

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

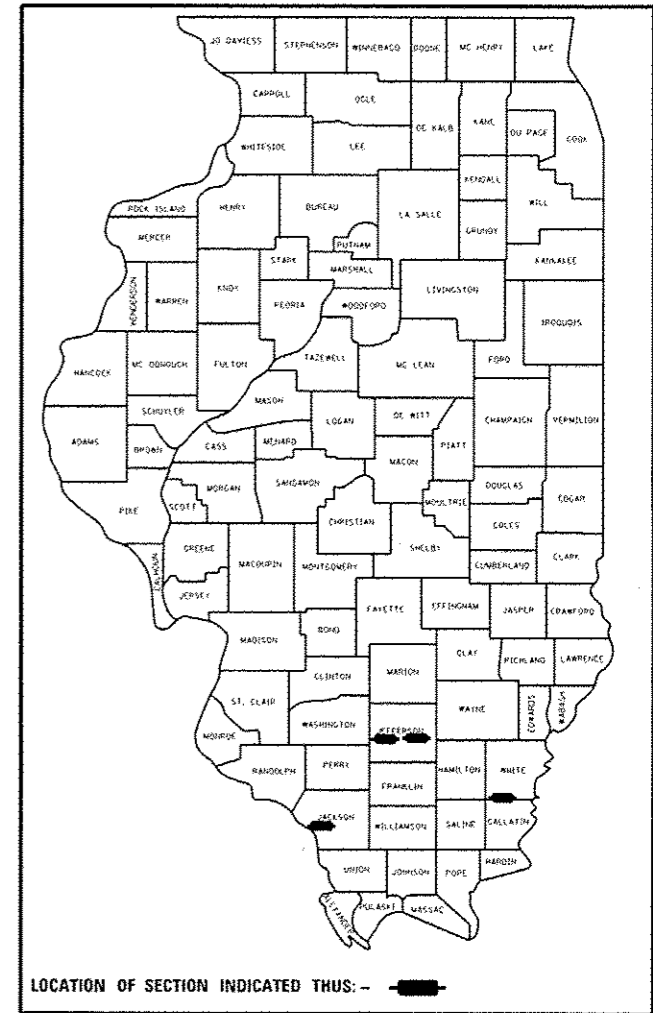
**PROPOSED
 HIGHWAY PLANS**

VARIOUS ROUTES
 SECTION D9 BRIDGE PAINT 2017-1
 JACKSON, JEFFERSON
 & WHITE COUNTIES

C-99-045-16

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2017-1	VARIOUS	15	1
		ILLINOIS	CONTRACT NO. 78543	

D-99-045-16



FOR INDEX OF SHEETS, SEE SHEET NO. 2

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

BRIDGE NO. 1
 SN. 097-0027
 IL 141 2015 ADT=1550, 13% TRUCKS
 TOWNSHIP- INDIAN CREEK
 POSTED SPEED: 55 MPH

BRIDGE NO. 2
 SN. 039-0056
 IL 149 2015 ADT=2750, 9% TRUCKS
 TOWNSHIP-SAND RIDGE
 POSTED SPEED: 55 MPH

BRIDGE NO. 3
 041-0026
 IL 15 2015 ADT=6800, 6% TRUCKS
 TOWNSHIP-MOUNT VERNON
 POSTED SPEED: 55 MPH

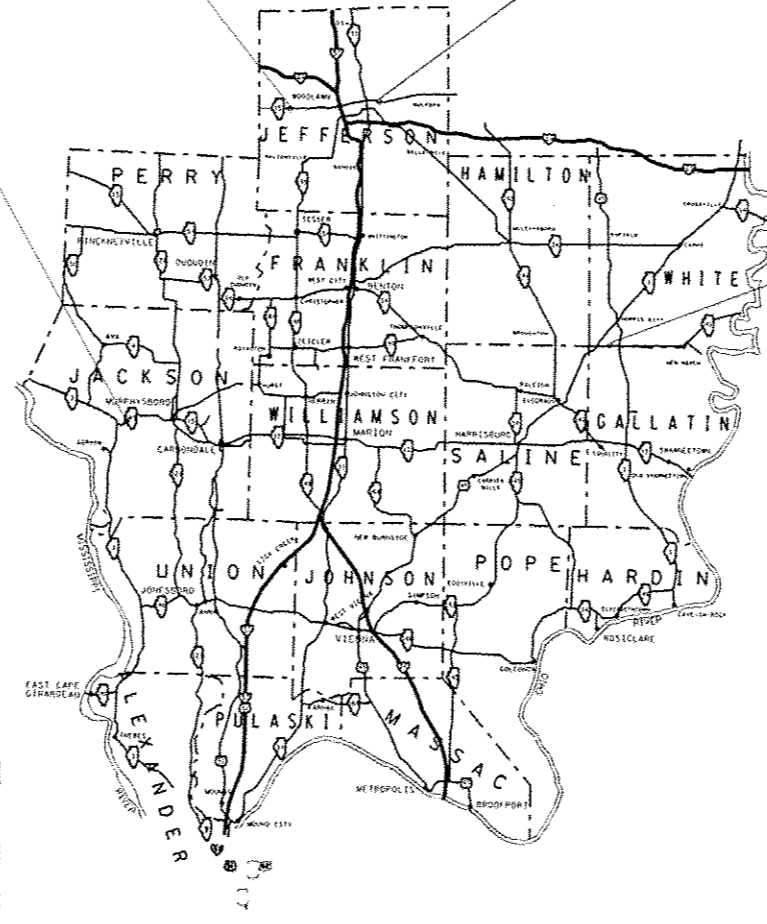
BRIDGE NO. 4
 SN. 041-0019
 IL 15 2015 ADT=2850, 7% TRUCKS
 TOWNSHIP-CASNER
 POSTED SPEED: 55 MPH

BRIDGE NO. 2
 STRUCTURE NO. 039-0056
 OVER KINKAID CREEK

BRIDGE NO. 4
 STRUCTURE NO. 041-0019
 OVER RAYSE CREEK

BRIDGE NO. 3
 STRUCTURE NO. 041-0026
 OVER CASEY FORK

BRIDGE NO. 1
 STRUCTURE NO. 097-0027
 OVER BEAR CREEK



DESIGN DESIGNATION - NA

COORDINATE SYSTEM : NA

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

PROJECT ENGINEER: DAVID PICHE
 PROJECT DESIGNER: DAVID HOLLMANN

CONTRACT NO. 78543

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 OFFICE OF HIGHWAYS PROJECT IMPLEMENTATION

SUBMITTED August 10 2016
Jeffrey L. Keen
 REGION FIVE ENGINEER

Sept 30 2016
Lawrence M. Adonis, P.E.
 ENGINEER OF DESIGN AND ENVIRONMENT

Sept 30 2016
Arnell Allen
 DIRECTOR OF PROGRAM DEVELOPMENT

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 OF THE STATE OF ILLINOIS

GENERAL NOTES

ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED TO CHANNEL TRAFFIC AT COMMERCIAL AND/OR PRIVATE ENTRANCE AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES ARE INCLUDED IN THE COST OF THE TRAFFIC CONTROL AND PROTECTION STANDARD USED AT THE SITE, AND WILL NOT BE PAID FOR SEPARATELY.

THE EXISTING STEEL COATINGS CONTAIN LEAD. THE CONTRACTOR SHOULD TAKE APPROPRIATE PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

THE CONTRACTOR IS REQUIRED TO BE SSPC OP1 AND SSPC OP2 CERTIFIED.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION 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 SCOPE OF THE WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

TRAFFIC CONTROL SIGNS SHALL BE PLACED SO THAT THEY DO NOT INTERFERE WITH EXISTING SIGNS OR FLASHING BEACONS. THE DIMENSIONS BETWEEN SIGNS MAY BE MODIFIED SLIGHTLY SO AS TO AVOID CONFLICTS WITH EXISTING SIDE ROADS, COMMERCIAL ENTRANCES, AND PRIVATE ENTRANCES. THE BUREAU OF OPERATIONS SHOULD APPROVE FINAL PLACEMENT OF TRAFFIC CONTROL SIGNING.

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.

NON-

FOR STRUCTURE 039-0056, CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES." ALL STRUCTURAL STEEL WITHIN 5 FT. (MEASURED ALONG THE BEAM) OF EITHER SIDE OF SPECIFIED DECK JOINTS SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. IN ADDITION BEAM 3, PER STRUCTURAL STEEL PLANS, SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING FROM EAST ABUTMENT TO THE FIRST SPLICE PLATE IN THE EAST SPAN. -SSPC- SP10. ALL STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR SURFACES AND BOTTOM OF THE FLANGE OF THE FASCIA BEAMS SHALL BE REDISH BROWN, MUNSELL NO. 2. 5Y 3/4.

FOR STRUCTURES 097-0027, 041-0026 AND 041-0019 CLEANING AND PAINTING OF EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES." ALL STEEL, AS SPECIFIED IN THE PLANS, SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING - SSPC-SP10 AND PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR SURFACES AND BOTTOM OF THE FLANGE OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN, MUNSELL NO. 7. 5G 4/8.

A TOTAL OF TWO AIR MONITORS ARE REQUIRED TO MONITOR ABRASIVE BLASTING OPERATIONS AT TWO LOCATIONS, 1 AT BRIDGE NO. 3 (SN 041-0026), AND 1 AT BRIDGE NO. 4 (041-0019). ACCORDING TO SPECIAL PROVISION "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES."

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES AND AREAS OF CLEANING AND PAINTING
3	SUMMARY OF QUANTITIES
4-5	SN 097-0027 STRUCTURE INFORMATION
6-8	SN 039-0056 STRUCTURE INFORMATION
9-11	SN 041-0026 STRUCTURE INFORMATION
12-15	SN 041-0019 STRUCTURE INFORMATION

AREAS OF CLEANING & PAINTING

SN	ALL STRUCTURAL STEEL	5' AT BEAM ENDS AND TO SPLICE PLATE ON BEAM 3 EAST SPAN
097-0027	X	
039-0056		X
041-0026	X	
041-0019	X	

STANDARDS

701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ TO 45 MPH
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE.
701901-05	TRAFFIC CONTROL DEVICES

Prepared By:	<i>[Signature]</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROJECT IMPLEMENTATION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT MATERIALS ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, STANDARDS, GENERAL NOTES,
AND AREAS OF CLEANING AND PAINTING

