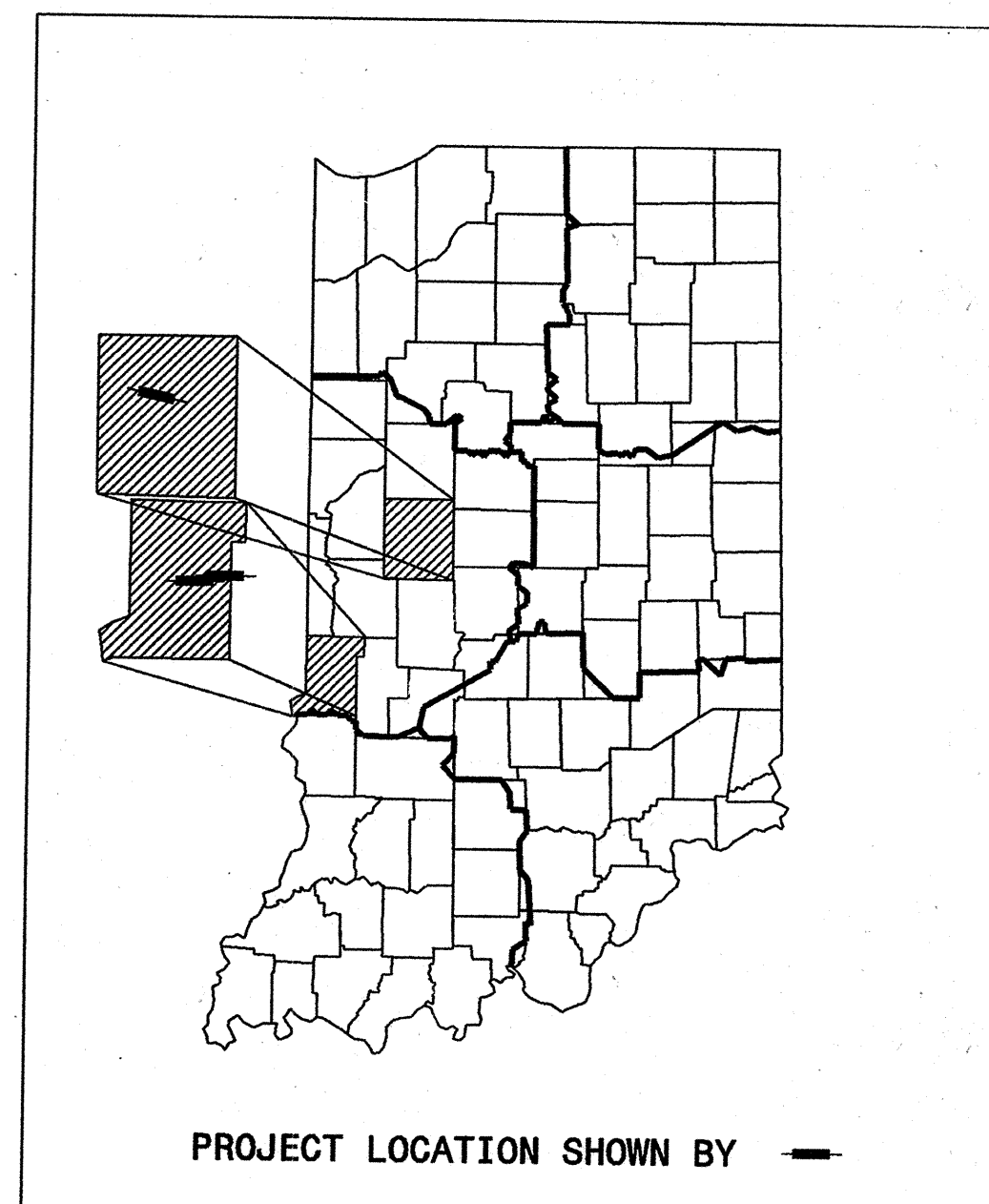


PROJECT	DESIGNATION
See Below	See Index
CONTRACT	BRIDGE FILE
B-25501	See Index

# INDIANA DEPARTMENT OF TRANSPORTATION

## BRIDGE PLANS FOR SPANS OVER 6.1 METERS

ROUTE: I 74      AT:    RP 33+082      I74-31-4944E WBL  
 ROUTE: I 70      AT:    RP 13+021      I70-14-5237A EB  
 ROUTE: I 70      AT:    RP 8+096      I70-9-5189JC EB



INDEX					
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION	DES. NO.
I74-31-4944E WBL	Continuous Steel Beam	31'-0", 43'-3", 43'-3", 37'-0" 5° 59' Left	U.S. 231	1278 + 17.90	0002280
STRUCTURE	TYPE	SPAN AND SKEW	UNDER	STATION	DES. NO.
I70-14-5237A EB	Composite Steel Beam	43'-9", 63'-3", 39'-9" 31° 12' Left	Ripley Road (aka. Fry Street)	52 + 85.47	0002290
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION	DES. NO.
I70-9-5189JC EB	Continuous Steel Beam	43'-6", 52'-3", 43'-6" 40° Left	25th Street	480 + 50 Line A	0002300

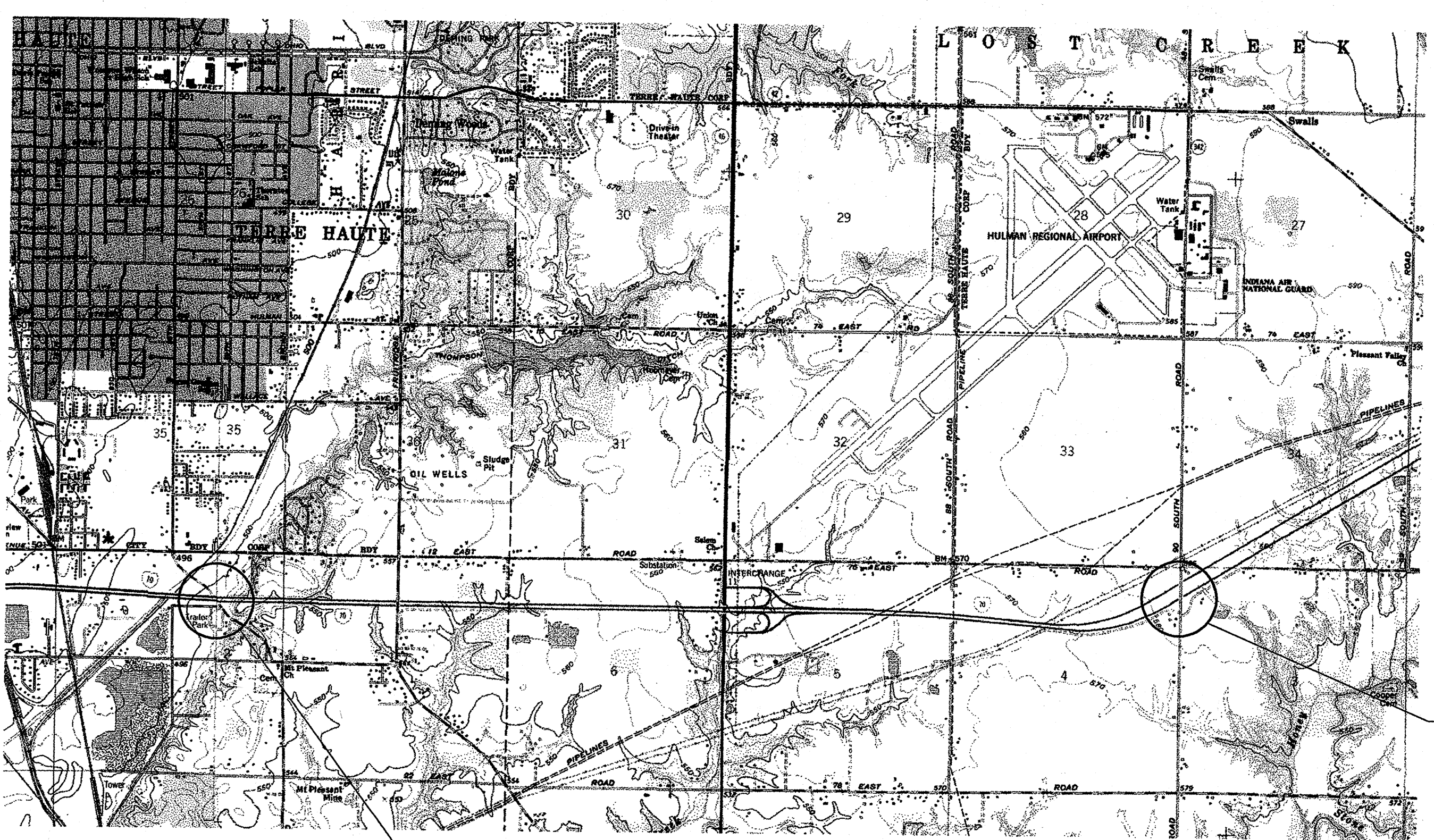
**PROJECT NO. IM-74-1( ) for I74-31-4944E CONST. I74-31-4944E WBL**  
**IM-70-1( ) for I70-14-5237A CONST. I70-14-5237A EB**  
**IM-70-1( ) for I70-9-5189JC CONST. I70-9-5189JC EB**

