

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(68-2HB-1)BP,BC	MONTGOMERY	7	1
		ILLINOIS	CONTRACT NO. 72746	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

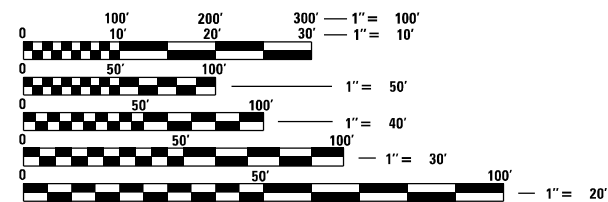
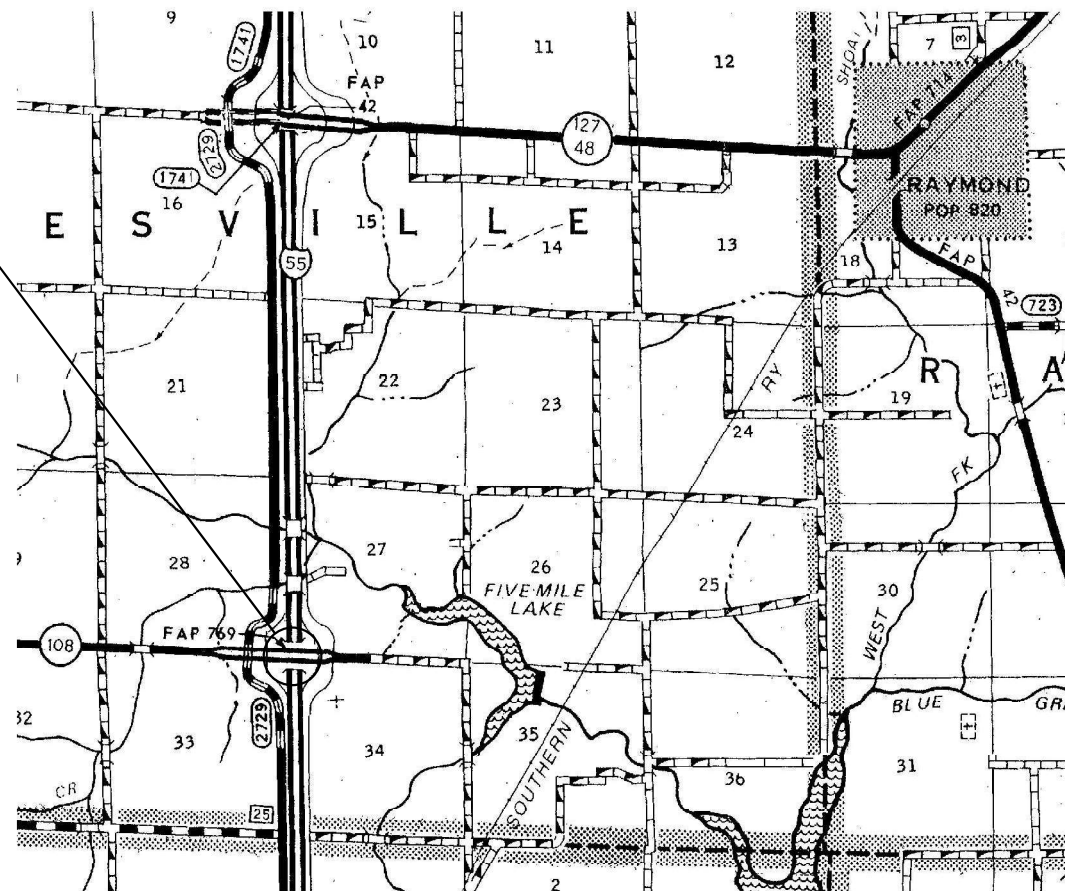
PROPOSED MCHD REPAIRS

FAI ROUTE 55 (I-55)
SECTION (68-2HB-1)BP,BC
PROJECT (STATE)
BRIDGE PAINTING
MONTGOMERY COUNTY

C-96-077-24



PROJECT LOCATION
SN 068-0043
IL 108 OVER I-55
© CARLINVILLE OVERHEAD



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

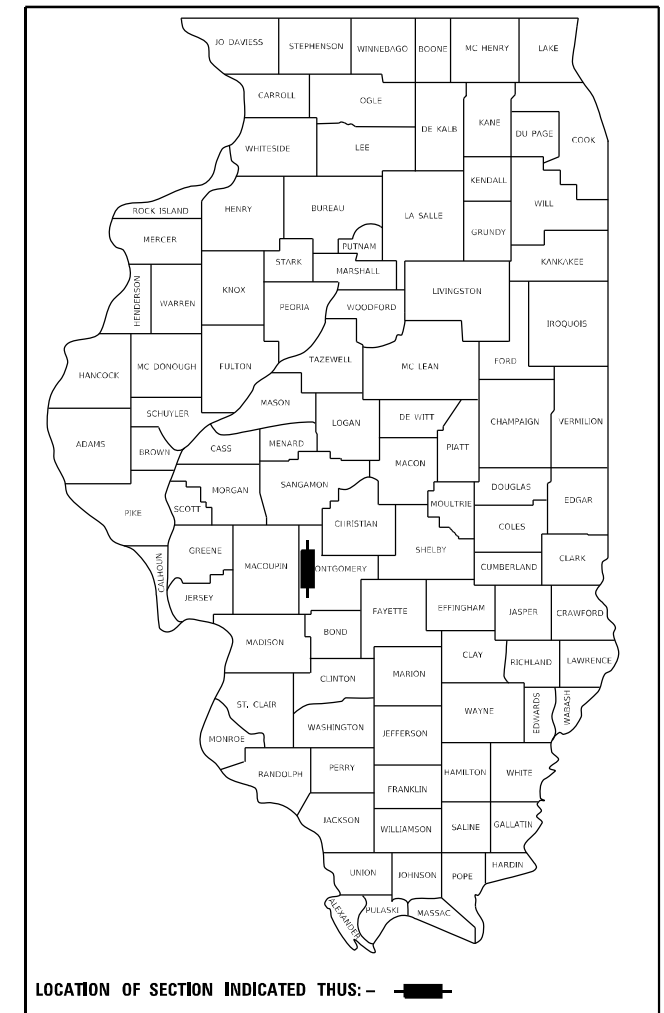
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811

