

Project Engineer: Jim Miller 309-67151

DESIGNER: TOM INGLIS 309-671-3481

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAI 155 (I-155) & (I-74)

SECTION: [(108-HB-1);90-15HB(2,3,4)]I-1

COUNTY: TAZEWELL

C-94-114-10

D-94-057-10

SHEET 17

* 15 + 3 = 18 TOTAL



INDEX OF SHEETS

- 1 COVER SHEET
- 2 COMMITMENT SHEET/GENERAL NOTES
- 3 & 4 SUMMARY OF QUANTITIES
- 5-15 PLAN SHEETS

TRAFFIC STANDARDS

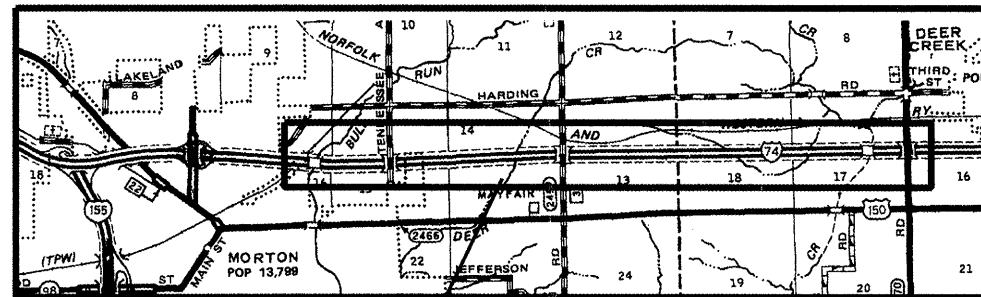
- 701101-02
- 701106-02
- 701201-03
- 701901-01
- 701400-04
- 701401-05
- 701402-07
- 701406-05
- 701411-06

ADT

I-155 21,000 TOTAL, 3000 TRUCKS
 I-74 28,000 TOTAL, 4550 TRUCKS

CATALOG NO. 034471-00D
 CONTRACT NO. 68991

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

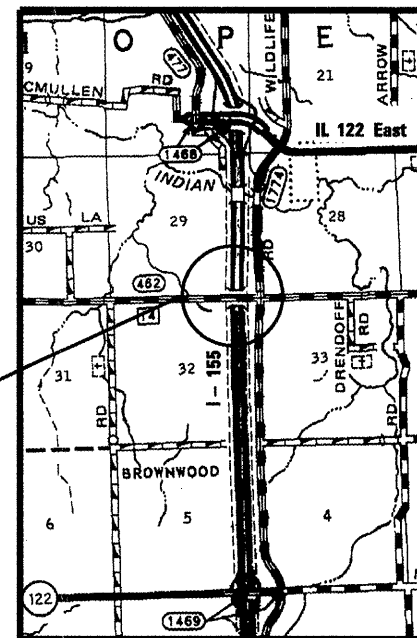


location 2
S.N. 090-0075

location 3
S.N. 090-0077

location 4
S.N. 090-0084

location 1
S.N. 090-0101



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED April 20 2010
 _____ DISTRICT ENGINEER

June 25 2010
Scott E. Still, P.E., Inc.
 acting ENGINEER OF DESIGN AND ENVIRONMENT

June 25 2010
Christine M. Reed, Inc.
 DIRECTOR, DIVISION OF HIGHWAYS

COMMITMENTS

No commitments have been made for this project.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-155/74	[(108-HB-1);90-15HB(2,3,4)]I-1	TAZEWELL	15	2

GENERAL NOTES

Cleaning & painting of the existing steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings, and all other structural steel shall be cleaned per Near White Blast Cleaning – SSPC SP 10 according to the following schedule.

Bridge 1 – 4 – Entire Structure

The designated paint system shall be Paint System 1 – OZE/U.
The final finish coat for the interior and exterior shall be according to the following schedule:

Bridge No. 1 – 4 – Paint system 1 shall be used and all exterior fascias including the bottom of the bottom flanges shall be blue (Munsell No. 10B 3/6). All of the underside shall be painted Light Gray (Munsell No. 5B 7/1).

QP1 & QP2 IS REQUIRED FOR THIS CONTRACT.

AIR MONITORS – None for this project, no sensitive receptors

**COMMITMENTS &
GENERAL NOTES**

Summary of Quantities

Code Order

ROUTE		SECTION	COUNTY	SHEET	
FAI	155	[(108-HB-1);90-15HB(2,3,4)]I-1	TAZEWELL	TOTAL	NO.
I	155			15	3
			CONTRACT NO.	68991	

CONSTRUCTION TYPE CODE

TAZEWELL	
SFTY-2A	
100%	
STATE	

CODE No.	ITEM	UNIT	Tot.QTY		
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	
50600900	CLEANING AND PAINTING STEEL BRIDGE NO. 4	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	
50606403	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.3	L SUM	1	1	
50606404	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.4	L SUM	1	1	
67100100	MOBILIZATION	L SUM	1	1	
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1	1	

Summary of Quantities

Code Order

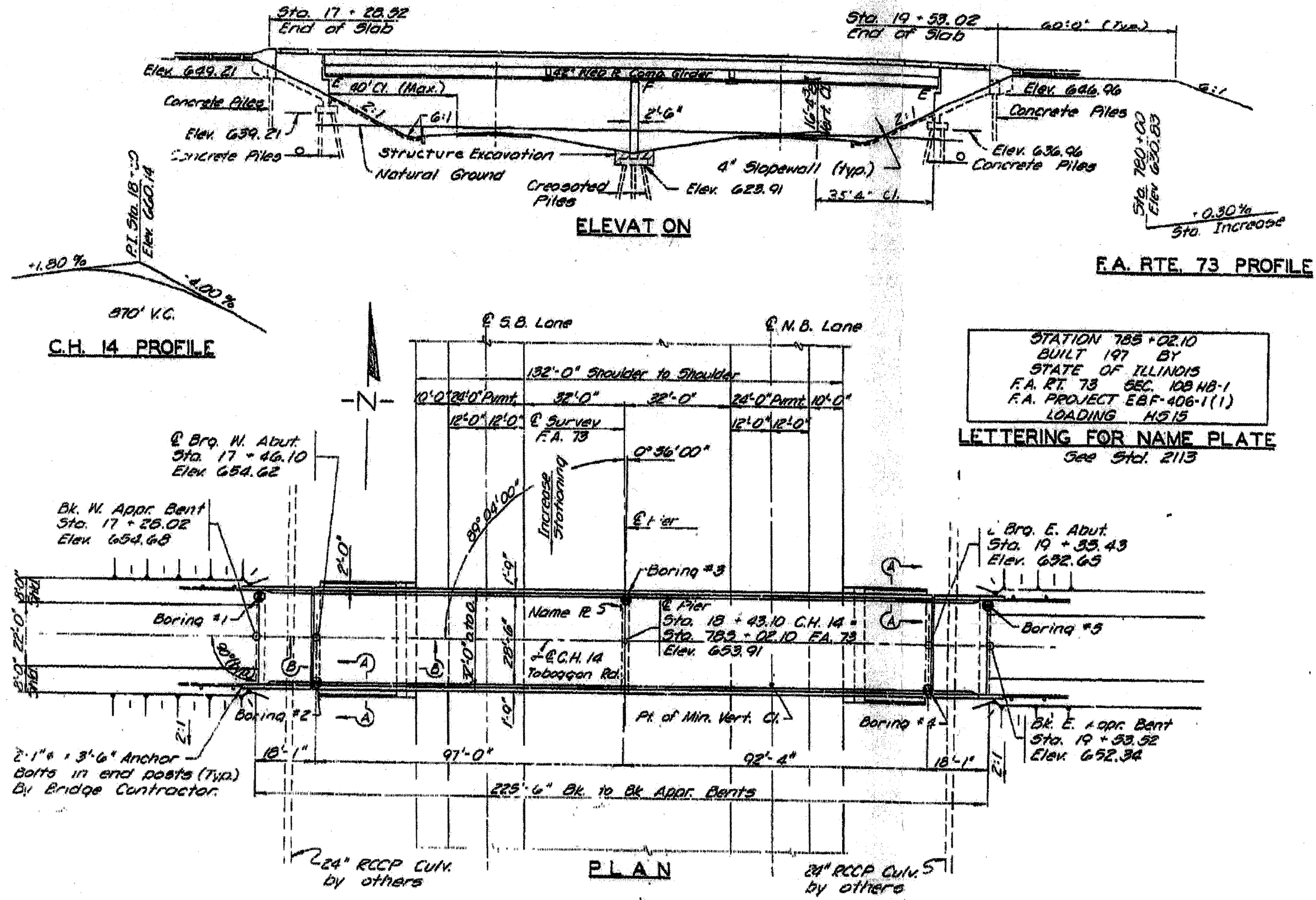
ROUTE		SECTION	COUNTY	SHEET	
FAI	155	[(108-HB-1);90-15HB(2,3,4)]I-1	TAZEWELL	TOTAL	NO.
I	155			15	4
			CONTRACT NO.	68991	

