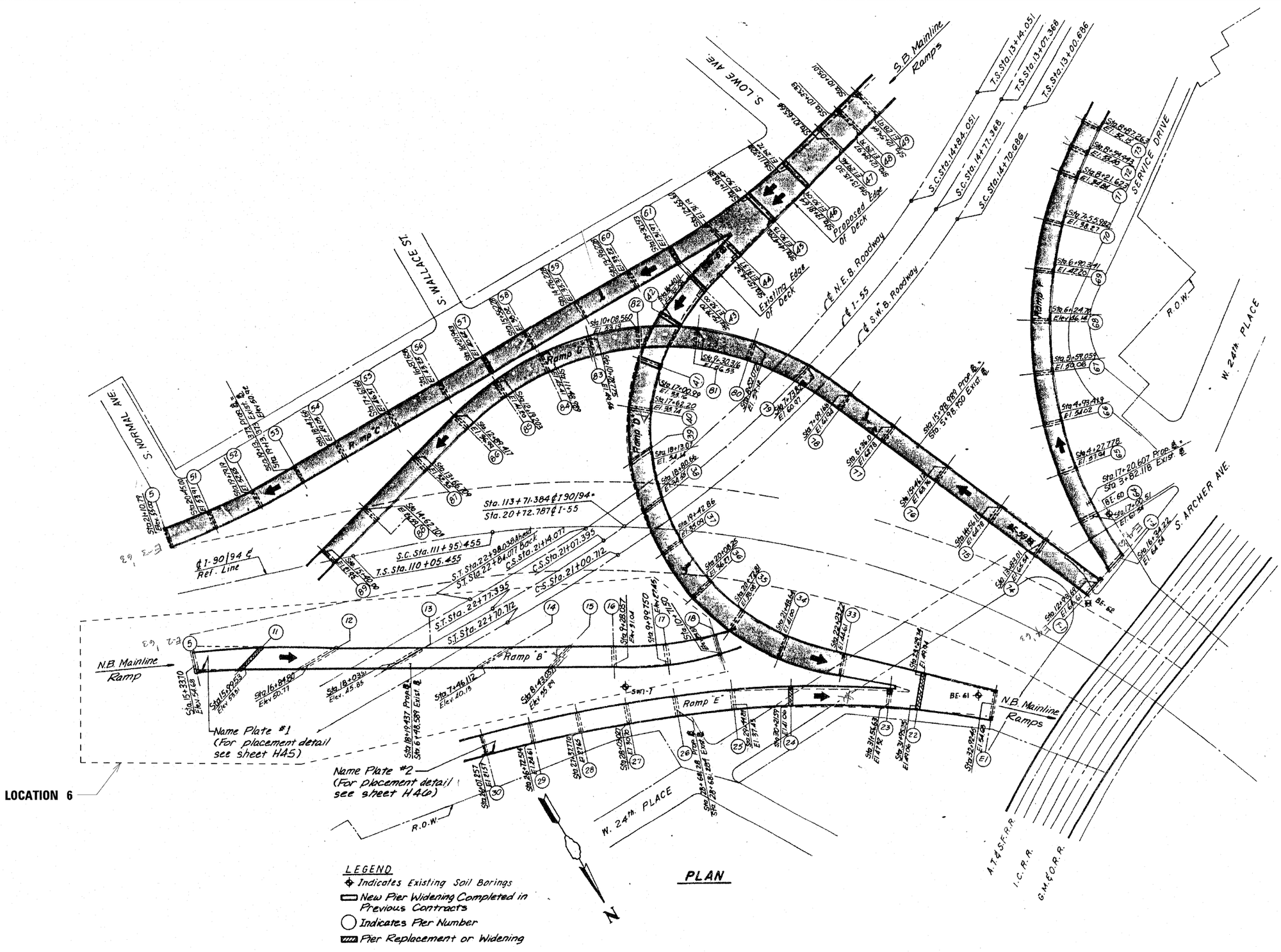
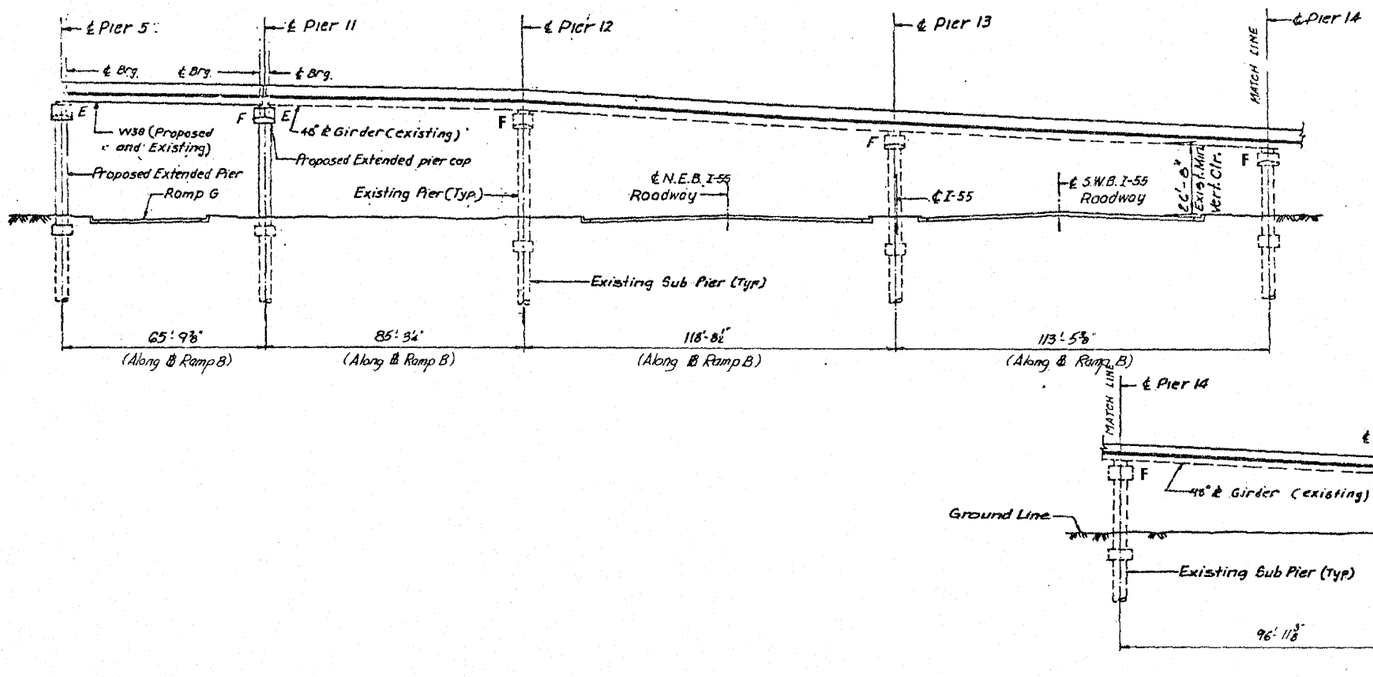
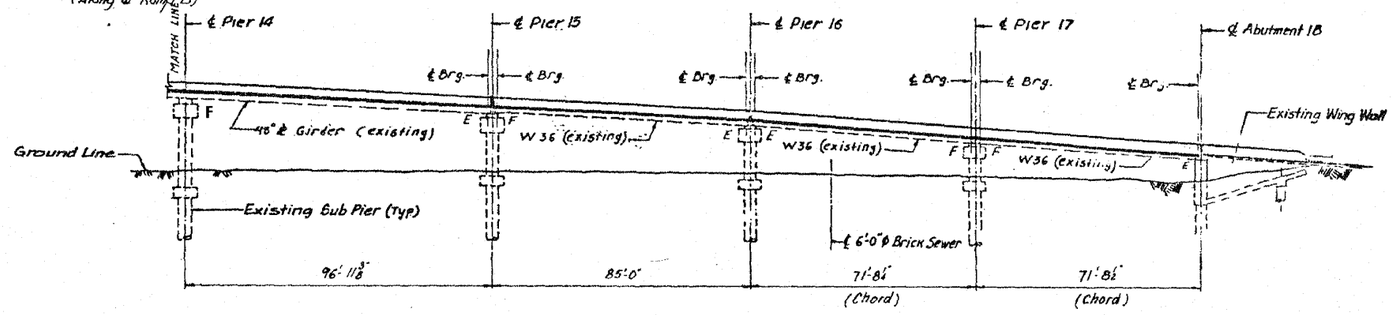


FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**GENERAL PLAN – LOCATION 6 STRUCTURE NO. 016-1140**				
	DRAWN - AMR	REVISED -							
PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							
PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -			SCALE: NTS	SHEET NO. 1 OF 10 SHEETS	STA.	TO STA.	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	101
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$





RAMP B

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

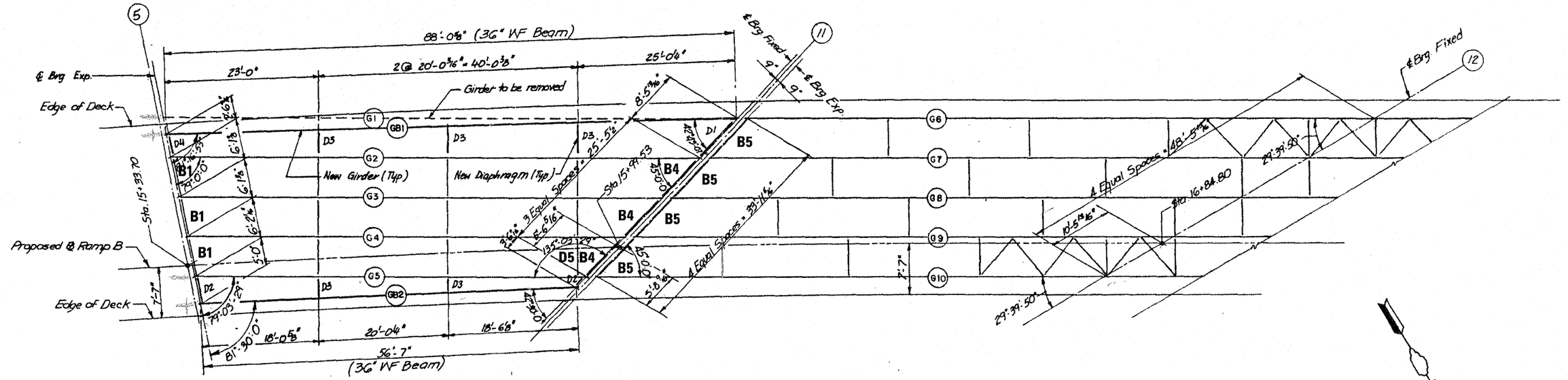
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL ELEVATION – LOCATION 6
STRUCTURE NO. 016-1140

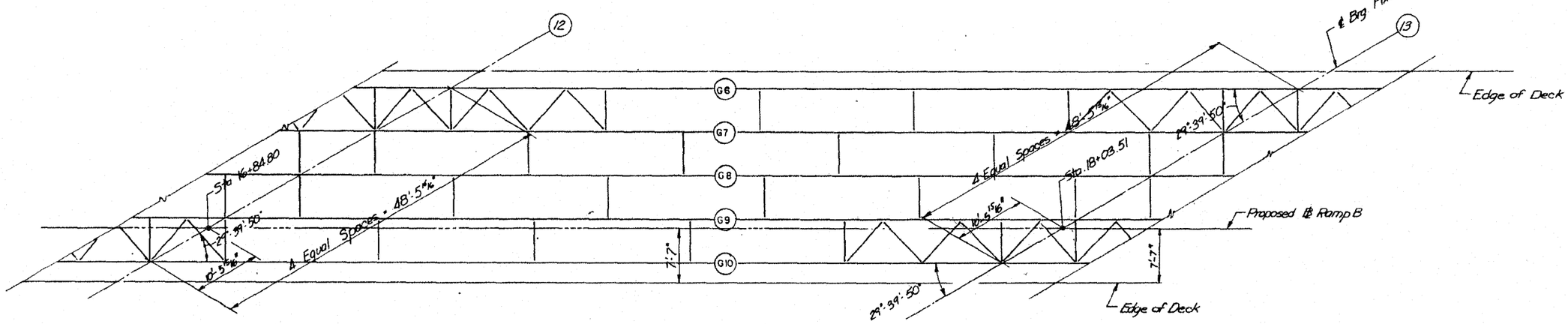
SCALE: NTS | SHEET NO. 2 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	102
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