LATITUDE: 40°04'50"	LONGITUDE: 86°54'30"
LATITUDE: 39°26'00"	LONGITUDE: 87°18'00"
LATITUDE: 39°26'00"	LONGITUDE: 87°22'30"

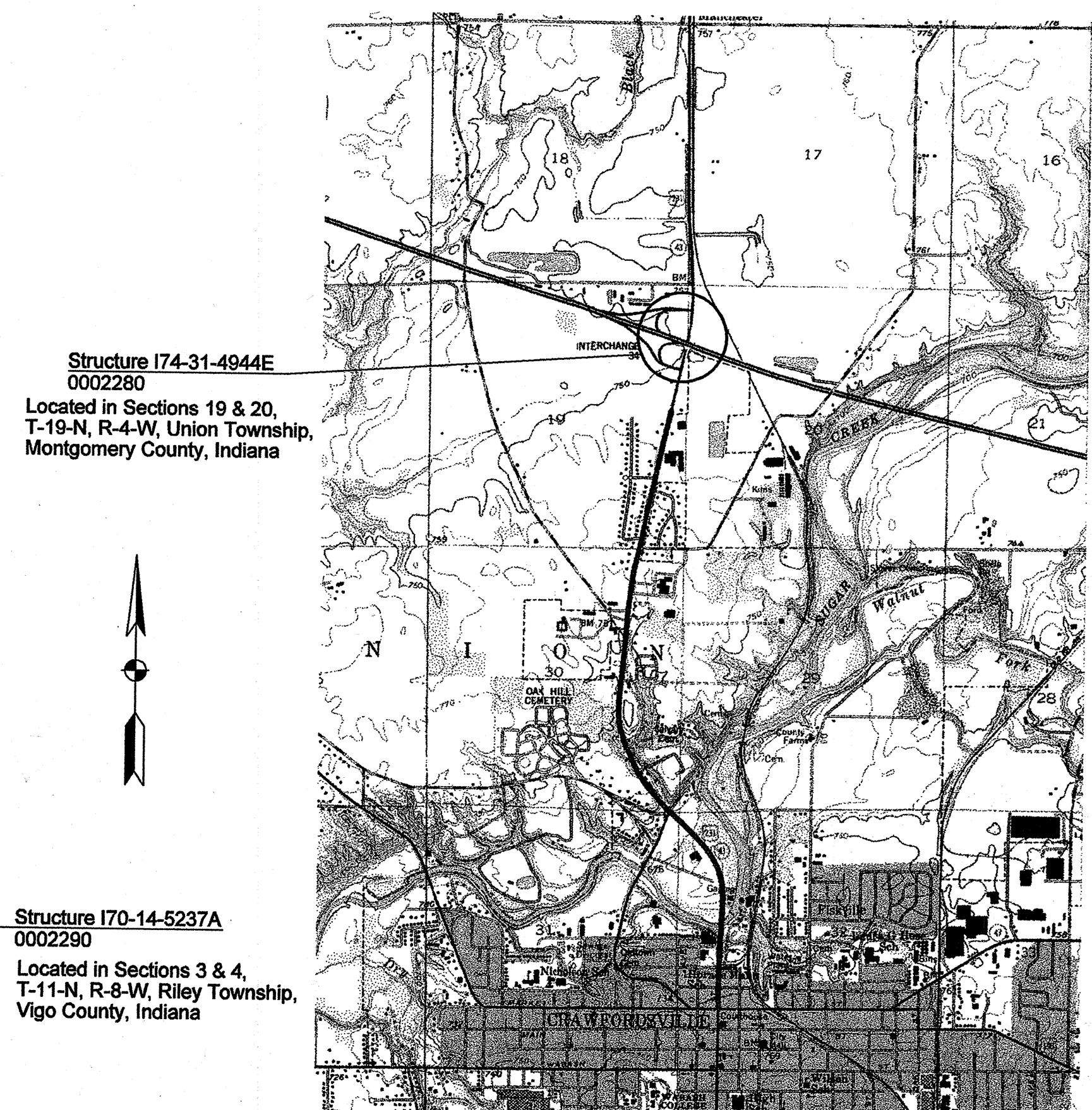
SHEET NO.	SUBJECT
1	Index and Title Sheet
2	Structural Details for I74-31-4944E WB
3	Structural Details for I70-14-5237A EB
4	Structural Details for I70-9-5189JC EB
5	Bridge Summary of Quantities

BEAM STRAIGHTENING, ADDING SHIM PLATES, AND OTHER WORK ON BRIDGES AT THREE LOCATIONS (AS NOTED IN INDEX)

B-25501



Structure I70-9-5189JC  
0002300  
Located in Section 2, T-11-N,  
R-9-W, Honey Creek Township,  
Vigo County, Indiana



Structure I70-14-5237A  
0002290  
Located in Sections 3 & 4,  
T-11-N, R-8-W, Riley Township,  
Vigo County, Indiana

Structure I74-31-4944E  
0002280  
Located in Sections 19 & 20,  
T-19-N, R-4-W, Union Township,  
Montgomery County, Indiana