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	09 BRIDGE PAINT 2017-1	VARIOUS	15	2
ILLINOIS FED. AID PROJECT				

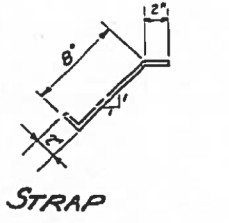
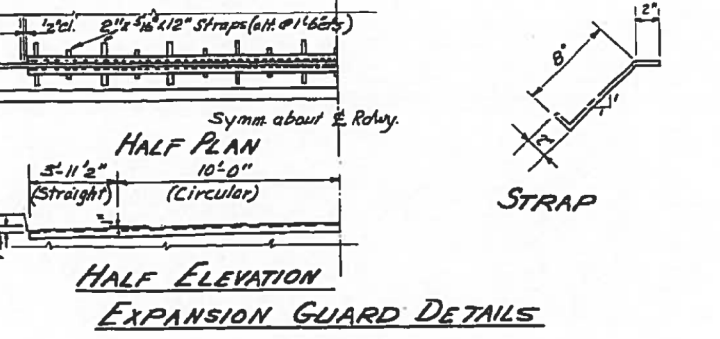
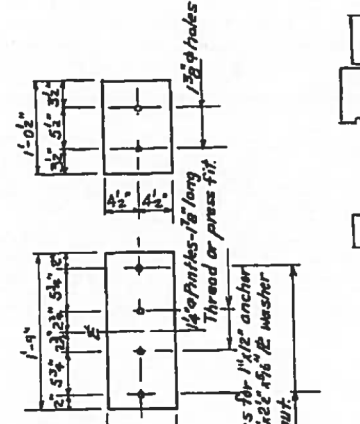
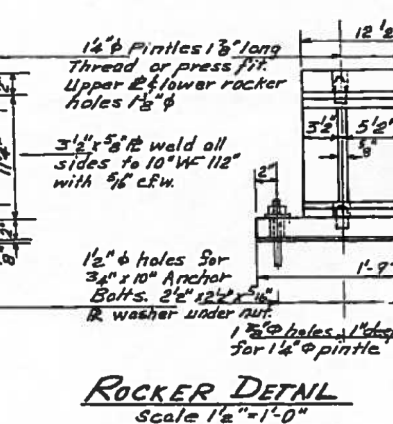
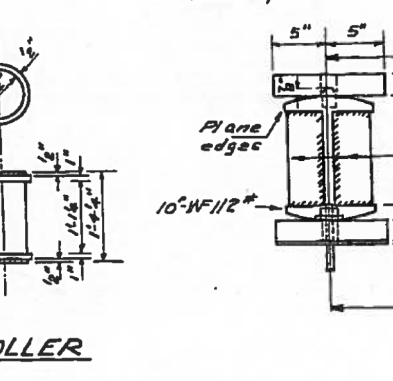
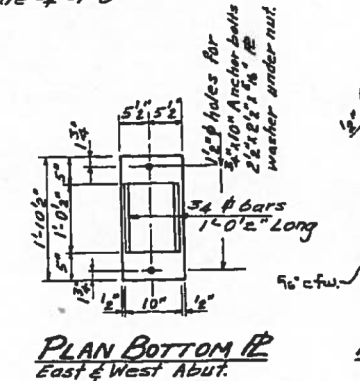
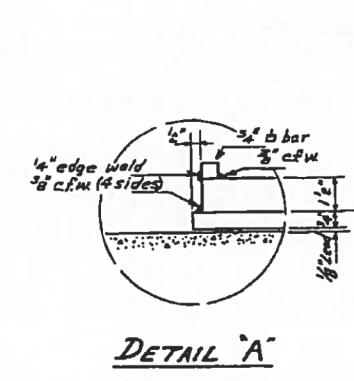
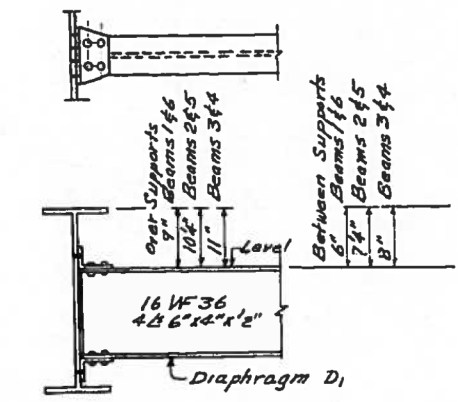
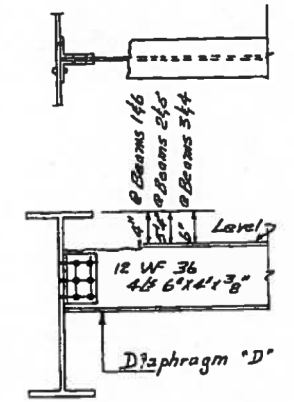
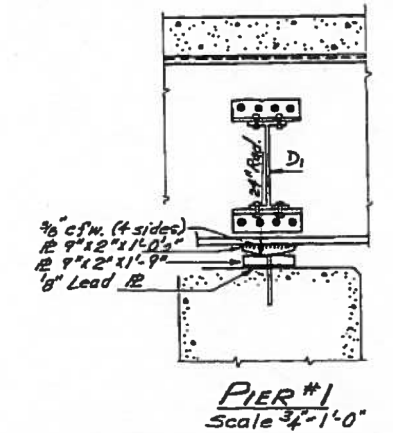
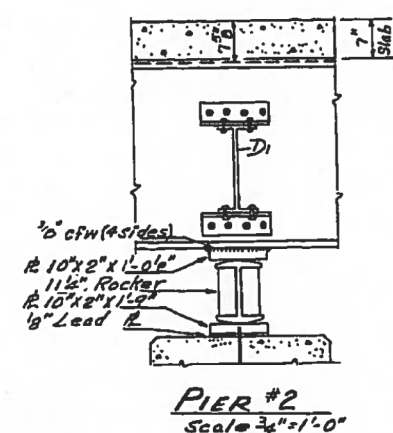
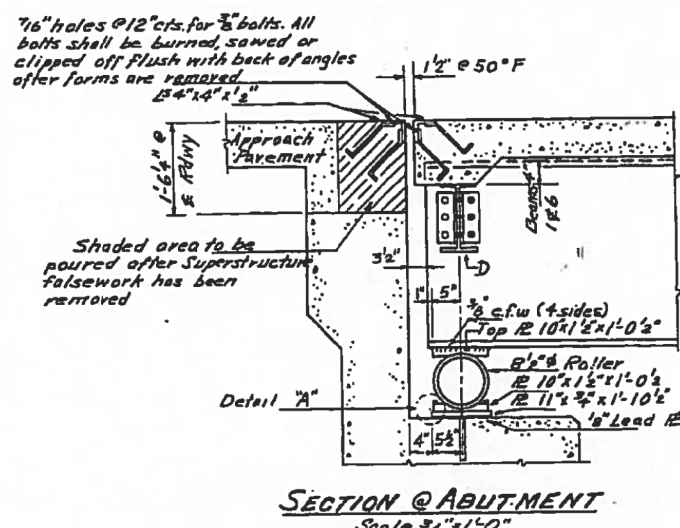
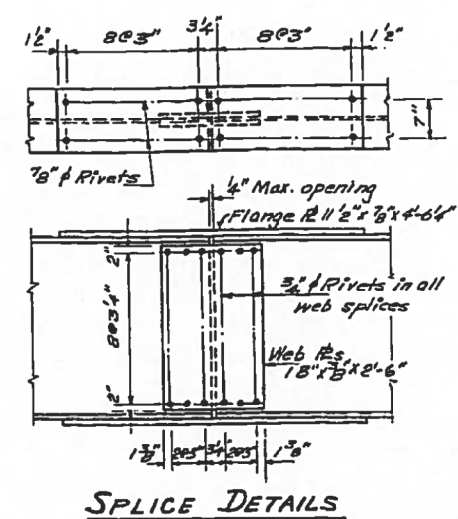
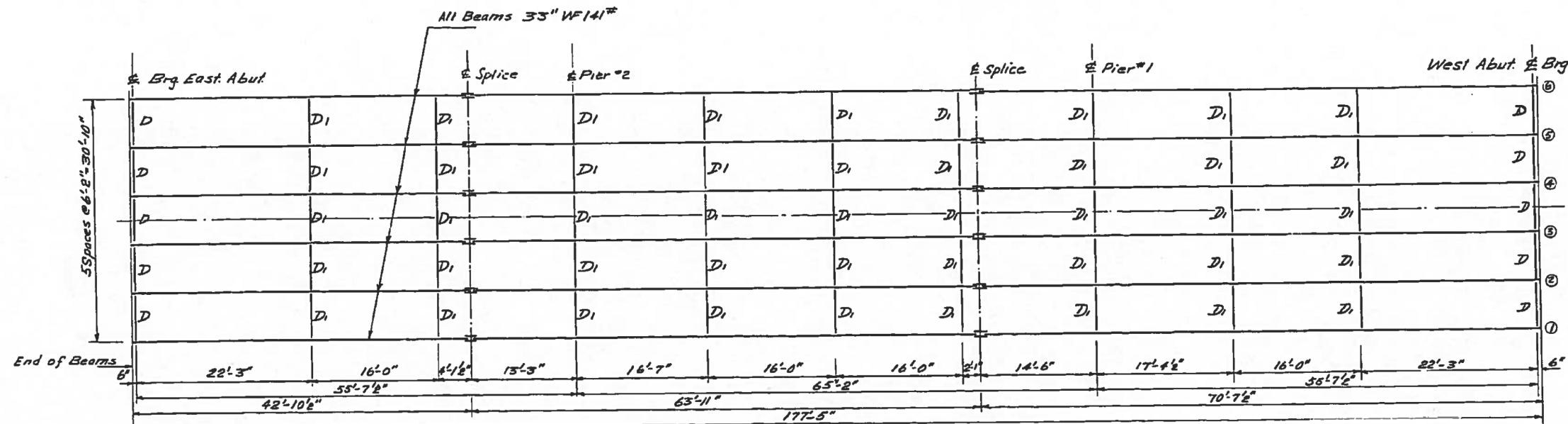
FILE NAME	USER NAME	DESIGNED	REVISED
PROJECT	PROJECT	DRAWN	REVISED
MODEL NAME	PLOT SCALE	CHECKED	REVISED
	PLOT DATE	DATE	REVISED

SCALE: SHEET OF SHEETS STA. TO STA.

SUMMARY OF QUANTITIES

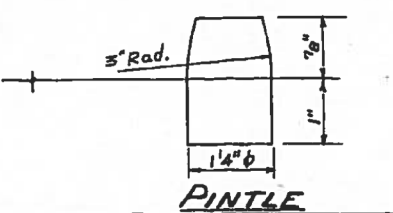
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	WHITE	JACKSON	JEFFERSON	JEFFERSON
				ROUTE:	IL 141	IL 149	IL 15	IL 15
				FUNDING:	100 % STATE	100 % STATE	100 % STATE	100 % STATE
				LOCATION:	RURAL	RURAL	RURAL	RURAL
				BRIDGE NO. 1	BRIDGE NO. 2	BRIDGE NO. 3	BRIDGE NO. 4	BRIDGE NO. 4
				SN 097-0027	SN 039-0056	SN 041-0026	SN 041-0019	SN 041-0019
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6.0	1.5	1.5	1.5	1.5	1.5
67100100	MOBILIZATION	LSUM	1.0	0.25	0.25	0.25	0.25	0.25
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1.0	0.25	0.25	0.25	0.25	0.25
70106600	CHANGEABLE MESSAGE SIGN	CAL MO	8.0	2	2	2	2	2
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	LSUM	1	1				
	NON -							
X5060602	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	LSUM	1		1			
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	LSUM	1			1		
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	LSUM	1					1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1	1				
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	LSUM	1			1		
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	LSUM	1				1	
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	LSUM	1					1

12



DESIGNED	M. G. Carral	APRIL 13 19 55
CHECKED	H. C. C.	EXAMINED
DRAWN	M. G. C.	PASSED
CHECKED	H. C. C.	APPROVED

APPROVED: B. B. Battalman



FOR INFORMATION ONLY

STRUCTURAL STEEL
FA RTE 113 SECTION 100B
WHITE COUNTY
STA 48+70

Bench Mark: R.R. Spike in 24" Pecon, 37' RI, Sta. 324+80 Elev. 364.00
 Existing Structure: #039-0056, 24' wide by 210'-0" long. Built as
 S.B.I. Rte. 144, Sec. 101B7C, at Sta. 339+58.5 in 1928. Existing 4 RC slab
 approach spans and one steel span on RC piers and abutments
 shall be removed after the new relocated three span w/f beam
 structure is built.
 No salvage.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

DATE	REVISION	BY	REASON
01/1		JAC	CON
01/1			

SHEET NO. 1
 17 SHEETS

WATERWAY INFORMATION

Drainage Area 67.0 sq mi. Low Grade Elev. 375 @ Sta. 326+28*

Flood	Freq. Yr.	Q C.F.S.	Opening Sp. Ft.		Head- Ft.		Headwater El.		
			Ex. Prop.	Nat. H.W.E.	Ex. Prop.	H.W.E.	Ex. Prop.	H.W.E.	
Design	50	5200	1700	1120	359.3	0.05	0.17	359.35	359.47
Base	100	7000	2108	1415	361.6	0.11	0.35	361.71	361.95
Overtopping									
Max. Calc.	500	13700	2764	1950	365.4	0.60	1.00	366.0	366.40

FOR INFORMATION ONLY

039-0056

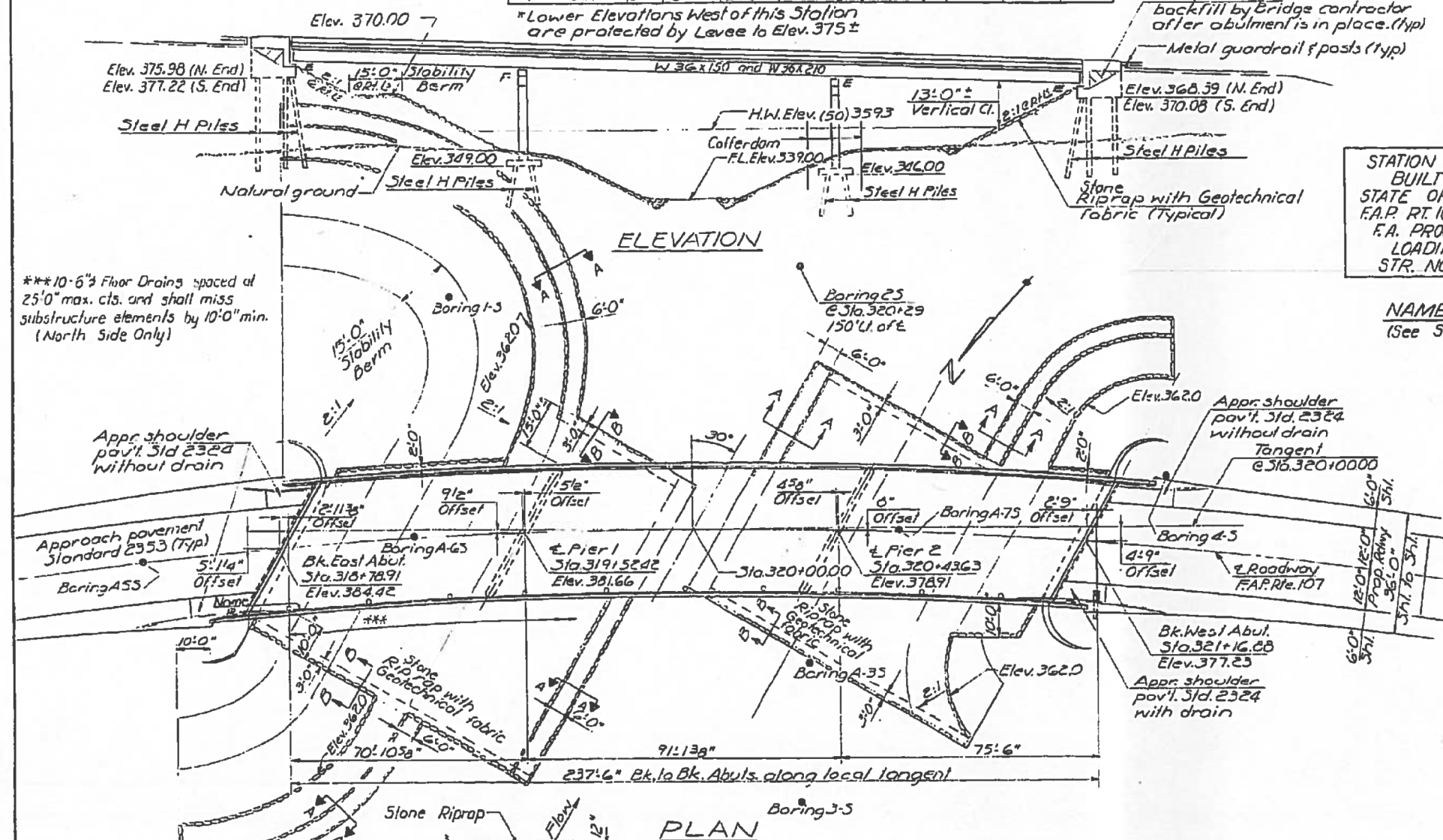
GENERAL NOTES

Fasteners shall be high strength bolts (AASHTO M 164, Type 3). Bolts 3/4", open holes 1/2" and bolts 7/8", open holes 5/8", unless otherwise noted.
 Calculated weight of AASHTO M 222 Structural Steel = 232,230 Pounds.
 The Zinc-silicate and vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.
 All structural steel shall be AASHTO M 222.
 AASHTO M 222 structural steel shall not be painted except, that for a distance of three times the depth of the beams (but not exceeding 10 feet) each way from deck joints, the AASHTO M 222 structural steel shall be cleaned and given one coat of the zinc-silicate primer and a dark maroon vinyl finish coat. Both coats may be applied in the shop with spot painting only in the field.

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
 Anchor bolts shall be set before bolting diaphragms over supports.
 The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 222.
 The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Match Toughness Zone 2. These components are the wide flange beams and all splice plate material. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.

Bearing seat surfaces shall be adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed).

Plan dimensions, elevations and details, relative to previously built substructure have been taken from substructure plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions, elevations 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.