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

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

CONTRACT NO. 72746

D-96-055-24



LOCATION OF SECTION INDICATED THIS: - [thick black line]

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 9 20 24

John P. Meyer
REGIONAL ENGINEER

June 28, 2024
John A. Etk
ENGINEER OF DESIGN AND ENVIRONMENT

June 28, 2024
Stephen M. Davis
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

HIGHWAY STANDARDS


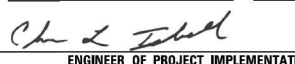

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, & SIGNATURES
- 3 SUMMARY OF QUANTITIES
- 4-7 EXISTING BRIDGE PLANS, SN 068-0043

- 000001-08
- 001006
- 701101-05
- 701106-02
- 701400-12
- 701401-13
- 701428-01
- 701901-09

GENERAL NOTES:

1. WORK SHALL CONSIST OF BLASTING AND PAINTING STRUCTURAL STEEL AT LOCATIONS DESCRIBED IN THE SPECIAL PROVISIONS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COATS SHALL BE AS DESCRIBED IN THE SPECIAL PROVISIONS.
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT LOCATIONS AS CALLED OUT IN THE SPECIAL PROVISIONS.
3. THE SSPC-QP-1 AND SSPC-QP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED.
4. CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. RUBBER COMPONENTS SHALL NOT BE PAINTED.
5. UPON COMPLETION OF PAINTING OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED	April, 24 20 24
 ENGINEER OF OPERATIONS	
EXAMINED	April, 24 20 24
 ENGINEER OF PROJECT IMPLEMENTATION	
EXAMINED	May, 7 20 24
 ENGINEER OF PROGRAM DEVELOPMENT	

MODEL Path: \\s:\address\bridgeplans\CAD\72746 - 0680043 MCID post\table\indexofstd.dgn

	USER NAME = Brandon.Dudley	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STANDARDS, GENERAL NOTES, & SIGNATURES	SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		DRAWN -	REVISED -												55	(68-2HB-1)BP,BC	MONTGOMERY	7	2
	PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -																
	PLOT DATE = 5/9/2024	DATE -	REVISED -																
													CONTRACT NO. 72746						
													ILLINOIS FED. AID PROJECT						

6-01600-9970
 100% STATE
 (MCHD)
 SN 068-0043
 0047-RURAL
 MONTGOMERY

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
59200101	BRIDGE WASHING NO. 1	EACH	1	1
67100100	MOBILIZATION	L SUM	1	1
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1

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USER NAME = Brandon.Ducley	DESIGNED -	REVISED -
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISIED -
PLOT DATE = 5/9/2024	CHECKED -	REVISIED +
	DATE -	REVISIED +

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

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

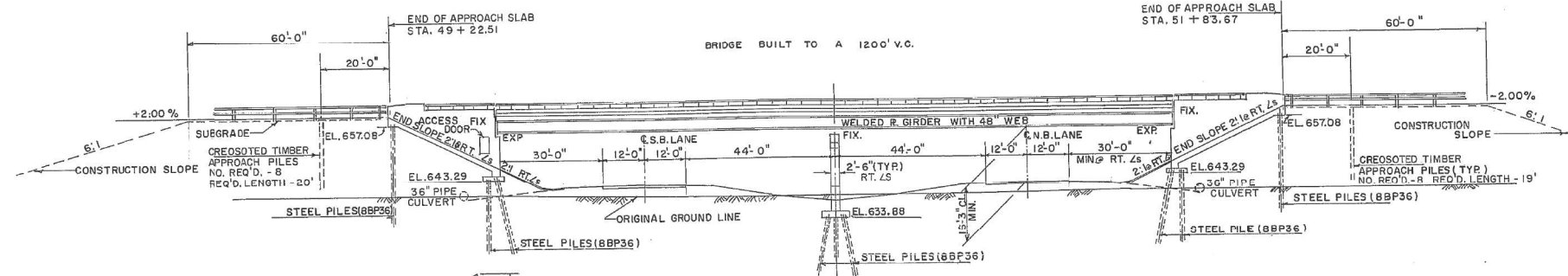
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(68-2HB-1)BP,BC	MONTGOMERY	7	3
		CONTRACT NO. 72746		
ILLINOIS FED. AID PROJECT				

B.M. No. 15 - BOAT SPIKE IN T.F.P. 190' RT.
STA. 1651+47 ELEV. 641.71

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-55	68-2HB1	MONTGOMERY	286	57
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

14 SHEETS



GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.
Fasteners shall be high strength bolts. Bolts 3/8" & open holes 1 1/8", unless otherwise noted.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED IN THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR ON THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE RIVETING DIAPHRAGMS OVER SUPPORTS.

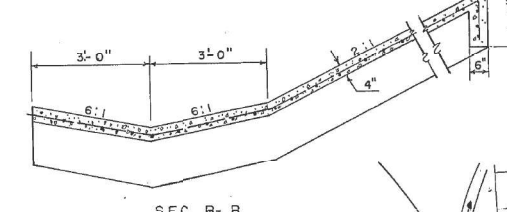
SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH, WEIGHING 58# PER 100 SQ. FT.
Calculated weight of Structural Steel = 397,800 lbs.

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE TWO STEEL TEST PILES IN A PERMANENT LOCATION: ONE AT THE WEST APPROACH BENT, AND ONE AT THE EAST ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONSTRUCTION JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF SANDRAL CONCRETE.
The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.

HORIZONTAL CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH ART. 504.13(b) 1, 2, OR 3 OF THE STANDARD SPECIFICATIONS.

