

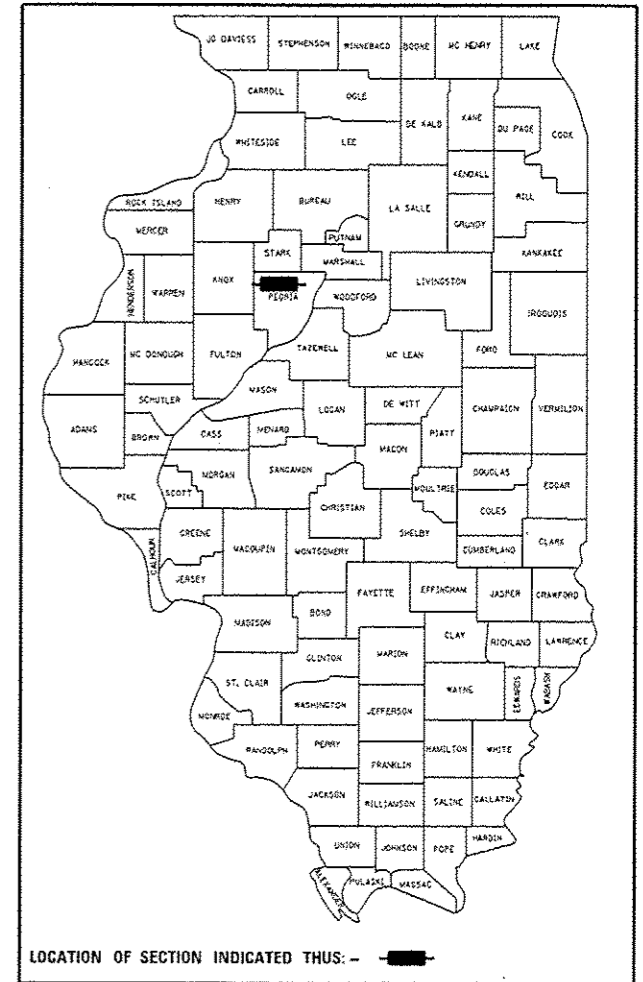
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**
VARIOUS ROUTES
SECTION D4 BRIDGE METALIZING 2016
PROJECT N/A
TYPE of IMPROVEMENT METALIZING
& PAINTING BEAM ENDS
PEORIA COUNTY

C-94-113-15

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D4 BRIDGE METALIZING 2016	PEORIA	19	1
		ILLINOIS	CONTRACT NO. 68C91	

D-94-073-15



FOR INDEX OF SHEETS, SEE SHEET NO. 1

- 2. SUMMARY OF QUANTITIES
- 3. COMMITMENTS AND GENERAL NOTES
- 4-19. PLAN SHEETS

HIGHWAY STANDARDS

- 701101-05
- 701106-02
- 701400-08
- 701406-10

AADT

- S.N. 072-0123, 15,100 TRUCKS 1,650
- S.N. 072-0110, 3,050 TRUCKS 1,025
- S.N. 072-0148, 7,000 TRUCKS 575
- S.N. 072-0149, N/A
- S.N. 072-0111, 13,800 TRUCKS 4100

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

PROJECT ENGINEER MIKE LEWIS (309)671-3454
PROJECT MANAGER TOM INGLIS (309)671-3450

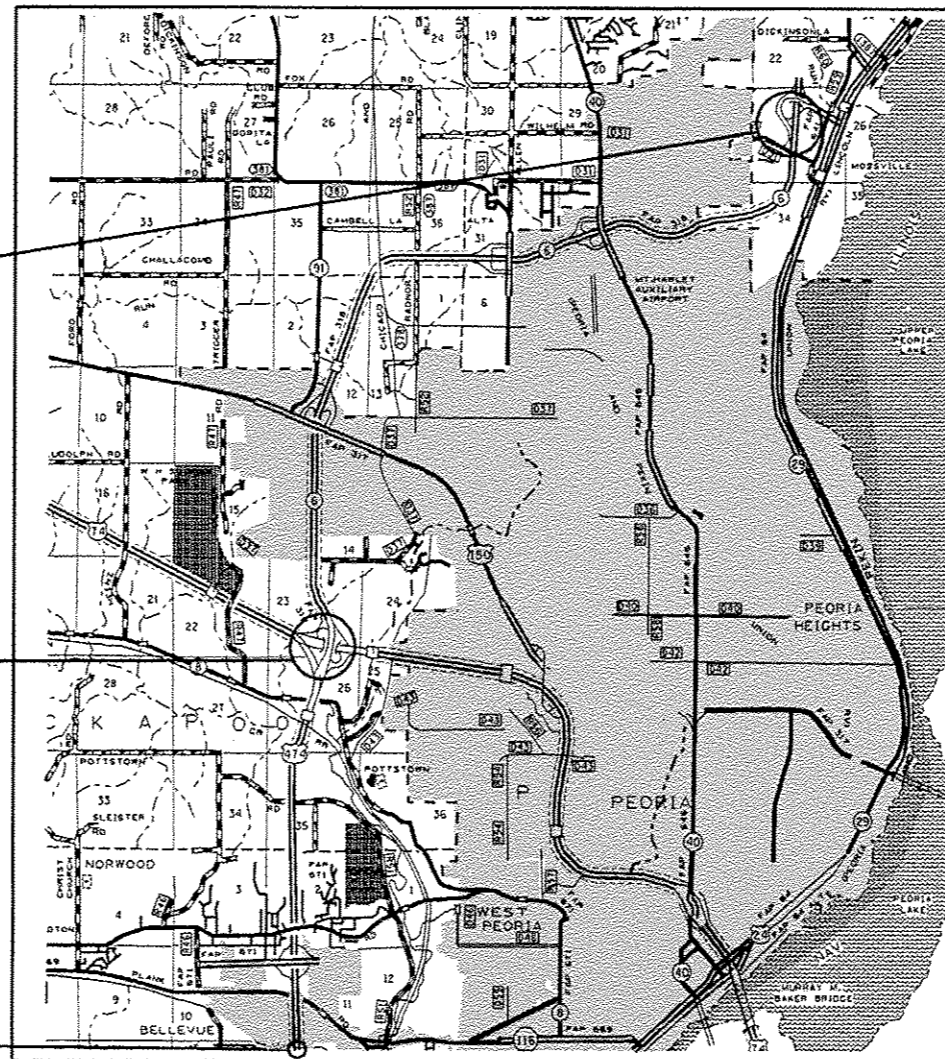
CATALOG NO. 035325-00D

CONTRACT NO. 68C91

location 4 S.N. 072-0149
location 3 S.N. 072-0148

location 5 S.N. 072-0111
location 2 S.N. 072-0110

location 1 S.N. 072-0123



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED February 4, 2016

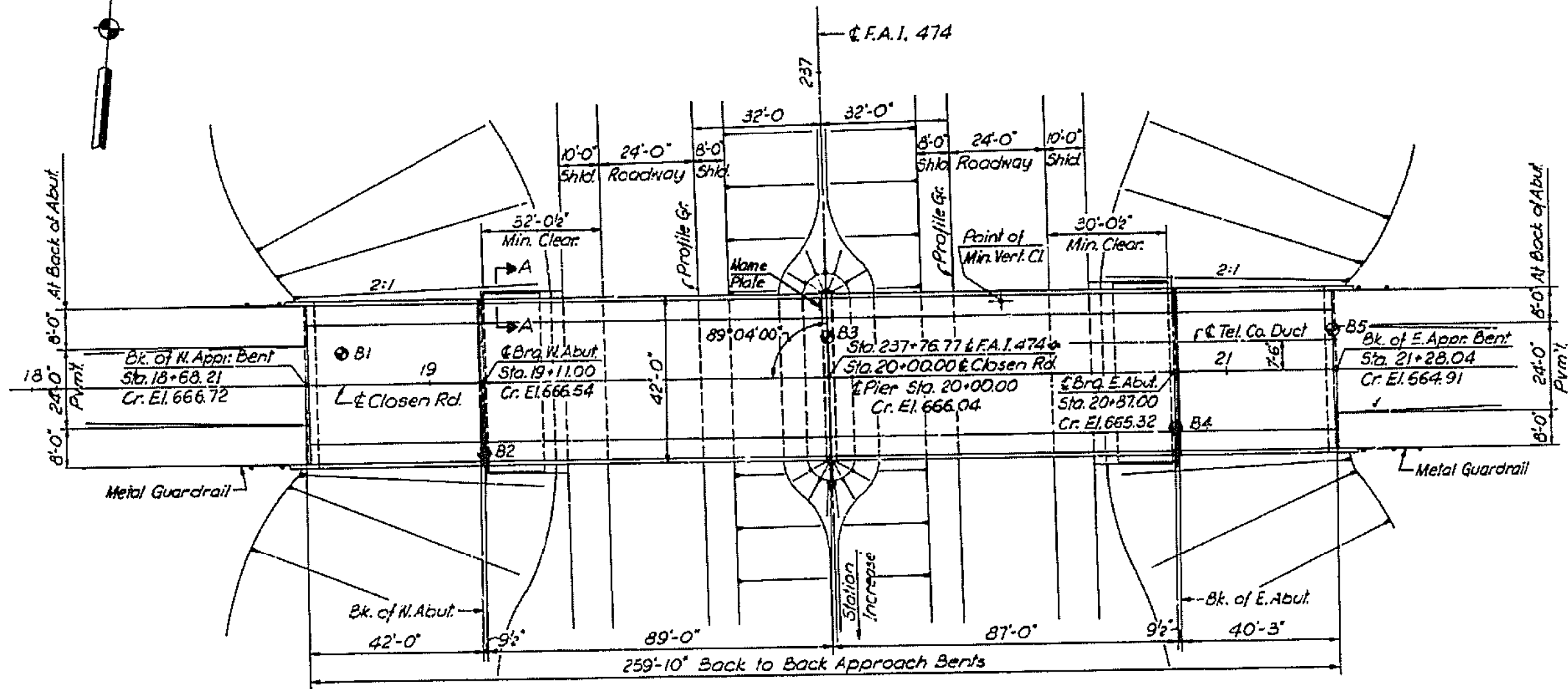
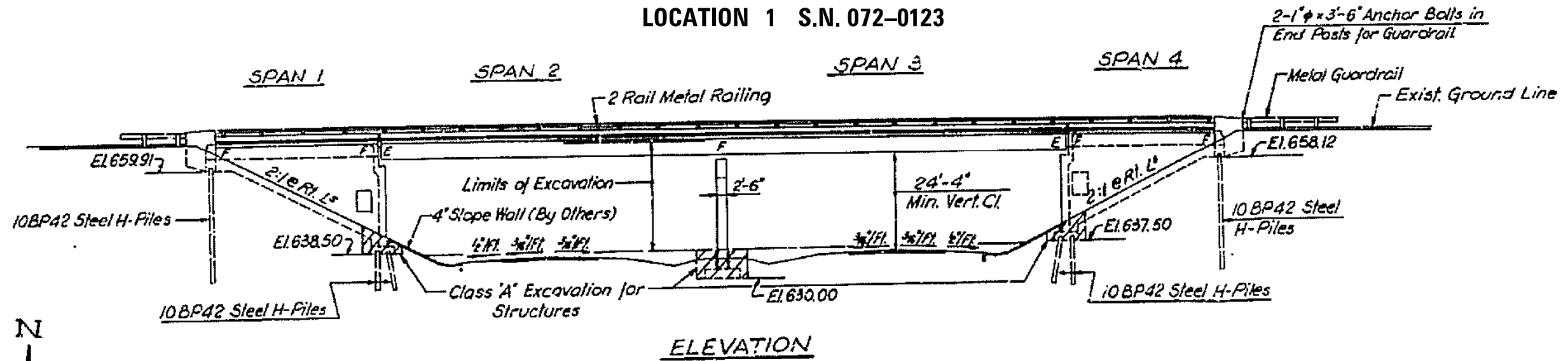
[Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

[Signature] March 10, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

[Signature] March 10, 2016
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

LOCATION 1 S.N. 072-0123

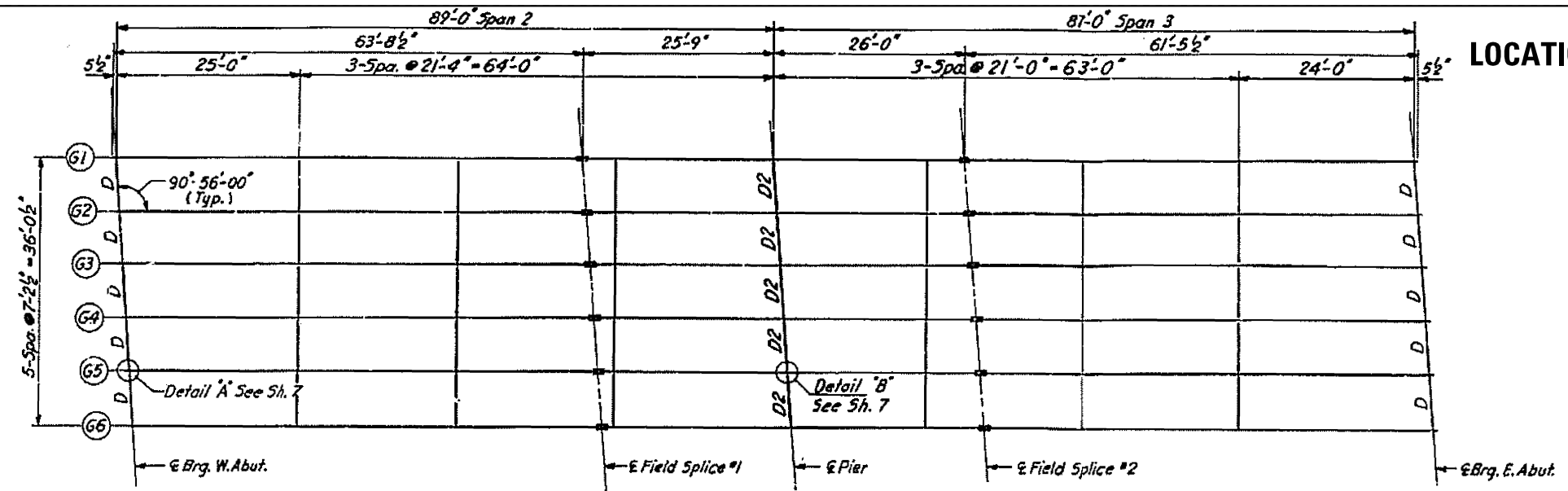


FILE NAME = 68C91 2016 Metalizing.dgn	USER NAME = keathbr	DESIGNED -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
	PLOT DATE = 2/5/2016	CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

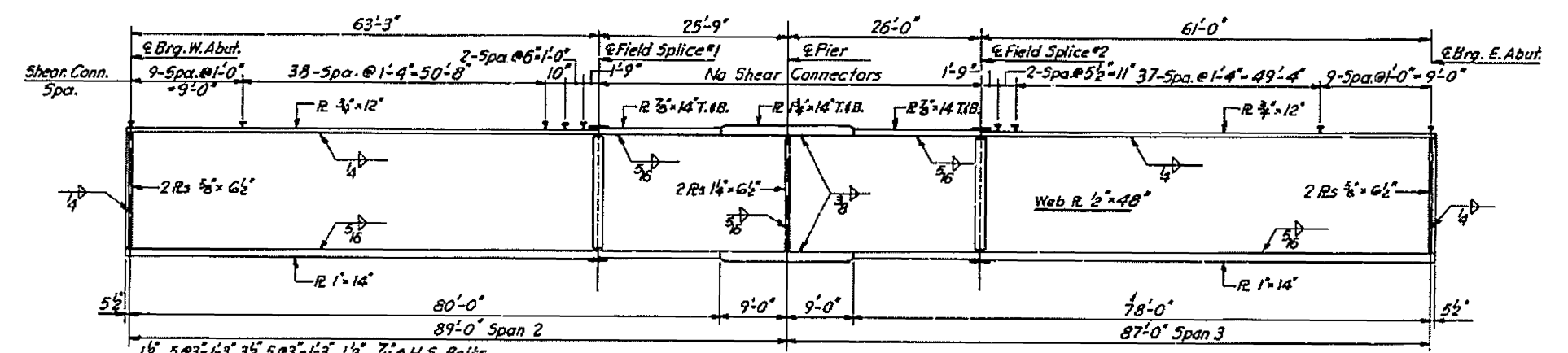
LOCATION 1		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLAN VIEW		VAR 04	BRIDGE METALIZING 2016	PEORIA	19	4
SCALE:	SHEET 4	OF 19 SHEETS	STA.	TO STA.	68C91	

ILLINOIS	FED. AID PROJECT
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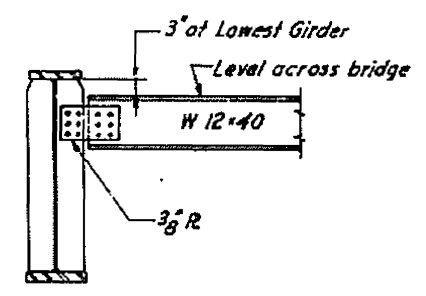
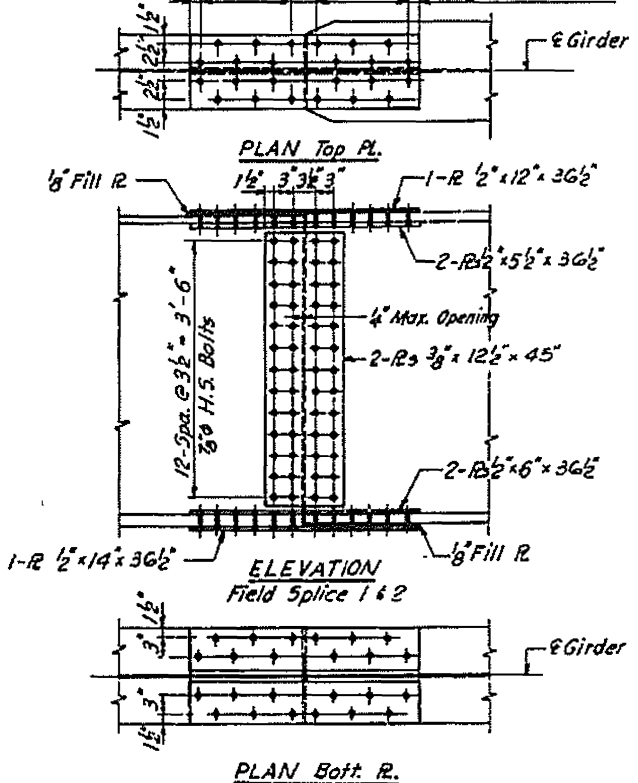


FRAMING PLAN

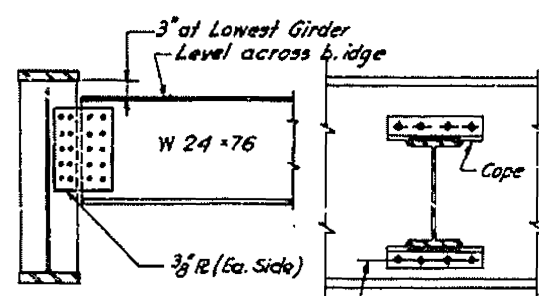
Note: All Diaphragms D1 unless otherwise noted.