STATION 320+00.00
 BUILT 19 BY
 STATE OF ILLINOIS
 F.A.P. RTE. 107 SEC. 101B5-1
 F.A. PROJECT F-1071(32)
 LOADING H520
 STR. NO. 039-0056

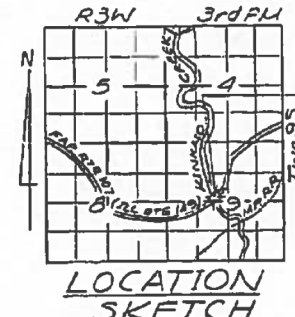
NAME PLATE
 (See Std. 2113)

SUPERSTRUCTURE ONLY
 TOTAL BILL OF MATERIAL

Item	Unit	Total
Removal of Existing Structures	Each	1
Protective Coat	Sq. Yd.	1157
Floor Drains	Each	10
Class X Concrete	Cu. Yd.	280.2
Structural Steel	Lump Sum	1
Stud Shear Connectors	Each	3105
Reinforcement Bars	Pound	770
Reinforcement Bars (Epoxy Coated)	Pound	73770
Neoprene Expansion Joint 2'6"	Lin. Ft.	88
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	5
Name Plates	Each	1

CURVE DATA
 $\Delta = 86^\circ 52' 140''$ $D = 3^\circ 59' 177''$
 $R = 1436.62'$ $T = 1360.22'$
 $L = 2178.17'$ $E = 541.78'$
 P.I. Sta. 318+20.31
 Super. = 0.08%
 Attain: Sta. 303+14.3 to 305+18
 Remove: Sta. 325+80 to 327+76

DESIGN STRESSES
 $f'_c = 3,500$ psi.
 $f_y = 60,000$ psi. (Reinforcement)
 $f_y = 50,000$ psi. AASHTO M222 (Struct.)



GENERAL PLAN
 ILL. RTE. 149 OVER KINKAID CREEK
 F.A.P. ROUTE 107
 SECTION 101B5-1
 JACKSON COUNTY
 STATION 320+00.00

DESIGNED Rick Brunette
 CHECKED JIM KOHART
 DRAWN R. Doty
 CHECKED JK

EXAMINED
 PASSED
 APPROVED

July 10, 1984

PROFILE
 F.A.P. RTE. 107
 (Along E. Roadway)

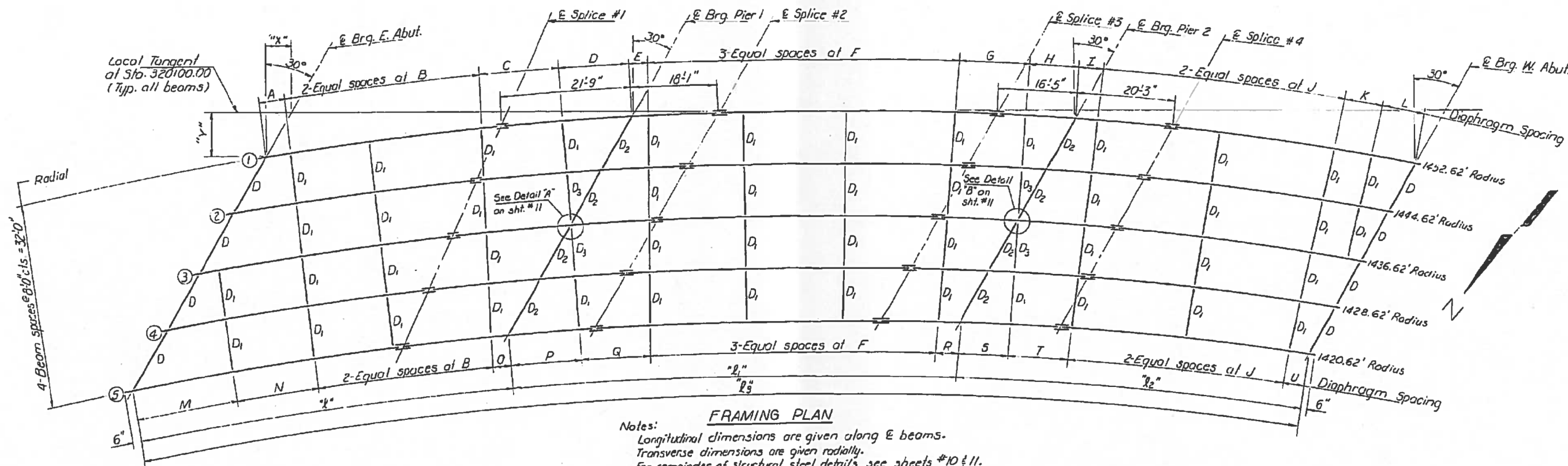


Allow 25% / Sq Ft. for future wearing surf.
 Design Specifications: 1977 AASHTO
 and 1978 thru 1983 interim specs.

LOADING H520-44

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
101-1	101-1	JACKSON	101	57
SHEET NO. 9 17 SHEETS				



FRAMING PLAN
Notes:
Longitudinal dimensions are given along E beams.
Transverse dimensions are given radially.
For remainder of structural steel details see sheets #10 & 11.
See sheet #11 for table of "x" and "y" dimensions.
Skew angle for each splice is variable and not equal to 30°.

TABLE OF DIAPHRAGM SPACING DIMENSIONS A THRU U

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
Beam #1	5'-0"	20'-2 1/2"	14'-11 1/4"	9'-11 1/4"	5'-0"	21'-1 3/8"	13'-11 1/8"	8'-7"	5'-4 1/2"	22'-3 1/4"	7'-10 1/4"	12'-7 1/8"									
Beam #2	10'-5 1/8"	20'-1 1/8"	14'-10 1/4"	4'-11 3/4"	9'-10 1/4"	21'-0"	13'-10 1/8"	4'-3 5/8"	9'-7 1/8"	22'-1 7/8"	7'-9 3/8"	8'-10"									
Beam #3	15'-10 1/2"	19'-11 1/8"	14'-9 1/4"		14'-9 1/4"	20'-10 1/8"	13'-5 1/4"		13'-9 3/8"	22'-0"	7'-9 3/8"	5'-0"	5'-0"	10'-10 1/2"	14'-9 1/4"		14'-9 1/4"	13'-9 1/4"		13'-9 3/8"	12'-9 1/8"
Beam #4		19'-10 1/2"				20'-9 1/4"				21'-10 1/8"			10'-6 1/4"	10'-9 1/8"	9'-8 1/2"	4'-11 3/8"	14'-8 1/4"	9'-4 5/8"	4'-3 5/8"	13'-8 1/8"	8'-10 1/8"
Beam #5		19'-9 3/8"				20'-7 1/8"				21'-9 1/8"			16'-0 3/8"	10'-9 1/8"	4'-7 1/2"	9'-11 3/8"	14'-7 1/4"	5'-0"	8'-7 1/8"	13'-8"	5'-0"

INTERIOR BEAM REACTION TABLE**

	E & W. Abuts.	Piers 1 & 2
R _Q (k)	35.5	124.9
R _L (k)	55.3	78.2
Imp. (k)	11.5	15.3
R _{TOTAL} (k)	102.3	218.4

**Lateral flange bending effects are included in all reactions.

TABLE OF "L" DIMENSIONS

	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
"L"	70'-3 1/2"	70'-5 1/2"	70'-7 1/2"	70'-9 1/2"	70'-11 1/2"
"L ₁ "	90'-10 1/8"	91'-0 3/8"	91'-2 3/8"	91'-4 1/2"	91'-6 3/8"
"L ₂ "	70'-5 1/4"	70'-6 3/8"	70'-7 7/8"	70'-8 3/8"	70'-10 1/8"
"L ₃ "	48'-6 1/2"	48'-8 1/2"	48'-10 1/2"	49'-0 1/2"	49'-2 1/2"
"L ₄ "	56'-4 3/8"	56'-6 3/8"	56'-8 3/8"	56'-10 1/2"	57'-0 3/8"
"L ₅ "	50'-2 1/4"	50'-3 3/8"	50'-4 5/8"	50'-5 3/8"	50'-7 1/8"
"L ₆ "	2'-2 1/2"	2'-4 1/2"	2'-6 1/2"	2'-8 1/2"	2'-10 1/2"
"L ₇ "	1'-11 3/8"	2'-1 3/8"	2'-3 3/8"	2'-5 1/2"	2'-7 3/8"
"L ₈ "	2'-2 1/4"	2'-3 3/8"	2'-4 3/8"	2'-5 1/2"	2'-7 1/8"
"L ₉ "	231'-7 1/4"	232'-0 1/4"	232'-5 1/2"	232'-10 1/2"	233'-4 3/8"

Note: For locations of "L₃" thru "L₈" see sheet #10.

INTERIOR BEAM MOMENT TABLE

	0.4 Sp. 1106 Sp. 2	Piers 1 & 2	0.5 Sp. 2
I _s (in ⁴)	9040	13200	9040
I _c (in ⁴)	22457		22457
S _s (in ³)	504	719	504
S _c (in ³)	711.5		711.5
M _Q (k)	300.9	716.5	314.0
M _L (k)	405	405	405
M _S (k)	151.1	244.3	189.0
M _L (k)	763.8	580.5	855.3
M _{Imp.} (k)	155.8	112.5	158.1
M _Q (M _L +I) (k)	1532.7	1155.5	1689.0
M _Q (k)	2580.1	2751.2	2849.6
I _s (non-comp) (ksi)	7.16	16.04	7.48
I _s (comp) (ksi)	2.55		3.19
I _s (L+I) (ksi)	25.85	19.29	28.49
I _s (overload) (ksi)	35.56	33.33	39.16
I _s (total) (ksi)	46.23	45.93	50.91
F _{bu} (ksi)	50	47.43	50
VR (k)	61.5		52.9

*The Maximum Allowable Stress (F_{bu}) is computed according to AASHTO (Guide Specifications for Horizontally Curved Highway Bridges, Section 2.12 (B)).
All moments except M_{imp} include secondary moments due to lateral flange bending.
M_Q (Applied Moment) = 1.3 [M_Q + M_S + 1/2 (M_L + I)].
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing I_s (Total and Overload).
I_c and S_c are the moment of inertia and section modulus of the composite section used in computing I_s (Total and Overload).
VR is the maximum L + Impact shear range in span.
I_s (total) is the sum of the stresses due to 1.3 [M_Q + M_S + 1/2 (M_L + I)].
I_s (overload) is the sum of the stresses due to M_Q + M_S + 1/2 (M_L + I).

***TOP OF FLANGE ELEVATIONS
(Before any deflection)

	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5
E Brq. E. Abut.	384.48	384.05	383.63	383.22	382.81
E Splice #1 (W36x150)	382.65	382.19	381.73	381.28	380.83
E Splice #1 (W36x210)	382.68	382.22	381.76	381.31	380.86
E Brq. Pier 1	381.95	381.47	381.00	380.53	380.07
E Splice #2 (W36x210)	381.33	380.85	380.36	379.88	379.41
E Splice #2 (W36x150)	381.30	380.81	380.33	379.85	379.37
E Splice #3 (W36x150)	379.67	379.15	378.63	378.11	377.60
E Splice #3 (W36x210)	379.71	379.18	378.66	378.14	377.63
E Brq. Pier 2	379.30	378.77	378.24	377.72	377.20
E Splice #4 (W36x210)	378.81	378.27	377.73	377.19	376.66
E Splice #4 (W36x150)	378.77	378.23	377.69	377.16	376.62
E Brq. W. Abut.	377.74	377.18	376.61	376.05	375.49

*** For fabrication only.

039-0056

DESIGNED	Rick Brunette
CHECKED	JIM Koltov
DRAWN	R. Doty
CHECKED	JK

July 10, 1994
EXAMINED
PASSED
APPROVED

FOR INFORMATION ONLY

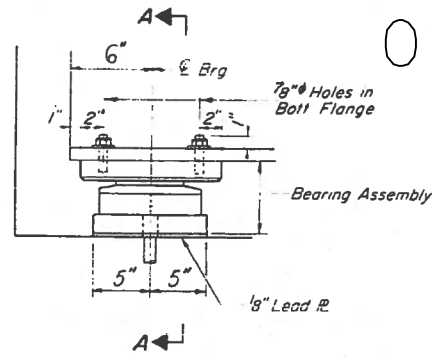
STRUCTURAL STEEL
F.A.P. RT. 107 SEC. 101 BS-1
JACKSON COUNTY
STA. 320+00.00

FOR INFORMATION ONLY

039-0056

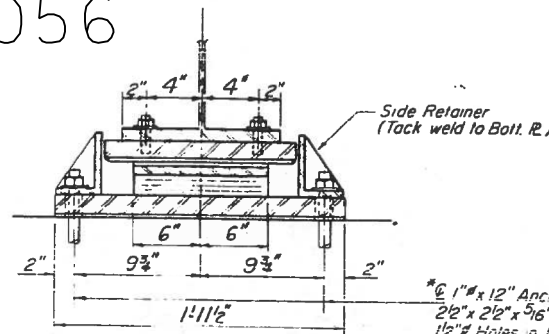
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4
101	101E-1	JACKSON	57	31	8 SHEETS



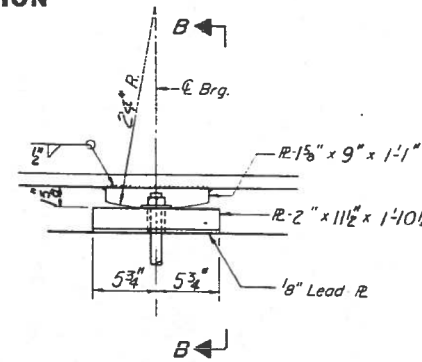
ELEVATION AT W. ABUT.

TYPE II TFE ELASTOMERIC EXP. BRG.



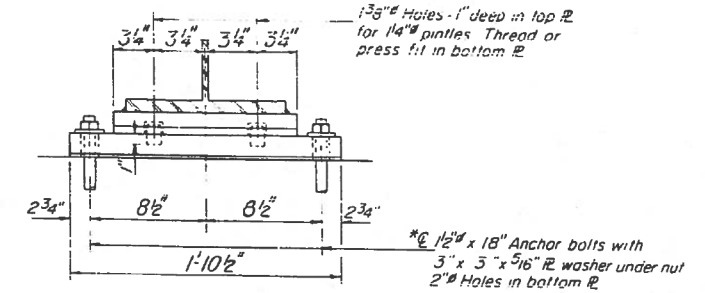
SECTION A-A

* ϕ 1" x 12" Anchor bolts with 2" x 2" x 5/16" R washer under nut 1/2" Holes in bottom R.