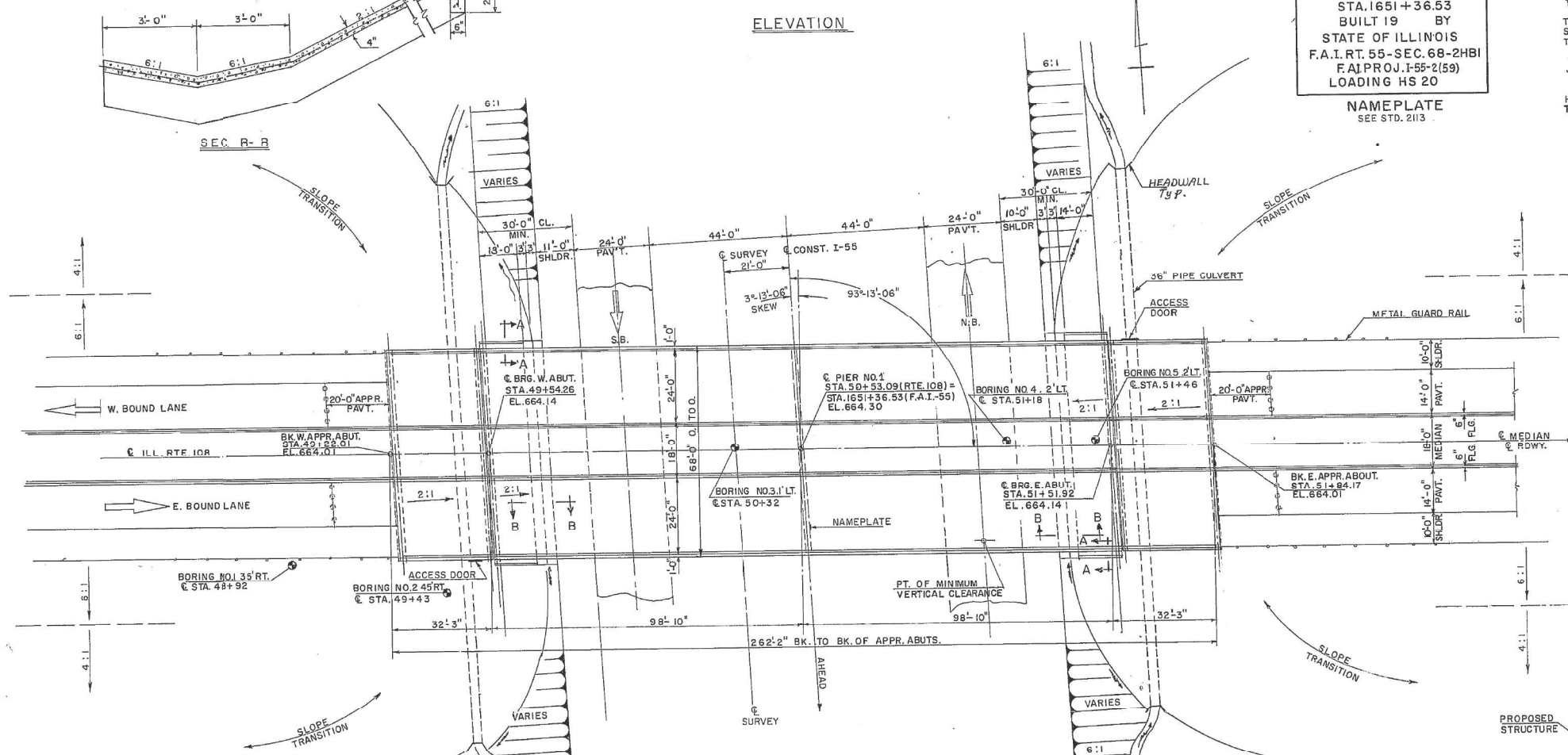


STA. 1651+36.53
BUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 55-SEC. 68-2HB1
F.A.I. PROJ. I-55-2(59)
LOADING HS 20

NAMEPLATE
SEE STD. 2113

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER.	SUB.	TOTAL
CLASS A EXCAVATION FOR STRUCTURE	CU. YDS.		17.5	17.5
CLASS X CONCRETE	CU. YDS.	368.0	370.1	928.1
STRUCTURAL STEEL	Lump Sum			1
FURNISHING & ERECTING PRECAST PRESTRESSED CONCRETE I BEAMS (36")	LIN. FT.	545		545
REINFORCEMENT BARS	LBS.	138,040	39,410	178,450
ALUMINUM RAILING	LIN. FT.	482		482
STEEL H PILES (8 BP 36)	LIN. FT.		3,010	3,010
TEST PILES STEEL (8 BP 36)	EACH		2	2
SLOPE WALL (4')	SQ. YDS.		431	431
STUD SHEAR CONNECTORS	EACH	3,186		3,186
NAME PLATE	EACH		1	1
PROTECTIVE COAT	SQ. YDS.	2,096		2,096
CREOSOTED PILES (UP TO 20')	LIN. FT.		312	312
PERFORMED JOINT SEALER	LIN. FT.	137		137



PLAN

DESIGNED	B. H. B.	EXAMINED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
CHECKED	G. E. P.	PASSED	
DRAWN	J. P. E.	APPROVED	ENGINEER OF DESIGN
CHECKED	G. E. P.		CHIEF HIGHWAY ENGINEER

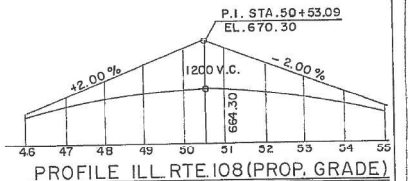
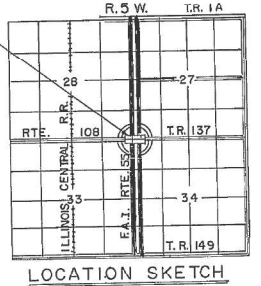
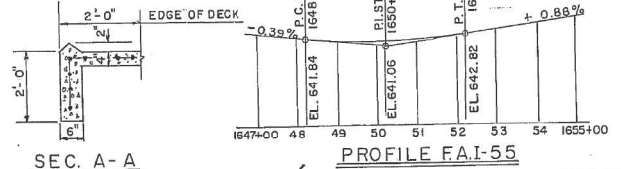
DESIGN STRESSES

