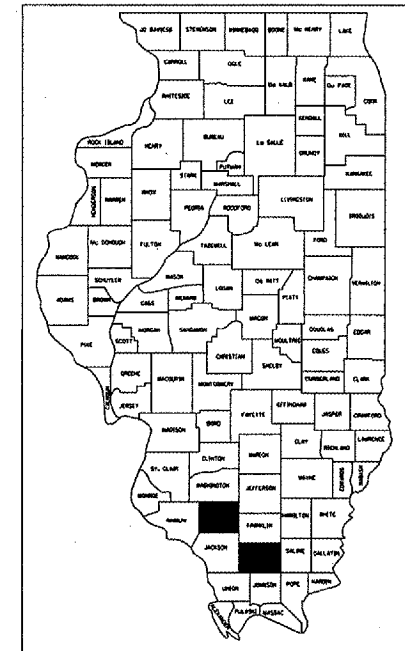


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS  
DISTRICT 9**

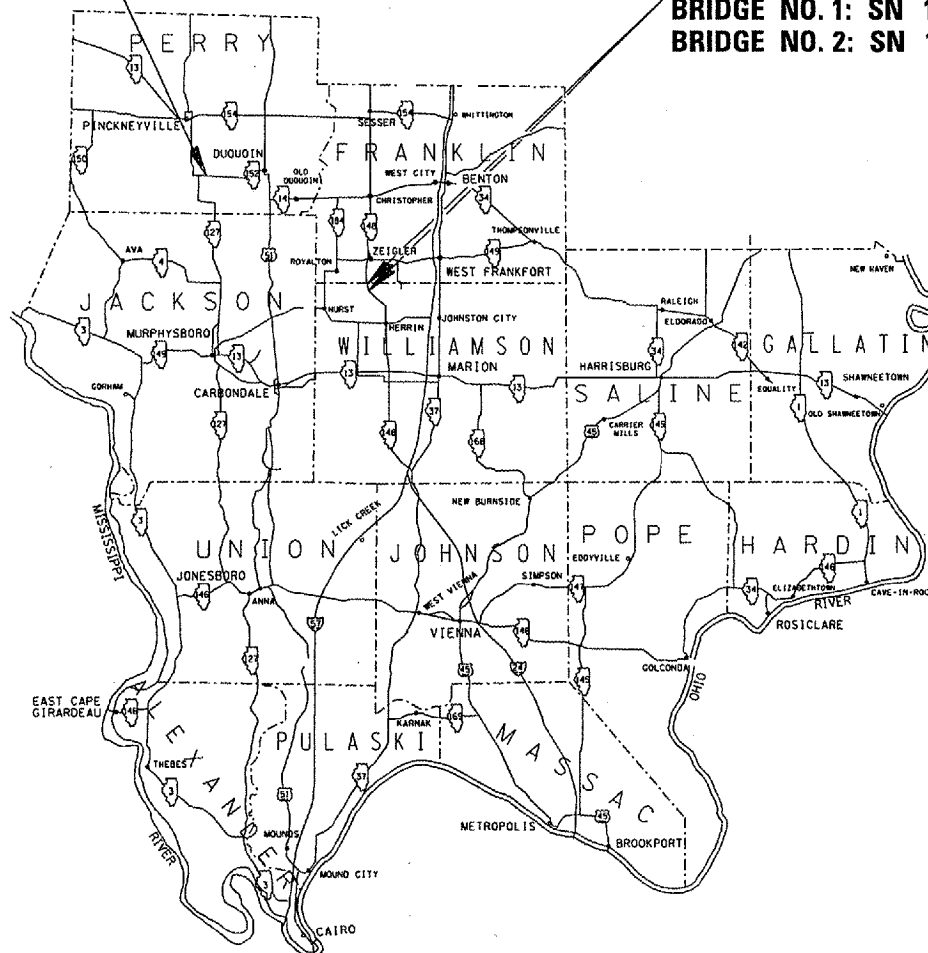
FAP 865 (IL 152) AND FAP 726 (IL 148)  
SECTION D-9 CONT. MAINT FY 05-7  
WILLIAMSON AND PERRY COUNTIES  
C-99-042-04

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	.	WILLIAMSON	22	1
FAP 726		PERRY		
FED. ROAD DIST. NO. 7 ILLINOIS				
• D-9 CONTRACT MAINTENANCE 05-7 CONTRACT NO. 98880				



**PROPOSED IMPROVEMENT  
BRIDGE NO. 3: SN 073-0023**

**PROPOSED IMPROVEMENT  
BRIDGE NO. 1: SN 100-0032  
BRIDGE NO. 2: SN 100-0033**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 16, 2004  
Thomas A. Jensen  
DISTRICT ENGINEER

EXAMINED \_\_\_\_\_ 20 \_\_\_\_\_

ENGINEER OF PLANS AND CONTRACTS  
PASSED February 4, 2005  
Mike Hene  
ENGINEER OF DESIGN

APPROVED February 4, 2005  
Viktor Madler  
DIRECTOR OF HIGHWAYS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
JULIE 1-800-892-0123

**CONTRACT NO. 98880**

FOR INDEX OF SHEETS, SEE SHEET NO. 3  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 5

PROJECT ENGINEER: LARRY PICHE  
SQUAD LEADER: RITA GAUTNEY  
PHONE: (618) 549-2171  
CENTREX: 782-4354

Rev.

SIGNATURE SHEET

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED

August 16 20 04  
Thomas J. Jensen  
DISTRICT ENGINEER

PREPARED BY:

Jim Switzer  
DISTRICT OPERATIONS ENGINEER

EXAMINED BY:

Janet E. Eng  
DISTRICT LAND ACQUISITION ENGINEER

EXAMINED BY:

[Signature]  
DISTRICT PROGRAM DEVELOPMENT ENGINEER

EXAMINED BY:

Joe Zdaniewicz  
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY:

Joseph Luzzi  
DISTRICT CONSTRUCTION ENGINEER

EXAMINED BY:

Bruce W. Pebles  
DISTRICT MATERIALS ENGINEER

EXAMINED BY:

Thomas Jensen  
DISTRICT PROJECT IMPLEMENTATION ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	•	WILLIAMSON	22	3
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		
• D-9 CONTRACT MAINTENANCE 05-7 CONTRACT NO. 98880				

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF SHEETS, STANDARDS
4	GENERAL NOTES
5	SUMMARY OF QUANTITIES
6	PAINT DETAILS
7	WILLIAMSON COUNTY (LOCATION MAP)
8	BRIDGE NO. 1: SN 100-0032 (GENERAL PLAN & ELEVATION)
9	BRIDGE NO. 1: SN 100-0032 (FRAMING PLAN)
10-11	BRIDGE NO. 1: SN 100-0032 (BEARING DETAILS)
12	BRIDGE NO. 2: SN 100-0033 (GENERAL PLAN & ELEVATION)
13	BRIDGE NO. 2: SN 100-0033 (FRAMING PLAN)
14-15	BRIDGE NO. 2: SN 100-0033 (BEARING DETAILS)
16	PERRY COUNTY (LOCATION MAP)
17	BRIDGE NO. 3: SN 073-0023 (GENERAL PLAN & ELEVATION)
18-20	BRIDGE NO. 3: SN 073-0023 (FRAMING PLAN)
21	BRIDGE NO. 3 SN 073-0023 (DIAPHRAGM DETAIL)
22	BRIDGE NO. 3: SN 073-0023 (BEARING DETAILS)

STANDARDS

701006-02  
701201-02  
702001-05

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	*	WILLIAMSON	22	4
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		

\* D-9 CONTRACT MAINTENANCE 05-7  
CONTRACT NO. 98880

## GENERAL NOTES

Cleaning and painting of all designated areas of existing weathering steel shall conform to the requirements of special provision "Cleaning and Painting Existing Steel Structures". The designated structural steel shall be cleaned per Near White Metal Blast Cleaning - SSPC - SP10, and painted with Paint System 1 - OZ / E/ U.

The color of the final finish coat of all surfaces shall be Reddish Brown, Munsell No. 2.5YR 3 / 4.

SSPC - QP1 and SSPC - QP2 Painting Contractor Certifications are not required.

The term "Beam End" is used in this document to indicate all structural steel within 5 feet (measured along the beam) of either side of a deck joint (or any deck configuration which allows significant amounts of moisture to reach the structural steel). The main beam, diaphragm, and bearing shall be painted at each Beam End, unless otherwise noted. See Sheet 6 for quantities.

### Bridges No. 1 and No. 2

On Structures 100-0032 and 100-0033, Beam Ends at piers have existing paint which consists of one coat of basic lead silico chromate primer and maroon field coat. Removal and disposal of lead paint shall conform to the requirements of special provision "Containment and Disposal of Lead Paint Cleaning Residues".

### Bridge No. 3

Structure 073-0023 does not have existing lead paint. Containment of cleaning residue is required to control nuisance dust at these structures, according to applicable portions of special provision "Containment and Disposal of Lead Paint Cleaning Residues". This work will be paid for as  
CONTAINMENT AND COLLECTION OF BLASTING  
RESIDUES.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	.	WILLIAMSON	22	5
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		

\* D-9 CONTRACT MAINTENANCE 05-7  
CONTRACT NO. 98880

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE: SFTY-2A		RURAL	100% STATE		
CODE NO.	ITEM DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
			COUNTY		
			WILLIAMSON	PERRY	
50600600	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L. SUM	1		1
50600700	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L. SUM	1		1
50600800	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L. SUM		1	1
X5060990	CONTAINMENT AND COLLECTION OF <i>NON-LEAD</i> <i>CLEANING RESIDUES</i>	L. SUM		1	1
50606401	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L. SUM	1		1
50606402	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L. SUM	1		1
67100100	MOBILIZATION	L. SUM	0.5	0.5	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L. SUM	0.5	0.5	1

Rev.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	•	WILLIAMSON	22	6
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		
• D-9 CONTRACT MAINTENANCE 05-7 CONTRACT NO. 98880				

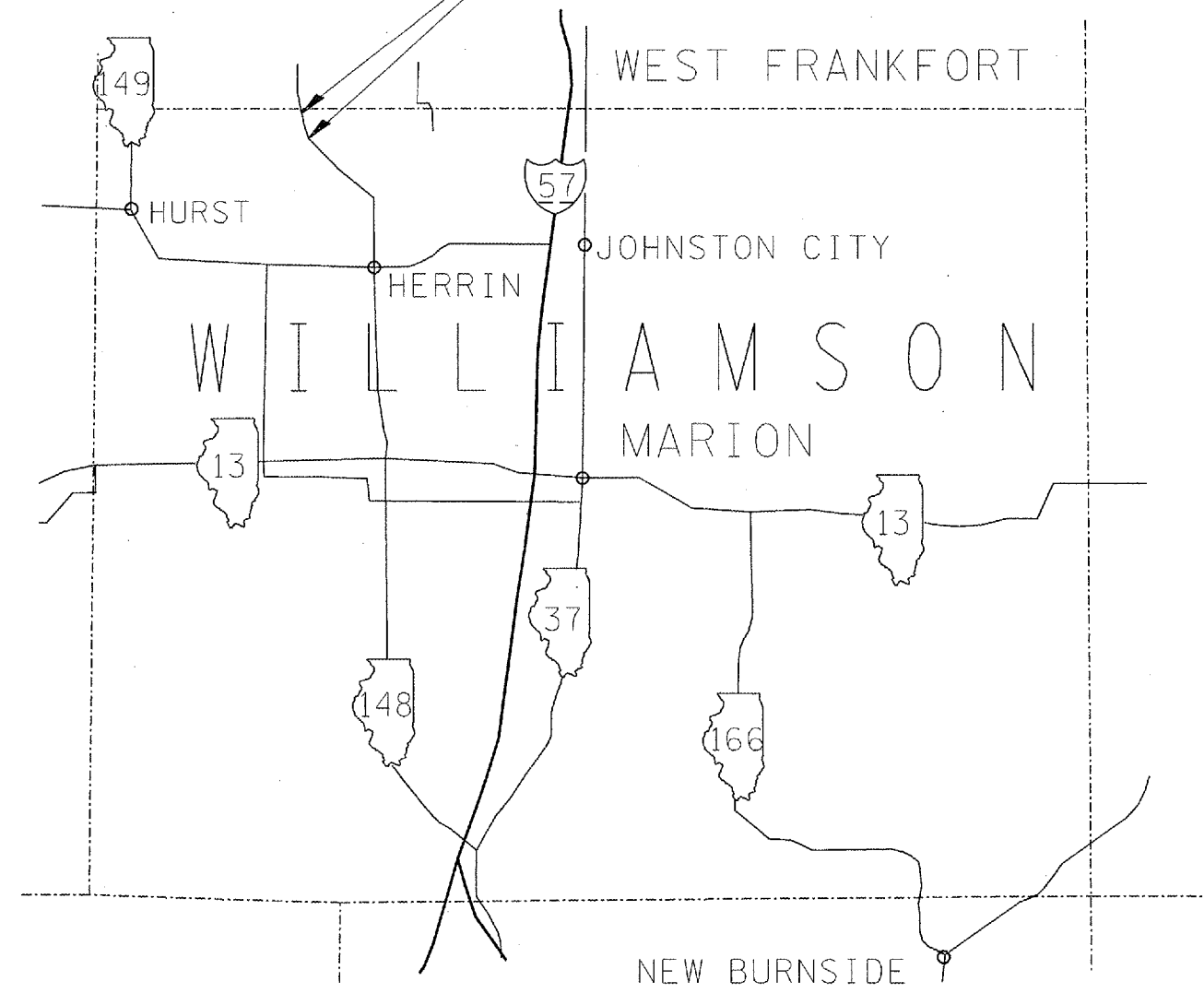
BEAM ENDS

BRIDGE NO.	STRUCTURE NO.	NUMBER (EACH)	LENGTH (FOOT)
1	100-0032	30	5
2	100-0033	10	5
3	073-0023	30	5

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	•	WILLIAMSON	22	7
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		

• D-9 CONTRACT MAINTENANCE 05-7  
 CONTRACT NO. 98880

**PROPOSED IMPROVEMENT**  
**BRIDGE NO. 6: SN 100-0032**  
**BRIDGE NO. 7: SN 100-0033**



WILLIAMSON COUNTY

Structure: #100-0032, Sec. 129 BC - Built in 1931,  
 Truss Steel Spans @ 148'-0", 2 R.C. Deck  
 Approach Spans @ 50'-0", Clear Roadway = 21'-1",  
 45'-1 1/2" Bk-Bk. Abuts.