ELEVATION AT PIER 1

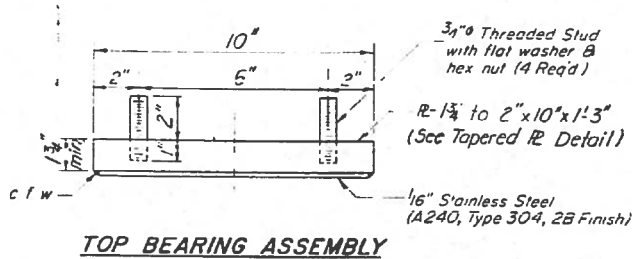
FIXED BEARING



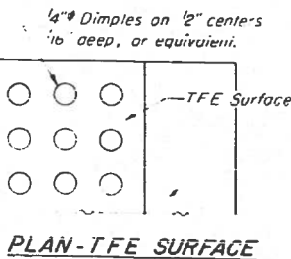
SECTION B-B

1 3/8" Holes - 1" Deep in top R for 1 1/2" pintles. Thread or press fit in bottom R.

* ϕ 1 1/2" x 18" Anchor bolts with 3" x 3" x 5/16" R washer under nut 2" Holes in bottom R.



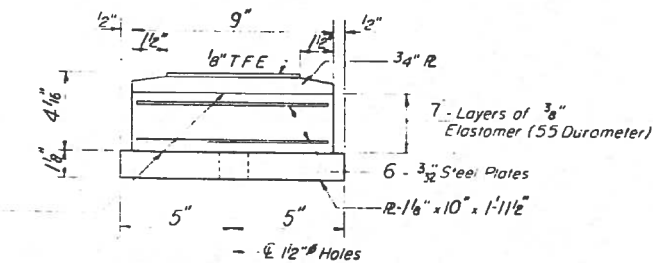
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE

Note: After beams have been erected, holes at expansion bearings shall be drilled and anchor bolts grouted in place. Holes at fixed bearings shall be drilled and anchor bolts grouted in place before beams have been erected.

NOTE: All Structural Steel for bearings shall be AASHTO M222 steel (unpainted).

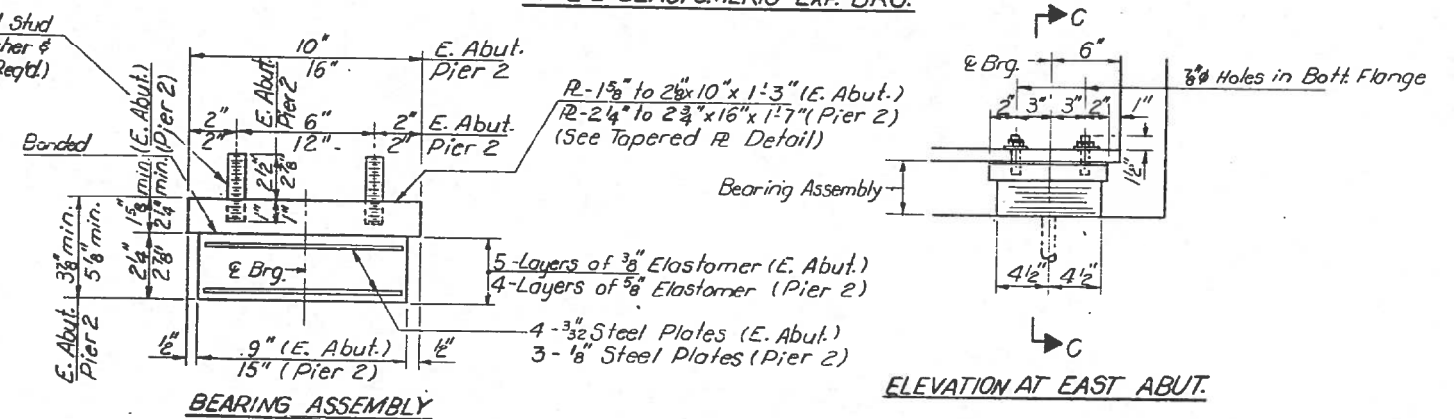


BOTTOM BEARING ASSEMBLY

SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

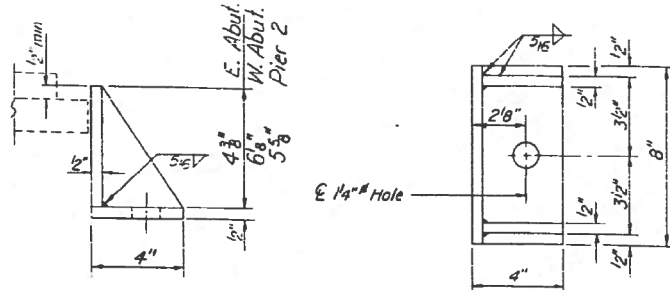
* ϕ Threaded Stud with flat washer & hex nut (4-Req'd)



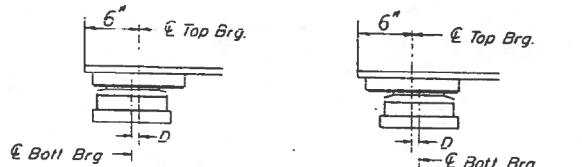
BEARING ASSEMBLY

ELEVATION AT EAST ABUT.

TYPE I ELASTOMERIC EXP. BRG.



SIDE RETAINER



BELOW 50°F (Move bolt brg. away from fixed brg.) ABOVE 50°F (Move bolt brg. toward fixed brg.)
SETTING ANCHOR BOLTS AT EXP. BRG.
D = 1/8" per each 100' of expansion for every 15° temp change from the normal temp of 50°F

TAPERED TOP R DETAIL
**Place bearing with narrow dimension (a) on upstation side of bearing.

Location	a	b	c
West Abut.	1 3/4"	2"	10"
Pier 2	2 1/4"	2 3/8"	16"
East Abut.	1 5/8"	2 1/8"	10"

TABLE OF a, b & c DIMENSIONS

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	5

BEARING DETAILS
F.A.R. RT. 107 SEC. 101 B-1
JACKSON COUNTY
STA. 320+00.00

"For Information Only"

DESIGNED	Rick Brunette
CHECKED	Jim Konout
DRAWN	R. Doty
CHECKED	JK

March 17 1983
EXAMINED James J. K...
PASSED
APPROVED

I-2-E2 4-1-79

Bench Mark: @ Sta. 19+23.75, Elev. 452.90

Existing Structure: Structure No. 041-0026 constructed in 1957 @ Sta. 19+95.00 as F.A. Route 16, Section 14-2B is a 142'-6" back to back of abutments three span bridge. The existing concrete deck has an out to out width of 33'-8" and is supported on 6 continuous steel WF30 beams. The proposed construction will consist of removing & replacing the existing deck with a 43'-2" O. to O. bridge width, adding two new beams, making the existing beams composite, and widening the existing structure.

Traffic to be maintained at all times utilizing stage construction.

No salvage.

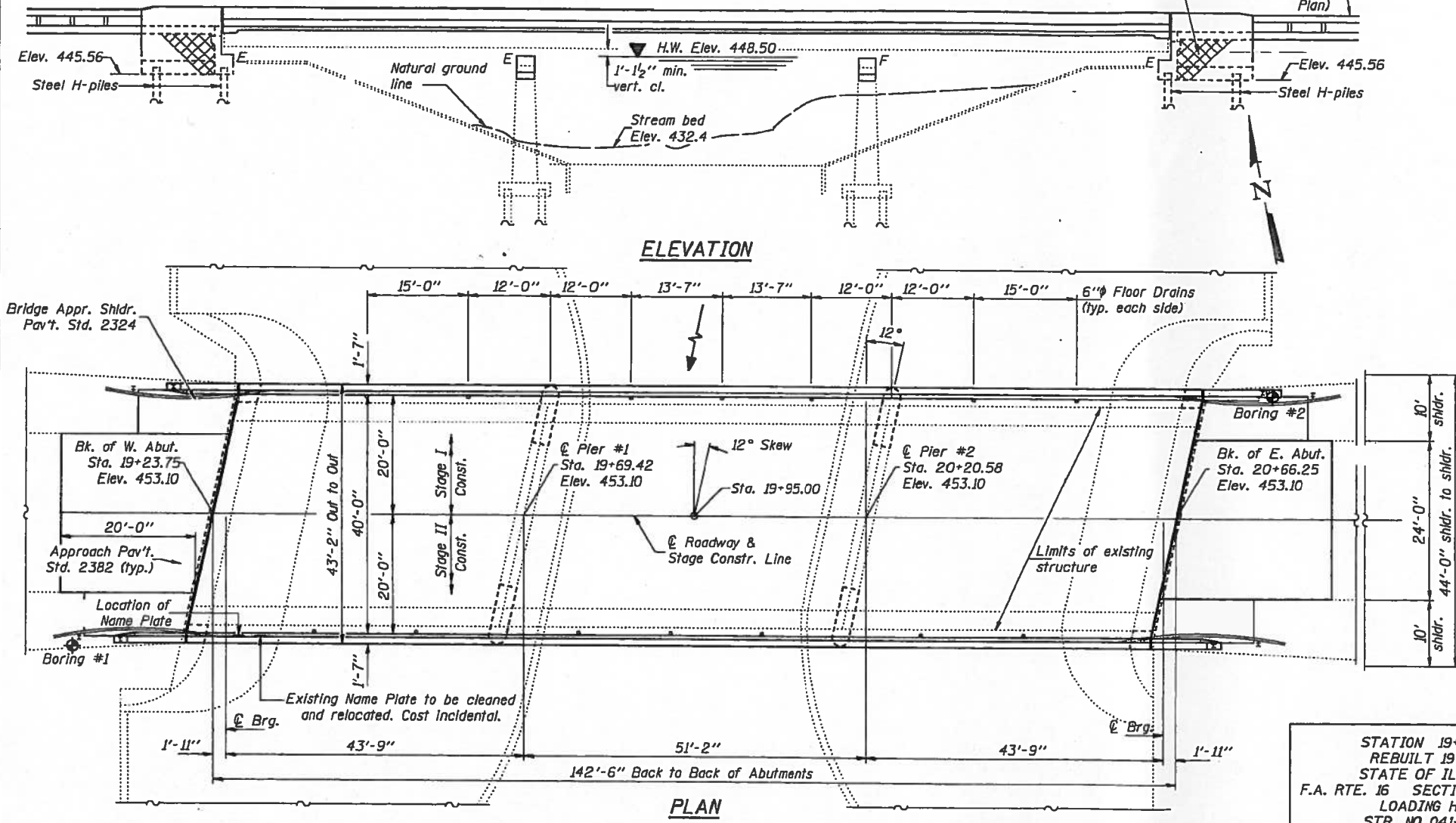
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A. 16	14-2-BR	JEFFERSON	22	6
SHEET NO. 1 17 SHEETS				

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$ " ϕ , open holes $1\frac{1}{8}$ " ϕ , unless otherwise noted.
 Calculated weight of Structural Steel = 43,600 lbs.
 The three coat lead and chromate free alkyd paint system shall be used for shop and field painting of New Structural Steel. The color of the final finish coat shall be Munsell No. 7.5 G 4/8 Interstate Green.
 All Existing Structural Steel shall be cleaned by Method II. The three coat lead and chromate free alkyd paint system shall be used for field painting of Existing Structural Steel. The color of the final finish coat shall be Munsell No. 7.5 G 4/8 Interstate Green.
 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 nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
 Anchor bolts shall be set before bolting diaphragms over supports.
 The 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 and all splice plate material of the wide flange beams.
 Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 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 $\frac{3}{4}$ " ϕ x 12" hooked bolts.
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two $\frac{1}{8}$ " adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
 The contractor shall drive one HPI0x42 test pile in a permanent location at the West Abutment as directed by the Engineer before ordering the remainder of piles.
 Bridge seat sealer shall be applied to seat area of Abutments. Estimated quantity = 155 sq. ft.
 The Contractor will be required to mark, on top of the concrete deck, the locations of the top flange of all the steel beams, prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam flanges is not permitted.

This portion of embankment shall be done by Bridge Contractor after abutment is completed. Cost is to be incidental to Structure Excavation (Typ.).

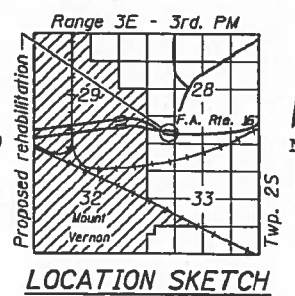


STATION 19+95.00
REBUILT BY
STATE OF ILLINOIS
F.A. RTE. 16 SECTION 14-2-BR
LOADING HS20
STR. NO 041-0026

NAME PLATE
(See Std. 2113)

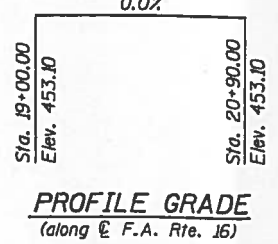
FOR INFORMATION ONLY
041-0026

LOADING HS20-44
Allow 25# / sq. ft. for future wearing surface.
DESIGN SPECIFICATIONS
AASHTO (1983) and applicable Interims (1984 thru 1988)
DESIGN STRESSES
 FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinf.)
 $f_y = 36,000$ psi (struct.)
 New Constr.