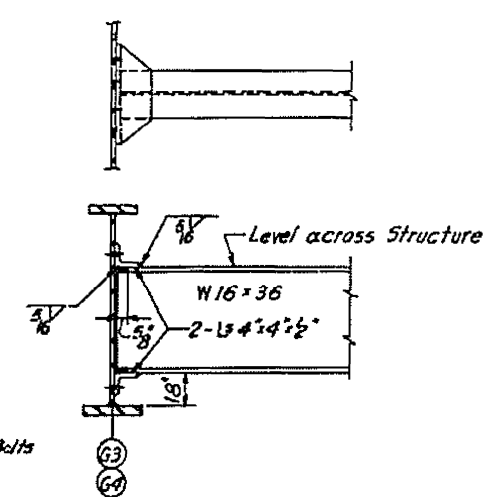
GIRDER ELEVATION



DIAPHRAGM D
10 Required

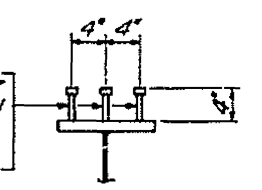


DIAPHRAGM D2
5 Required



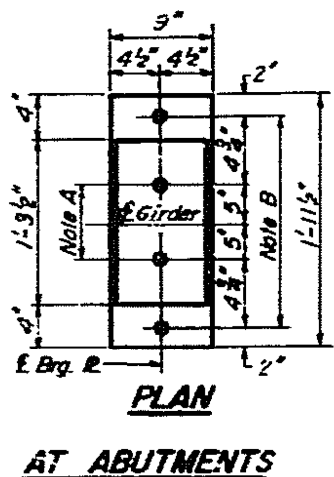
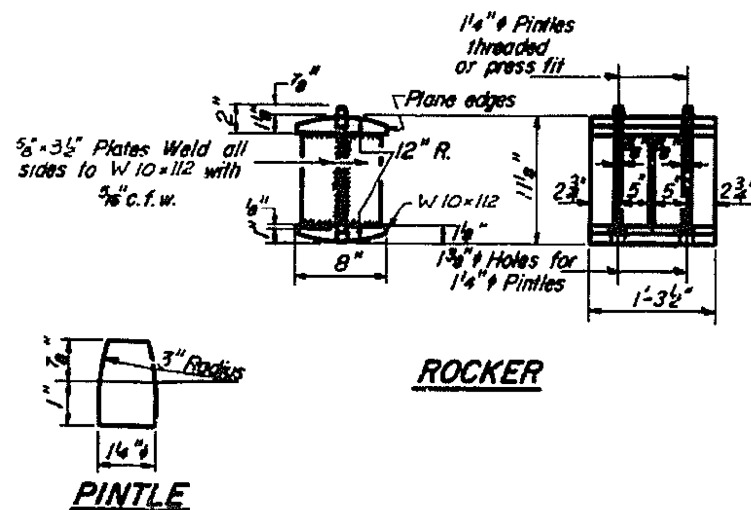
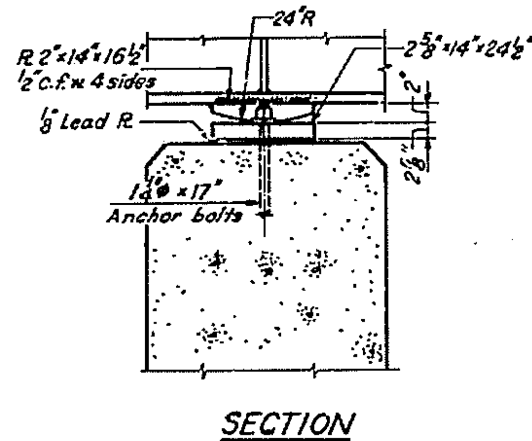
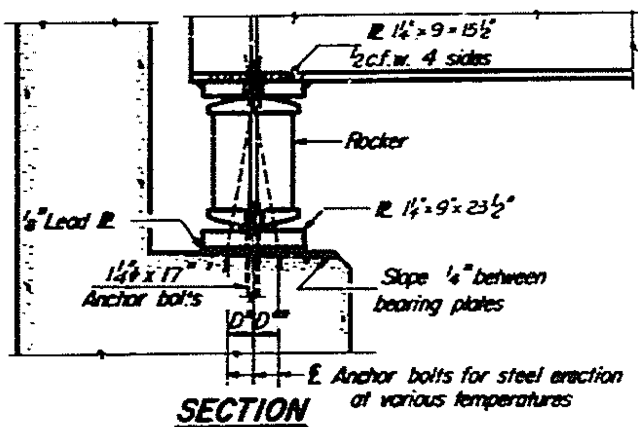
DIAPHRAGM D1
30 Required

3/8" x 4" CR1020 STL Granular or solid Flux filled headed studs automatically end Welded to girder



SHEAR CONNECTOR DETAIL
No Req'd = 1,800

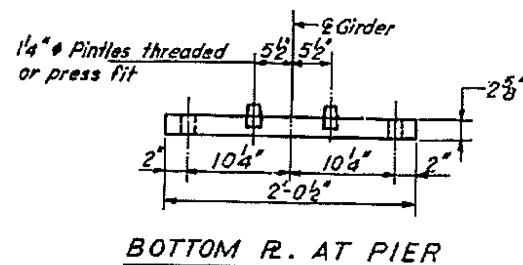
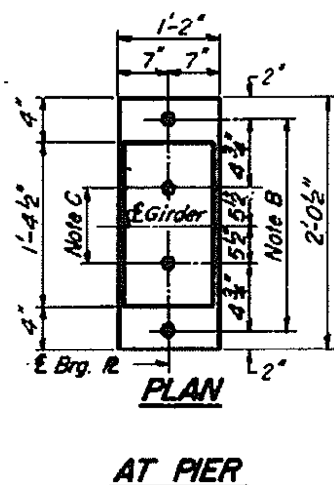
LOCATION 1 S.N. 072-0123



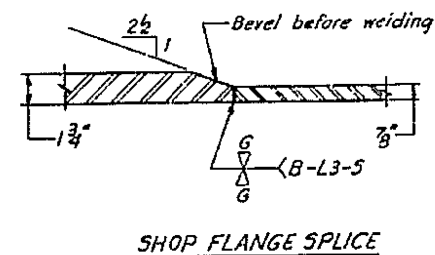
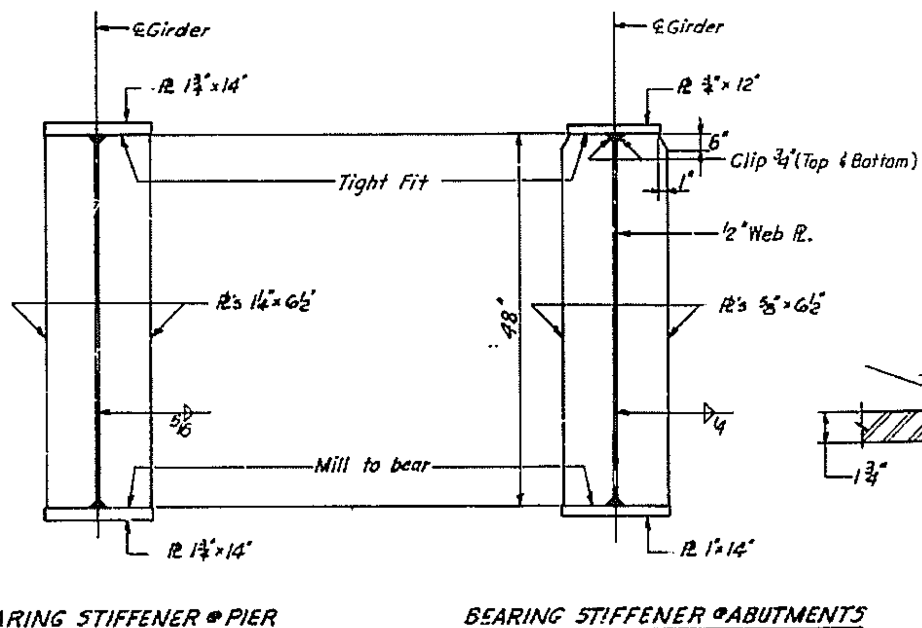
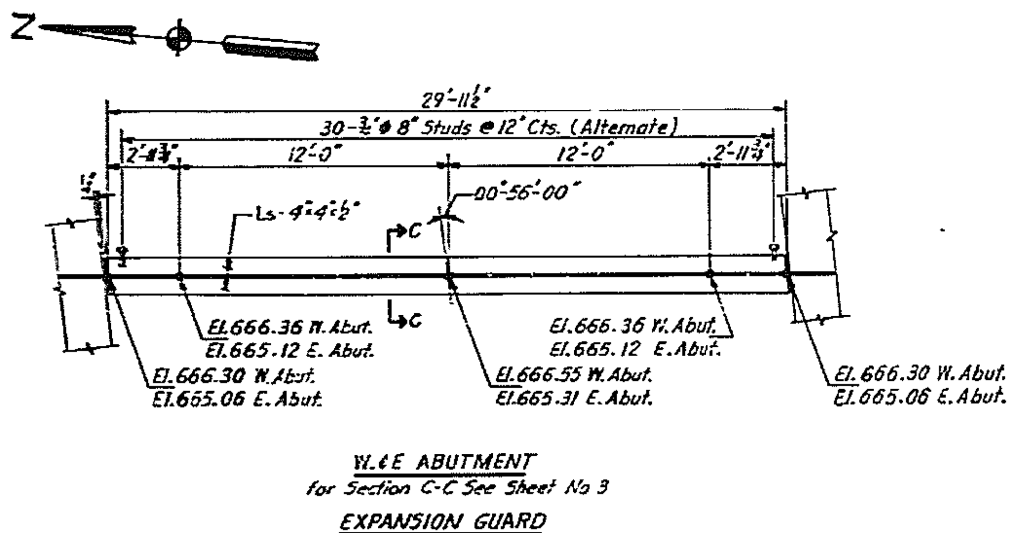
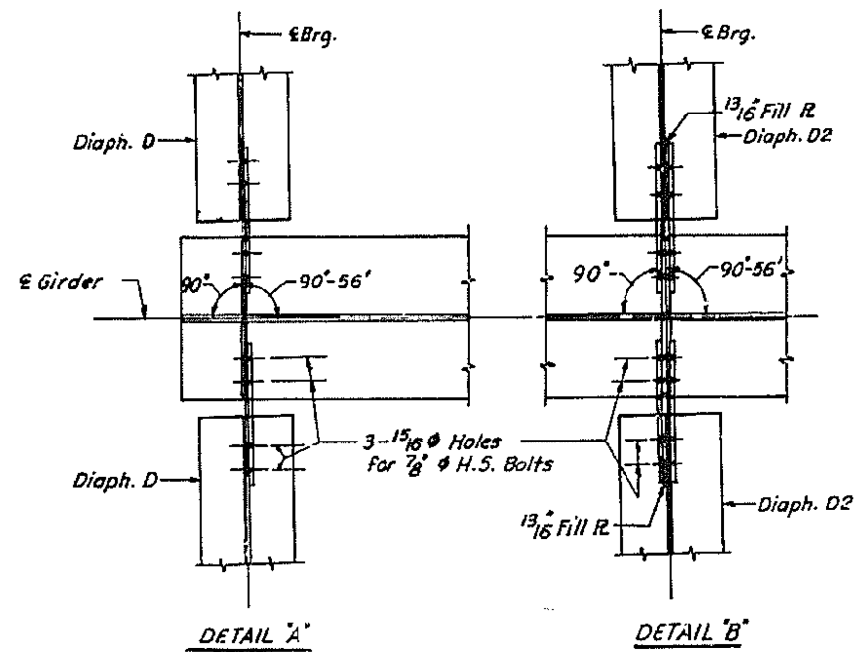
NOTE A
 1 3/8" Holes - 1" deep in top R. for pindles. Thread or press fit pindles into bottom R.

NOTE B
 1 3/8" Holes for 1/4" anchor bolts. 5/16 x 2 1/2 x 2 1/2" R. Washers under nut.

NOTE C
 1 3/8" Holes 1" deep in top R. only for 1/4" pindles.



BEARING ASSEMBLY DETAILS



Note - All Bearing stiffeners to be vertical

FILE NAME = 68C91 2016 Metalizing.dgn	USER NAME = keathbr	DESIGNED -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
	PLOT DATE = 2/5/2016	CHECKED -	REVISED -
		DATE -	REVISED -

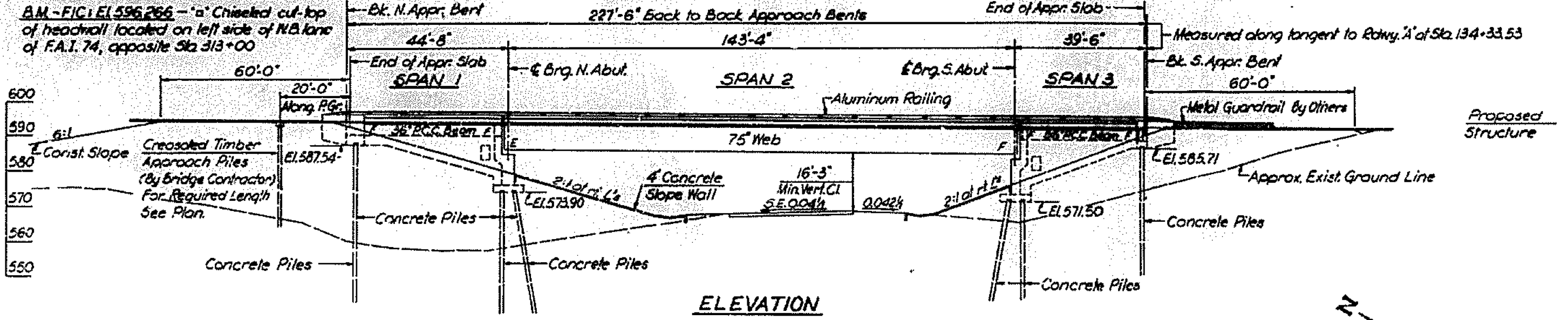
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

LOCATION 1
 STRUCTURAL DETAIL

SCALE: SHEET 6 OF 19 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR D4 BRIDGE METALIZING 2016		PEORIA	19	6
				68C91
ILLINOIS FED. AID PROJECT				

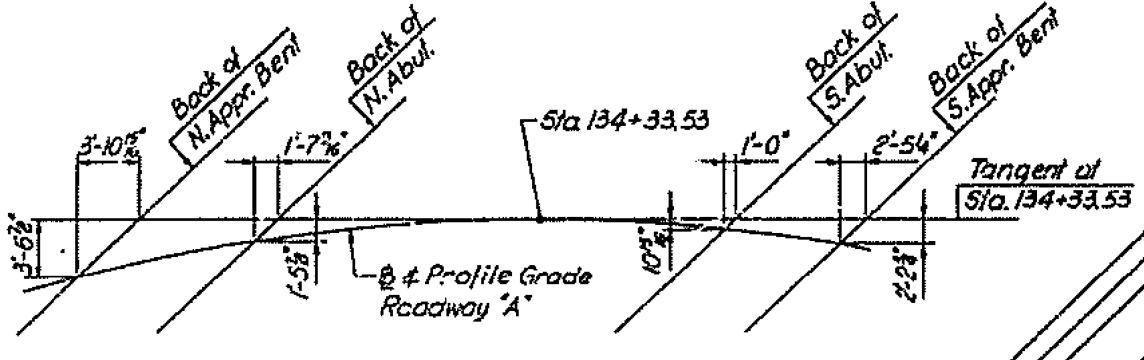
LOCATION 2 S.N. 072-0110



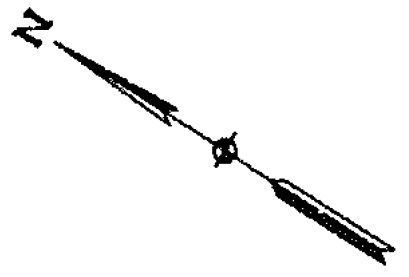
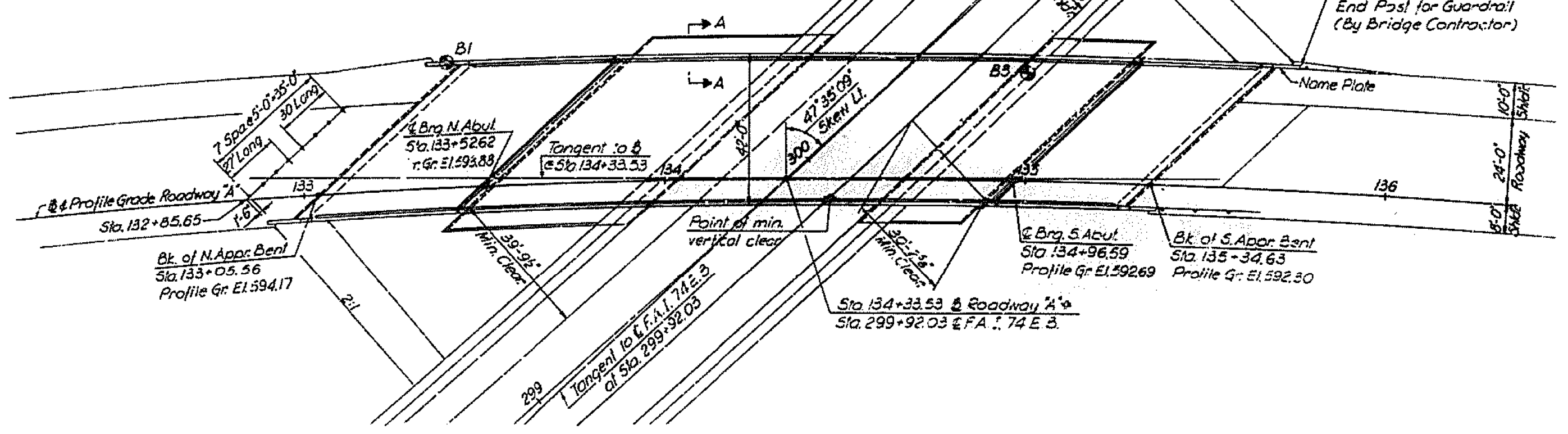
ELEVATION