CONSTRUCTION TYPE CODE

TAZEWELL	
SFTY-2A	
100%	
STATE	

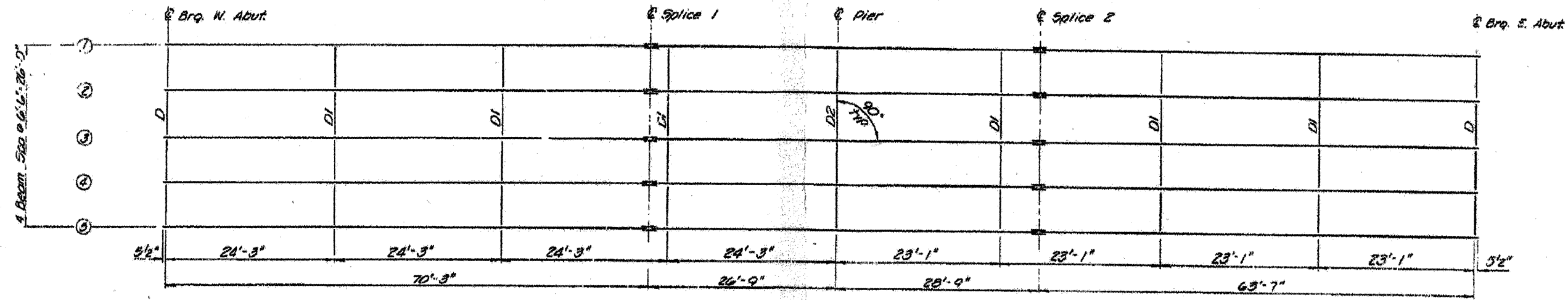
CODE No.	ITEM	UNIT	Tot.QTY		
Z0052398	PORTABLE TEMPORARY BARRIER SYSTEM	FOOT	319	319	
Z0052399	RELOCATE PORTABLE TEMPORARY BARRIER SYSTEM	FOOT	3353	3353	
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	12	12	

Location 1 S.N.090-0101 Plan view Information Only

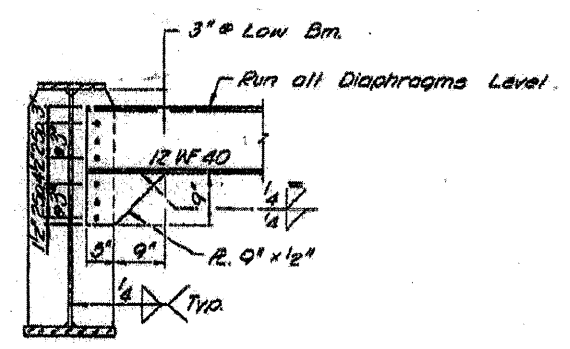
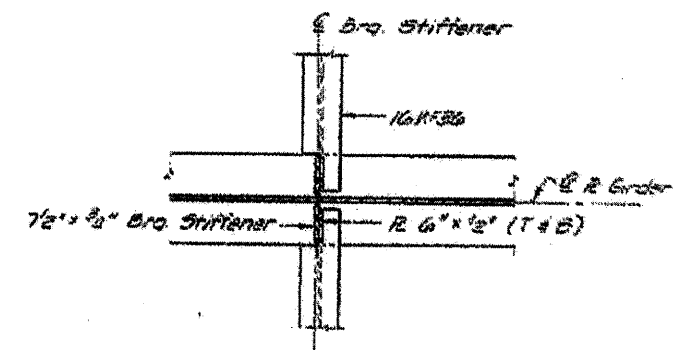
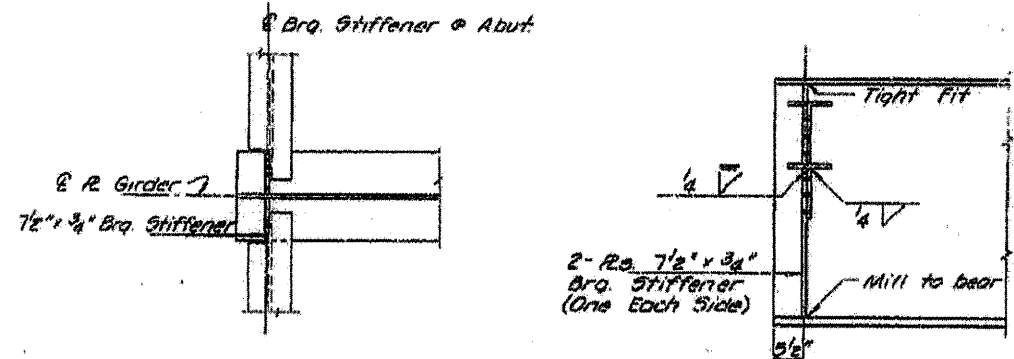


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		PLOT SCALE = 1/8" = 1'-0"	CHECKED -		REVISED -	CONTRACT NO. 68991				
		PLOT DATE = 4/14/2018	DATE -		REVISED -	ILLINOIS FED. AID PROJECT				
					SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.

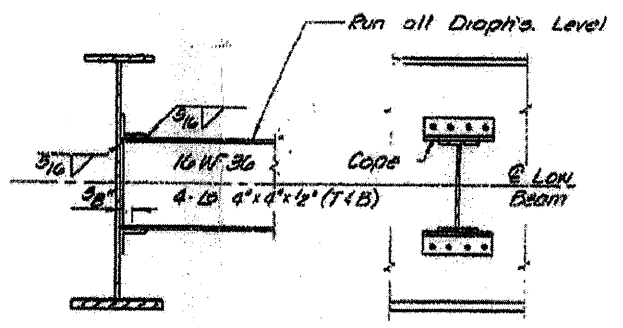
Location 1 S.N. 090-0101 Framing Plan Information Only



