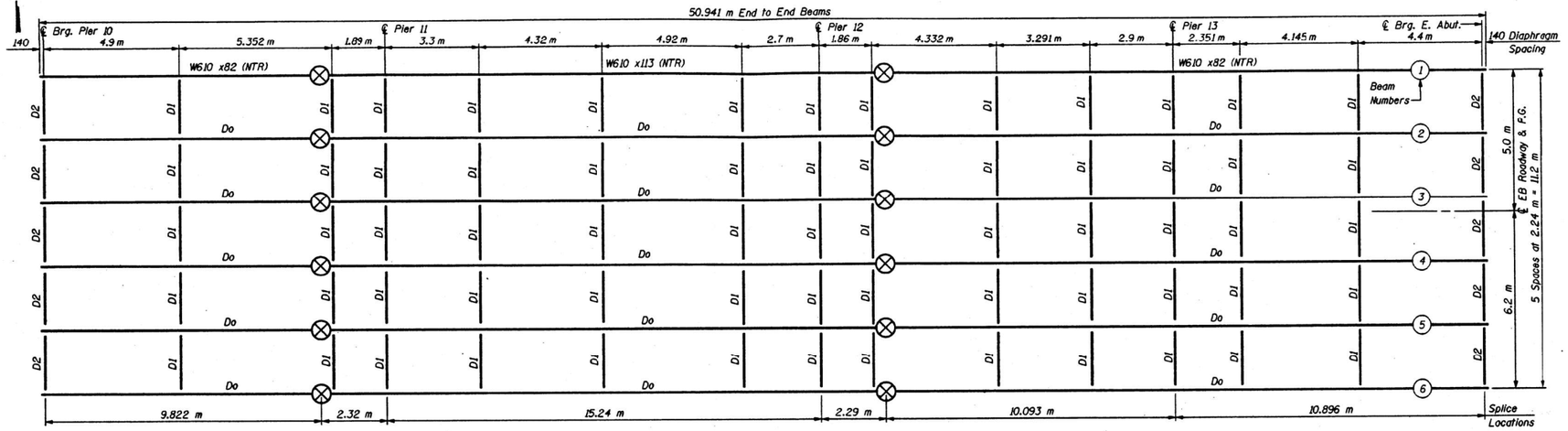
CENTER UNIT
STEEL FRAMING PLAN
FAI-70 OVER CAMP CREEK
FAI-70 SECTION (26-3B-2)BR
FAYETTE COUNTY
STATION 18+605.974
STRUCTURE NO. 026-0019 (EB)

ESCA CONSULTANTS, INC

DESIGNED BY:	MTD	5/97
DRAWN BY:	WEM	5/97
CHECKED BY:	ROP	5/97
APPROVED BY:	ROP	8/97

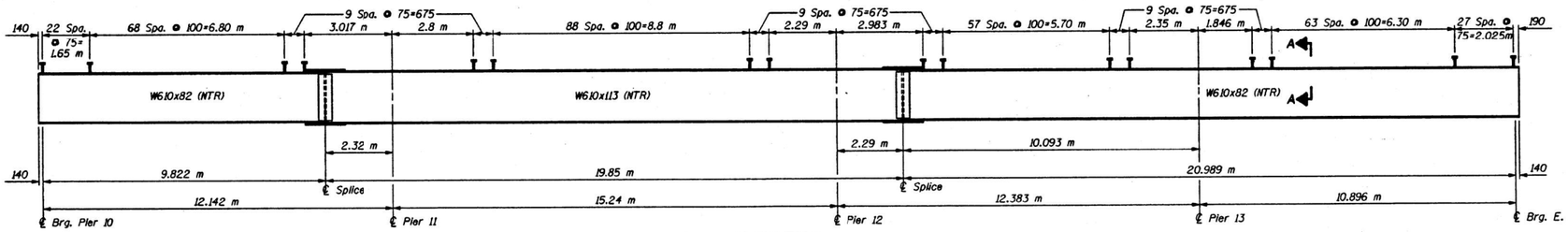
FAI-70		FAYETTE	42	32
				DWG. NO. 16 OF 26

*026-38-2BR



STEEL FRAMING PLAN

NTR Indicates Notch Toughness Requirements, Zone 2



ELEVATION

(Showing Spacing for Stud Shear Connectors)

TABLE OF ELEVATIONS- TOP OF STEEL BEAMS

Beam	Pier 10	Splice	Pier 11	Pier 12	Splice	Pier 13	E. Abut.
1	148.213	148.175	148.170	148.137	148.132	148.113	148.093
2	148.254	148.216	148.210	148.177	148.173	148.153	148.134
3	148.287	148.249	148.244	148.211	148.206	148.187	148.167
4	148.269	148.231	148.226	148.193	148.188	148.169	148.149
5	148.234	148.196	148.191	148.158	148.153	148.134	148.114
6	148.189	148.151	148.146	148.113	148.108	148.089	148.069

Note: Elevations shown are top of flange (Not Splice Plate), at splice locations elevations shown are top of W610x113 flange; they do not include deflection, and are intended for use in fabrication of steel beams.

INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 11	Pier 11	0.5 Sp. 12	Pier 12	0.5 Sp. 13	Pier 13	0.6 Sp. 14
Is	(10^6 mm⁴)	562	874	874	874	562	562	562
Ic (n)	(10^6 mm⁴)	2115	-	2885	-	2115	-	2115
Ic (sn)	(10^6 mm⁴)	1663	-	2226	-	1663	-	1663
Ss	(10^3 mm³)	1878	2877	2877	2877	1878	1878	1878
Sc (n)	(10^3 mm³)	3345	-	4647	-	3345	-	3345
Sc (sn)	(10^3 mm³)	3018	-	4225	-	3018	-	3018
Q	(kN/m)	11.53	16.29	11.84	16.29	11.53	15.98	11.53
MQ	(kN-m)	106.9	313.9	125.8	253.5	52.0	189.7	104.7
sQ	(kN/m)	4.45	-	4.45	-	4.45	-	4.45
MsQ	(kN-m)	50.9	-	63.6	-	34.0	-	46.7
ML	(kN-m)	340.9	189.1	422.4	183.8	302.3	134.8	308.1
M (Imp)	(kN-m)	102.3	55.6	120.7	53.9	90.7	40.4	92.4
S_3[ML+M(Imp)]	(kN-m)	738.7	407.8	905.2	396.2	655.0	292.0	667.5
Ma	(kN-m)	1165.4	938.3	1422.9	844.6	963.3	626.2	1064.6
Mu	(kN-m)	1175.5	-	-	-	-	-	1161.7
fsQ non-comp	(MPa)	56.88	109.08	43.44	88.12	27.37	101.08	55.50
fsQ (comp)	(MPa)	16.82	-	14.96	-	11.17	-	15.44
$fs\,S_3$(L+Imp)	(MPa)	220.56	141.83	193.74	137.69	195.60	155.61	198.91
fs (Overload)	(MPa)	294.26	250.91	252.14	225.81	234.14	256.69	269.85
fs (Total)	(MPa)	-	326.18	327.78	293.55	304.39	333.70	-
VR	(kN)	225.8	-	241.4	-	233.8	-	212.1

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(sn) and Sc(sn) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

fs (Total) is the sum of the stresses due to 1.3[MQ + Ms Q + S_3(ML + M(Imp))].

fs (Overload) is the sum of the stresses due to MQ + Ms Q + S_3(ML + M(Imp)).

MQ - Moment due to dead loads on non-composite section.

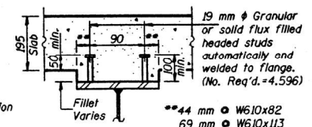
Ms Q - Moment due to dead loads on composite section.

ML - Moment due to live load on non-composite or composite section.

M (Imp) - Moment due to live load impact on non-composite or composite section.

Ma (Applied Moment) = 1.3[MQ + Ms Q + S_3(ML + M(Imp))].

Mu is the Plastic Moment Capacity computed according to AASHTO 10.48.1 and 10.50.1.1.



SECTION A-A

INTERIOR BEAM REACTION TABLE

	Pier 10	Pier 11	Pier 12	Pier 13	E. Abut.
RQ (kN)	71.3	251.7	224.9	198.4	69.7
RL (kN)	157.0	195.3	194.3	185.9	152.4
Imp. (kN)	47.1	57.5	57.0	55.8	45.7
R (Total) (kN)	275.4	504.5	476.2	440.1	267.8

NOTES

1. See Dwg. No. 17 of 26 for Diaphragms D1 & D2 and Splice details.
2. All elevations are in meters.

EAST UNIT STEEL FRAMING PLAN FAI-70 OVER CAMP CREEK FAI-70 SECTION (26-3B-2)BR FAYETTE COUNTY STATION 18+605.974 STRUCTURE NO. 026-0019 (EB)

ESCA CONSULTANTS, INC		
DESIGNED BY:	MTD	5/97
DRAWN BY:	WEM	5/97
CHECKED BY:	RDP	5/97
APPROVED BY:	RDP	8/97

MODEL: Default
FILE NAME: c:\pw_work\pwdot\illinois.gov_stacy.anderson@illinois.gov\d0989262\D7774D01-sht-elan.dgn

USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

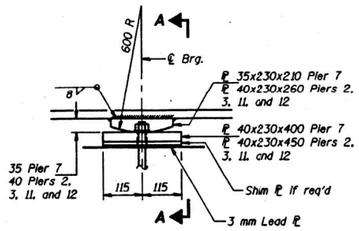
EXISTING STRUCTURE PLANS
026-0019

SCALE: | SHEET OF SHEETS | STA. | TO STA.

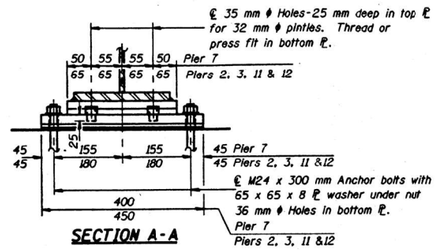
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	9
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

Mike Duff

*126-3B-2BR	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FAI-70	*	FAYETTE	42	33
	STA.		TO STA.		
	FED. ROAD DIST. NO.		FED. AID PROJECT		
			DWG. NO. 17 OF 26		

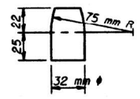


ELEVATION AT PIERS 2, 3, 7, 11 & 12



SECTION A-A

FIXED BEARING



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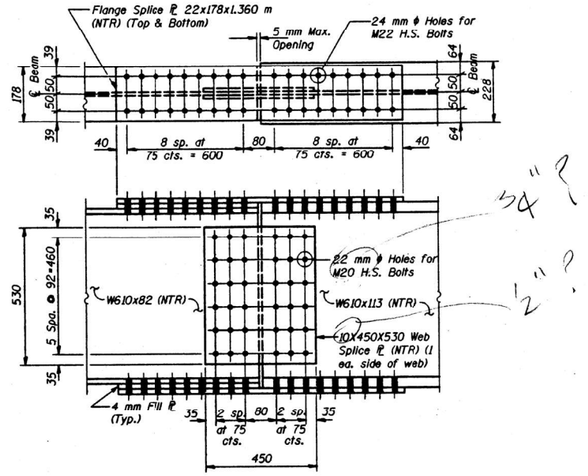
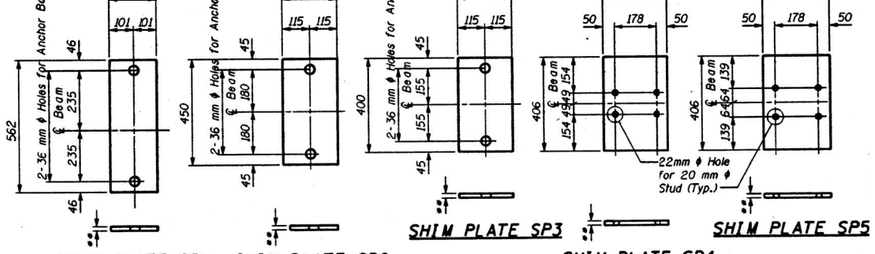


FIELD SPLICE DETAIL
(48 Required)

NOTES

1. All Beams and Splice Plates excluding Fill Plates are M270 Grade 345 Structural Steel.
2. Anchor Bolts at Fixed Bearings may be built into the masonry.
3. See Dwg. No. 24 of 26 for Anchor Bolt installation.
4. All dimensions are in millimeters (mm) except as noted.



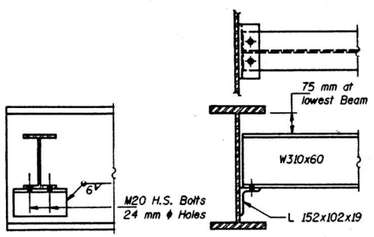
** See SHIM PLATES Table

SHIM PLATES

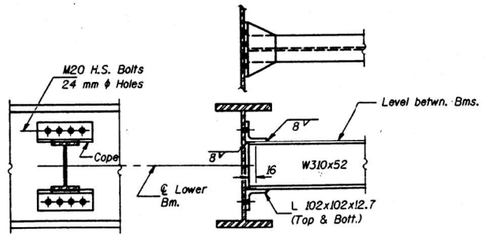
	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4 W.	Pier 4 E.	Pier 5	Pier 6	Pier 7
Beam 2	1-5 mm SP1	1-5 mm SP4	1-5 mm SP2	1-5 mm SP2	1-5 mm SP1	1-5 mm SP1	1-5 mm SP5	1-5 mm SP5	1-5 mm SP3
Beam 3	1-18 mm SP1	1-18 mm SP4	1-18 mm SP2	1-18 mm SP2	1-18 mm SP1	1-18 mm SP1	1-18 mm SP5	1-18 mm SP5	1-18 mm SP3

SHIM PLATES

	Pier 8	Pier 9	Pier 10 W.	Pier 10 E.	Pier 11	Pier 12	Pier 13	E. Abut.
Beam 2	1-5 mm SP5	1-5 mm SP5	1-5 mm SP1	1-5 mm SP1	1-5 mm SP2	1-5 mm SP2	1-5 mm SP4	1-5 mm SP1
Beam 3	1-18 mm SP5	1-18 mm SP5	1-18 mm SP1	1-18 mm SP1	1-18 mm SP2	1-18 mm SP2	1-18 mm SP4	1-18 mm SP1



DIAPHRAGM D2
30 Required



DIAPHRAGM D1
235 Required

Note: Two hardened washers shall be required over all oversize holes for diaphragms.

ESCA CONSULTANTS, INC

DESIGNED BY:	MTD	5/97
DRAWN BY:	WEM	5/97
CHECKED BY:	ROP	5/97
APPROVED BY:	ROP	8/97

STEEL FRAMING DETAILS
FAI-70 OVER CAMP CREEK
FAI-70 SECTION (26-3B-2)BR
FAYETTE COUNTY
STATION 18+605.974
STRUCTURE NO. 026-0019 (EB)

MODEL: Default
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USER NAME = stacy.anderson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

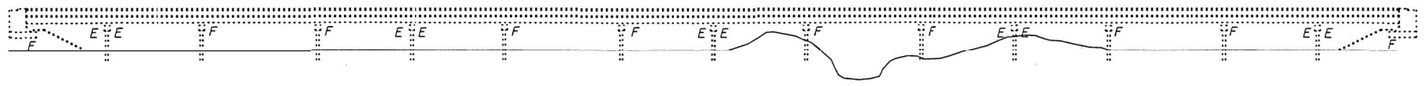
EXISTING STRUCTURE PLANS
026-0019

SCALE: | SHEET OF SHEETS | STA. | TO STA.

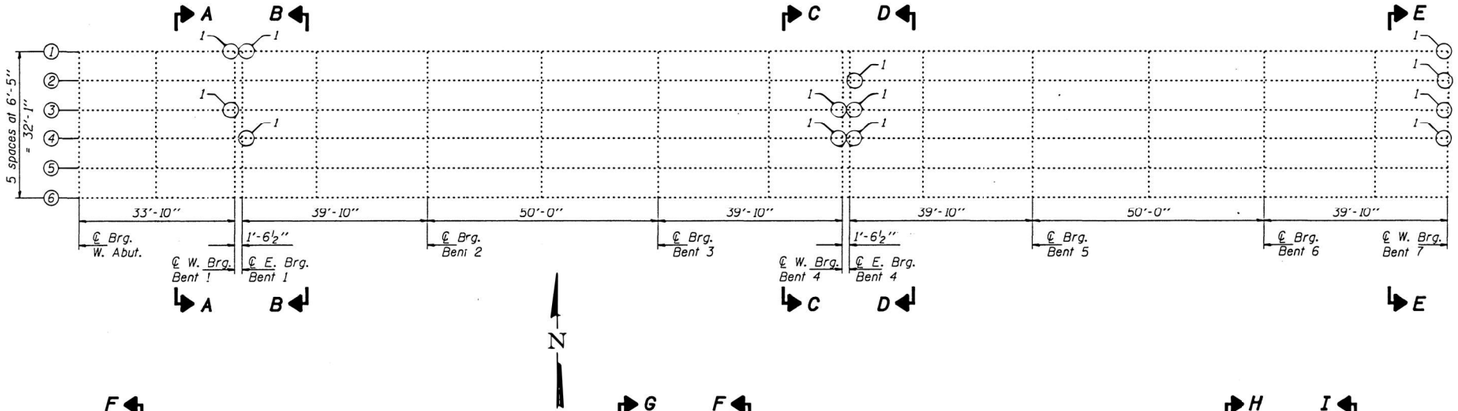
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	9A
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3)RS-3	FAYETTE	36	18A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

1 End of Beam Repair.

NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36. unless otherwise noted.

All new fasteners shall be high strength bolts. Holes shall be subpunched or subdrilled $^{11}/_{16}$"ϕ and reamed in the field to $^{13}/_{16}$"ϕ for $^{3}/_{4}$"ϕ high strength bolts unless otherwise noted after structural steel sections are properly fitted into position.

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.

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

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I. Cost shall be included in the cost of "Furnishing and Erecting Structural Steel".

Existing Structural steel shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures".

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	6550

DESIGNED	GTB
CHECKED	CME
DRAWN	Paul Sumner
CHECKED	GTB CME

Notes: All Beams are 27WF94 and all Diaphragms are 12WF40.
For Section A-A thru C-C see sheet 18B.
For Section D-D thru F-F see sheet 18C.
For Section G-G thru I-I see sheet 18D.
For Section at repair see sheet 18D.

END OF BEAM REPAIR
FAI ROUTE 70 SEC. 26-3B-2(2)I
FAYETTE COUNTY
STA. 610+43.10
STRUCTURE NUMBER 026-0020

1 ADDED SHEET 07-16-97 G.T.B.

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

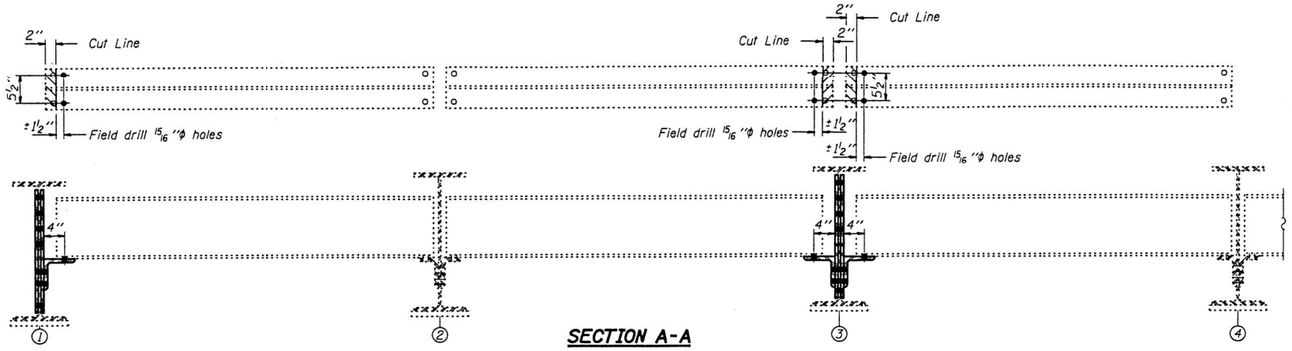
EXISTING STRUCTURE PLANS
026-0020

SCALE: | SHEET OF SHEETS | STA. | TO STA.

