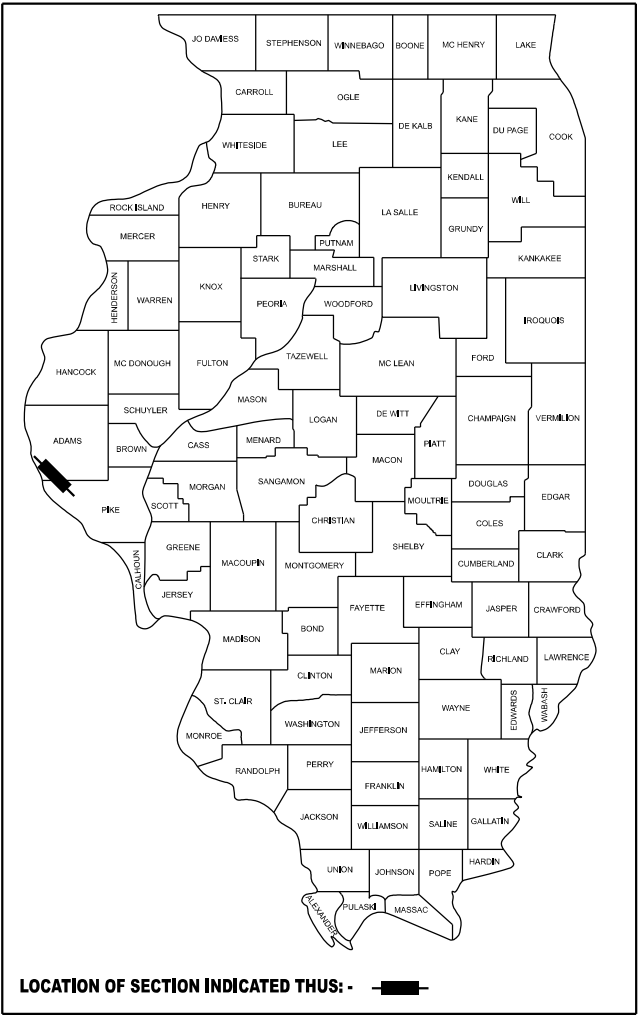


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	(1-2HB)BP	ADAMS	7	1
		ILLINOIS	CONTRACT NO. 72652	

D-96-005-25



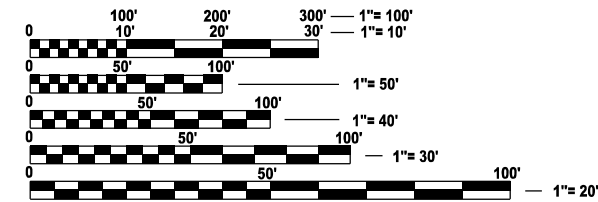
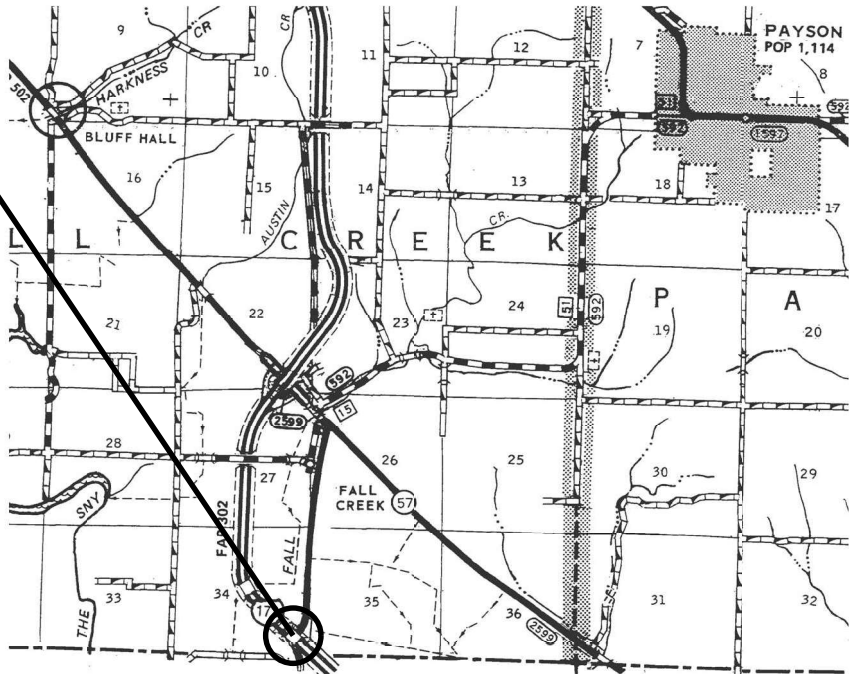
FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROPOSED
HIGHWAY PLANS