@FILEL@



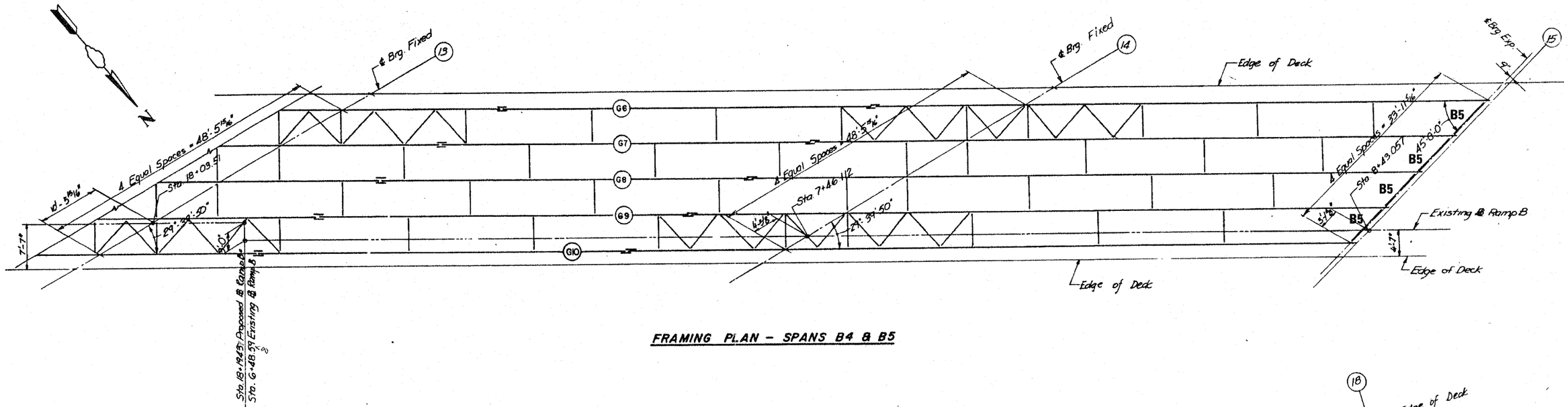
FRAMING PLAN - SPANS B1 & B2



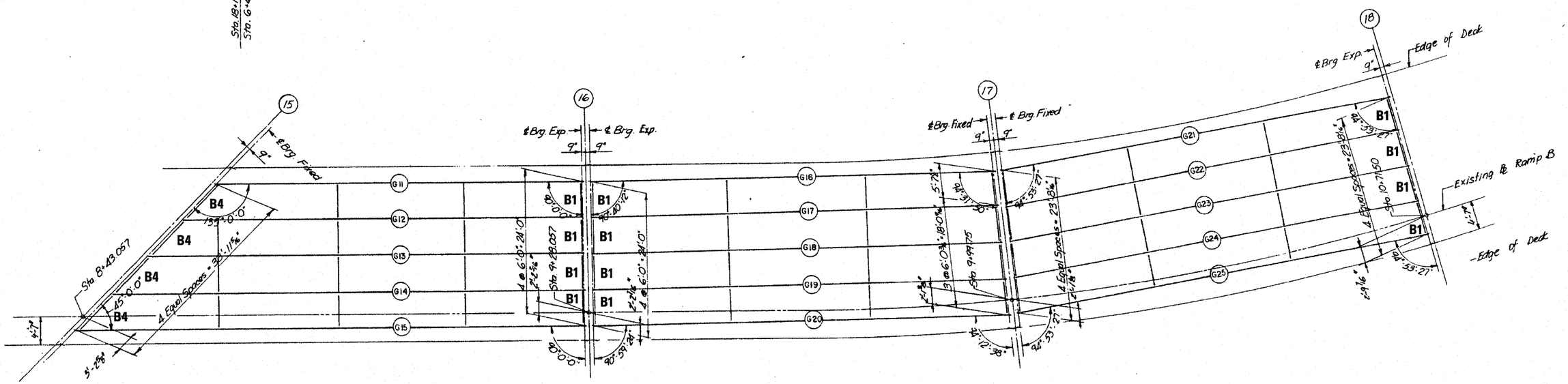
FRAMING PLAN - SPAN B3

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS B1 TO B3 – LOCATION 6 STRUCTURE NO. 016-1140				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -						94	2010-127-BP	COOK	160	103
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -								CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 3 OF 10 SHEETS	STA.	TO STA.			ILLINOIS FED. AID PROJECT		

$FILE1$



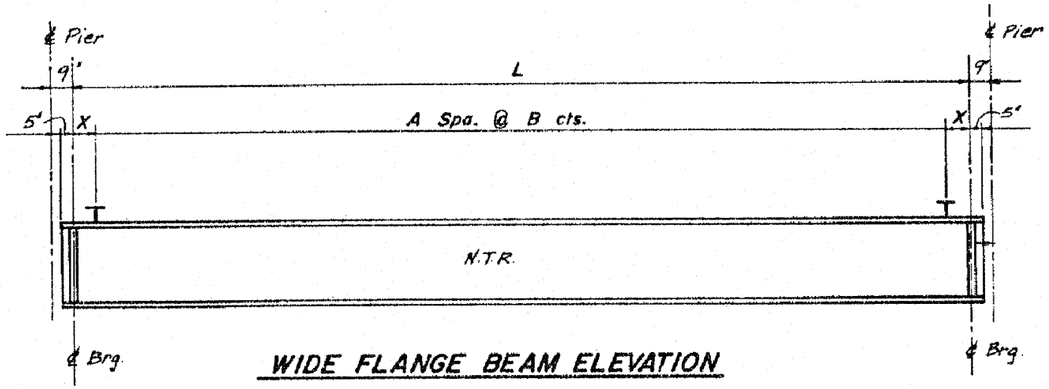
FRAMING PLAN - SPANS B4 & B5



FRAMING PLAN - SPANS B6, B7 & B8

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS B4 TO B8 – LOCATION 6 STRUCTURE NO. 016–1140			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	104
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -								CONTRACT NO. 60N01	
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 4 OF 10 SHEETS	STA. TO STA.			ILLINOIS	FED. AID PROJECT	

@FILE1@



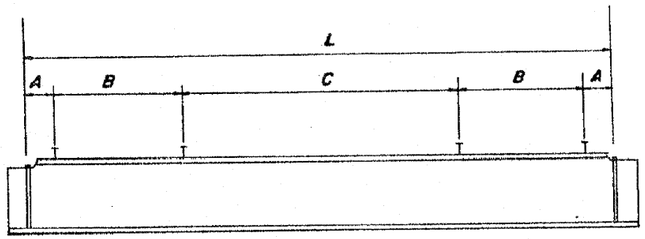
WIDE FLANGE BEAM ELEVATION

WIDE FLANGE BEAMS

SPAN	BEAM	BEAM SIZE	L (℄ BRG. TO ℄ BRG)
B1	GB-1	W36x280	88'-0 5/8"
B1	GB-2	W36x150	56'-7"

GIRDER SCHEDULE (WF ONLY)

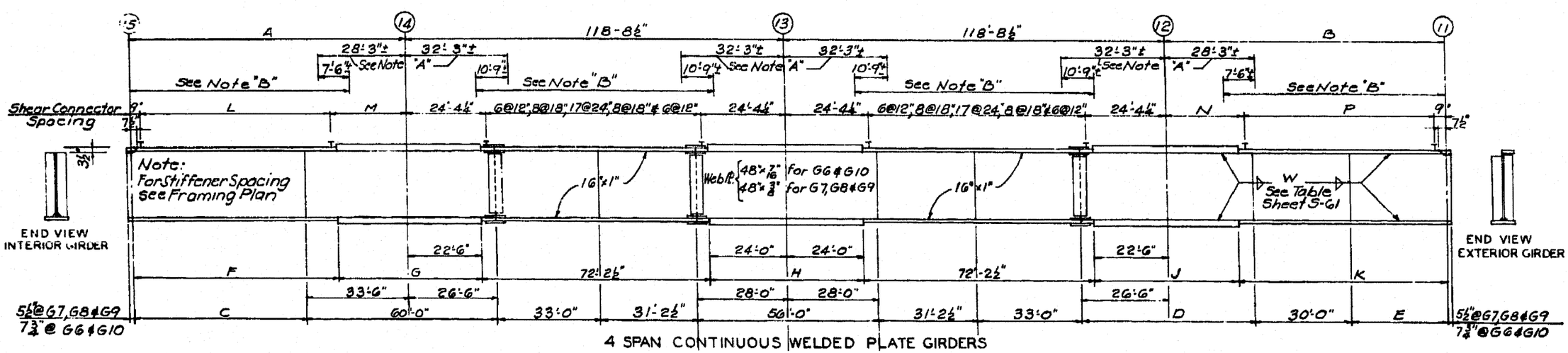
MARK	SECTION	COVER PLATES	
		SIZE	LENGTH
G2	36WF230	15"x 3/8"	54-6
G3	36WF170	11"x 3/4"	54'-0
G4	36WF135	11"x 3/4"	51'-6
G5	36WF150	11"x 1/2"	38'-0
G11	36WF150	11"x 1/2"	40'-0
G12	36WF150	11"x 9/16"	47'-6
G13	36WF170	11"x 11/16"	53'-0
G14	36WF182	11"x 1"	58'-6
G15	36WF260	15"x 11/16"	59'-6
G16	36WF170	11"x 1/2"	45'-6
G17, G18 & G19	36WF160	11"x 9/16"	49'-0
G20	36WF170	11"x 7/8"	52'-6
G21	36WF170	11"x 1/2"	43'-0
G22	36WF150	11"x 9/16"	48'-0
G23	36WF160	11"x 9/16"	49'-0
G24	36WF160	11"x 9/16"	49'-0
G25	36WF170	11"x 1"	52'-6



EXISTING GIRDERS – SIMPLE SPANS

SPAN	GIRDER	L
	G2	74'-10"
B1	G3	71'-0"
	G4	67'-2"
	G5	59'-11 15/16"
	G11	61'-24"
B6	G12	67'-24"
	G13	75'-24"
	G14	79'-24"
	G15	85'-24"

SPAN	GIRDER	L
	G16	68'-2 15/16"
B7	G17	68'-9 1/16"
	G18	69'-3 15/16"
	G19	69'-10 3/8"
	G20	70'-4 15/16"
	G21	66'-7 1/16"
B8	G22	67'-7 5/16"
	G23	68'-7 5/16"
	G24	69'-7 3/8"
	G25	70'-7 1/2"



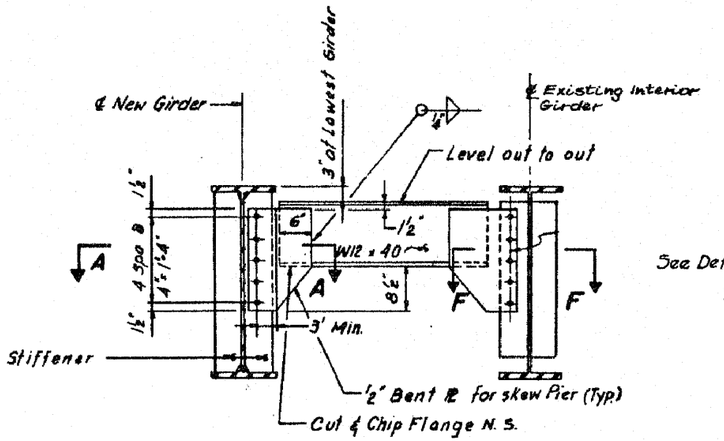
4 SPAN CONTINUOUS WELDED PLATE GIRDERS

TABLE FOR 4 SPAN CONTINUOUS WELDED PLATE GIRDERS

GIRDER NO	A	B	C	D	E	F (TOP)	F (BOTTOM)	G (TOP & BOTT.)	H (TOP & BOTT.)	J (TOP & BOTT.)	K (TOP)	K (BOTTOM)	L (FROM LINE 15)	M	N	P (FROM LINE 11)
G6	79'-3 1/4"	97'-4 3/4"	45'-9 7/16"	52'-0"	41'-10 3/4"	16"x 7/8"x 63'-3 3/8"	16"x 1"x 63'-3 3/8"	16"x 1 1/4"x 38'-6"	16"x 2"x 48'-0"	16"x 2"x 42'-6"	16"x 1"x 77'-4 3/4"	16"x 1"x 77'-4 3/4"	7@12",6@18",14@24",6@18"&5@12"	20'-6 1/2"	24'-7 3/4"	9@12",6@18",19@24",6@18"&7@12"
G7	83'-9 1/2"	92'-10 3/4"	50'-3 3/4"	49'-6"	39'-10 3/4"	16"x 7/8"x 66'-9 1/2"	16"x 1"x 66'-9 1/2"	16"x 1 3/8"x 39'-6"	16"x 1 1/2"x 48'-0"	16"x 1 1/2"x 41'-6"	16"x 7/8"x 73'-10 3/8"	16"x 7/8"x 73'-10 3/8"	7@12",6@18",16@24",6@18"&5@12"	21'-0 1/2"	24'-1 3/8"	9@12",6@18",17@24",6@18"&7@12"
G8	88'-3 1/2"	88'-3 15/16"	54'-9 15/16"	48'-6"	36'-3 15/16"	16"x 7/8"x 70'-3 15/16"	16"x 1"x 70'-3 15/16"	16"x 1 5/8"x 40'-6"	16"x 1 1/2"x 48'-0"	16"x 1 5/8"x 40'-6"	16"x 7/8"x 70'-3 15/16"	16"x 7/8"x 70'-3 15/16"	8@12",6@18",17@24",6@18"&6@12"	21'-6 1/8"	21'-6 1/8"	8@12",6@18",17@24",6@18"&6@12"
G9	92'-10 3/4"	83'-9 1/2"	59'-4 3/4"	47'-6"	32'-9 1/2"	16"x 7/8"x 73'-10 3/8"	16"x 1"x 73'-10 3/8"	16"x 1 3/8"x 41'-6"	16"x 1 7/8"x 48'-0"	16"x 1 3/8"x 39'-6"	16"x 1 7/8"x 66'-9 1/2"	16"x 1 7/8"x 66'-9 1/2"	9@12",6@18",17@24",6@18"&7@12"	24'-1 3/8"	21'-0 1/2"	7@12",6@18",16@24",6@18"&5@12"
G10	97'-4 3/4"	79'-3 3/8"	63'-10 3/4"	46'-6"	29'-3 3/8"	16"x 1"x 77'-4 3/4"	16"x 1"x 77'-4 3/4"	16"x 2"x 42'-6"	16"x 2"x 48'-0"	16"x 1 3/8"x 38'-6"	16"x 7/8"x 63'-3 3/8"	16"x 1"x 63'-3 3/8"	9@12",6@18",19@24",6@18"&7@12"	24'-7 3/8"	20'-6 5/8"	7@12",6@18",14@24",6@18"&5@12"

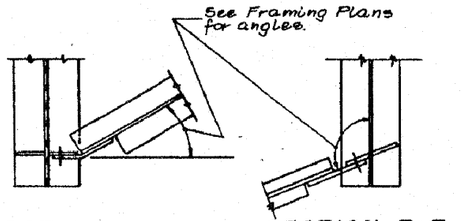
FILE NAME =	USER NAME = rgoll	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER ELEVATIONS & SCHEDULES – LOCATION 6 STRUCTURE NO. 016–1140	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	105
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 5 OF 10 SHEETS / STA. / TO STA.		ILLINOIS FED. AID PROJECT			