CURVE DATA

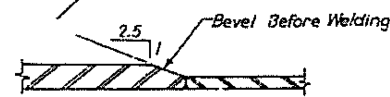
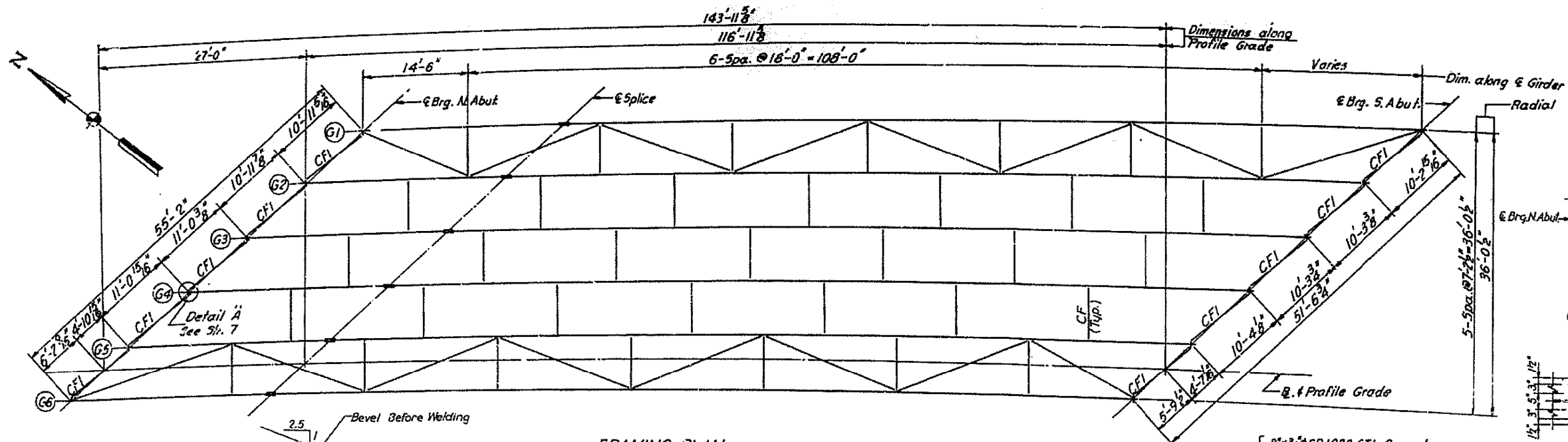
ROADWAY 'A'	F.A.I. 74 E.B. AT &
Δ = 44° 21' 58.1"	Δ = 19° 16' 30.3"
Dc = 2° 30' 00"	Dc = 1° 28' 19"
R = 2,291.8311'	R = 3,892.8600'
T = 934.4891'	T = 661.0520'
L = 1,774.6456'	L = 1,309.6114'
P.C. Sta 120+00.00	P.C. Sta 291+09.457
P.I. Sta 129+34.489	P.I. Sta 297+70.509
P.T. Sta 137+74.646	P.T. Sta 304+19.068
SE = 0.06%	SE = 0.04%



OFFSET DIAGRAM

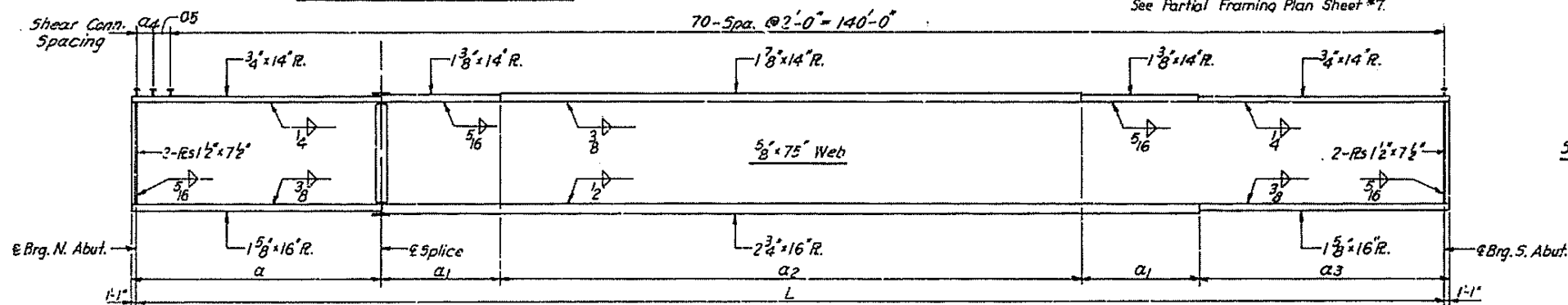


LOCATION 2 S.N. 072-0110

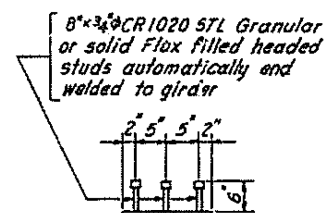


FRAMING PLAN

Note: All Cross Frames CF unless otherwise noted For Bottom Lateral Bracing See Partial Framing Plan Sheet #7.



GIRDER ELEVATION



SHEAR CONNECTOR DETAIL
No Req. = 1311

GIRDER SCHEDULE

Girder	L	a	a ₁	a ₂	a ₃	a ₄	a ₅
1	141'-7 1/2"	27'-7 3/8"	14'-0"	61'-0"	27'-2 5/8"	1'-7 1/2"	-
2	142'-1 3/8"	27'-8 7/8"	-	-	27'-7 3/8"	1'-0"	1'-1 1/2"
3	142'-7 1/2"	27'-9 3/4"	-	-	28'-0 1/8"	1'-3"	1'-4 1/2"
4	143'-2 1/2"	27'-11 1/8"	-	-	28'-5 3/8"	1'-7"	1'-7 1/2"
5	143'-8 3/4"	28'-0 3/8"	-	-	28'-10 3/8"	1'-10"	1'-10 1/2"
6	144'-3 3/8"	28'-1 3/4"	14'-0"	61'-0"	29'-3 5/8"	2'-1 1/2"	2'-2"

TOP OF WEB ELEVATIONS FOR FABRICATION

Girder	@ Brg. N. Abut.	@ Splice	@ Brg. S. Abut.
1	594.50	594.41	593.24
2	594.13	594.04	592.86
3	593.78	593.67	592.48
4	593.38	593.29	592.10
5	593.01	592.91	591.72
6	592.63	592.53	591.34

GIRDER SCHEDULE FOR CAMBER DIAGRAM

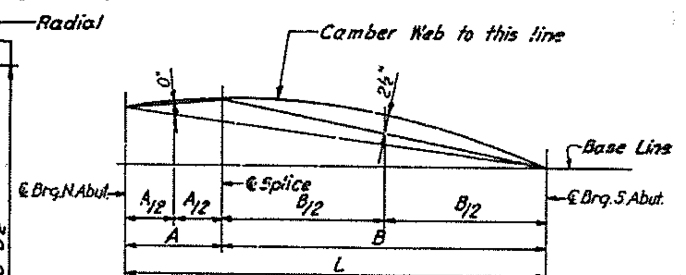
Girder	L	A	B	A/2	B/2
1	141'-7 1/2"	26'-6 3/8"	113'-15 1/8"	13'-3 3/8"	57'-6 1/8"
2	142'-1 3/8"	26'-7 7/8"	115'-6 3/8"	13'-3 3/4"	57'-9 3/4"
3	142'-7 1/2"	26'-8 3/4"	115'-11 1/8"	13'-4 3/8"	57'-11 1/8"
4	143'-2 1/2"	26'-10 1/8"	116'-4 3/8"	13'-5 1/8"	58'-2 3/8"
5	143'-8 3/4"	26'-11 3/8"	116'-9 3/8"	13'-5 11/8"	58'-4 1/8"
6	144'-3 3/8"	27'-0 3/4"	117'-2 3/8"	13'-6 3/8"	58'-7 3/8"

INTERIOR GIRDER MOMENT TABLE

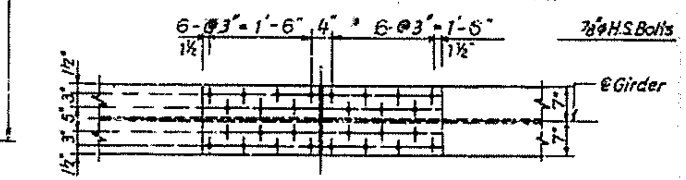
	5 Span
I _s (in ⁴)	123,084
I _c (in ⁴)	219,609
S _s (in ³)	3,600
S _c (in ³)	4,260
Q (K/ft)	1.136
M ₀ (K)	2944.4
F _{s0} (K/ft)	9.9
S ₀ (K)	419
M _{s0} (K)	1086.0
M ₀ (K)	1,515
M _{imp} (K)	280.8
Total (K)	2,881.8
F _{s0} (K/ft)	8.1
F _{s0} (K/ft)	18.0
VR (K)	55.9
M ₀ (K)	6.9
M _{s0} (K)	2.5
M ₀ (K)	3.6
M _{imp} (K)	-6
F _s Total (K)	2.00

INTERIOR GIRDER REACTION TABLE

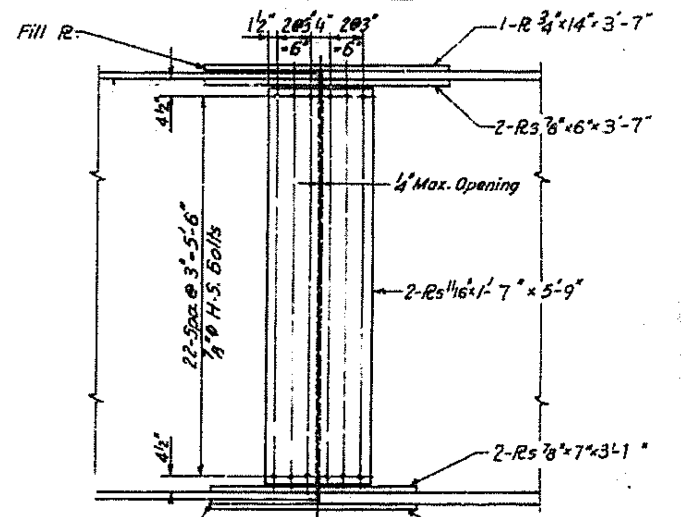
	N. Abut.
R ₀ (K)	111.8
R ₀ (K)	47.0
Imp (K)	8.9
R total	167.7



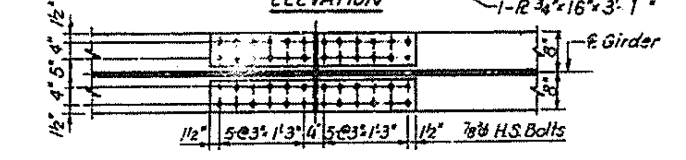
CAMBER DIAGRAM
See Girder Schedule for Camber Diagram this sheet.
(Camber includes D.L. deflection + Vertical Curve)



PLAN TOP R.



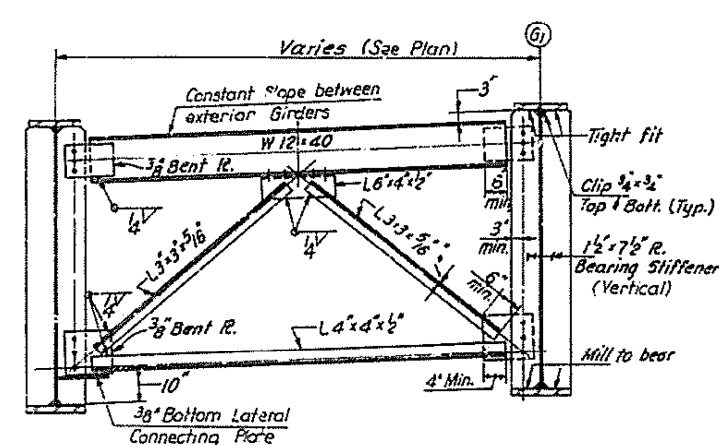
ELEVATION



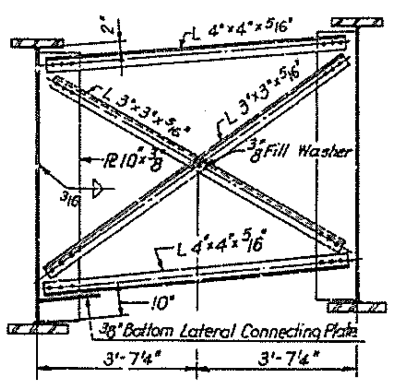
PLAN BOT. R.



FIELD SPLICE DETAIL



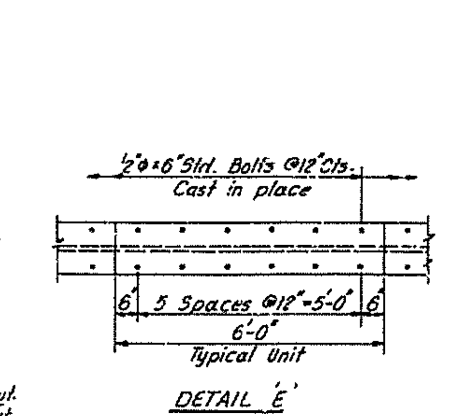
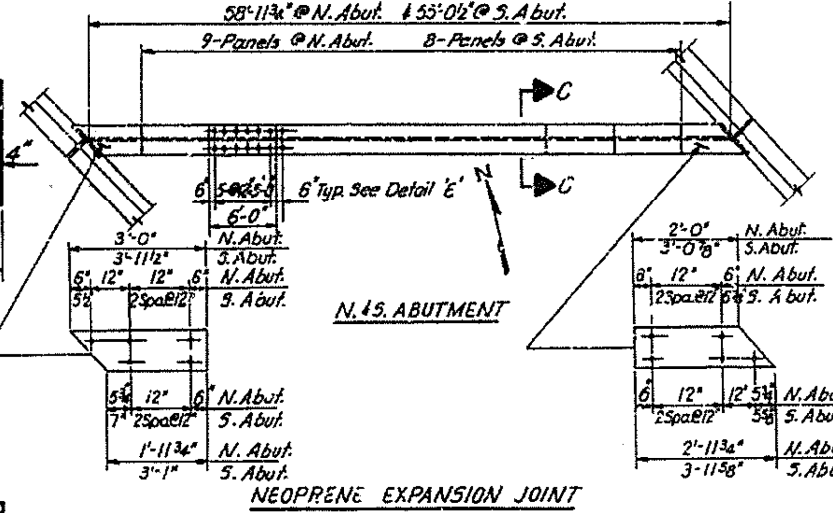
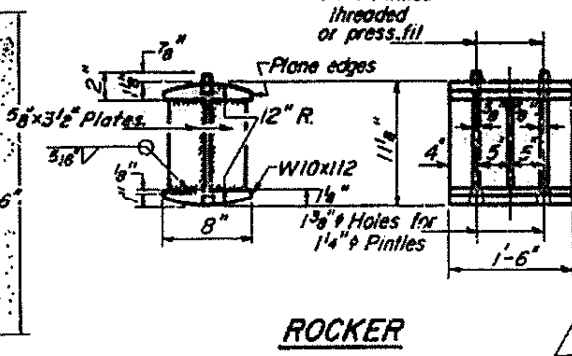
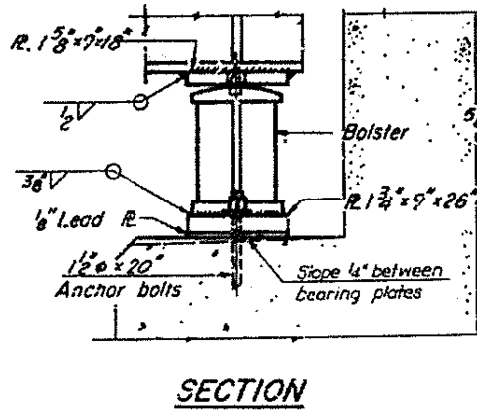
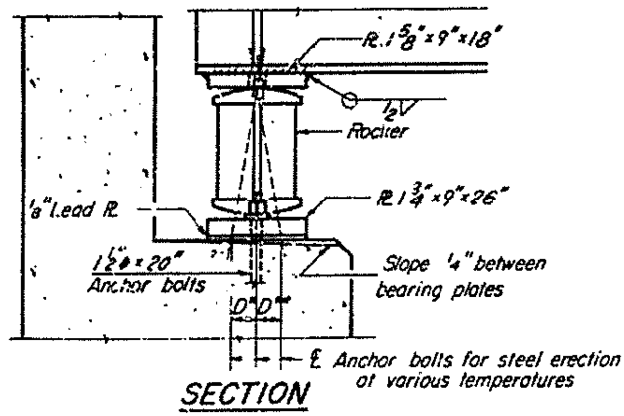
CROSS FRAME CF1
No. Required 10