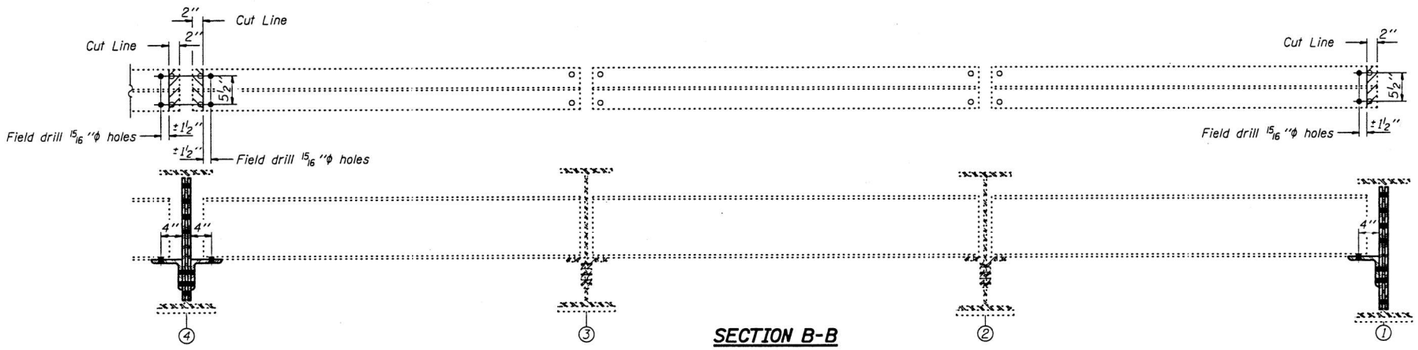
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	10
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3)RS-3	FAYETTE	36	188
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

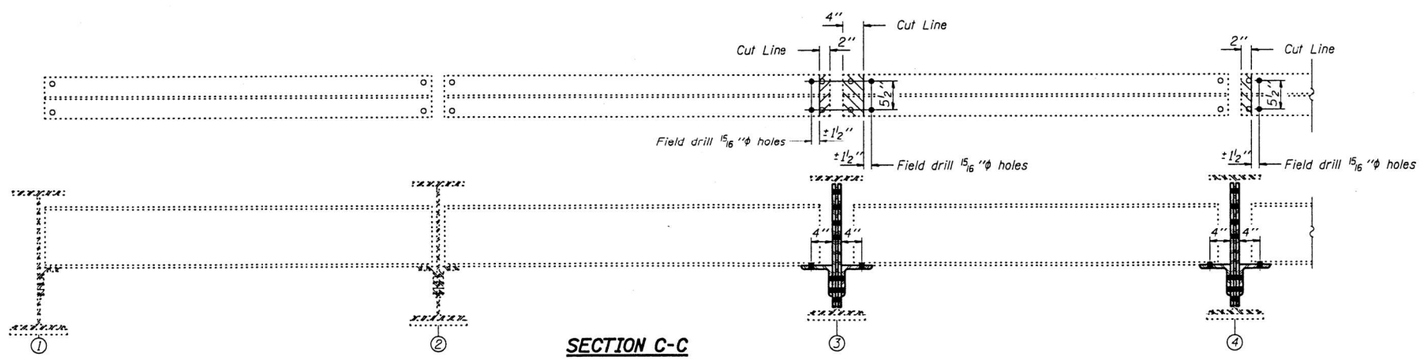
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A



SECTION B-B



SECTION C-C

DESIGNED	GTB
CHECKED	CME
DRAWN	Paul Summer
CHECKED	GTB CME

END OF BEAM REPAIR
FAI ROUTE 70 SEC. 26-3B-2(2)I
FAYETTE COUNTY
STA. 610+43.10
STRUCTURE NUMBER 026-0020

1 ADDED SHEET 07-16-97 G.T.B.

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	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

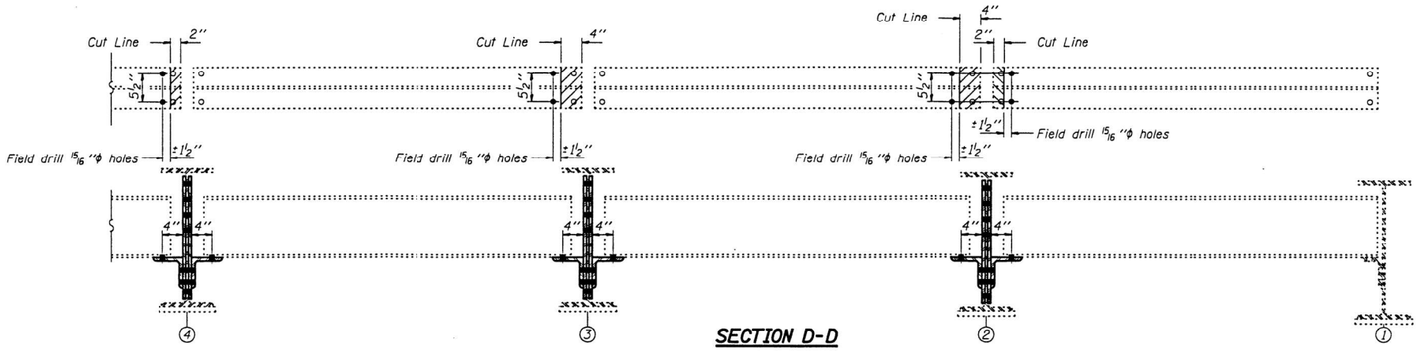
EXISTING STRUCTURE PLANS
026-0020

SCALE: | SHEET OF SHEETS | STA. | TO STA.

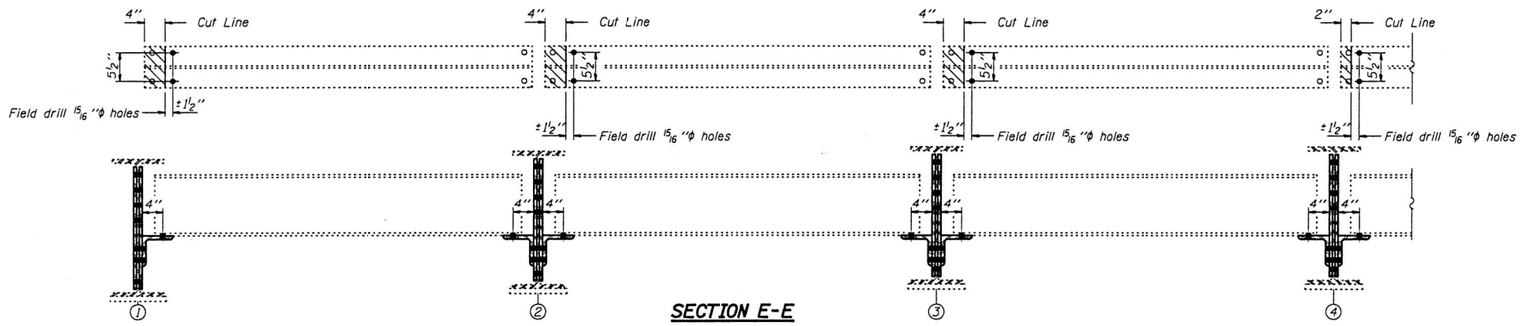
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	11
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

FAI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	026-3JRS-3	FAYETTE	36	18C
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

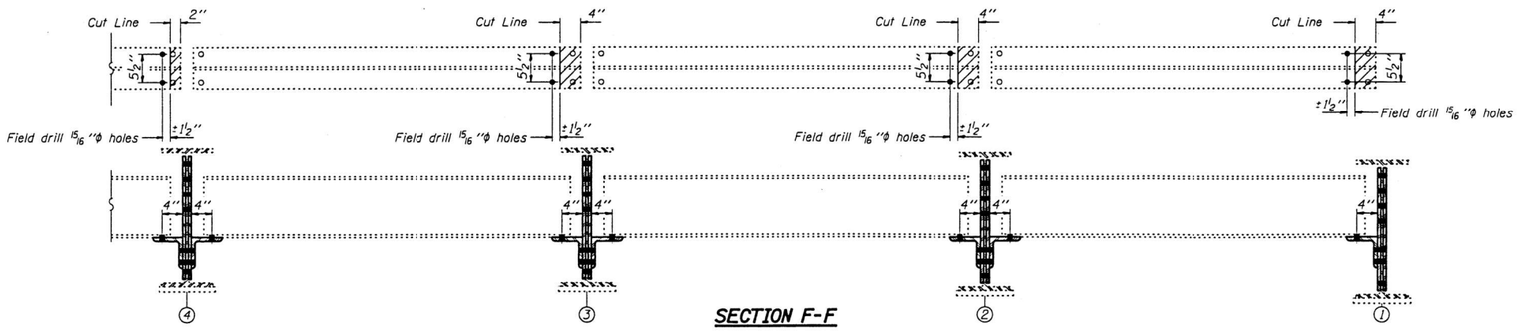
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION D-D



SECTION E-E



SECTION F-F

DESIGNED	GTB
CHECKED	CME
DRAWN	Paul Summer
CHECKED	GTB CME

END OF BEAM REPAIR
FAI ROUTE 70 SEC. 26-3B-2(2)I
FAYETTE COUNTY
STA. 610+43.10
STRUCTURE NUMBER 026-0020

1 ADDED SHEET 07-16-97 G.T.B.

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	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

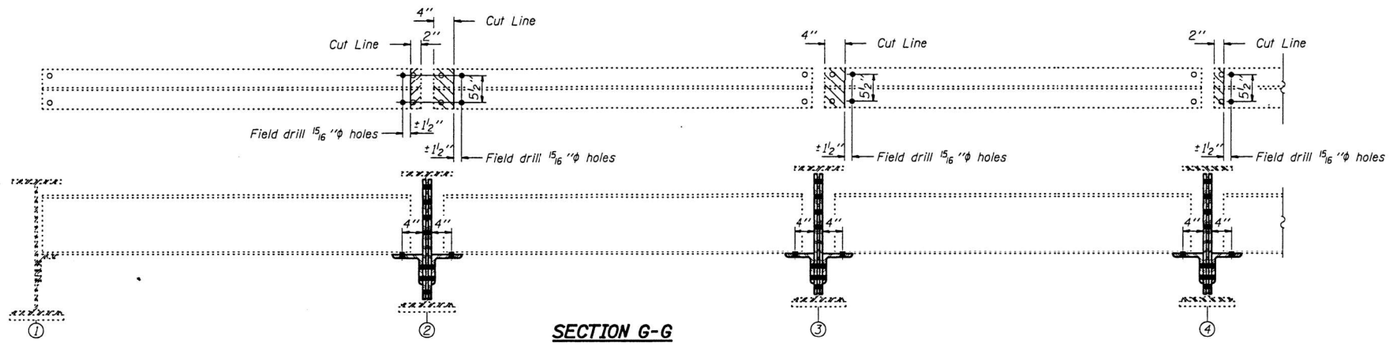
EXISTING STRUCTURE PLANS
026-0020

SCALE: | SHEET OF SHEETS | STA. | TO STA.

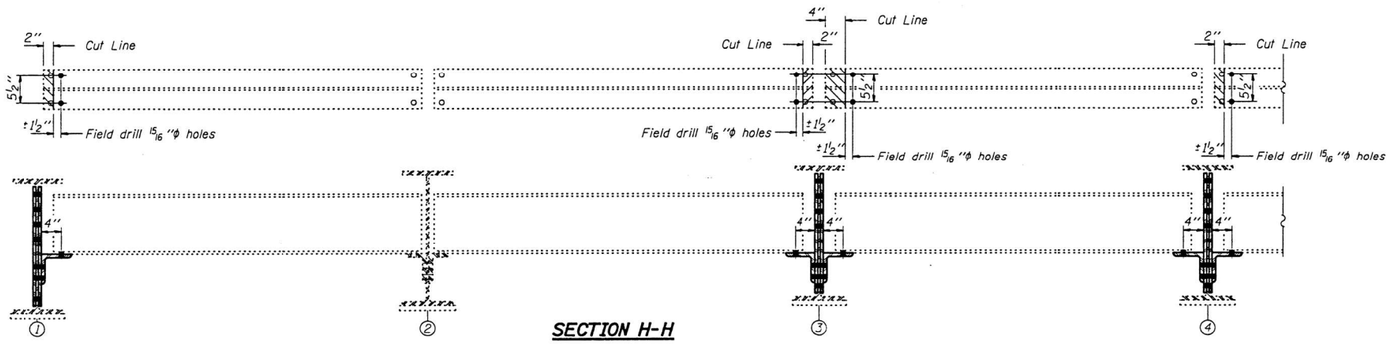
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	12
		CONTRACT NO. 74D01		
		ILLINOIS	FED. AID PROJECT	

FAI RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3)RS-3	FAYETTE	36	180
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION G-G



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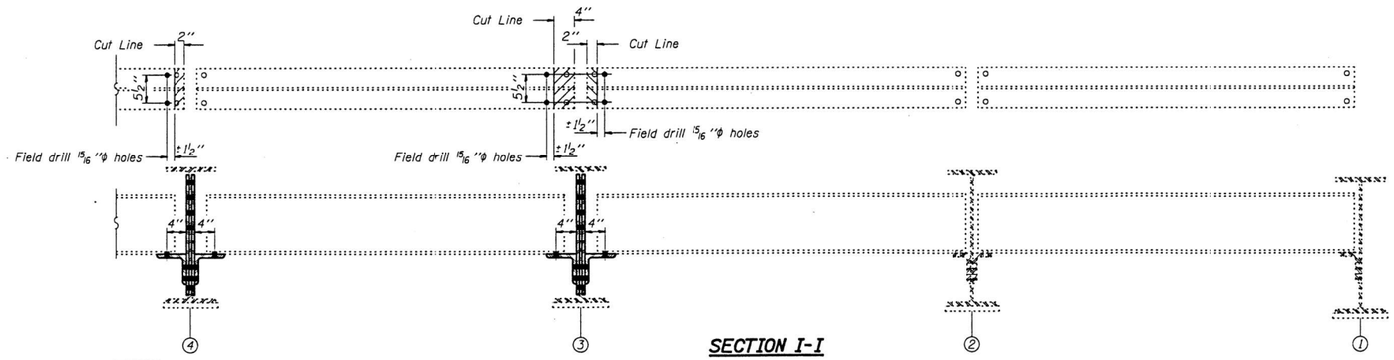
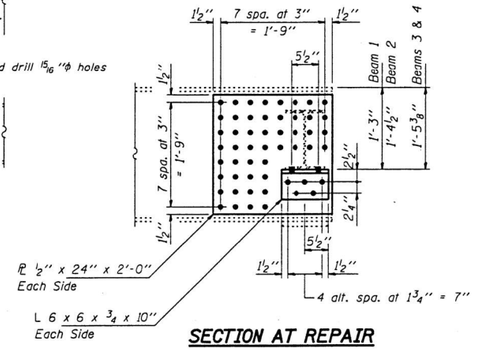


SECTION I-I



SECTION AT REPAIR

DESIGNED	GTB
CHECKED	CME
DRAWN	Paul Summer
CHECKED	GTB CME

END OF BEAM REPAIR
FAI ROUTE 70 SEC. 26-3B-2(2)I
FAYETTE COUNTY
STA. 610+43.10
STRUCTURE NUMBER 026-0020

[1] ADDED SHEET 07-16-97 G.T.B.

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PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0020

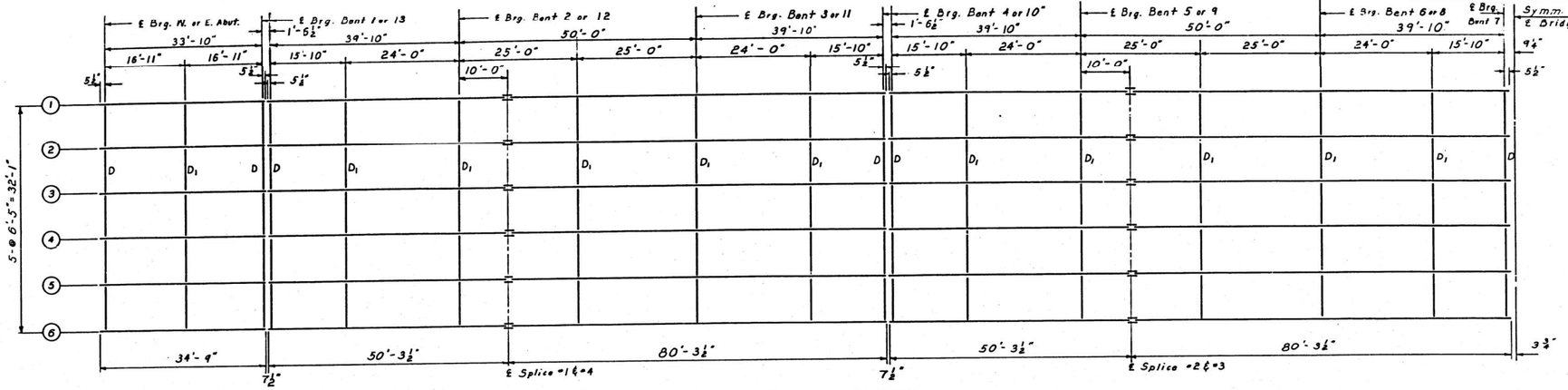
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	12A
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

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

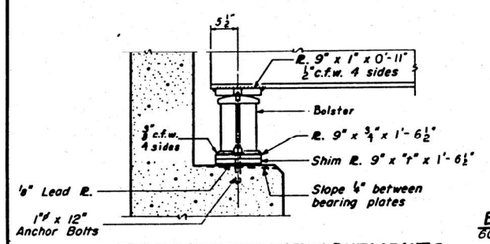
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHT'L F.A.I. 70	26-3B (-2(1)	FAYETTE	19	10
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
12 SHEETS



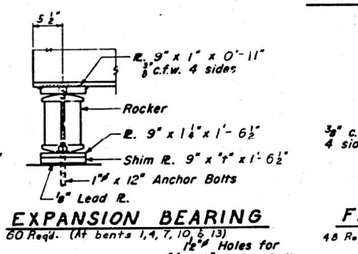
STRUCTURAL STEEL LAYOUT

All Longitudinal Beams 27 WF 94



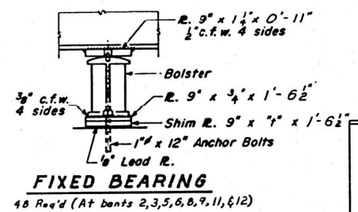
FIXED BEARING AT ABUTMENTS

12 Required



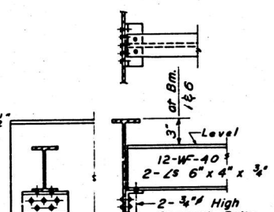
EXPANSION BEARING

60 Req'd. (At bents 1,4,7,10, & 13)



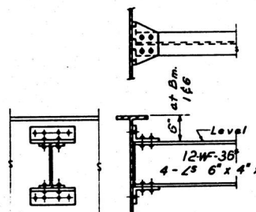
FIXED BEARING

48 Req'd (At bents 2,3,5,6,8,9,11, & 12)



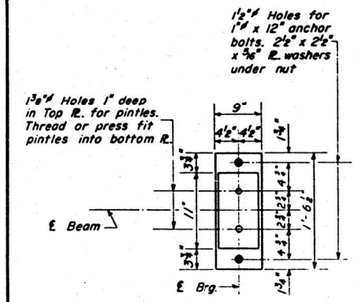
DIAPHRAGM D

60 Required

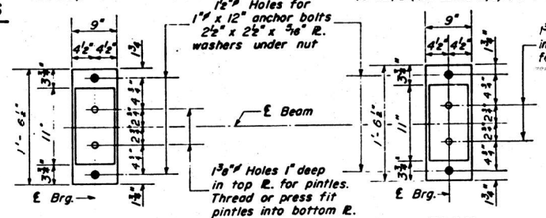


DIAPHRAGM D1

110 Required

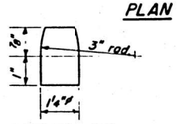


PLAN



PLAN

PLAN



DETAIL OF PINTLE

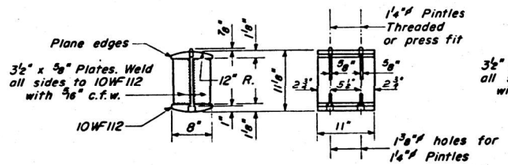
SHIM "+" DIMENSIONS

	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6
All Locations	0	0	⅜"	⅞"	0	0

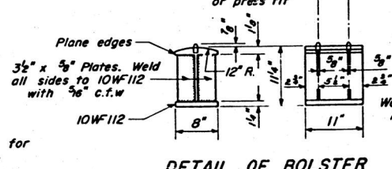
ELEVATION TOP OF WF

(For Fabrication Only)

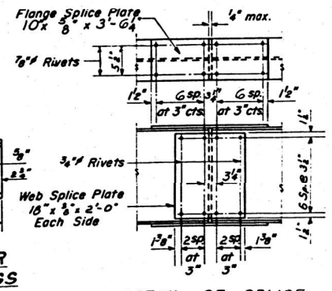
Beams	℄ Brg. W ℄ Abt	℄ Brg. Bent 1 ℄ 13	℄ Brgs. Bent 2 ℄ 12	℄ Splice =1 ℄ =4	℄ Brgs. Bent 3 ℄ 11	℄ Brgs. Bent 4 ℄ 10	℄ Brgs. Bent 5 ℄ 9	℄ Splice =2 ℄ =3	℄ Brgs. Bent 6 ℄ 8	℄ Brgs. Bent 7
1 ℄ 6	485.57	485.68	485.75	485.77	485.87	485.96	485.95	485.98	486.02	486.06
2 ℄ 5	485.70	485.81	485.88	485.90	486.00	486.09	486.11	486.11	486.15	486.19
3 ℄ 4	485.77	485.88	485.95	485.97	486.07	486.16	486.18	486.18	486.22	486.26



DETAIL OF ROCKER AT EXPANSION BEARINGS



DETAIL OF BOLSTER AT FIXED BEARINGS



DETAIL OF SPLICE

DESIGNED	T. M. Yang	
CHECKED	W. Hsing	
DRAWN	Paul G. Barnett W. A. Sousamon Jr.	
CHECKED	W. Hsing	

EXAMINED — MAR 4 1963 — H. G. Bauman, Chief Bureau of Bridges and Traffic Structures
PASSED — E. A. Shurtz, Engineer of Design
APPROVED — [illegible], Chief Highway Engineer

I-2 7-2-62

STRUCTURAL STEEL

F.A.I. RT. 70 - SEC. 26-3B-2(2)

FAYETTE COUNTY

STA. 610+43.10

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0020

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	12B
		CONTRACT NO. 74D01		
		ILLINOIS	FED. AID PROJECT	

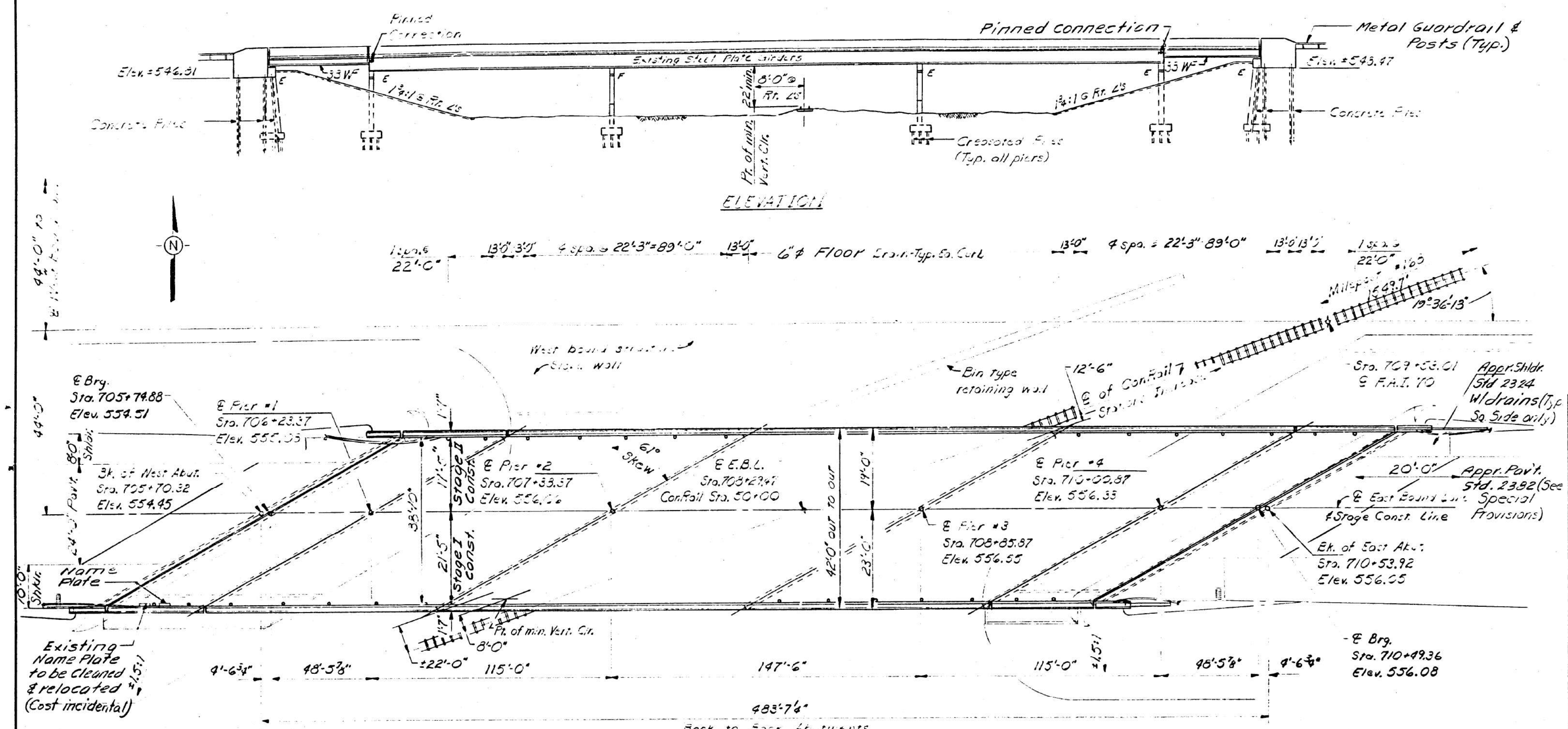
Bench Mark: Cap bolt in south end of pier #1 west bound lane I-70 structure over Conrail Elev. 524.67
Existing Structure: #026-0021 Built in 1947 as F.A. Rte. 12 Sec. [illegible] widened in 1975 as F.A.I. Rte. 70 Sect. in 26-3VBR-1. 42'-0" o. road and 483'-7¼" Back to Back of abutments. Plate girder and W F's on spill thru abutments. Existing piers, abutments & part of the struct. steel to be reused.
Stage construction to be used providing one lane of traffic during construction.
No salvage.