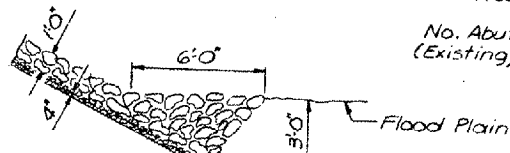
B.M.: R.R. Spike in 24" Ash tree  
 28' Lt. Sta. 167+96, Elev. 384.50

Sec. 129 BC-BR

ROUTES FAP 865 AND FAP 726  
 D-9 CONTRACT MAINTENANCE FY 05-7  
 WILLIAMSON & PERRY COUNTIES  
 CONTRACT #98880  
 SHEET 8 OF 22

Contractor shall remove existing  
 superstructure, widen the existing  
 substructures, construct 2 new  
 piers and construct a new super-  
 structure utilizing wide flange beams.

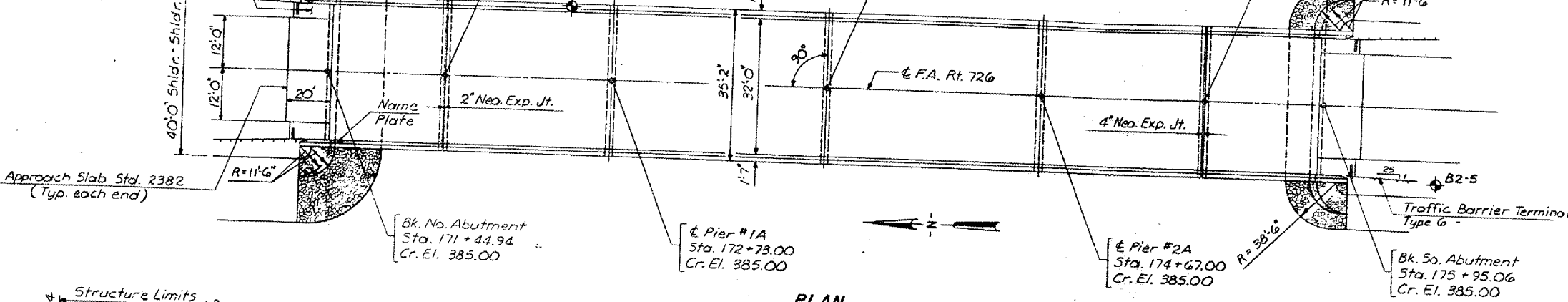
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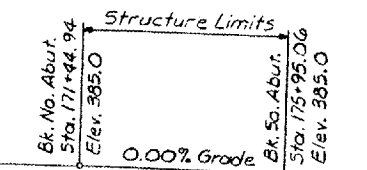
RIP RAP ANCHOR DETAIL

Bridge App. Shoulder  
 Std. 2324 At All Four  
 Corners, With Inlets.

B1-E B2-E



PLAN



PROFILE GRADE

DESIGN STRESSES

Concrete: Load Factor Design  
 $f_c' = 3500$  p.s.i.  
 $f_y = 60,000$  p.s.i. (Reinforcement)  
 $n = 9$   
 Structural Steel: Load Factor Design  
 $f_y = 50,000$  p.s.i. (A242 - Unpainted)  
 Loading: AASHTO HS 20-44  
 Allowance for 25 p.s.f. future wearing surface  
 1977 AASHTO Specifications and 1978,  
 1979 & 1980 Interim Specifications.

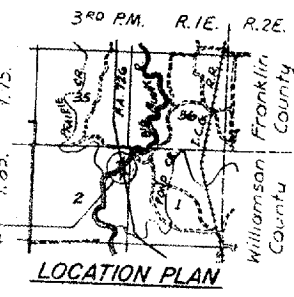
WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Not. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	20800	8707	8731	382.3	0.14	0.16	382.44	382.46
Base	100	22300	8877	8181	382.8	0.15	0.18	382.96	382.98
Overtopping	100								
Max. Calc.	500								

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Removal of Existing Superstructure	Each	1		1
Concrete Removal	Cu.Yd.		69.1	69.1
Expansion Bolts, 3/8"	Each		162	162
Structure Excavation	Cu.Yd.		96	96
Cofferdam Excavation	Cu.Yd.		726	726
Cofferdam (Pier 1A)	Each		1	1
Cofferdam (Pier 2A)	Each		1	1
Floor Drains	Each		1	1
Protective Coat	Sq.Yd.	60		60
Class X Concrete	Cu.Yd.	1,985		1,985
Seal Coat Concrete	Cu.Yd.	474.2	342.5	816.7
Structural Steel	Cu.Yd.		154.1	154.1
Stud Shear Connectors	L. Sum.	1		1
Reinforcement Bars	Each	5,530		5,530
Reinforcement Bars (Epoxy Coated)	Pound	43,830	27,710	71,540
Steel Piles, HP8x36	Pound		70,540	70,540
Steel Piles, HP10x33	Lin.Ft.		425	425
Test Piles, Steel HP8x36	Lin.Ft.		973	973
Name Plate	Each		1	1
Stone Riprap	Sq.Yd.		1	1
Elastomeric Bearing Assembly, Type I	Each		862	862
Elastomeric Bearing Assembly, Type II	Each		20	20
Elastomeric Bearing Assembly, Type III	Each		5	5
Neoprene Expansion Joint (2")	Each		5	5
Neoprene Expansion Joint (4")	Each		34	34
	Lin.Ft.		34	34

- GENERAL
- See Sheet 2 of 15 for Boring Data.
  - Fasteners shall be high strength bolts AASHTO M-164, Type 3. Bolts 3/8", open holes 1/2" unless otherwise noted.
  - Calculated weight of Structural Steel = 365,890 Lbs.
  - All structural steel shall be AASHTO M-222 unpainted type.
  - All structural steel for a distance of three times the depth of the beams, but not exceeding 10 feet, each way from deck joints shall be cleaned and given one coat of the basic lead silica chromate primer and maroon final coat. Both coats to 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 contractor shall drive one test pile in a permanent location at Pier 2A as directed by the Engineer before ordering the remainder of piles.
  - Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 Lbs., and 3/4" x 12" hooked bolts.
  - Bearing seat surfaces shall be constructed or 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 3/8" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top bearing plate shall be provided and placed as detailed.
  - 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.
  - Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
  - All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
  - 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.



LOCATION PLAN

STATION 173+70  
 BUILT 198 BY  
 STATE OF ILLINOIS  
 F.A. RT. 726 SEC. 129 BC-BR  
 PROJECT FR-726(21)  
 LOADING HS20  
 STR. NO. 100-0032

LETTERING FOR NAME PLATE  
 Locate Name Plate at Northwest  
 Corner of Bridge. (See Std. 2113)

FOR INFORMATION ONLY:  
 BRIDGE NO. 1 STRUCTURE 100-0032

GENERAL PLAN AND ELEVATION  
 FEDERAL AID PRIMARY RT. 726 (ILL. 148)  
 SECTION 129 BC-BR  
 OVER BIG MUDDY RIVER  
 WILLIAMSON COUNTY  
 STATION 173+70.00