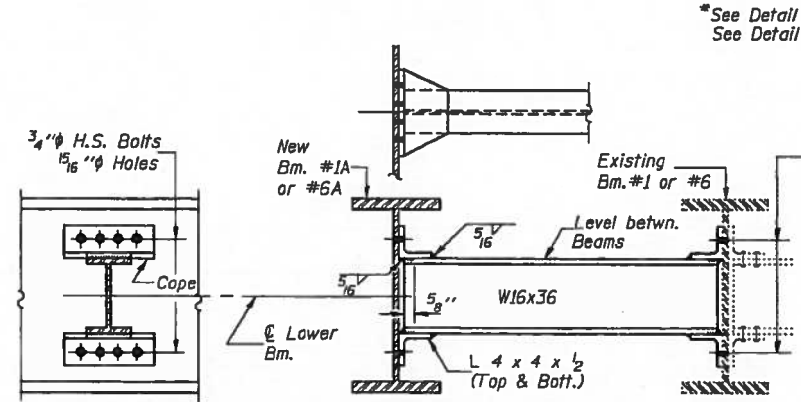
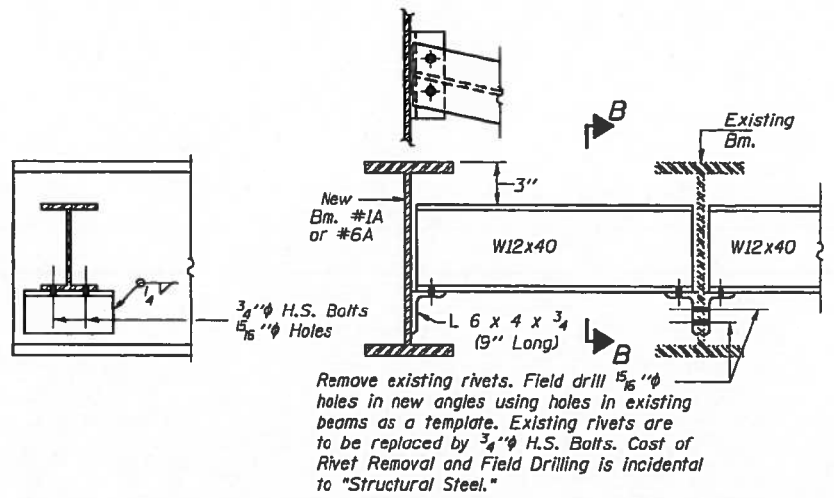
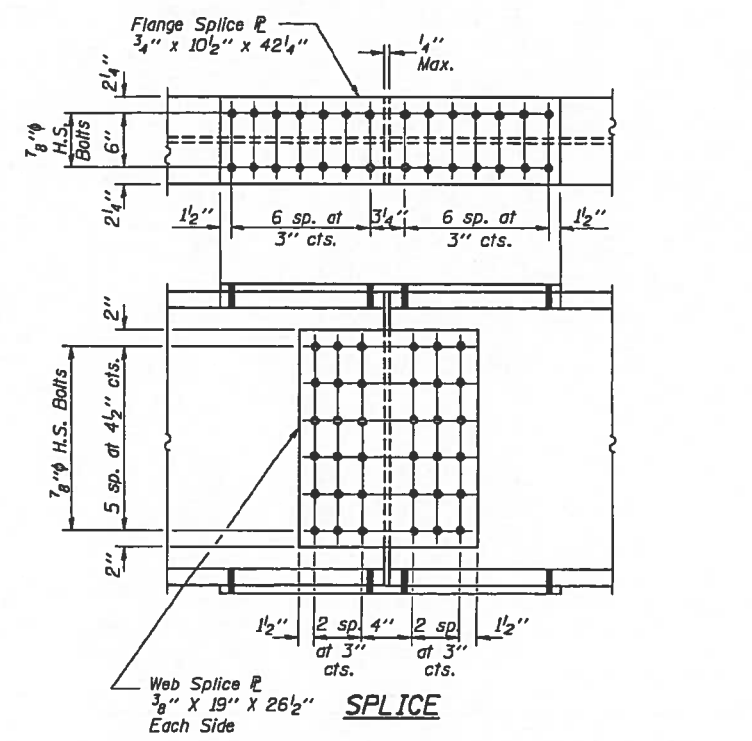
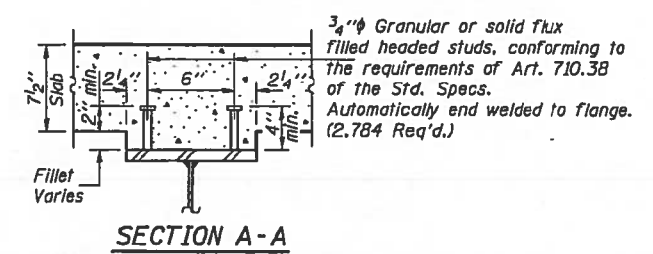
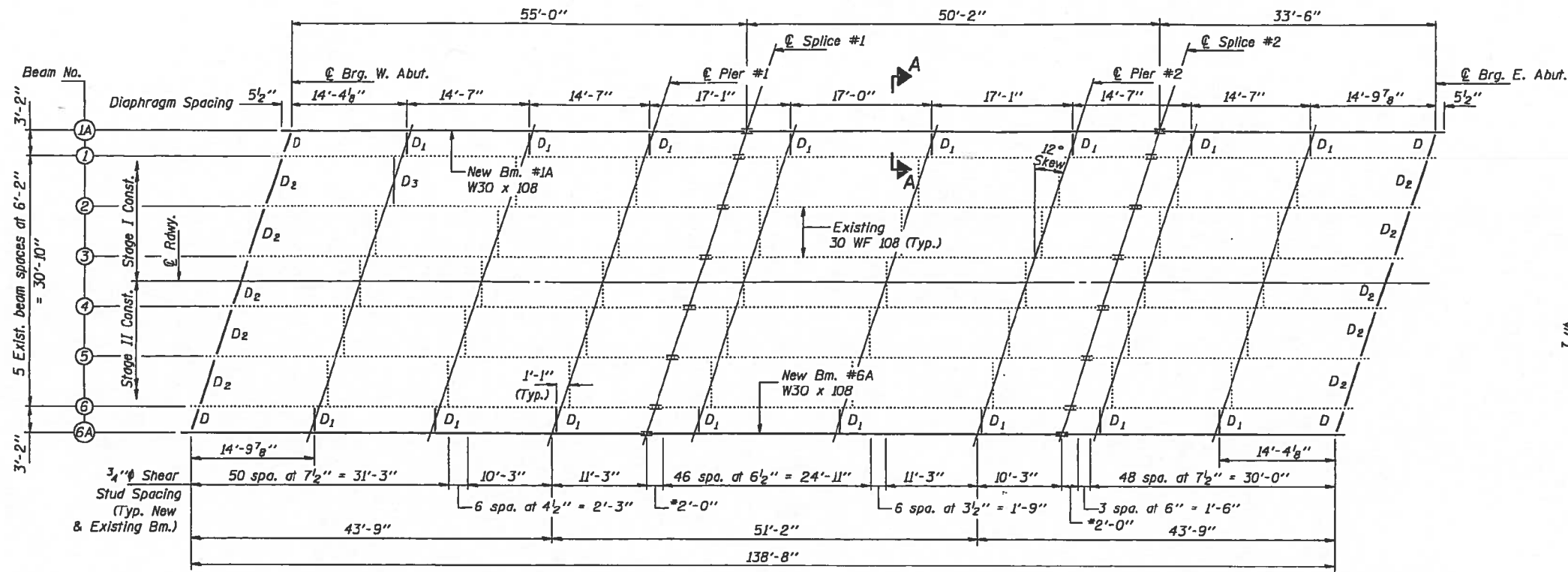


GENERAL PLAN
ILLINOIS ROUTE 15 OVER
CASEY FORK
F.A. ROUTE 16 - SECTION 14-2-BR
JEFFERSON COUNTY
STA. 19+95.00
STRUCTURE NO. 041-0026

DESIGNED: *Christopher H. Mohr*
 EXAMINED: *David J. Kaspar*
 CHECKED: *Stanley S. Linn*
 DRAWN: *FW*
 CHECKED: *S. L., CHM*
 APPROVED: *Robert E. Anderson*
 DIRECTOR OF HIGHWAYS



PRIVATE NO.	SECTION	COUNTY	JOB NO.	SHEET	SHEET NO. 8
P.A. 16	14-252	JEFFERSON	22	13	17 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT-			

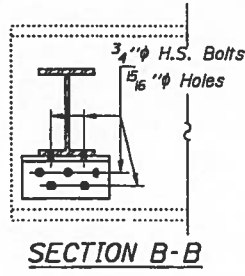


END DIAPHRAGM D & D₂
 4 D and 10 D₂ Required

Note: Two hardened washers shall be required over all oversize holes. All contact surfaces of joints shall be free of paint or lacquer.

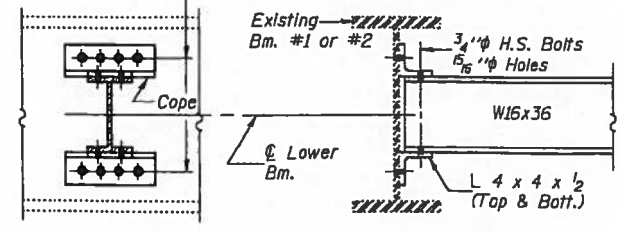
DESIGNED <i>Rita Williams</i>	EXAMINED <i>Dr. J. K. Cooper</i>
CHECKED <i>Stanley S. Lee</i>	PASSED <i>Ralph E. Anderson</i>
DRAWN <i>Rita Williams</i>	APPROVED _____
CHECKED <i>S.L., CHM</i>	DIRECTOR OF HIGHWAYS

March 15 1990

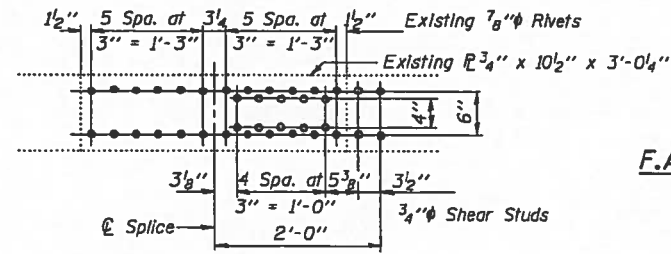


INTERMEDIATE DIAPHRAGM D₁
 16 Required

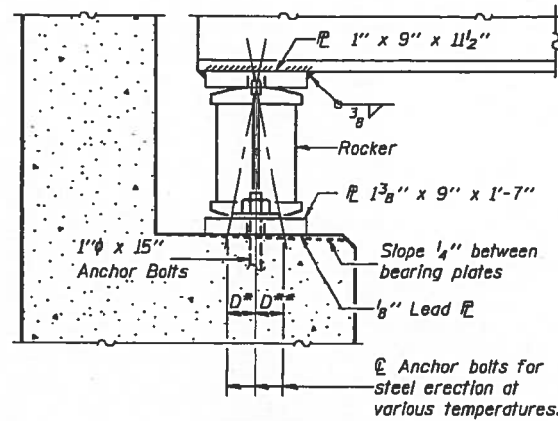
Remove existing bolts & diaphragm. Field drill 5/16" holes in new L 4 x 4 x 1/2 using holes in existing Beams #1 and #2 as a template. Replace existing bolts with new 3/4" H.S. Bolts. Cost of Bolt Removal and Field Drilling is incidental to "Structural Steel."



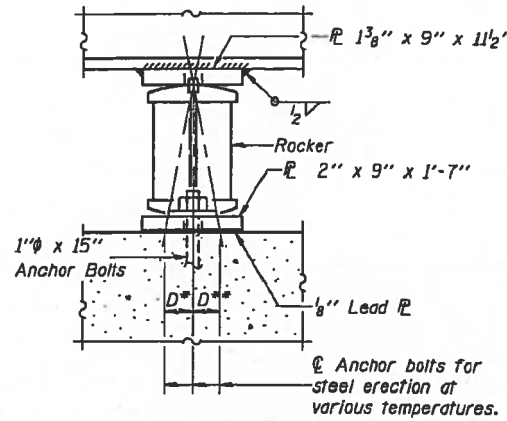
INTERMEDIATE DIAPHRAGM D₃
 1 Required



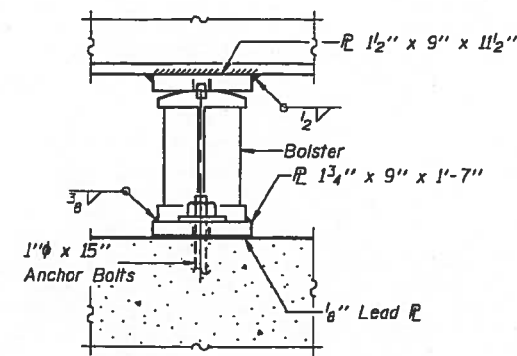
STRUCTURAL STEEL
 F.A. RTE. 16 SECTION 14-2-BR
 JEFFERSON COUNTY
 STA. 19+95.00



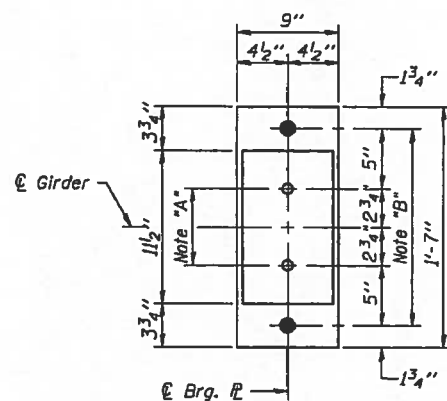
ELEVATION



ELEVATION

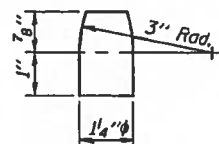


ELEVATION

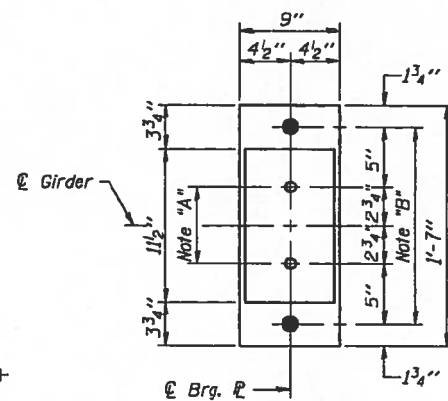


PLAN
AT ABUTMENTS
NEW BEARINGS

Note "A"
1 3/8" Holes-1" deep in
top flange for 1 1/4" Pintles.
Thread or press fit
pintles in bottom flange.

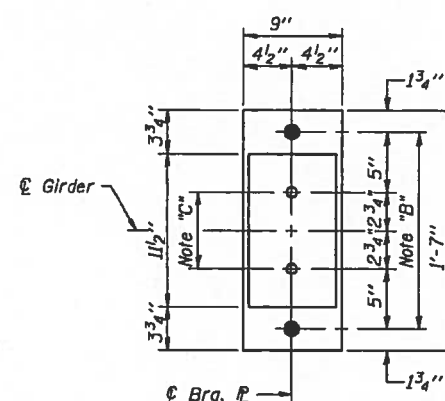


PINTLE



PLAN
AT PIER #1

Note "B"
1 1/2" Holes for 1" Anchor
Bolts-5/8" x 2 1/2" x 2 1/2" flange
washer under nut.



PLAN
AT PIER #2

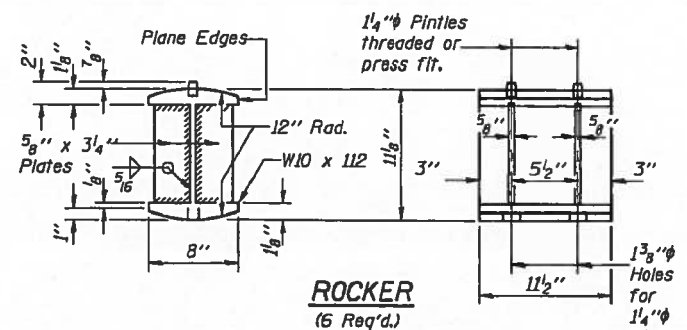
Note "C"
1 3/8" Holes-1" deep in
top flange only for 1 1/4" Pintles.