$FILE$

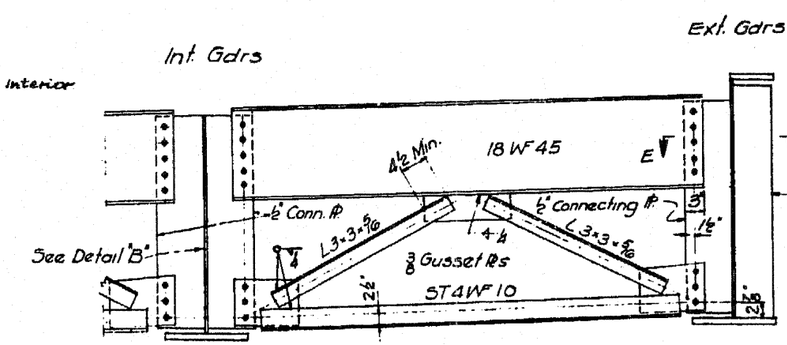


D-1

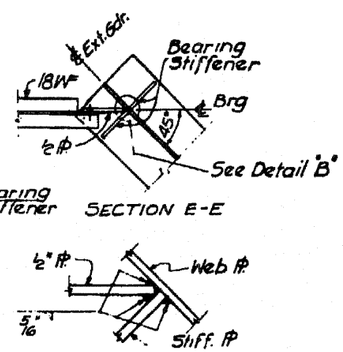
END DIAPHRAGM



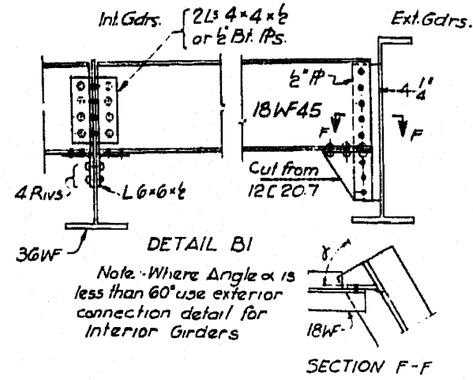
SECTION A-A **SECTION F-F**

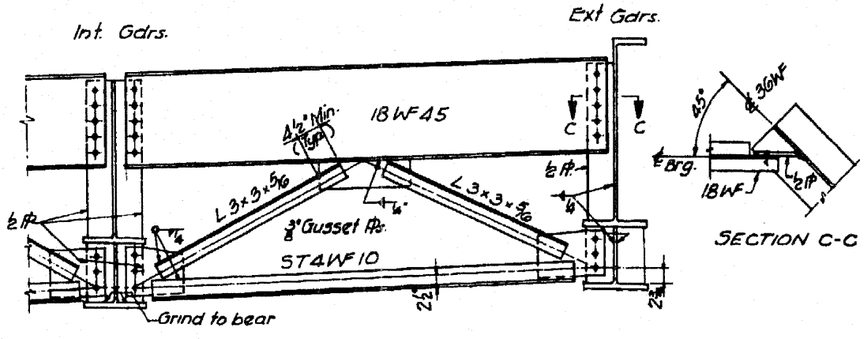


DETAIL B5
(Welded Plate Girders)

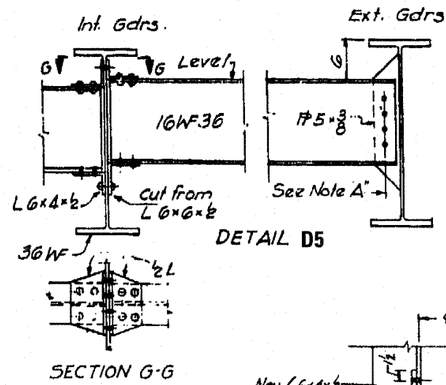


DETAIL "B"

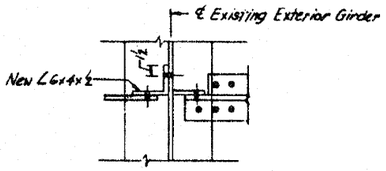




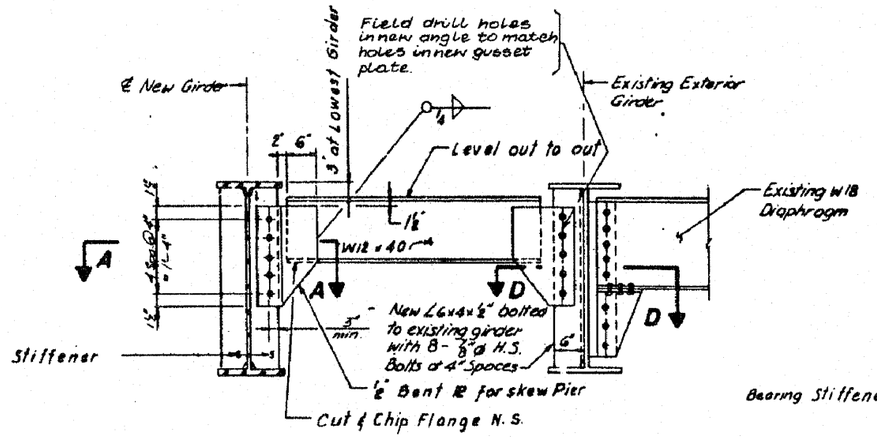
DETAIL B4



DETAIL D5

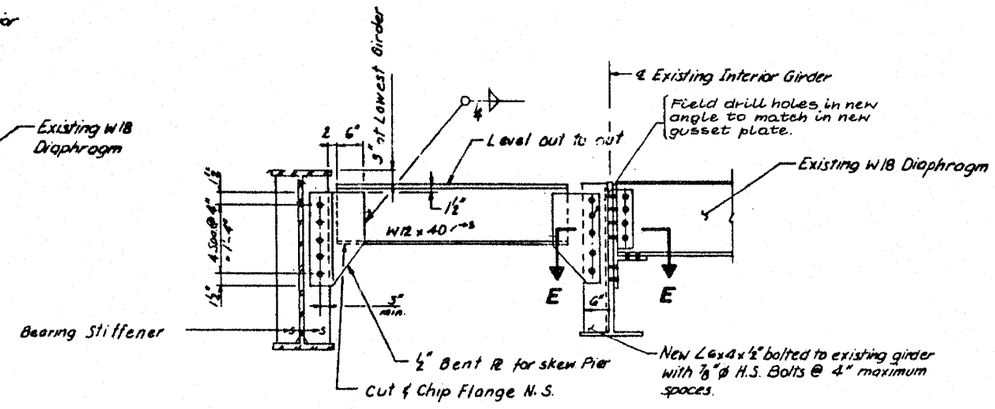


SECTION D-D



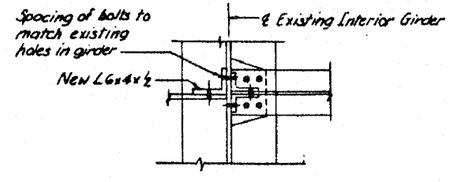
D-2

END DIAPHRAGM



D-4

END DIAPHRAGM



SECTION E-E

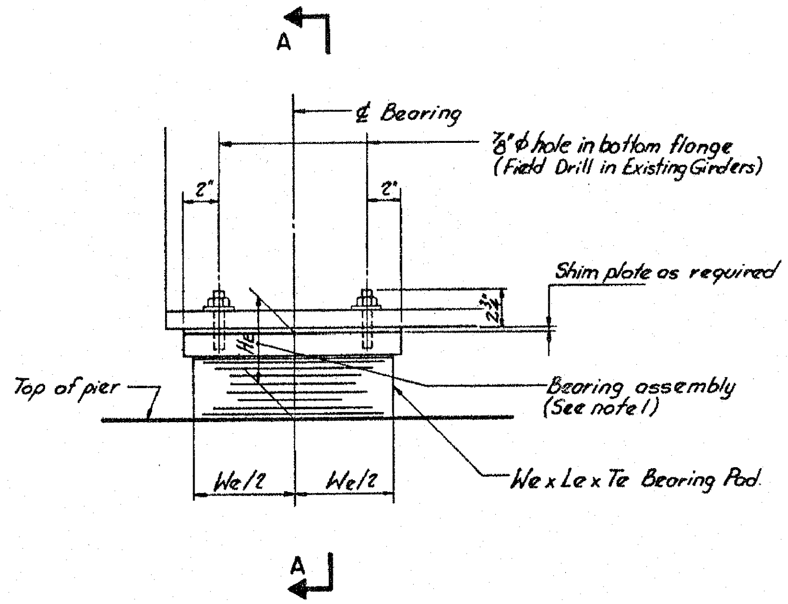
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

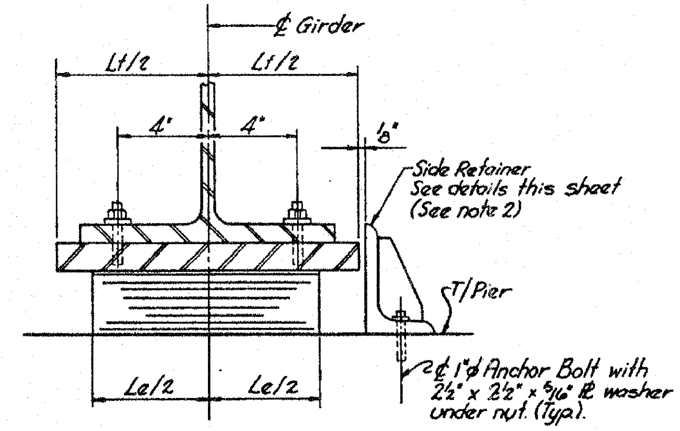
DIAPHRAGM & CROSS FRAME DETAILS – LOCATION 6
STRUCTURE NO. 016-1140

SCALE: NTS | SHEET NO. 6 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	106
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			



TYPICAL ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXPANSION BEARING

TABLE OF DIMENSIONS - TYPE I ELASTOMERIC EXPANSION BEARINGS

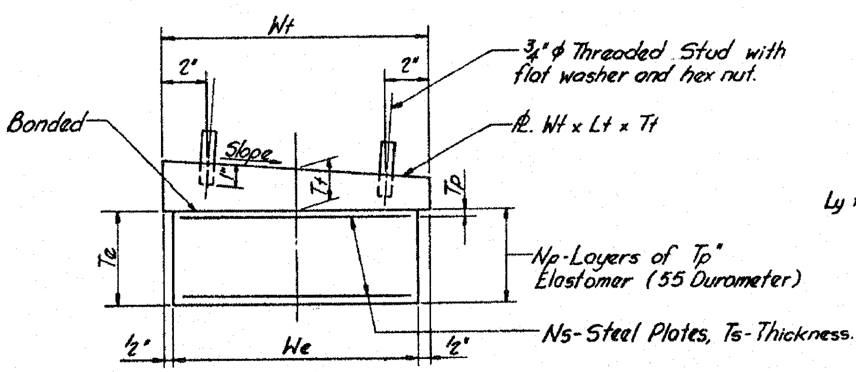
We	Le	Series	Tp	Np	Ts	Ns	Te
7	12	c	3/8	5	3/32	4	2 1/4
11	16	b	1/2	5	1/8	4	3
11	16	d	1/2	7	1/8	6	4 1/4
9	12	a	3/8	5	3/32	4	2 1/4
9	12	b	3/8	7	3/32	6	3 3/16
10	14	a	7/16	5	1/8	4	2 11/16
10	14	b	7/16	6	1/8	5	3 1/4
10	14	d	7/16	8	1/8	7	4 3/8

Tp - denotes thickness of each elastomeric layer.
Np - denotes number of elastomeric layers.
Ts - denotes thickness of each steel plate.
Ns - denotes number of steel plates.

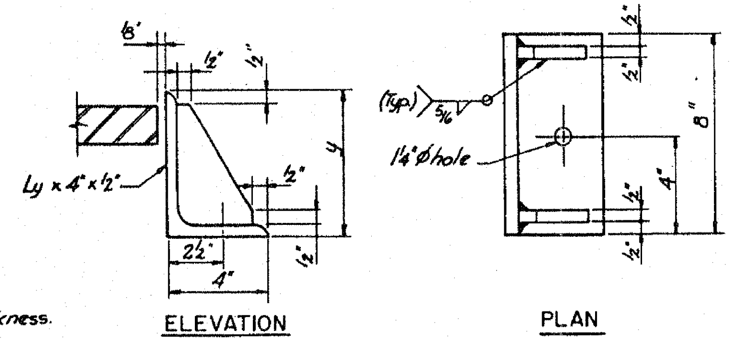
TYPE I ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE NO.	PIER LOCATION	GIRDER	We	Le	SERIES	TOP PLATE Tt	Wt	Lt	SLOPE %	Y	He	NO. REQ'D.	REMARKS
016-1140	5(N)	GB1	9	12	b	1 1/2	10	17	3.0	6	4 11/16	1	N, E, ⊕
	16(N)	G16, G20	9	12	a	2	10	14	4.7	6	4 1/4	2	R, E
		G17-G19	9	12	a	2	10	14	4.7	6	4 1/4	3	R
016-1140	5(N)	GB2	9	12	b	1 1/2	10	14	3.0	6	4 11/16	1	N, E, ⊕

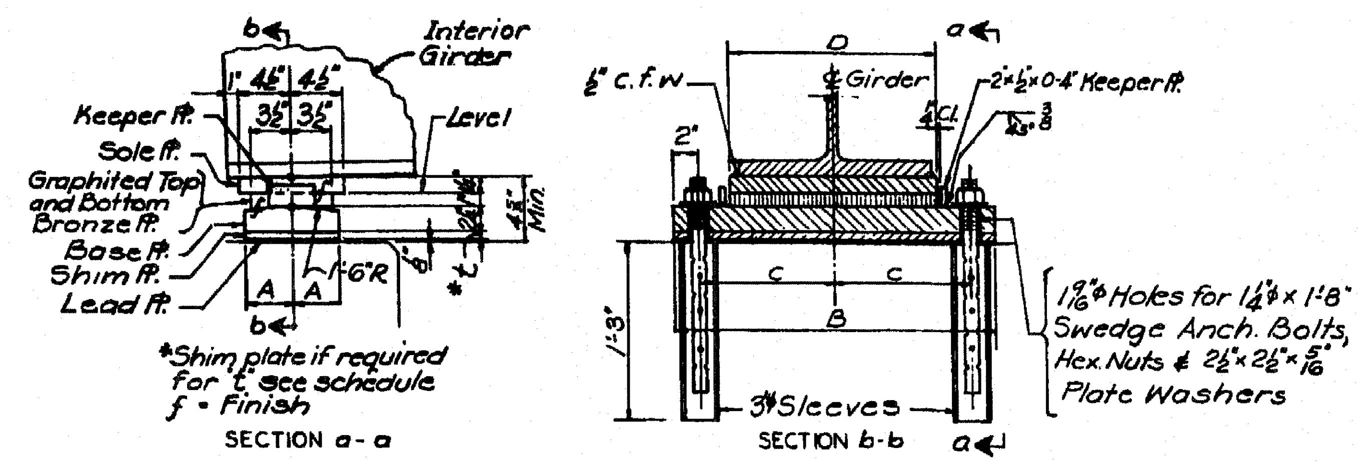
Remarks: N – New bearing for roadway widening.
E – Exterior girder: side retainer required at inside face.
R – Replacement bearing.
⊕ – Pier No. 5 is from STRUCTURE No. 016-1115.