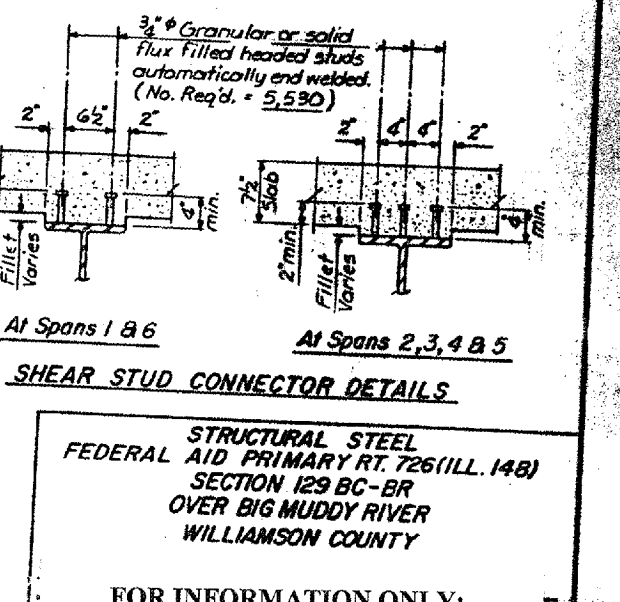
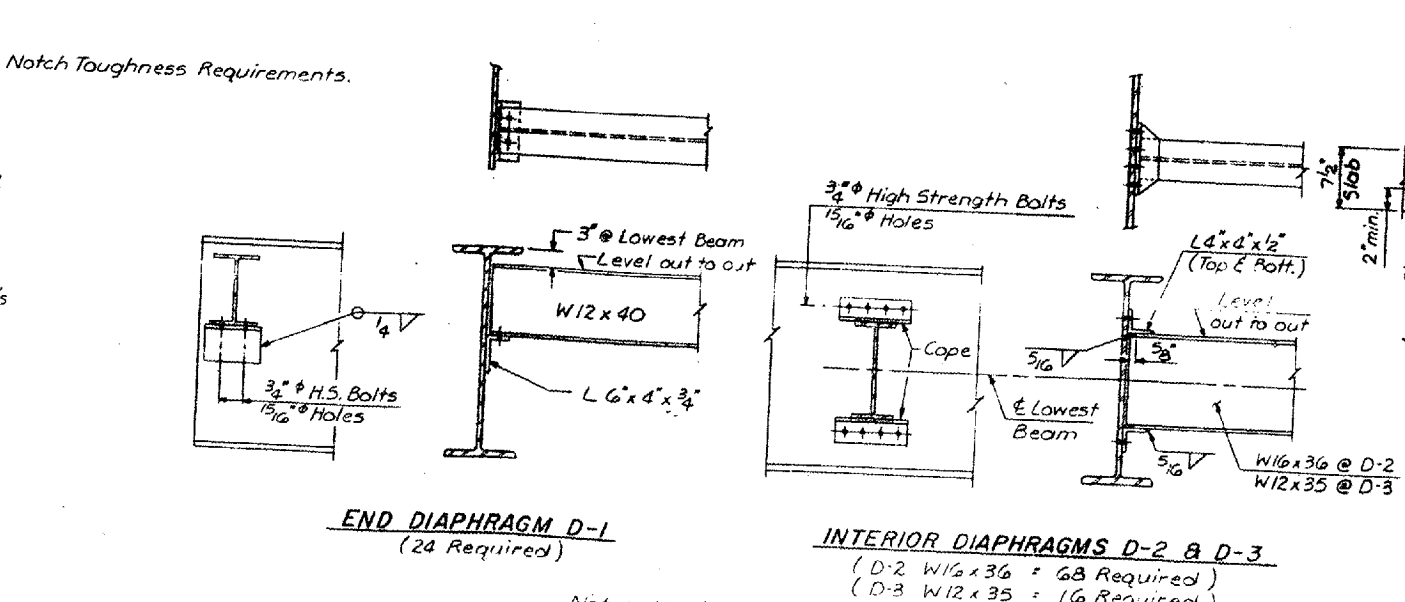
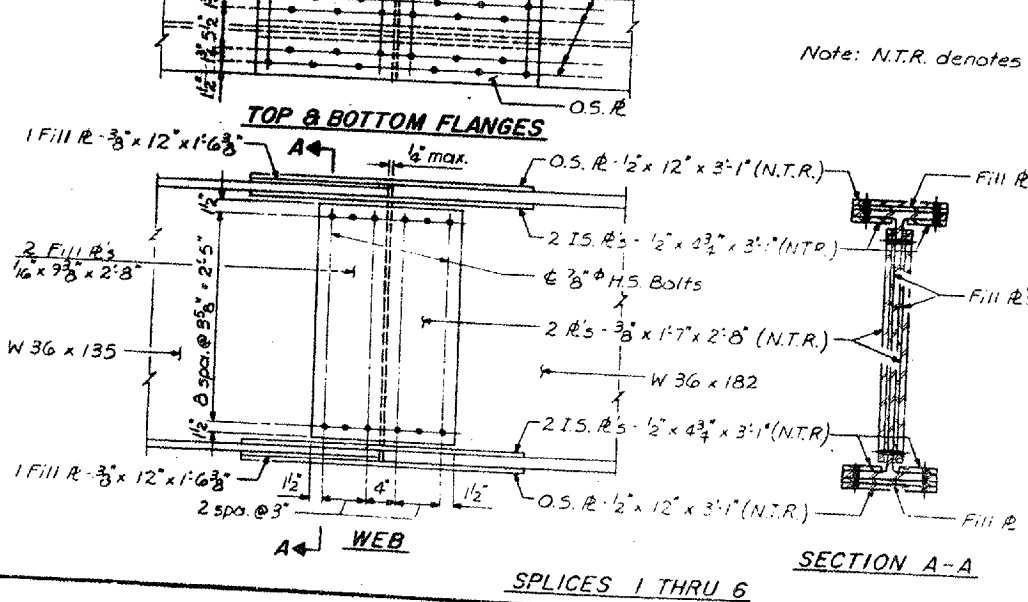
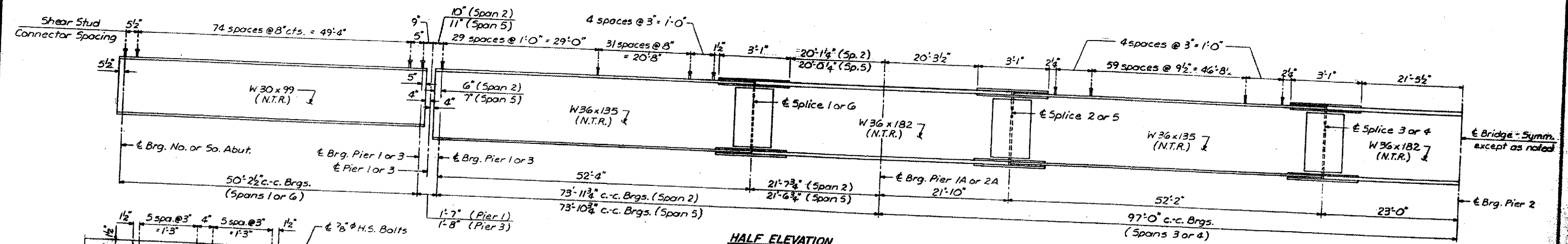
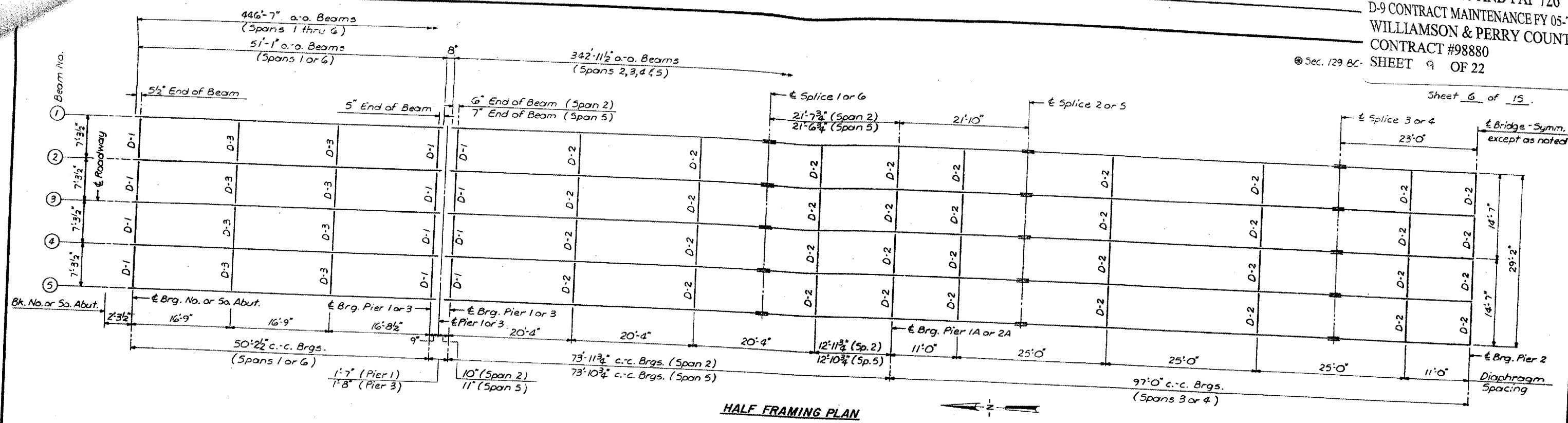
UNDESIGNED R.O.D.  
 DESIGNED  
 DRAWN D.A.N.  
 CHECKED

**HANSON ENGINEERS**  
 INCORPORATED

FILE NO. 8052006  
 DATE 11-12-81

SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS





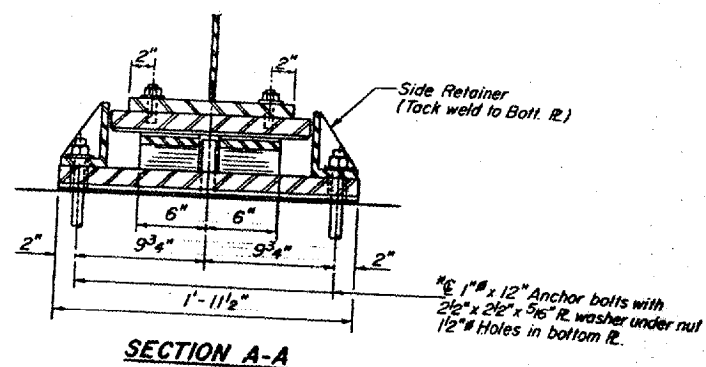
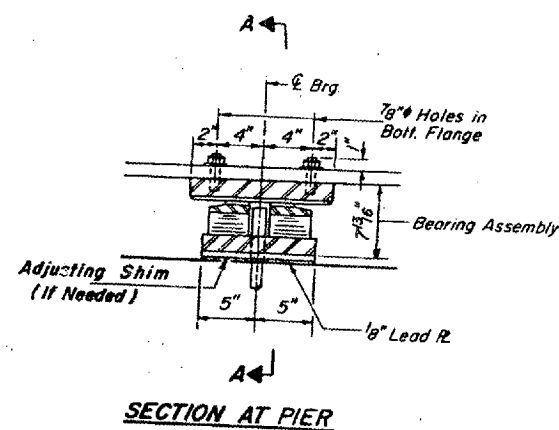
Note: N.T.R. denotes Notch Toughness Requirements.

**STRUCTURAL STEEL**  
 FEDERAL AID PRIMARY RT. 726 (ILL. 148)  
 SECTION 129 BC-BR  
 OVER BIG MUDDY RIVER  
 WILLIAMSON COUNTY

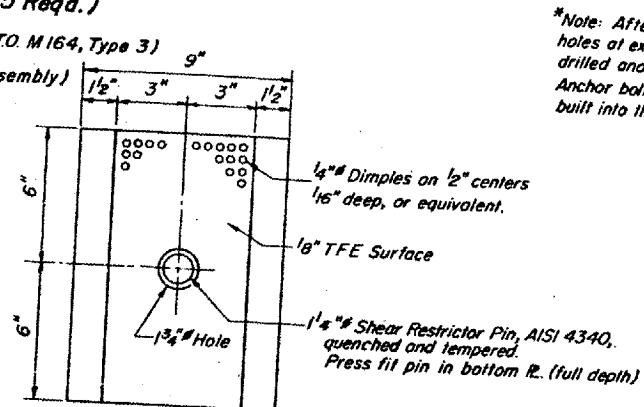
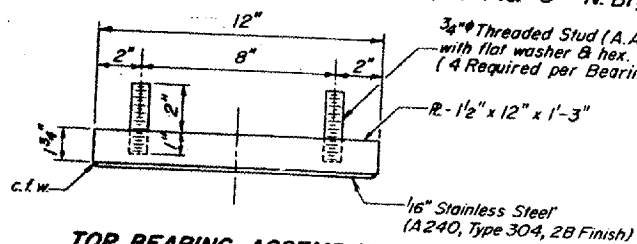
FOR INFORMATION ONLY:

Note: Hardened washers shall be required over 15/16" holes.

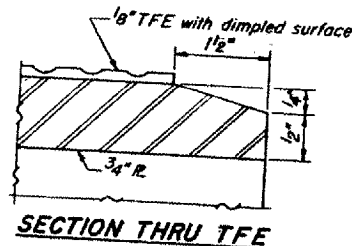
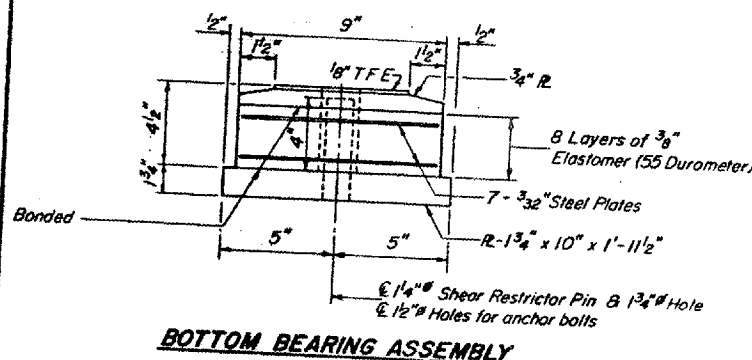
Sec. 129 BC-BR



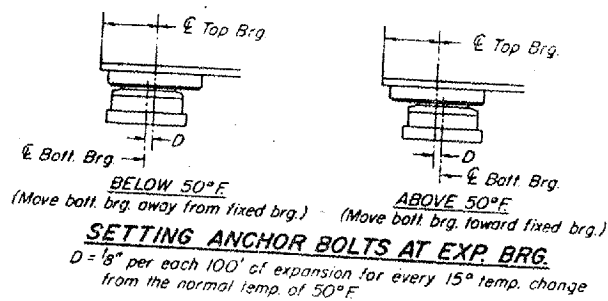
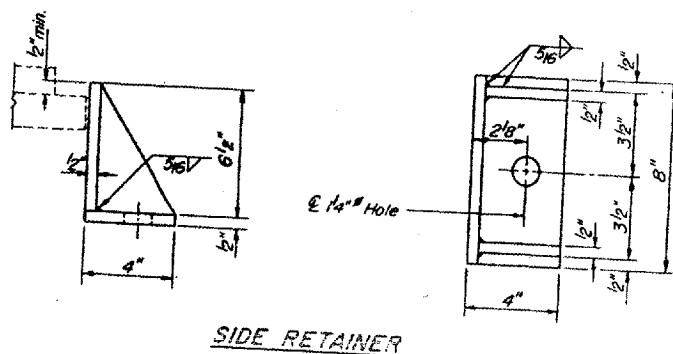
**TYPE III ELASTOMERIC EXP. BRG.**  
 (At Pier 3 - N. Brg. = 5 Req'd.)



\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



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.