FIELD UNITS

$f_c = 1200$ p. s. i. DECK
 $f_c = 1400$ p. s. i. SUB. CURB & PARAPET
 $f_s = 20,000$ p. s. i. STRUCT. & REINF.
 $v_c = 75$ p. s. i. FOOTINGS
 $n = 10$

PRECAST PRESTRESSED UNITS

$f_c = 5000$ p. s. i.
 $f_{ci} = 4000$ p. s. i.
 $f_s = 248,000$ p. s. i. STRANDS $\frac{3}{16}$ " ϕ
 $f_s = 173,600$ p. s. i. STRANDS $\frac{7}{16}$ " ϕ
 ALLOW 25% FOR FUTURE W.S.
 COMP. $t \Delta = 1200$
 LOADING HS 20-44



GENERAL PLAN & ELEVATION
 PROJ. I-55 - 2(59) 55
 ST. RTE. 108 OVER F.A.I.-55
 F.A.I.-55 - SEC. 68-2HB1
 MONTGOMERY COUNTY
 STA. 1651+36.53

Rev. 2/23/77 Str. Steel from 397,800 lbs. to Lump Sum, Slope Wall from 377 to 431 Sq. Yds. SFM.

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USER NAME = Brandon.Dudley	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,000' / in.	CHECKED -	REVISED -
PLOT DATE = 5/9/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

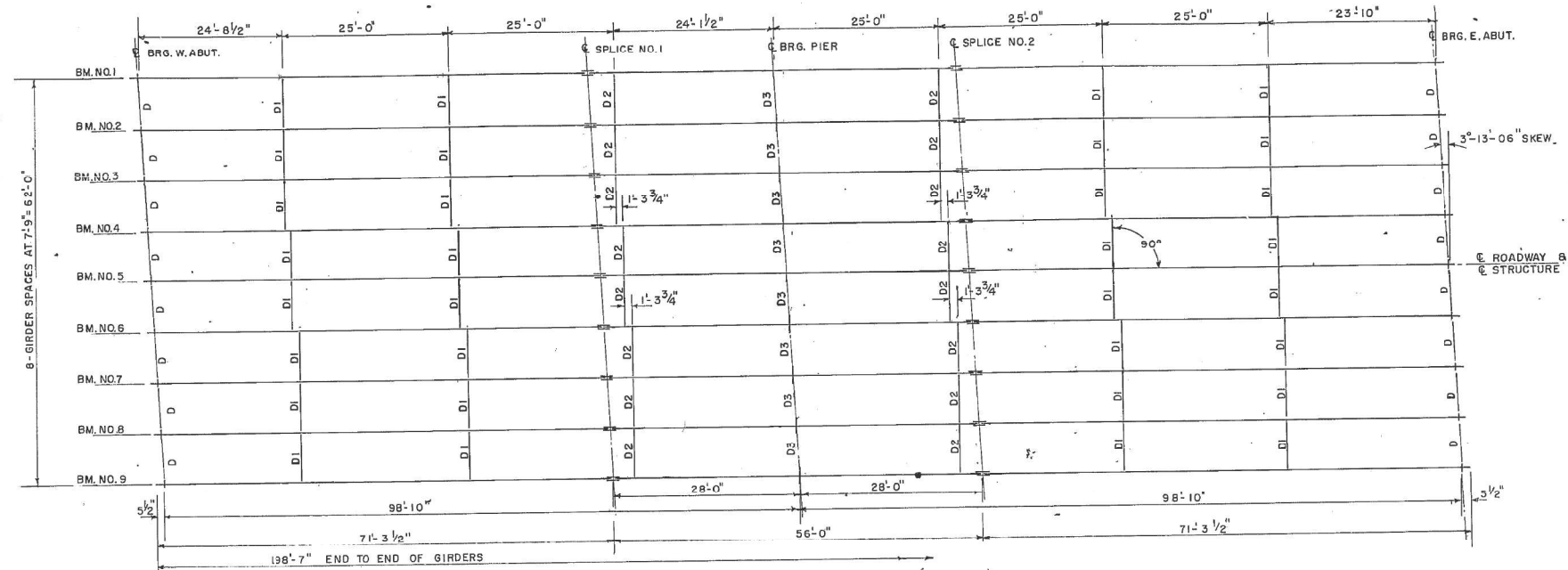
EXISTING BRIDGE PLANS, SN 068-0043 (FOR INFORMATION ONLY)	SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(68-2HB-1)BP,BC	MONTGOMERY	7	4
			CONTRACT NO. 72746	
		ILLINOIS	FED. AID PROJECT	

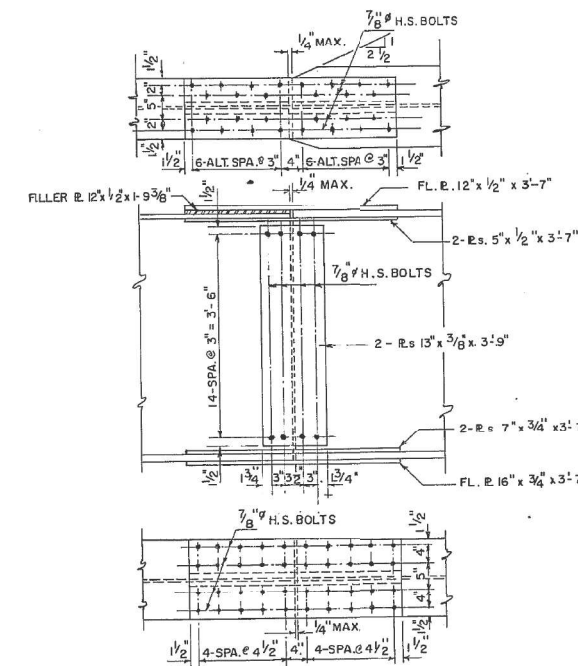
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 55	68-2HB1	MONTGOMERY	282	145
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