BEARING ASSEMBLY



SIDE RETAINER



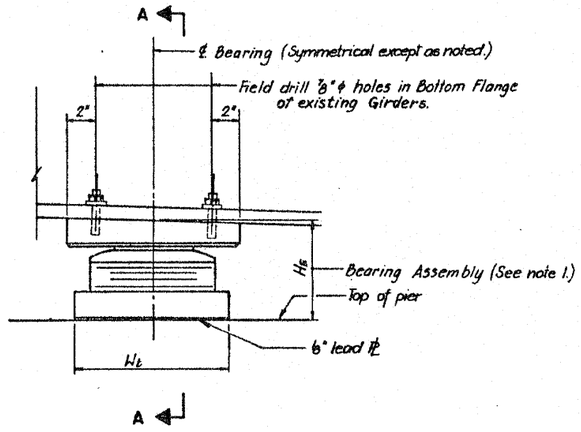
EXPANSION BEARING DETAILS
Scale 1 1/2" = 1'-0"

Notes:
1. Height of bearing assembly, He, includes top plate and elastomeric pad and does not include shim plate.
2. Provide side retainer at inside face of exterior girder.

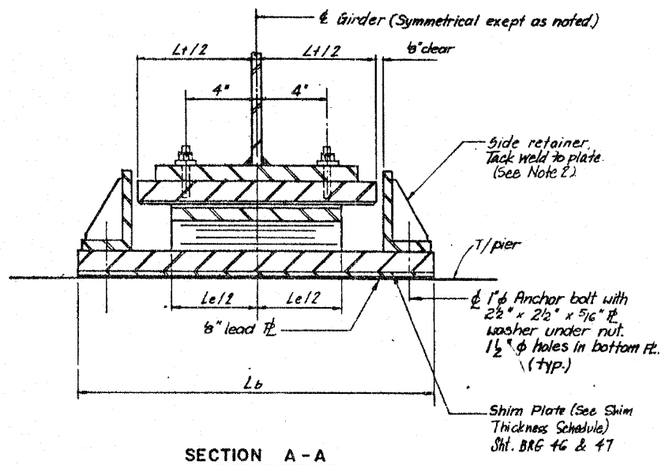
EXPANSION BEARING SCHEDULE

MARK		DIMENSIONS A	B	C	D		REMARKS
E1		4"	2'-3"	11 1/2"	1'-5 1/2"		Typical for 16" flange
E2		4"	1'-10 1/2"	9 1/4"	1'-1"		Typical for 12" flange

Note: Use typical bearings mark E1 and E2 unless otherwise noted.



TYPICAL ELEVATION



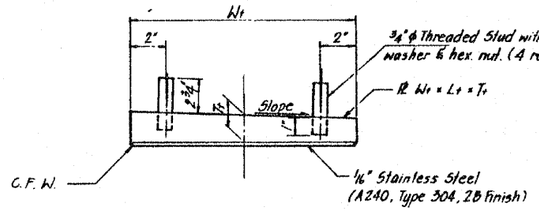
SECTION A-A

TYPE II ELASTOMERIC EXPANSION BEARING SCHEDULE

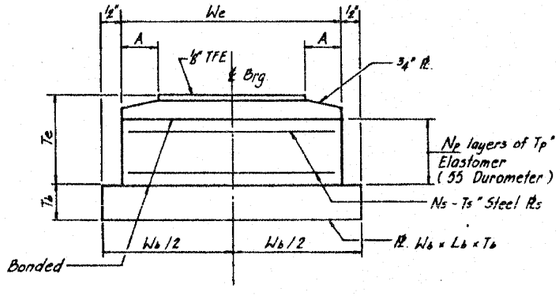
STRUCTURE NO.	PIER LOCATION	GIRDER	We	Le	SERIES	TOP PLATE Tt	Wt	Lt	SLOPE	BOTTOM PLATE TB	WB	LB	NO. REQ'D.	H_E	REMARKS
049-1140	11(N)	B6-G10	9	12	b	1½	10¾	14	4.0	1	10	22½	5	6¾	R

Remarks : R - Replacement Brg.

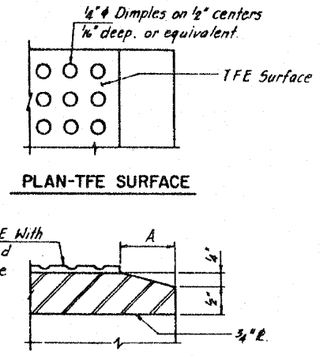
TYPE II TFE ELASTOMERIC EXPANSION BEARING



TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



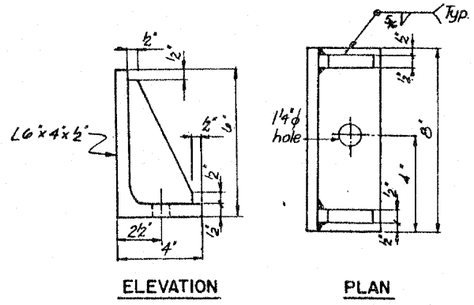
PLAN-TFE SURFACE

SECTION THRU TFE

Note : The ⅛" 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 surface.

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

We	6"	7"	9"	10"	11"	12"
A	1"	1"	1½"	1½"	1½"	1½"



ELEVATION PLAN

SIDE RETAINER DETAILS

TABLE OF DIMENSIONS - TYPE II ELASTOMERIC EXPANSION BEARINGS

We	Le	Series	Tp	Np	Ts	Ns	Te
9"	12"	b	⅝"	7"	3/32"	6	4 1/16"

Tp - denotes thickness of each elastomeric layer
Np - denotes number of elastomeric layers
Ts - denotes thickness of each steel plate
Ns - denotes number of steel plates

NOTES:

1. Height of bearing assembly, H_E, includes top plate, elastomeric assy., bottom plate, and 6" lead plate. H_E does not include shim plate.
2. Side retainer details for bearings located on top of pier are shown on this sheet.
3. See Shim thickness schedule for required shims.
4. For Bearings without Bolsters the Side Retainer shall be tack welded as shown after the girder and bearing assembly have been set into their final position.

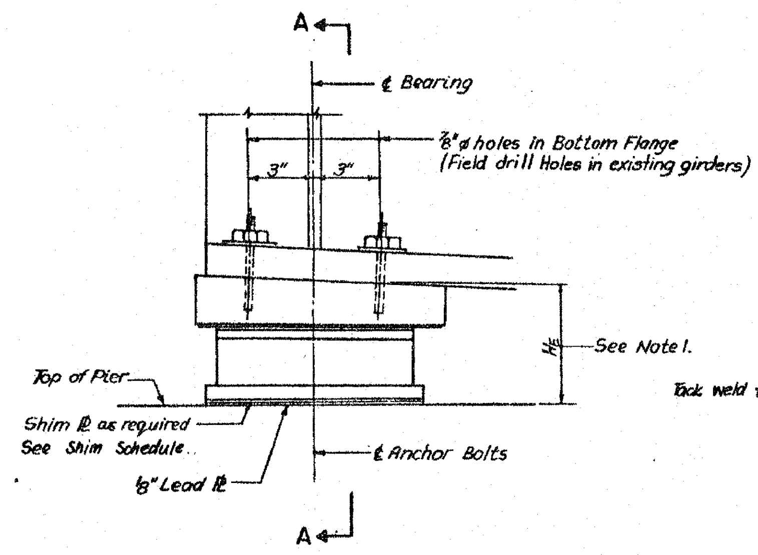
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 '/ IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

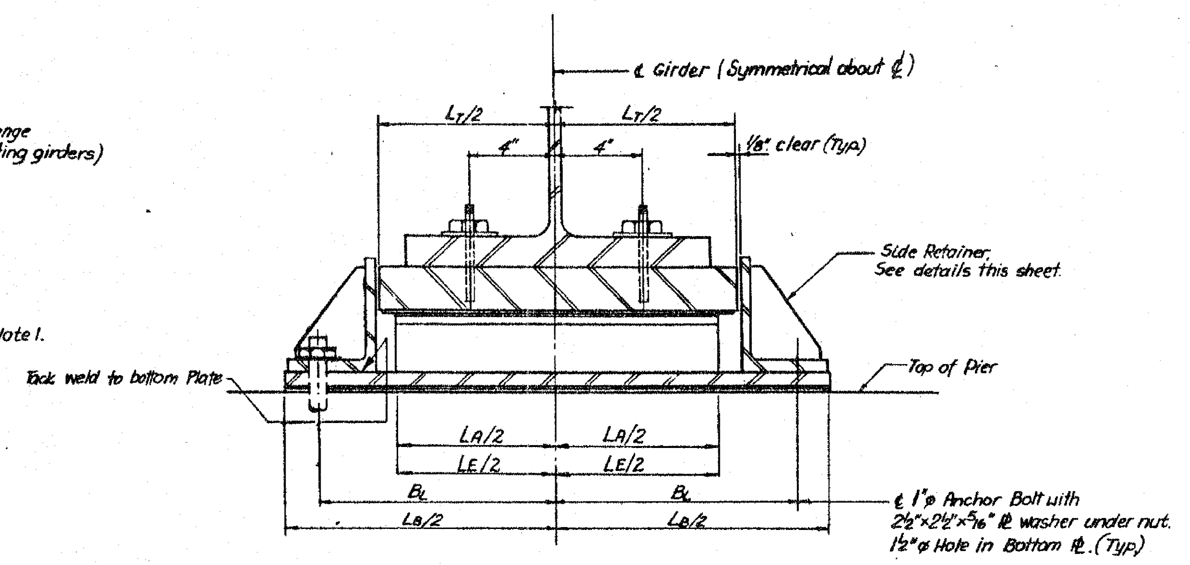
TYPE II ELASTOMERIC EXPANSION BEARING DETAILS – LOCATION 6
STRUCTURE NO. 016-1140

SCALE: NTS | SHEET NO. 8 OF 10 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	108
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

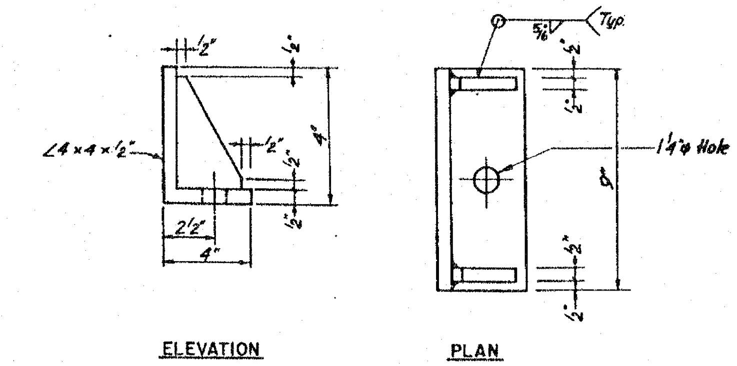


TYPICAL ELEVATION



SECTION A–A

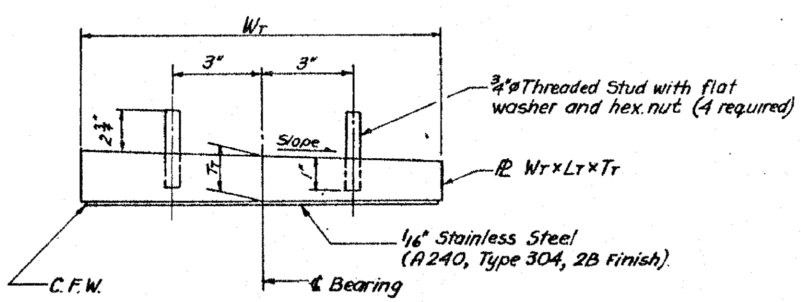
TYPE IV TFE ELASTOMERIC EXPANSION BEARING



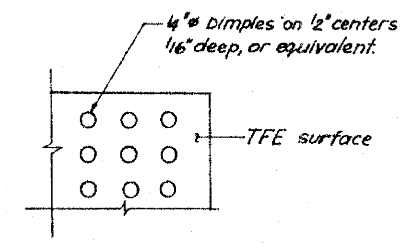
SIDE RETAINER DETAILS

TYPE IV ELASTOMERIC EXPANSION BEARING SCHEDULE

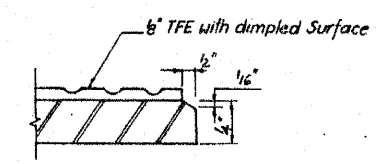
STRUCTURE NO.	PIER LOCATION	GIRDER NO.	NO. REQ'D	ELASTOMER T_E	ELASTOMER W_E	ELASTOMER L_E	TOP PLATE T_T	TOP PLATE W_T	TOP PLATE L_T	TOP PLATE % SLOPE	BOTTOM BEARING ASSEMBLY T_A	BOTTOM BEARING ASSEMBLY W_A	BOTTOM BEARING ASSEMBLY L_A	BOTTOM BEARING ASSEMBLY T_B	BOTTOM BEARING ASSEMBLY W_B	BOTTOM BEARING ASSEMBLY L_B	BOTTOM BEARING ASSEMBLY B_L		H_E	REMARKS
016-1140	⊕5(6)	G6-G10	5	1¾	9	12	1½	11¼	16		¼	9	12	⅞	10	24½	10⅝		4 11/16	R, G 1/16"



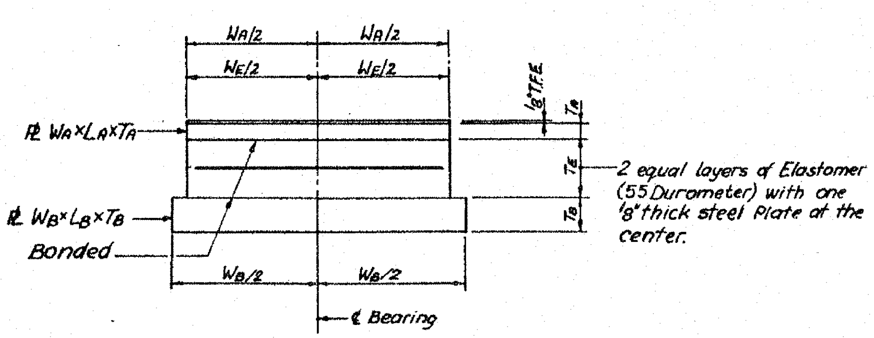
TOP BEARING ASSEMBLY



PLAN - TFE SURFACE



SECTION THRU TFE



BOTTOM BEARING ASSEMBLY

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 surface.