The existing Stud Shear Connectors shall not be removed from the two outside existing girders of Spans 2, 3 and 4. Any Stud Shear Connectors that are removed with the existing concrete deck shall be replaced at the contractors expense.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.			22	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
17 SHEETS



GENERAL NOTES

Fasteners shall be high strength bolts. Bolts ⅞"ϕ open holes $^{15}/_{16}$"ϕ, unless otherwise noted.

Calculated weight of Structural Steel: M 183 = 22730 lbs. M 223 Gr 50 = [illegible]

The zinc silicate & vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.

All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.

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-forth 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 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.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.

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.

Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and ¾"ϕ x 12" hooked bolts.

All existing Structural Steel shall be cleaned by Method I and painted with the zinc-silicate and vinyl paint system.

TOTAL BILL OF MATERIAL

ITEM	UNIT	Super	Sub	Total
Concrete Removal	Cu.Yd	-	28	28
Expansion Bolts (3/4" ϕ)	Each		12	12
Removal of Existing Concrete Deck	L.Sum	1	-	1
Structural Steel Removal	Lbs.	111120	-	111120
Structure Excavation	Cu.Yd.		56	56
Floor Drains	Each	28	-	28
Protective Coat	Sq.Yd.	2469	-	2469
Class X Concrete	Cu.Yd.	619.3	23.4	642.7
Structural Steel	L.Sum	1	-	1
Clean Paint Steel Br.	L.Sum	1	-	1
Reinforcement Bars	Lbs.		4140	4140
Reinforcement Bars (Epoxy Coated)	Lbs.	139,800	-	139,800
Name Plates	Each	1	-	1
Neoprene Expansion Joint (2½")	Lin.Ft.	82	-	82
Neoprene Expansion Joint (4")	Lin.Ft.	82	-	82
Elastomeric Bearing Assembly Ty III	Each	14		14

STATION 708+29.47
BUILT 198 BY
STATE OF ILLINOIS
F.A.I. RTE. 70 SEC. 26-3VBR
LOADING HS20 & ALT.
STR. NO. 026-0021

F.A. PROJECT IR-70-2(183)

NAME PLATE
(See Std. 2113)

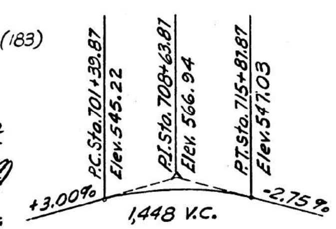
Note: Those spans which have railroad signals or communication lines under them shall have the floor drains spaced to clear the cross arms of these poles by 10'-0" as determined in the field by the engineer. No floor drains shall be permitted in the span over the railroad.

NEW DESIGN STRESSES
fy = 60,000 psi Reinf. (Super)
f'c = 3,500 psi (Super)
fs = 27,000 psi (A.A.S.H.T.O. M-223, Grade 50) (Struct. Steel)
fs = 20,000 psi AASHTO M183
fs = 24,000 psi Reinf. (Sub)
f'c = 1400 psi (Sub)

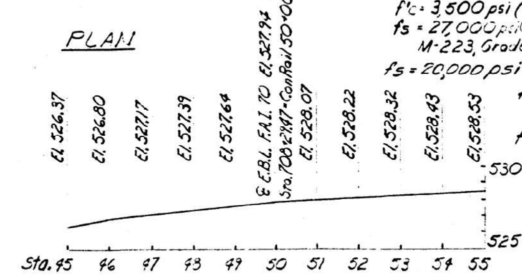
EXISTING DESIGN STRESSES
fc = 1400 psi Deck slab, curb, parapet, sub.
fs = 20,000 psi Reinforcement
fs = 20,000 psi (Struct. A36)
fs = 27,000 psi (Struct. A588)
fs = 18,150 (Struct. Orig. Girders before widening)

LOADING HS20-44 & ALTERNATE
Design Specifications: 1977 A.A.S.H.T.O., 1978 thru 1983 Interim specifications.

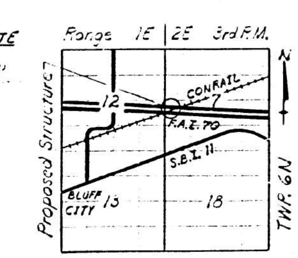
Structural Steel Removal includes the following in Spans 1 and 5 - wide flange beams 1 thru 6 and the following related items: diaphragms between beams 1 thru 6; pins, connection plates, fill plates and accessories of pinned connections; and abutment bearings and bearing plates; And bearing & bearing plates for beam 7 in spans 1 & 5



PROPOSED & EXISTING PROFILE GRADE
(East Bound Lane only)



EXISTING CONRAIL PROFILE
(Looking N.N.W)



LOCATION MAP

GENERAL PLAN
F.A.I. ROUTE 70 OVER CONRAIL
F.A.I. ROUTE 70 SECTION 26-3VBR
FAYETTE COUNTY
STATION 708+29.47

DESIGNED	KERRY CULVER
CHECKED	[illegible]
DRAWN	W.C.
CHECKED	D.B.

January 25 1984
EXAMINED [signature]
PASSED [signature]
APPROVED

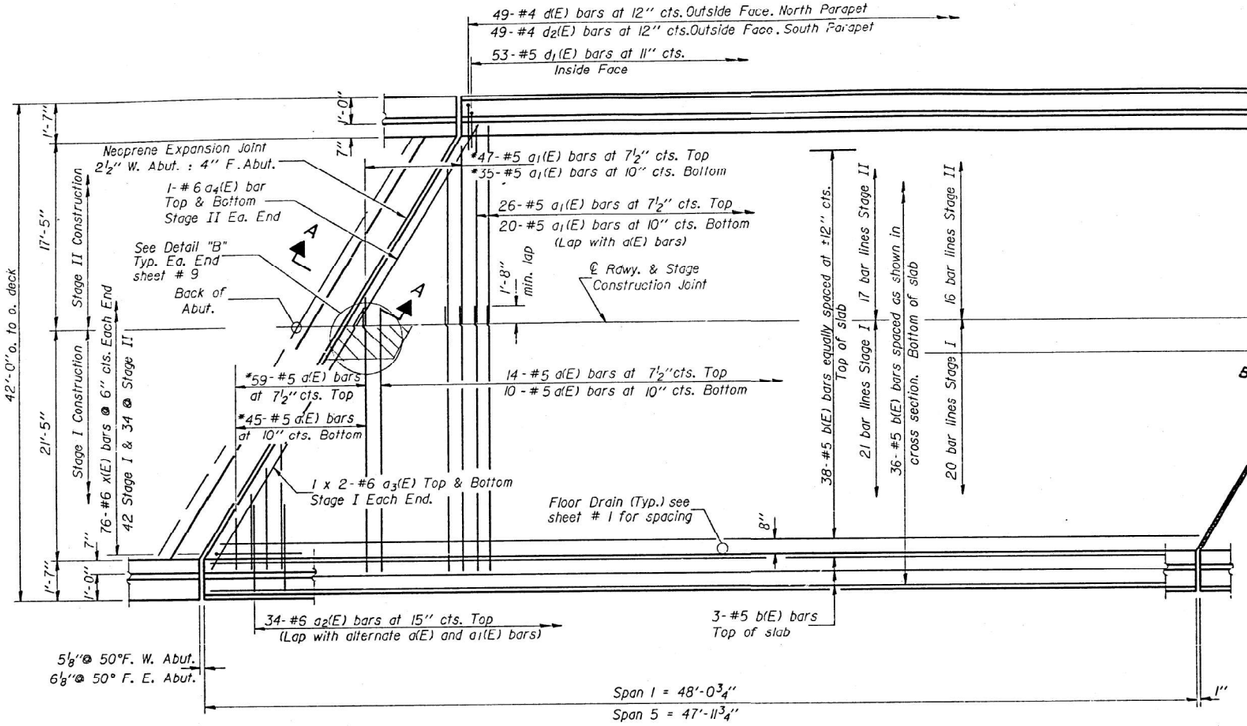
Revised 2-3-84 D.A.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
R.B.I. F.A.			22	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

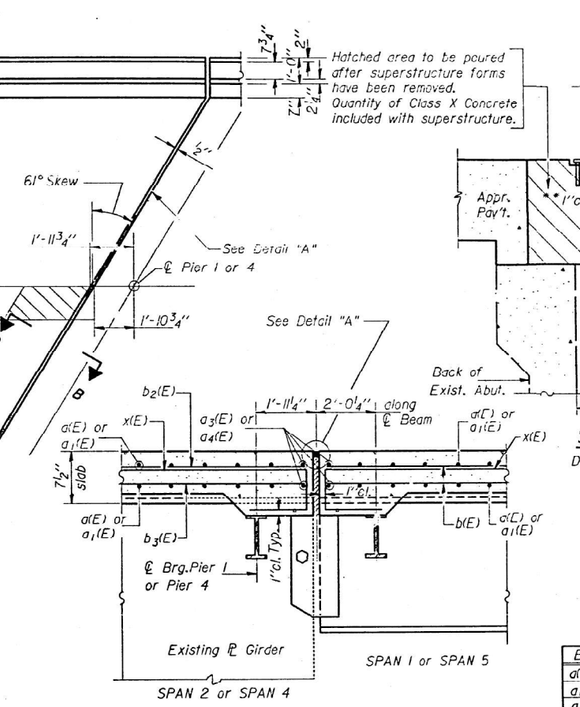
SHEET NO. 8
17 SHEETS

** Place $a_3(E)$ and $a_4(E)$ bars in back of anchor bolt as shown if required to maintain 1" cl. (±0-⅛") Anchor bolts should be tied to $a_3(E)$ and $a_4(E)$ bars.

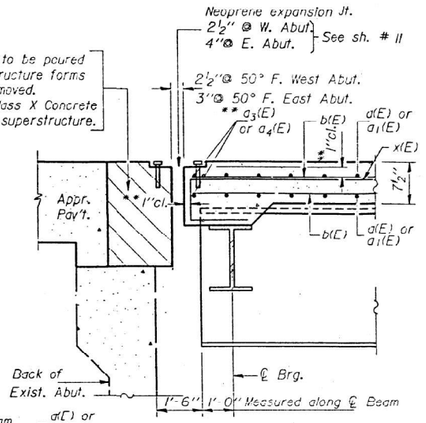


PLAN - SPAN 1 AND SPAN 5

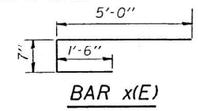
* Order d(E) & $a_1(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.



SECTION B-B
Dimensions at Rt. Ls.



SECTION A-A
Dimensions at Rt. Ls.

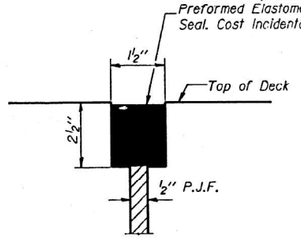


BAR x(E)

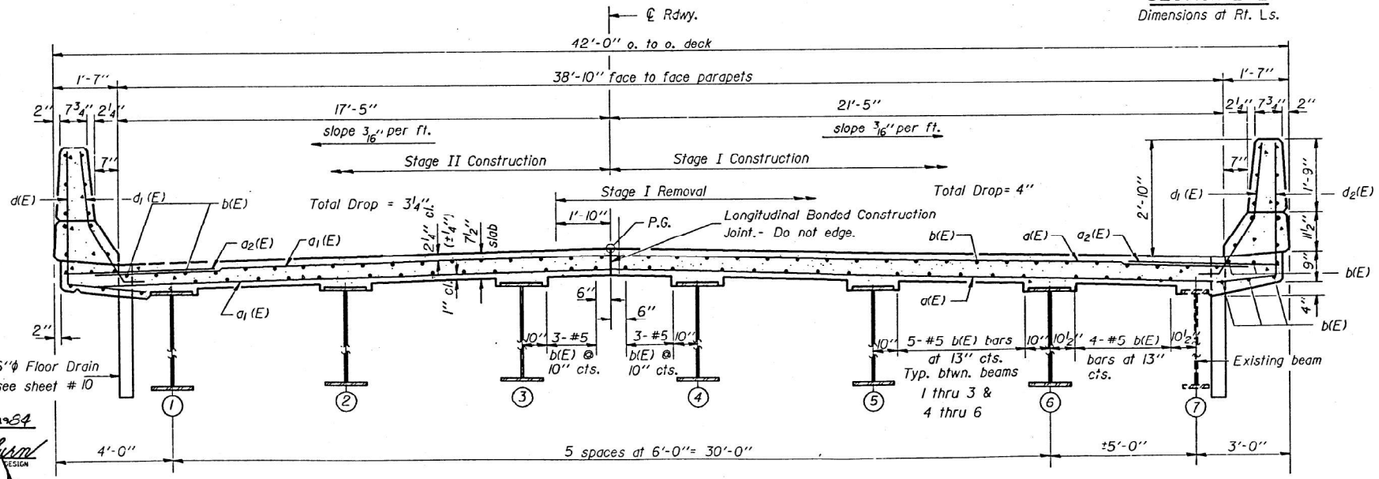
SPANS 1 AND 5
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	256	#5	23'-9"	
a1(E)	256	#5	18'-0"	
a2(E)	136	#6	4'-0"	
a3(E)	16	#6	25'-6"	
a4(E)	8	#6	36'-9"	
b(E)	160	#5	47'-9"	
d(E)	98	#4	5'-2"	L
d1(E)	212	#5	3'-11"	L
d2(E)	98	#4	6'-2"	L
x(E)	304	#6	7'-1"	
Reinforcement Bars (Epoxy Coated)		Lbs.	25830	
Class X Concrete		Cu. Yds.	118.8	

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



DETAIL "A"
At Rt. Ls. to joint



CROSS SECTION
(Looking East)

MIN. BAR LAPS
5 = 1'-8"
6 = 2'-0"

DESIGNED	KERRY CULVER, Rmm	
CHECKED	Dennis Bolivia	
DRAWN	Mercado	
CHECKED	AB	

Jan. 25 1984
EXAMINED James J. Rykusa
ENGINEER OF BRIDGE DESIGN
PASSED Ralf Sumanski
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

S-2-L(>30°) 6-1-82

SUPERSTRUCTURE
SPANS 1 AND 5
F.A.I. RTE. 70 SEC.26-3VBR
FAYETTE COUNTY
STA. 708 + 29.47

MODEL: 14 [Sheet]
FILE NAME: c:\pw_work\pwdot\illinois\d0989262\D774D01-sht-plan.dgn

USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/16/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

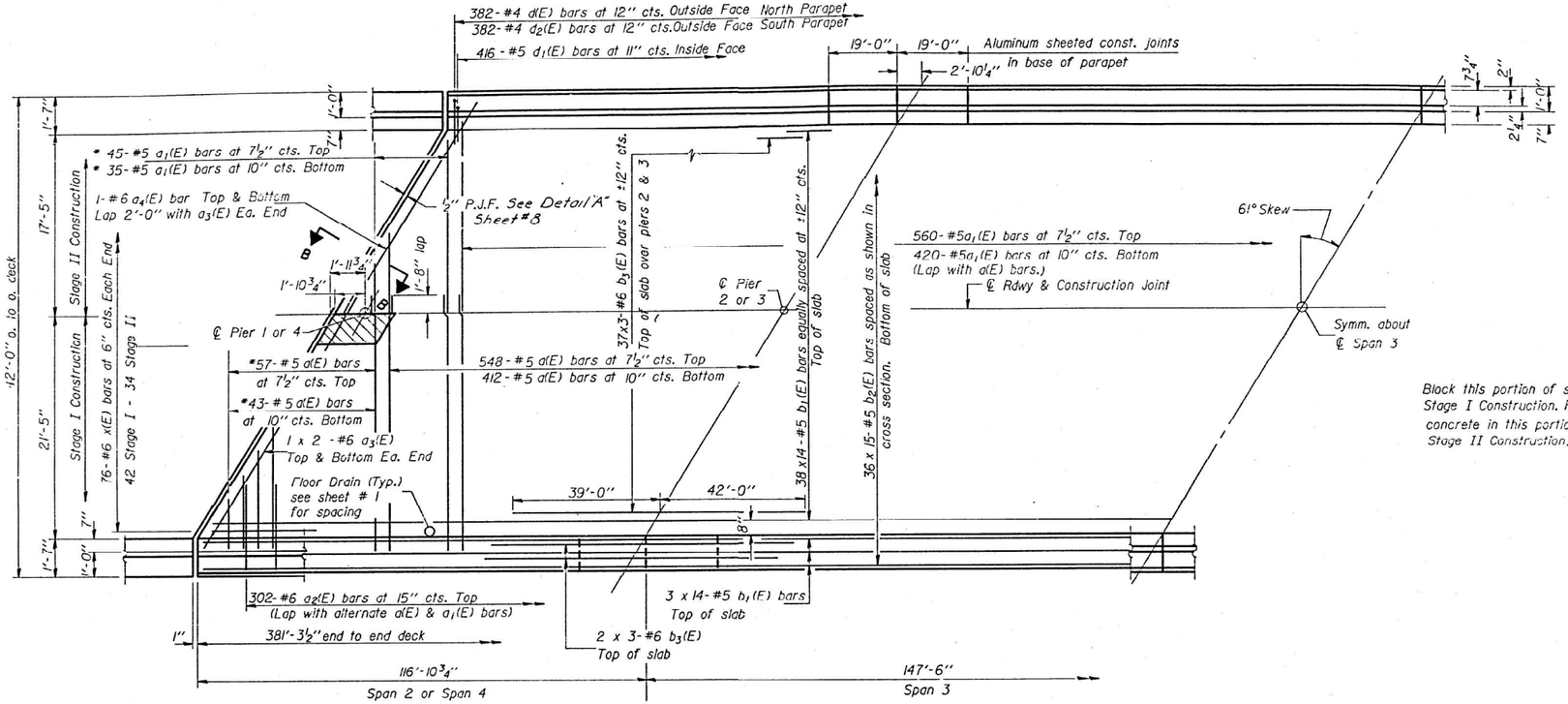
SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	14
		CONTRACT NO. 74D01		
		ILLINOIS FED. AID PROJECT		

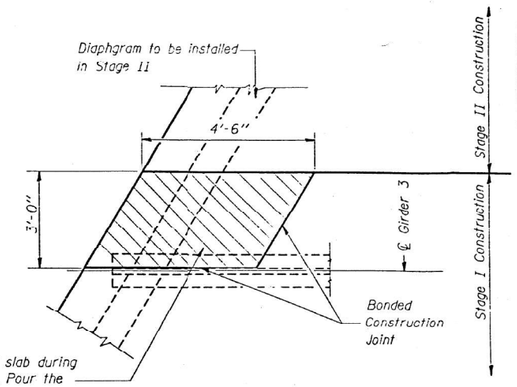
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
R. B. S. F. A.			22	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
17 SHEETS



HALF PLAN



DETAIL "B"

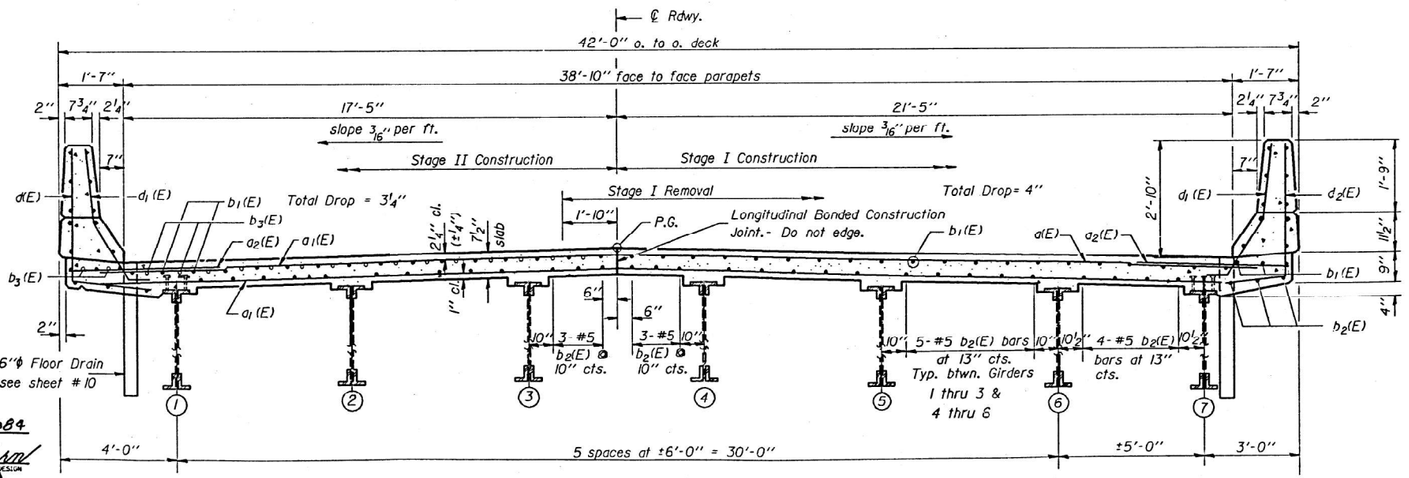
* Order d(E) & a (E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

MIN. BAR LAPS
5 - 1'-8"
6 - 2'-0"

SPANS 2,3 & 4
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	1060	#5	23'-9"	——
a1(E)	1060	#5	18'-0"	——
a2(E)	604	#6	4'-0"	——
a3(E)	8	#6	25'-6"	——
a4(E)	4	#6	36'-9"	——
b1(E)	616	#5	28'-10"	——
b2(E)	540	#5	27'-0"	——
b3(E)	246	#6	28'-6"	——
d(E)	382	#4	5'-2"	L
d1(E)	832	#5	3'-11"	L
d2(E)	382	#4	6'-2"	L
x(E)	152	#6	7'-1"	[
Reinforcement Bars (Epoxy Coated)			Lbs.	102480
Class X Concrete			Cu. Yds.	404.0

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc., indicates 20 lines of bars with 3 lengths per line.
For Sec. B-B see sheet # 8
For details of bars d(E), d1(E), d2(E) and x(E) see sheet # 10



NEAR PIERS 2 or 4

CROSS SECTION
(Looking East)

NEAR MIDSPAN

DESIGNED	LERRY CULVER
CHECKED	
DRAWN	Mercado
CHECKED	DAB

Jan. 25, 1984
EXAMINED James J. Rayburn
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

S-2-L(>30°) 6-1-82

Revised C-3-84 D.A.B.