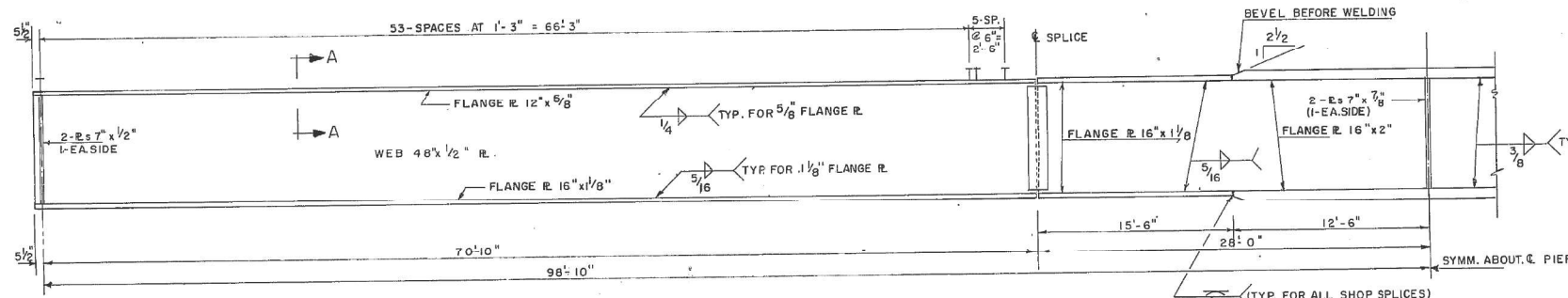
SHEET NO. 9
14 SHEETS



PLAN

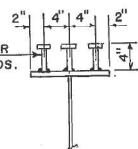


DETAILS OF FIELD SPLICE

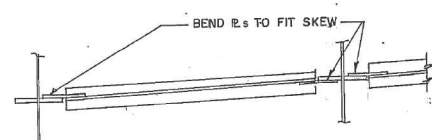


ELEVATION

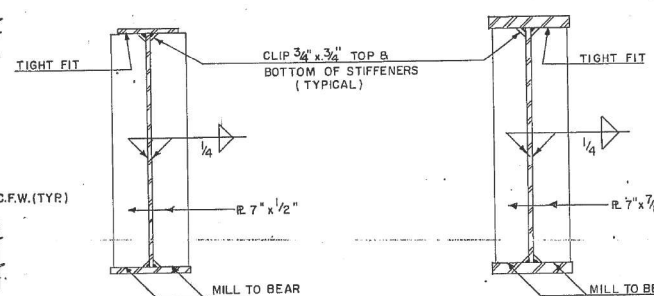
3/4" x 4" CR 1020 GRANULAR OR SOLID FLUX FILLED HEADED STUDS. AUTOMATICALLY END WELDED. (354 REQ'D. EA. GIRDER)



SECTION A-A



DIAPHRAGM D3
(8 REQUIRED)

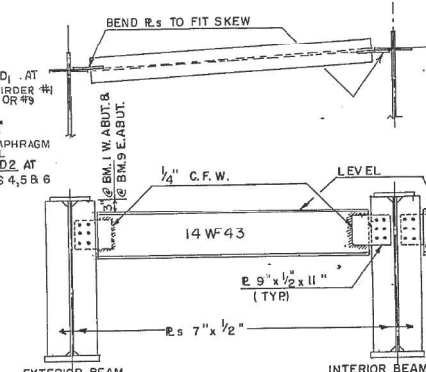


SEC. AT ABUTMENT

SEC. AT PIER

NOTE:
FULL PENETRATION BUTT WELD MAY BE USED TO MAKE WEB SPLICE IN SHOP IF PLATE CANNOT BE FURNISHED FULL LENGTH.

DIAPHRAGMS D1 & D2
(48 REQUIRED)



DIAPHRAGM D
(16 REQUIRED)

DESIGNED	G. E. P.	EXAMINED	19
CHECKED	B. H. B.	PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	J. P. E.	APPROVED	ENGINEER OF DESIGN
CHECKED	G. E. P.		CHIEF HIGHWAY ENGINEER

STRUCTURAL STEEL
PROJ. I-55-2(59) 55
ST. RTE 108 OVER F.A.I-55
F.A.I-55 - SEC. 68-2HB1
MONTGOMERY COUNTY
STA. 1651 + 36.53

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

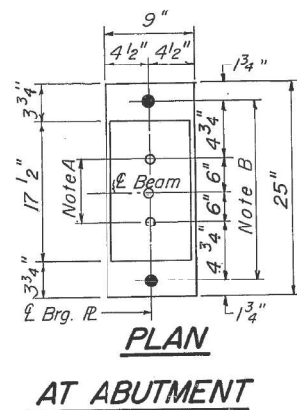
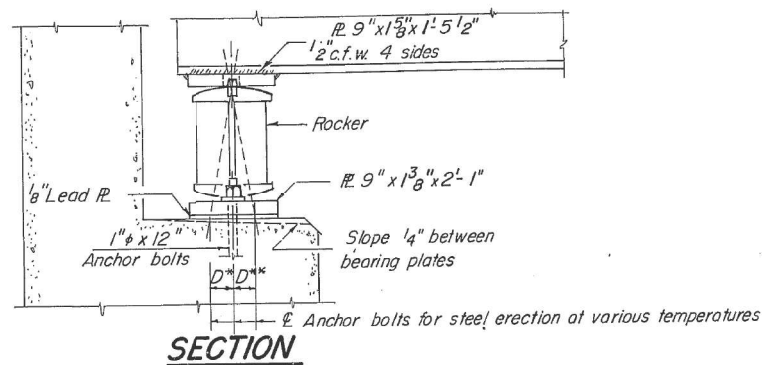
EXISTING BRIDGE PLANS, SN 068-0043
(FOR INFORMATION ONLY)