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.

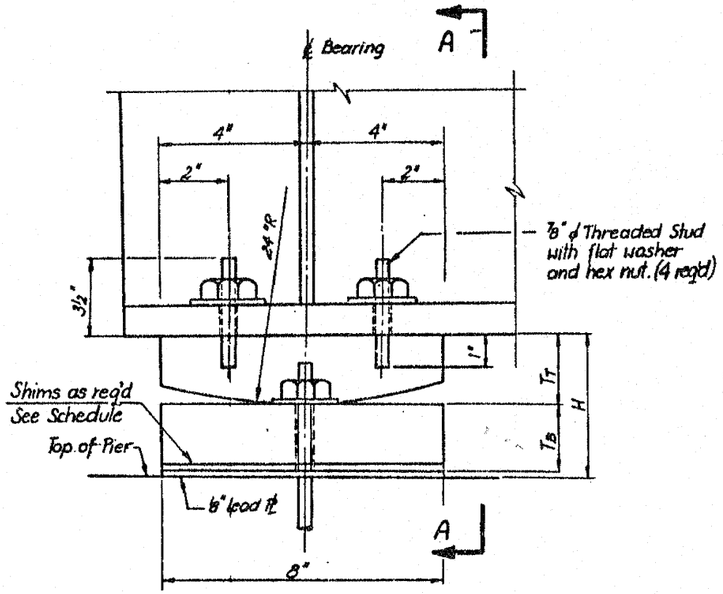
Notes:

1. Height of Bearing Assembly, HE, includes 1/8" lead Plate. (Does not include Shims if required)
2. For Bearings without Bolsters, the Side Retainer shall be tack welded as shown after the Girder and Bearing assembly have been set into their final position.

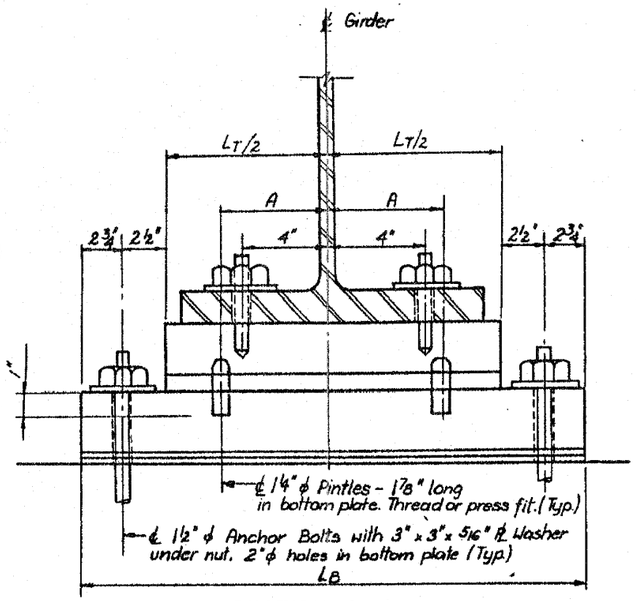
Remarks:

R - Replacement Bearings.
N - New Bearings for roadway widening.
G - Grind concrete pier cap under bearing by amount shown
⊕ - Pier 5(6) is from STRUCTURE No. 016-1059

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE IV ELASTOMERIC EXPANSION BEARING DETAILS – LOCATION 6 STRUCTURE NO. 016–1140	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	109
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -			CONTRACT NO. 60N01				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 9 OF 10 SHEETS / STA. / TO STA.	ILLINOIS FED. AID PROJECT				



ELEVATION

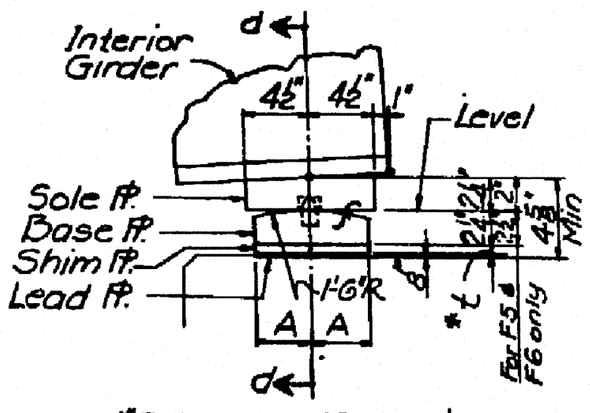


SECTION A-A

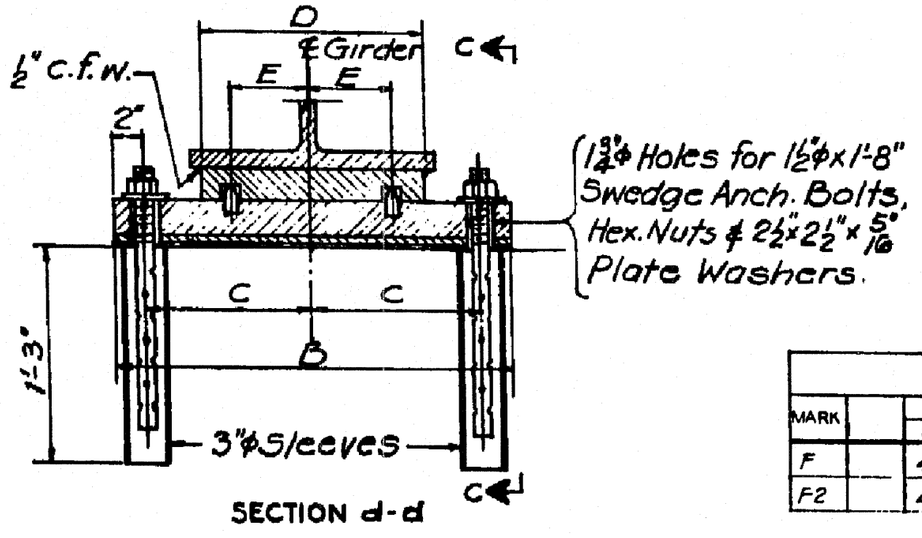
FIXED BEARING – TYPE FI

FIXED BEARING SCHEDULE

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	B.I.G. TYPE	NO. REQ'D.	T_T "	L_T"	T_B "	L_B"	A "	H "
016-1140	11(S)	GB1	F1	1	2½	17	2	27½	5	45⅛
		GB2	F1	1	2½	13	2	23½	3	45⅛



SECTION c-c



SECTION d-d

FIXED BEARING SCHEDULE

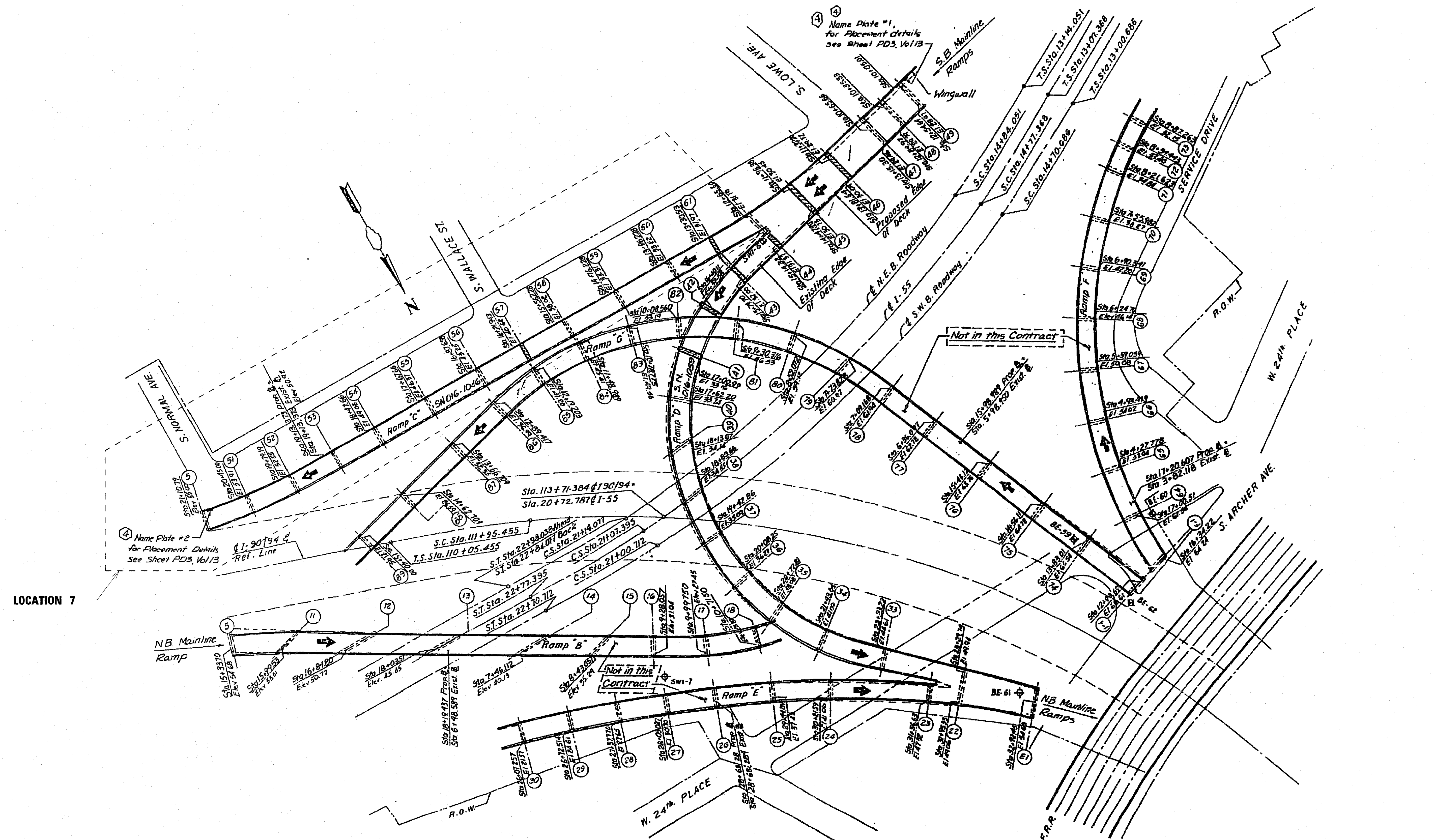
MARK	DIMENSIONS A	B	C	D	E	REMARKS
F	4"	2'-3"	1 1/2"	1'-3"	5½"	Typical for 16" flange
F2	4"	1'-10½"	9½"	11"	3½"	Typical for 12" flange

FIXED BEARING DETAILS

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIXED BEARING DETAILS – LOCATION 6 STRUCTURE NO. 016-1140
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS SHEET NO. 10 OF 10 SHEETS STA. TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	110
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



LEGEND ②

- ◈ Indicates Existing Soil Borings
- ▭ New Pier Widening completed in Advance Work Contract
- ◯ Indicates Pier Number
- ▨ Pier Replacement or Widening

FILE NAME =	USER NAME = rgoll	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

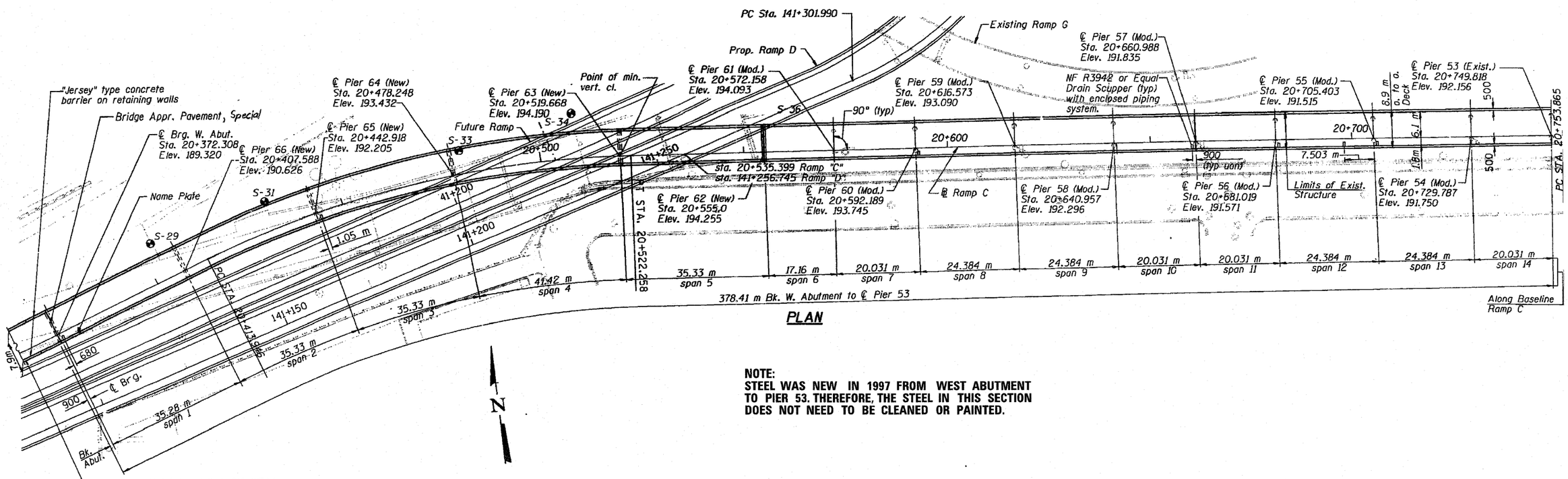
GENERAL PLAN – LOCATION 7
STRUCTURE NO. 016-1046