Location	Beam #1A	Beam #6A
Brg. W. Abut.	452.010	452.010
Brg. Pier #1	452.010	452.010
Splice #1	452.010	452.010
Brg. Pier #2	452.010	452.010
Splice #2	452.010	452.010
Brg. E. Abut.	452.010	452.010

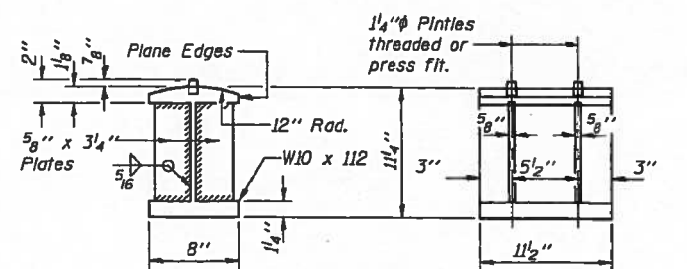
NOTES FOR SETTING OF ANCHOR BOLTS
AT EXPANSION BEARINGS

- a.) D* (Side of brg. away from fixed brg.)
D* = 1/8" 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 new beams have been erected and dimensions D* & D** determined, holes shall be drilled and anchor bolts shall be installed as shown on Sheet #15 of 17. All anchor bolts at fixed bearings may be built into the masonry.



ROCKER
(6 Req'd.)



BOLSTER
(2 Req'd.)

BEARING ASSEMBLY DETAILS

	0.4 Sp. 1	Pier 1	0.5 Sp. 2
	or	Pier 2	
	0.6 Sp. 3		
I _s (in ⁴)	4,470	4,470	4,470
I _c (in ⁴)	12,455	-	12,455
S _s (in ³)	299	299	299
S _c (in ³)	452	-	452
Q (K/ft.)	0.720	0.978	0.720
M _ℓ (K)	100.3	207.9	73.0
s _ℓ (K/ft.)	0.258	-	0.258
M _{sℓ} (K)	41.1	-	39.1
M _ℓ (K)	248.7	131.6	253.3
M (Imp) (K)	73.6	38.2	72.0
S ₃ (M _ℓ +I) (K)	537.2	283.1	542.2
M _a (K)	882.3	638.3	850.7
M _u (K)	1,812	-	1,812
f _{sℓ} non-comp (k.s.i.)	4.02	8.34	2.93
f _{sℓ} (comp) (k.s.i.)	1.09	-	1.04
f _s S ₃ (ℓ+I) (k.s.i.)	14.26	11.36	14.39
f _s (Overload) (k.s.i.)	19.37	19.7	18.36
f _s (Total) (k.s.i.)	-	25.62	-
VR (K)	43.3	-	35.6

	Abuts.	Pier 1 or 2
R _ℓ (K)	14.6	51.2
R _ℓ (K)	30.7	37.2
Imp. (K)	9.1	10.8
R (Total) (K)	54.4	79.2

I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
I_c and S_c are the moment of inertia and section modulus of the composite section used in computing f_s (Total & Overload).
VR is the maximum live Load + Impact shear range in span.
Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.
M_a (Applied Moment) = 1.3CMℓ + M_{sℓ} + S₃(M_ℓ + I).
*M_u is the Full Plastic Moment Capacity for Compact, Braced section.
**Non-Compact section.
f_s (Overload) is the sum of the stresses due to Mℓ + M_{sℓ} + S₃(Mℓ + I).
f_s (Total) is the sum of the stresses due to 1.3CMℓ + M_{sℓ} + S₃(Mℓ + I).

BEARING DETAILS
NEW BEAMS #1A & #6A
F.A. RTE. 16 SECTION 14-2-BR
JEFFERSON COUNTY
STA. 19+95.00

FOR INFORMATION ONLY

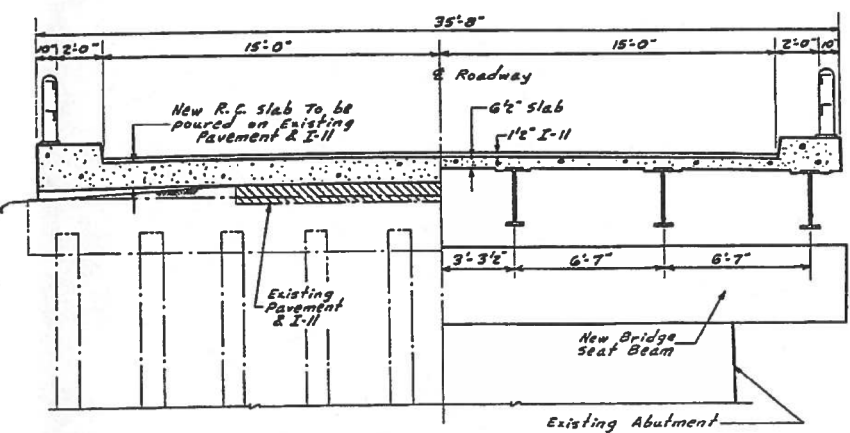
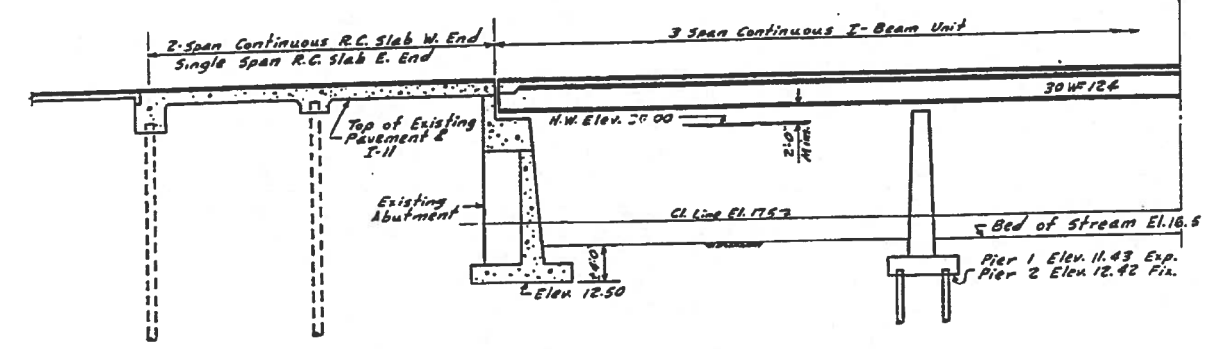
DESIGNED: *Christoph H. Wolynka*
CHECKED: *Stanley S. Linn*
DRAWN: *Rita Williams*
CHECKED: *S.L. CMM*
I-2-B 12-31-87

March 15 1990
EXAMINED: *Greg J. Kaspar*
PASSED: *Ralph E. Anderson*
APPROVED: _____
DIRECTOR OF HIGHWAYS

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

5 M. E of Existing I-11 Resurfacing
At Sta. 922+25 Elev. 34.25

FOR INFORMATION ONLY
041-0019



GENERAL NOTES
Class X Concrete shall be used throughout except in End Rail Posts and Piers.
Class A Concrete shall be used in piers.
Handrail Concrete shall be used in End Rail Posts.
The concrete floor slab shall be finished in accordance with Article 51.18(a) of the Standard Specifications.
Rivets 3/4" open holes 1/4" unless noted.
Field connections riveted, unless noted.
All rollers, rockers, bearing plates, lead plates, pintles and anchor bolts shall be fabricated and set in accordance with Article 51.11 of the Standard Specifications and are included for payment as structural steel.
Anchor bolts shall be set before riveting diaphragms over supports.
The roadway expansion device shall be fabricated and erected to fit the crown of roadway.
The following surfaces of expansion guards shall be given two shop coats of red lead paint; Exposed legs of angles.
Expansion guards are included for payment as structural steel. Estimated Weight 2245 pounds.
Except as otherwise provided all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Articles 57.1 to 57.5 inclusive of the standard specifications.
All paint shall be furnished and applied by the Contractor.
The Contractor shall drive 4 test piles. One in each pier & one in each Approach slab in permanent locations before ordering or casting remainder of piles.
Timber piles shall be untreated.
Boring logs are shown on the drawings only as a guide to bidders in estimating soil conditions which may be encountered in the work.

ELEVATION
Scale 1" = 10'

Boring at Sta. 924+63
21 Ft. Lt. Centerline

Surface of Ground	Depth	Remarks
Hand yellowish Brown Clay	0.0 - 1.5	18
Hand Yellow Clay	1.5 - 2.5	20
Hard Brown sandy Clay	2.5 - 3.5	18
Hand Yellow Clay	3.5 - 4.5	18
Very stiff mottled slightly sandy clay	4.5 - 5.5	18
Medium Brown fine silty sand	5.5 - 6.5	18
Medium mottled sandy silt	6.5 - 7.5	18
Very stiff dark gray slightly sandy inactive clay with pebbles	7.5 - 8.5	18
Soft gray black shale lean when worked up	8.5 - 9.5	18

Boring at Sta. 923+97
30 Ft. Lt. Centerline

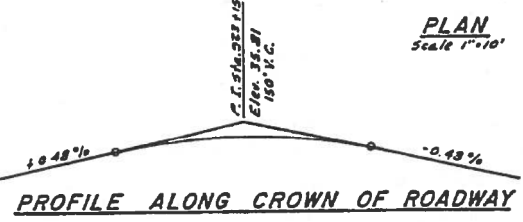
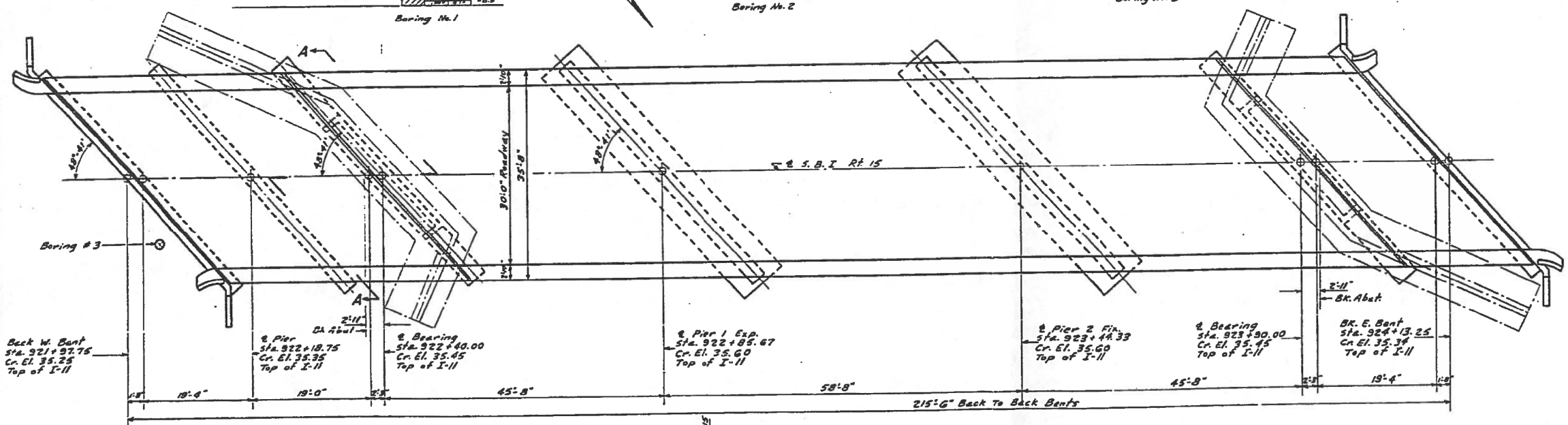
Surface of Ground	Depth	Remarks
Very stiff mottled clay	0.0 - 1.0	18
Very stiff dark brown silty clay	1.0 - 2.0	18
Very stiff mottled clay	2.0 - 3.0	18
Very stiff gray-brown slightly sandy clay	3.0 - 4.0	18
Very stiff gray-brown very sandy clay	4.0 - 5.0	18
Soft gray-black shale lean and weak	5.0 - 6.0	18

SECTION A-A
Scale 4" = 1'-0"

Boring at Sta. 922+03
11 Ft. Rt. Centerline

Surface of Ground	Depth	Remarks
Medium brown sandy silt	0.0 - 1.0	18
Medium brown silty sand	1.0 - 2.0	18
stiff yellow clay	2.0 - 3.0	18
Loose gray fine sand	3.0 - 4.0	18
Medium mottled sandy silt	4.0 - 5.0	18
Very dense gray silty sand	5.0 - 6.0	18
Soft gray-black shale	6.0 - 7.0	18

Note: N = Blows per foot of penetration of sampling spoon. Hammer Weight = 140 lbs. Drop = 12 inches. qu = Unconfined compressive strength in tons per square foot.



TOTAL BILL OF MATERIAL

Item	Unit	Sub	Super	Total
Class X Concrete	Cu. Yd.	45.6	263.8	309.4
Class A Concrete	Cu. Yd.	207.8	-	207.8
Handrail Concrete	Cu. Yd.	1.6	-	1.6
Masonry Removal	Cu. Yd.	23	-	23
Reinforcement Bars	Lb.	17,775	43,685	61,460
Structural Steel	Lb.	-	139,120	139,120
12" Prec. Piles (30' long)	Lin. Ft.	840	-	840
Untreated Piles (15' long)	Lin. Ft.	1080	-	1080
Test Piles (Timber)	Each	2	-	2
Metal Handrail	Lin. Ft.	-	429	429
Class A Excavation	Cu. Yd.	25	-	25
Class B Excavation	Cu. Yd.	210	-	210
Name Plate	Each	1	-	1
Test Piles (Concrete)	Each	2	-	2

STATION 923+15
BUILT 195- BY
STATE OF ILLINOIS
S.B.I. RT. 15 SEC. 11-BY
JEFFERSON COUNTY
LOADING H20-S16
SEE STD 2113
LETTERING FOR NAME PL.