D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F

FOR INFORMATION ONLY:  
 BRIDGE NO. 1 STRUCTURE 100-0032

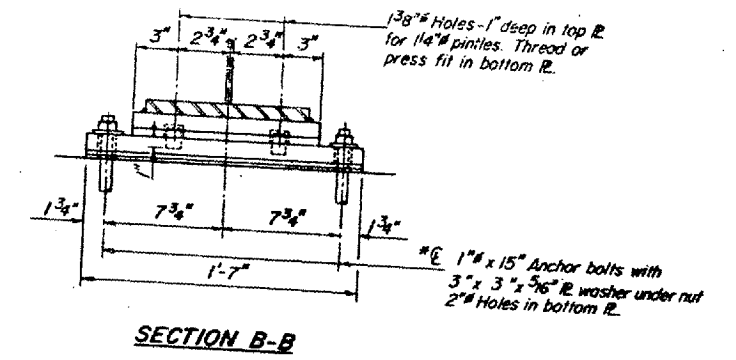
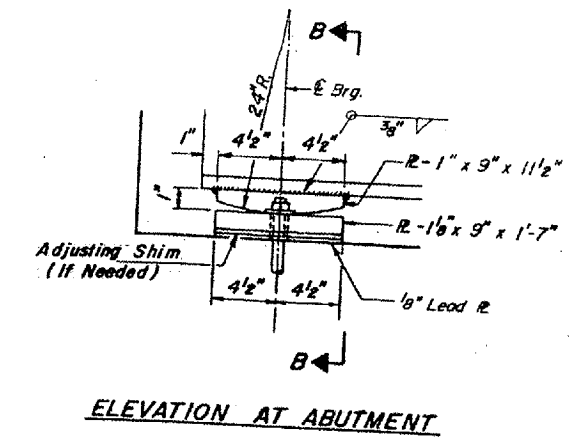
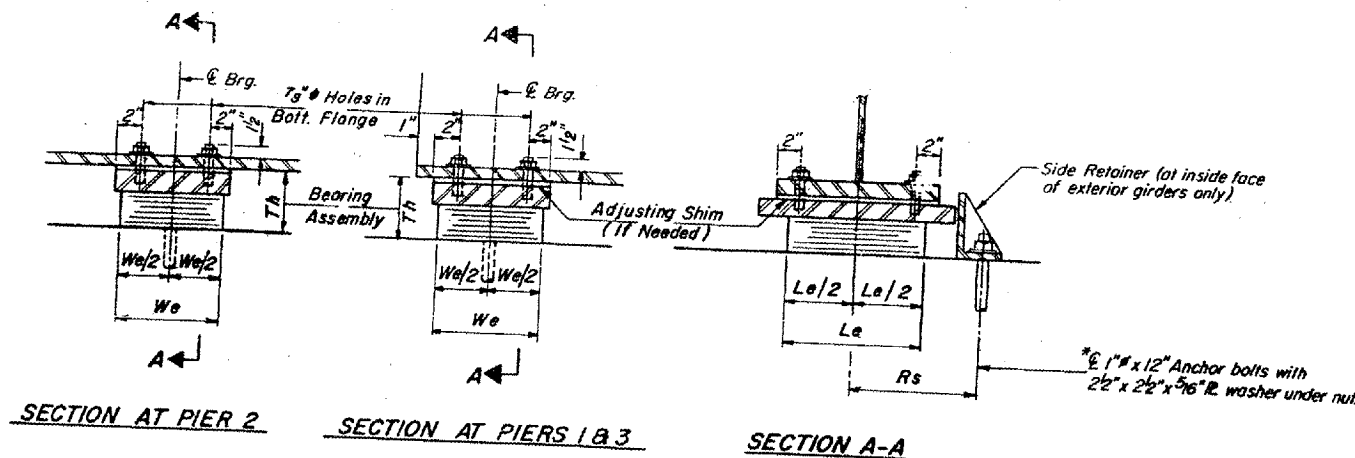
TYPE III ELASTOMERIC EXP. BRG.  
 FEDERAL AID PRIMARY RT. 726 (ILL. 148)  
 SECTION 129 BC-BR  
 OVER BIG MUDDY RIVER  
 WILLIAMSON COUNTY  
 STATION 173+70.00

TE.H.  
 C.R.N.  
 D.A.N.  
 T.E.H.



80S2006  
 11-12-81

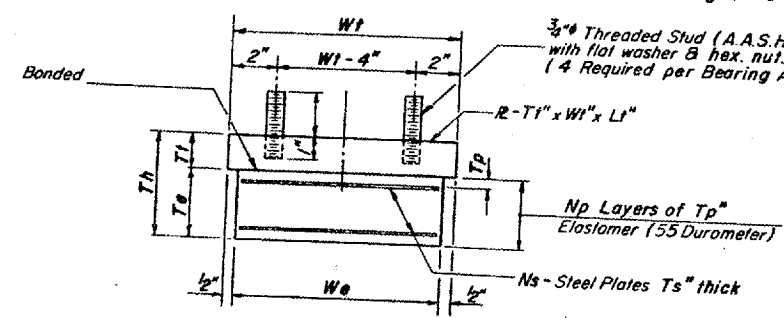
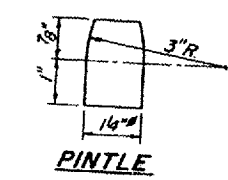
Sec. 129 BC-BR



**TYPE I ELASTOMERIC EXP. BRG.**  
 ( At Pier 1 - No. & So. Brgs. = 10 Req'd.)  
 ( At Pier 2 = 5 Req'd.)  
 ( At Pier 3 - So. Brgs. = 5 Req'd.)

\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

**FIXED BEARING**  
 ( At N. Abut. = 5 Req'd.)  
 ( At S. Abut. = 5 Req'd.)

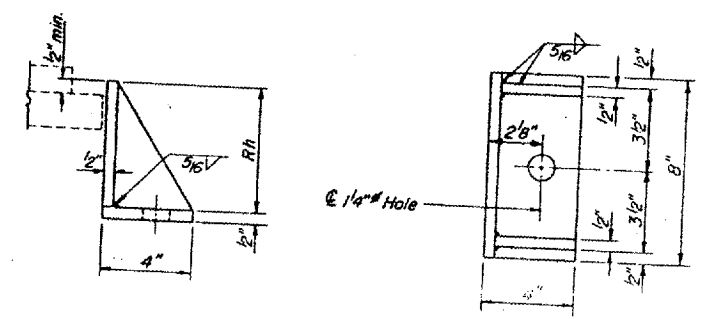


**TYPE I ELASTOMERIC EXPANSION BEARING TABLE OF DIMENSIONS**

Location of Bearing	Top Plate			Elastomer Dimensions						Retainer			
	Tl	Wl	Ll	Te	We	Le	Np	Ns	Tp	Ts	Rh	Rs	Th
Pier 1 No. Brg.	1 7/8"	8"	1'-2"	1 3/4"	7"	12"	4	3	3 3/8"	3 3/8"	3 1/2"	9 1/4"	3 3/8"
Pier 1 So. Brg.	1 3/4"	10"	1'-3"	2 1/4"	9"	12"	5	4	3 3/8"	3 3/8"	4"	9 3/4"	4"
Pier 2	2 5/8"	13"	1'-10"	3 1/8"	12"	20"	5	4	3 10/16"	3 10/16"	6 1/2"	1'-1 1/4"	6 1/16"
Pier 3 So. Brg.	1 7/8"	8"	1'-2"	1 3/4"	7"	12"	4	3	3 3/8"	3 3/8"	3 1/2"	9 1/4"	3 3/8"

**BEARING ASSEMBLY**

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



**SIDE RETAINER**

FOR INFORMATION ONLY:  
 BRIDGE NO. 1 STRUCTURE 100-0032

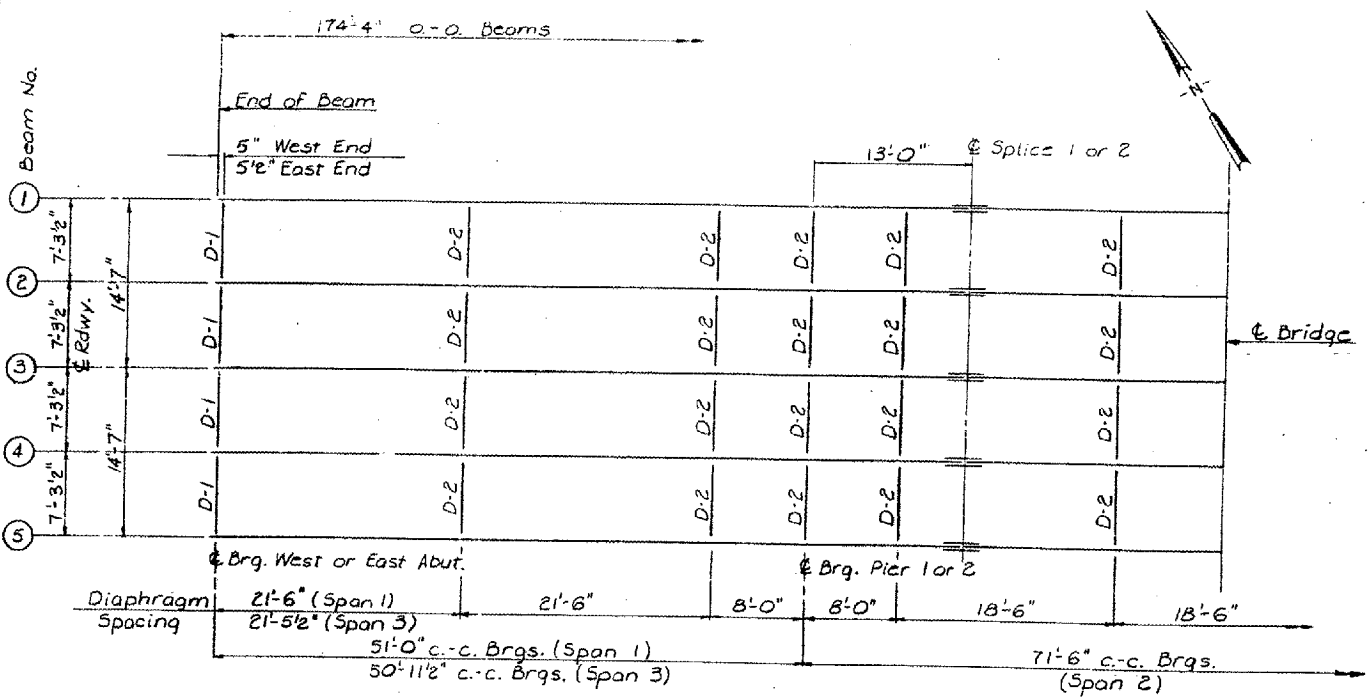
TYPE I ELASTOMERIC EXP BRG.  
 FEDERAL AID PRIMARY RT. 726 (ILL. 148)  
 SECTION 129 BC-BR  
 OVER BIG MUDDY RIVER  
 WILLIAMSON COUNTY  
 STATION 173+70.00

Drawn: T.E.H.  
 Checked: C.R.N.  
 Design: D.A.N.  
  
 HANSON ENGINEERS  
 INCORPORATED  
 8032006

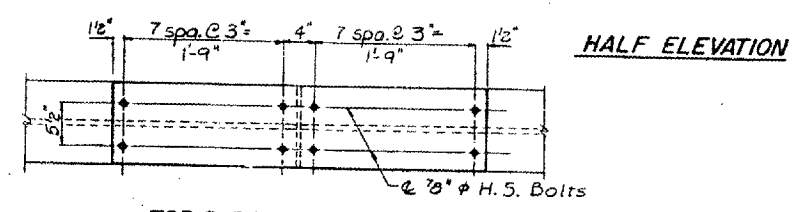
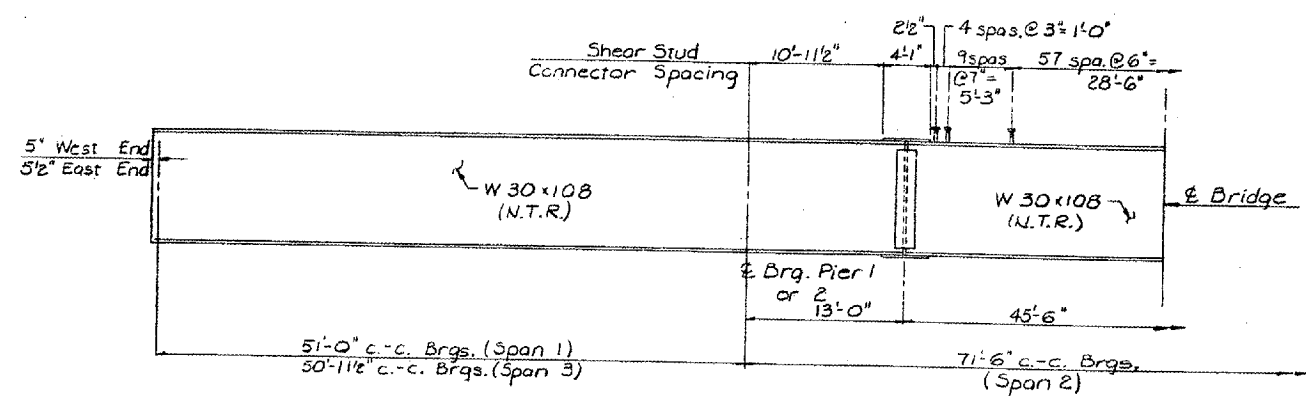


Sec. 129 B.C.B.