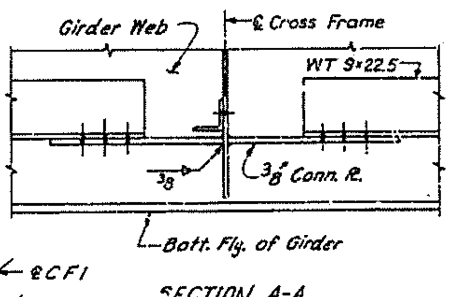
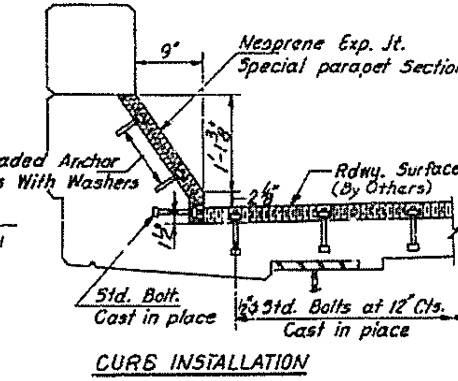
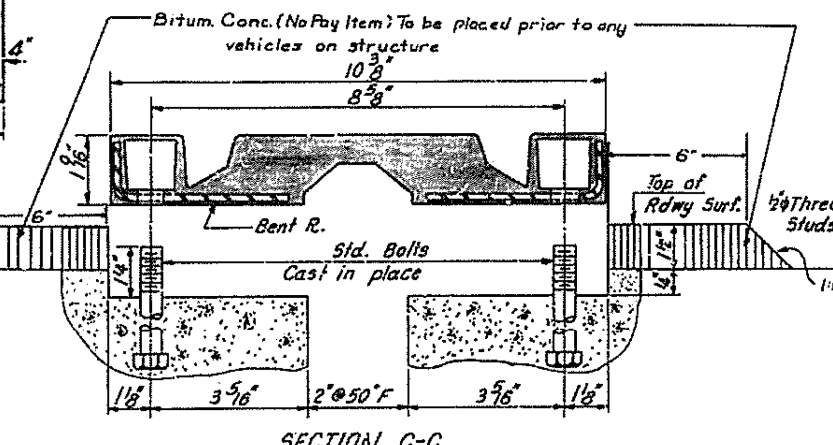
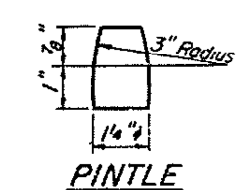
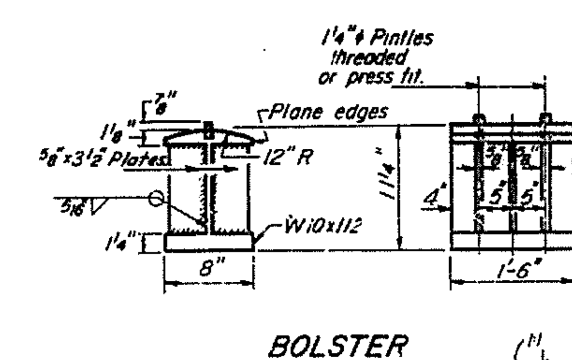
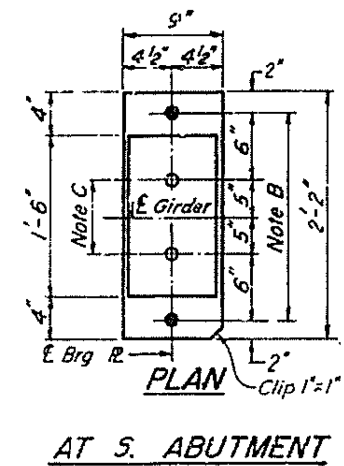
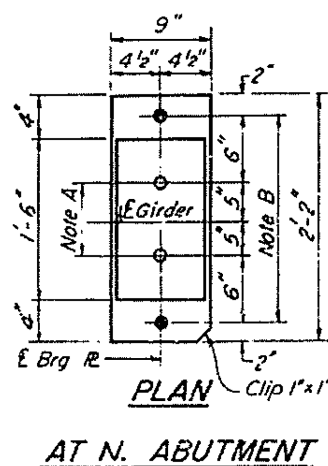
CROSS FRAME CF
No. Required 35

All girders shall be fabricated to their respective radii shown on table on this sheet.

LOCATION 2 S.N. 072-0110



Note: Anchor bolts require a clipped washer, lockwasher and hex. nut.



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

NOTE B
2 inch Holes for 1 1/2 inch anchor bolts 3/16 x 2 1/2 x 2 1/2 inch R. Washers under nut.

NOTE C
1 3/8 inch Holes 1 inch deep in top flange only for 1 1/4 inch pintles.

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

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

BEARING ASSEMBLY DETAILS

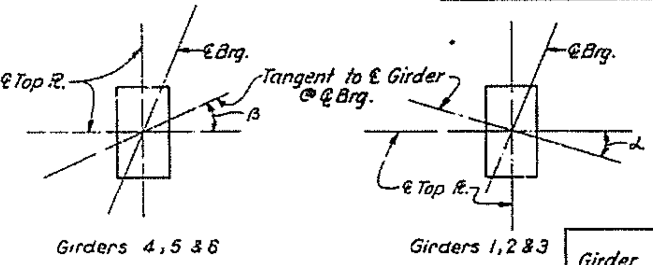
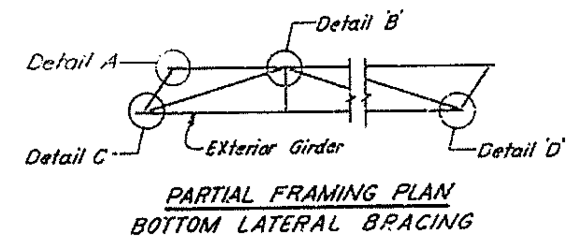
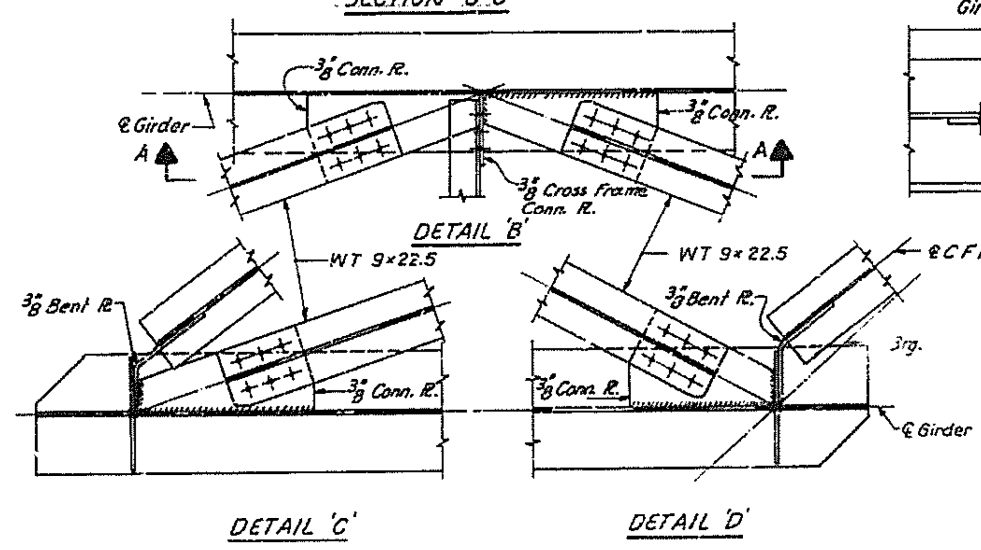
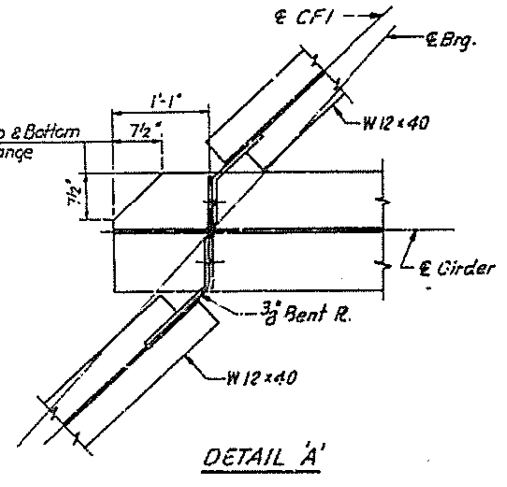


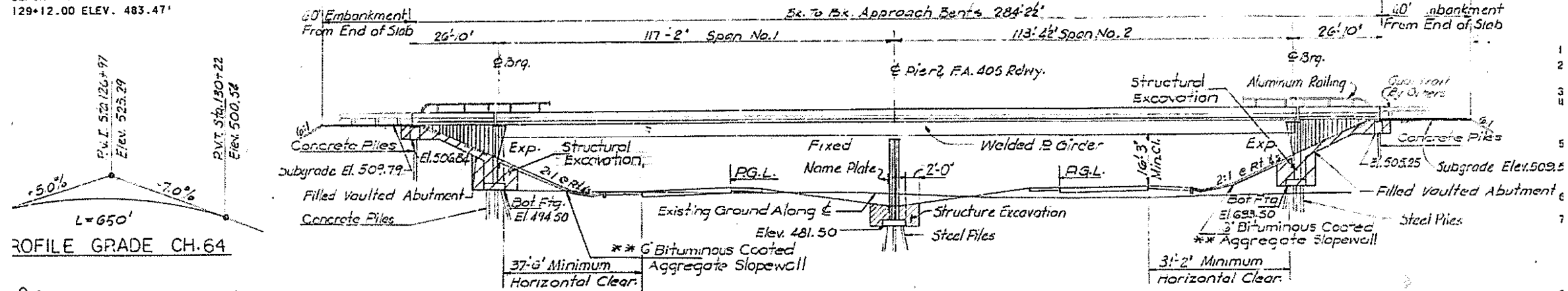
TABLE OF ANGLES

Girder	Angle α @ Brg. N. Abut.	Angle β @ Brg. S. Abut.
1	0° 31' 08"	0° 27' 29"
2	0° 18' 56"	0° 16' 42"
3	0° 06' 37"	0° 05' 48"
4	0° 06' 50"	0° 05' 11"
5	0° 18' 25"	0° 16' 17"
6	0° 31' 08"	0° 27' 30"

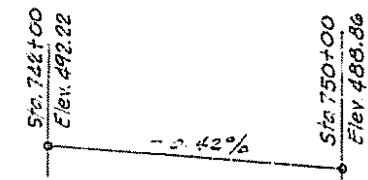


LOCATION 3 S.N. 072-0148

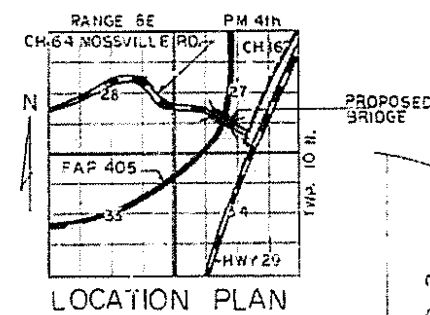
BENCH MARK: R.R. SPIKE 34' RT. AT STA. 129+12.00 ELEV. 483.47'



PROFILE GRADE CH.64



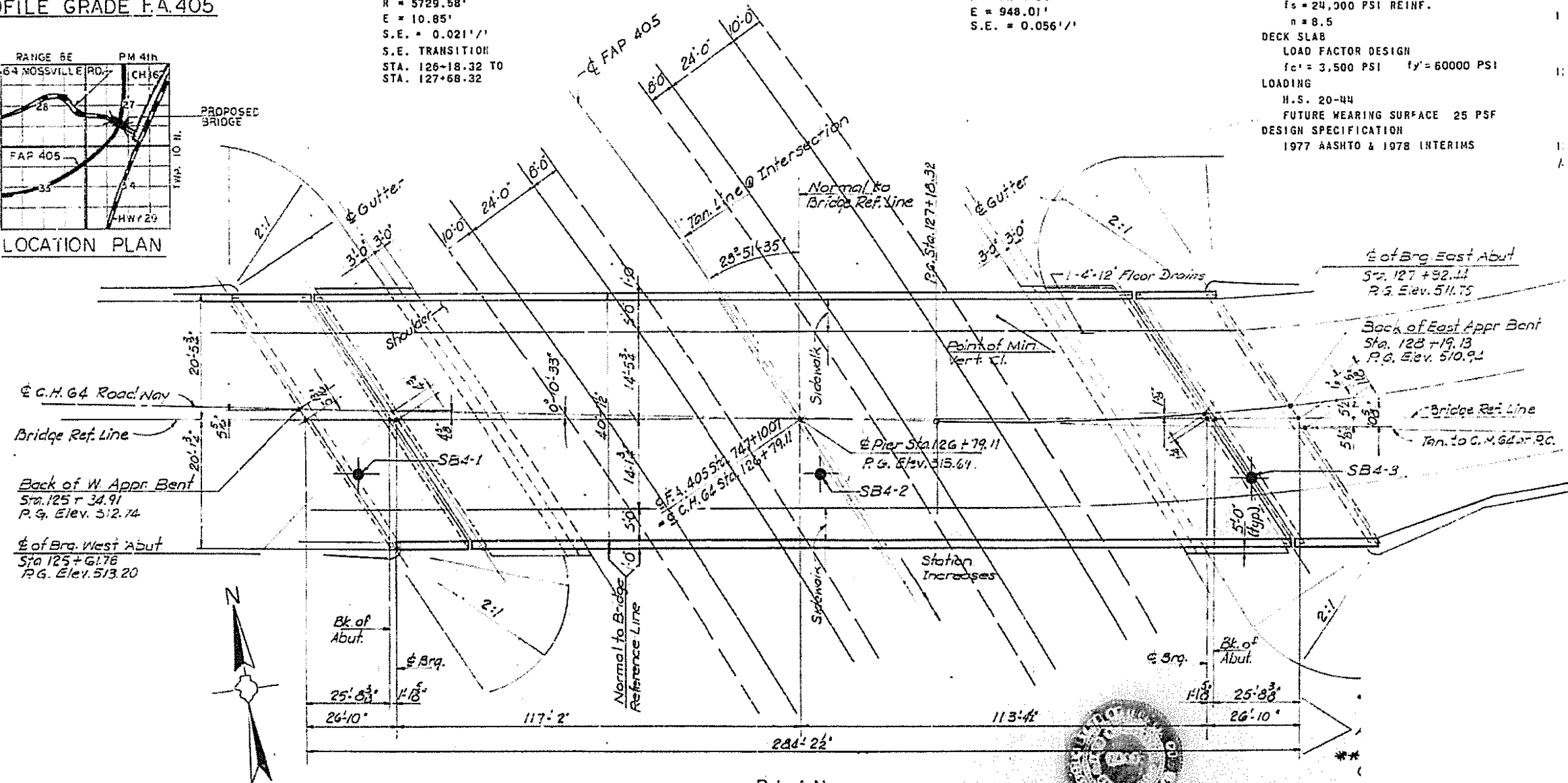
PROFILE GRADE F.A.405

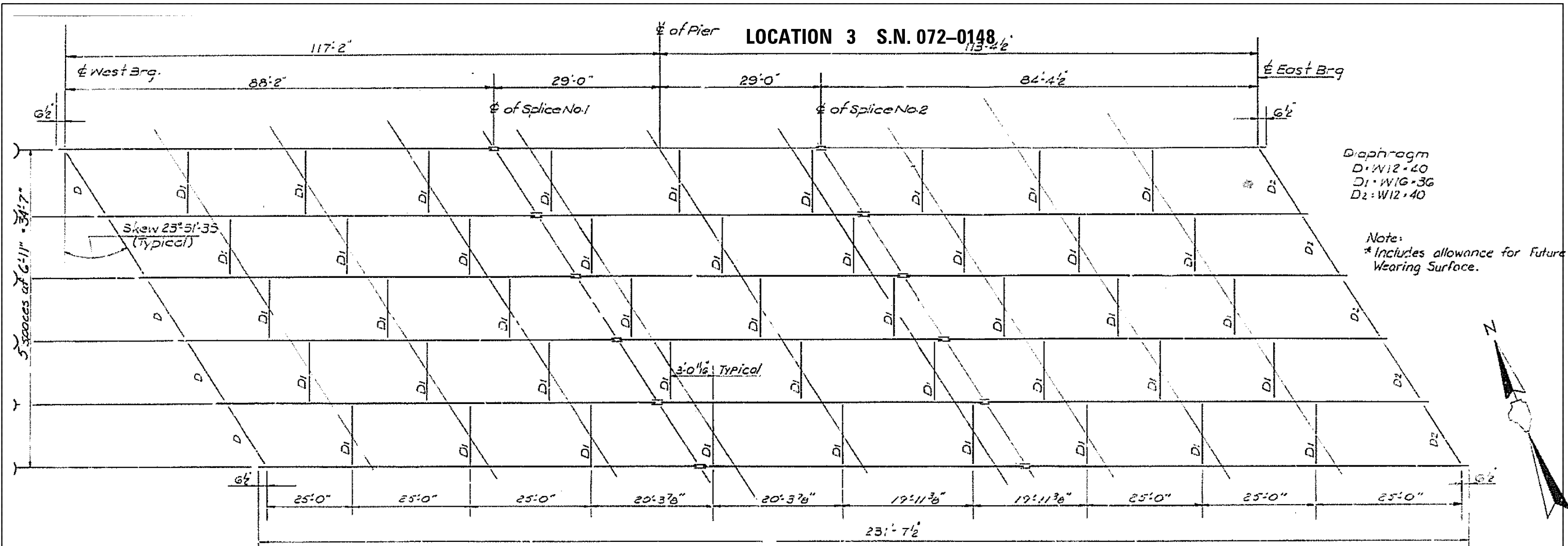


C.H. 64 CURVE DATA
 P.I. STA. 130+71.10
 Δ = 7° 02' 48"''
 D = 1° 00' 00"''
 T = 352.78'
 L = 704.67'
 R = 5729.58'
 E = 10.85'
 S.E. = 0.0211'/'
 S.E. TRANSITION STA. 126+18.32 TO STA. 127+68.32