DESIGNED: ELB/CH
CHECKED: C. SALVATORE
DRAWN: M. WILLET
REVISIONS: RAC
EXAMINED: W.B. Hancock
PASSED: [Signature]
APPROVED: [Signature]
DATE: Dec 17 1953

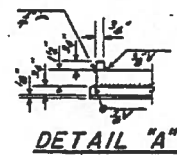
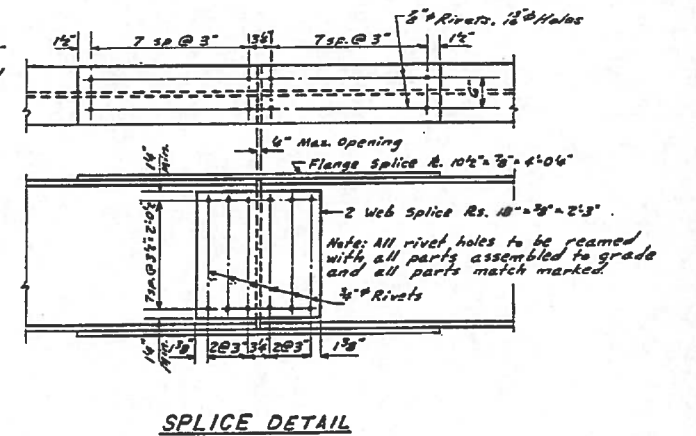
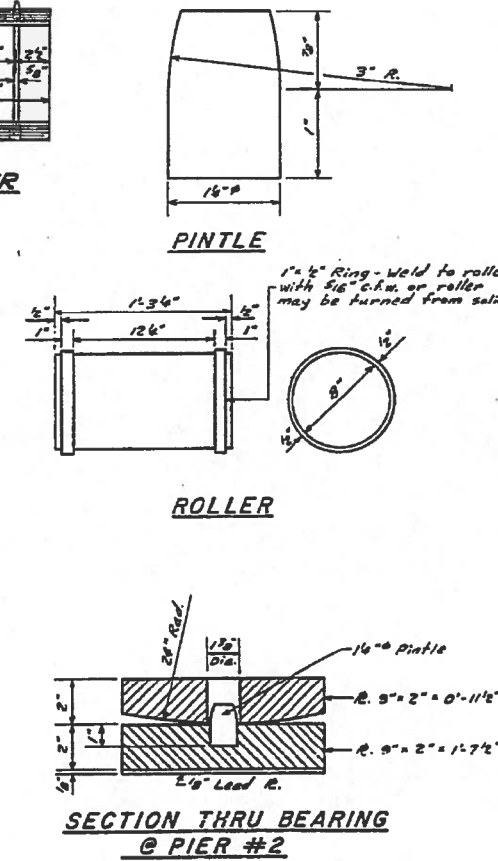
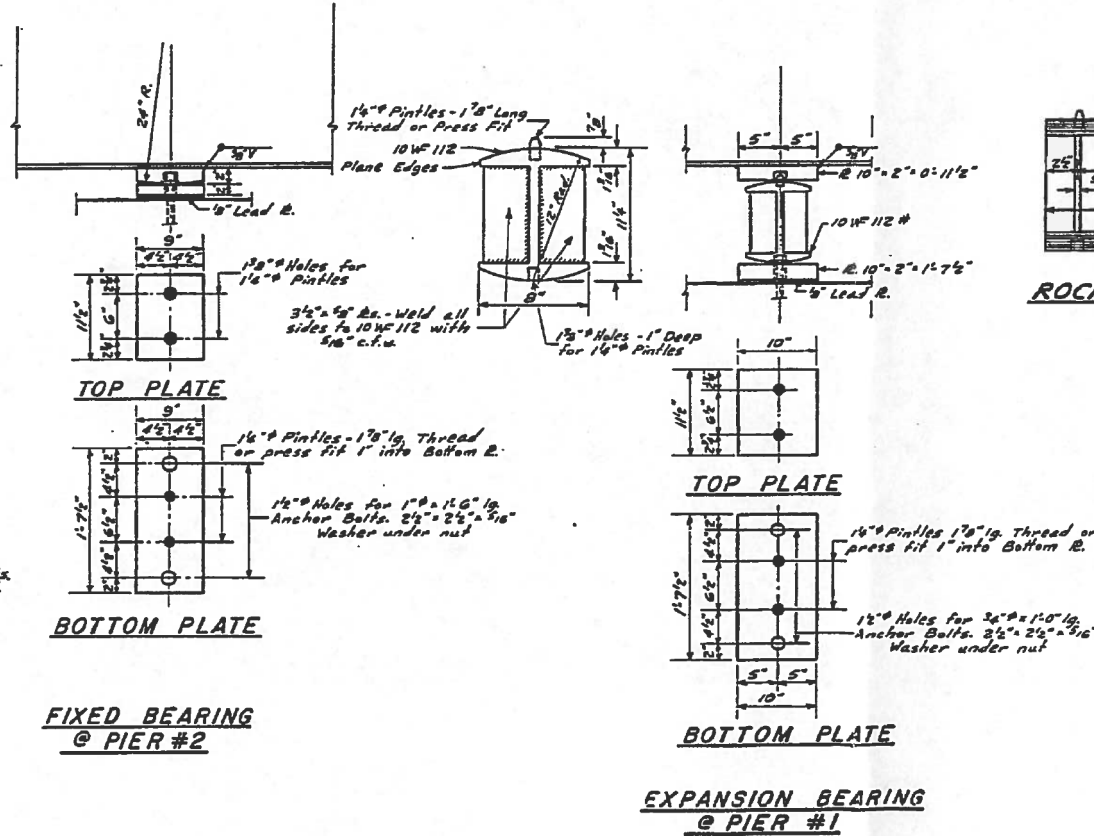
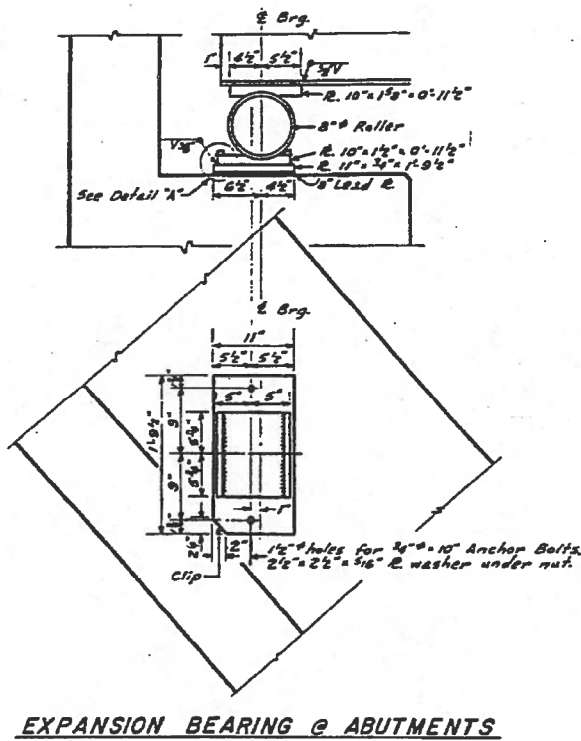
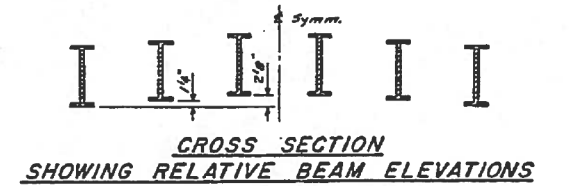
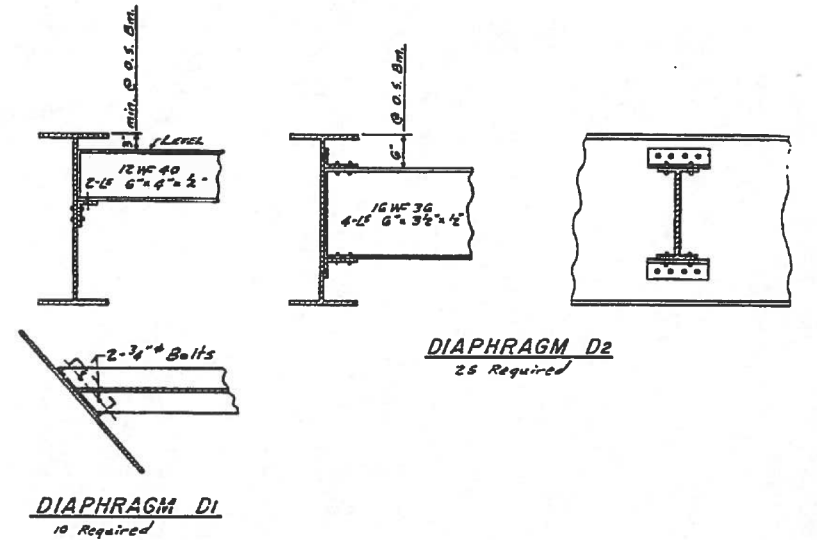
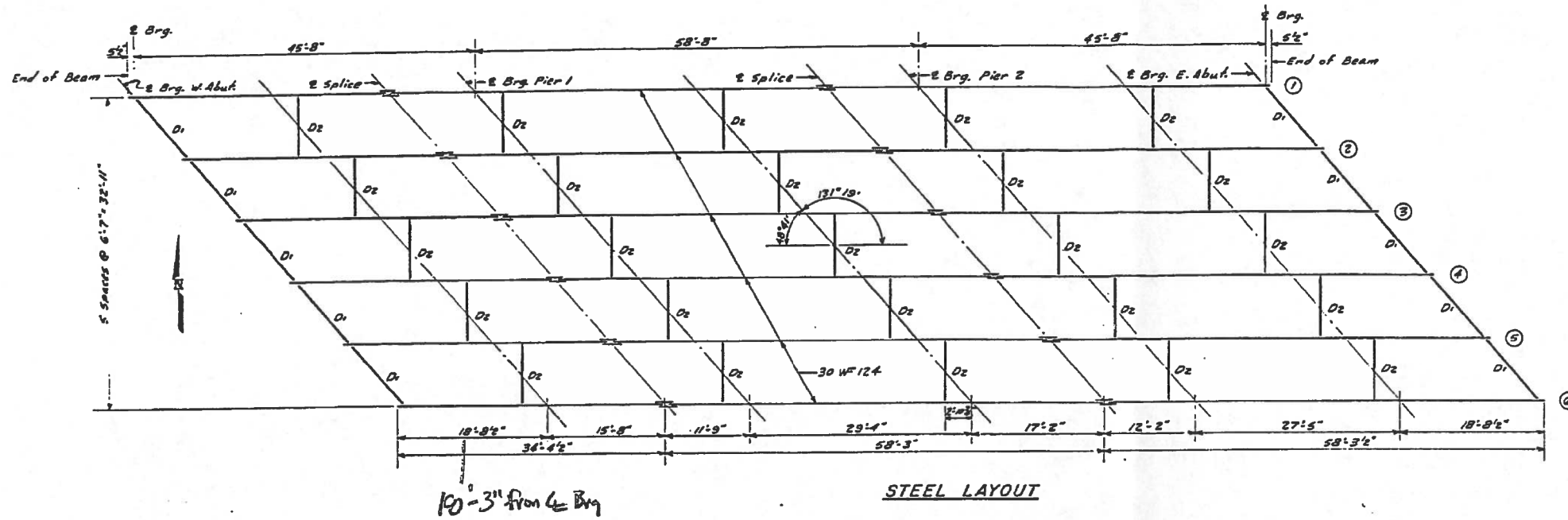
DESIGN STRESSES
F_c = 45,000 psi Struct.
F_c = 30,000 psi Reinf.
F_c = 1400 psi Super.
F_c = 800 psi Sub.
n = 10
LOADING H20-S16-44

GENERAL PLAN & ELEVATION
S.B.I. RT. 15 SEC. 11-BY
JEFFERSON COUNTY
STATION 923+15

FOR INFORMATION ONLY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15	11-BY	JEFFERSON	26	20
FED. ROAD DIST. NO. 7			ILLINOIS	FED. AID PROJECT

SHEET NO. 4
7 SHEETS



DESIGNED <u>RL D. CUL</u>	EXAMINED <u>W.E. Hanson</u>
CHECKED <u>C. GILBERT</u>	PASSED <u>E. Blument</u>
DRAWN <u>B.S. W.A.S.</u>	APPROVED <u>R.R. P. [Signature]</u>
CHECKED <u>RAC</u>	

Dec 17 1953

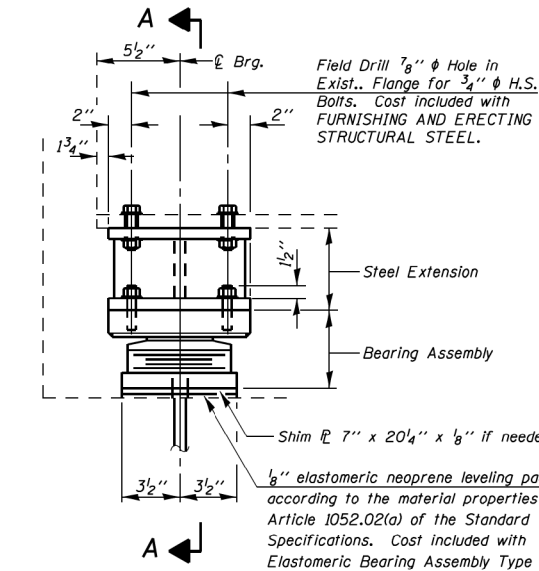
STRUCTURAL STEEL
S.B.I. RT. 15 SEC. 11-BY
JEFFERSON COUNTY
STATION 923+15

Girder Reactions

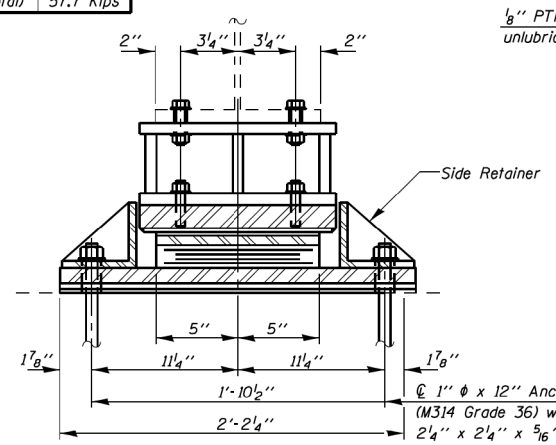
R DL	11.5 Kips
R SDL	4.1 Kips
R LL	32.6 Kips
R Imp.	9.5 Kips
R (Total)	57.7 Kips

041-0019

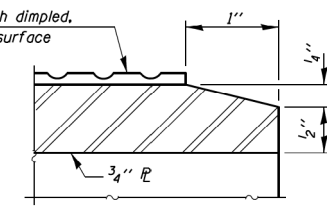
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT WEST ABUT.