### General Notes

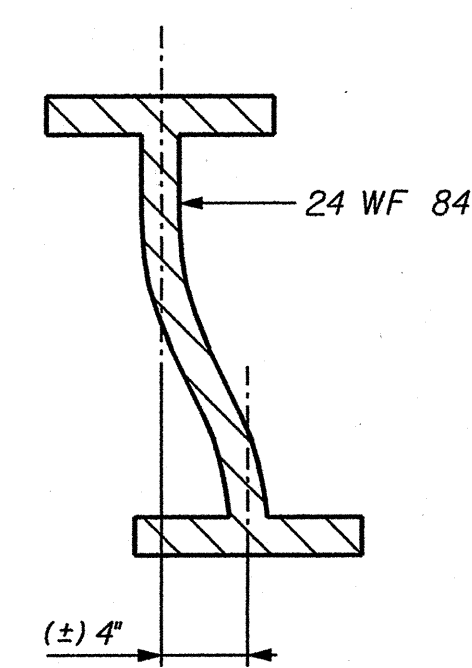
- \* All travel lanes above and beneath the structure are to be completely open and free of debris at the conclusion of work each day.
- \*\* The applicable lane and/or shoulder of the superstructure shall be closed when heat straightening the beam(s) beneath the respective lane/shoulder.

INDIANA DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS DATED 1999  
TO BE USED WITH THESE PLANS

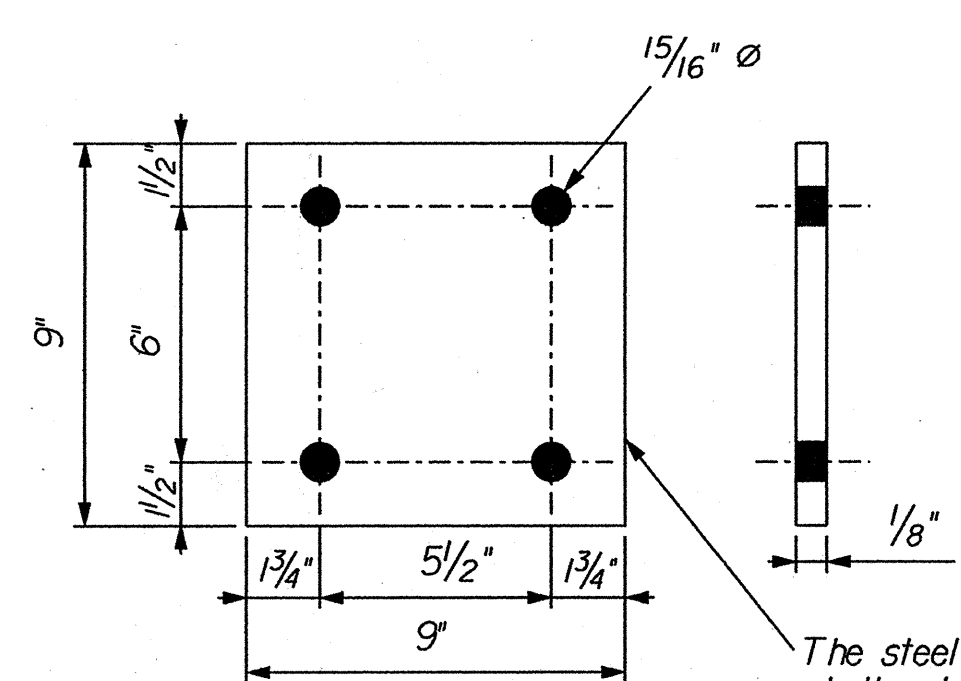
	PLANS PREPARED BY: <b>Jim Reilman, P.E.</b> (317) 232-5157 PHONE NUMBER
	CERTIFIED BY: <i>James E. Reilman</i> 2/6/01 DATE
	APPROVED FOR LETTING: <i>Philip H. Kliska</i> 2/19/2001 CHIEF, DIVISION OF DESIGN DATE

BRIDGE FILE	
See Index	
DESIGNATION	
See Index	
SURVEY BOOK	SHEET
CONTRACT	1 of 5
B-25501	PROJECT
	See Above