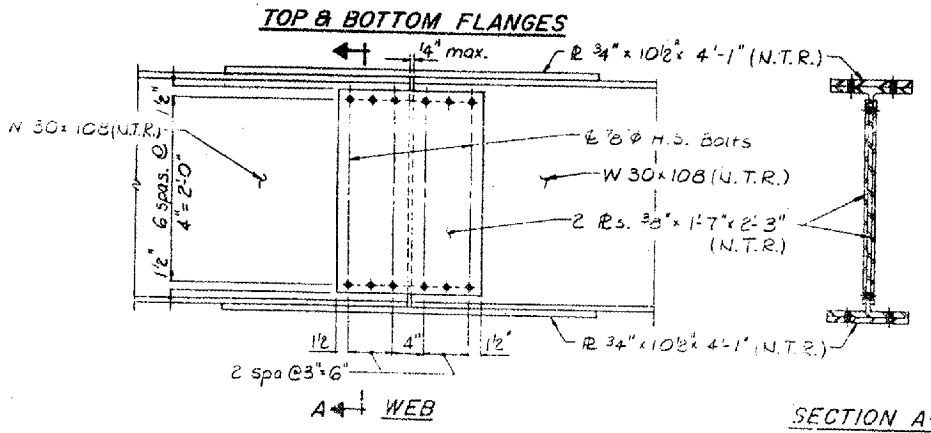
Sheet 9 of 16



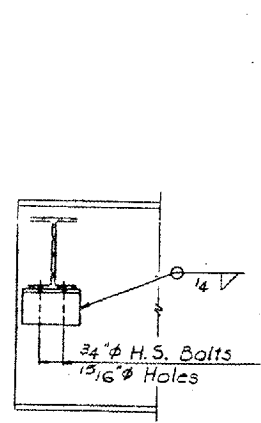
**HALF FRAMING PLAN**  
 All Beams W30 x 108 (N.T.R.)



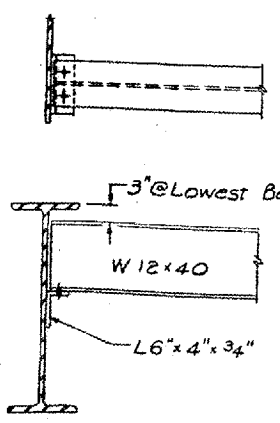
**HALF ELEVATION**



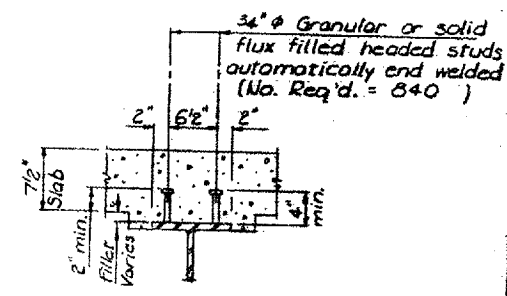
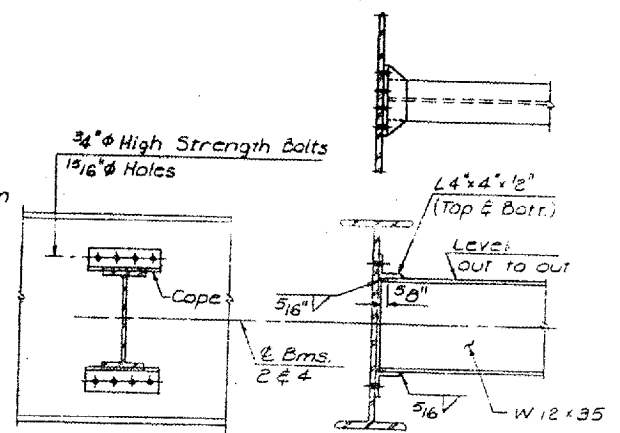
**SPLICES 1 & 2**



**END DIAPHRAGM D-1**  
 ( 8 Required )



**INTERIOR DIAPHRAGMS D-2**  
 ( 10 Required )



**FOR INFORMATION ONLY:**  
 BRIDGE NO. 2 STRUCTURE 100-0033

STRUCTURAL STEEL  
 FEDERAL AID PRIMARY RT. 726 (ILL. 148)  
 SECTION 129-BC-BR-1  
 OVER POND CREEK  
 WILLIAMSON COUNTY  
 STATION 222+80.00

**TOP OF BEAM ELEVATIONS \***

	Bm. #1 or #5	Bm. #2 or #4	Bm. #3
€ Brq. West Abut.	384.83	384.95	385.06
€ Brq. Pier #1			
€ Splice #1			
€ Splice #2			
€ Brq. Pier #2			
€ Brq. East Abut.	384.83	384.95	385.06

\*Elevations are for Fabrication Only

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Overload)

$I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Overload)

$Z$  is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.

The Fully Plastic Moments ( $M_u$ ) are computed according to A.A.S.H.T.O. 1.759(A) & 1.762(A).

$f_s$  (Overload) is the sum of the stresses due to  $M_e + M_{s\phi} + s_3(M_e + M_r)$

$VR$  is the maximum  $t +$  impact shear range in span used to determine shear connector spacing.

Note: N.T.R. indicates components to which notch toughness requirements are applicable.  
 Work this Shr. w/ Shts. 10 & 11.

**INTERIOR BEAM MOMENT TABLE**

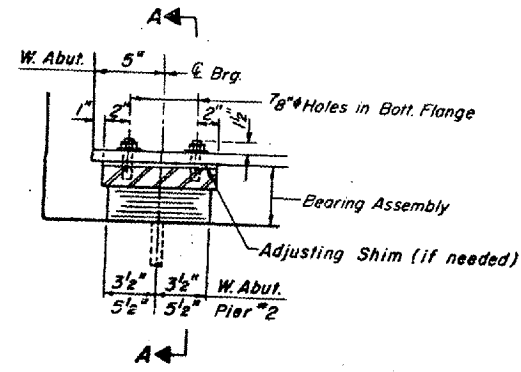
	0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
$I_s$ (in <sup>4</sup> )	4470	4470	4470
$I_c$ (in <sup>4</sup> )			13356
$S_s$ (in <sup>3</sup> )	299	299	299
$S_c$ (n=27, n=9) (in <sup>3</sup> )			422, 467
$Z$ (in <sup>3</sup> )			346
$\phi$ (in)	1.151	1.151	823
$M_e$ (k)	184	437	202
$S\phi$ (k)			328
$M_{s\phi}$ (k)			96
$M_u$ (k)	331	264	510
$M_{Imp}$ (k)	94	71	132
$s_3(M_e + I)$ (k)	710	560	1069
1.3( $M_e + M_{s\phi} + s_3(M_e + I)$ ) (k)	1162	1296	1778
Fully Plastic Moment (k)	1442	1442	2723
$f_s$ @ non-comp (ksi)	7.4	17.54	8.1
$f_s$ @ comp (ksi)			2.7
$f_s$ @ (t+I) (ksi)	28.5	22.5	27.5
$f_s$ (overload) (ksi)	35.9	40.0	38.3
$VR$ (k)			47.7

**INTERIOR BEAM REACTION TABLE**

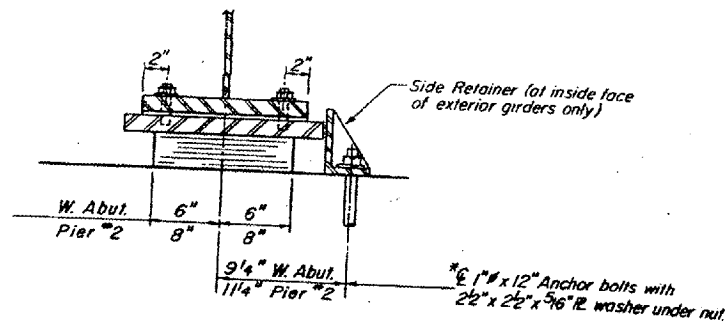
	East or West Abut.	Pier 1 or Pier 2
$R_e$	20.7	79.1
$R$	36.9	47.4
Imp.	10.5	12.7
$R_e + t + I$	68.1	139.2

Note: Hardened washers shall be required over 1 5/16"  $\phi$  holes for diaphragm connections (21 Bolt).

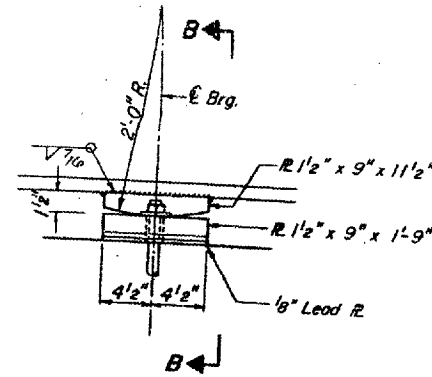




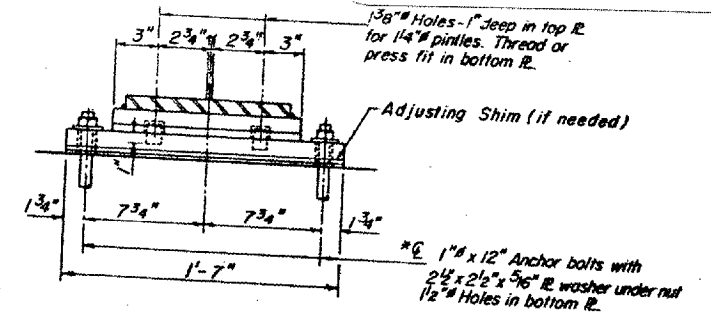
SECTION AT ABUT.



SECTION A-A

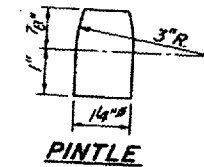


ELEVATION AT PIER



SECTION B-B

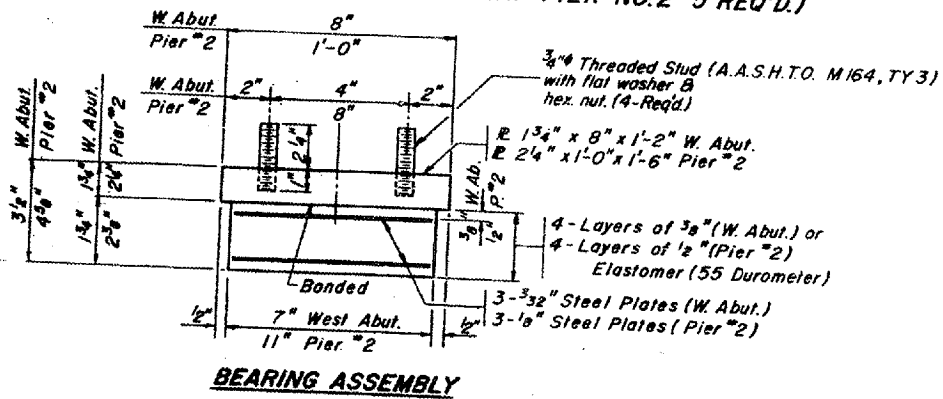
FIXED BEARING  
 (AT PIER NO.1 5 REQ'D.)



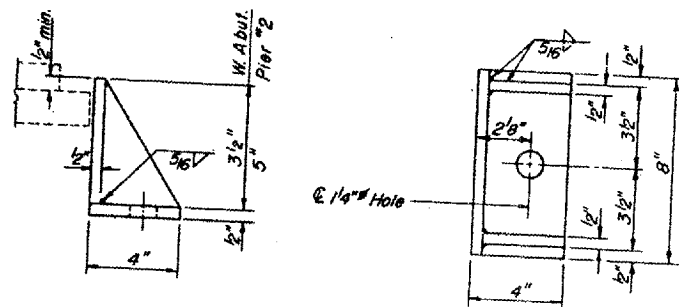
PINTLE

\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

TYPE I ELASTOMERIC EXP. BRG.  
 (AT WEST ABUTMENT 5 REQ'D.)  
 (AT PIER NO.2 5 REQ'D.)



BEARING ASSEMBLY



SIDE RETAINER

FOR INFORMATION ONLY:  
 BRIDGE NO. 2 STRUCTURE 100-0033

TYPE I ELASTOMERIC EXP BRG.  
 FEDERAL AID PRIMARY RT 726 (ILL. 148)  
 SECTION 129-BC-BR-1  
 OVER POND CREEK  
 WILLIAMSON COUNTY  
 STATION 222+80.00

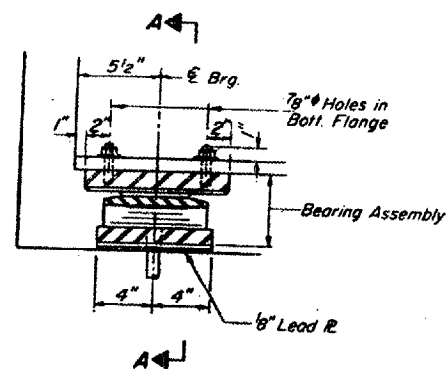
PK.B  
 T.E.H.  
 M.L.B.  
 T.E.H.