SCALE: NTS | SHEET NO. 1 OF 7 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	111

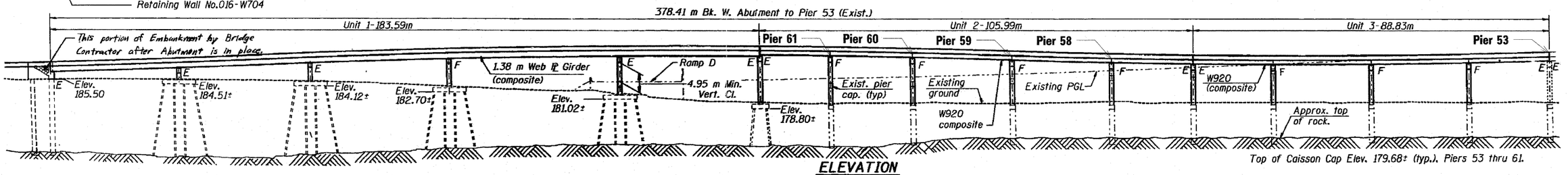
CONTRACT NO. 60N01

ILLINOIS FED. AID PROJECT



PLAN

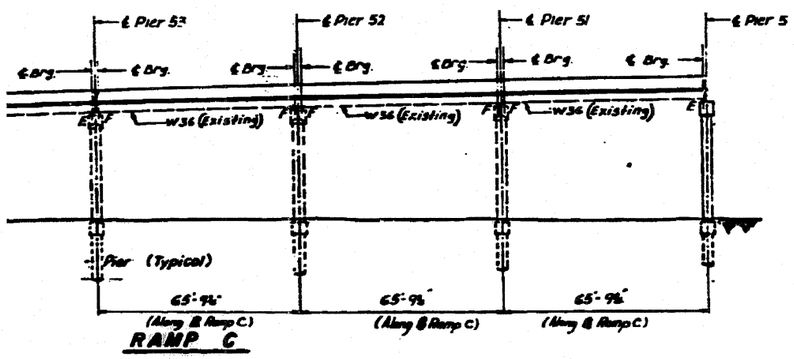
NOTE:
STEEL WAS NEW IN 1997 FROM WEST ABUTMENT TO PIER 53. THEREFORE, THE STEEL IN THIS SECTION DOES NOT NEED TO BE CLEANED OR PAINTED.



ELEVATION

NOTES

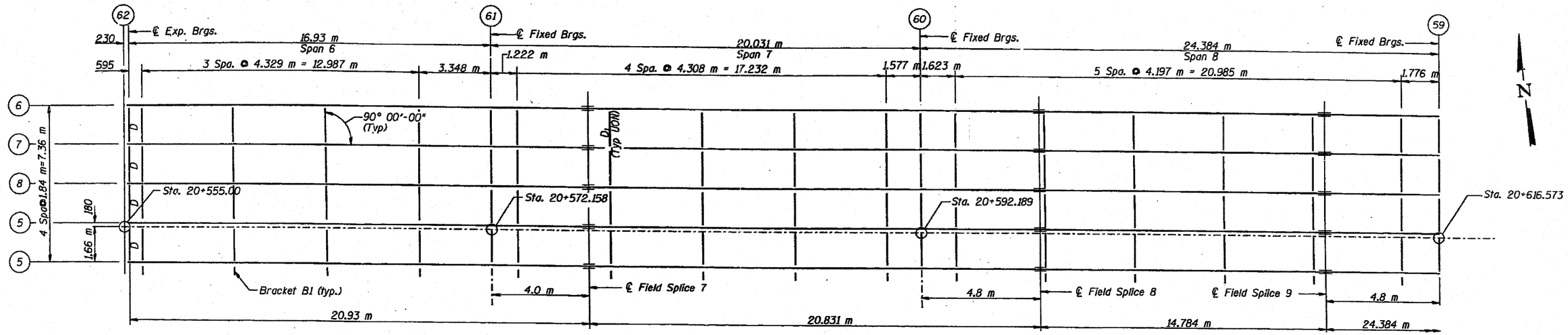
All dimensions are in millimeters (mm) except as noted.

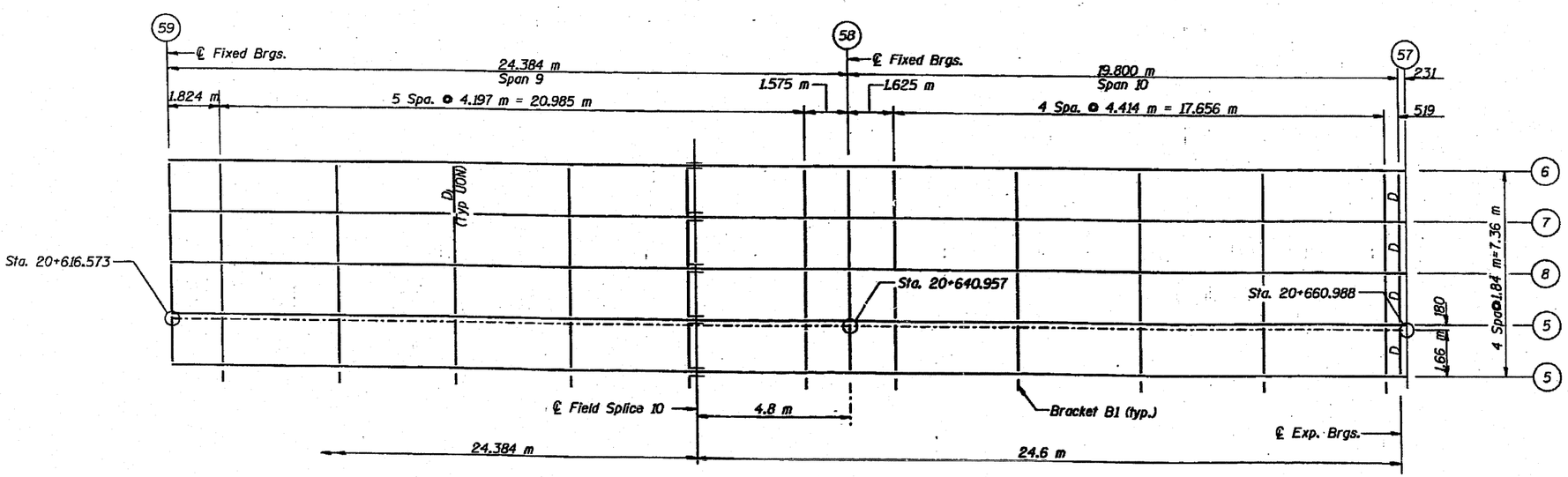


FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**GENERAL PLAN & ELEVATION – LOCATION 7 STRUCTURE NO. 016-1046**
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS | SHEET NO. 2 OF 7 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	112
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$





FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

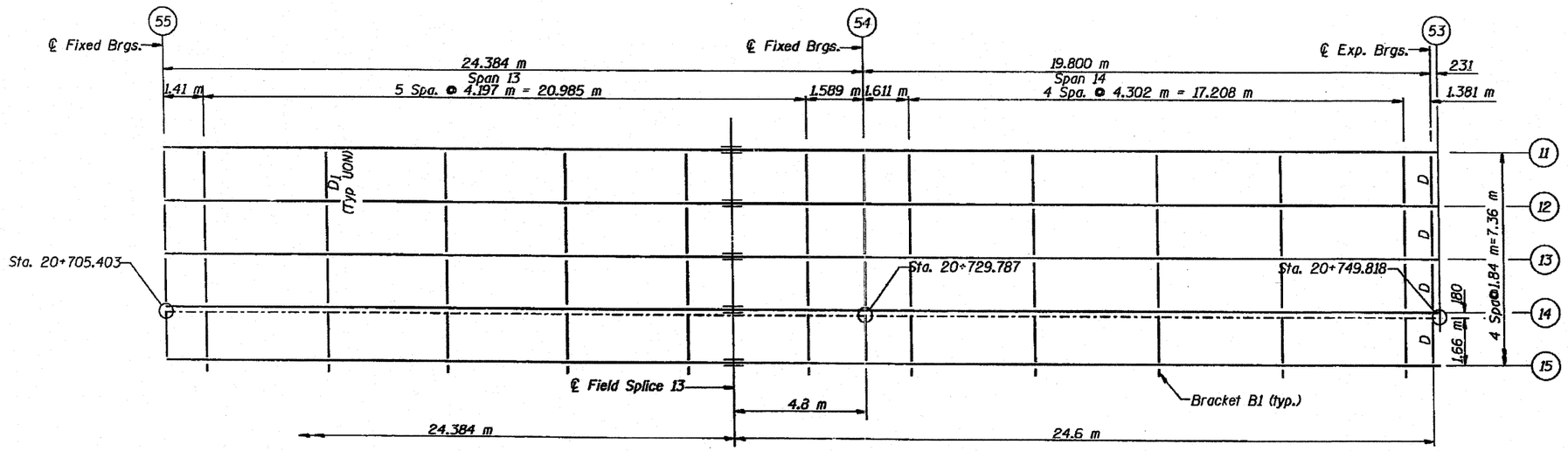
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

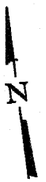
FRAMING PLAN SPANS 6 TO 10 – LOCATION 7
STRUCTURE NO. 016-1046

SCALE: NTS | SHEET NO. 3 OF 7 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	113
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

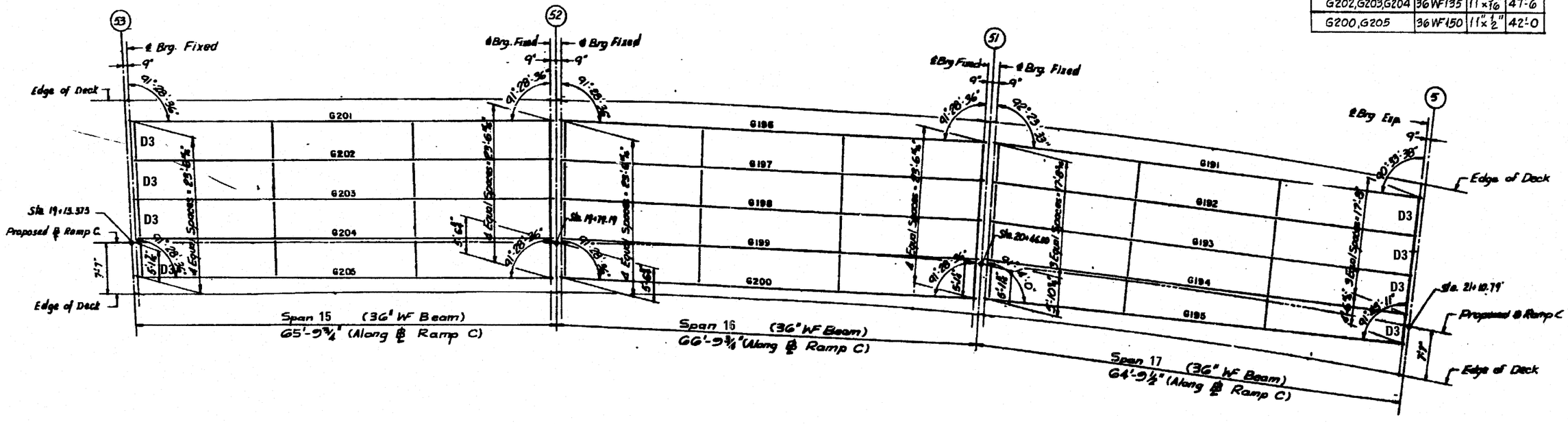
$FILE$





GIRDER SCHEDULE

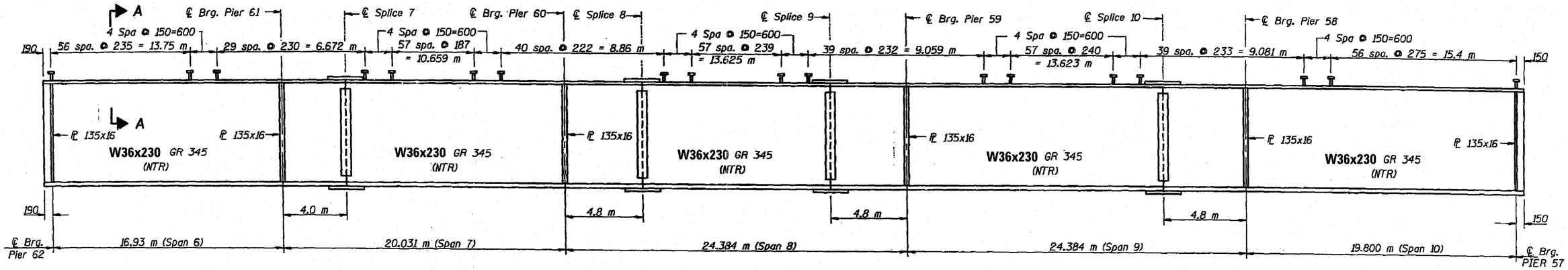
MARK	SECTION	COVER PLATES	
		SIZE	LENGTH
G191	36WF150	11"x⅝"	47'-6
G192,G193,G194	36WF135	11"x9/16"	47'-0
G195	36WF150	11"x½"	43'-0
G196,G201	36WF150	11"x⅝"	45'-0
G197,G198,G199	36WF135	11"x9/16"	47'-6
G202,G203,G204	36WF135	11"x9/16"	47'-6
G200,G205	36WF150	11"x½"	42'-0