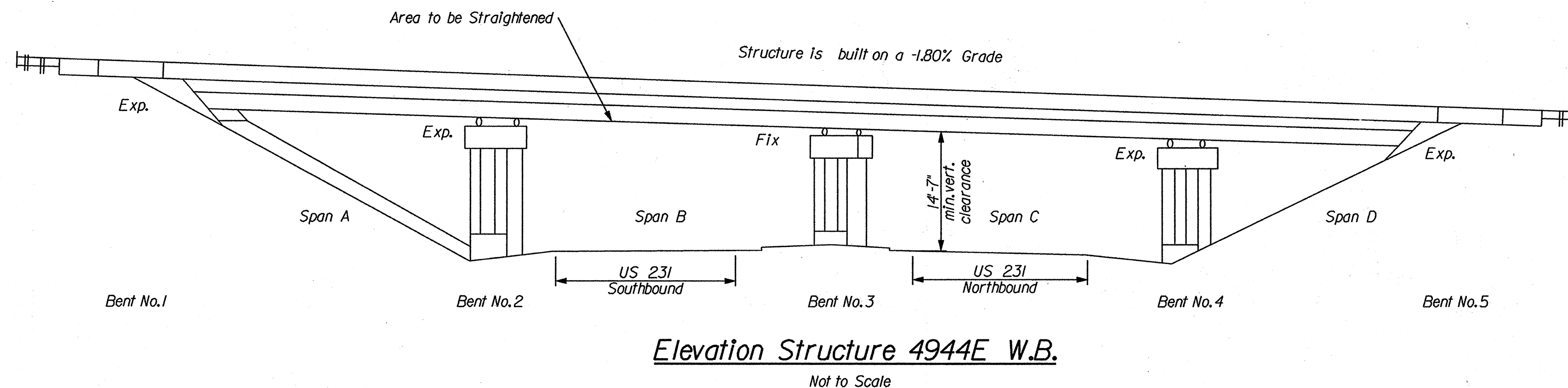


**Section A-A**  
(Approximate Section showing Web Displacement)  
Not to Scale

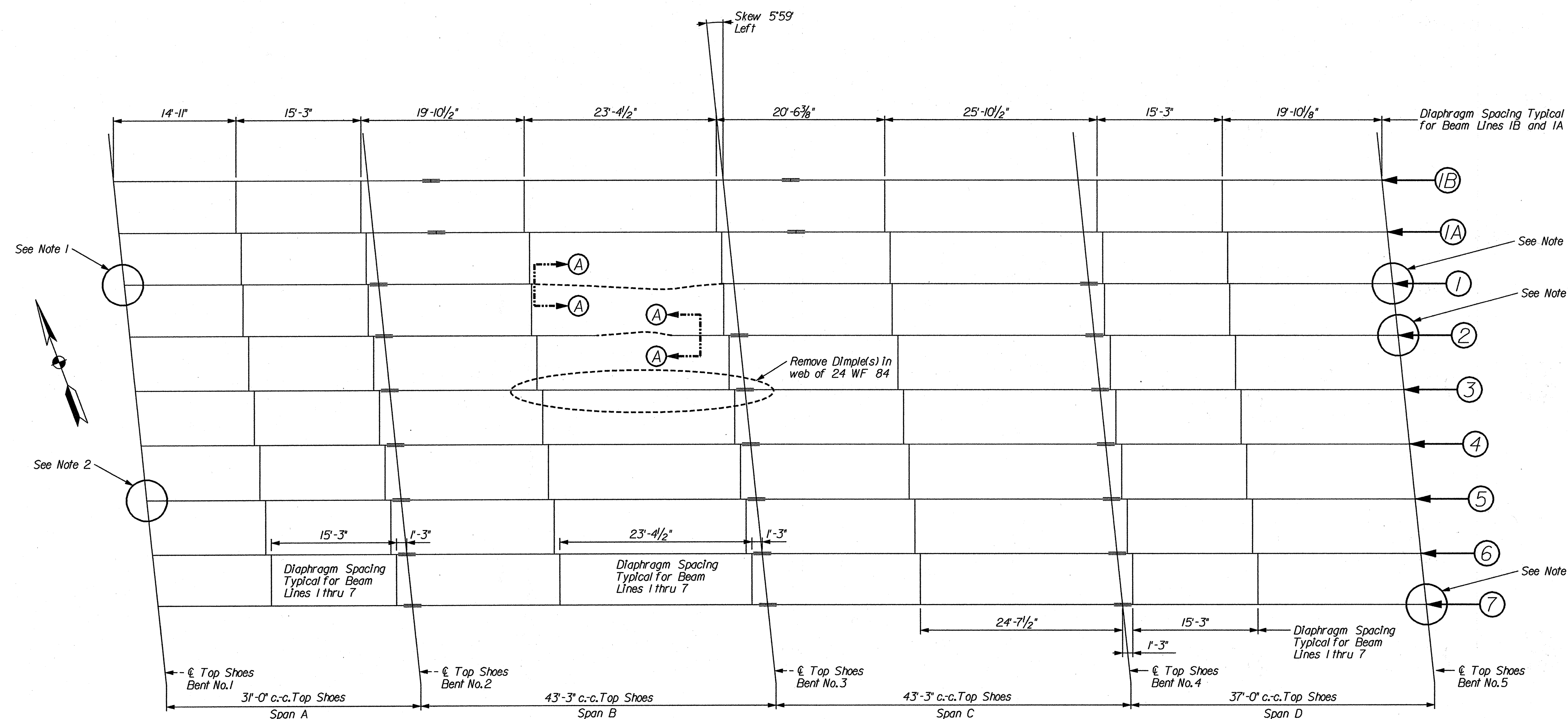


**Shim Plate Detail**  
Not to Scale

The steel type used for these Shim Plates shall match that of the existing shim plates.  
  
The intent of placing these Shim Plates is to eliminate the "floating beams" that were noticed during the initial field visit at the noted locations. If additional "floating beams" are noticed, add Shim Plates to these locations as directed by the Engineer.



**Elevation Structure 4944E W.B.**  
Not to Scale



**Framing Plan Structure 4944E W.B.**  
Not to Scale

**Notes:**

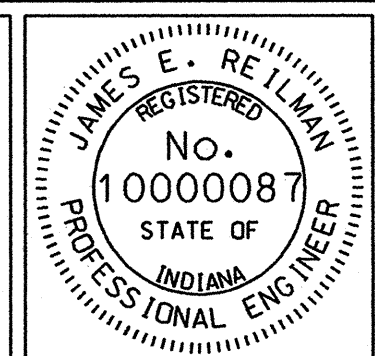
1. Add Shim Plates, approximately 1/2" total thickness to the Top Plate.
2. Add Shim Plates, approximately 1/8" total thickness to the Top Plate.
3. Shim Plates and other miscellaneous hardware are paid under the Structural Steel pay item for this Designation number.
4. All new Shim Plates shall be cleaned and painted to match the existing bridge color after placement. Painting of Shim Plates will be paid under the Paint Steel Bridge, Portions item.
5. See Special Provisions for Beam Straightening Tolerances.
6. Removal of Dimple(s) in Beam Line 3 to be included in cost of Beam Straightening.
7. All painted areas affected by the heat straightening operation shall be cleaned and painted to match the existing color of the bridge in accordance with 619 following the completion of the heat straightening operation.

**For Beam Lines IB & IA**

All Beams are 21 WF 101  
Interior Diaphragms in all spans are C12x20.7

**For Beam Lines I thru 7**

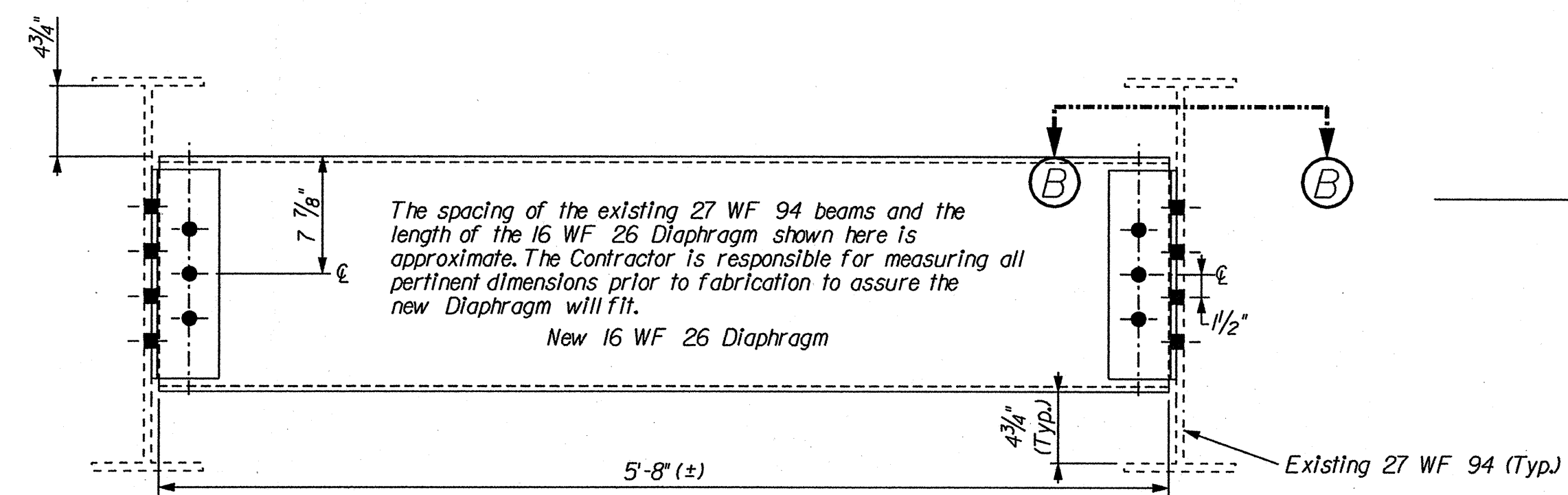
Beams in Span A are 24 WF 68  
Beams in Spans B,C,& D are 24 WF 84  
Interior Diaphragms in all spans are 14 WF 26