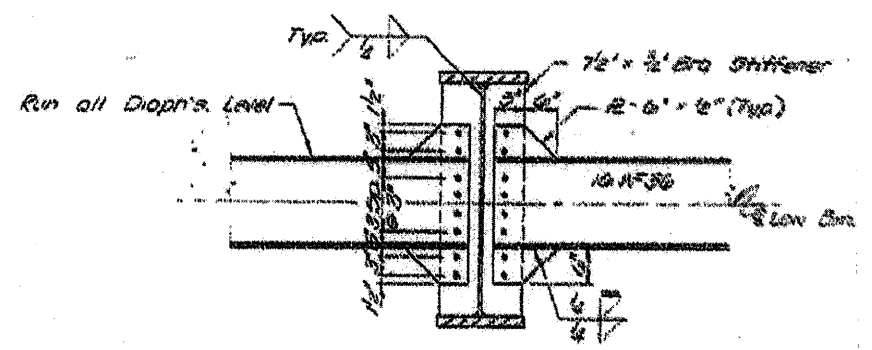
PLAN



DIAPHRAGM D
No. Req'd. 8



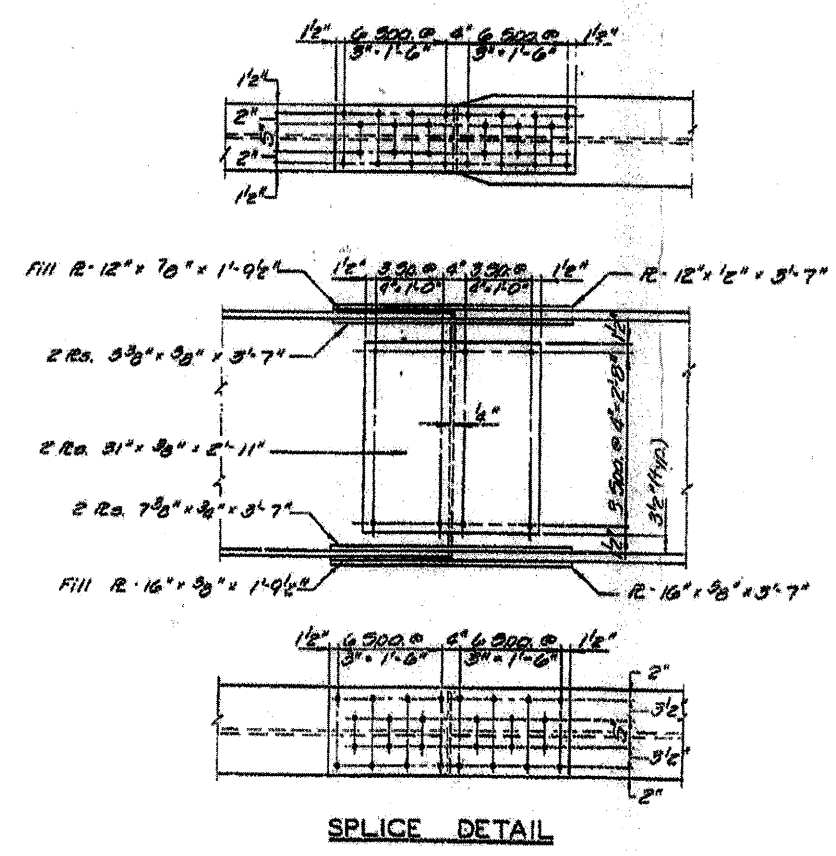
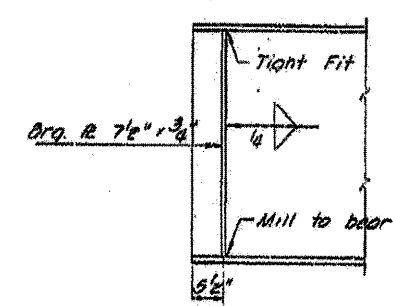
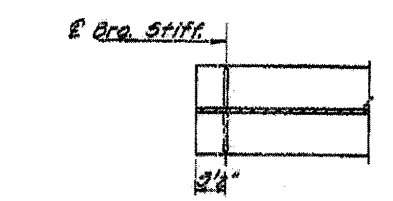
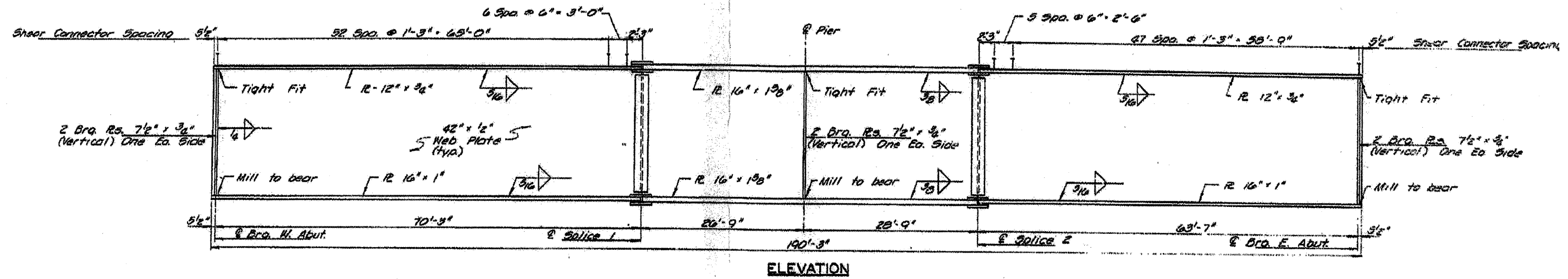
DIAPHRAGM D1
No. Req'd. 24



DIAPHRAGM D2
No. Req'd. 2

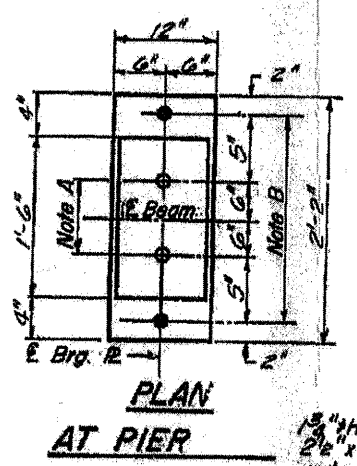
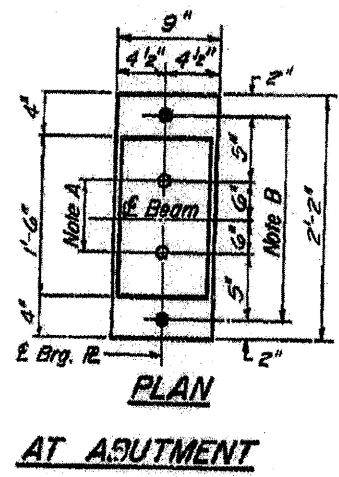
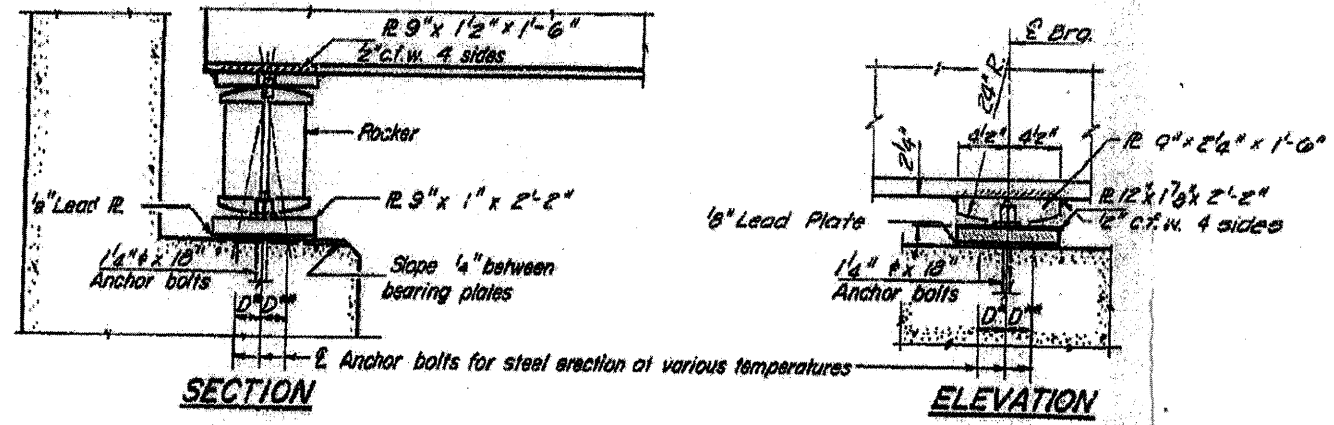
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15 68991	PLOT SCALE = 1/8" = 1' IN.	DRAWN -	REVISED -							15	6
	PLOT DATE = 4/14/2010	CHECKED -	REVISED -							CONTRACT NO. 68991	
		DATE -	REVISED -							ILLINOIS FED. AID PROJECT	

Location 1 S.N. 090-0101 Girder Elevation

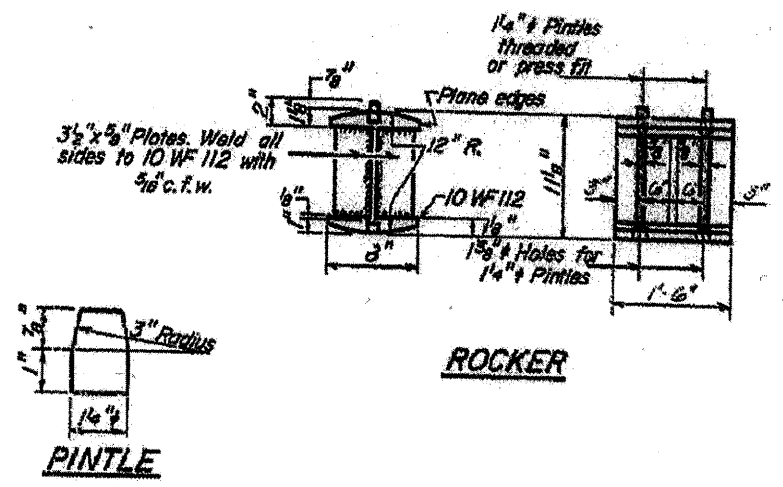


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PLOT SCALE = 1/8" = 1'-0"	PLOT DATE = 4/14/2010	DRAWN -	REVISD -				ILLINOIS FED. AID PROJECT