FAI ROUTE 172 (I-172)
SECTION (1-2HB)BP
PROJECT NHPP-1C08(963)
BRIDGE PAINTING
ADAMS COUNTY
C-96-025-25



PROJECT LOCATION:
SN 001-0069
OR 79 OVER I-172
0.1 MI N PIKE CO. LINE



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

PROJECT ENGINEER: BRANDON DUDLEY - (217-785-9290)
PROJECT MANAGER

CONTRACT NO. 72652

GROSS LENGTH = 287 FT. = 0.05 MILE
NET LENGTH = 287 FT. = 0.05 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 10 20 24
Jeff P. Meyer
REGIONAL ENGINEER
January 31 20 25
Scott A. Etkin
ENGINEER OF DESIGN AND ENVIRONMENT
January 31 20 25
Charles J. Barry
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

HIGHWAY STANDARDS

INDEX OF SHEETS

- 1COVER SHEET
- 2INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3SUMMARY OF QUANTITIES
- 4-7EXISTING BRIDGE PLANS, SN 001-0069

000001-08
001006
701101-05
701106-02
701400-12
701402-12
701411-09
701901-10
704001-08
782006-01

GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
- 2DELETED
3. THE SSPC-QP-1 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
4. CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. RUBBER COMPONENTS SHALL NOT BE PAINTED.
5. UPON COMPLETION OF PAINTING OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE INCLUDED IN THE COST OF THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

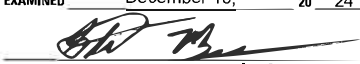
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6

EXAMINED

December 10,

20

24



ENGINEER OF OPERATIONS

EXAMINED

December 9,

20

24



ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED

December 11,

20

24



ENGINEER OF PROGRAM DEVELOPMENT

REV - MS

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		DRAWN -	REVISED -						172	(1-2HB)BP	ADAMS	7	2
		CHECKED -	REVISED -						CONTRACT NO. 72652				
	PLOT DATE = 10/21/2024	DATE -	REVISED -		SCALE:	SHEET 2	OF 1	SHEETS	STA.	TO STA.			
											ILLINOIS	FED. AID PROJECT	

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				0-01378-6006
				NHPP 90/10
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	SN 001-0069
				0047-RURAL
				ADAMS
67100100	MOBILIZATION	L SUM	1	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	45	45
70400100	TEMPORARY CONCRETE BARRIER	FOOT	600	600
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	600	600
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1

EXISTING STRUCTURE:
NO EXISTING STRUCTURE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 40B	1 - 2MS	ADAMS	30	7

Sheet No. 1 of 19 Sheets

GENERAL NOTES:

1. SEE PROPOSAL, FOR BORING DATA.
2. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS $\frac{7}{8}$ " ϕ , OPEN HOLES $\frac{1}{16}$ " ϕ , UNLESS OTHERWISE NOTED.
3. BRIDGE SEAT SEALER SHALL BE APPLIED TO THE FRONT FACE OF THE BACKWALL, TO THE TOP AND FRONT FACE OF STEM TO TOP OF FOOTINGS.
4. BRIDGE SEAT SEALER QUANTITY = 1580 SQ.FT.
5. CALCULATED WEIGHT OF STRUCTURAL STEEL IS: L.M 183 = 117,260 LBS
2.M 223, GR50 = 105,700 LBS
TOTAL = 222,960 LBS
6. THE ZINC SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL, EXCEPT WHERE OTHERWISE NOTED.
7. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF GIRDEBS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
8. ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.
9. THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND SPLICE PLATE MATERIAL OF THE STEEL GIRDEBS.
10. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.T.M. M-31, M-42 OR M-53, GRADE 60.
11. SLOPEWALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC, $\frac{1}{4}$ " ϕ - 14.0" $\times$ 14.0", WEIGHING 58 LBS. PER 100 SQ. FT.
12. THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF ADJUSTMENTS.
13. BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENTS SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING TWO 1/4" ADJUSTING SHIMS, IF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO SHIMS OF THE DIMENSIONS OF THE TOP PLATE SHALL BE PROVIDED AND GRANTED AS DETAILED.
14. CONCRETE PILES AT THE APPROACH BENTS SHALL BE DRIVEN IN HOLES PILED THROUGH THE EMBANKMENT IN ACCORDANCE WITH ARTICLE 513.09 (1) OF THE STANDARD SPECIFICATIONS.
15. THE CONTRACTOR SHALL DRIVE THREE (3) CONCRETE TEST PILES IN PERMANENT LOCATIONS, ONE AT EACH ABUTMENT AND ONE AT THE PIER AS DIRECTED BY THE ENGINEER BEFORE ORDERING REMAINDER OF PILES.

TOTAL BILL OF MATERIAL				
ITEM	UNIT	SUPER	SUB	TOTAL
SAND BACKFILL	CU.YD.	—	320	320
STRUCTURE EXCAVATION	CU.YD.	—	536	536
PROTECTIVE COAT	SQ.YD.	235	—	235
CLASS X CONCRETE	CU.YD.	—	380	380
STRUCTURAL STEEL	L.SUM	1	—	1
STUD SHEAR CONNECTORS	EACH	2,250	—	2,250
REINFORCEMENT BARS	POUND	17,160	38,880	56,040
CONCRETE PILE	LIN.FT.	—	4,952	4,952
TEST PILE CONCRETE	EACH	—	3	3
NAME PLATES	EACH	1	—	1
SLOPEWALL 4"	SO.YD.	—	294	294
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10	—	10
DRAINAGE SCUPPERS	EACH	4	—	4
NEOPRENE EXPANSION JOINT 2"	LIN.FT.	92	—	92
REINFORCEMENT BARS (EPOXY COATED)	POUNDS	72,110	—	72,110
CLASS X CONCRETE SUPERSTRUCTURE	CU.YD.	386.0	—	386.0
DRAINING CONCRETE PILES	LIN.FT.	—	4,952	4,952
BRIDGE SEAT SEALER	L.SUM	1	—	1

*SEE SPECIAL PROVISIONS.