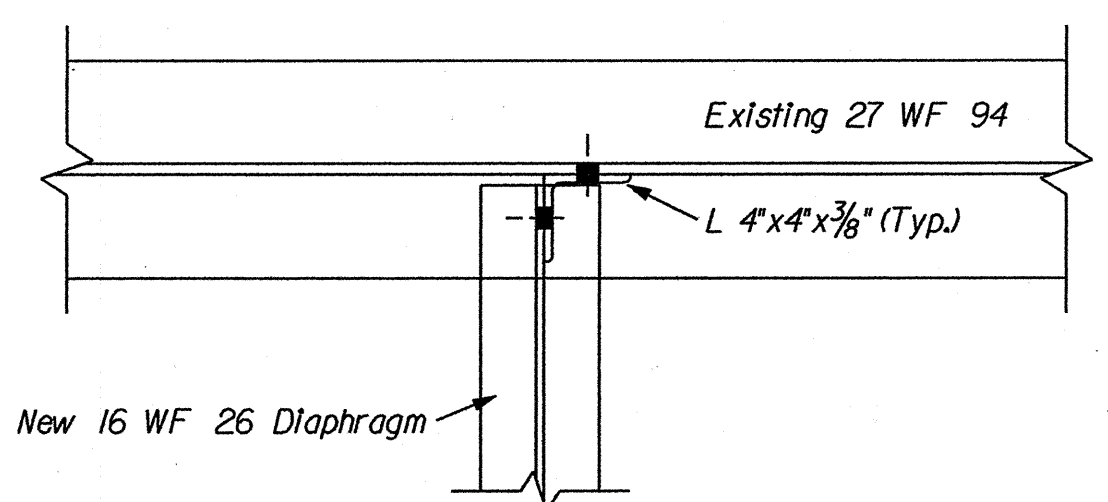
RECOMMENDED FOR APPROVAL: *James E. Reilman* 2/6/01  
DESIGN ENGINEER DATE  
  
DESIGNED: Reilman 1/19/01 DRAWN: Reilman 1/19/01  
CHECKED: Carleton 1/31/01 CHECKED: Carleton 1/31/01

INDIANA DEPARTMENT OF TRANSPORTATION  
  
I74-31-4944E W.B. Details

SCALE Not to Scale	BRIDGE FILE I-74-31-4944E WBL
	DESIGNATION 0002280
SURVEY BOOK	SHEET 2 of 5
CONTRACT B-25501	PROJECT IM-74-1( )

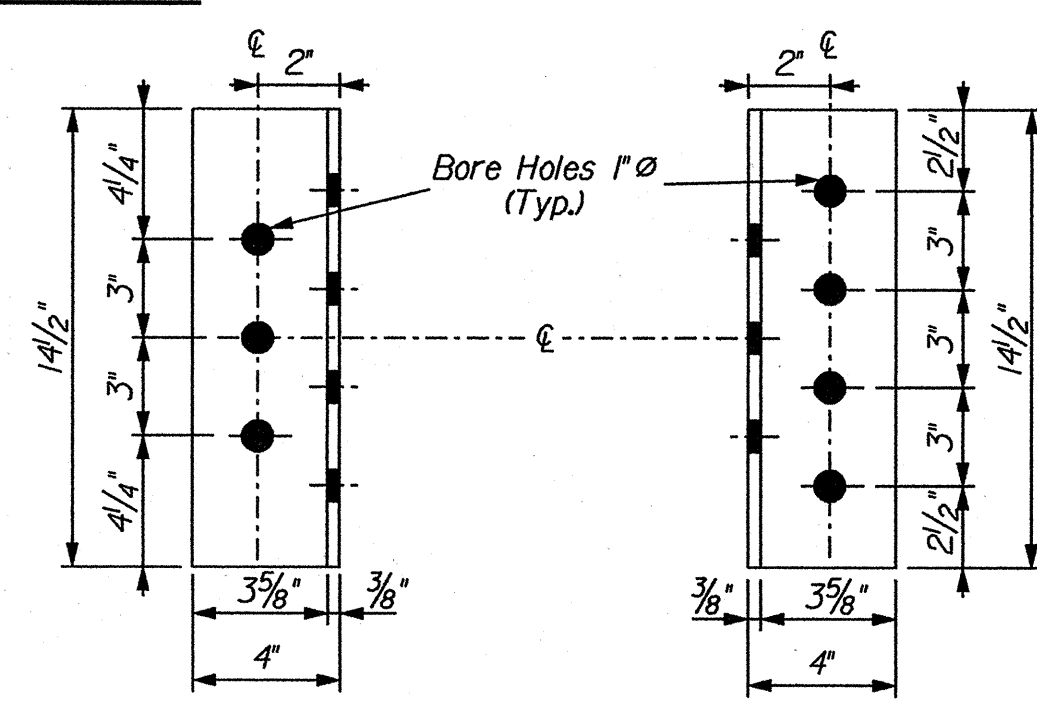


**Diaphragm Replacement Details**  
Not to Scale

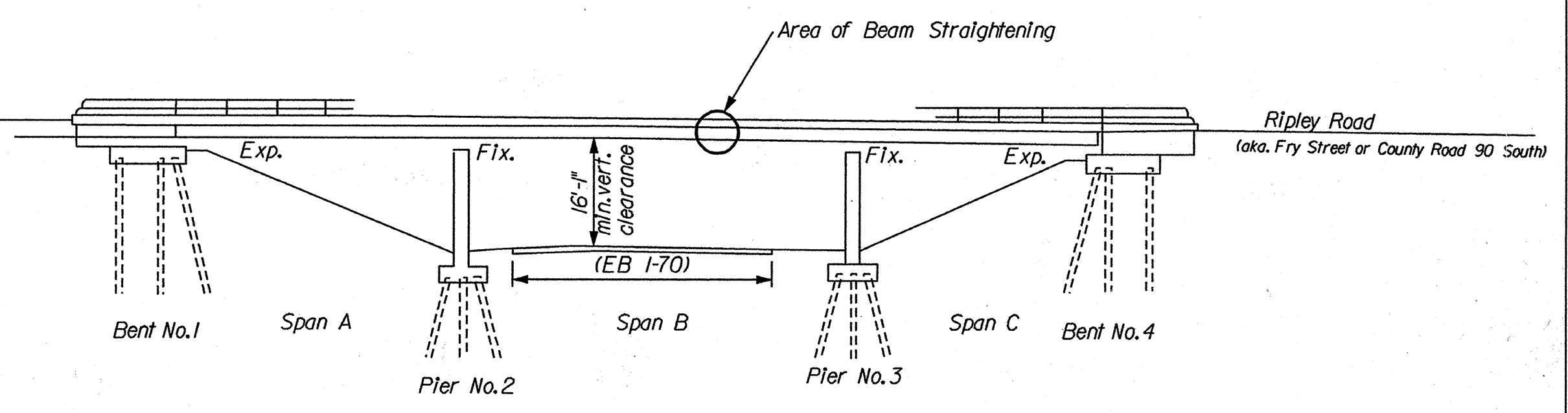


**Section B-B**  
Not to Scale

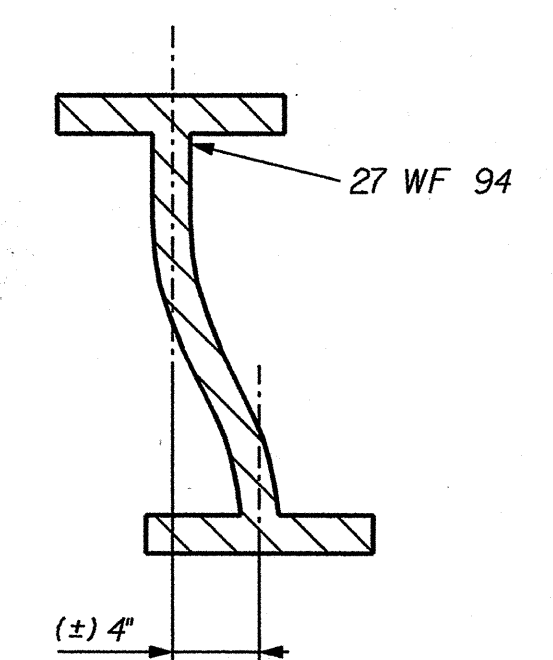
ASTM A 709 grade 36 Steel to be used for the diaphragm and angles. The bolts shall conform to ASTM A 325 (see 711 of the Standard Specifications for more information).