Location 1 S.N. 090-0101 Bearings Information only

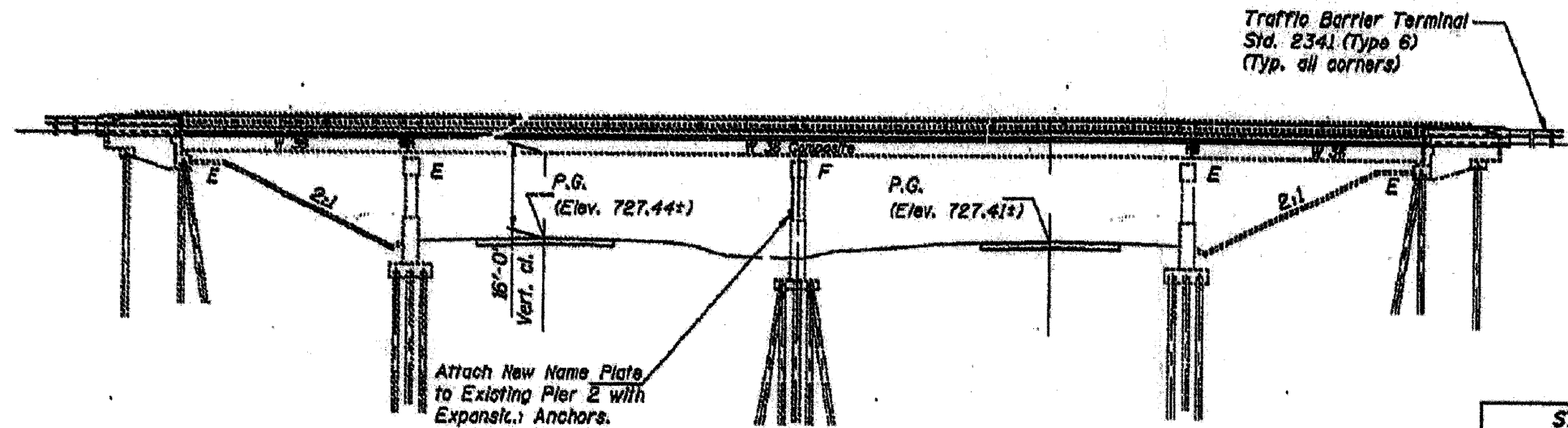


NOTE B
 1 1/2" holes for 1 1/2" anchor bolts.
 2 1/2" x 2 1/2" x 5/16" R. Washers
 under nut.



FILE NAME = Copy of 68390.dgn	USER NAME = enl1stj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET NO. OF SHEETS STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -								
	PLOT SCALE = 1/8" = 1'-0"	CHECKED -	REVISED -								
	PLOT DATE = 4/14/2010	DATE -	REVISED -								
								CONTRACT NO. 68991		ILLINOIS FED. AID PROJECT	

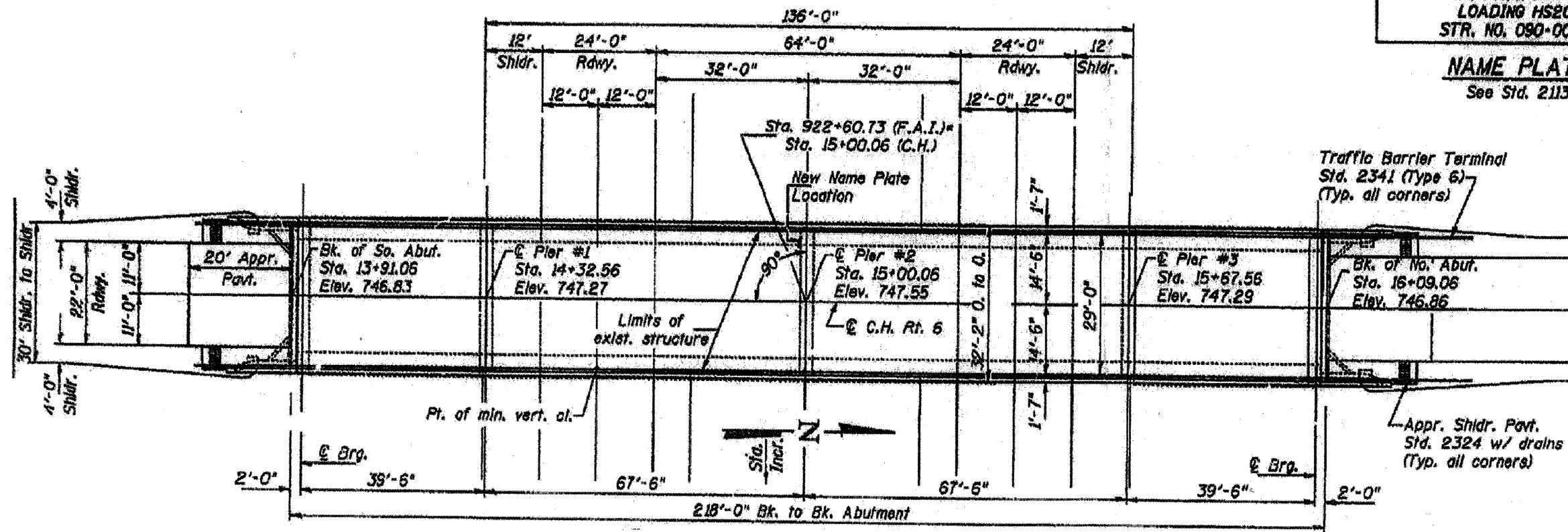
Location 3 S.N.090-0077 Plan view Information Only



ELEVATION

STATION 922+60.73
 BUILT BY
 STATE OF ILLINOIS
 F.A.I. RT. 74 SEC. (90-15HB-4)I
 F.A. PROJ. ACTR. 74-4(192)
 LOADING HS20
 STR. NO. 090-0077

NAME PLATE
See Std. 2113

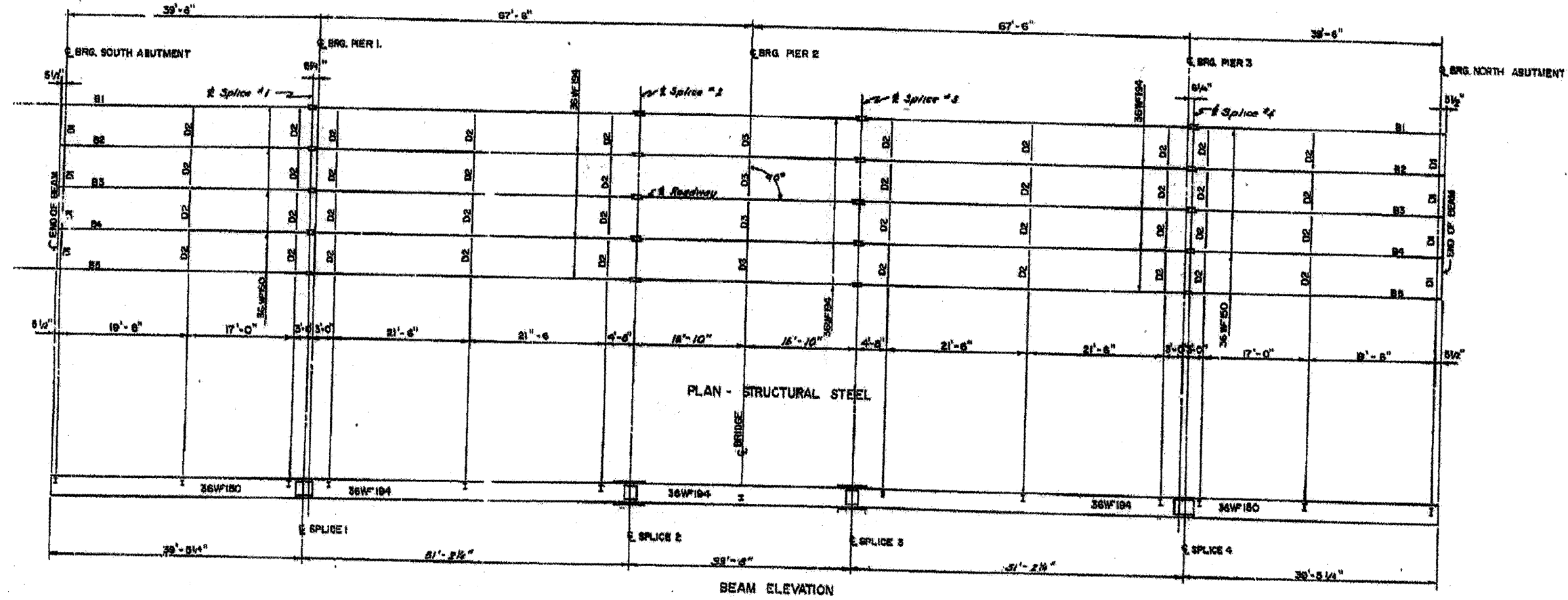


**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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		PLT SCALE = 1/8" = 1' / IN.	CHECKED -		REVISED -								
		PLT DATE = 4/14/2010	DATE -		REVISED -								CONTRACT NO. 68991