USER NAME	= Brandon.Dudley
PLOT SCALE	= 100,0000' / in.
PLOT DATE	= 5/9/2024

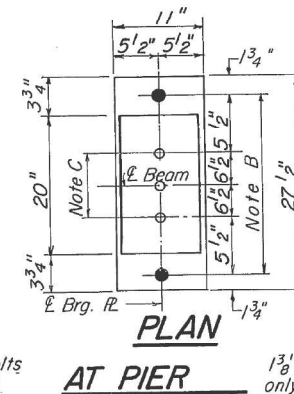
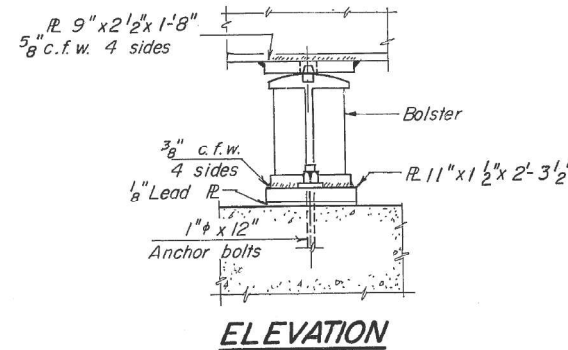
DESIGNED	-	REVISED	-
DRAWN	-	REVISED	-
CHECKED	-	REVISED	-
DATE	-	REVISED	-

SCALE: SHEET OF SHEETS STA. TO STA.

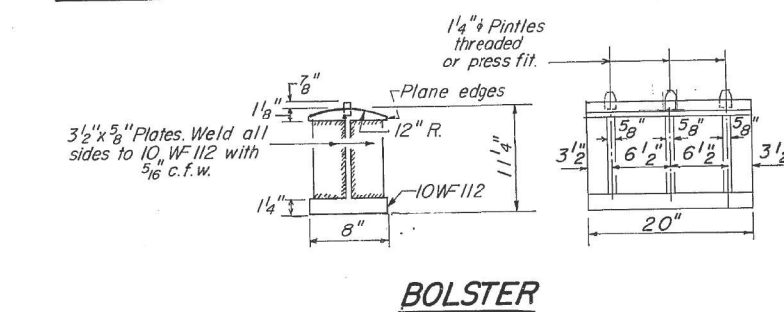
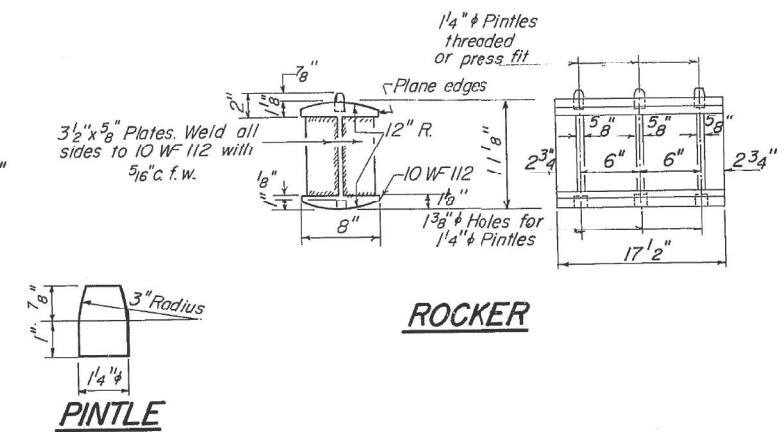
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(68-2HB-1)BP,BC	MONTGOMERY	7	5
CONTRACT NO. 72746				
ILLINOIS FED. AID PROJECT				



NOTE A
1 3/8" ϕ Holes - 1" deep in top fl. for pintles. Thread or press fit pintles into bottom fl.



NOTE C
1 3/8" ϕ Holes - 1" deep in top fl. only for 1 1/4" ϕ pintles.



BEARING ASSEMBLY DETAILS

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- a) D^* (Side of brg. away from fixed brg.)
 $D^* = 1/2$ " per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
 D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = 1/8$ " per each 100' of expansion for every 15° rise above the normal temp. of 50°F.
- b) After beams have been erected and dimensions D^* or D^{**} determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

GIRDER ELEV. (TOP OF WEB)

	Q. Brg. W. Abut.	Q. Splice No. 1	Q. Pier	Q. Splice No. 2	Q. Brg. E. Abut.
Girder No. 1	663.069	663.073	663.075	663.076	663.080
Girder No. 2	663.191	663.195	663.196	663.197	663.200
Girder No. 3	663.314	663.316	663.317	663.318	663.319
Girder No. 4	663.436	663.436	663.436	663.436	663.436
Girder No. 5	663.436	663.436	663.436	663.436	663.436
Girder No. 6	663.436	663.436	663.436	663.436	663.436
Girder No. 7	663.319	663.318	663.317	663.316	663.314
Girder No. 8	663.200	663.197	663.196	663.195	663.191
Girder No. 9	663.080	663.076	663.075	663.073	663.069

TABLE OF MOMENTS & REACTIONS*

Moments - Ft. Kips	Reactions - Kips			
	0.4 Span	Pier	Abuts.	Pier
D.L.	574.3	1556.2	34.7	132.4
S.D.L.	228.9	365.5	12.1	39.0
L.L.	874.7	739.2	45.0	7.3
Impact	195.1	164.8	10.0	16.4
Total	1873.0	2825.7	101.8	261.1