SUPERSTRUCTURE
SPANS 2,3 & 4
F.A.I. RTE. 70 SEC.26-3VBR
FAYETTE COUNTY
STA. 708 + 29.47

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	15
		CONTRACT NO. 74D01		
		ILLINOIS FED. AID PROJECT		

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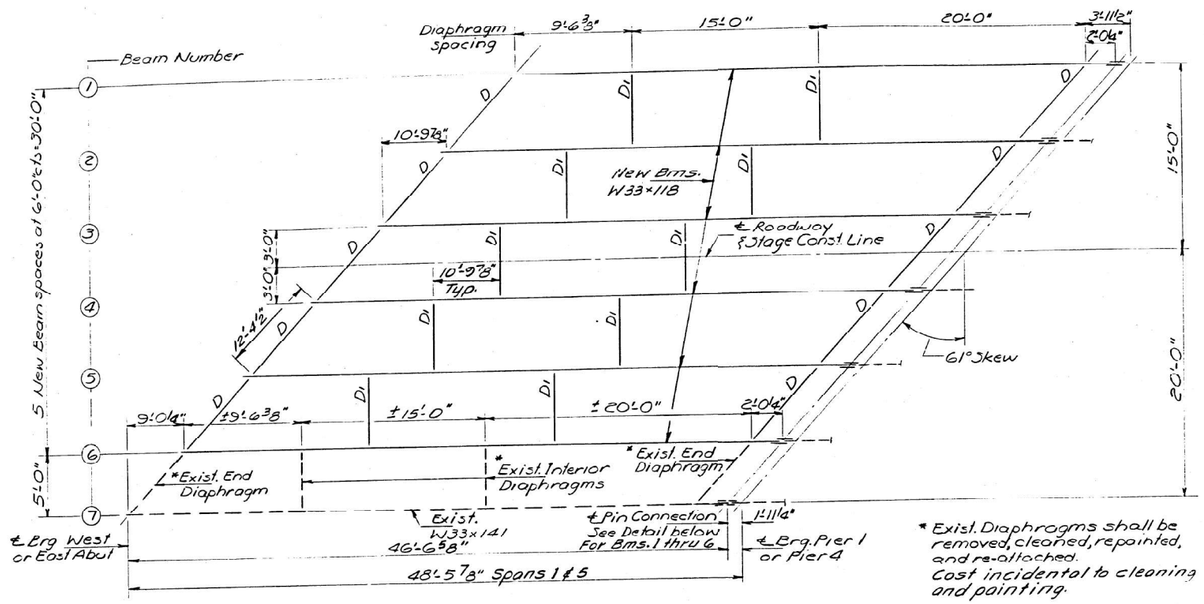
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

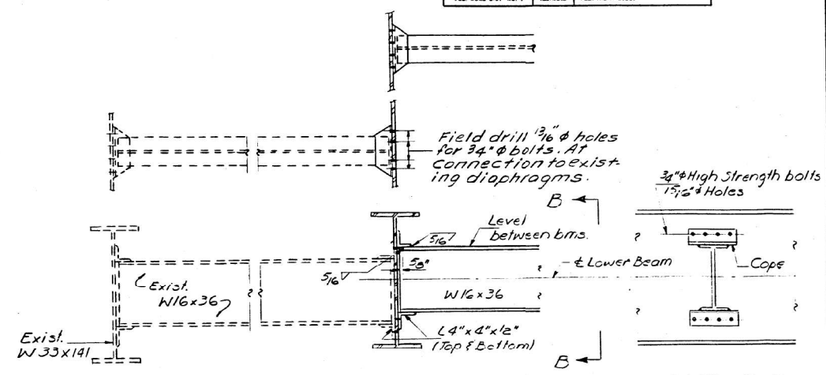
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A.			22	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
17 SHEETS

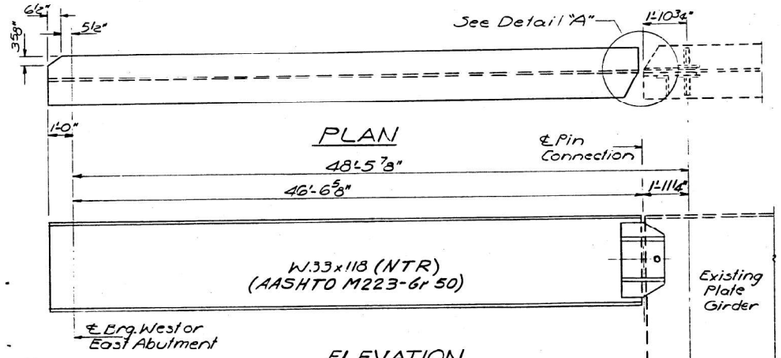


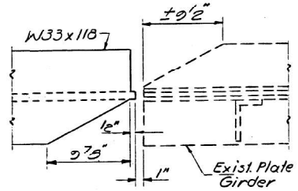
FRAMING PLAN

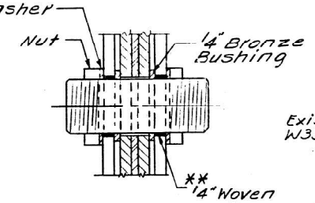
* Exist. Diaphragms shall be removed, cleaned, repainted, and re-attached. Cost incidental to cleaning and painting.

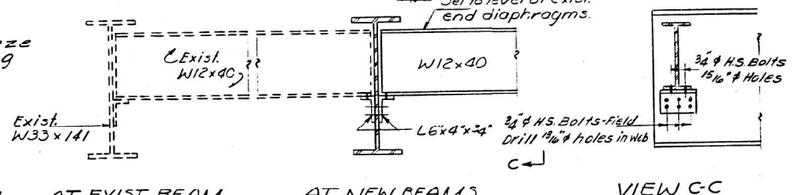


INTERIOR DIAPHRAGM-D1
(20 required)



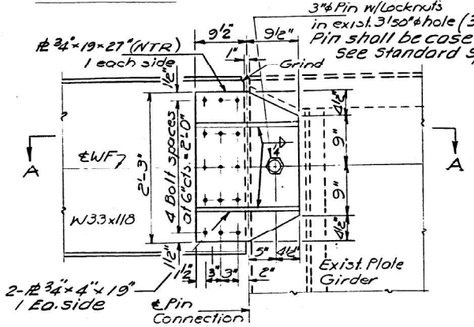


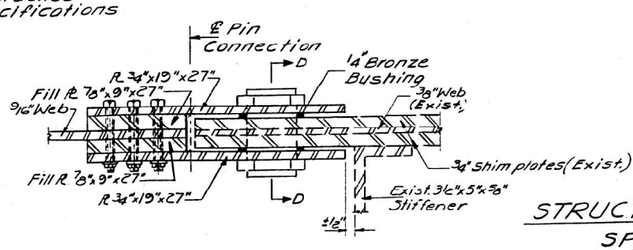




END DIAPHRAGM-D
(20 required)

Note: Two hardened washers shall be required over all 15/16" ϕ holes in diaphragm connections.





** Self lubricating filament wound epoxy matrix backed Duralon Bearing or metal backed Fiber Glide Bearing or equivalent. Cost incidental to structural steel.

DESIGNED	KERRY CULLER
CHECKED	
DRAWN	
CHECKED	

EXAMINED Jan. 25, 1984
PASSED
APPROVED
ENGINEER OF BRIDGES AND STRUCTURES
DIRECTOR OF HIGHWAYS

Note:
All structural steel shall be AASHTO M183 except as noted.

STRUCTURAL STEEL
SPANS 1 & 5
FAI RTE. TO SEC. 26-3VBR
FAYETTE COUNTY
STA. 708+29.47

USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/16/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

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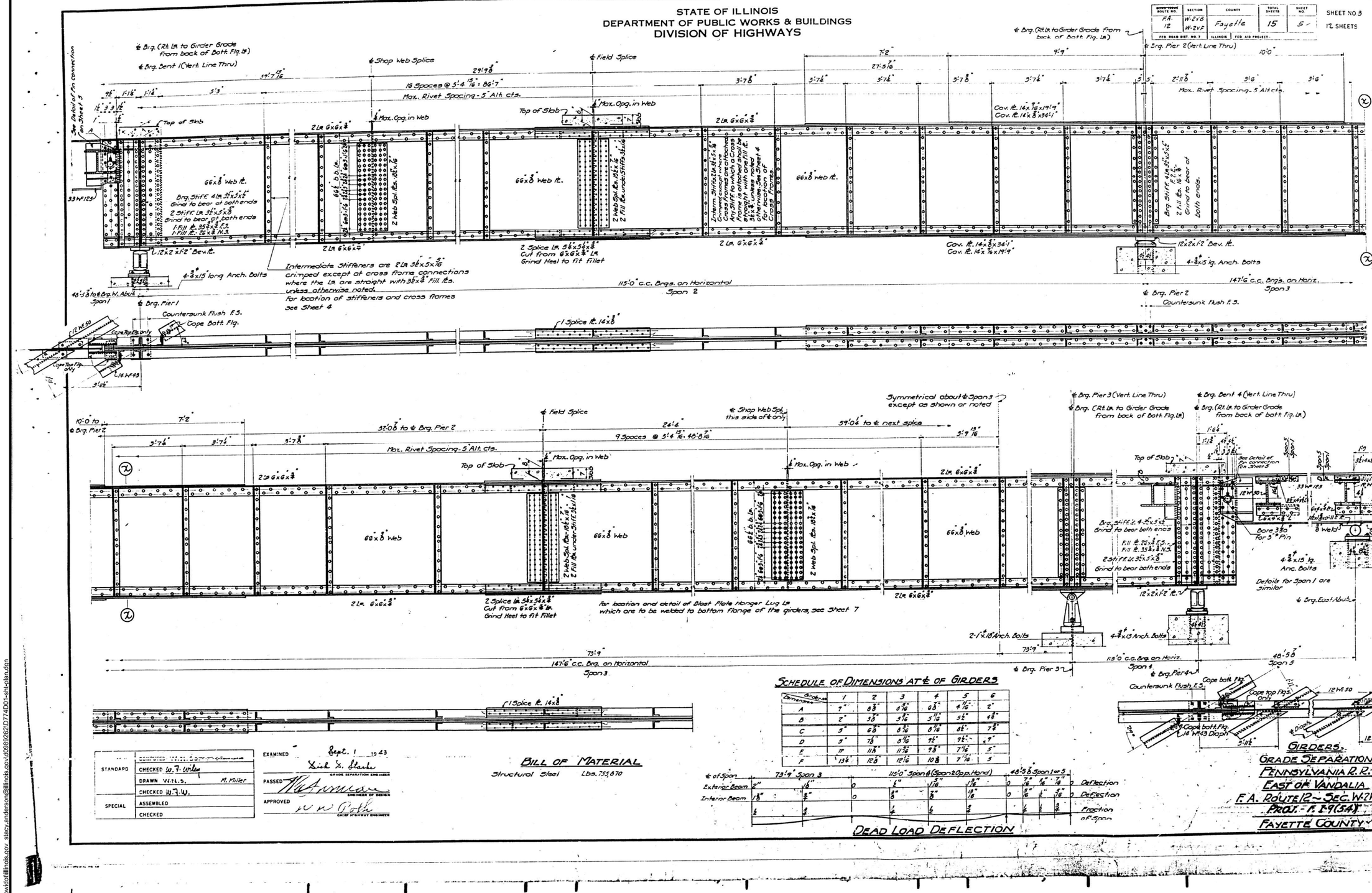
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

SCHEDULE NO. OR ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 12	W-2V8 W-2V.F	Fayette	15	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO 3
12 SHEETS



SCHEDULE OF DIMENSIONS AT ℄ OF GIRDERS

Girder Dimension	1	2	3	4	5	6
A	7"	68⅜"	67⅛"	68⅜"	4 11/16"	2"
B	2"	38"	37⅛"	5 11/16"	5½"	9⅜"
C	3"	68"	67⅛"	67⅛"	8½"	7⅜"
D	3"	7⅜"	6 11/16"	9½"	9½"	4"
E	11"	118"	117⅛"	9⅜"	7 11/16"	5"
F	13⅜"	12⅜"	12 11/16"	10⅜"	7 11/16"	5"

DEAD LOAD DEFLECTION

℄ of Span	73'-9" Span 3			115'-0" Span 2 (Span 2 Opp. Hand)			48'-5⅞" Span 1 or 5			
Exterior Beam	2"	15/16"	0	1 7/16"	1 15/16"	1 15/16"	0	7/16"	15/16"	7/16" Deflection
Interior Beam	1⅜"	½"	0	⅞"	⅞"	13/16"	0	5/16"	⅜"	5/16" Deflection
	¼	½		¼	½	¼		¼	½	¼ Fraction of Span

STANDARD	CHECKED W. T. Wirley		
	DRAWN W.T.L.S.	M. Miller	
	CHECKED W. T. W.		
SPECIAL	ASSEMBLED		
	CHECKED		

EXAMINED Sept. 1 1943
Dick X. Clark
GRADE SEPARATION ENGINEER
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

BILL OF MATERIAL

Structural Steel Lbs. 753870

GIRDERS.
GRADE SEPARATION
PENNSYLVANIA R. R.
EAST OF VANDALIA
F. A. ROUTE 12 - SEC. W-2V&F.E.
PROJ. - F. A. 9 (54)
FAYETTE COUNTY

USER NAME = stacy.anderson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16A
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

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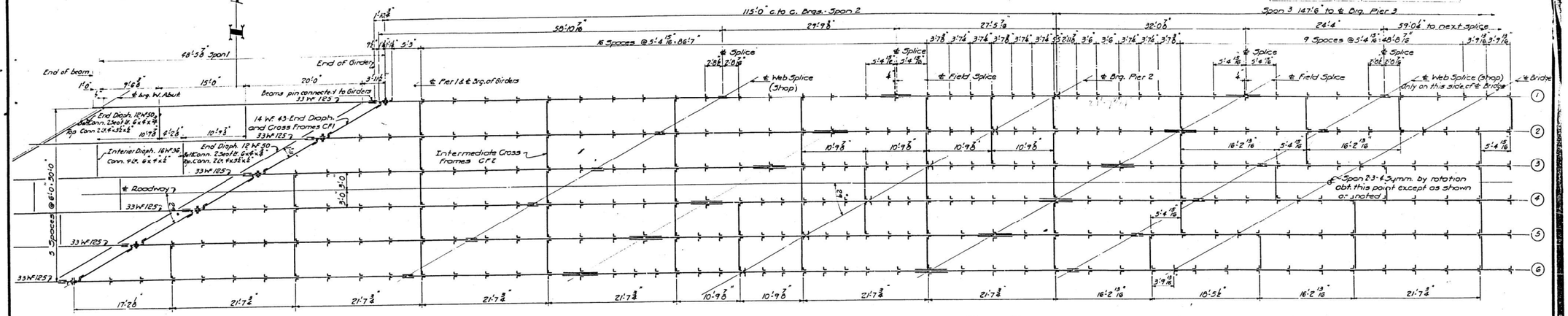
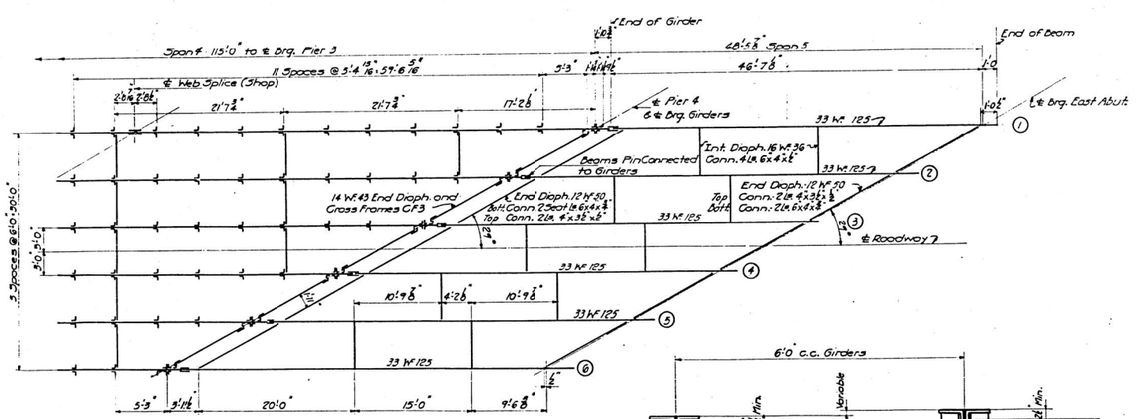
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

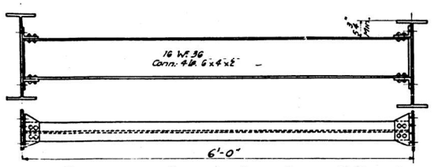
ROAD DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A. 12	W-2VB W-2VF	Fayette	15	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 4
IZ SHEETS

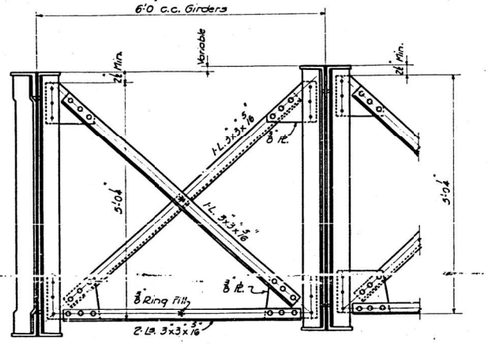


PART PLAN OF GIRDERS SHOWING STIFFENERS AND CROSS FRAMES

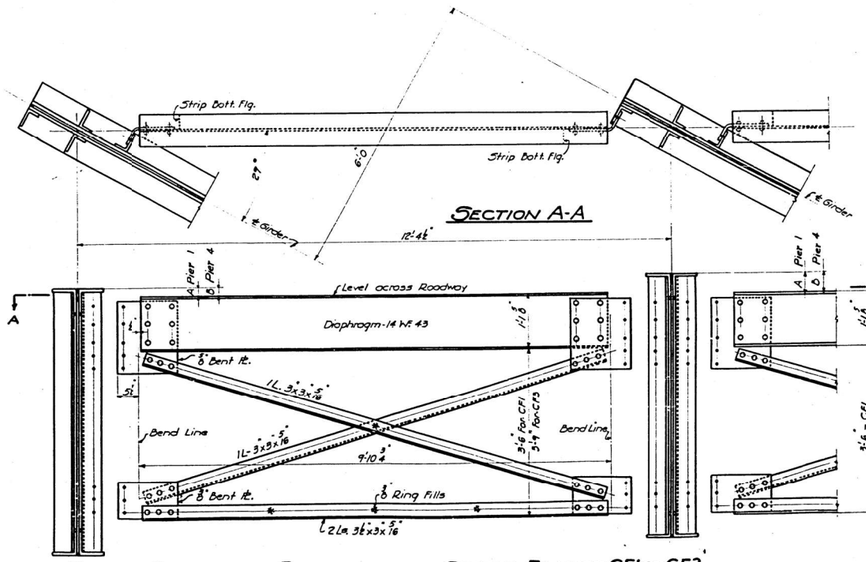




INTERIOR DIAPHRAGMS - SPANS 1 & 5



ELEVATION OF TYPICAL INTERMEDIATE CROSS FRAME CF2
98 Required



TYPICAL DEVELOPED ELEVATION OF CROSS FRAMES CF1 OR CF3

For Schedule of Dimensions 'A' and 'B' see Table on Sheet No. 3

5 - CF1 Required
5 - CF3 Required

The estimated weight of Structural Steel in the Cross frames and stiffeners is included in the Bill of Material on Sheet No. 3

STANDARD	COMPUTED W.N. Sommer	Sept. 1 ..., 19
	CHECKED W.J. Wiley	Dick D. Steele BRIDGE SEPARATION ENGINEER
	DRAWN W.N.S. M. Miller	PASSED ENGINEER OF DESIGN
	CHECKED W.J.W.	APPROVED CHIEF HIGHWAY ENGINEER
SPECIAL	ASSEMBLED	
	CHECKED	

CROSS FRAMES & STIFFENERS
GRADE SEPARATION
PENNSYLVANIA R. R.
EAST OF VANDALIA
F.A. ROUTE 12 - SEC. W-2VB, F.F.
PROJ. - F.I.-7(34)
FAYETTE COUNTY

MODEL: Default
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USER NAME = stacy.anderson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021

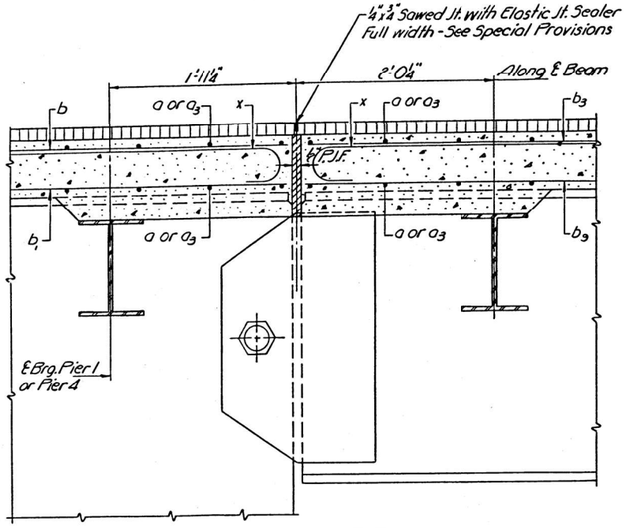
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16B
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

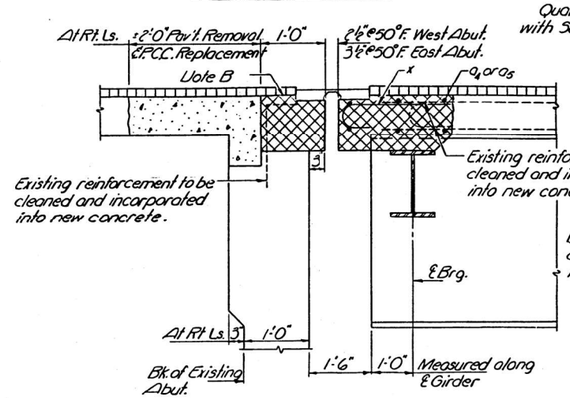
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.S. 70	26-3VBY-1	FAYETTE	34	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 5
21 SHEETS



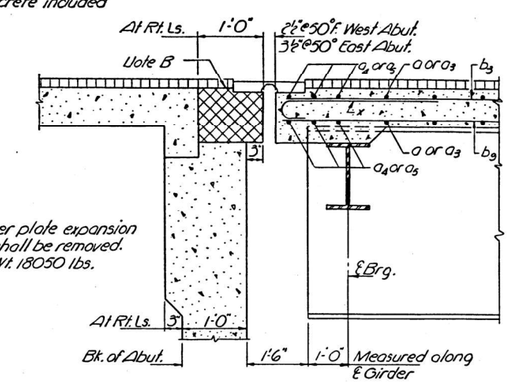
SECTION B-B

Note B:
Cross hatched area indicates concrete removal and replacement.
Quantity of Class X Concrete included with Superstructure.