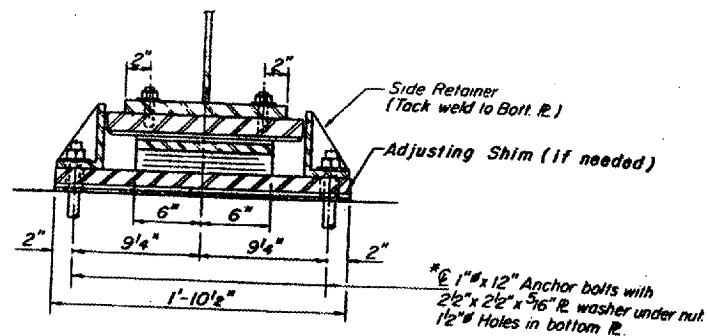
3052005  
 11-12-21

Sec. 129 BC

Sheet 11 of 16

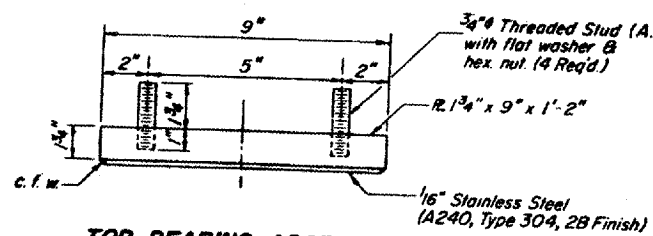


SECTION AT ABUT.

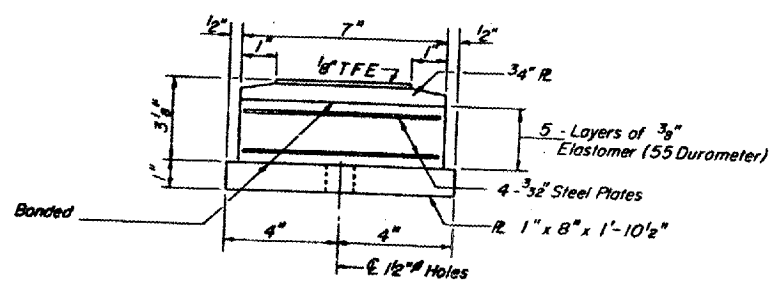


SECTION A-A

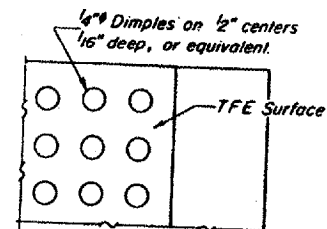
**TYPE II TFE ELASTOMERIC EXP BRG.**  
 (AT EAST ABUTMENT 5 REQ'D.)



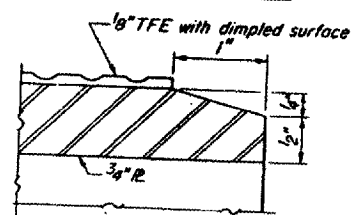
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



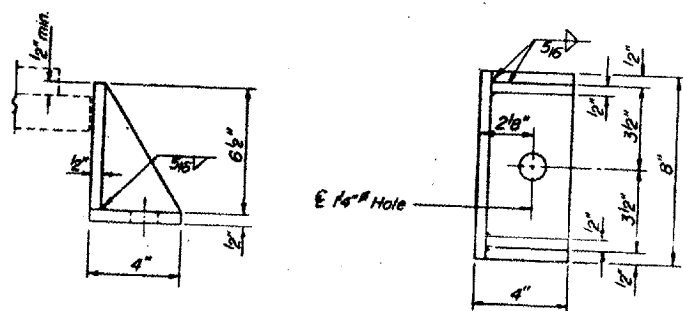
PLAN-TFE SURFACE



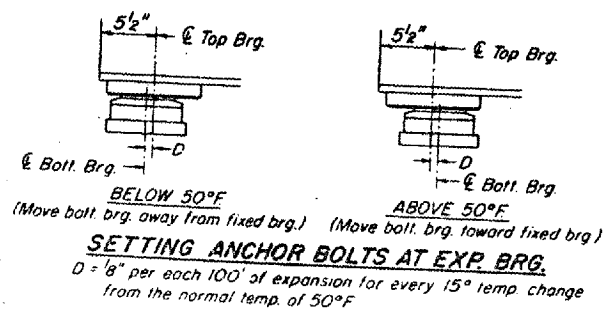
SECTION THRU TFE

\*Note: After girders have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.

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.



SIDE RETAINER



**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

FOR INFORMATION ONLY:

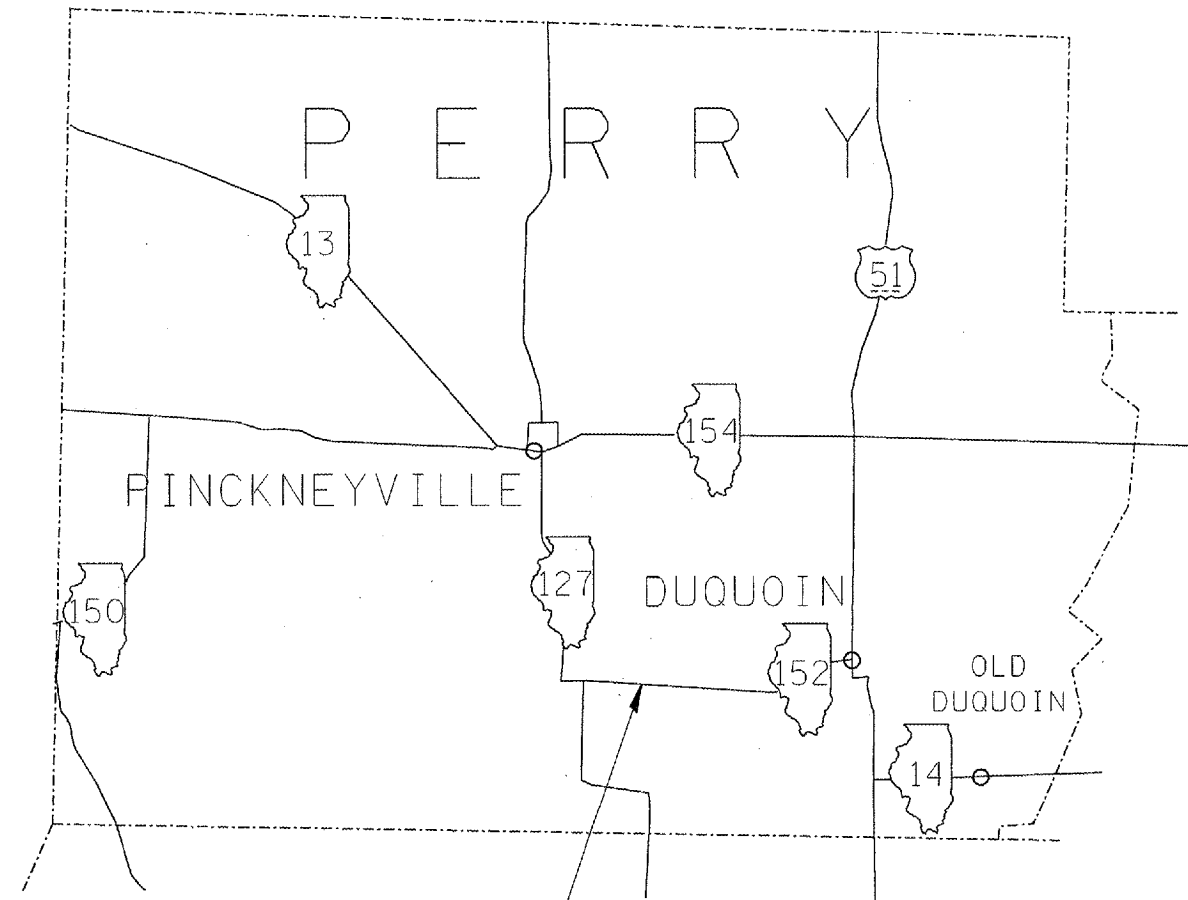
BRIDGE NO. 2 STRUCTURE 100-0033

TYPE II ELASTOMERIC EXP BRG.  
 FEDERAL AID PRIMARY RT 726 (ILL. 148)  
 SECTION 129-BC-BR-1  
 OVER POND CREEK  
 WILLIAMSON COUNTY  
 STATION 222+8000

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 865	•	WILLIAMSON	22	16
FAP 726		PERRY		
FED. ROAD DIST. NO. 7		ILLINOIS		

• D-9 CONTRACT MAINTENANCE 05-7  
CONTRACT NO. 98880



**PROPOSED IMPROVEMENT**  
**BRIDGE NO. 3: SN 073-0023**

PERRY COUNTY



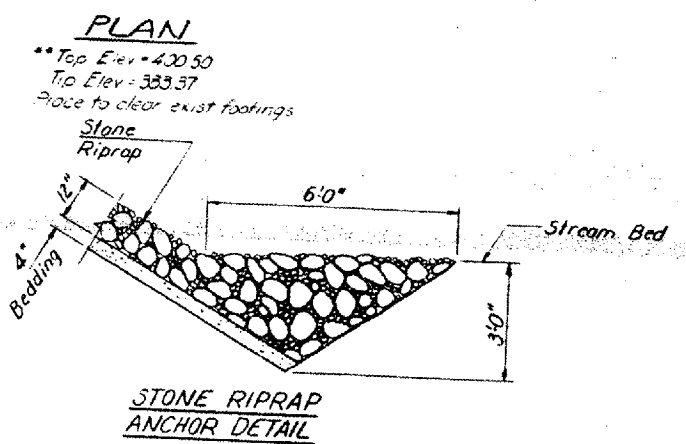
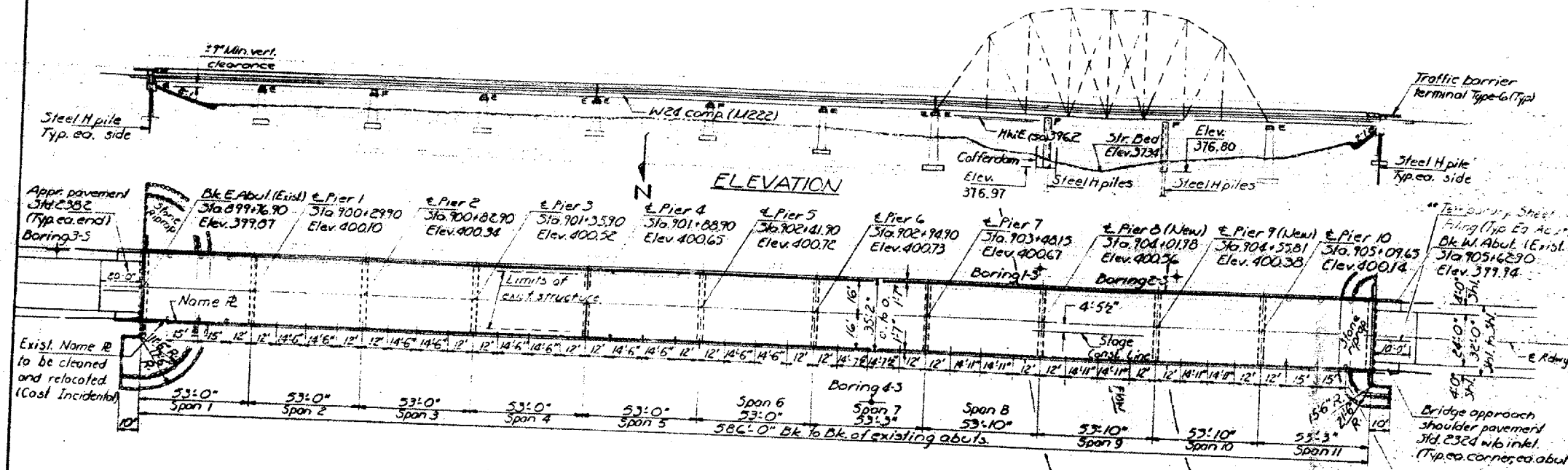
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DATE	BY	REV.	SHEET NO. / 30 SHEETS
PERRY	3/4	8		

GENERAL NOTES

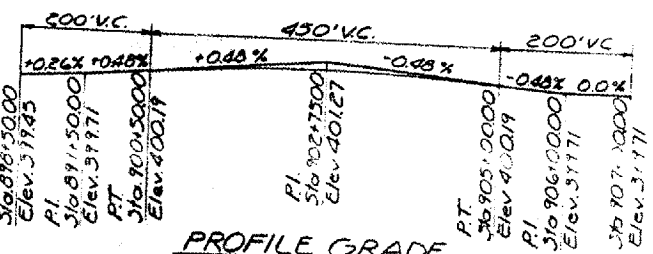
1. General Notes  
 2. Bridge Structure  
 3. Foundation  
 4. Deck  
 5. Approach  
 6. Materials  
 7. Construction  
 8. Safety  
 9. Maintenance  
 10. Inspection  
 11. Testing  
 12. Records  
 13. Change Orders  
 14. Disputes  
 15. Force Majeure  
 16. Insurance  
 17. Bonds  
 18. Taxes  
 19. Permits  
 20. Environmental  
 21. Historical  
 22. Archaeological  
 23. Cultural Resources  
 24. Wetlands  
 25. Wetland Delineation  
 26. Wetland Mitigation  
 27. Wetland Restoration  
 28. Wetland Enhancement  
 29. Wetland Creation  
 30. Wetland Bankruptcy  
 31. Wetland Buyout  
 32. Wetland Relocation  
 33. Wetland Avoidance  
 34. Wetland Minimization  
 35. Wetland Compensation  
 36. Wetland Offset  
 37. Wetland Mitigation Bank  
 38. Wetland Conservation Bank  
 39. Wetland Reserve Bank  
 40. Wetland Credit Bank

Bench Mark: "a" in top of hubguard 10' E of Sta. 879+77, Elev. 379.32  
 Exist. Structure: 4073-0023, Built in year 1927 as SB1 Route 152, Section 104B  
 of Sta. 904+29. B.R.C.D.G. spans at 53' and a 160' long Penn Truss span.  
 Total length bk. to bk. abut. = 386'. C. to C. water table = 24'. The Contractor  
 shall remove the existing superstructure and replace it with a new one  
 consisting of 24" deep wide flange beams and 7 1/2" concrete deck.  
 Existing substructure elements shall be repaired as necessary and  
 widened as shown.  
 Traffic shall be maintained by utilizing Stage Construction.