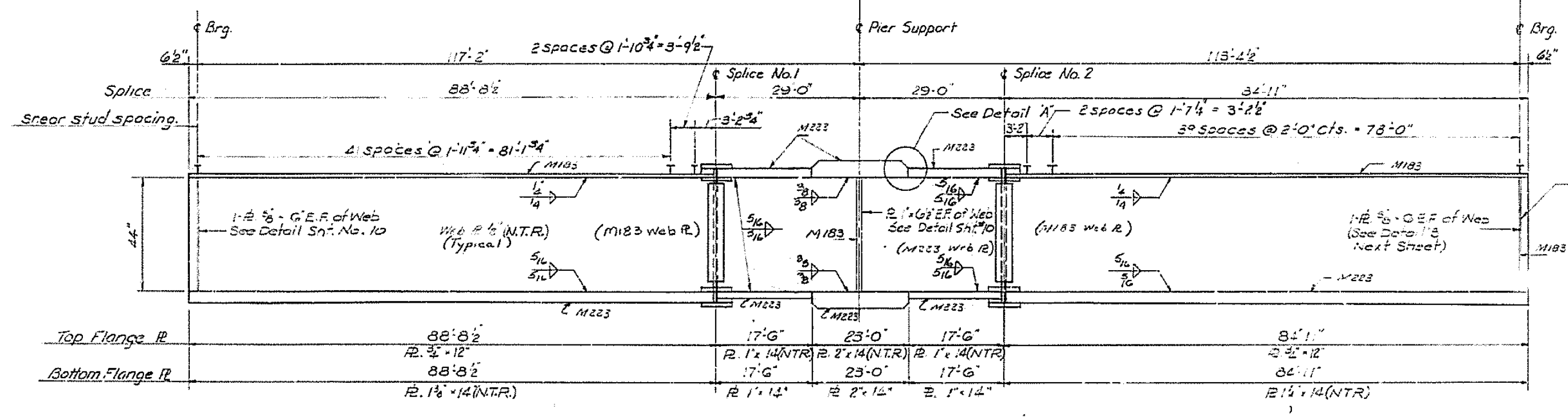
F.A. 405 CURVE DATA
 P.I. STA. 772+74.26
 Δ = 79° 29' 19"''
 D = 1° 45' 00"''
 T = 2722.44'
 L = 4542.21'
 R = 3274.04'
 E = 948.01'
 S.E. = 0.0561'/'

DESIGN STRESSES
STRUCTURAL STEEL
 f_s = 27,000 PSI AASHTO M223 Gr. 50
 f_s = 20,000 psi AASHTO M193
CONC. f_c = 1,400 PSI VAULTED ABUTMENT, CURB, PARAPET, AND SUBSTRUCTURE
 v_c = 56 PSI FOOTING
 f_s = 24,000 PSI REINF.
 n = 8.5
DECK SLAB
 LOAD FACTOR DESIGN
 f_c = 3,500 PSI f_y = 60,000 PSI
LOADING
 H.S. 20-44
 FUTURE WEARING SURFACE 25 PSF
DESIGN SPECIFICATION
 1977 AASHTO & 1978 INTERIMS



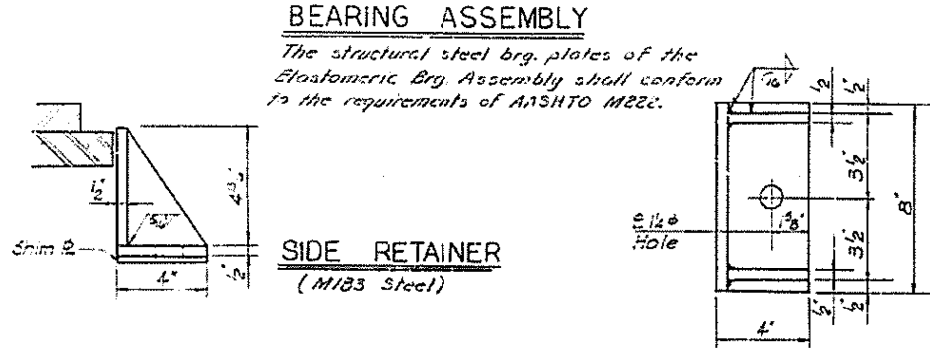
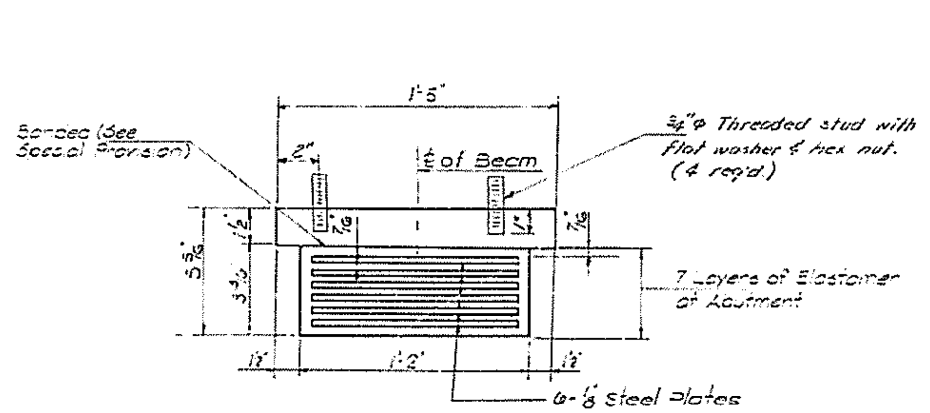
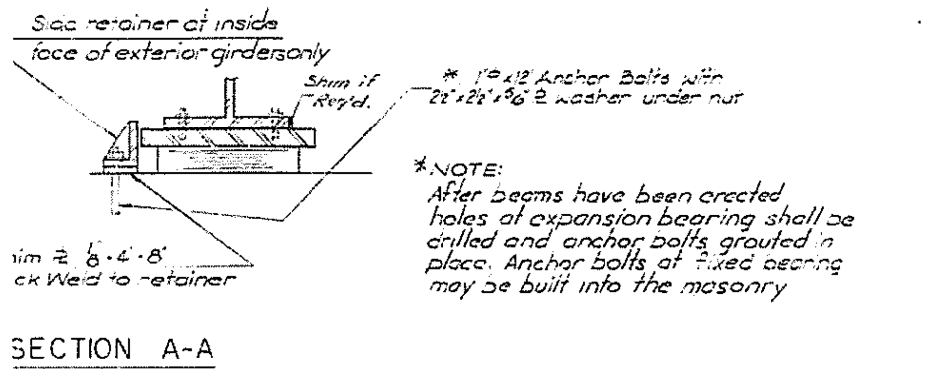
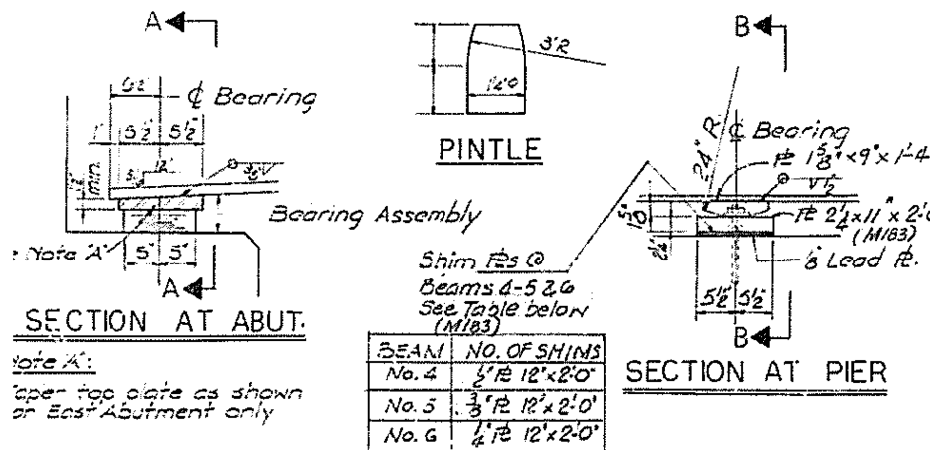


FRAMING PLAN

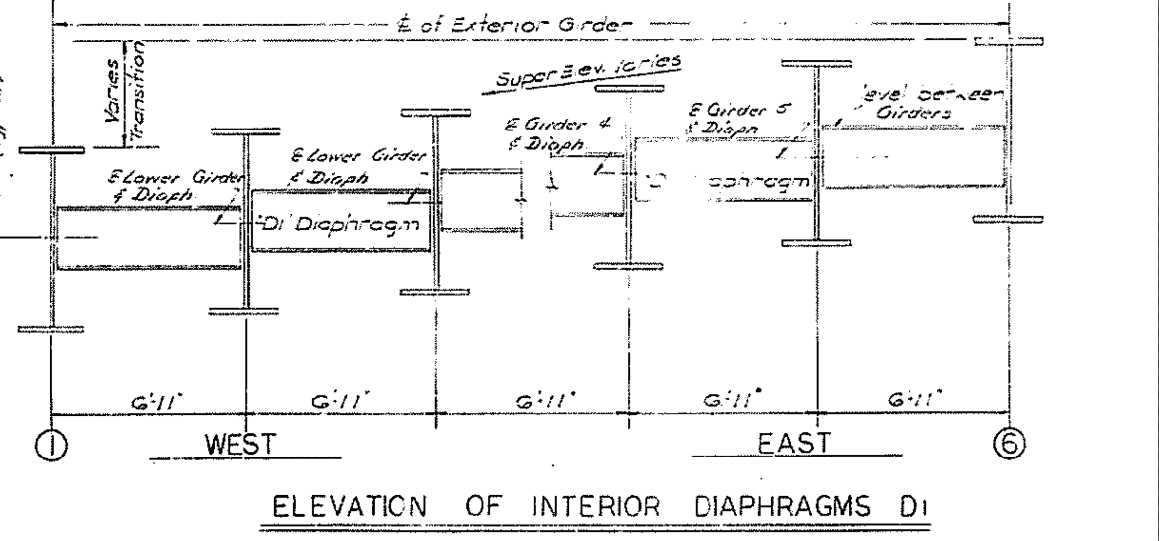
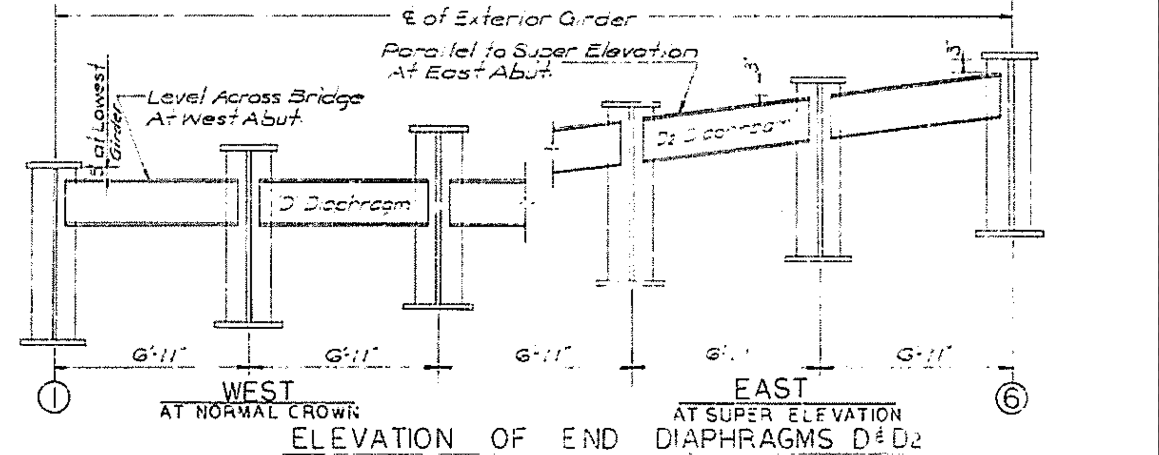
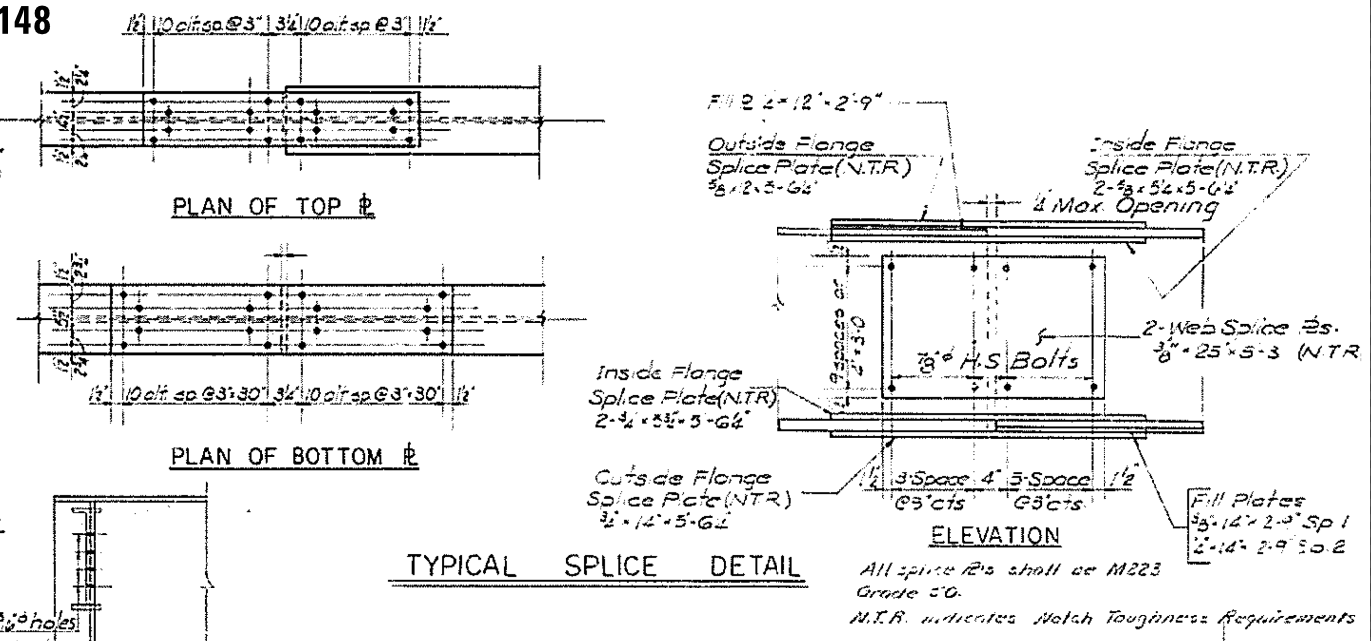
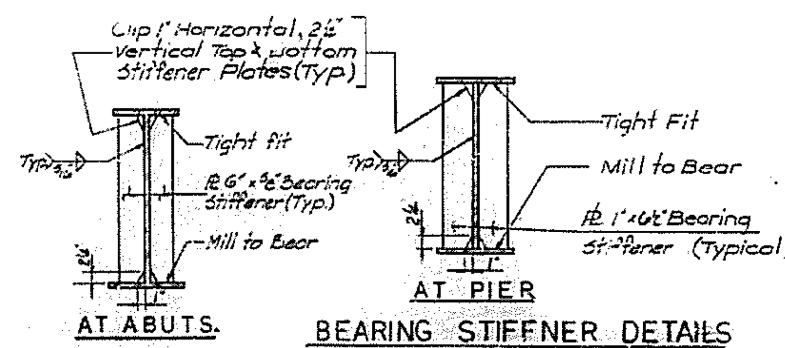
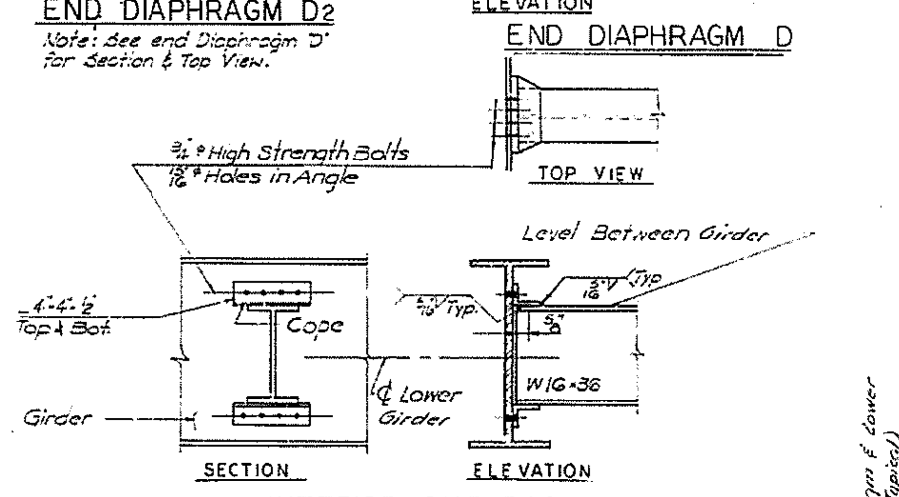
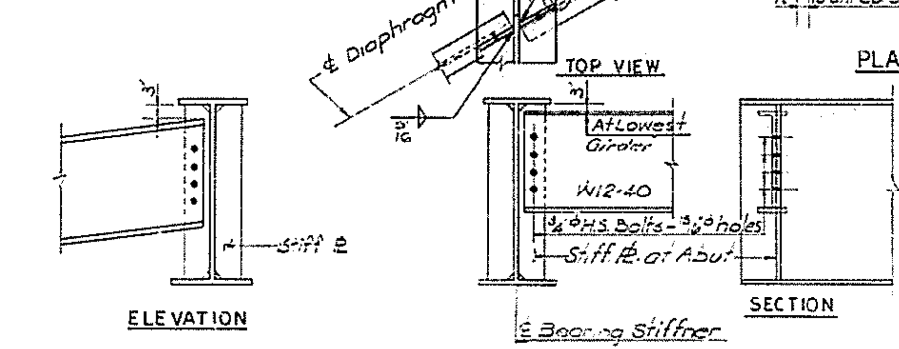
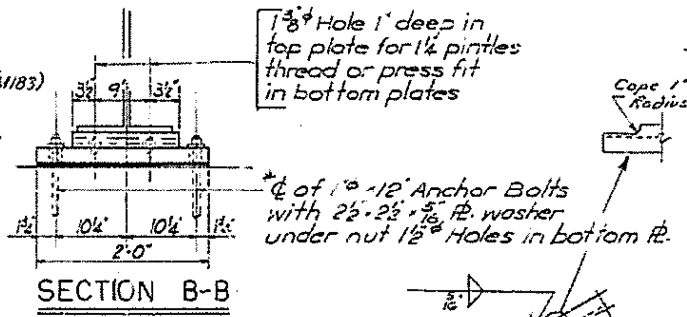