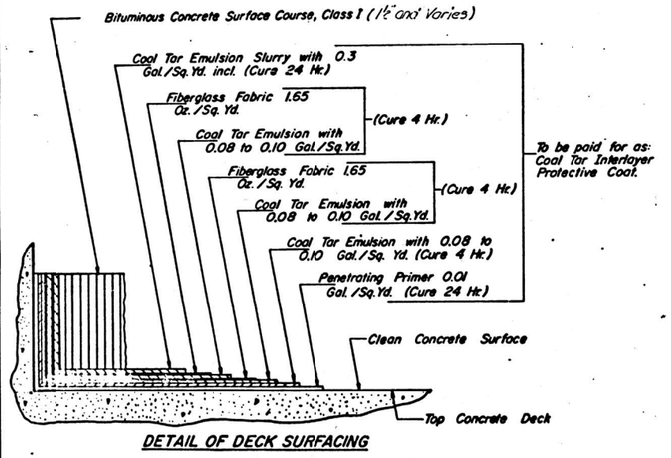


SECTION A-A
(Near ℄ Roadway)

Note:
For location of Sections A-A & B-B see sheets 6 & 7.



SECTION A-A
(Near Outside Girders)

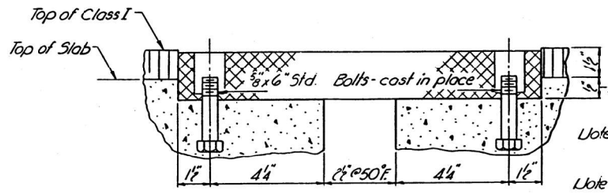


DETAIL OF DECK SURFACING

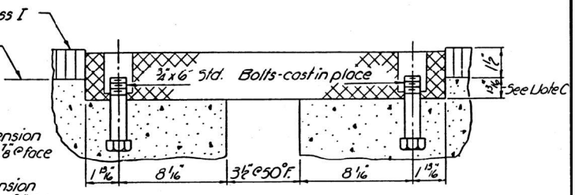
Note A:
Hatched area indicates area to be removed. Removal of existing concrete railing included in Concrete Removal.

DESIGNED	D.A. Ryan
CHECKED	A.Y. Khayyat
DRAWN	J.D.
CHECKED	S.Y.K.

EXAMINED July 24 1972
PASSED M.E. Baumann
APPROVED Richard A. Gutterman

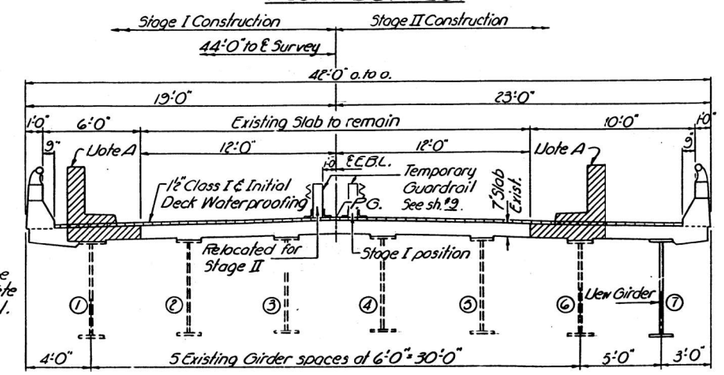


NEOPRENE EXPANSION JOINT (2 1/2") WEST ABUTMENT

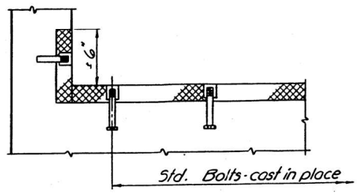


Note B: Varies in 7'-0" slab extension ℄ @ edge existing slab to 8"℄ @ face of wingwall.
Note C: Varies in 7'-0" slab extension 13/16"℄ @ edge existing slab to 1 3/16"℄ @ face of wingwall.

NEOPRENE EXPANSION JOINT (4") EAST ABUTMENT



CROSS SECTION



END OF NEOPRENE EXP. JOINT AT ABUTMENTS

SUPERSTRUCTURE DETAILS
F.A.I. RT. 70 SEC. 26-3VBY-1
FAYETTE COUNTY
STA. 708+29.47

K & E CO. 19-1258

USER NAME = stacy.anderson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS 026-0021
	DRAWN -	REVISED -		
	CHECKED -	REVISED -		
PLOT DATE = 9/19/2024	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.

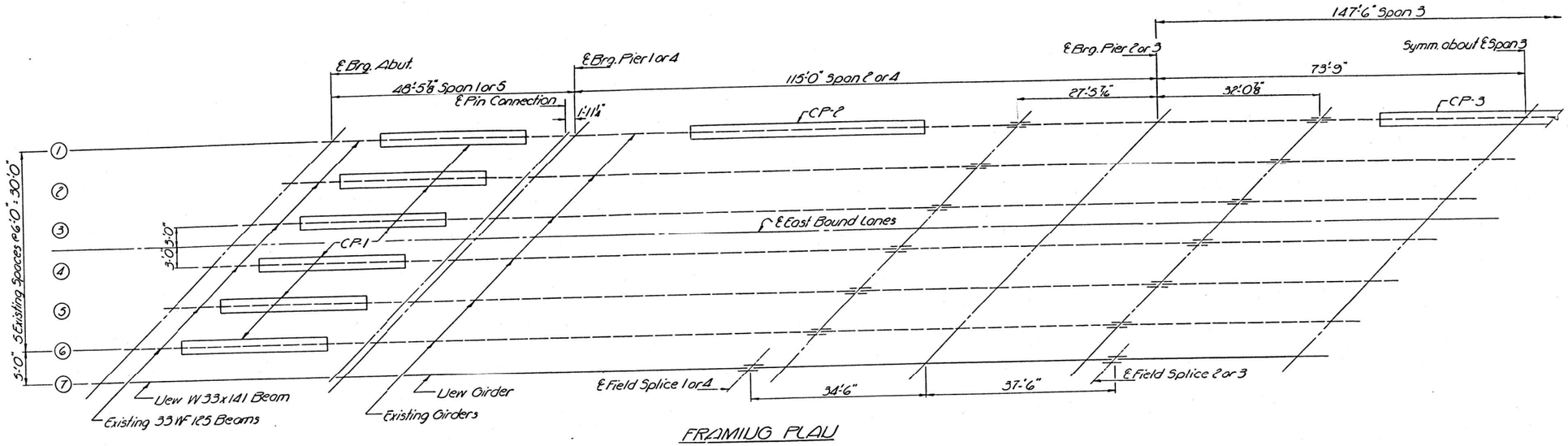
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16C
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

MODEL: Default
FILE NAME: c:\pw_work\pwfdot\illinois.gov\d0989262\D774D01-sht-plan.dgn

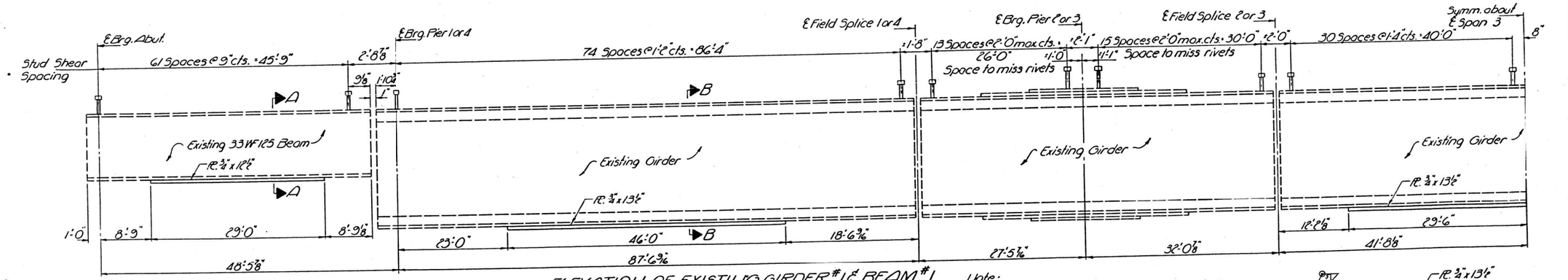
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	26-3VBY-1	FAYETTE	34	16
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

SHEET NO. 10
21 SHEETS

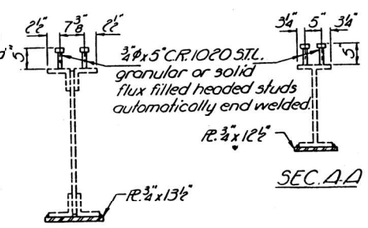


FRAMING PLAN



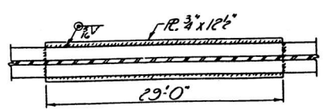
ELEVATION OF EXISTING GIRDER #1 & BEAM #1

Note:
Placement of shear connectors shown in Sec. B-B may be rearranged to miss cover plate rivets as directed by the Engineer.

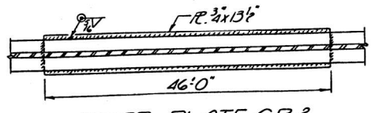


SEC. A-A
SEC. B-B

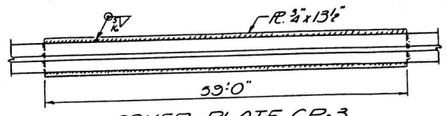
Note:
Stud shear connectors are added only to Existing Girder #1 and Beam #1 in all spans.
New Girder #1 and Beam #1 is composite only in positive moment area of spans ℄ 3 & 4.
For details of new Beam & Girder see sh. #12.



COVER PLATE CP-1
(1 Required) Bottom Flange only



COVER PLATE CP-2
(2 Required) Bottom Flange only



COVER PLATE CP-3
(1 Required) Bottom Flange only

DESIGNED	D.N. Ryan
CHECKED	A.Y. Khoryati
DRAWN	J.D.
CHECKED	S.Y.K.

EXAMINED July 24 1972
PASSED W.A. Baumann
Engineer of Bridges and Structures
Richard A. Holtzman
Chief Highway Engineer

EXISTING GIRDERS
STRUCTURAL STEEL
F.A.I. RT. 70 SEC. 26-3VBY-1
FAYETTE COUNTY
STA. 708+29.47

K & E CO. 19-1258

USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16D
		CONTRACT NO. 74D01		
		ILLINOIS	FED. AID PROJECT	

MODEL: Default
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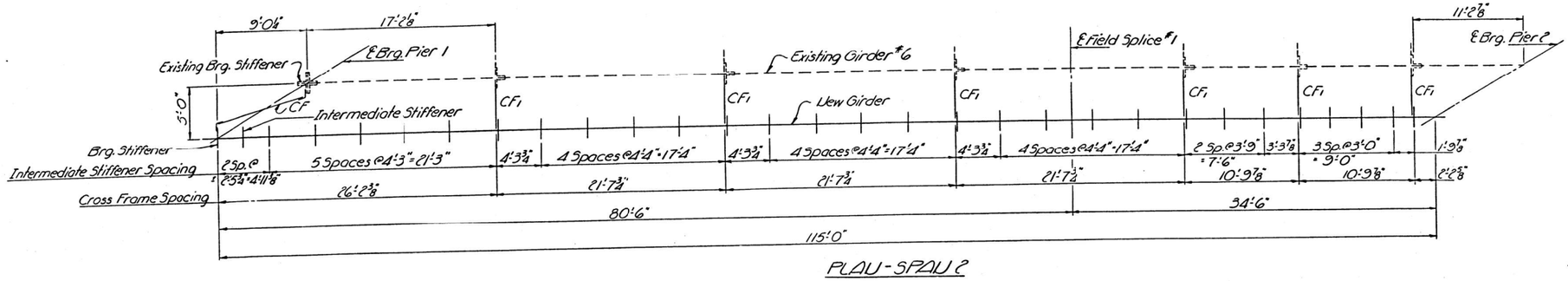
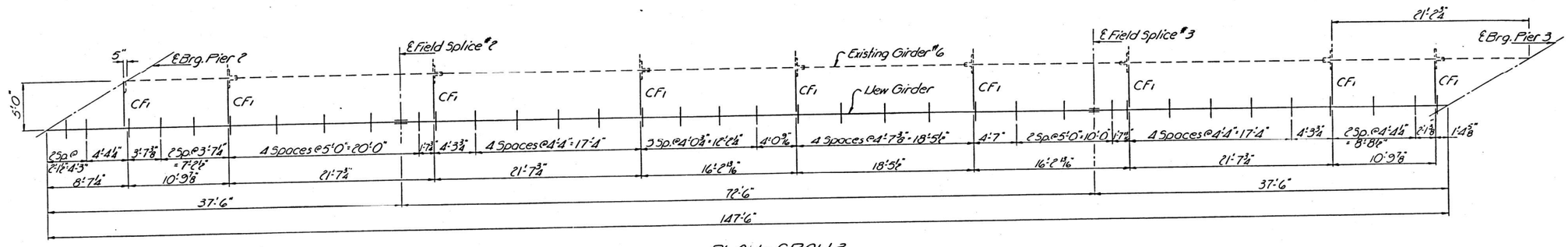
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	26-3VBY-1	FAYETTE	34	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

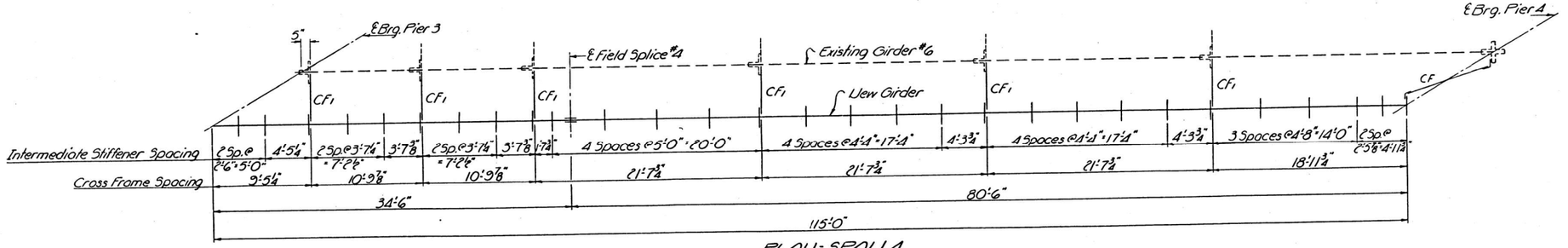
SHEET NO. 11
21 SHEETS



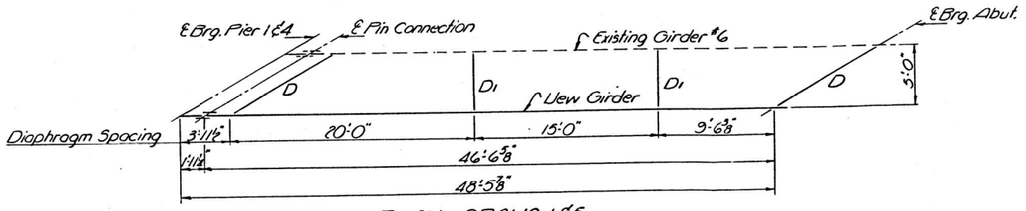
PLAN - SPAN 2



PLAN - SPAN 3



PLAN - SPAN 4



PLAN - SPANS 1 & 5

DESIGNED	D.A. Ryan
CHECKED	A.Y. Khayyat
DRAWN	J.D.
CHECKED	S.Y.K.

EXAMINED July 24 1997
PASSED H.E. Baumann
APPROVED Richard A. Holtzman

NEW EXTERIOR GIRDER
STRUCTURAL STEEL
F.A.I. RT. 70 SEC. 26-3VBY-1
FAYETTE COUNTY
STA. 708+29.47

K & E CO. 10-1288

MODEL: Default
FILE NAME: c:\pw_work\pwidot\illinois.gov_stacy.anderson@illinois.gov\d0989262\D7774D01-sht-elan.dgn

USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021

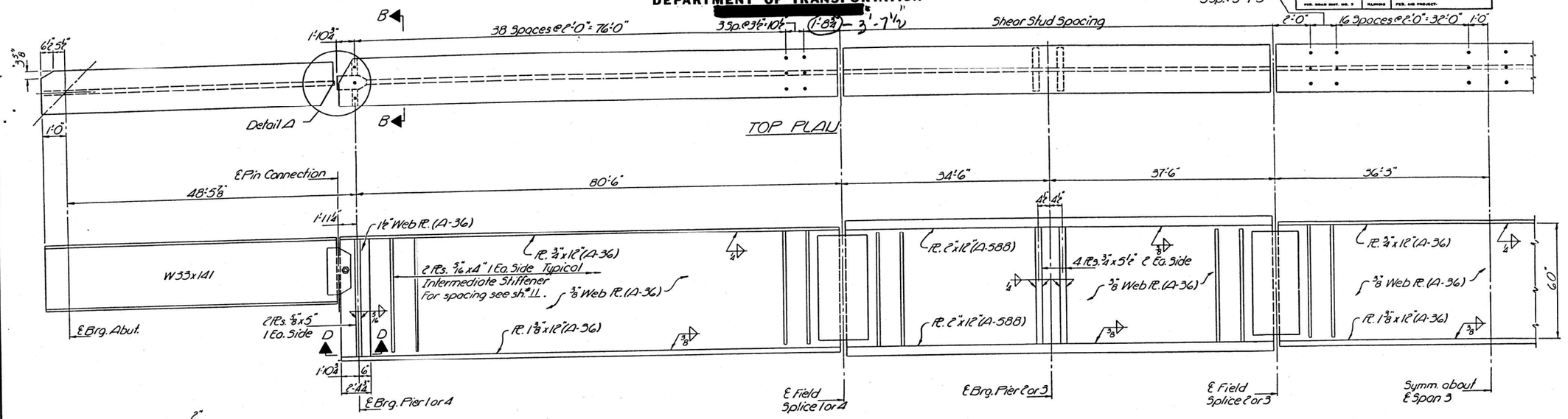
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16E
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

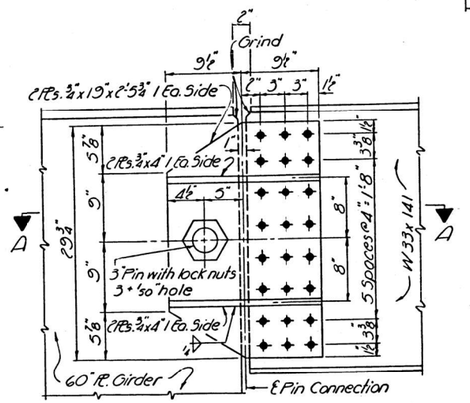
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 70	26-3VBY-1	FAYETTE	34	18
PROJ. SHEET SHT. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 12
21 SHEETS

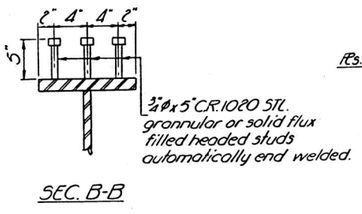
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



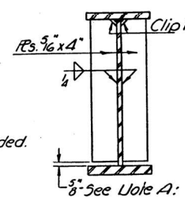
ELEVATION OF VIEW GIRDER #1 ℄ BEAM #1



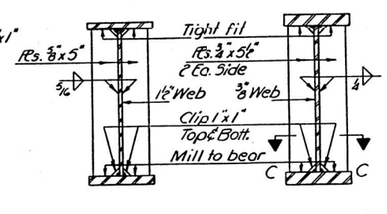
ELEVATION



SEC. B-B

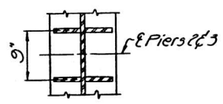


INTERMEDIATE STIFFENER

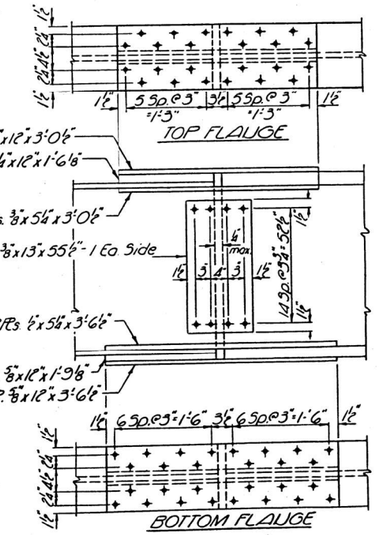


BEARING STIFFENERS

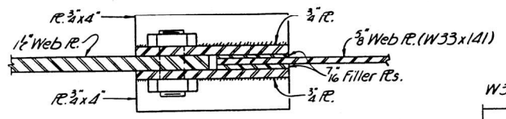
Note A:
Intermediate stiffeners between Splice 1 ℄ Splice 2 and between Splice 3 ℄ Splice 4 shall be a tight fit at the bottom and ⅜" under cut at the top. All other Intermediate stiffeners shall be a tight fit at the top and ⅜" under cut at the bottom.
All Bearing and intermediate stiffeners are A-36 Steel.



SEC. C-C



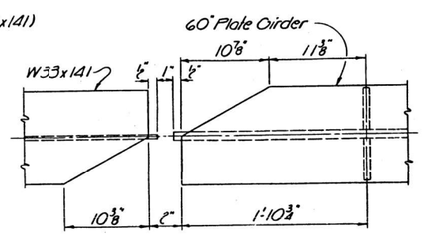
FIELD SPLICES



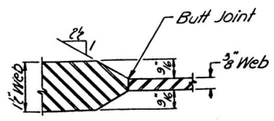
SEC. A-A
PIN CONNECTION DETAILS

DESIGNED	D. A. Ryan
CHECKED	A. Y. Khayyat
DRAWN	J.D.
CHECKED	S. Y. K.