ILLINOIS FED. AID PROJECT

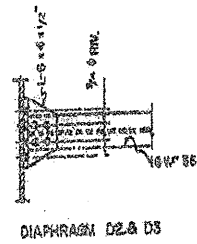
Location 3 S.N. 090-0077 Framing Plan Information Only



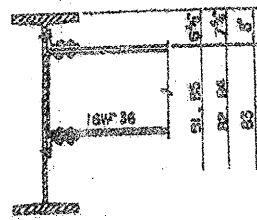
PLAN - STRUCTURAL STEEL

BEAM ELEVATION

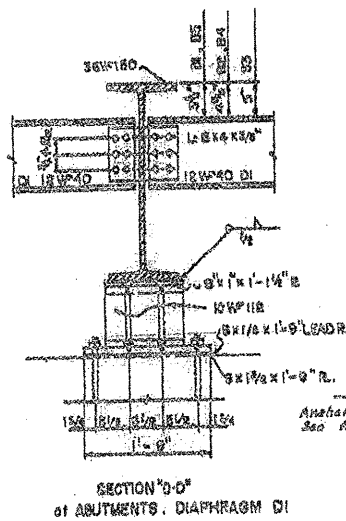
BEAM SPACING = 6'-5"



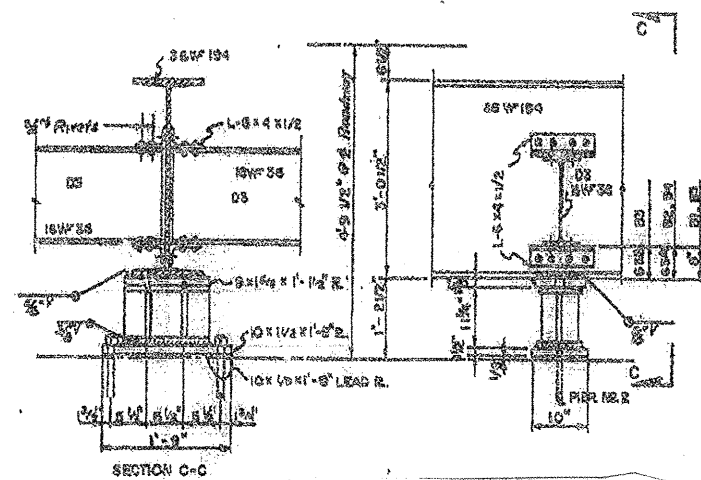
DIAPHRAGM D2 & D3



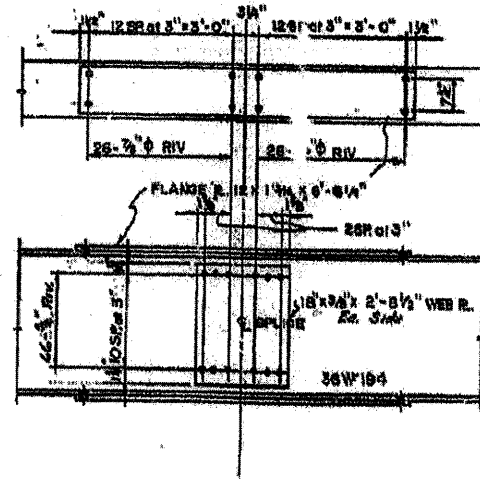
DIAPHRAGM D2



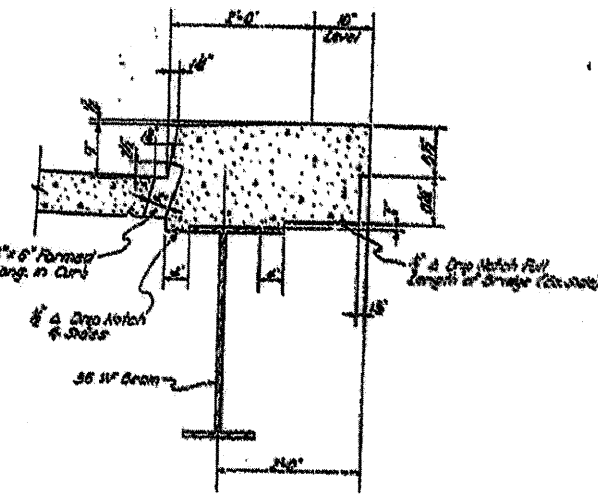
SECTION D-D'
of ABUTMENTS, DIAPHRAGM D1



SECTION C-C



SPICE 2&3



CURB AND FLOOR DRAIN DETAILS

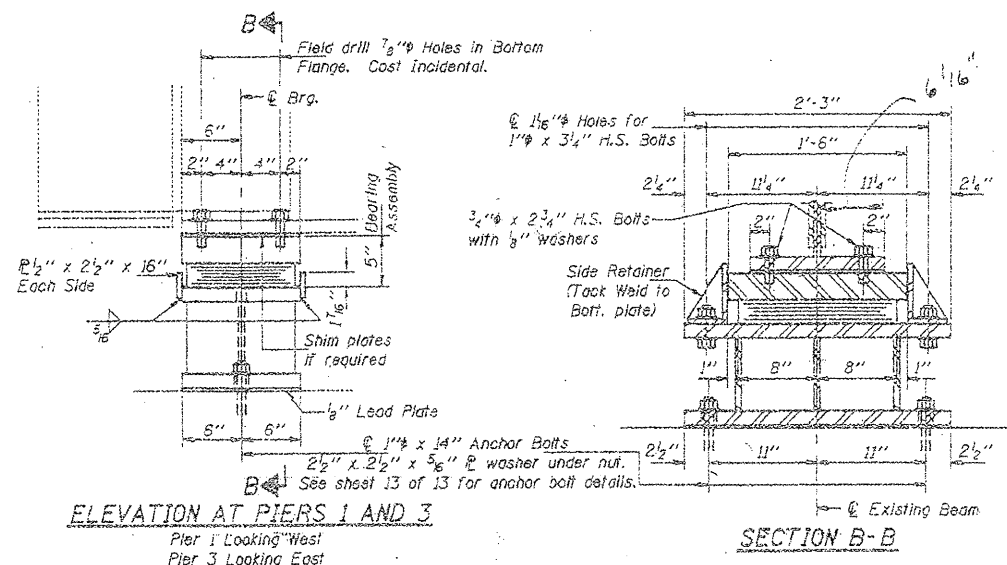
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		CHECKED -	REVISED -		CONTRACT NO. 68991				
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT				
SCALE:					SHEET NO. OF SHEETS STA. TO STA.				