DESIGN STRESSES

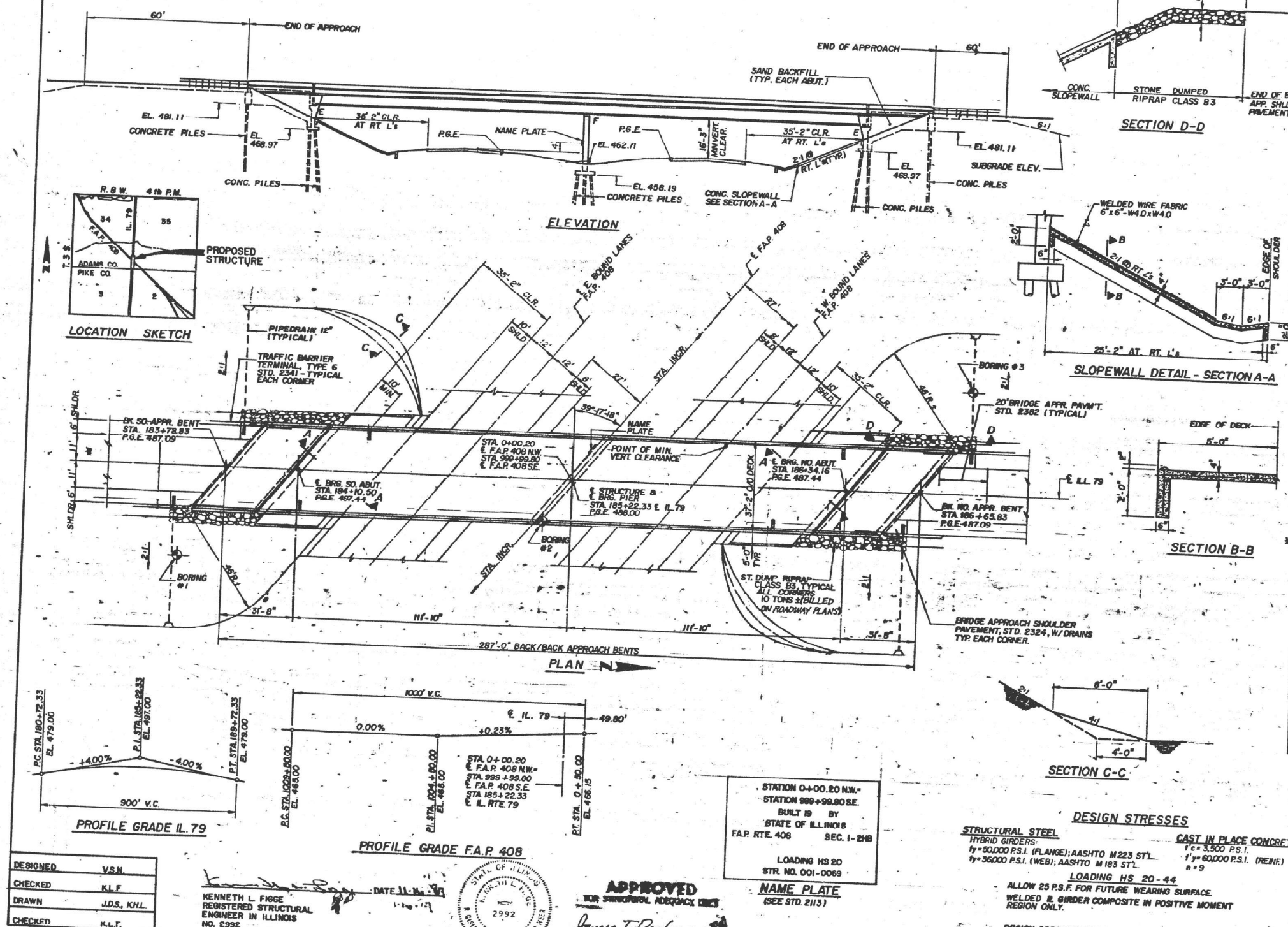
STRUCTURAL STEEL		CAST IN PLACE CONCRETE	
HYBRID GIRDERS:		f'c = 3,500 P.S.I.	
fy = 50,000 P.S.I. (FLANGE); AASHTO M 223 STL		fy = 60,000 P.S.I. (REINF.)	
fy = 36,000 P.S.I. (WEB); AASHTO M 183 STL		p.s.	

LOADING HS 20-44

ALLOW 25 P.S.F. FOR FUTURE WEARING SURFACE.
WELDED R. GIRDER COMPOSITE IN POSITIVE MOMENT
REGION ONLY.

DESIGN SPECIFICATION: 1983 A.A.S.H.T.O. AND 1984 THRU 1988 INTERIMS.

GENERAL PLAN & ELEVATION
ILL RTE 79 OVER FAP RTE 408
FAP RTE 408 SEC. 1-2HB
ADAMS COUNTY
STA. 0+00.20 N.W.=
STA. 999+99.80 S.E.
STRUCTURE NO. 001-0069



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING BRIDGE PLANS, SN 001-0069
(FOR INFORMATION ONLY)**

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	(1-2HB)BP	ADAMS	7	4
		CONTRACT NO. 72652		
		ILLINOIS	FED. AID PROJECT	

MODEL: bridge-1 [Sheet]
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SHEET NO. 12 OF 19 SHEETS



NOTE A: WELD SHALL END 1/2
FROM BOTH ENDS OF
BEARING STIFFENERS



ILL. RTE. 79 OVER F.A.P. RTE. 408
F.A.P. RTE. 408, SEC. 1-2HB
ADAMS COUNTY
STA. 0+00.20N.W.=
STA. 999+99.80 S.E.

REVISED KLR 1/8/90



AS REVISED

GIRDER ELEVATION

DESIGNED	V.S.N
CHECKED	K.L.F.
DRAWN	J.S
CHECKED	K.L.F.