EXAMINED July 24, 1973
PASSED W. E. Baumann
APPROVED Richard W. Heltemann



DETAIL A
TOP FLANGE ONLY



SEC. D-D

VIEW EXTERIOR GIRDER
STRUCTURAL STEEL
FAI. RT. TO SEC. 26-3VBY-1
FAYETTE COUNTY
STA. 708+29.47

K & E CO. 19-1255

USER NAME = stacy.anderson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16F
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			

MODEL: Default
FILE NAME: c:\pw_work\pwidot\illinois.gov - stacy.anderson@illinois.gov\d0989262\D774D01-sht-elan.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. F.A. 70	26-3VBY-1	FAYETTE	34	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 13
21 SHEETS

* TOP OF BEAM (W33x141) ELEVATIONS-VIEW BEAM #7

Location	Elevation
℄ Brg. West Abut.	553.03
℄ Pin Connection Span 1	553.64
℄ Pin Connection Span 3	555.45
℄ Brg. East Abut.	555.27

* TOP OF WEB ELEVATIONS VIEW GIRDER #7

Location	Elevation
℄ Brg. Pier 1	553.60
℄ Field Splice 1	554.34
℄ Brg. Pier 2	554.61
℄ Field Splice 2	554.91
℄ Field Splice 3	555.25
℄ Brg. Pier 3	555.31
℄ Field Splice 4	555.36
℄ Brg. Pier 4	555.39

* For fabrication only.

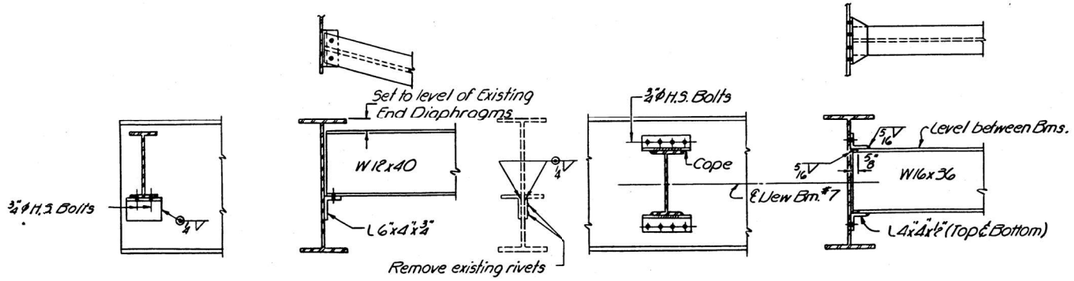
VIEW GIRDER MOMENT TABLE

		.5 Span 1 or 5	.4 Span 2 or 4	.5 Span 3	Pier 2 or 3
I_S	(in^4)	7460	29461	29461	52878
I_C	(in^4)		63883	63883	
S_S	(in^3)	448	1111	1111	1652
S_C	(in^3)		1427	1427	
DL	(K/l)	1.316	.813	.813	1.396
M DL	(lk)	363	643	593	2599
f_S DL	(ksi)	9.7	6.9	6.4	18.9
SIDL	(K/l)		.583	.583	
Ms DL	(lK)		532	604	
M LL	(lK)	261	677	713	729
M Imp	(lK)	76	141	131	143
Total	(lK)	337	818	844	872
f_S(LL+SI)	(ksi)	9.0	11.4	12.2	6.3
f_S Total	(ksi)	18.7	18.3	18.6	25.2
VR	(k)		39.9	45.0	

VIEW GIRDER REACTION TABLE

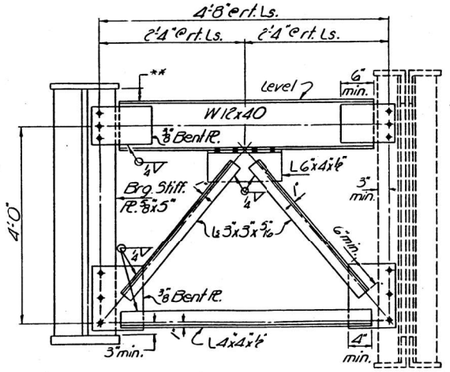
		Abuts.	Pier 1 or 4	Pier 2 or 3
R DL	(k)	30.9	88.6	205.8
R LL	(k)	26.2	29.5	56.7
Imp.	(k)	7.6	6.2	11.1
R Total	(k)	64.7	124.3	273.6

I_S and S_S are the moment of inertia and section modulus of the steel section.
I_C and S_C are the moment of inertia and section modulus of the composite section used in computing f_S.
VR is the maximum DL + Impact shear range.



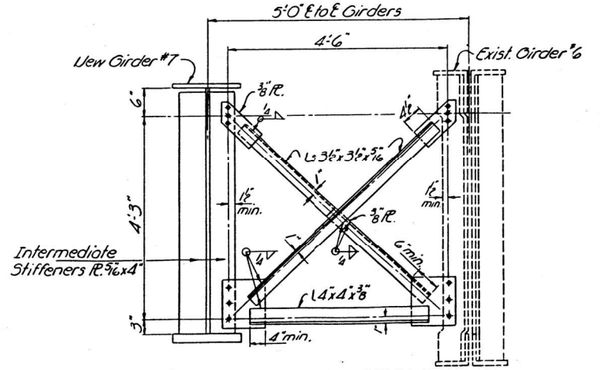
EUD DIAPHRAGM-D
SPACING
(4 Required)

INTERIOR DIAPHRAGMS-D1
SPACING
(4 Required)



EUD CROSS FRAME (CF)
(2 Required)

** Set to level of Existing End Cross Frames



INTERIOR CROSS FRAME (CF-1)
(21 Required)

DESIGNED	D.A. Ryan		
CHECKED	J.Y. Khayyat	EXAMINED	July 24 2024
DRAWN	J.D.	PASSED	W.G. Baumann
CHECKED	S.Y.K.	APPROVED	Richard A. Hollerman

STRUCTURAL STEEL
FAI. RT. 70 SEC. 26-3VBY-1
FAYETTE COUNTY
STA. 708+29.47

K & E CO. 10-1258

MODEL: Default
FILE NAME: c:\pw_work\pwfed\illinois.gov_stacy.anderson@illinois.gov\d0989262\D774D01-sht-plan.dgn

USER NAME = stacy.anderson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/19/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0021

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	16G
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

Benchmark 201: Cut square on NE corner of bottom step of SE wingwall of I-70 (WB) bridge over CSXT Railroad. Station 712+70; offset 23.6' Lt. ℄ I-70; Elev. 558.257

Existing Structure: S.N. 026-0022 is a 3 span, reinforced concrete deck on non-composite steel plate girders. Built 1964 under F.A.I. 70, Section 26-3VB-1(2) at station 710+52.71. Open pile bent abutments supported on concrete piles and multi-column piers on timber pile footings. Concrete deck repair and 2" concrete microsilica overlay in 1997. The existing concrete deck is to be removed and replaced with 1 new girder and substructure widening. Traffic is to be maintained utilizing crossovers.

No salvage.

181'-2" (Existing)
186'-1½" (Proposed
Limits of protective shield required in span over railroad only.

Existing 63" web ℄ girders
Proposed 61" web ℄ girder (N. girder)
(Composite full length)

Traffic Barrier Terminal, Type 5 (Std. 631026) typ. exit end

60' Construction berm (north side only) typ.

Traffic Barrier Terminal, Type 6 (Std. 631031) typ. entrance end

22'-10" min. vert. cl. (existing & proposed)

Elev. 546.91

Elev. 544.82

Elev. 520.12

Elev. 519.96

Metal shell piles

* 1:1.75 (V:H)

** 1:1.75 (V:H)

ELEVATION

℄ Brg. W. Abut.
Sta. 708+22.31
Elev. 558.35

Back of exist. W. Abut.
Sta. 708+16.14
Elev. 558.34

℄ Pier 1
Sta. 709+64.06
Elev. 558.31

℄ Pier 2
Sta. 711+45.22
Elev. 557.68

℄ Brg. E. Abut.
Sta. 712+86.97
Elev. 556.58

Back of exist. E. Abut.
Sta. 712+93.14
Elev. 556.52

* 12'-0" min. distance from ℄ track to temporary soil retention system.

** At right L's to Abut.

Note:
No freefall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of a railroad pole line.

6" ϕ Floor drain spacing, typ.

14'-9" | 7 Spaces at 15'-0" = 105'-0" | 22'-0"

63° 04' 20" Skew typ. except as shown

16'-0⅝" min. horiz. cl. (exist. & prop.)

℄ Existing pier 2

Milepost 168

Exist. concrete cribwall to remain

Lower portion of wingwall to remain, typ. Saw cut at abutment seat elevation.

Point of minimum vertical clearance

℄ Pier 1

70°23'47" Skew

7°18'

℄ Pier 2 widening

Drainage Scupper, DS-11, see Section B-B on sheet 13 of 52

20'-0" typ.

12'-0" Shldr.

12'-0" Lane

10'-0" out-out deck

45'-2" out-out

24'-0"

18'-0"

1'-7"

Boring 1 (1962)

Boring 2 (1962)

Boring 3 (1962)

Boring 4 (1962)

Boring 5 (1962)

Boring 6 (1962)

Name Plates

Limits of existing structure

℄ I-70 (WB) & PC

Railroad R.O.W. 75' Lt.

Exist. aluminum cribwall to remain

Exist. conc. cribwall to remain

Railroad R.O.W. 50' Rt.

Drainage Scupper, DS-11, see Section A-A on sheet 13 of 52

Existing concrete slopewall to remain (repair as required)

30' Bridge approach slab, typ.

*** Slope to match existing grade behind cribwall. Finished grade shall not be steeper than 1.5:1 (V:H).

Stationing increases

Sta. 709+54.94 (F.A.I. Rte. 70) = Sta. 36+45.31 (CSXT R.R.)

Sta. 710+78.32 (F.A.I. Rte. 70) = Sta. 37+76.31 (CSXT R.R.) MP 168.31

℄ F.A.I. Rte. 70

6'-2" | 141'-9" | 181'-2" | 141'-9" | 6'-2"

477'-0" back-to-back Abutments

PLAN

N

Sta. 36+78.07 Elev. 528.03
Sta. 37+30.71 Elev. 528.14
Sta. 38+36.91 Elev. 528.24
Sta. 39+14.76 Elev. 528.33

PROFILE GRADE
(Along South rail of CSXT Railroad)

P.V.C. Sta. 696+59.80 Elev. 540.71
P.V.I. Sta. 708+34.65 Elev. 574.20
P.V.T. Sta. 719+69.50 Elev. 544.36
2.95%
-2.63%
2,269.70' Vertical curve

PROFILE GRADE
(Along ℄ I-70 (WB))

Proposed structure

Range 2E, 3rd P.M.

Twp. 6N

LOCATION SKETCH

GENERAL PLAN & ELEVATION
I-70 (WB) OVER CSXT RAILROAD
F.A.I. RTE. 70 - SEC. (26-3VB1)BR-1
FAYETTE COUNTY
STATION 709+54.94
STRUCTURE NO. 026-0022

DAVID CARL PUZEY 081-005470 SPRINGFIELD ILLINOIS — LICENSED STRUCTURAL ENGINEER — STATE OF ILLINOIS

EXPIRES 11-30-2018

DESIGNED	EXAMINED	DATE	5/15/2017
CHECKED	PASSED	REVISED	
DRAWN - RJ Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED	
CHECKED - JDV/NRB/LGRA	ENGINEER OF BRIDGES AND STRUCTURES		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 52 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3VB1)BR-1	FAYETTE	103	18
		CONTRACT NO. 74518		
		ILLINOIS FED. AID PROJECT		

5/10/2017 3:33:21 PM

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USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/16/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

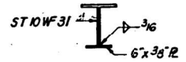
SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	17
		CONTRACT NO. 74D01		
		ILLINOIS FED. AID PROJECT		

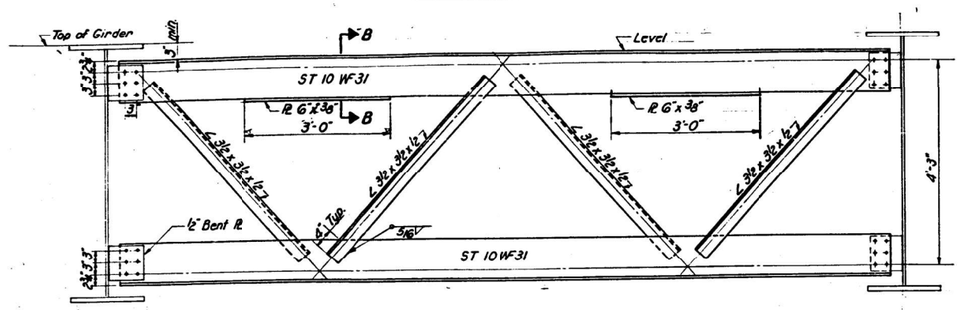
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	26-3VB-1(2)	FAYETTE	25	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

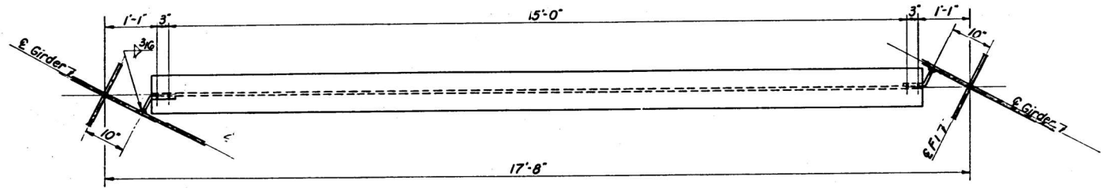
SHEET NO. 8
15 SHEETS



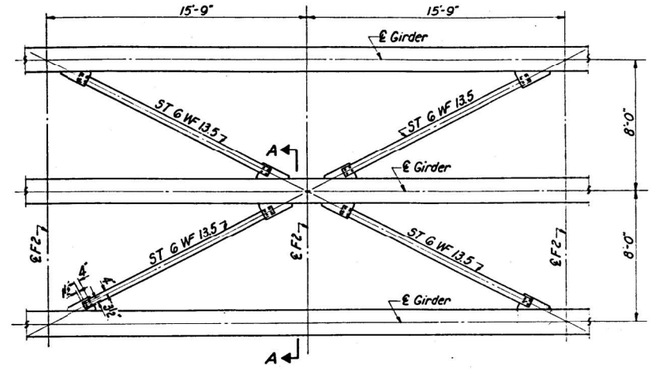
SECTION B-B



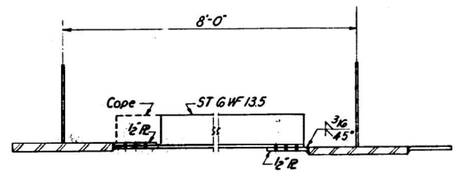
ELEVATION - FRAME F
(8 Required)



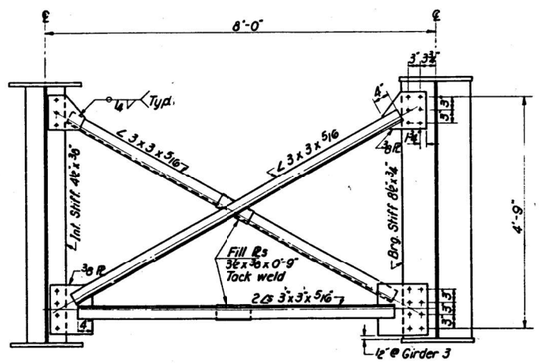
PLAN



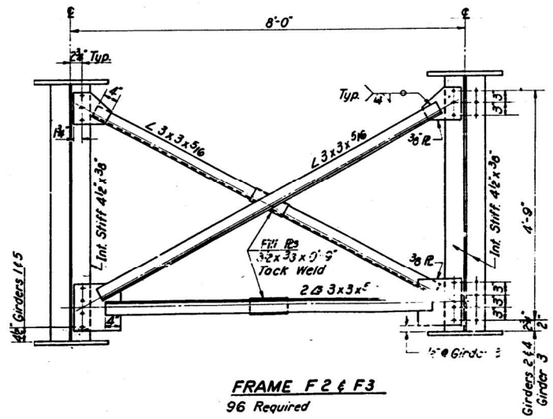
BOTTOM LATERIALS - TYPICAL



SECTION A-A



FRAME F1
(8 Required)



FRAME F 2 & F 3
96 Required

DESIGNED	Caldwell	Nov 13 1963	
CHECKED	Walter Perry	EXAMINED	W.G. Bauman
DRAWN	J.L. Armstrong	PASSED	
CHECKED	W.P.	APPROVED	

CROSS FRAMES & BOTTOM LATERIALS
F.A.I. RT. 70 SEC. 26-3VB-1(2)
FAYETTE COUNTY
STA. 710+52.71

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USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0022

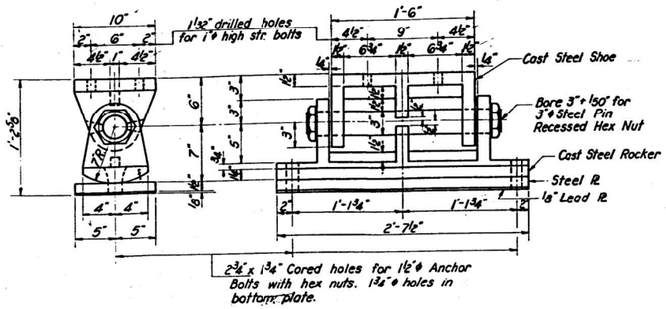
SCALE: | SHEET OF SHEETS | STA. | TO STA.

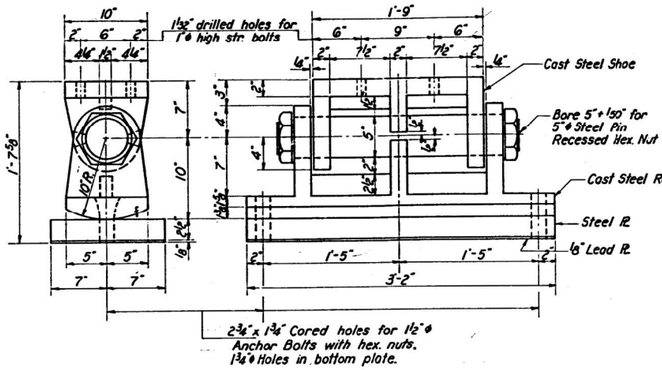
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	18
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		

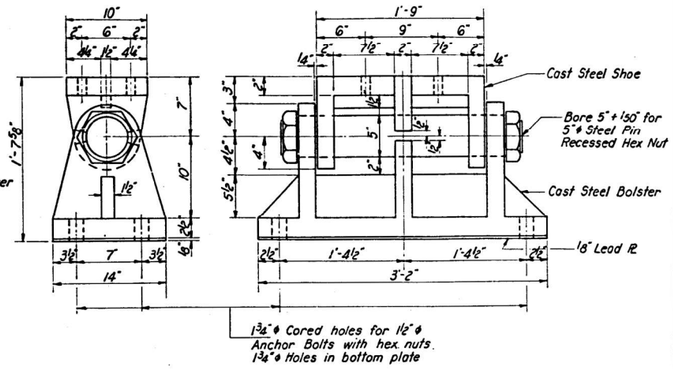
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

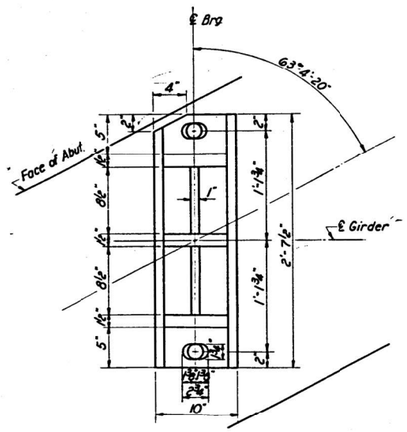
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	26-3VB-1(2)	FAYETTE	25	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
15 SHEETS



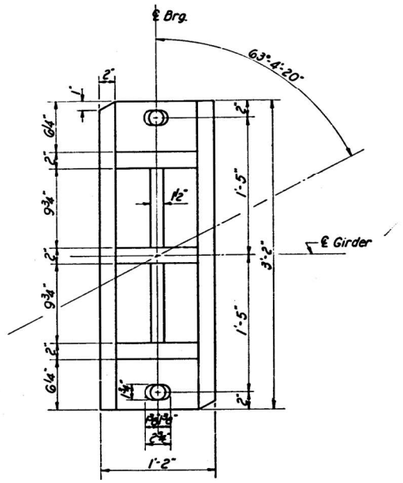






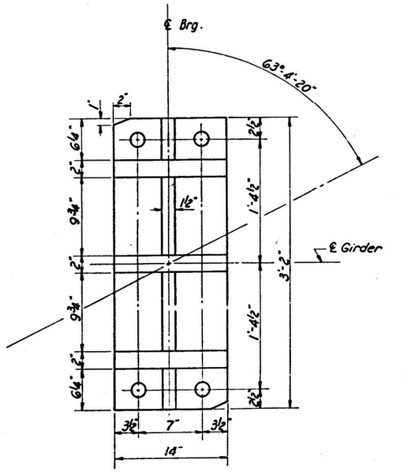
ABUTMENTS

Note: Provide ⅜" shim plate for Girder 3 at the West Abutment and ⅛" shim plate for Girder 4 at the East Abutment.



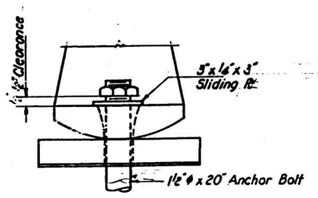
PIER 1

Note: Provide ⅝" shim plate for Girder 4.



PIER 2

Note: Provide ⅜" shim plate for Girder 3, and ⅛" shim plate for Girder 4.