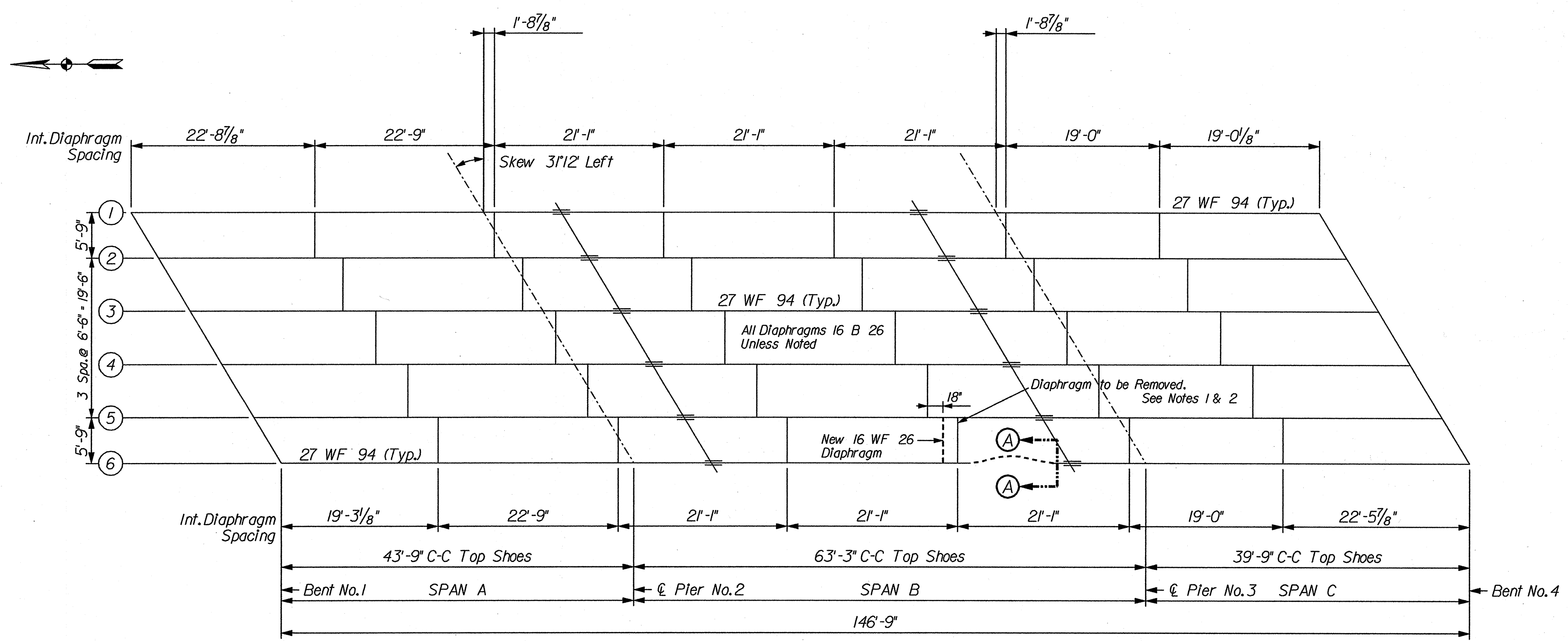
**L 4" x 4" x 3/8" Details**  
Not to Scale



**Elevation Structure 5237A -- E.B.**  
Not to Scale



**Section A-A**  
(Approximate Section at Impact Point)  
Not to Scale



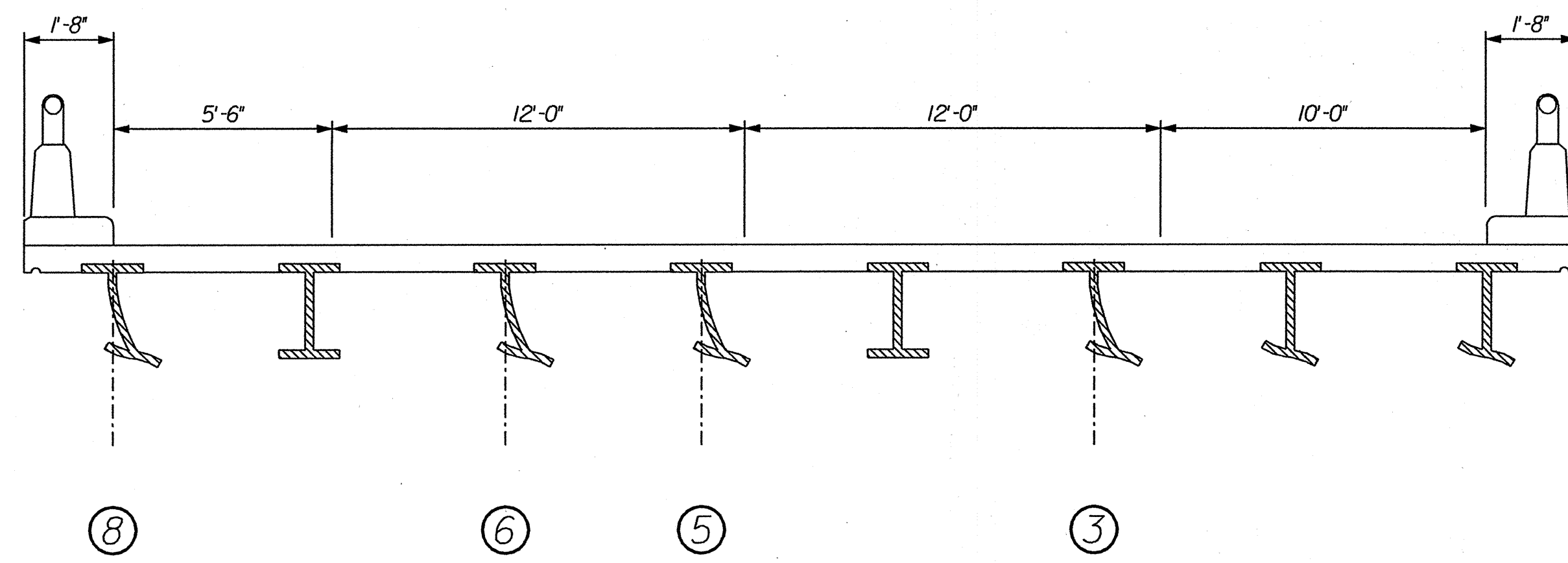
**Framing Plan Structure 5237A -- E.B.**  
Not to Scale

**Notes**

- Existing Diaphragm to be cut 6 inches from the face of the web of the 27 WF 94 (Typ.). If either (or both) of the 6-inch diaphragm pieces are loose, it (they) shall be removed.
- Do NOT grind web of 27 WF 94 after removing diaphragm.
- The cost of the Diaphragm, Angles, and all other miscellaneous hardware is included in the pay item Structural Steel for this Designation number.
- See Special Provisions for Beam Straightening Tolerances.
- The new Diaphragm and accessories shall be painted to match the existing color of the bridge in accordance with 619.
- All painted areas affected by the heat straightening operation shall be cleaned and painted to match the existing color of the bridge in accordance with 619 following the completion of the heat straightening operation.