SECTION A-A



Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

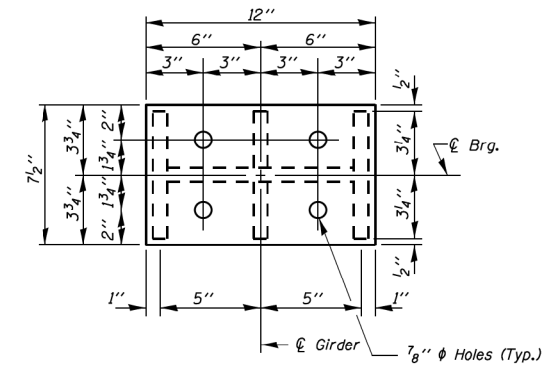
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

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

Bonding of $\frac{1}{8}$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

New steel extensions, connection bolts, and shim ϕ 's are included in the cost of FURNISHING AND ERECTING STRUCTURAL STEEL.

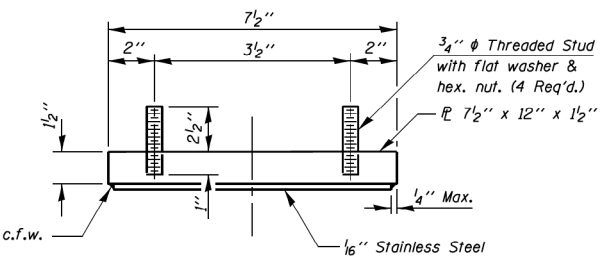
Two $\frac{1}{8}$ " adjusting shims shall be included in the cost of FURNISHING AND ERECTING STRUCTURAL STEEL. The minimum jack capacity required is 30 tons.



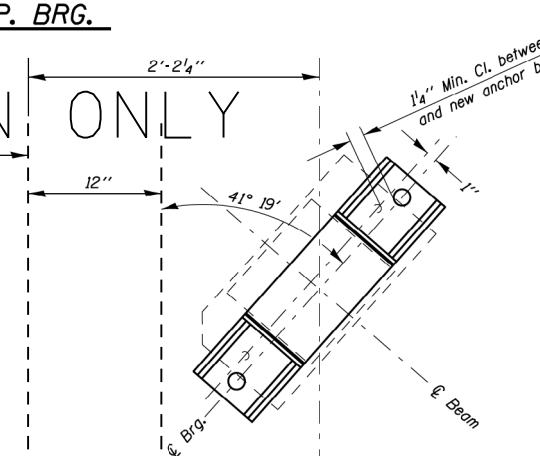
PLAN-TOP & BOTTOM PLATE

TYPE II ELASTOMERIC EXP. BRG.

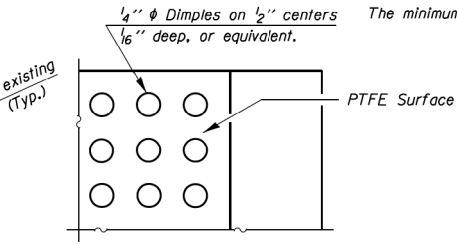
FOR INFORMATION ONLY



TOP BEARING ASSEMBLY

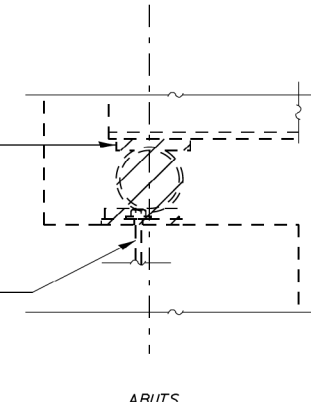


PLAN DETAIL OF ANCHOR BOLTS

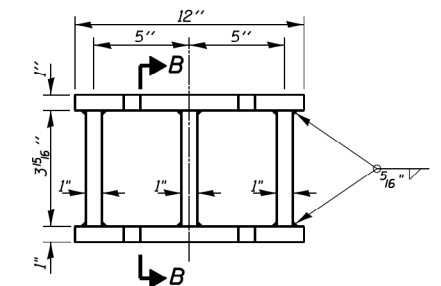


Existing Plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange.

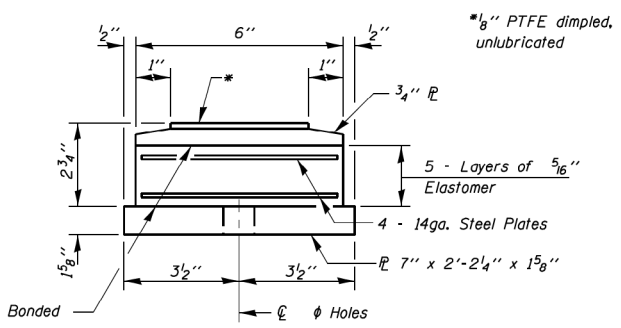
Burn the existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy.



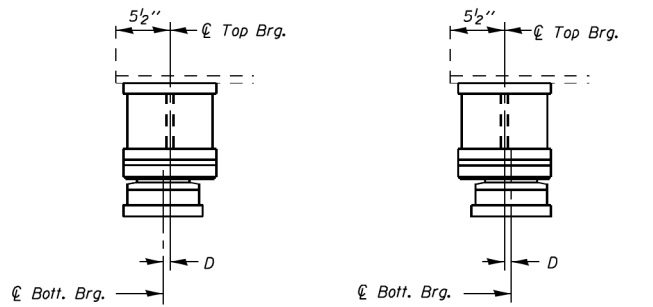
EXISTING BEARING REMOVAL DETAIL



STEEL EXTENSION DETAIL

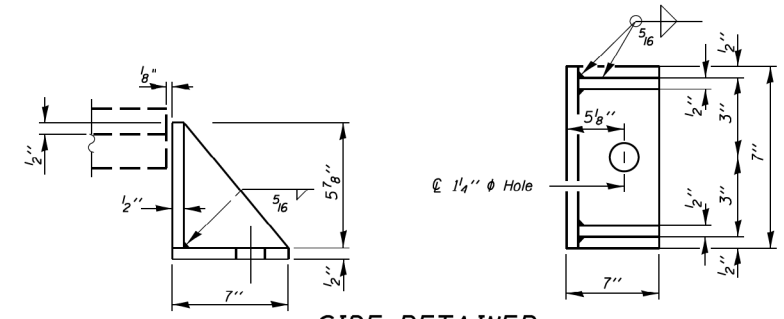


BOTTOM BEARING ASSEMBLY



SETTING ANCHOR BOLTS AT EXP. BRG.

$D = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



SIDE RETAINER

SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	6
Anchor Bolts, 1"	Each	12
Furnishing and Erecting Structural Steel	Pound	510
Jack and Remove Existing Bearings	Each	6

**BEARING DETAILS
STRUCTURE NO. 041-0019
WEST ABUTMENT**

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Default	PLOT SCALE = 8,0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 5/7/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
WEST ABUTMENT

F.A. RTE. 821	SECTION	COUNTY JEFFERSON	TOTAL SHEETS 8	SHEET NO. 6
ILLINOIS FED. AID PROJECT			CONTRACT NO. 15E911	

FILE NAME =	USER NAME = Hollimandb	DESIGNED -	REVISED -
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	PLOT DATE = 8/11/2016	DATE -	REVISED -

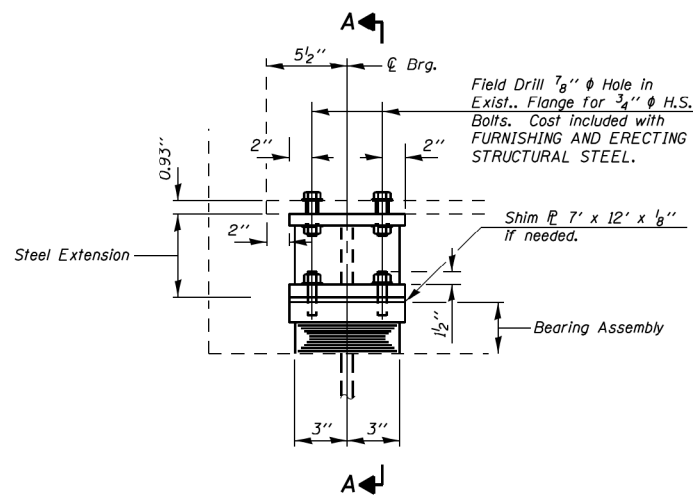
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

041-0019

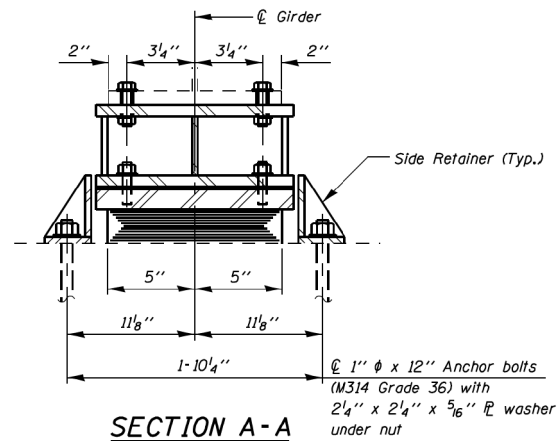
F.A. RTE. VAR	SECTION D9 BRIDGE PAINT 2017-1	COUNTY VARIOUS	TOTAL SHEETS 15	SHEET NO. 14
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78543	

041-0019

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT EAST ABUT.



SECTION A-A

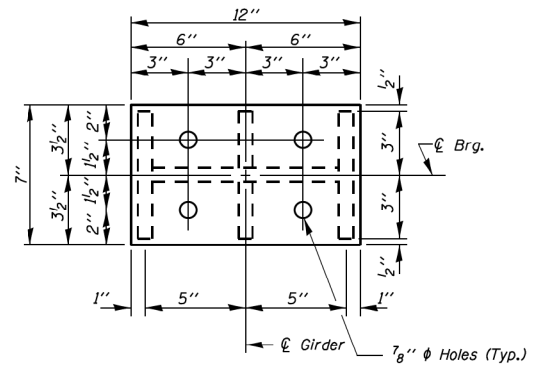
TYPE I ELASTOMERIC EXP. BRG.

FOR INFORMATION ONLY

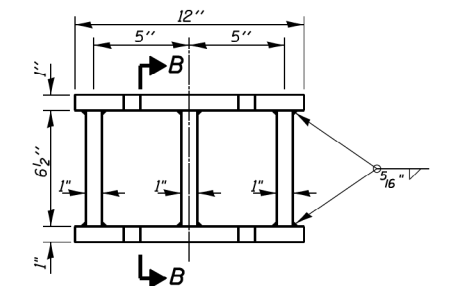
Girder Reactions

R DL	11.5 Kips
R SDL	4.1 Kips
R LL	32.6 Kips
R Imp.	9.5 Kips
R (Total)	57.7 Kips

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of ASTM A307 anchor bolts may be used in lieu of ASTM F1554.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
The minimum jack capacity required is 30 Tons.
Existing cross frame removal and installation may be required to facilitate drilling holes, cost to be included with JACK AND REMOVE EXISTING BEARINGS.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Two 8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
New steel extensions, connection bolts, and Shim P's are included in FURNISHING AND ERECTING STRUCTURAL STEEL.



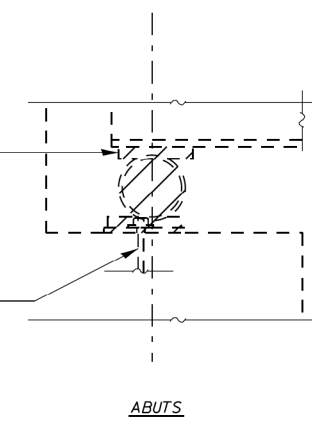
PLAN-TOP & BOTTOM PLATE



STEEL EXTENSION DETAIL

Existing Plate to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange.

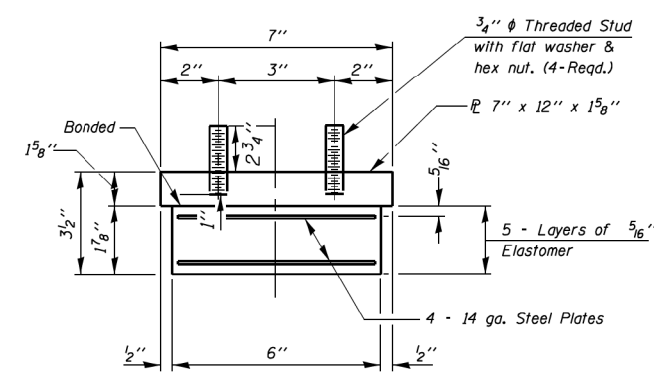
Burn the existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy.



ABUTS

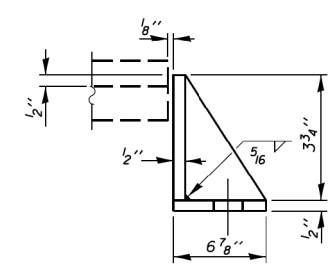
EXISTING BEARING REMOVAL DETAIL

Cost is included with Jack and Remove Existing Bearings



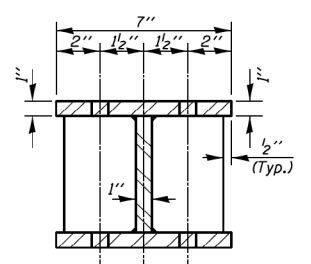
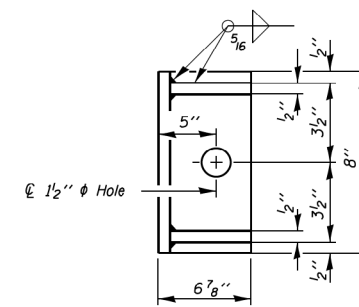
BEARING ASSEMBLY

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



SIDE RETAINER

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



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Anchor Bolts, 1"	Each	12
Furnishing and Erecting Structural Steel	Pound	620
Jack and Remove Existing Bearings	Each	6

BEARING DETAILS
STRUCTURE NO. 041-0019
EAST ABUTMENT

FILE NAME =	USER NAME = adamam	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS EAST ABUTMENT	F.A.P. RTE. 821	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Default	CHECKED -	REVISED -			SCALE:	SHEET 4 OF 5 SHEETS	STA.	TO STA.	JEFFERSON	8 7
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

FILE NAME =	USER NAME = Hollmndb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	041-0019	F.A.P. RTE. VAR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Default	CHECKED -	REVISED -			SCALE:	SHEET OF SHEETS	STA.	TO STA.	VARIOUS	15 15
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					