ROCKER END VIEW

DESIGNED	J.L. Armstrong	Nov 12 1963
CHECKED	Walter Perry	EXAMINED H.G. Baumann
DRAWN	J.L. Armstrong	PASSED
CHECKED	W.P.	APPROVED

BEARINGS
F.A.I. RT. 70 SEC. 26-3VB-1(2)
FAYETTE COUNTY
STA. 710+52.71

USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 9/19/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
026-0022

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	18A
		CONTRACT NO. 74D01		
		ILLINOIS	FED. AID PROJECT	

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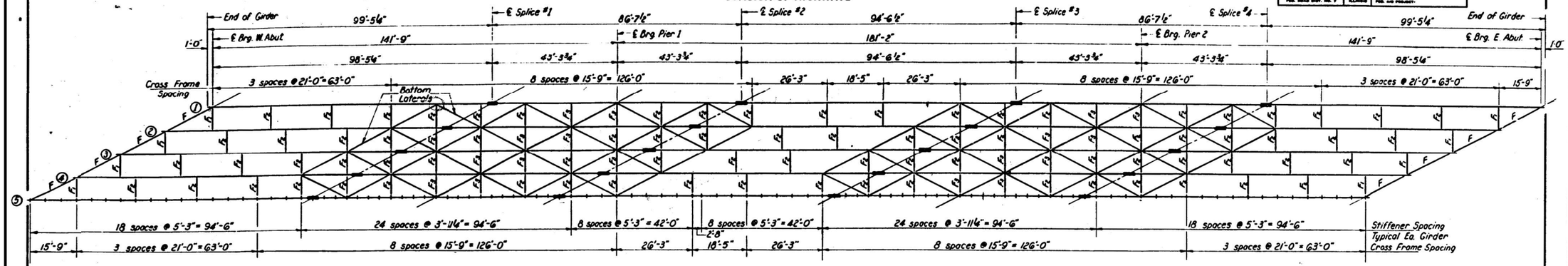
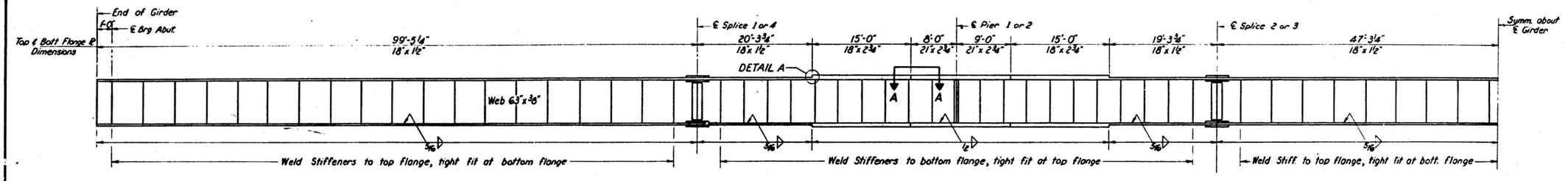
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	26-3VB	1(2) FAYETTE	25	10
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

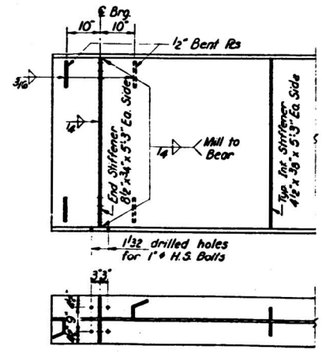
SHEET NO. 6
15 SHEETS



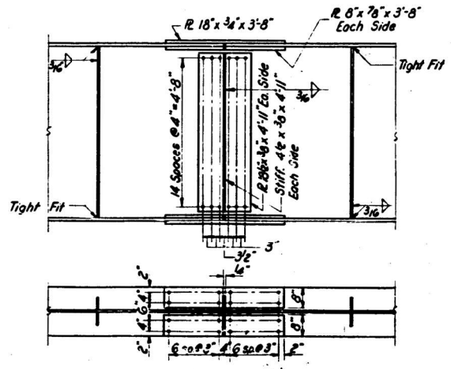
FRAMING PLAN



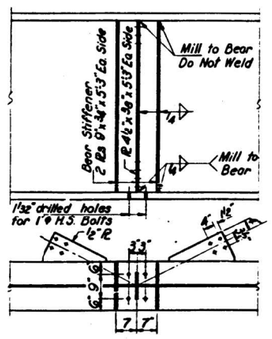
HALF GIRDER ELEVATION



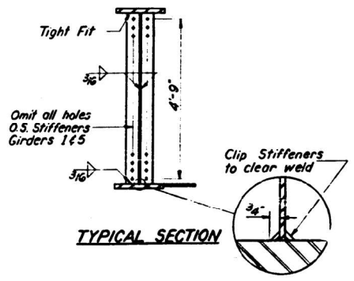
DETAILS AT ABUTS



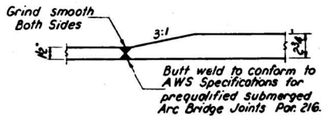
DETAILS OF SPLICE



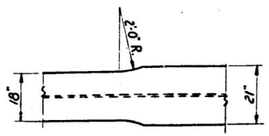
DETAILS AT PIERS



TYPICAL SECTION



DETAIL A
TRANSITION 18"x 1½" to 18"x 2¾"



VIEW A-A
TRANSITION 18"x 2¾" to 21"x 2¾"

DESIGNED	J. Antonelli	Nov. 12 1964
CHECKED	Walter Perry	EXAMINED W. G. Bauman
DRAWN	J. L. Armstrong	PASSED
CHECKED	W.P.	APPROVED

NOTE: The field connections of all cross-frames labled F-2 shall be limited to finger tight bolts in oversized holes (1 15/16") untill all dead loads are in place.

STRUCTURAL STEEL
F.A.I. RT. 70 SEC. 26-3VB-1(2)
FAYETTE COUNTY
STA. 710 + 52.71

Revised 6-25-64 after Award. Field connection note added.

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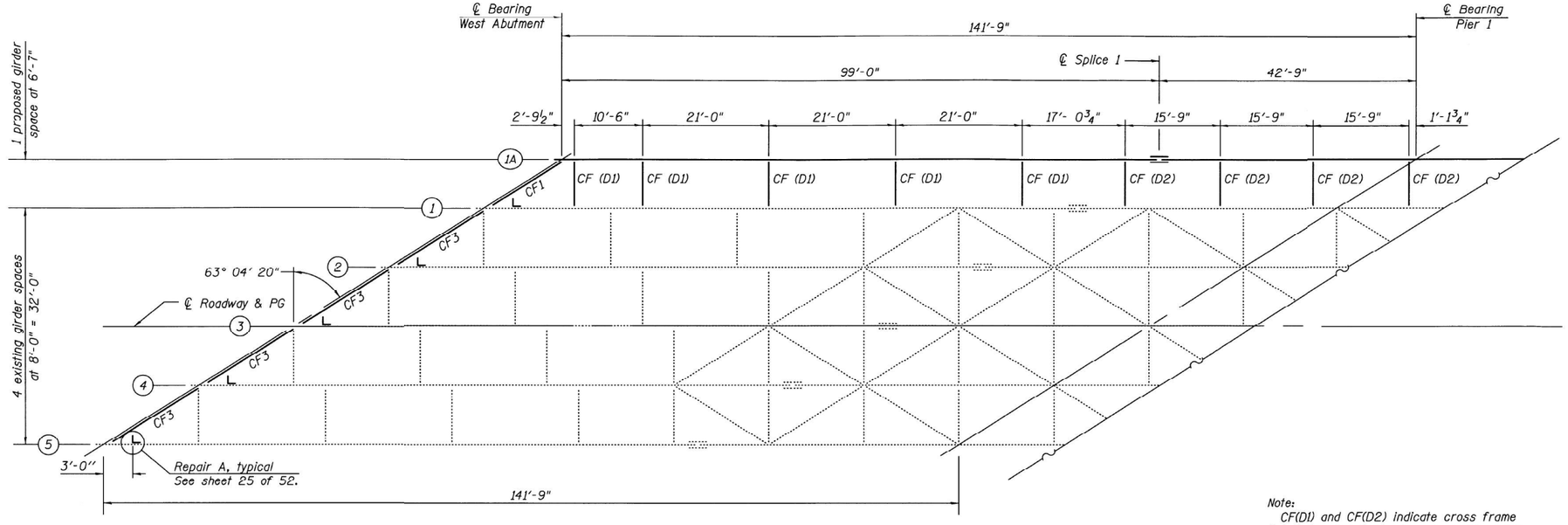
USER NAME = stacy.anderson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 9/23/2024	DATE -	REVISED -	

EXISTING STRUCTURE PLANS
026-0022

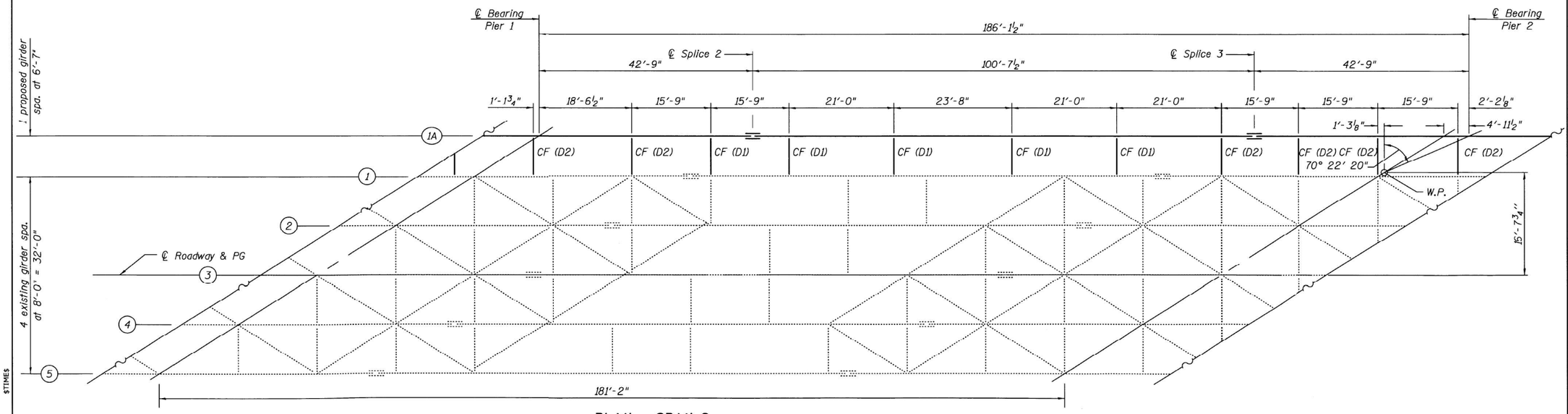
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	18B
		CONTRACT NO. 74D01		
	ILLINOIS	FED. AID PROJECT		



PLAN - SPAN 1

Note:
CF(D1) and CF(D2) indicate cross frame Detail 1 or Detail 2. See sheet 26 of 52.



PLAN - SPAN 2

$TIMES
$DATE$

DESIGNED - Josue D. Ortiz-Varela	EXAMINED	DATE - MAY 15, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS STRUCTURE NO. 026-0022	F.A.I. RTE. 70 | SECTION (26-3VB1)BR-1 | COUNTY FAYETTE | TOTAL SHEETS 103 | SHEET NO. 41
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 24 OF 52 SHEETS	CONTRACT NO. 74518
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED			ILLINOIS | FED. AID PROJECT
CHECKED - J.O.V. / N.R.B. / G.R.A.	ENGINEER OF BRIDGES AND STRUCTURES				

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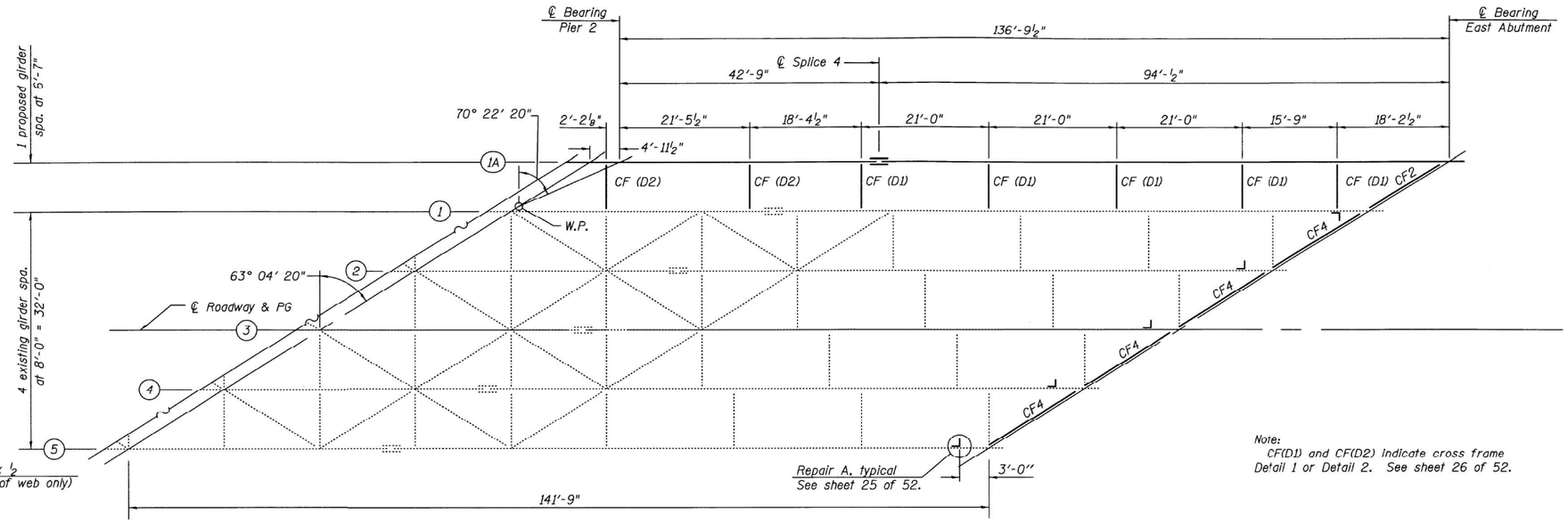
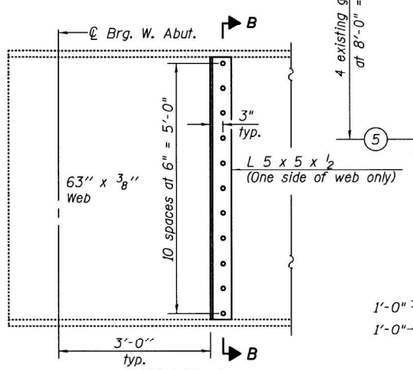
USER NAME = jessica.hille	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS	F.A.I RTE. 70 | SECTION D7 BRIDGE PAINTING 2025-1 | COUNTY FAYETTE | TOTAL SHEETS 23 | SHEET NO. 19
	DRAWN -	REVISED -			CONTRACT NO. 74D01
	CHECKED -	REVISED -			ILLINOIS | FED. AID PROJECT
PLOT DATE = 8/16/2024	DATE -	REVISED -		SCALE: SHEET OF 20 SHEETS STA. TO STA.	



Note:
CF(D1) and CF(D2) indicate cross frame Detail 1 or Detail 2. See sheet 26 of 52.

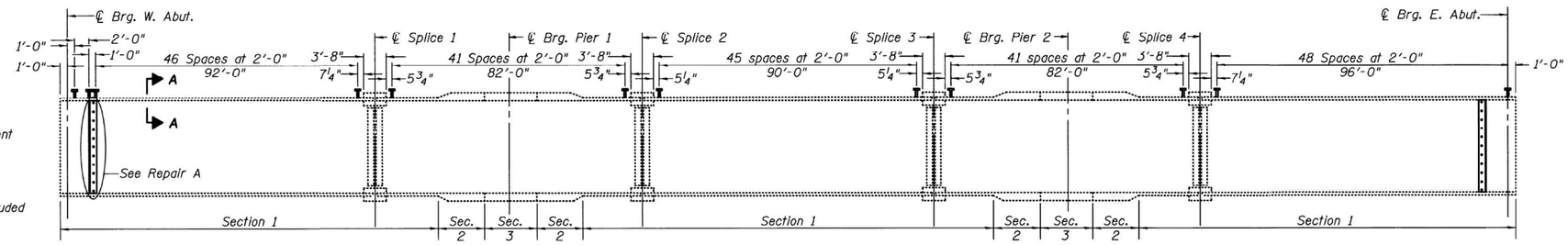
PLAN - SPAN 3



REPAIR A

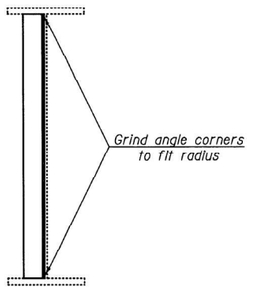
End beam repair at West Abutment shown; East Abutment similar, rotated 180°.
Fasteners shall be high strength bolts.
Bolts ¾" ϕ with 15/16" ϕ holes, unless othewise shown.
Holes in L 5 x 5 x ½ shall be shop drilled. Use holes in angle as template to field drill holes in web. Cost included with Furnishing and Erecting Structural Steel.

(10 required)

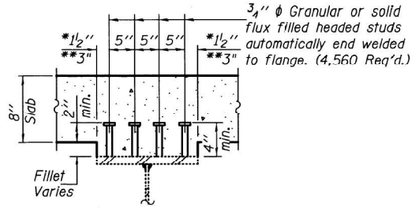


EXISTING GIRDER ELEVATION

(Showing proposed shear stud spacing).

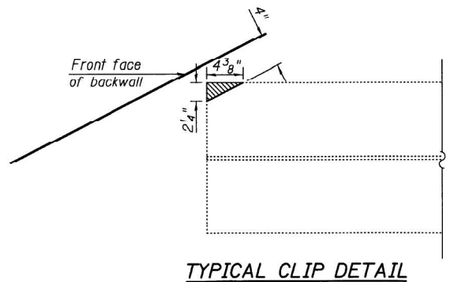


SECTION B-B

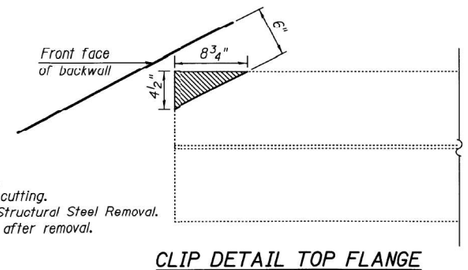


SECTION A-A

* Section 1 & Section 2
** Section 3



TYPICAL CLIP DETAIL TOP & BOTTOM FLANGE



Hatched area indicates removal.
Removal to be done by plasma cutting.
Cost of clipping included with Structural Steel Removal.
Grind removal surfaces smooth after removal.

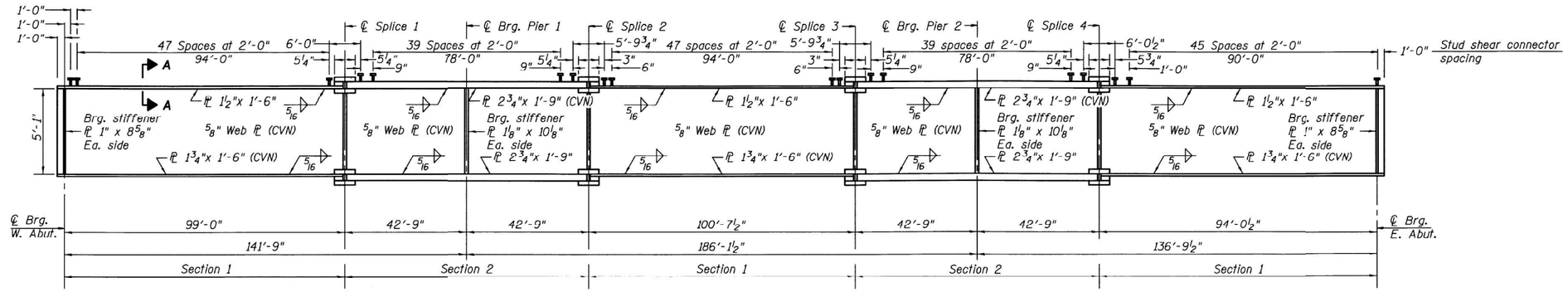
CLIP DETAIL TOP FLANGE AT WEST ABUTMENT

DESIGNED - Josue D. Ortiz-Varela	EXAMINED	DATE - MAY 15, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL DETAILS STRUCTURE NO. 026-0022	F.A.I. RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	REVISED		SHEET NO. 25 OF 52 SHEETS	70 / (26-3VB1)BR-1 / FAYETTE / 103 / 42
DRAWN - R. Laughlin	Joyce F. Duff, P.E. ENGINEER OF BRIDGE DESIGN	REVISED			CONTRACT NO. 74518
CHECKED - J.O.V. / N.R.B. / G.R.A.	H. Carl Pugh ENGINEER OF BRIDGES AND STRUCTURES				ILLINOIS FED. AID PROJECT

$DATES $TIME$

MODEL: 20 [Sheet]
FILE NAME: c:\pw_work\pwidot\hillejal\d0989262\D7T4D01-sht-plan.dgn

USER NAME = jessica.hille	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS	F.A.I RTE. / SECTION / COUNTY / TOTAL SHEETS / SHEET NO.
	DRAWN -	REVISED -			70 / D7 BRIDGE PAINTING 2025-1 / FAYETTE / 23 / 20
	CHECKED -	REVISED -			CONTRACT NO. 74D01
PLOT DATE = 8/16/2024	DATE -	REVISED -		SCALE: / SHEET OF 20 SHEETS / STA. / TO STA.	ILLINOIS FED. AID PROJECT



PROPOSED GIRDER ELEVATION

Notes:

All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

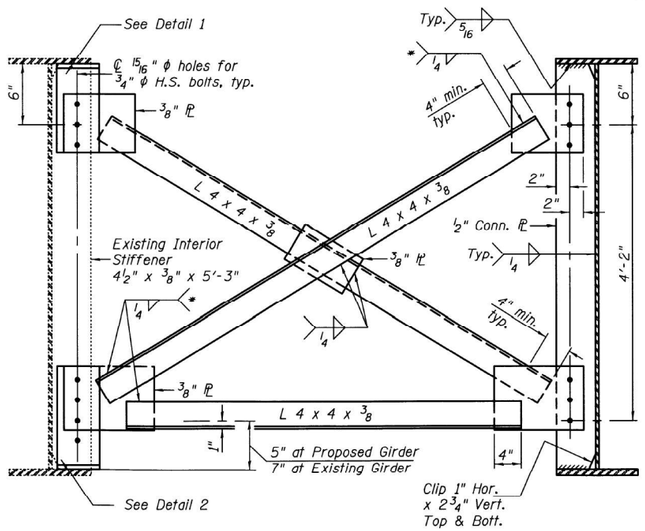
"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.

Detail 1 and Detail 2 shall be used for the new interior crossframe connections to the existing connecting plate at the end which is tight fit against the flange.

Proposed girder, bearing stiffeners, and all splice plates except filler plates shall be AASHTO M270 Grade 50.

Two hardened washers required for each set of oversized holes.

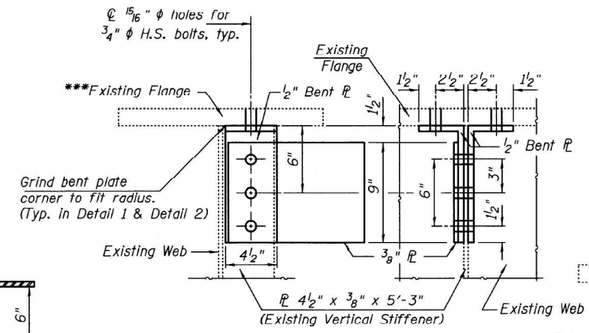
$\frac{15}{16}$" ϕ holes in $\frac{1}{2}$" bent plates and $\frac{3}{8}$" plates for cross frame connections shall be shop drilled and used as a template for field drilling holes in the existing flange and existing interior stiffener. Cost included with Furnishing and Erecting Structural Steel.