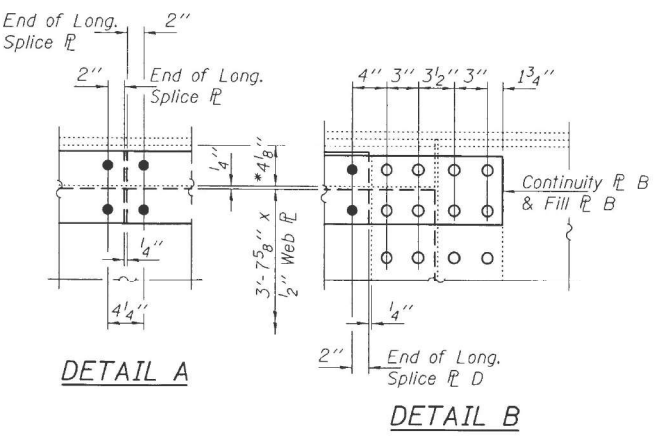
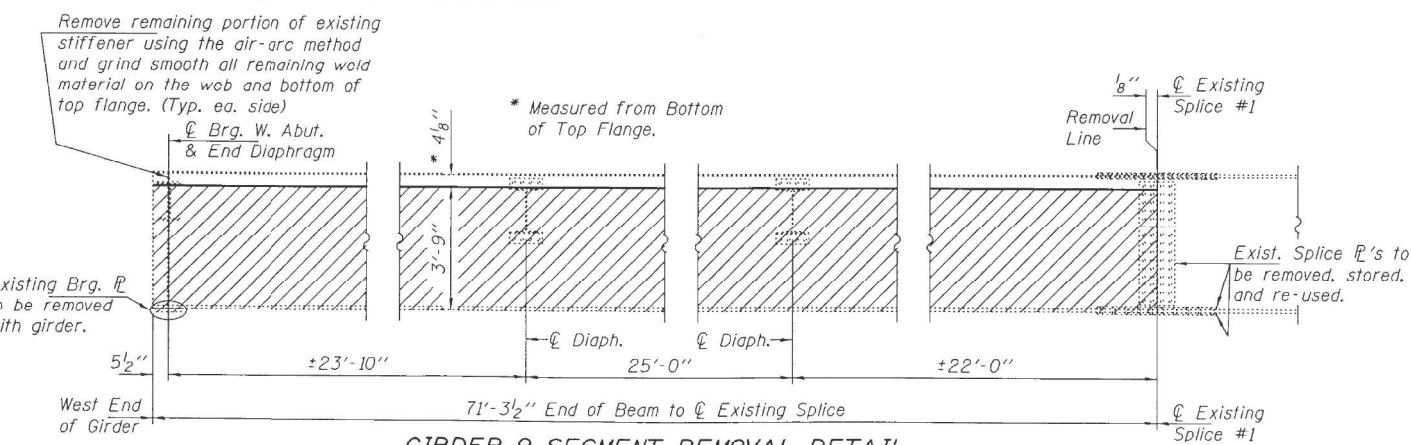
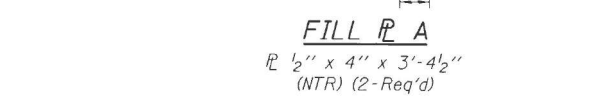
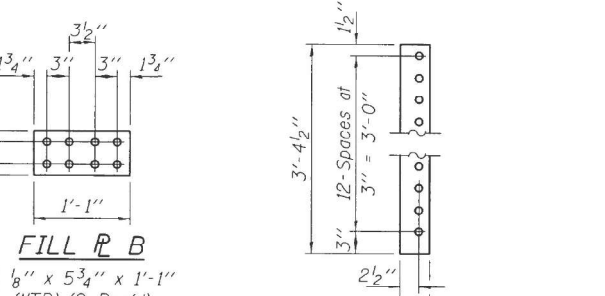
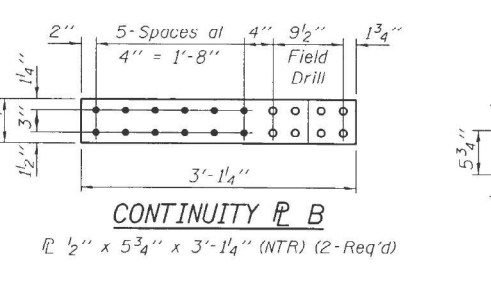
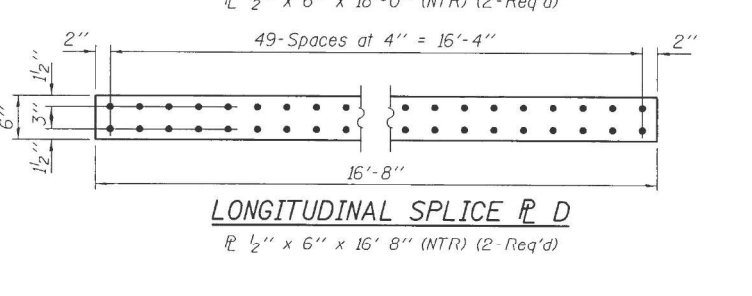
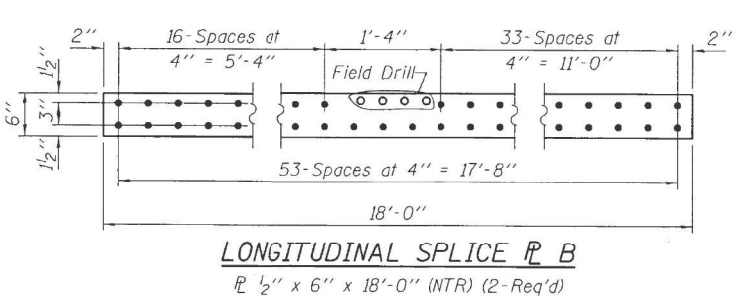
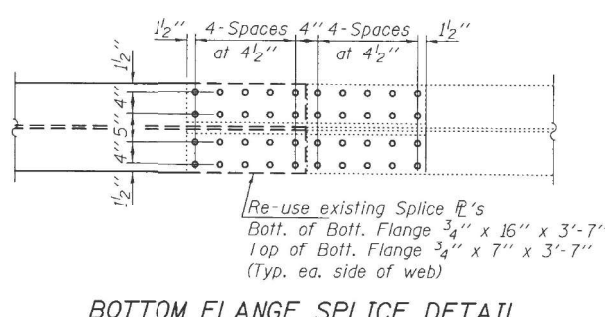
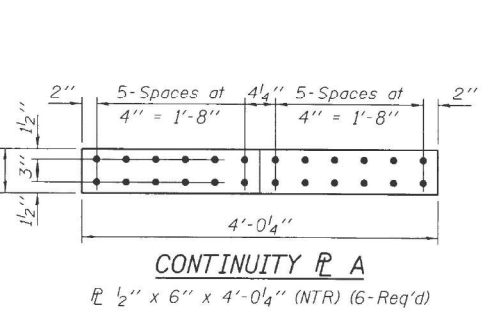
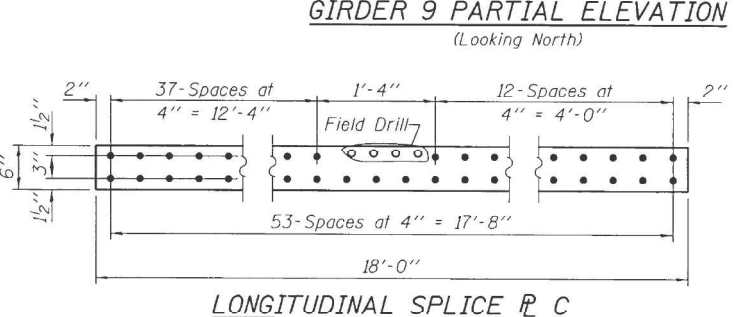
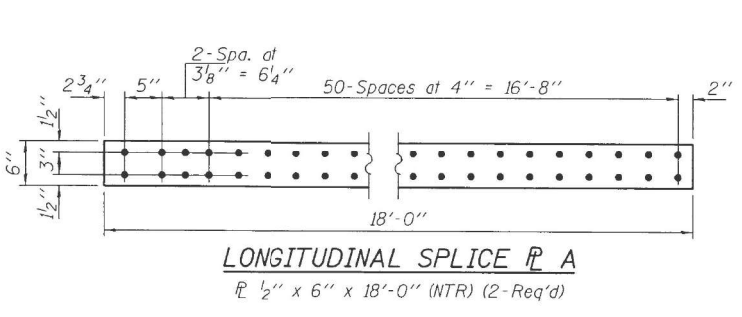
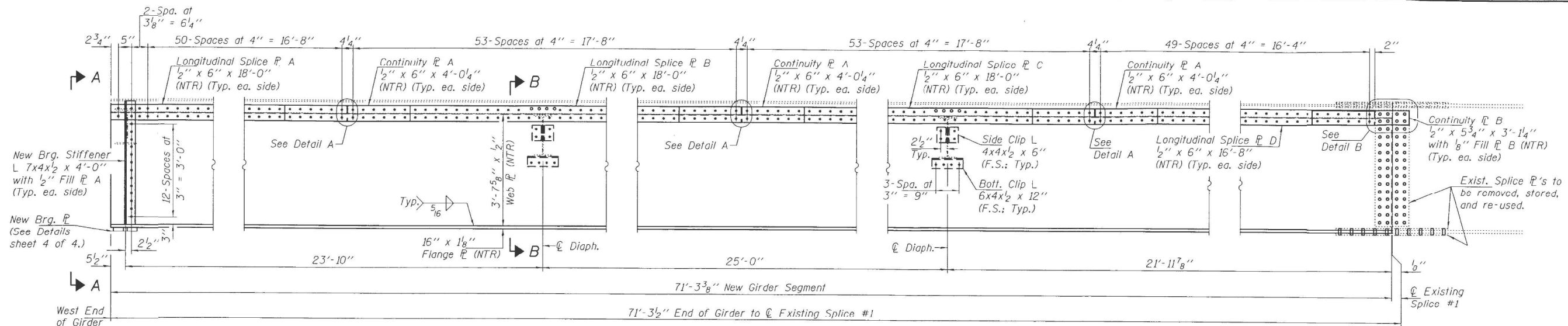
* Interior Beams