	RECOMMENDED FOR APPROVAL <i>James E. Reilman</i> 2/6/01 DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE Not to Scale	BRIDGE FILE I-70-14-5237A EBL
	DESIGNED: Reilman 12/14/00 CHECKED: Carleton 1/31/01		DRAWN: Reilman 12/14/00 CHECKED: Carleton 1/31/01	SURVEY BOOK B-25501
<b>170-14-5237A E.B. Details</b>		SHEET 3 of 5 PROJECT IM-70-1( )		

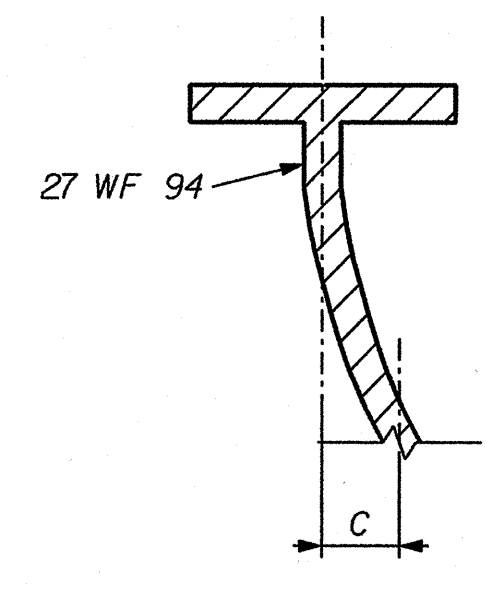




**Section A-A**  
(shown at impact point)  
Not to Scale

It is the intent of this work to heat straighten the webs and flanges of six of the existing beam lines as indicated on the plans. However, the other two beam lines (Lines 4 & 7) should be checked for acceptable tolerances and straightened if deemed necessary by the Engineer. The heat straightening of beam lines 4 & 7 (if necessary) shall be included in the cost of heat straightening the other beam lines.

The detached weld locations in Span B, as identified in these plans or discovered in the field, shall be reattached as directed by the Engineer.

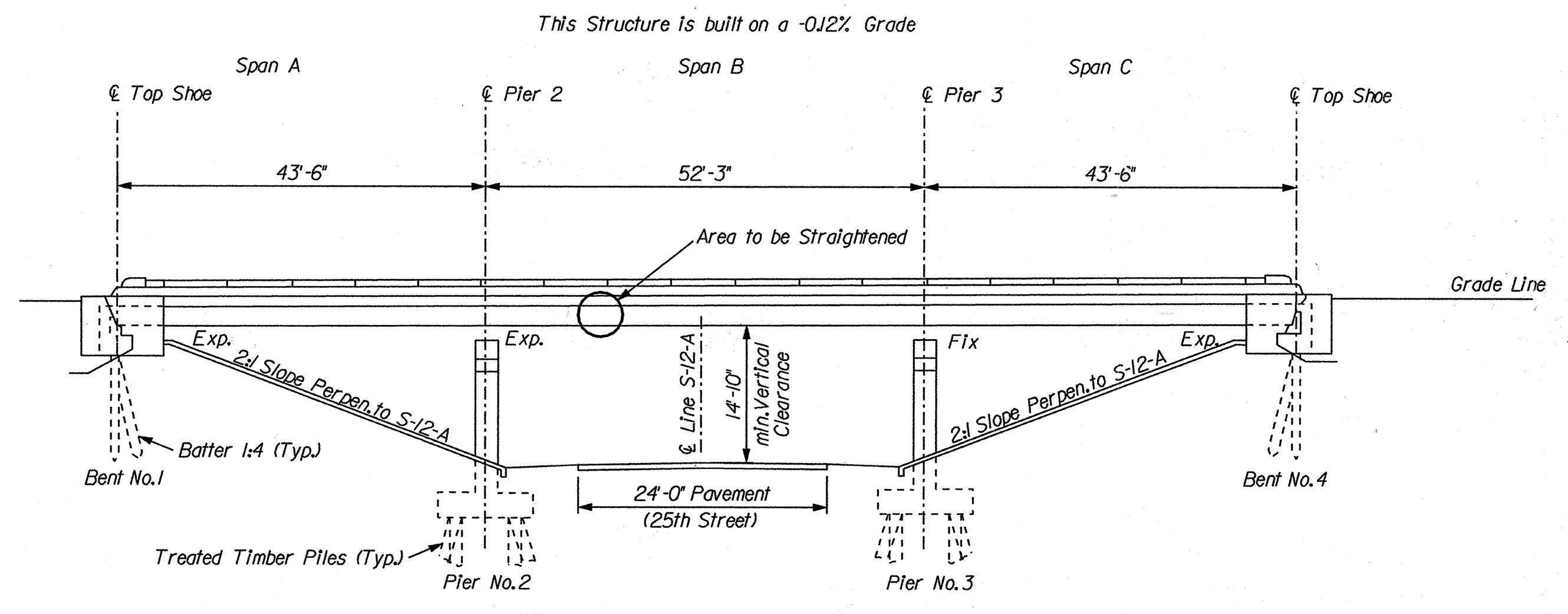


**Approximate Section showing Web Displacement**  
Not to Scale

**Web Displacement from Vertical**  
For Information Only

Beam Line	C (at impact point)	C (at 2' each side of impact point)	C (at 5' each side of impact point)	C (at 8' each side of impact point)
3	2 1/2"	1 3/4"	1 3/8"	1"
5	1 3/4"	3/4"		
6	2"	1"	1/2"	
8	1 3/4"	1 1/4"	5/8"	

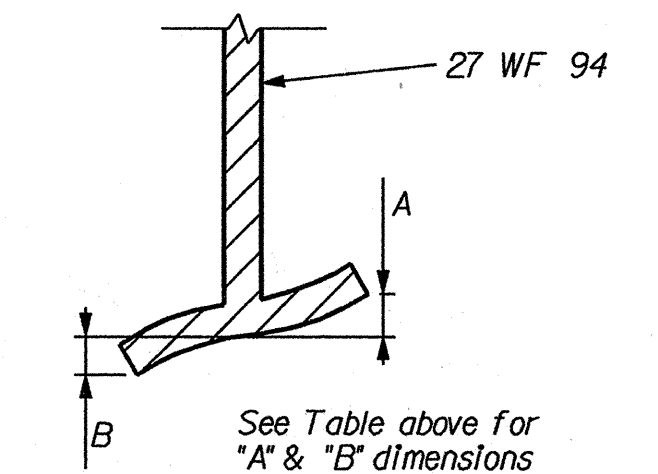
The Displacement values provided in the tables are approximate. They are for information only and are not to be used as exact working dimensions. All values (in the tables) shall be verified by the Contractor for actual dimensions prior to beginning work.