**Fillet weld angles along 3 sides on one face of gusset plate.*

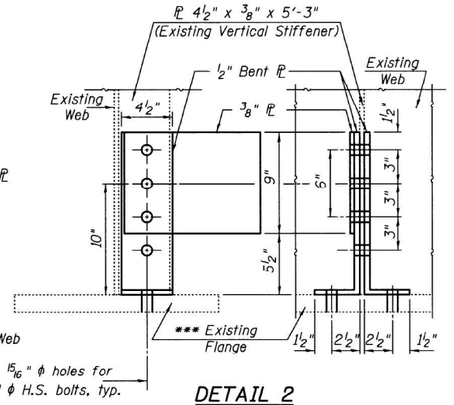
CROSS FRAME. CF

(25 Required)



DETAIL 1

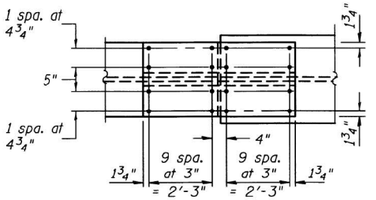
Top Flange
(10 Required)



DETAIL 2

Bottom Flange
(15 Required)

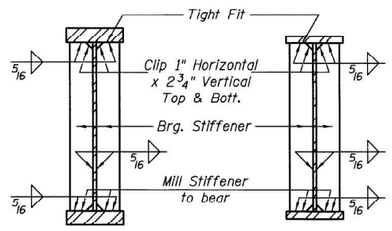
**** Existing flange thickness varies from 1½" to 2¾". Contractor is to verify thickness of existing flange in the field prior to drilling holes.*



PLAN - TOP & BOTT. FLANGES

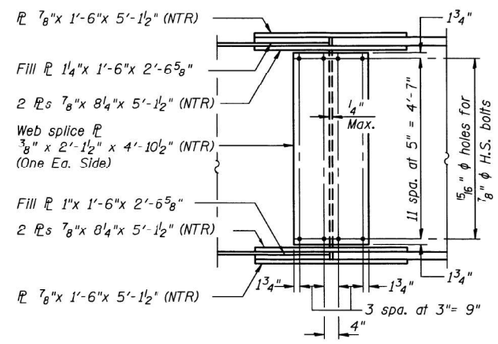
SECTION A-A

* Section 1
** Section 2



SECTION AT PIER

SECTION AT ABUTMENT



ELEVATION

FIELD SPLICE DETAIL

(4 Required)

DESIGNED - Josue D. Ortiz-Varela	EXAMINED	DATE - MAY 15, 2017	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
CHECKED - Nicholas R. Barnett	PASSED	REVISED	
DRAWN - R. Laughlin	Jayne F. Schaffer, P.E. ENGINEER OF BRIDGE DESIGN J. Carl Tragg ENGINEER OF BRIDGES AND STRUCTURES	REVISED	
CHECKED - J.O.V. / N.R.B. / G.R.A.			

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 026-0022
SHEET NO. 26 OF 52 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3VB1)BR-1	FAYETTE	103	43
		CONTRACT NO. 74518		
	ILLINOIS FED. AID PROJECT			

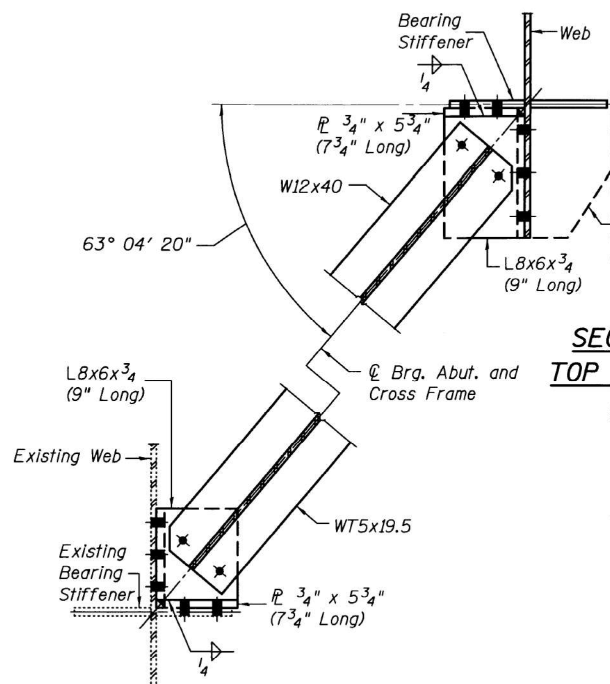
$DATES $TIMES

MODEL: 21 [Sheet]
FILE NAME: c:\pw_work\pwidot\hilleja\d0598262\D774D01-sht-plan.dgn

USER NAME = jessica.hille	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

EXISTING STRUCTURE PLANS
SCALE: | SHEET OF 20 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	21
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			



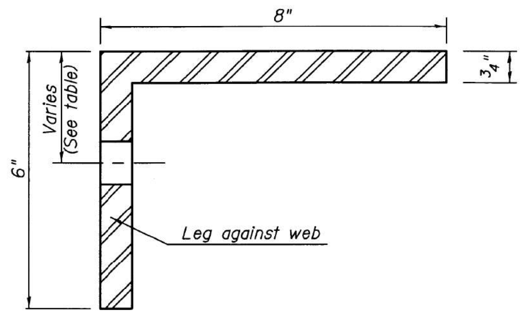
SECTION B-B TOP CONNECTION DETAIL

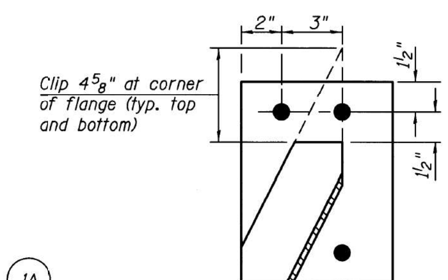
SECTION A-A BOTTOM CONNECTION DETAIL

BOLT LOCATION

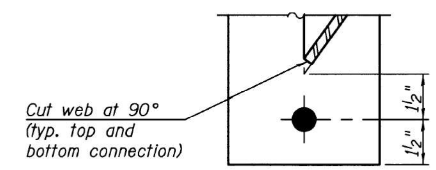
(End Diaphragm; West Abutment)

Location	Girder #					
	1A	1	2	3	4	5
South (Top)	3 1/2"	3 1/2"	4 1/4"	3 1/4"	2 1/2"	-
South (Bottom)	3 1/2"	3 1/2"	4 1/4"	3 1/4"	2 1/2"	-
North (Top)	-	2 1/2"	3 3/8"	3 7/8"	4 1/8"	3 1/2"
North (Bottom)	-	2 1/2"	3 3/8"	3 7/8"	4 1/8"	3 1/2"

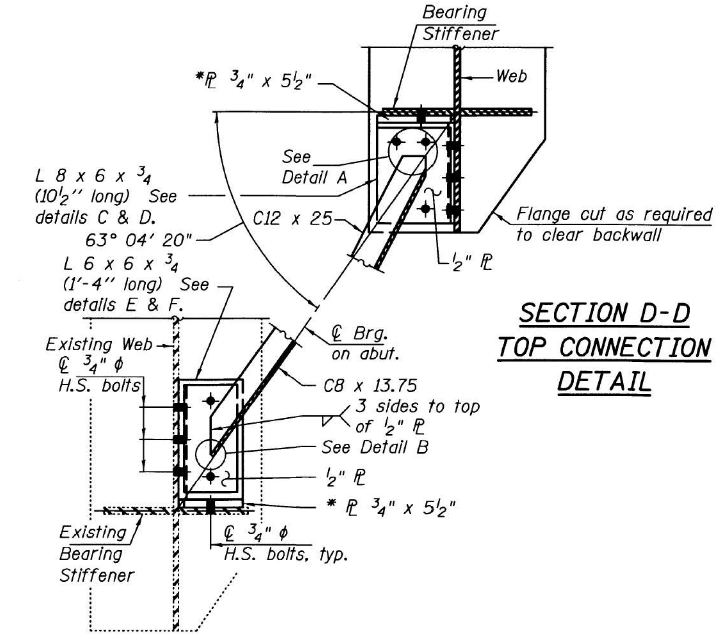




DETAIL A

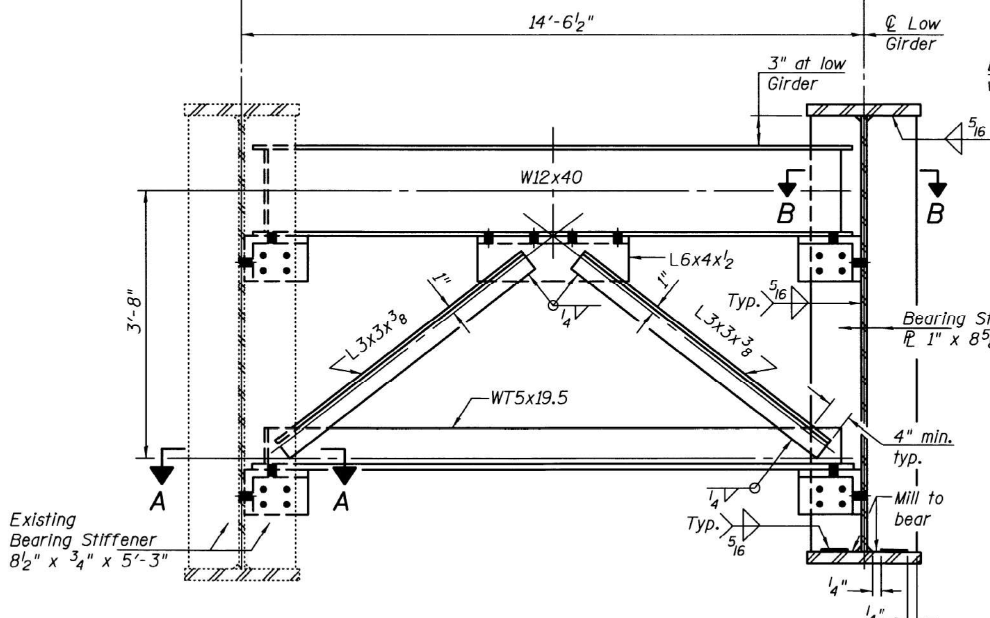


DETAIL B



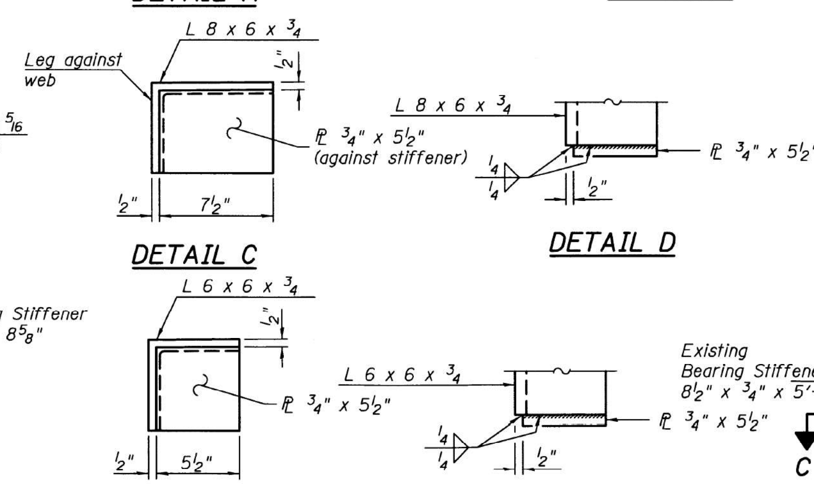
SECTION D-D TOP CONNECTION DETAIL

SECTION C-C BOTTOM CONNECTION DETAIL



CROSS FRAME CF1

(1 Required)

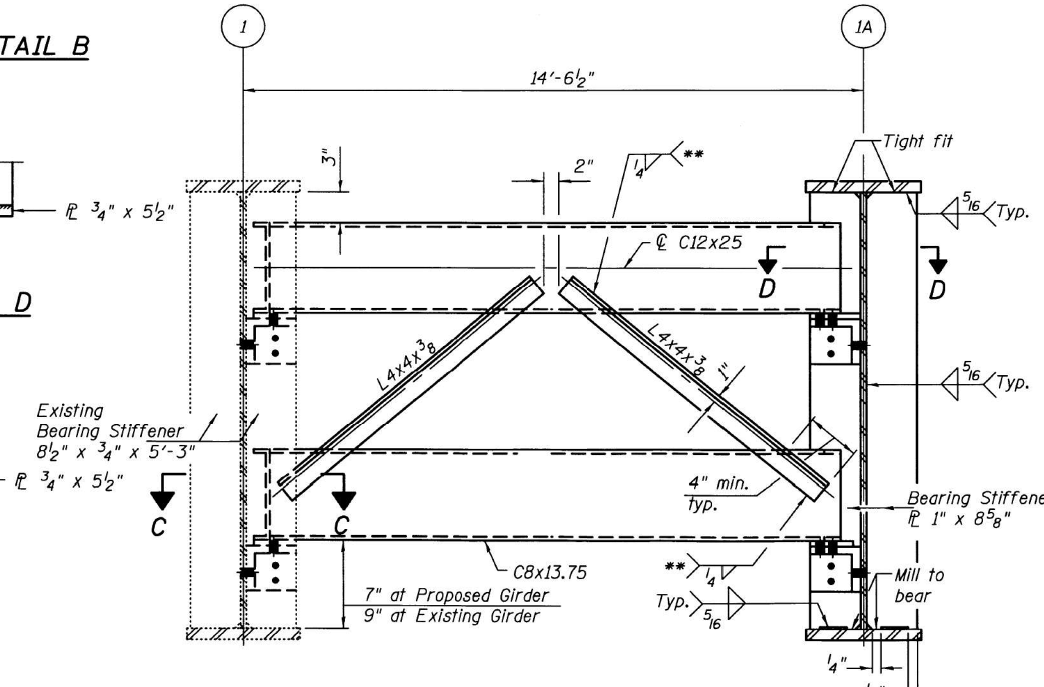


DETAIL C

DETAIL D

DETAIL E

DETAIL F



CROSS FRAME CF2

(1 Required)

Notes:
Detail 15/16" φ holes for all 3/4" φ bolts.
15/16" φ holes in angles and 3/4" plates for cross frame connections shall be shop drilled and used as a template for field drilling holes in the existing web and bearing stiffener. Cost included with Furnishing and Erecting Structural Steel. See sheet 23 of 52 for bolt spacing details.
Two hardened washers required for each set of oversized holes.
Place diaphragm with channel flanges outward from abutment backwall.
Bearing Stiffeners shall be welded to flanges when used as cross frame Connection Plates.

* Weld 3/4" x 5 1/2" plate to seat as shown in Details C thru F.

** 3 sides, to back face of channel only, typ.

DESIGNED - Josue D. Ortiz-Varela	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - MAY 15, 2017
CHECKED - Nicholas R. Barnett			
DRAWN - R. Laughlin	PASSED	ENGINEER OF BRIDGES AND STRUCTURES	REVISED
CHECKED - J.O.V. / N.R.B. / G.R.A.			REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 026-0022
SHEET NO. 27 OF 52 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3VB1)BR-1	FAYETTE	103	44
		CONTRACT NO. 74518		
		ILLINOIS FED. AID PROJECT		

$DATE$ $TIME$

MODEL: 22 [Sheet]
FILE NAME: c:\pw_work\pwidot\hillejla\d0989262\D774D01-sht-plan.dgn

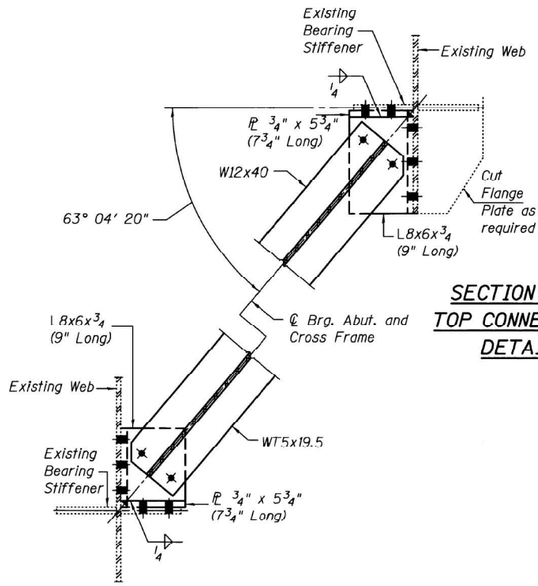
USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 8/16/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

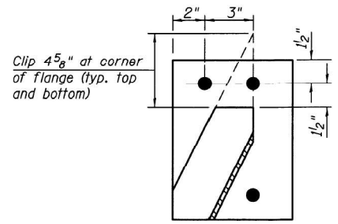
SCALE: SHEET OF 20 SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	22
		CONTRACT NO. 74D01		
		ILLINOIS FED. AID PROJECT		

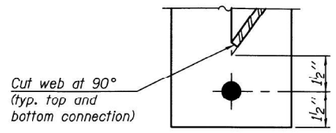


SECTION A-A
BOTTOM CONNECTION
DETAIL

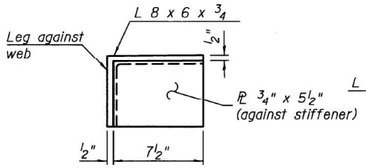
SECTION B-B
TOP CONNECTION
DETAIL



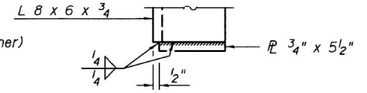
DETAIL A



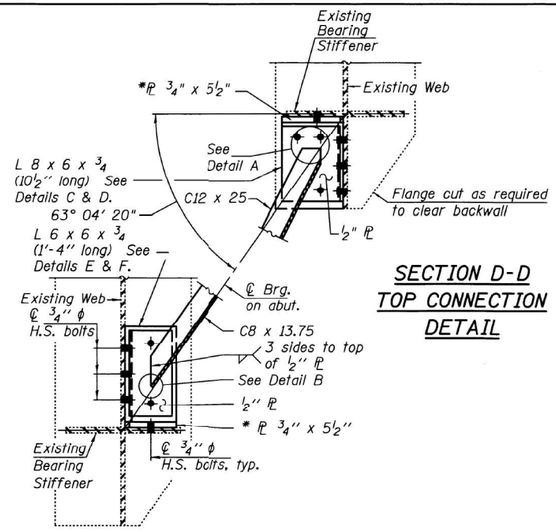
DETAIL B



DETAIL C

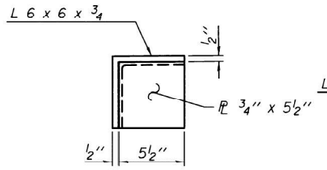


DETAIL D

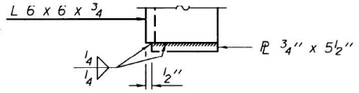


SECTION D-D
TOP CONNECTION
DETAIL

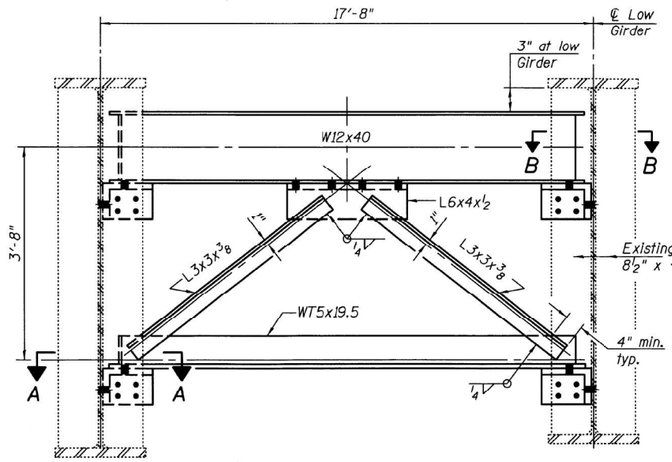
SECTION C-C
BOTTOM CONNECTION
DETAIL



DETAIL E



DETAIL F

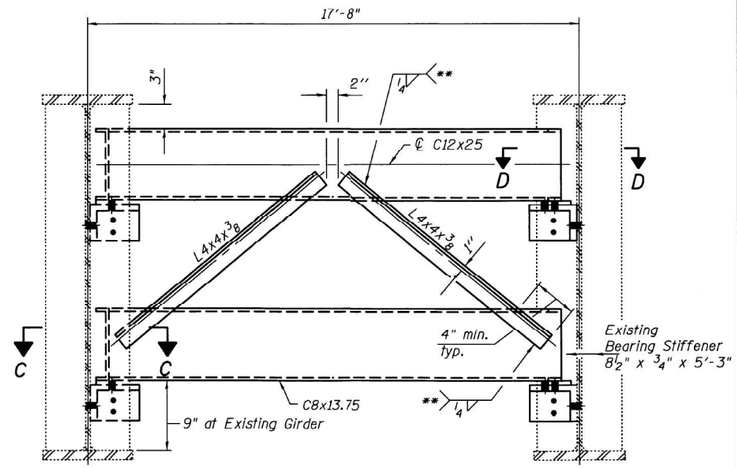


CROSS FRAME CF3
(4 Required)

Notes:
Detail 15/16" ϕ holes for all 3/4" ϕ bolts
15/16" ϕ holes in angles and 3/4" plates for cross frame connections shall be shop drilled and used as a template for field drilling holes in the existing web and bearing stiffener. Cost included with Furnishing and Erecting Structural Steel. See sheet 23 of 52 for bolt spacing details.
Two hardened washers required for each set of oversized holes.
Place diaphragm with channel flanges outward from abutment backwall.
Bearing Stiffeners shall be welded to flanges when used as cross frame Connection Plates.

* Weld 3/4" x 5 1/2" plate to seat as shown in Details C thru F.

** 3 sides, to back face of channel only. typ.



CROSS FRAME CF4
(4 Required)

$TIME$
$DATE$

DESIGNED - Josue D. Ortiz-Varela	EXAMINED	DATE - MAY 15, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CHECKED - Nicholas R. Barnett	PASSED	REVISED	
DRAWN - R. Laughlin	ENGINEER OF BRIDGE DESIGN	REVISED	STRUCTURAL STEEL DETAILS
CHECKED - J.O.V. / N.R.B. / C.R.A.	ENGINEER OF BRIDGES AND STRUCTURES		STRUCTURE NO. 026-0022
			SHEET NO. 28 OF 52 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(26-3VB1)BR-1	FAYETTE	103	45
		CONTRACT NO. 74518		
	ILLINOIS FED. AID PROJECT			

MODEL: 23 [Sheet]
FILE NAME: c:\pw_work\pwidot\hillejad\d0989262\D7774D01-sht-plan.dgn

USER NAME = jessica.hille	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	EXISTING STRUCTURE PLANS
	CHECKED -	REVISED -	SCALE: SHEET OF 20 SHEETS STA. TO STA.
PLOT DATE = 8/16/2024	DATE -	REVISED -	

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE PAINTING 2025-1	FAYETTE	23	23
		CONTRACT NO. 74D01		
	ILLINOIS FED. AID PROJECT			