Location 3 S.N. 090-0077 Bearings Information only

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	REVISION	BY	NO.	DATE
7/11/74	15B-15HB	TAZEVELL	13	17

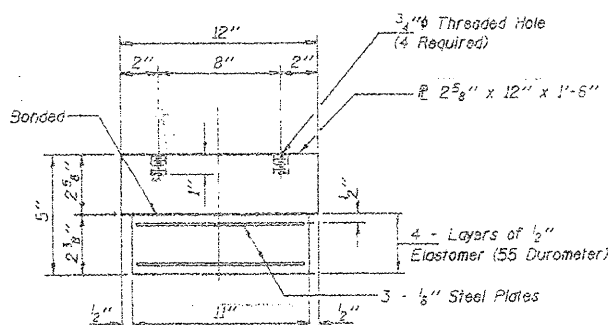
SHEET NO. 8
13 SHEETS



ELEVATION AT PIERS 1 AND 3
Pier 1 Looking West
Pier 3 Looking East

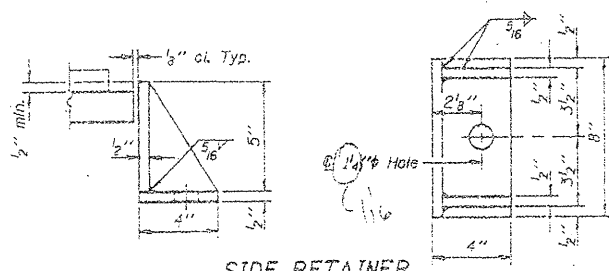
SECTION B-B

TYPE I ELASTOMERIC EXPANSION BEARING



BEARING ASSEMBLY

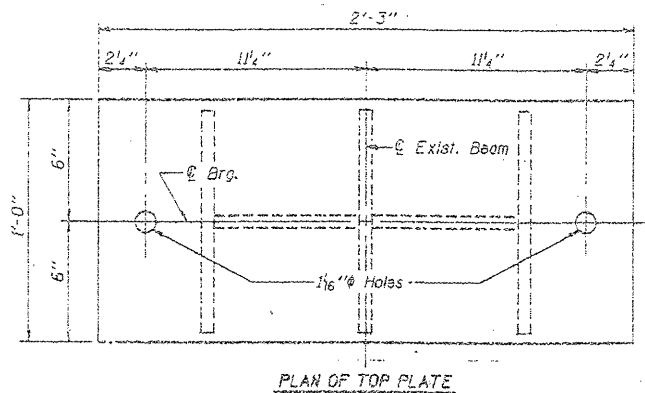
Note: Shim plates shall not be placed under Bearing Assembly.



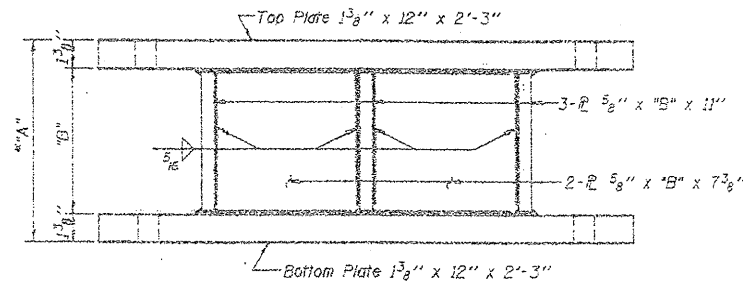
SIDE RETAINER

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

DESIGNED	EXAMINED
CHECKED	PASSED
DRAWN Joe Sutherland	APPROVED
CHECKED	

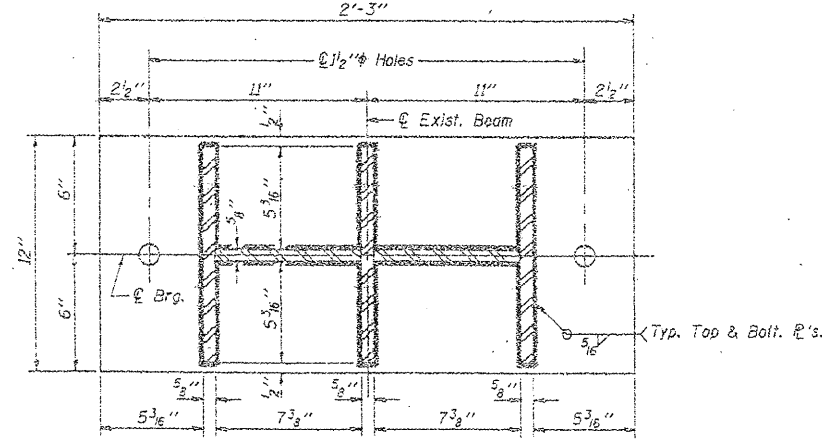


PLAN OF TOP PLATE



ELEVATION

For "A" and "B" dimensions see table below.



PLAN OF BOTTOM PLATE

PIER BOLSTER DETAILS

Typ. for Piers 1 and 3.

TABLE FOR "A" AND "B" DIMENSIONS

Location	Pier 1		Pier 3	
	"A"	"B"	"A"	"B"
Beam 1	10"	7 1/4"	10 1/2"	7 3/8"
Beam 2	10"	7 1/4"	10 1/2"	7 3/8"
Beam 3	10 1/2"	7 3/8"	10"	7 1/4"
Beam 4	10"	7 1/4"	10"	7 1/4"
Beam 5	10 1/2"	7 3/8"	10 3/4"	7 3/8"

* The contractor shall verify this dimension in the field before jacking the beams for bearing removal.

INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. #2	or	Pier 2
	0.6 Sp. #3		
I_s	(in ⁴)	12100	12100
I_c	(in ⁴)	27676	—
S_s	(in ³)	664	664
S_c	(in ³)	918	—
Z	(in ³)	—	—
W	(K/ft.)	.847	1.171
M_R	(K)	2.71	52.4
s_R	(K/ft.)	0.324	—
M_s^p	(K)	121	—
M_c	(K)	465	265
M (Imp)	(K)	121	69.0
$S_2(M-L)$	(K)	978	557
M_0	(K)	1782	1495
M_u	(K)	3830	—
$f_s R$ (non-comp. k.s.l.)		4.9	11.3
$f_s R$ (comp.)	(k.s.l.)	15	—
$f_s S_2 (L+I)$	(k.s.l.)	12.2	10.1
f_s (Overload)	(k.s.l.)	19.3	21.4
f_s (Total)	(k.s.l.)	—	27.8
VR	(K)	145	—

INTERIOR GIRDER REACTION TABLE

	Pier 1 & 3	Pier 2	
R_R	(K)	30.8	99.4
R_L	(K)	35.7	45.2
$Imp.$	(K)	9.2	11.9
R (Total)	(K)	75.7	156.4

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_0 (Applied Moment) = $1.3(M_R + M_s^p + S_2(M-L + I))$.
 M_u is the Full Plastic Moment Capacity for Compact, Brood section.

f_s (Overload) is the sum of the stresses due to $M_R - M_s^p + S_2(M-L + I)$.

f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3(M_R + M_s^p + S_2(M-L + I))$.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	10

PIERS 1 AND 3 BEARING DETAILS

F.A.I. RT. 74 SEC. (90-15HB-4)I

TAZEVELL COUNTY

STATION 922+60.73

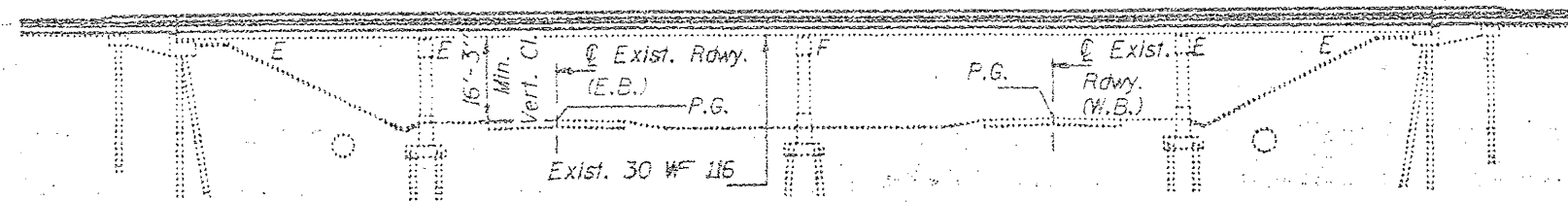
Location 4 S.N.090-0084 Plan view Information Only

Bench Mark: Chiseled "L" on S.W. parapet wing Elev. 751.57.