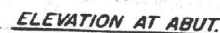
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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**EXISTING BRIDGE PLANS, SN 001-0069
(FOR INFORMATION ONLY)**

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
172	(1-2HB)BP	ADAMS	7	5
		CONTRACT NO. 72652		
		JULIUS L. FRED. AID PROJECT		

MODEL: bridge-2 [Sheet]
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SIDE RETAINER
(4 REQ'D.)

DESIGNED	V.S.N
CHECKED	K.L.F
DRAWN	J.B
CHECKED	K.L.F

I-2-E1 6-1-82

NOTES:

1. After girders have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.
2. Steel plates for bearings shall be A.A.S.H.T.O. M-223, Grade 50.

MOMENT TABLE-Symmetrical Composite 2 Span
(Composite in Positive Moment Area Only)

INTERIOR GIRDER	MOMENT	TABLE
	0.4 Sp. 1	Pier
$I_c (in^4)$	18,884	30,344
$I_e (in^4)$	50,320	—
$S_x (in^3)$	871	1,190
$Sc (in^3)$	1,217	—
$\rho (in)$	0.930	1.260
$W_F (K)$	779	2,090
$W_F (K/ft)$	0.330	—
$W_F (K)$	312	—
$W_F (K)$	1,035	808
$M_{imp} (K)$	219	171
$5/8 W_F + 1 (K)$	2,090	1,632
$M_{tot} (K)$	4,130	4,839
$M_{tot} (K)$	4,515	4,879
$P_F / non-comp. (k.s.i.)$	1.07	21.1
$F_F comp. (k.s.i.)$	3.1	—
$f_s P comp. (k.s.i.)$	20.6	16.4
$f_s (Overstressed) (k.s.i.)$	34.4	37.5
$f_s (Total) (k.s.i.)$	44.7	48.8
$VRI (K)$	60.3	—

LOCATION	℄ BRG. S. ABUT	SPJCE SPL. #1	℄ PIER	SPJCE SPL. #2	℄ BRG. N. ABUT
GRADER 1	486.55	486.98	486.92	486.92	486.30
GRADER 2	486.63	487.12	487.07	487.08	486.51
GRADER 3	486.69	487.22	487.19	487.22	486.69
GRADER 4	486.51	487.08	487.07	487.12	486.63
GRADER 5	486.30	486.92	486.92	486.98	486.55

NOTE: Elevations above are top of girder web before any deflection.

* FOR FABRICATION ONLY

INTERIOR GIRDER REACTION TABLE		
	Abutment	Pier
$R_L(K)$	53.0	182.1
$R_L(K)$	45.7	79.2
$Imp.(K)$	9.7	16.7
$R \text{ Total}(K)$	108.4	278.0

- M_u = Moment Capacity for a Braced Non-compact Hybrid section computed according to AASHTO 10.53.1 & 10.53.2.
- M_d (Applied Moment) = $1.3 [M_d + M_{de} + 0.5(M_L + T)]$.
- I_s and S_x are the moment of inertia and section modulus of the steel section used in computing f_s (Total and Overload).
- I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s (Total and Overload).
- V_R is the maximum U_L + impact shear range in span.
- f_s Total is the sum of the stresses due to $1.3 C M_d + M_{de} + 0.5(M_L + T)$.
- f_s Overload is the sum of the stresses due to $M_d + M_{de} + 0.5(M_L + T)$.
- M_{de} - Moment due to the dead loads on a non-composite section.
- M_{sd} - Moment due to the dead loads on composite section.
- M_L - Moment due to live loads on a non-composite or composite section.
- I - Live Load Impact.

ABUTMENT AND PIER BEARING DETAILS
ILL. RTE. 79 OVER F.A.P. RTE. 408
F.A.P. RTE. 408, SEC. 1-2 HB
ADAMS COUNTY
STA. 0+00.20 N.W. #
STA. 999+99.80 S.E.