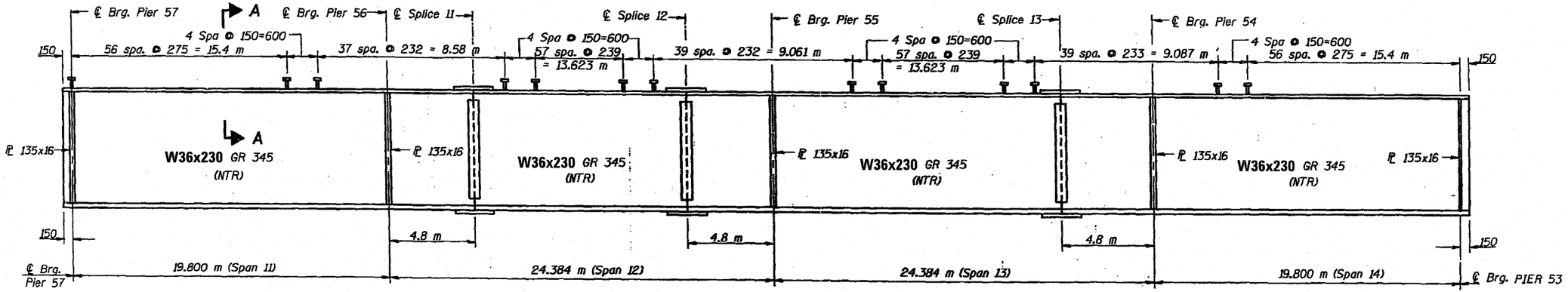
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS 13 TO 17 – LOCATION 7 STRUCTURE NO. 016-1046			
		DRAWN - AMR	REVISED -					
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS	SHEET NO. 4 OF 7 SHEETS	STA.	TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -					

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	114
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

@FILE\$



BEAM ELEVATION - UNIT 2

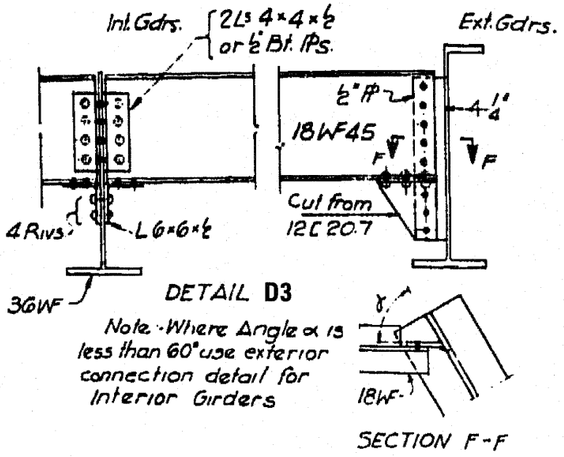


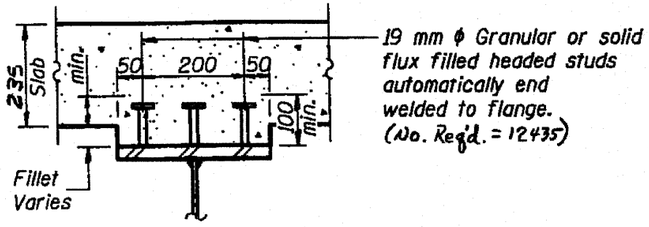
BEAM ELEVATION - UNIT 3

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER ELEVATIONS – LOCATION 7 STRUCTURE NO. 016-1046
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS | SHEET NO. 5 OF 7 SHEETS | STA. | TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	115
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

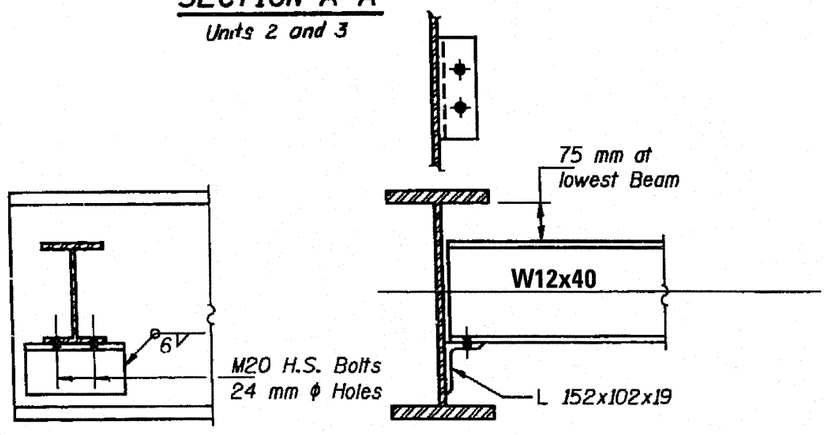
$FILE$





SECTION A-A

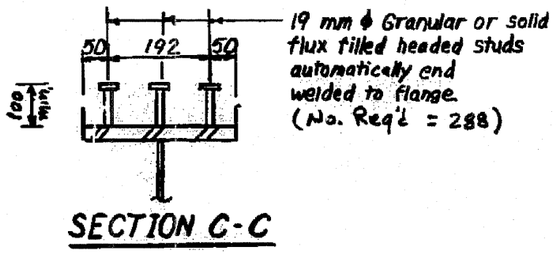
Units 2 and 3



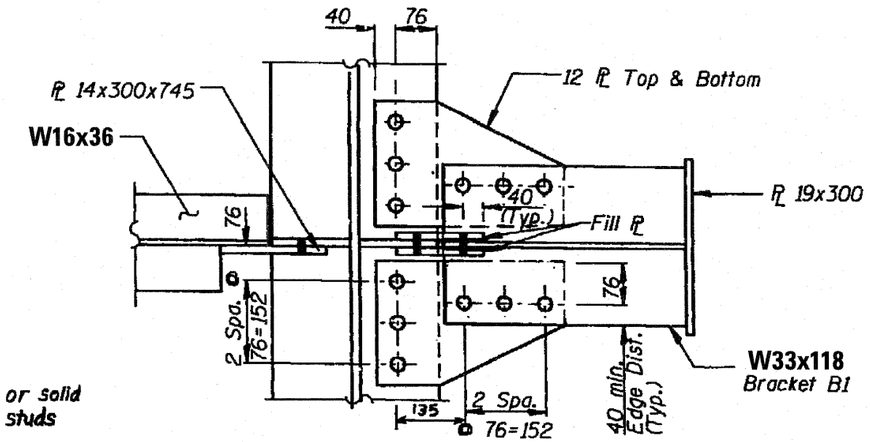
DIAPHRAGM D

Units 2 and 3

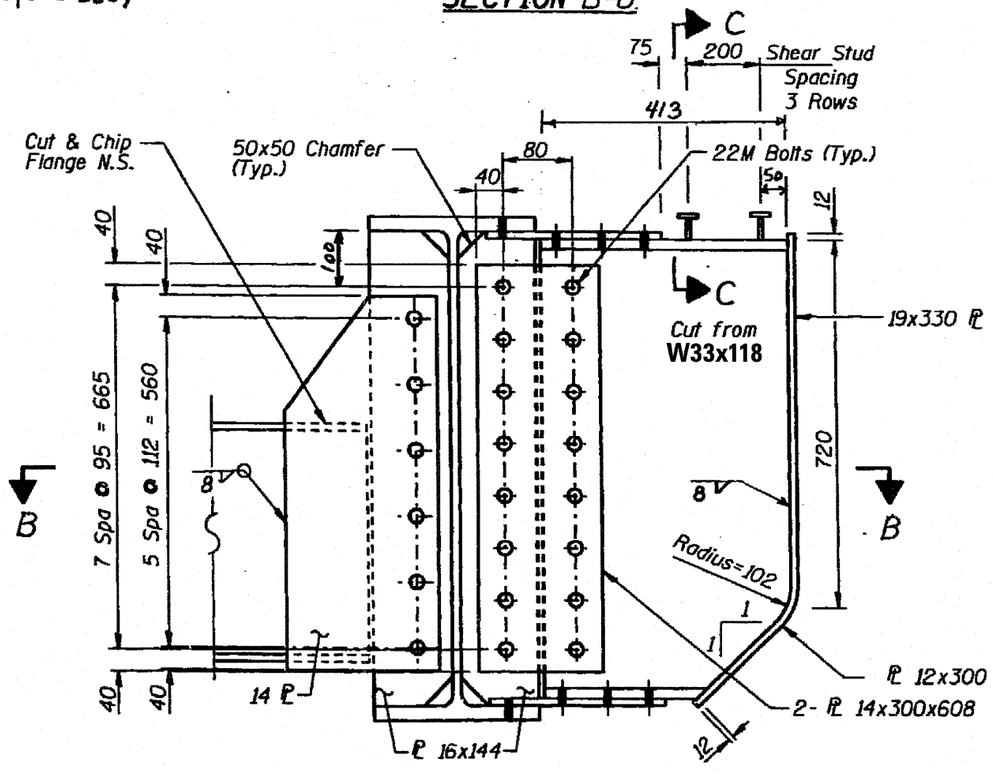
Note: Two hardened washers shall be required over all oversize holes for diaphragms.
All dimensions are in millimeters (mm) except as noted.



SECTION C-C



SECTION B-B



DIAPHRAGM D1 & BRACKET B1

NOTE: NTR denotes Notch Toughness Requirements
All dimensions are in millimeters (mm) except as noted.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

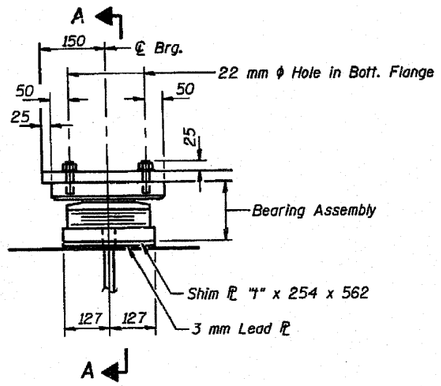
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS – LOCATION 7
STRUCTURE NO. 016-1046

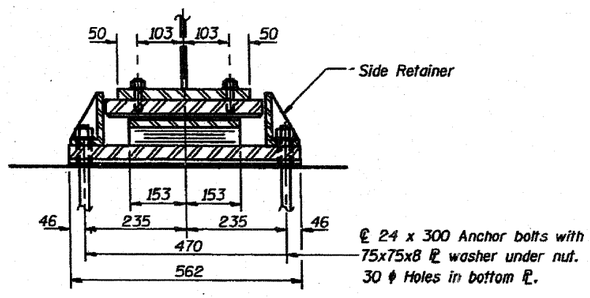
SCALE: NTS | SHEET NO. 6 OF 7 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	116
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILEL$

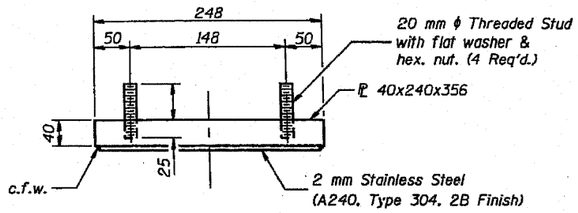


ELEVATION AT PIER 53

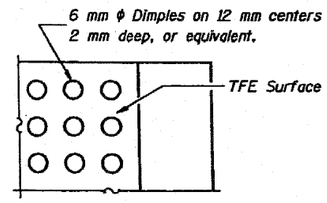


SECTION A-A

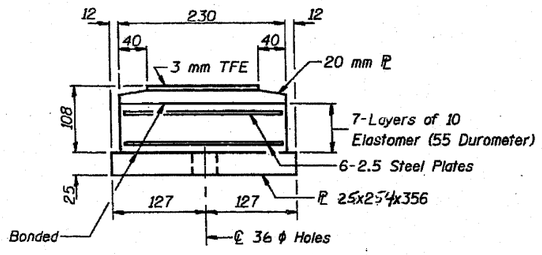
TYPE II TFE ELASTOMERIC EXP. BRG.



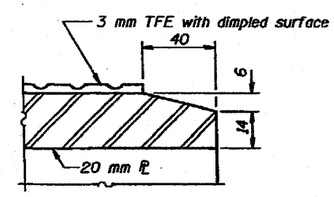
TOP BEARING ASSEMBLY



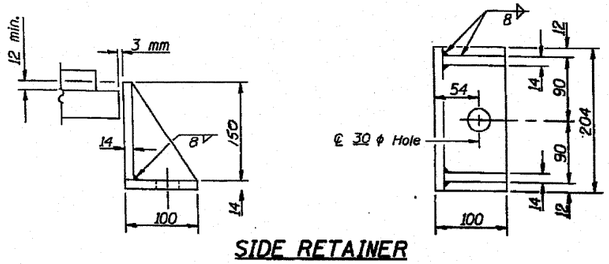
PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY

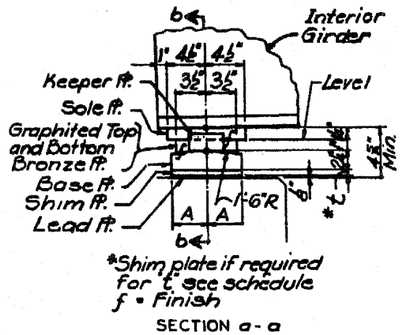


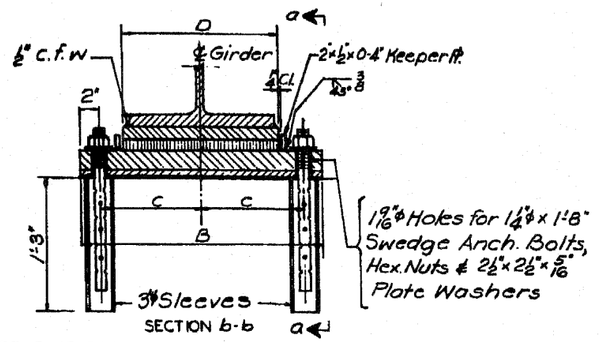
SECTION THRU TFE



SIDE RETAINER

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

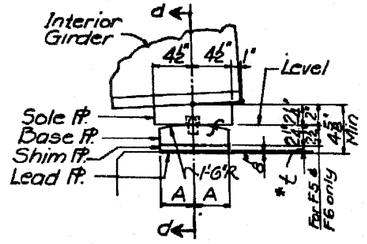


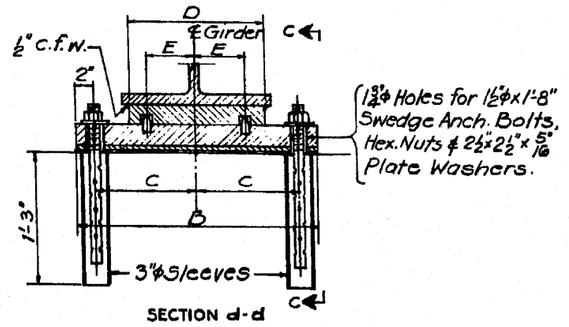


EXPANSION BEARING DETAILS
Scale 1½"=1'-0"

EXPANSION BEARING SCHEDULE							
MARK		DIMENSIONS					REMARKS
		A	B	C	D		
E2		4"	1'-10½"	9¼"	1'-1"		Typical for 12" Flange

Note: Use typical bearings mark E2 unless otherwise noted.