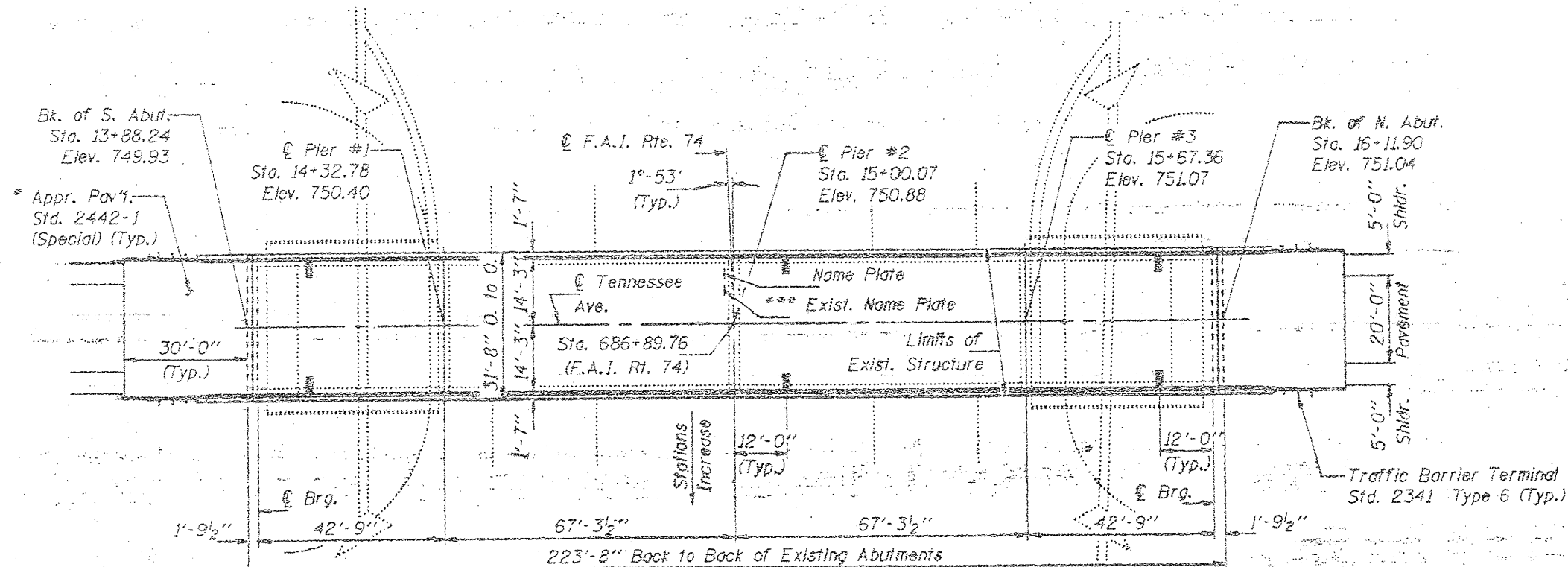
Existing Structure: S.N. 090-0084 R.C. deck supported by 4-span cont. WF beams with length = 223.67' (Bk. to Bk. Abuts.) and width = 31'-8" (O. to O.) was built in 1960.
R.C. Abuts with pile bents. Existing deck to be removed & replaced.

The structure will be closed during construction and traffic will be detoured.

No Salvage



ELEVATION



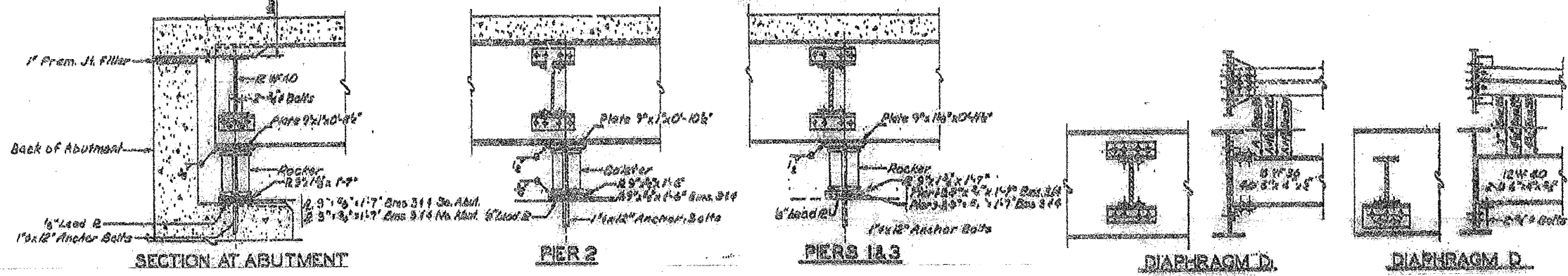
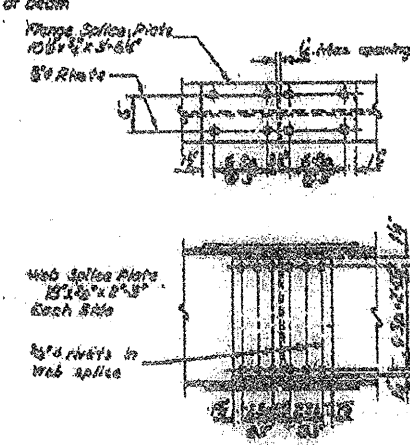
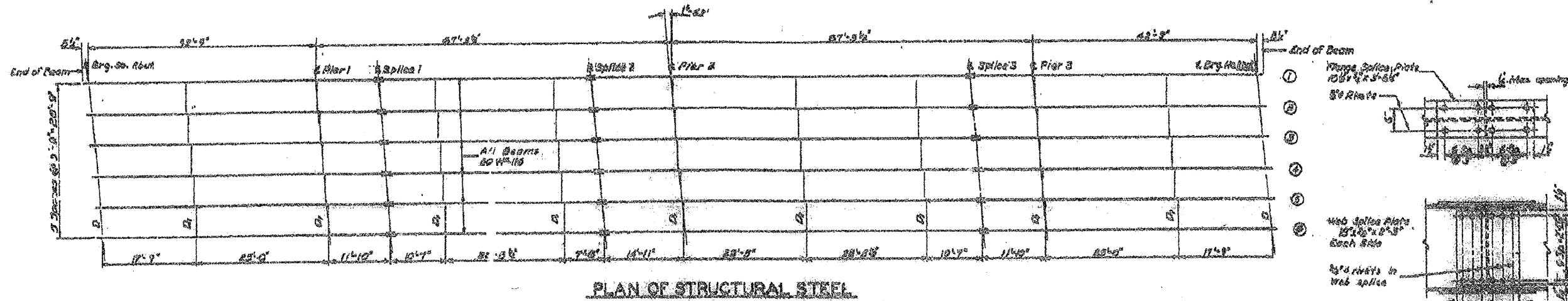
PLAN

*** Existing Name Plates to be cleaned and relocated. Cost is incidental to "Name Plates".

* Bridge Approach Pav't. shall be provided by bridge contractor.

FILE NAME = Copy of 68398.dgn	USER NAME = inglistj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE. 100-11	SECTION [100-11-100-10]@2.5/11-1	COUNTY Tazewell	TOTAL SHEETS 15	SHEET NO. 14
PLOT SCALE = 1/8" = 1' / IN.		DRAWN -	REVISED -							CONTRACT NO. 68991		
PLOT DATE = 4/14/2010		CHECKED -	REVISED -							ILLINOIS FED. AID PROJECT		
		DATE -	REVISED -									

Location 4 S.N. 090-0084 Framing Plan Information Only



Note: All rivet holes to be reamed with all parts assembled to grade and all parts match inserted.

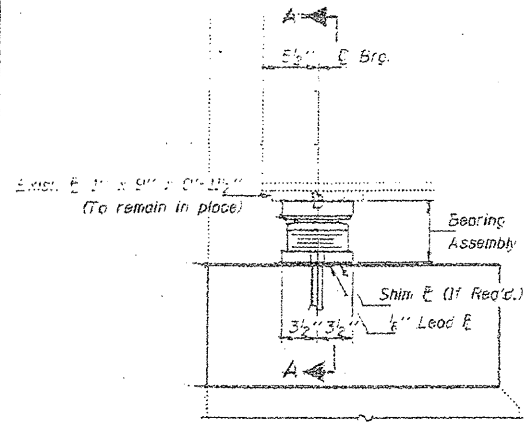
Note; All bearing have been replaced see next sheet for details.