ELEVATION

LOCATION 3 S.N. 072-0148

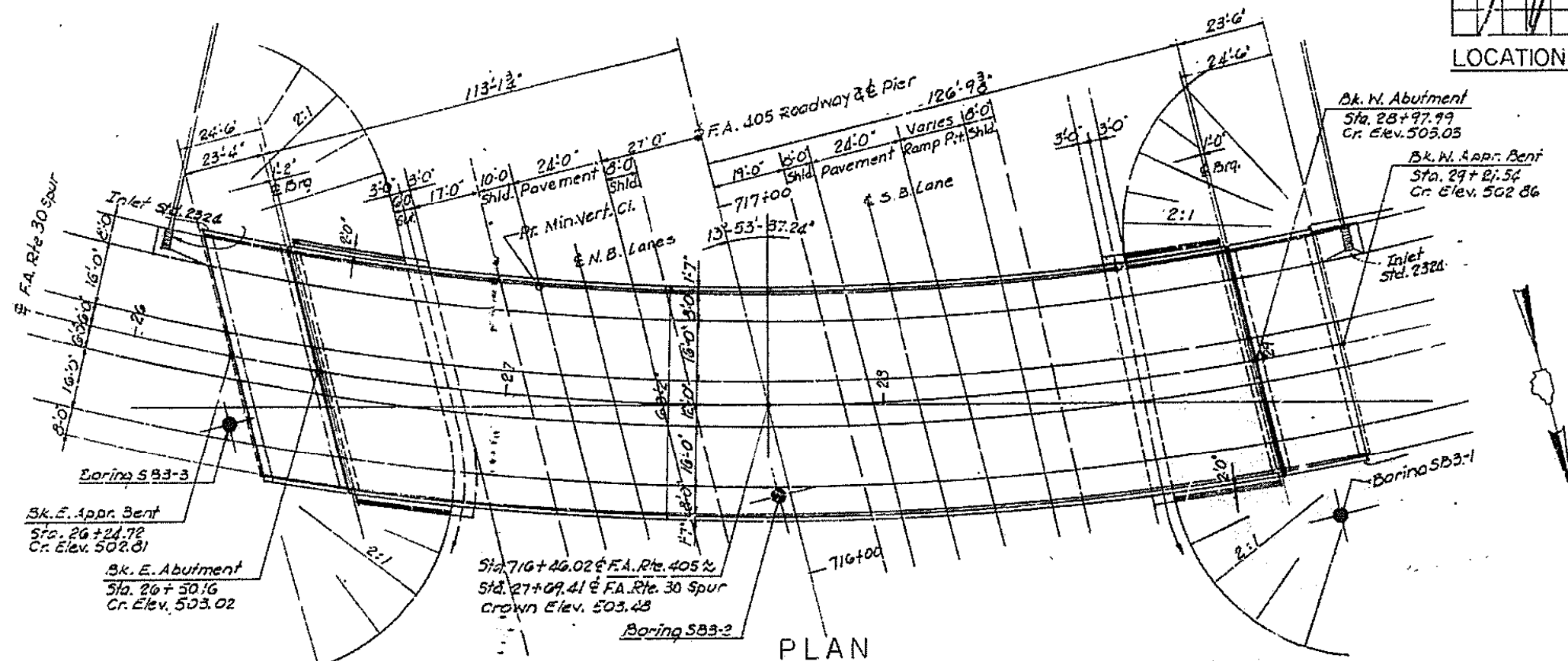
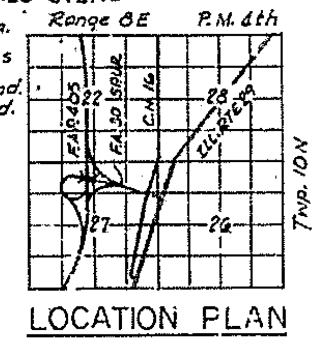
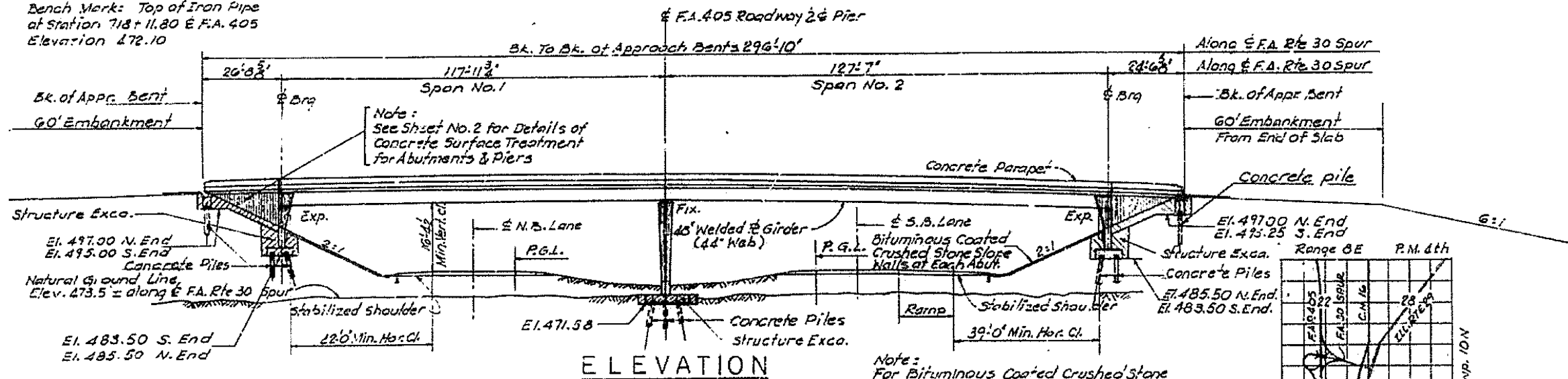


BEARING SEAT ADJUSTMENT:
Bearing seat surfaces shall be constructed or adjusted to the designated elevation within tolerance of \pm 1/8". Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3/8" adjusting shims, of the dimension of the brg. plate, shall be provided in addition to all other plates or shims.



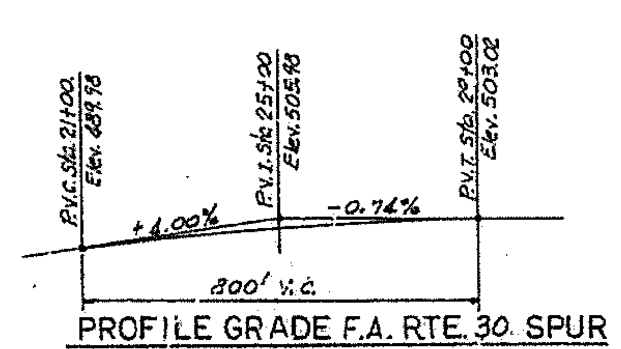
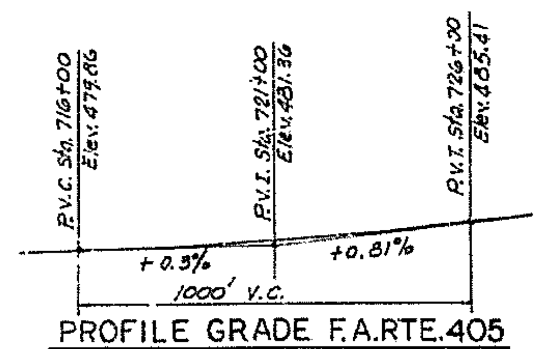
LOCATION 4 S.N. 072-0149

Bench Mark: Top of Iron Pipe
at Station 718+11.80 F.A. 405
Elevation 472.10



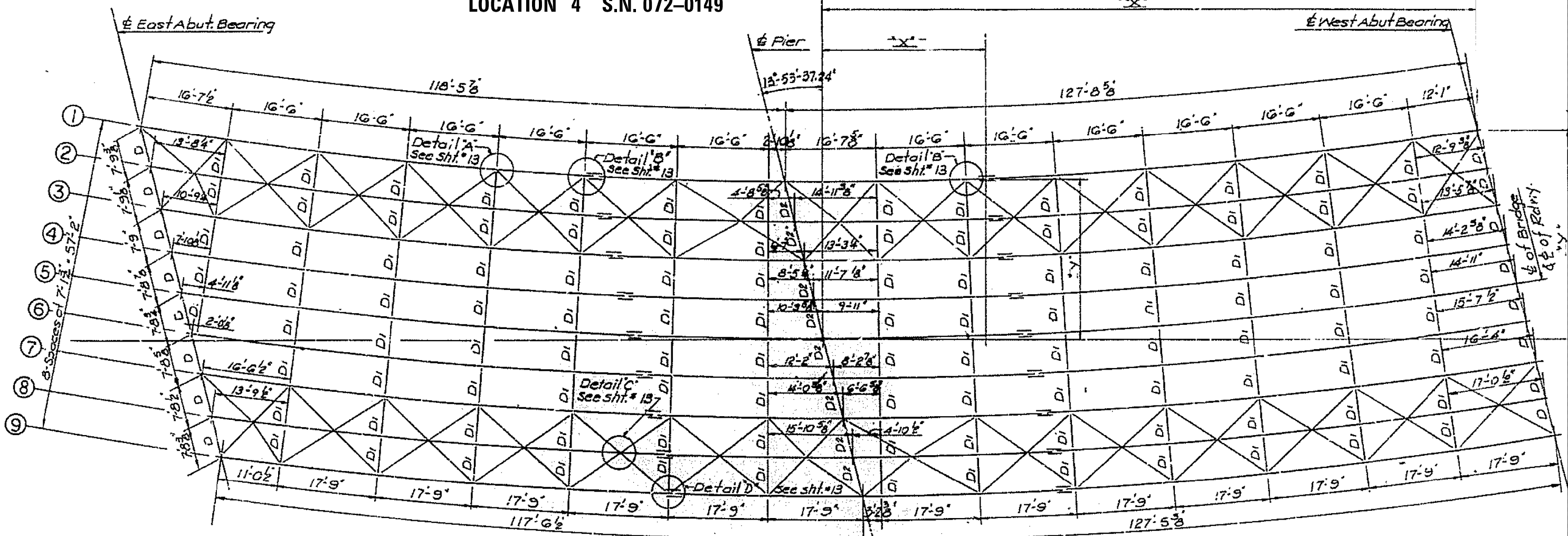
STATION 716+46.02
BUILT 19 BY
STATE OF ILLINOIS
F.A. ROUTE 405
F.A. PROJ. FFD - 405-i(2)
LOADING H.S. 20
STR. NO. 072 0149

NAME PLATE
See Standard 2113

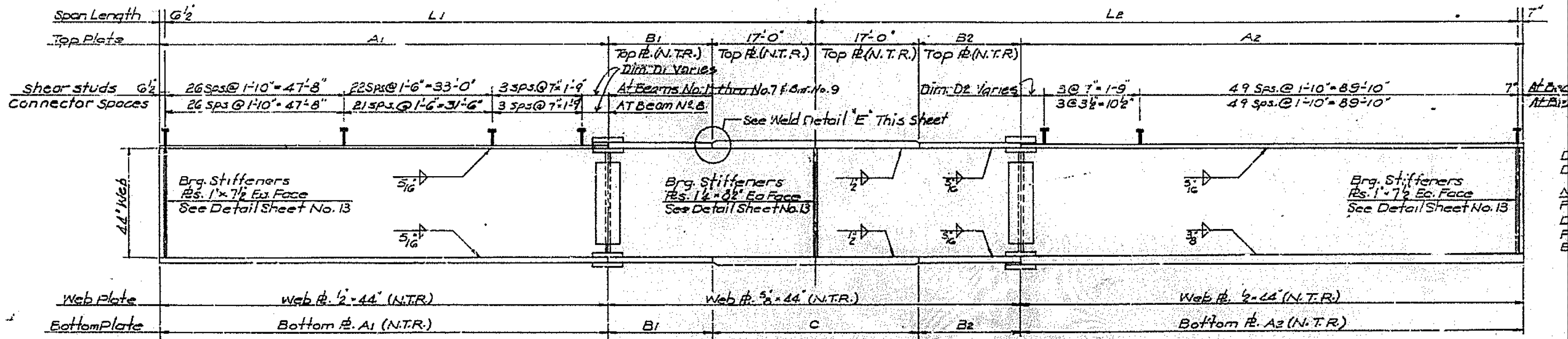


FILE NAME = 68C91 2016 Metalizing.dgn	USER NAME = keathbr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LOCATION 4 PLAN VIEW	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			VAR 04 BRIDGE METALIZING 2016	PEORIA	19	13	68C91
	PLOT DATE = 2/5/2016	CHECKED -	REVISED -			SCALE:	SHEET 13 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT
		DATE -	REVISED -							

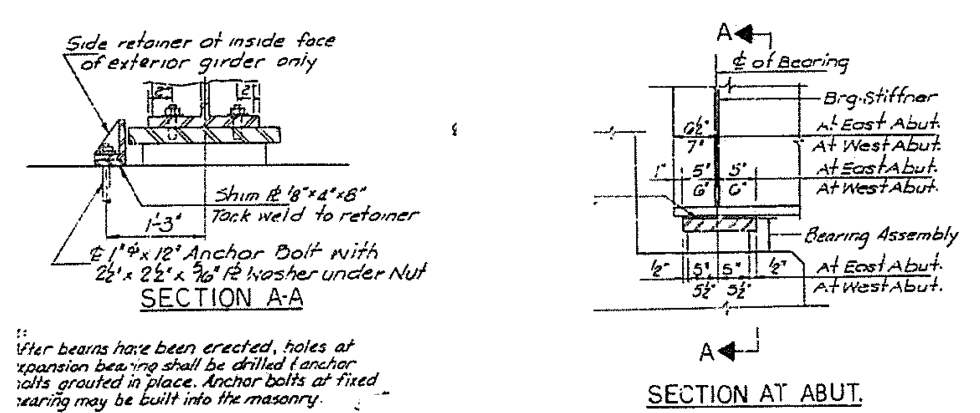
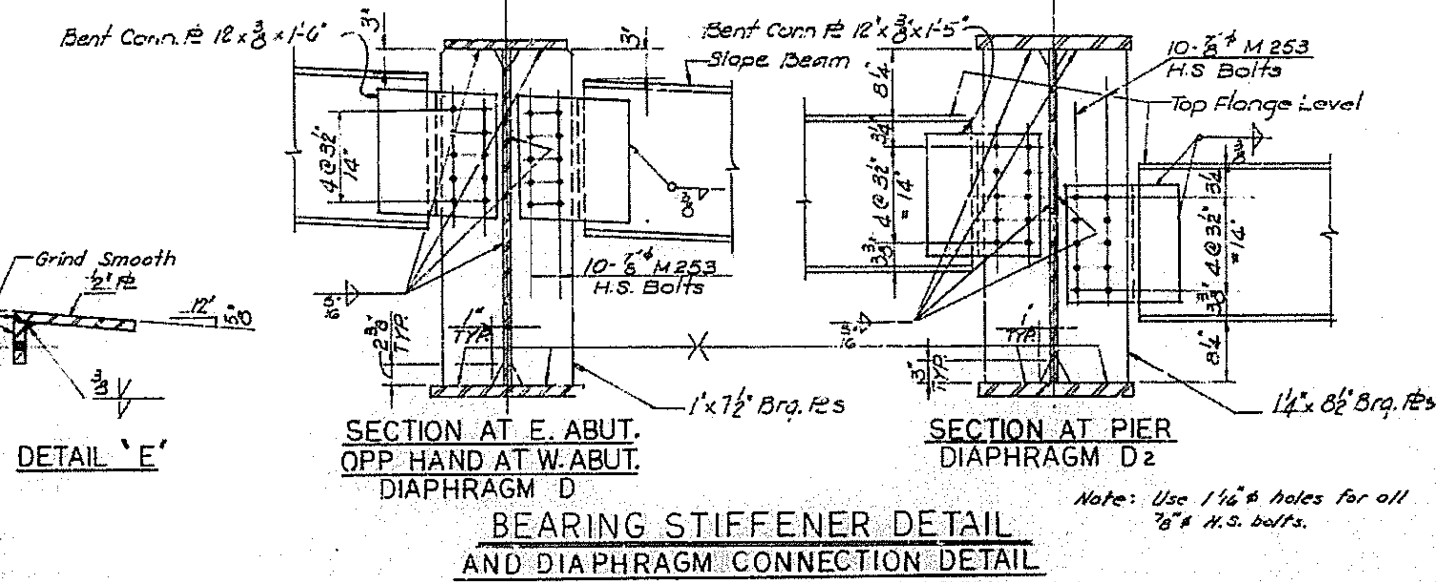
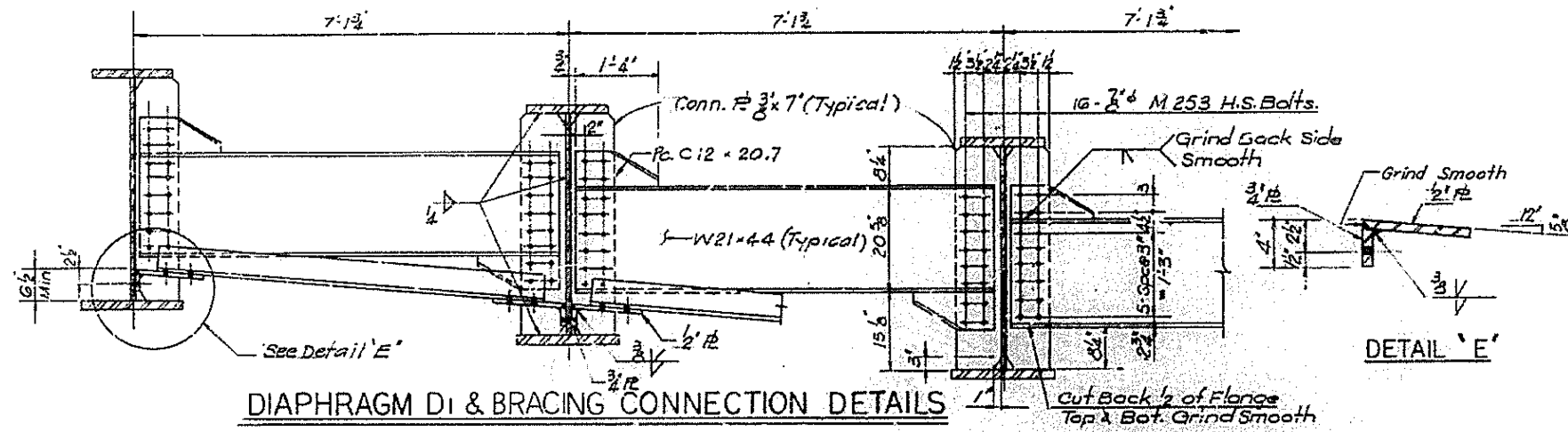
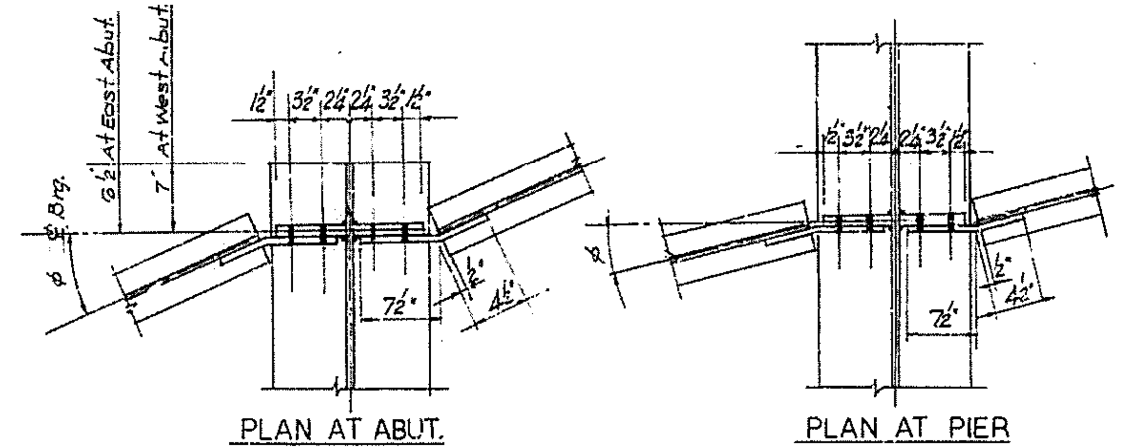
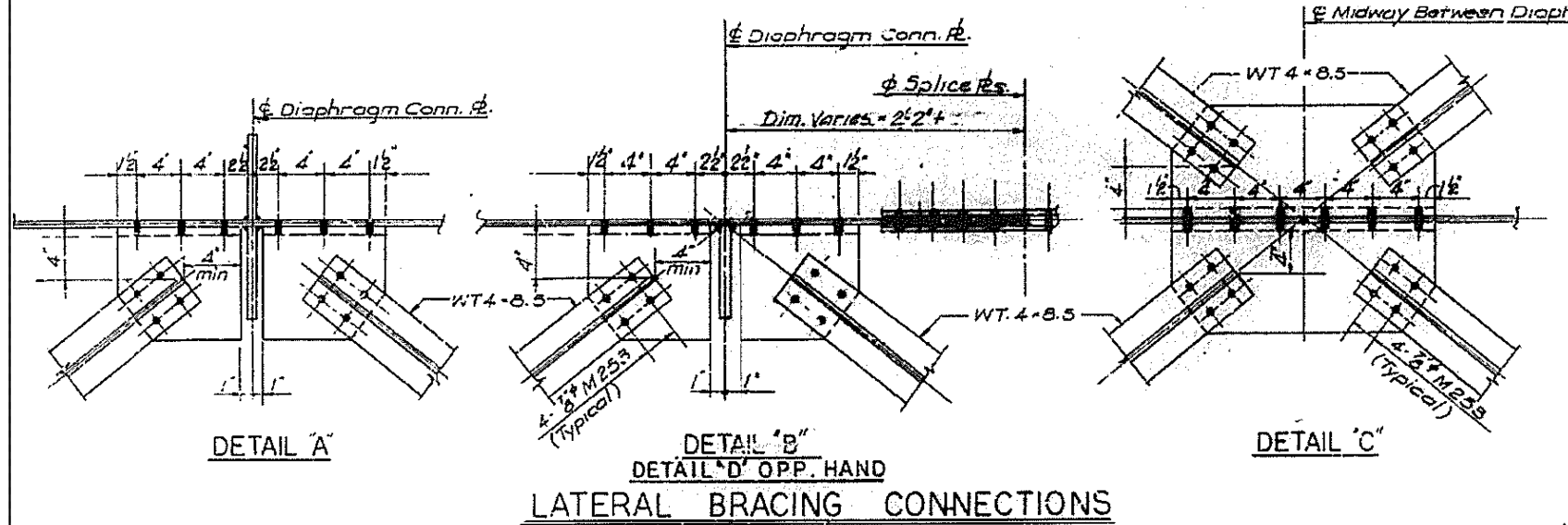
LOCATION 4 S.N. 072-0149