STATION 904+29.00  
 BUILT 198 BY  
 STATE OF ILLINOIS  
 F.A.R.T. 865 SEC. 104BC-BR  
 LOADING HS 20  
 STR. NO. 073-0023

NAME PLATE  
 (See Sid. 2113)



DESIGNED: [Signature] 1985  
 CHECKED: [Signature]  
 DRAWN: R.D. JS  
 CHECKED: [Signature]

EXAMINED: [Signature]  
 PASSED: [Signature]  
 APPROVED: [Signature]

**WATERWAY INFORMATION**

Drainage Area 204 Sq. mi. Low Grade Elev. 377.40 G.S. Sta. 882+00

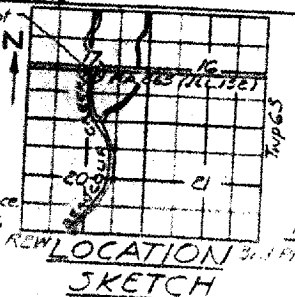
Flood	Prop. Yr.	Q CFS	Opening Sq. Ft.		Max. H.N.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Main Channel	50	14800	4294	4507	376.21	.68	.64	376.89	376.85
	100	5100	1670	1670					
Overflow	50	19500	5964	6177	376.25	.85	.69	377.80	377.64
	100	22700	6177	6681					
Main Channel	50	16700	4362	4890	376.25	.81	.69	377.64	377.52
	100	5800	1797	1797					
Overflow	50	22700	6177	6681	376.25	.81	.69	377.64	377.52
	100	25500	4350	4828					
Total	50	35000	1776	1776	376.25	.81	.69	377.64	377.52
	100	35000	1776	1776					

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub	Total
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		63	63
Structure Excavation	Cu. Yd.		125	125
Floor Drains	Each	66		66
Protective Coat	Sq. Yd.	2571		2571
Class X Concrete	Cu. Yd.	620.6	2277	848.3
Structural Steel	Lump Sum	1		1
Stud Shear Connectors	Each	10275		10275
Reinforcement Bars	Pound		24860	24860
Reinforcement Bars (Epoxy Coated)	Pound	168100		168100
Steel Piles HPI0x42	Lin. Ft.		1688	1688
Test Piles Steel HPI0x42	Lin. Ft.		2	2
Name Plates	Each	1		1
Stone Riprap	Yard		251	251
Temporary Bridge Rail	Lin. Ft.	628		628
Neoprene Expansion Joint 2"	Lin. Ft.	102		102
Neoprene Expansion Joint 4"	Lin. Ft.	34		34
Elastomeric Bearing Assembly Type I	Each			
Collardam, Excavation				
Collardams				
Temporary Steel Piling				

DESIGN STRESSES

$f_c = 3500$  psi  
 $f_y = 50,000$  psi (3/4" Steel) M-222  
 $f_y = 60,000$  psi (Reinforcement)  
 Allow 25# sq. ft. for future wearing surface  
 Design Specifications: 1733 AASHTO



FOR INFORMATION ONLY:

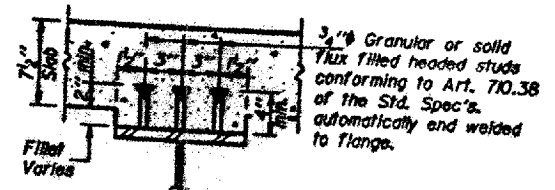
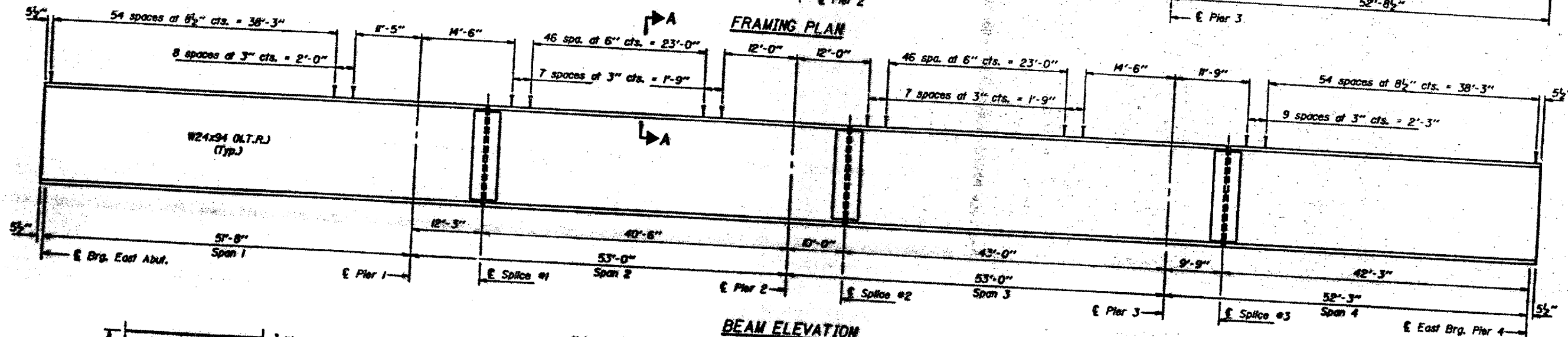
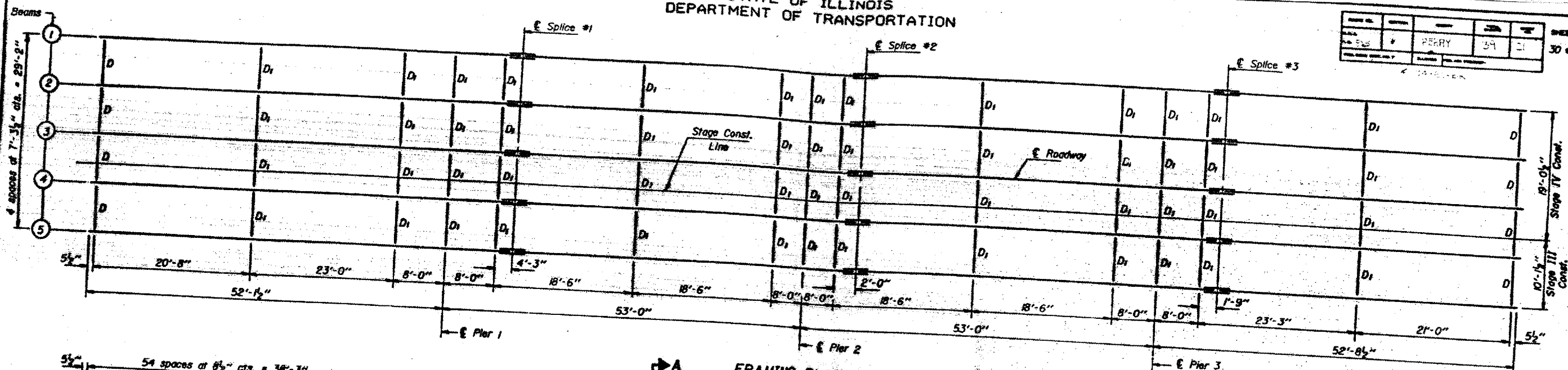
BRIDGE NO. 3 STRUCTURE 073-0023

GENERAL PLAN  
 ILL. RTE 152 OVER  
 BEAUCOUP CREEK  
 F.A.R.T. 865 SEC. 104BC-BR  
 PERRY COUNTY  
 STA 904+29

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

NO.	DATE	BY	CHKD.	APP.
1		PERRY	59	DI

SHEET NO. 18  
 30 SHEETS



**BEAM ELEVATION**

Notes: L.T.R. denotes the members subject to "Notch Toughness Requirements." See sheet #17 for the diaphragm and splice details. The end diaphragms D between Beams 3 and 4 shall be connected during Stage IV Construction. Number of shear studs required for Spans 1 thru 4 = 3735.

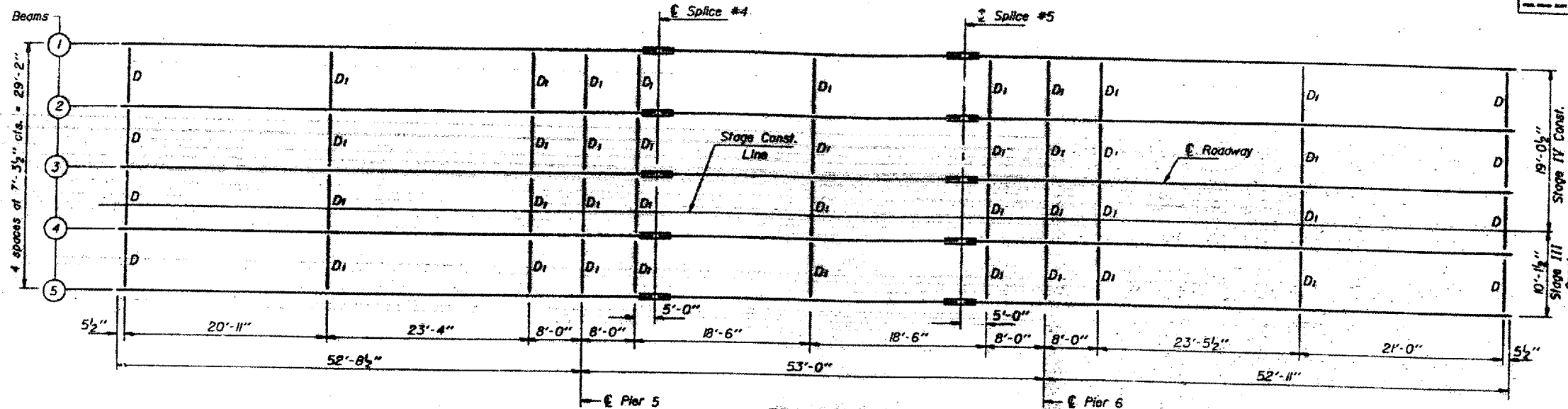
DESIGNED	K. R. Ghanta	DATE	10/21/05
CHECKED	James Balow		
DRAWN	Marcos R.D.		
CHECKED	DB		

FOR INFORMATION ONLY:  
 BRIDGE NO. 3 STRUCTURE 073-0023

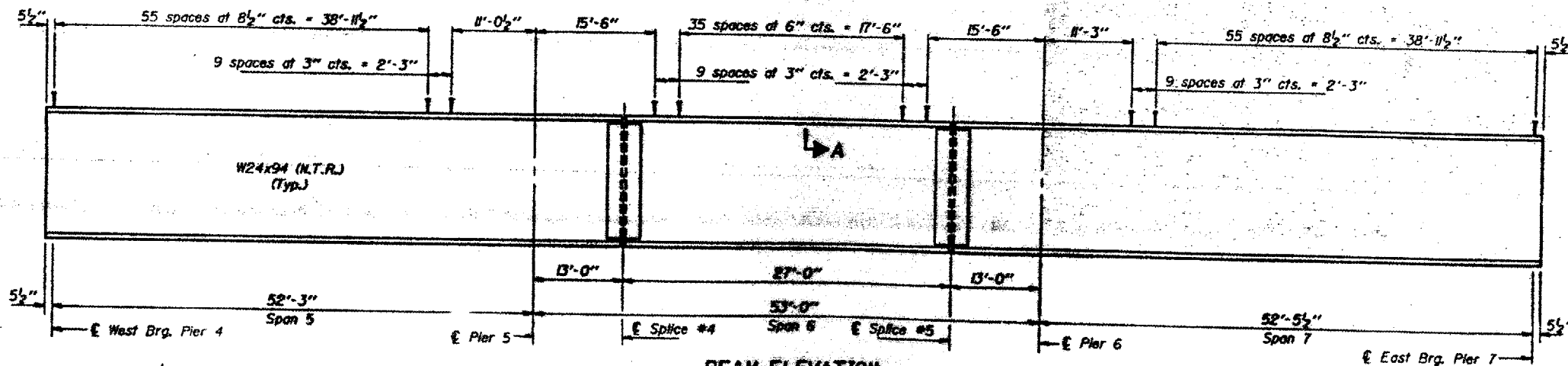
STRUCTURAL STEEL - SPANS 1 THRU 4  
 F.A. RTE. 865 SEC. 104BC-BR  
 PERRY COUNTY

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

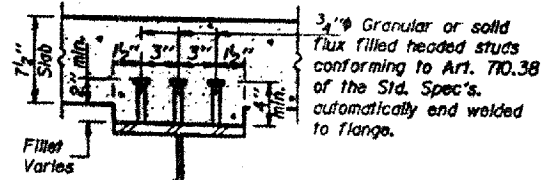
DATE	BY	CHKD	APP'D	SHEET NO. 19
				30 SHEETS



FRAMING PLAN



BEAM ELEVATION



SECTION A-A

Notes: N.T.R. denotes the members subject to "Notch Toughness Requirements." See sheet #17 for the diaphragm and splice details. The end diaphragms D between Beams 3 and 4 shall be connected during Stage IV Construction. Number of shear studs required for Spans 5 thru 7 = 2760.