FILE NAME = Copy of 68398.dgn	USER NAME = inglistj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE:	SHEET NO. OF SHEETS STA. TO STA.	F.A. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.	ILLINOIS FED. AID PROJECT
		DRAWN -	REVISED -				1109-12-1490-18-002.3.01-1	TOZEWELL
		CHECKED -	REVISED -				15	15
		DATE -	REVISED -				CONTRACT NO. 68991	

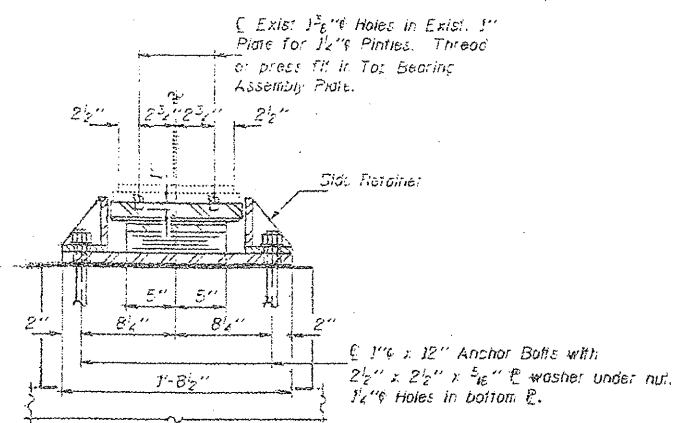
Location 4 S.N. 090-0084 Bearings Plan Information Only

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

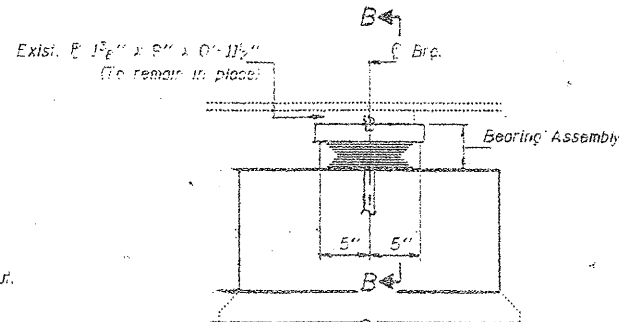
SHEET NO.	REVISION	DATE	BY	CHKD.	SHEET NO. OF SHEETS
F.A.J. 74	E. 211	TAEWELL		76	15 SHEETS



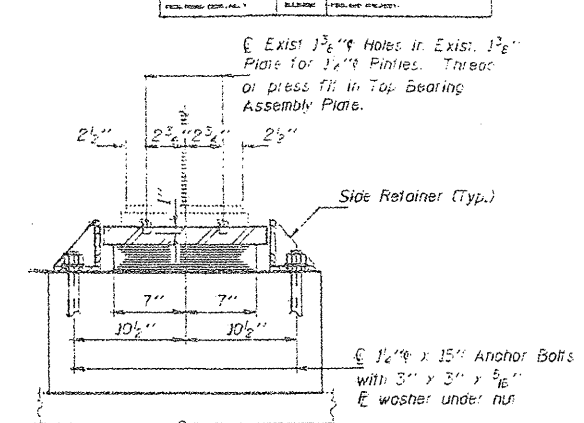
ELEVATION AT ABUTS.



SECTION A-A



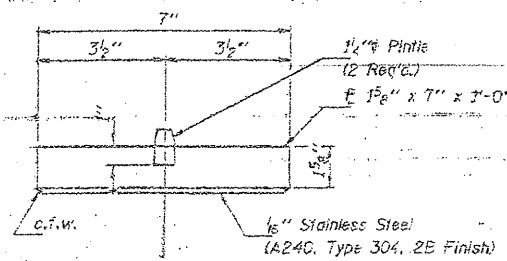
ELEVATION AT PIERS #1 & #3



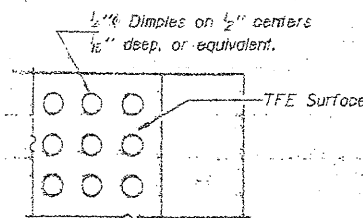
SECTION B-B

TYPE II TFE ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(12 Required)

TYPE I ELASTOMERIC EXP. BRG. BEAMS #1 THRU #6
(12 Required)

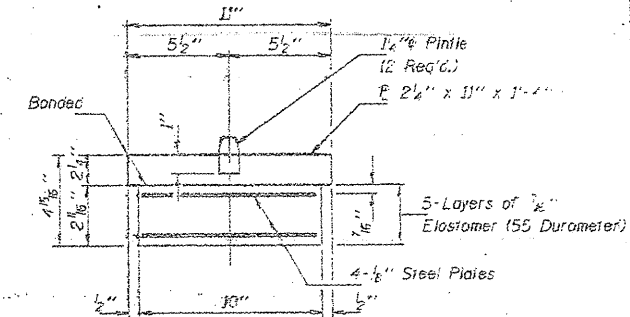


TOP BEARING ASSEMBLY



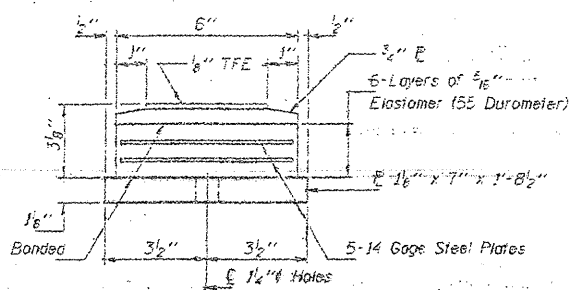
PLAN-TFE SURFACE

Notes: See sheet #11 of 15 for Anchor Bolt Installation.
Existing Anchor Bolts to be cut off flush with top of cap and ground smooth. Cost incidental to jacking existing superstructure.
Weight of Steel Shim Plates, Lead Plates, Anchor Bolts, nuts and washers and Side Retainers is included in "Structural Steel".



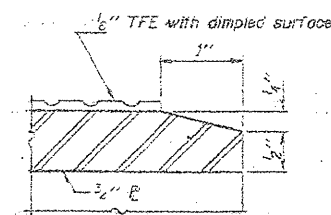
BEARING ASSEMBLY

Note: Shim plates shall not be placed on nor under Bearing Assembly.

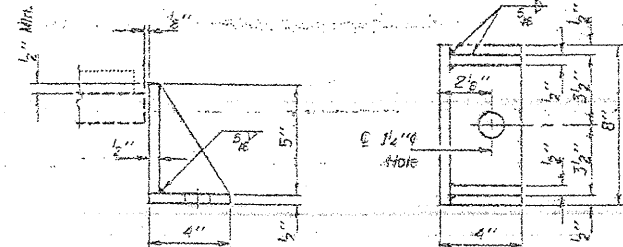


BOTTOM BEARING ASSEMBLY

Note: The 1/2" 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 1. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/2" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

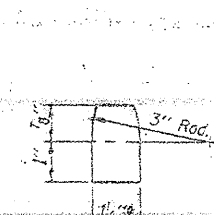


SECTION THRU TFE

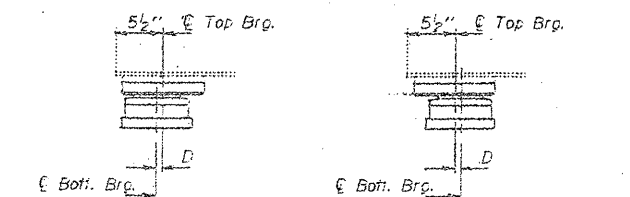


SIDE RETAINER - ABUTMENTS

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

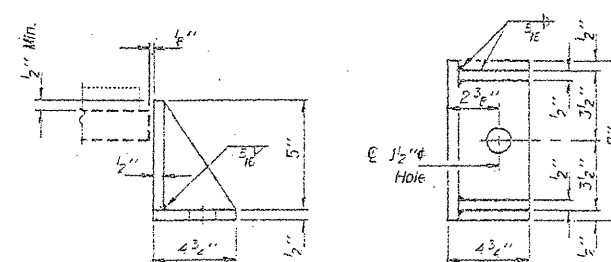


PINTLE



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/4" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



SIDE RETAINER - PIERS #1 & #3

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Elastomeric Bearing Assembly Type II	Each	12

BEARING DETAILS
F.A.J. RT. 74, SEC. (90-15HB-2)I
TAEWELL COUNTY
STA. 685+89.76

ADD 15A

FILE NAME =	USER NAME = inglisj	DESIGNED -	REVISED -
Copy of 68396.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		PLDT DATE = 4/14/2019	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:	SHEET NO. OF SHEETS STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
(105-118-1190-1191-1192-1193-1)		Tazewell	15	15A
CONTRACT NO. 68991				

ILLINOIS FED. AID PROJECT