FRAMING PLAN



ELEVATION



After beams have been erected, holes at expansion bearing shall be drilled & anchor bolts grouted in place. Anchor bolts at fixed bearing may be built into the masonry.

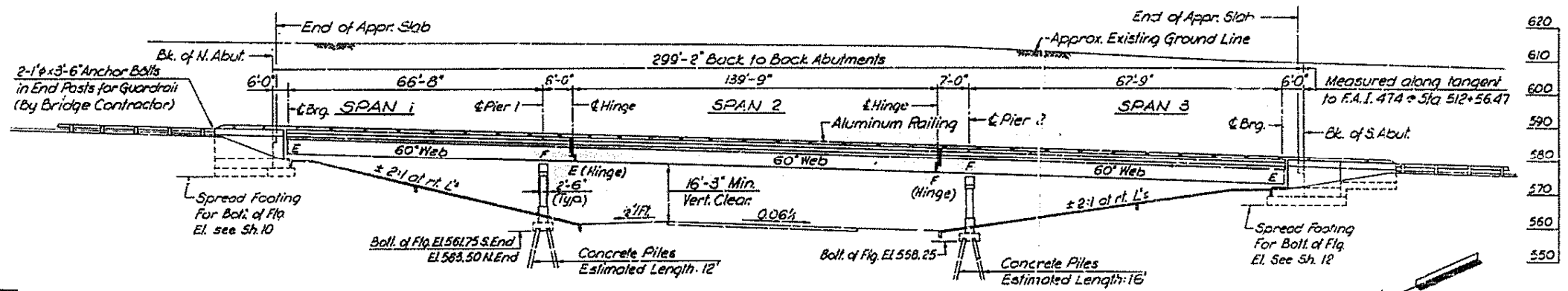
FILE NAME = 68C91 2016 Metalizing.dgn	USER NAME = keathbr	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION 4 STRUCTURAL DETAIL		SCALE: SHEET 15 OF 19 SHEETS STA. TO STA.	
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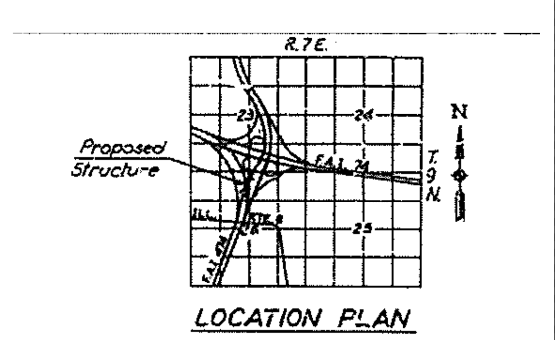
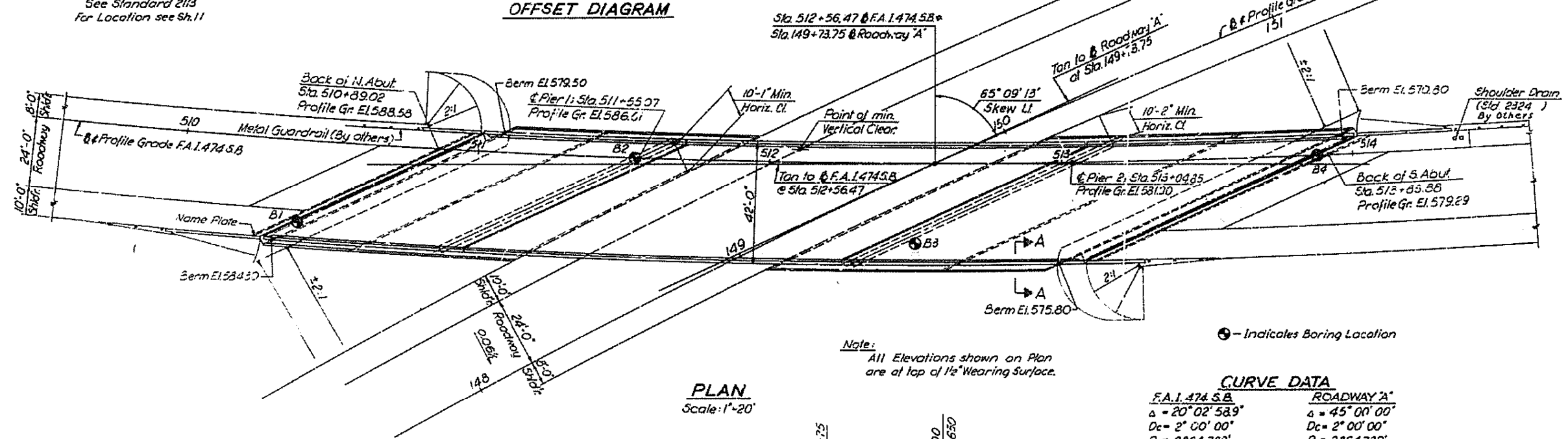
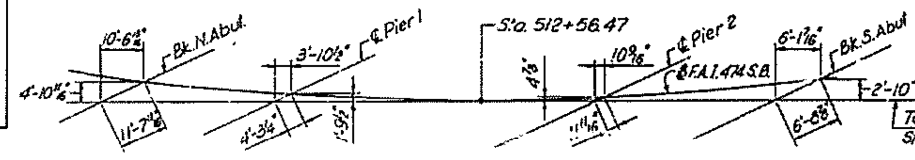
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR 04 BRIDGE METALIZING 2016		PEORIA	19	15
				68C91

LOCATION 5 S.N. 072-011



STATION 512+56.47
BUILT 197 BY
STATE OF ILLINOIS
F.A.I. RT. 474 SEC. 72-1HB-3
F.A. PROJ. I-474-7(+2)
LOADING HS20 B ALT.

NAME PLATE
See Standard 2113
For Location see Sh. 11



GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.

FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4 Ø; OPEN HOLES 13/16 Ø, UNLESS OTHERWISE NOTED.

CALCULATED WEIGHT OF STRUCTURAL STEEL = 572,250 LBS.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF GIRDERS 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 CROSS FRAMES OVER SUPPORTS.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, WEIGHTING 5# PER 100 SQ. FT.

THE CONTRACTOR SHALL DRIVE ONE (1) CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER 2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.

THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONSTRUCTION JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDRAIL CONCRETE.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH 6" L TAR INTERLAYER PROTECTIVE COAT IS TO BE APPLIED.

SLOPE WALL EXCAVATION SHALL BE INCIDENTAL TO STRUCTURE EXCAVATION.

CURVE DATA

F.A.I. 474 S.B.	ROADWAY 'A'
Δ = 20° 02' 58.9"	Δ = 45° 00' 00"
Dc = 2° 00' 00"	Dc = 2° 00' 00"
R = 2864.789'	R = 2864.789'
T = 506.421'	T = 1186.6345'
L = 1002.4853'	L = 2250.0021'
E = 44.42'	E = 236.04'
P.C. Sta. 508+96.7469	P.C. Sta. 137+74.6452
P.T. Sta. 514+03.17	P.T. Sta. 149+61.28
P.T. Sta. 518+49.2322	P.T. Sta. 160+24.6453
S.E. = 0.06 1/2	S.E. = 0.06 1/2

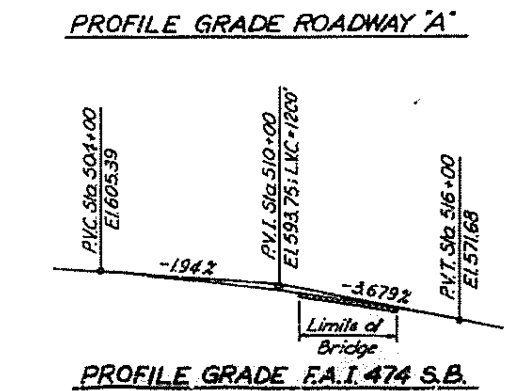
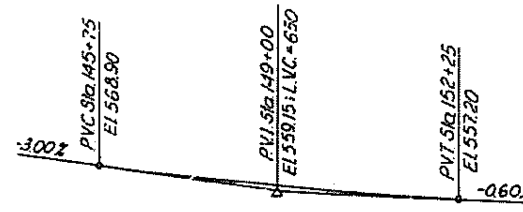
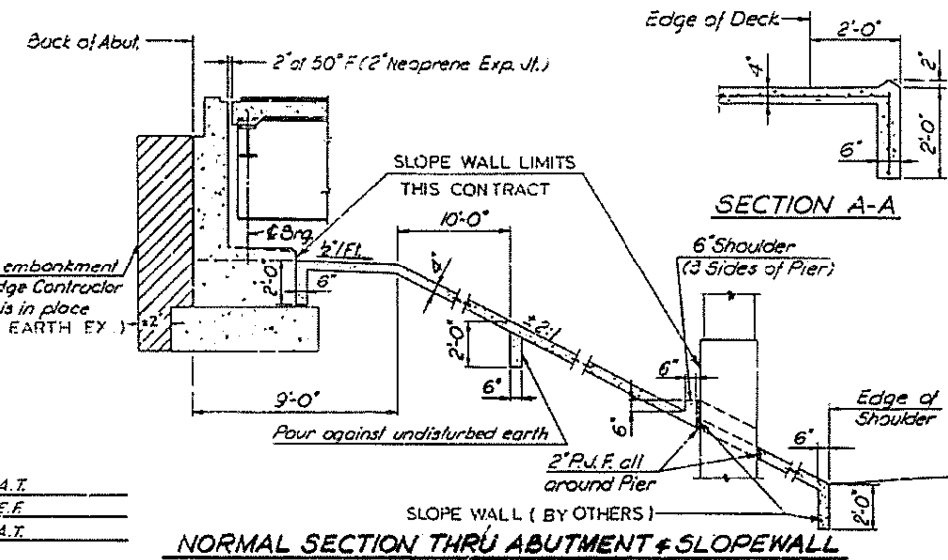
DESIGN SPECIFICATIONS
1969 A.A.S.H.O. as applicable

DESIGN STRESSES

fc = 1,200 psi	Deck Slab
fc = 1,400 psi	Substructure, Curb & Parapet
n = 10	
fs = 20,000 psi	Structural Steel
fs = 20,000 psi	Reinforcement
v = 75 psi	Footings

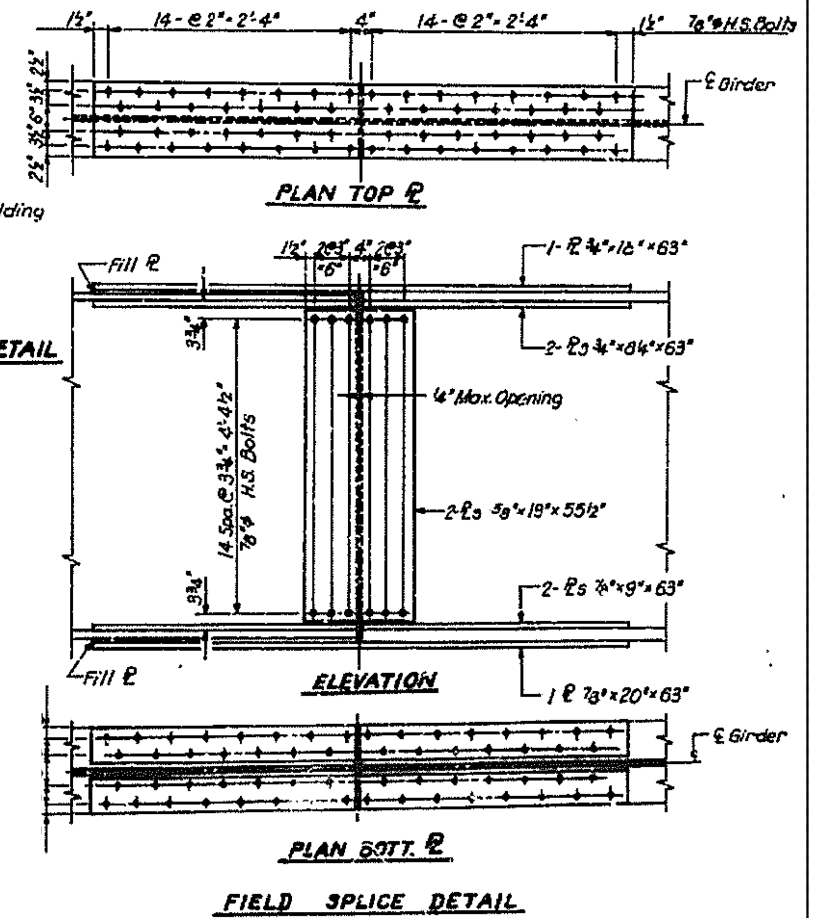
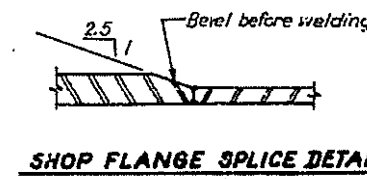
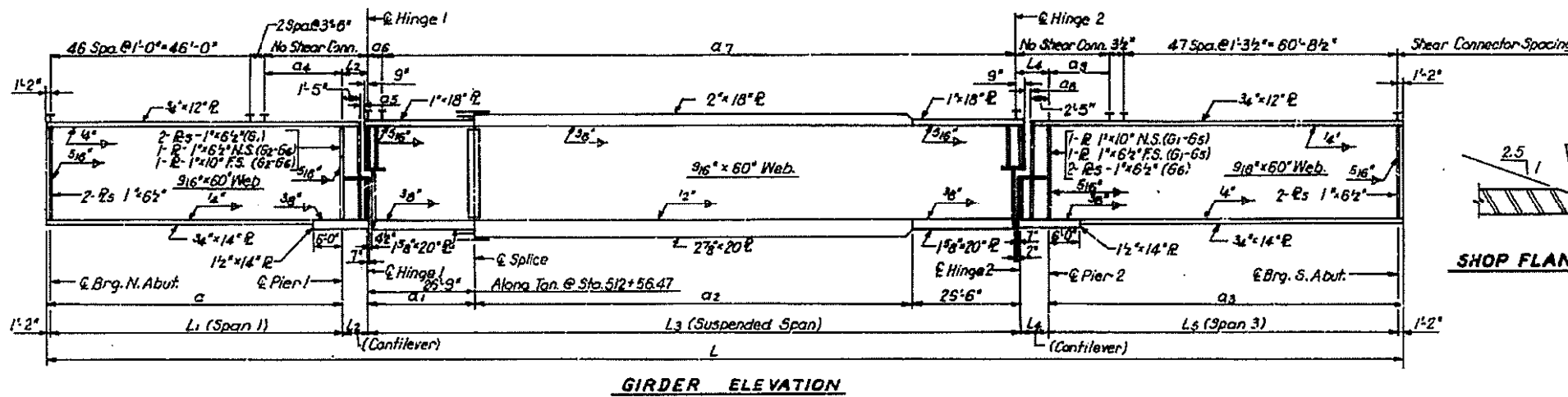
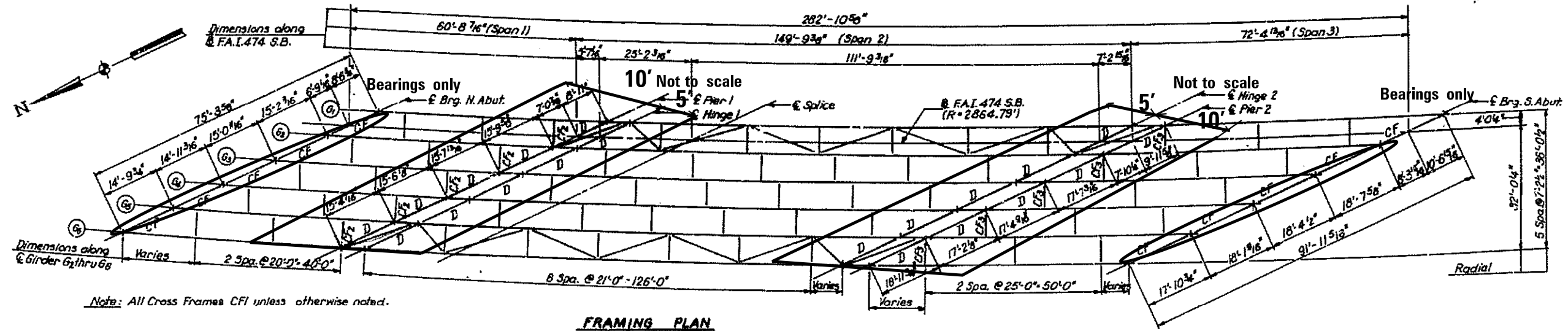
L.L. Deflection: 1/200