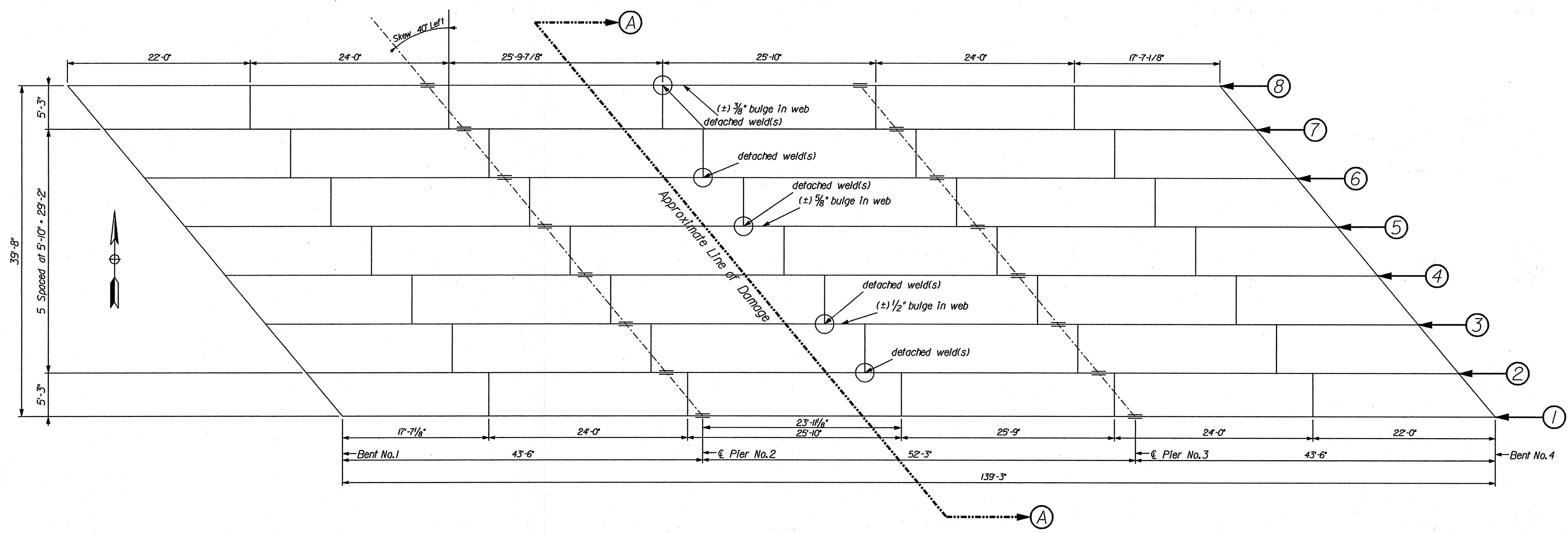
**Elevation Structure 5189JC -- E.B.**  
Not to Scale

**Flange Displacement from Horizontal**  
For Information Only

Beam Line	A (at impact point)	B (at impact point)
1	1"	
2	1 1/4"	
3	2 1/4"	1"
4		
5	3"	3/4"
6	3"	1"
7		
8	2 1/2"	1/2"



**Approximate Section showing bottom Flange Displacement**  
Not to Scale



**Framing Plan Structure 5189JC -- E.B.**  
Not to Scale

**Notes**

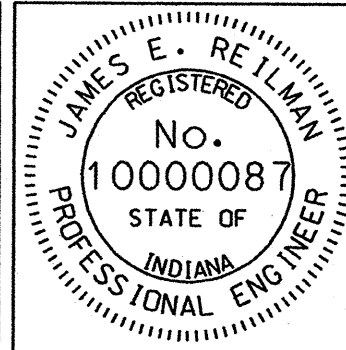
- The cost of the Field Welding is to be included in the cost of other items.
- All "bulge in web" locations shown are approximate.
- All beams are 27 WF 94.
- All interior Diaphragms are 16 WF 26.
- See Special Provisions for Beam Straightening Tolerances.
- All painted areas affected by the heat straightening operation shall be cleaned and painted to match the existing color of the bridge in accordance with 619 following the completion of the heat straightening operation.

	RECOMMENDED FOR APPROVAL <i>James E. Reilman</i> 2/6/01 DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION  I70-9-5189JC E.B. Details	SCALE Not to Scale	BRIDGE FILE I-70-9-5189JC EB
	DESIGNED: Reilman 1/8/01 CHECKED: Carleton 1/31/01		DRAWN: Reilman 1/8/01 CHECKED: Carleton 1/31/01	SURVEY BOOK CONTRACT B-25501

## SUMMARY OF BRIDGE QUANTITIES

STRUCTURE	CONCRETE					CONCRETE RAILING CLASS C	REINF. STEEL	EPOXY COATED REINF. STEEL	STRUCTURAL STEEL	ANCHOR PLATES MK-AP	HEAT STRAIGHTEN	FIELD DRILLED HOLES	FIELD WELDING	16 WF 26 (DIAPHRAGM)	ANGLE (L 4x4x3/4)	SHIM PLATE (1/2" THICK)	CLEAN STEEL BRIDGE, PARTIAL	PAINT STEEL BRIDGE, PARTIAL	CONSTRUCTION SIGN TYPE A	CONSTRUCTION SIGN TYPE B	CONC. STR. MEMBERS																
	CLASS C	CLASS A	CLASS B																																	BOX BEAMS, TYPE __	I BEAM, TYPE __
	ft <sup>3</sup>	ft <sup>3</sup>	ft <sup>3</sup>																		ft <sup>3</sup>	ft	lbs	lbs	lbs	FT	EACH	EACH	FT	EACH	EACH	EACH	LS	LS	EACH	EACH	ft <sup>2</sup>
I-74-31-4944E W.B.									40		3				12	1	1	17	2																		
I-70-14-5237A E.B.									210		1	8		1	2	1	1	21	2																		
I-70-9-5189JC E.B.											6		2			1	1	21	2																		
<b>Grand Totals</b>									250		10	8	2	1	2	12	3	3	59	2																	

FOR INFORMATION ONLY; NOT SEPARATE PAY ITEMS

		RECOMMENDED FOR APPROVAL <i>James E. Reilman</i> 2/6/01 DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	BRIDGE FILE See Index DESIGNATION See Index
		DESIGNED: Reilman 1/24/01      DRAWN: Reilman 1/24/01 CHECKED: Carleton 1/31/01      CHECKED: Carleton 1/31/01	BRIDGE SUMMARY OF QUANTITIES	SURVEY BOOK      SHEET 5      of      5 CONTRACT      PROJECT B-25501      See Title Sheet