FOR INFORMATION ONLY:

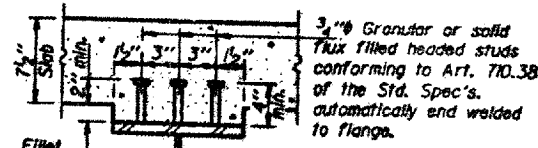
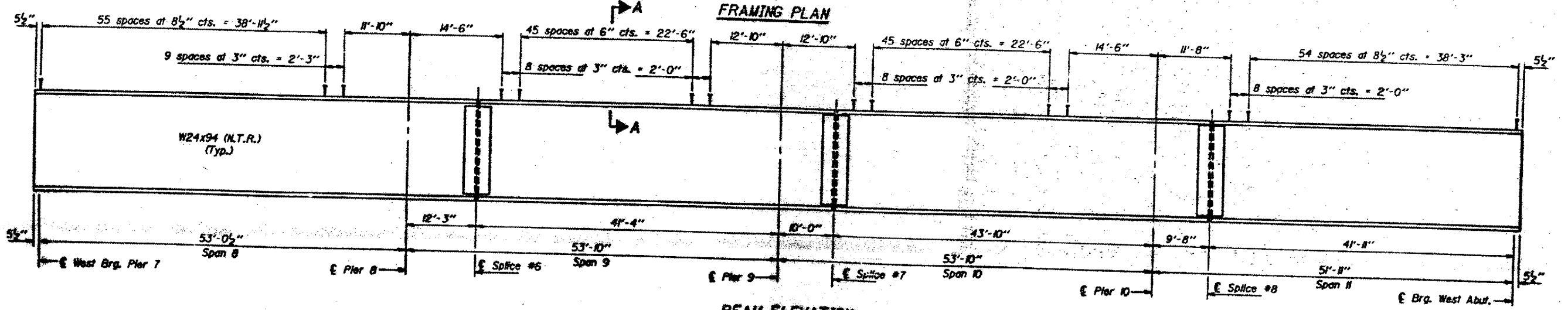
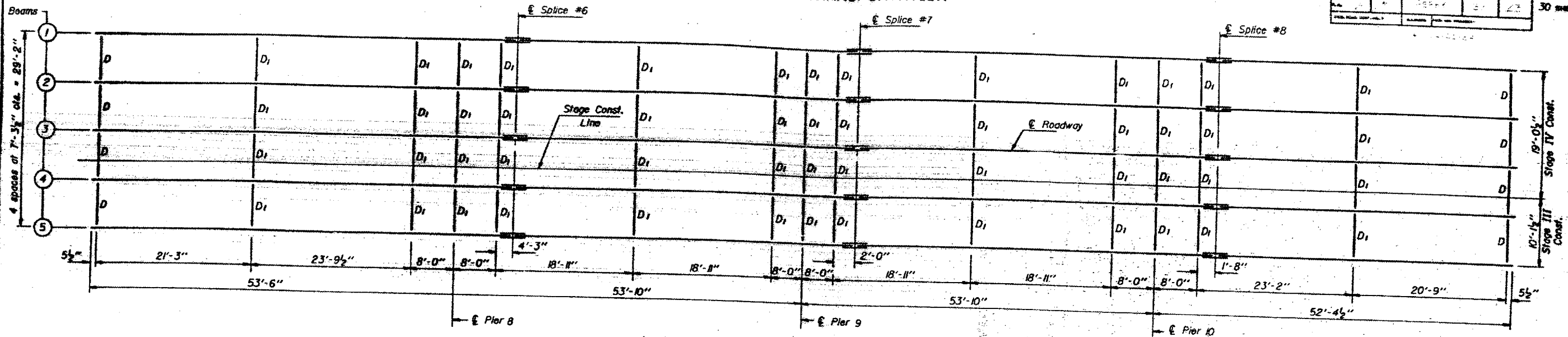
BRIDGE NO. 3 STRUCTURE 073-0023

STRUCTURAL STEEL - SPANS 5 THRU 7  
 F.A. RTE. 865 SEC. 104BC-BR  
 PERRY COUNTY  
 STA. 904+29.00

DESIGNED: K.R. Ghanta	CHECKED: [Signature]	DATE: 10/8/05
CHECKED: [Signature]	PASSED: [Signature]	
DRAWN: Mercado	APPROVED: [Signature]	
CHECKED: [Signature]		

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	APP'D
10/24/07	AB	AB	AB
SHEET NO. 20 30 SHEETS			



Notes: N.T.R. denotes the members subject to "Notch Toughness Requirements."  
 See sheet #17 for the diaphragm and splice details.  
 The end diaphragms D between Beams 3 and 4 shall be connected during Stage IV Construction.  
 Number of shear studs required for Spans 8 thru 11 = 3780.

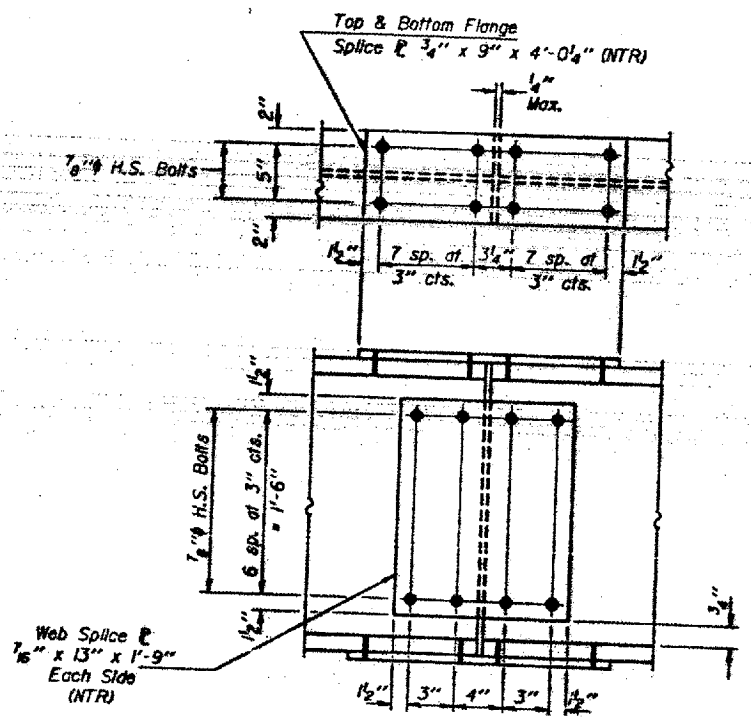
DESIGNED	K. R. Ghanta	DATE	10/24/07
CHECKED	James Balaban	APPROVED	James Balaban
DRAWN	Mercado	APPROVED	James Balaban
CHECKED	AB		

FOR INFORMATION ONLY:  
 BRIDGE NO. 3 STRUCTURE 073-0023  
 STRUCTURAL STEEL - SPANS 8 THRU 11  
 F.A. RTE. 865 SEC. 104BC-BR  
 PERRY COUNTY  
 STA. 904+29.00

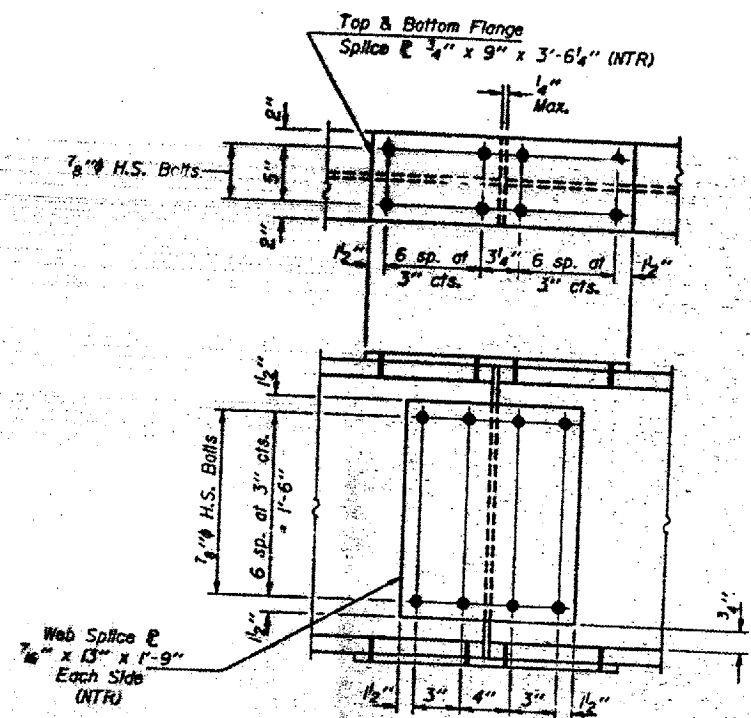
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

NO.	DATE	BY	CHKD	REV
1				
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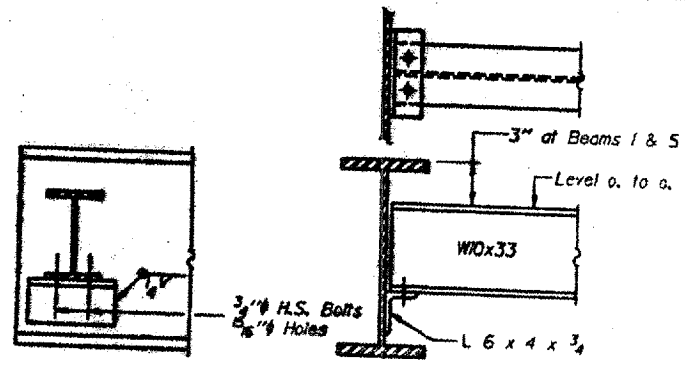
SHEET NO. 17  
 30 SHEETS



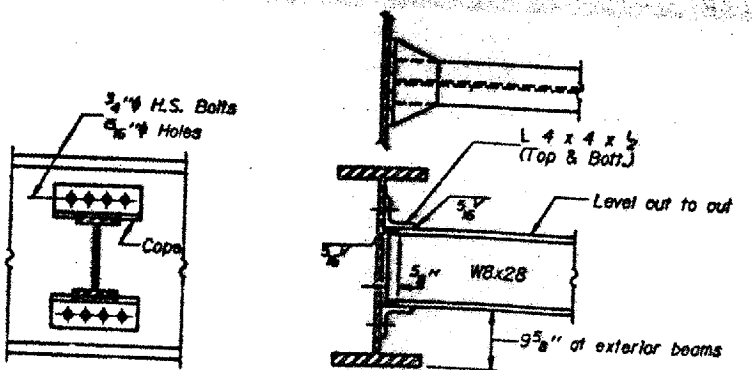
SPLICES #1, 4, 5, & 6



SPLICES #2, 3, 7 & 8



DIAPHRAGM D  
 24 Required



DIAPHRAGM D1  
 140 Required

Note: Two hardened washers shall be required over all 5/16\"/>

Notes: NTR denotes the members subject to "Notch Toughness Requirements". The end diaphragms between Beams 3 and 4 shall be connected after Stage III Construction is completed.

DESIGNED <i>k.R Ghanta</i>	EXAMINED <i>May 8 1981</i>
CHECKED <i>James P. Rubin</i>	PASSED <i>[Signature]</i>
DRAWN <i>R. Dory</i>	APPROVED <i>[Signature]</i>
CHECKED <i>JB</i>	DIRECTOR OF HIGHWAYS

I-2-D 8-30-80

FOR INFORMATION ONLY:  
 BRIDGE NO. 3 STRUCTURE 073-0023

STRUCTURAL STEEL DETAILS  
 F.A. RTE. 865 SEC. 10ABC-BR  
 PERRY CO'INTY  
 STA. 904+29.00