LOADING
HS 20-44 and Alternate
25% Future Wearing Surface



DESIGNED BY: A.T.
DRAWN BY: E.F.
CHECKED BY: A.T.

LOCATION 5 S.N. 072-0111



FILE NAME = 68C91 2016 Metalizing.dgn	USER NAME = keathbr	DESIGNED -	REVISED -
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -
	PLOT DATE = 2/5/2016	CHECKED -	REVISED -
		DATE -	REVISED -

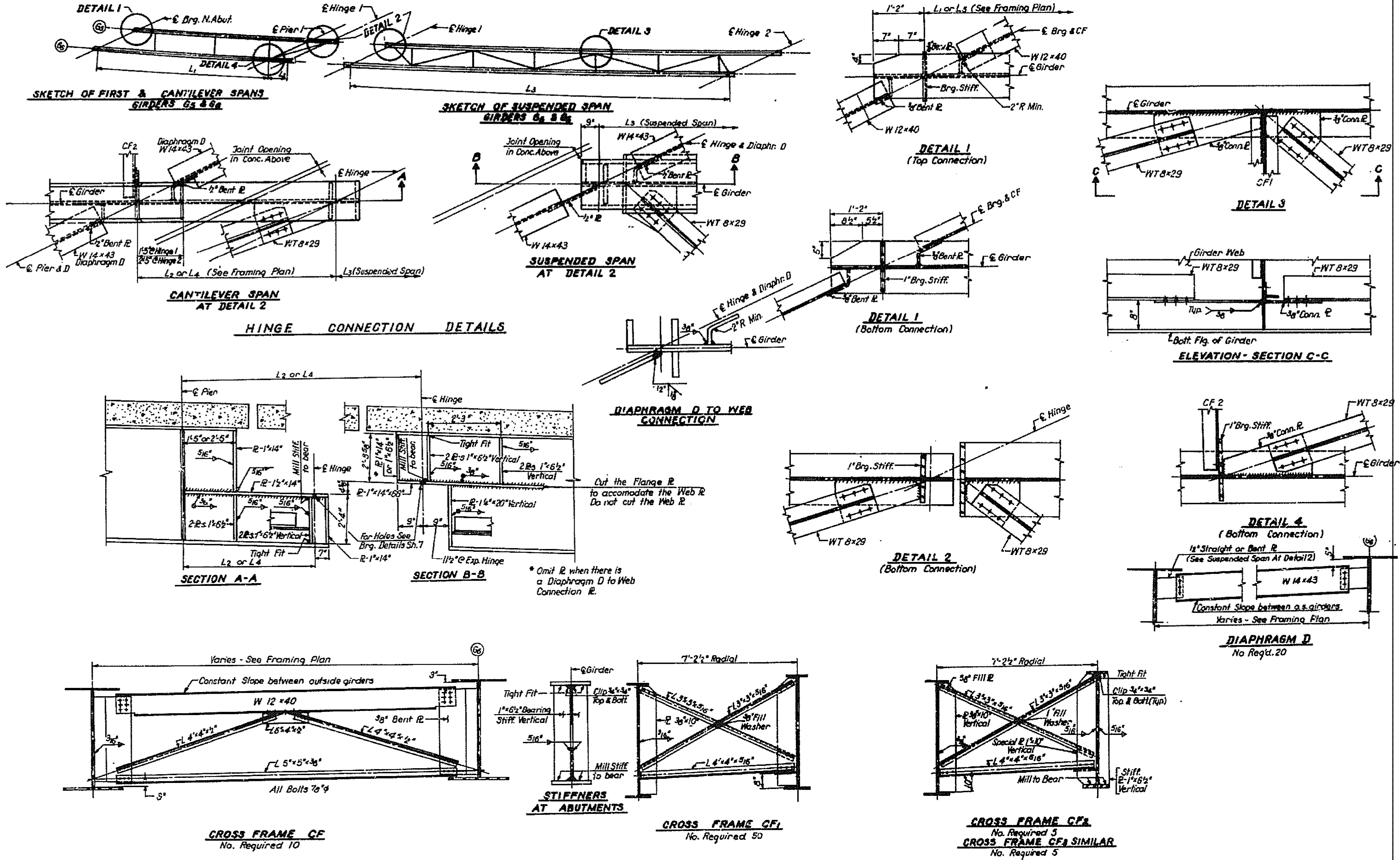
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION 5
FRAMING DETAIL

SCALE: SHEET 17 OF 19 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR 04 BRIDGE METALIZING 2016	PEORIA	19	17	68C91
ILLINOIS FED. AID PROJECT				

LOCATION 5 S.N. 072-0111



Cut the Flange R to accommodate the Web R. Do not cut the Web R.

* Omit R when there is a Diaphragm D to Web Connection R.

Constant Slope between o.s.girders. Varies - See Framing Plan

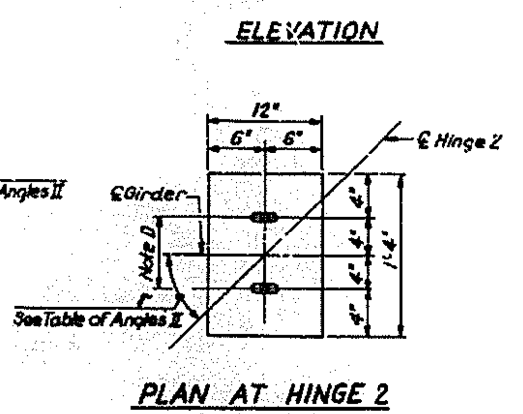
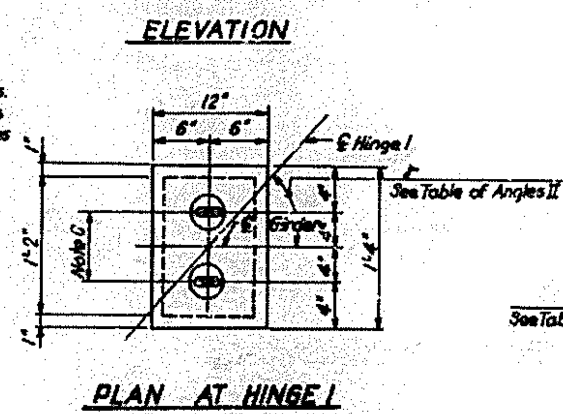
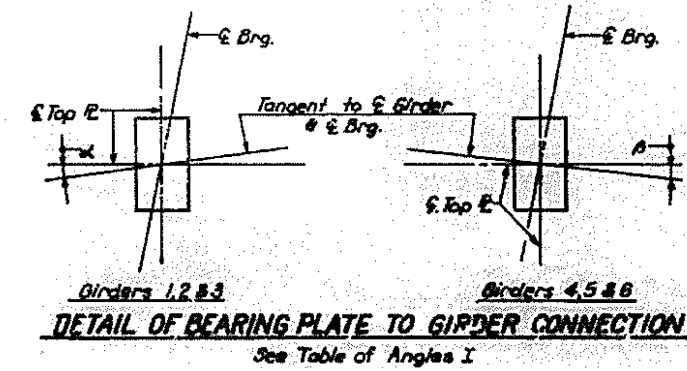
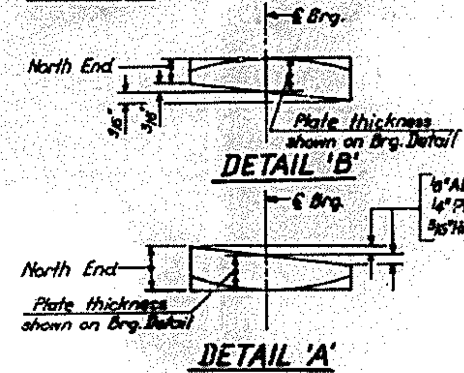
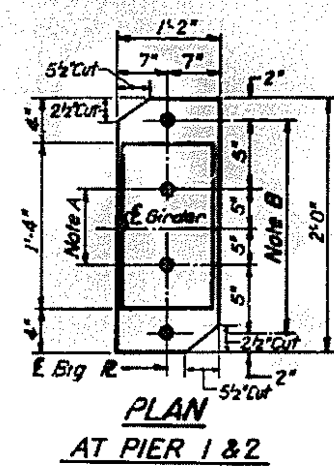
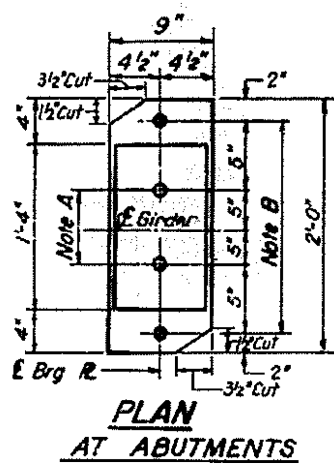
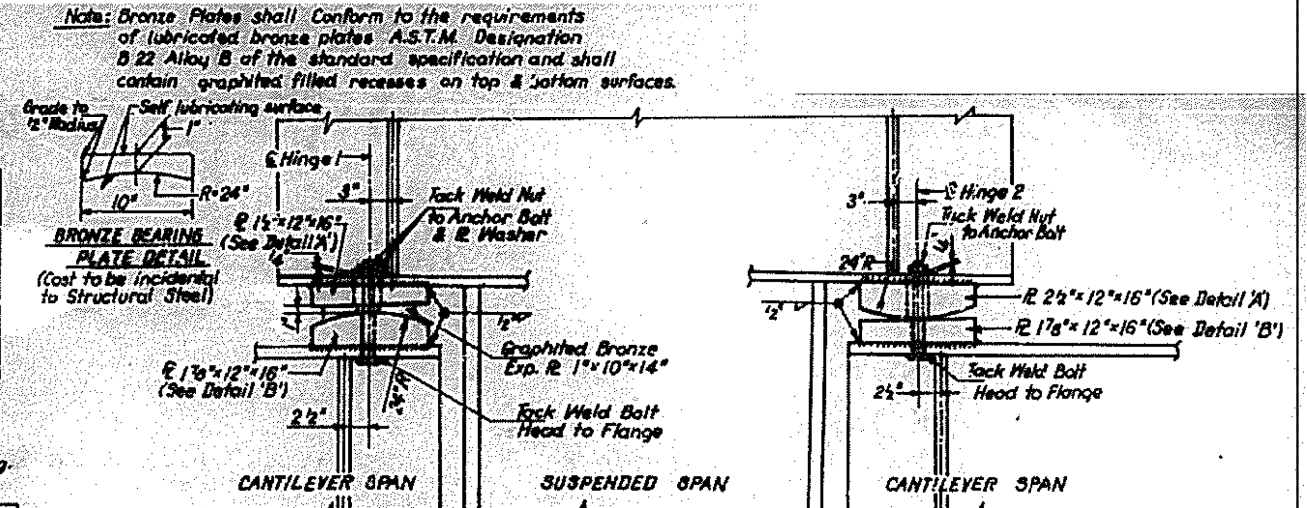
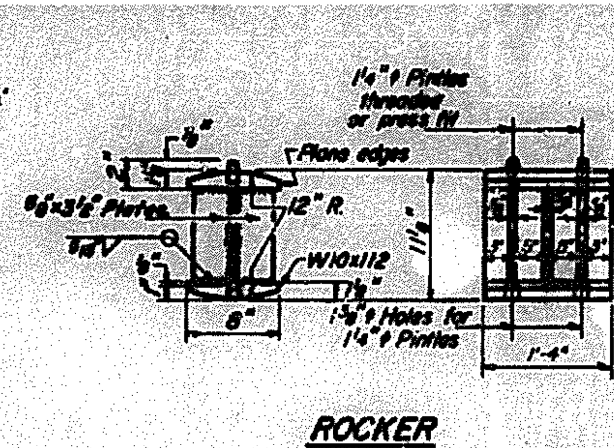
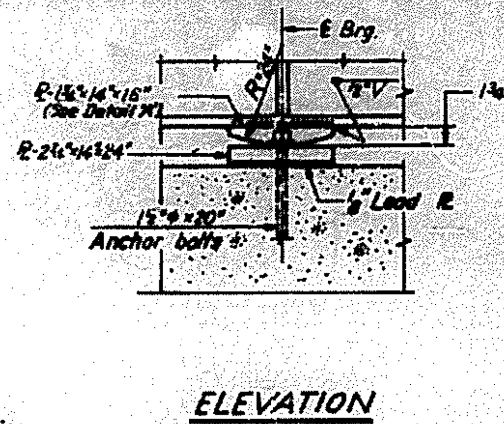
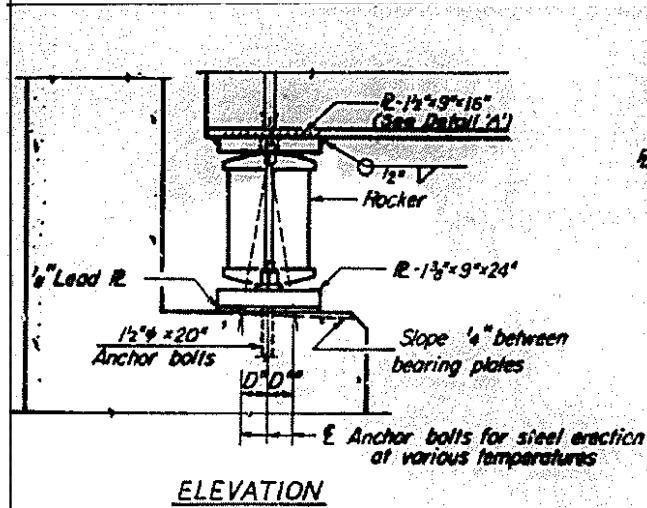
No. Required 20

No. Required 10

No. Required 50

No. Required 5
CROSS FRAME CF3 SIMILAR
No. Required 5

FILE NAME = 68C91 2016 Metalizing.dgn Default	USER NAME = keathbr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LOCATION 5 CROSS FRAME DETAIL	F.A. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			VAR D4 BRIDGE METALIZING 2016	PEORIA	19	18	
	PLOT DATE = 2/5/2016	DATE -	REVISED -			SCALE:	SHEET 18 OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT



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

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

NOTE C
2 3/4 inch Holes in Top R & Girder Flange, 1 1/8 inch x 2 inch Slotted Holes in Bronze R & 1 3/8 inch Holes in Bottom R & Girder Flange for 3/4 inch x 9 inch Anchor Bolts with 1/2 inch x 2 inch x 16 inch Washer & Hex. Nut.

NOTE D
1 1/8 inch x 2 inch Slotted Holes in Top R & Girder Flange, 1 3/8 inch Holes in Bottom R & Girder Flange for 3/4 inch x 9 inch Anchor Bolts & Hex. Nuts.

TABLE OF ANGLES II

Girder	Hinge 1 Angle ϕ	Hinge 2 Angle ϕ
1	26°-36'-08"	23°-50'-33"
2	26°-53'-19"	24°-05'-58"
3	27°-10'-14"	24°-25'-04"
4	27°-28'-55"	24°-47'-50"
5	27°-43'-20"	25°-06'-17"
6	27°-59'-33"	25°-24'-26"

BEARING ASSEMBLY DETAILS AT HINGES