PROPERTIES

	Steel Section		
	Abut. to Splice	Splice to 0.9L	0.9L to Splice
I_s	18,541.3 in^4	26,331.2 in^4	44,629.3 in^4
$S_f s$	620.7 in^3	1,048.0 in^3	1,716.5 in^3
$S_b s$	932.7 in^3	1,048.0 in^3	1,716.5 in^3
	Composite Section		
	53,049.0 in^4		
I_c	53,049.0 in^4		
$S_t c$	5,566.5 in^3		
$S_b c$	1,319.0 in^3		

BEARING DETAILS
PROJ. I-55 - 2(69)55
ST. RTE. 108 OVER F.A. I-55
F.A. I-55 - SEC. 68-2HBI
MONTGOMERY COUNTY
STA. 1651 + 36.53

DESIGNED	G. E. P.	EXAMINED	19
CHECKED	B. H. B.	PASSED	ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
DRAWN	J. P. E.	APPROVED	ENGINEER OF DESIGN
CHECKED	G. E. P.		GROUP HIGHWAY ENGINEER



- BOLT HOLE LEGEND**
- Existing Holes
 - Field Drill holes in new steel using existing Splice P's or new Clip L's as template.
 - Shop Drilled holes in new steel.
 - Use new steel as template to field drill holes in existing steel.

Notes:
Cleaning & painting of all connections on this sheet shall meet the requirements for Primary Connections as specified in the special provision for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures."
For View A-A & Section D D see sheet 4 of 4.

DESIGNED RPN	DATE AUGUST 21, 2017
CHECKED SMR	REVISIONS
DRAWN Steffen	REVISIONS
CHECKED RPN SMR	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER REPAIR DETAILS
SN 068-0043
SHEET NO. 3 OF 4 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
769		MONTGOMERY		
CONTRACT NO.			ILLINOIS FED. AID PROJECT	

USER NAME = Brandon.Dudley	DESIGNED -	REVISIONS -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISIONS -
PLOT DATE = 5/9/2024	CHECKED -	REVISIONS -
	DATE -	REVISIONS -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS, SN 068-0043
(FOR INFORMATION ONLY)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(68-2HB-1)BP,BC	MONTGOMERY	7	7
CONTRACT NO. 72746			ILLINOIS FED. AID PROJECT	

MODEL Path: S:\Addresses\Bridges\068-0043_MCID_Paint\bridge.dgn