FIXED BEARING DETAILS

FIXED BEARING SCHEDULE								
MARK		DIMENSIONS						REMARKS
		A	B	C	D	E		
F2		4"	1'-10½"	9¼"	11"	3½"		Typical for 12" flange

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		DRAWN - AMR	REVISED -	
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -	
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -	

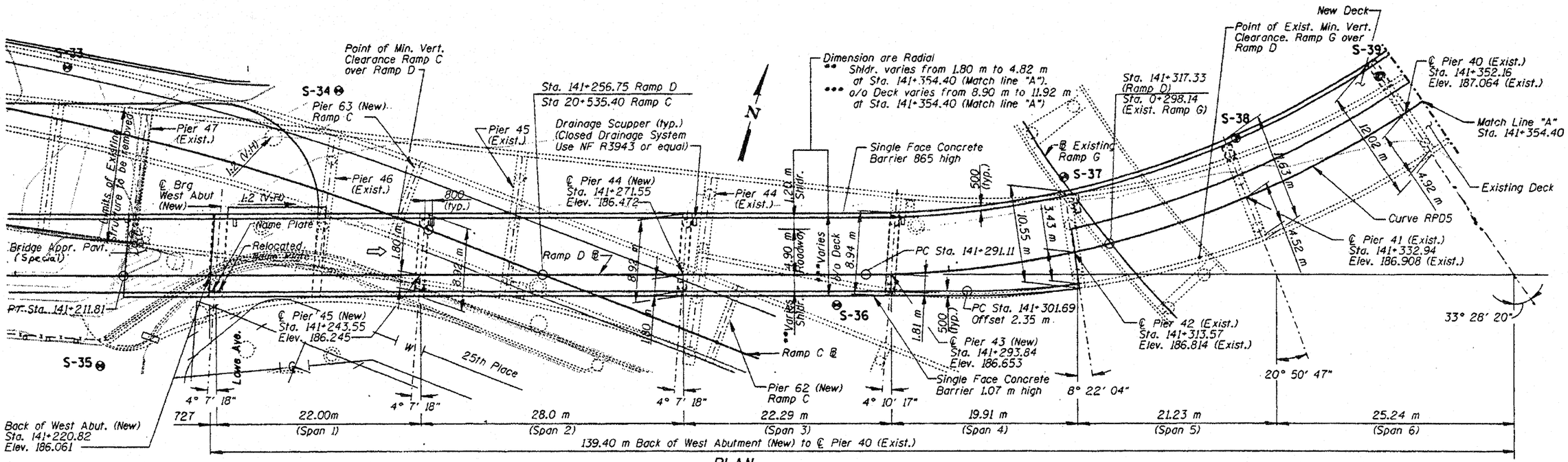
BEARING DETAILS – LOCATION 7
STRUCTURE NO. 016-1046

SCALE: NTS | SHEET NO. 7 OF 7 SHEETS | STA. | TO STA.

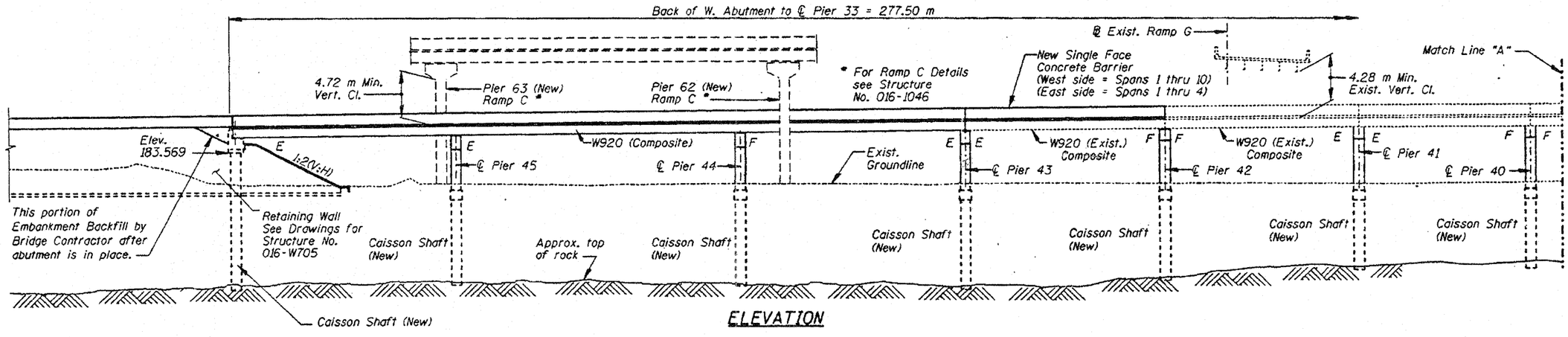
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	117
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

©FILE ©

NOTE: Skew angle shown for Pier 39 (Exist.) to Pier 33 (Exist.) are measured from ℄ Pier to a tangent to curve (TC) at ℄ Pier stations along Ramp D ℄.



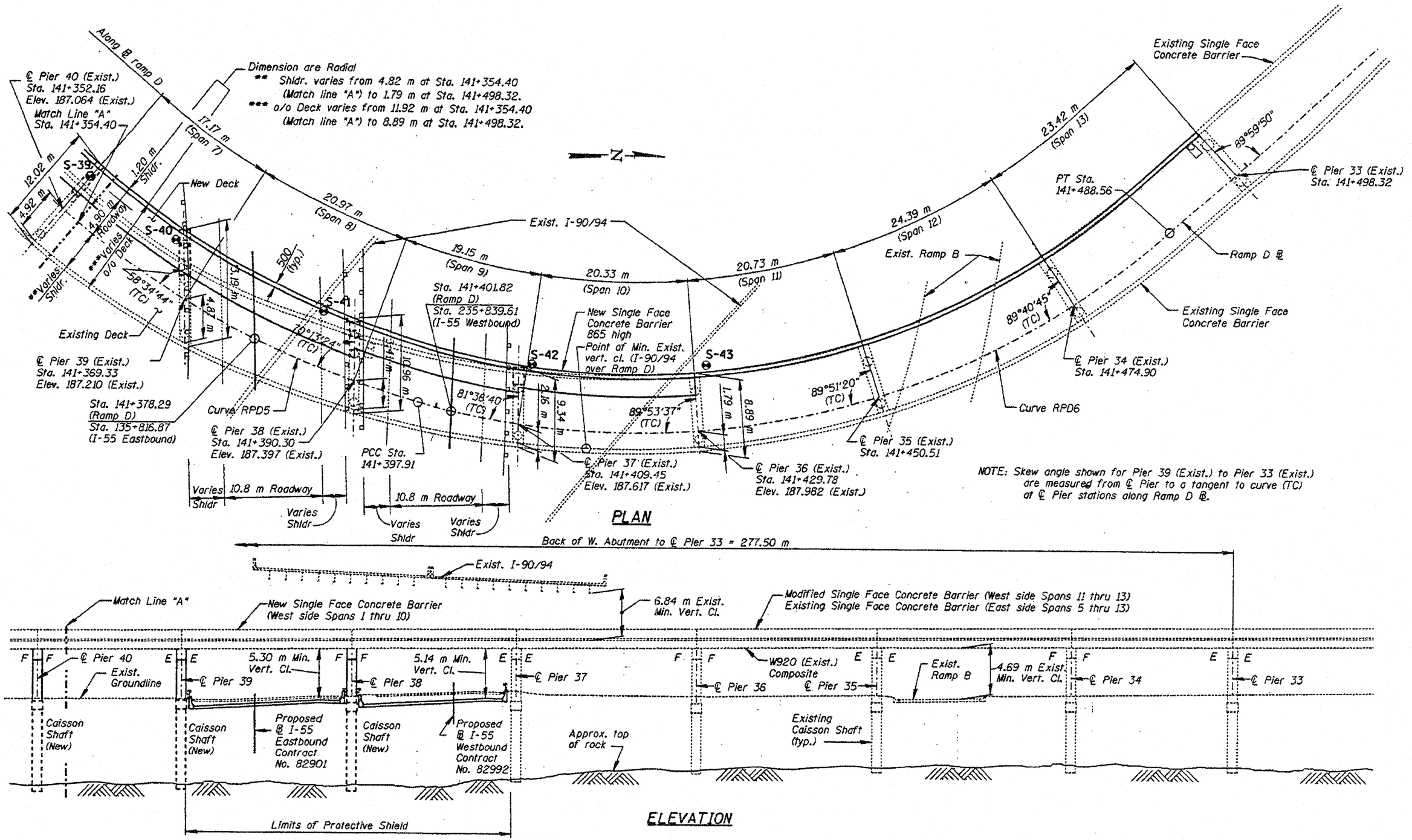
PLAN



ELEVATION

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION – LOCATION 8 STRUCTURE NO. 016–1059			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	118
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 1 OF 9 SHEETS	STA. TO STA.		ILLINOIS FED. AID PROJECT			

$FILE$



NOTE: Skew angle shown for Pier 39 (Exist.) to Pier 33 (Exist.) are measured from ℄ Pier to a tangent to curve (TC) at ℄ Pier stations along Ramp D ℄.

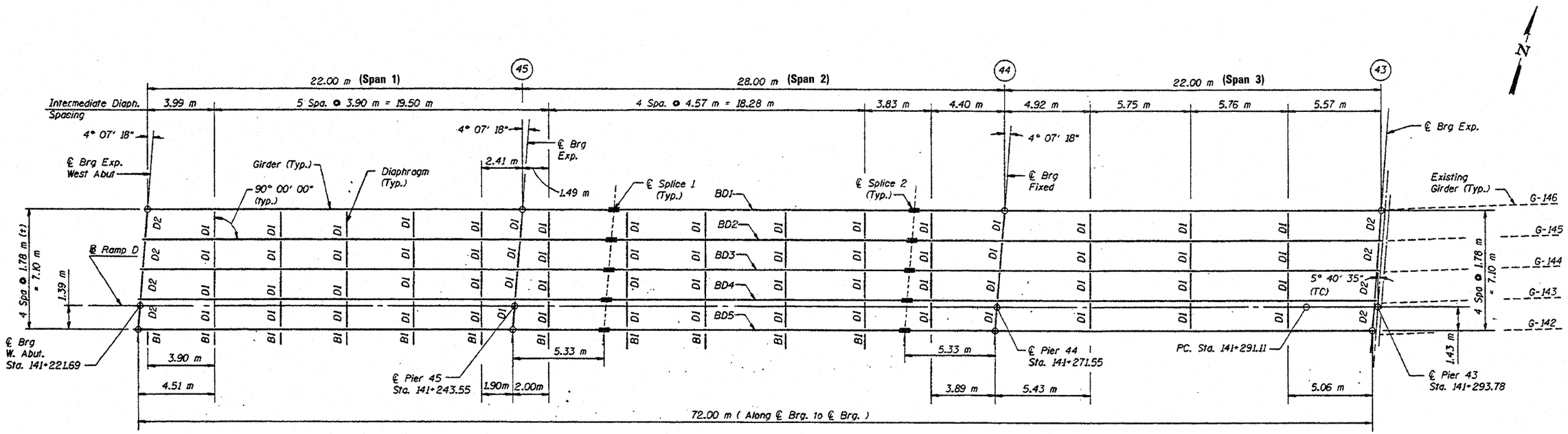
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	
		DRAWN - AMR	REVISED -	
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -	
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

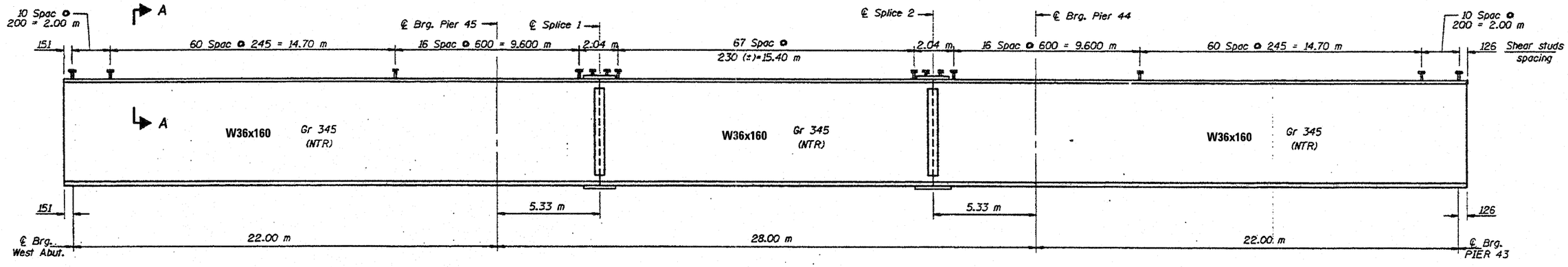
GENERAL PLAN & ELEVATION – LOCATION 8
STRUCTURE NO. 016-1059

SCALE: NTS | SHEET NO. 2 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	119
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

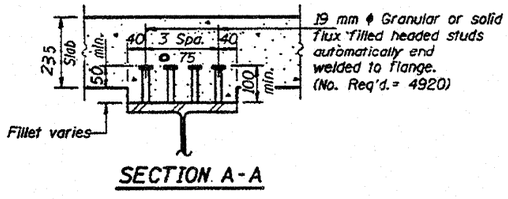


FRAMING PLAN SPANS 1, 2 & 3



BEAM ELEVATION SPANS 1, 2 & 3

(Beam BD1 Thru BD5)



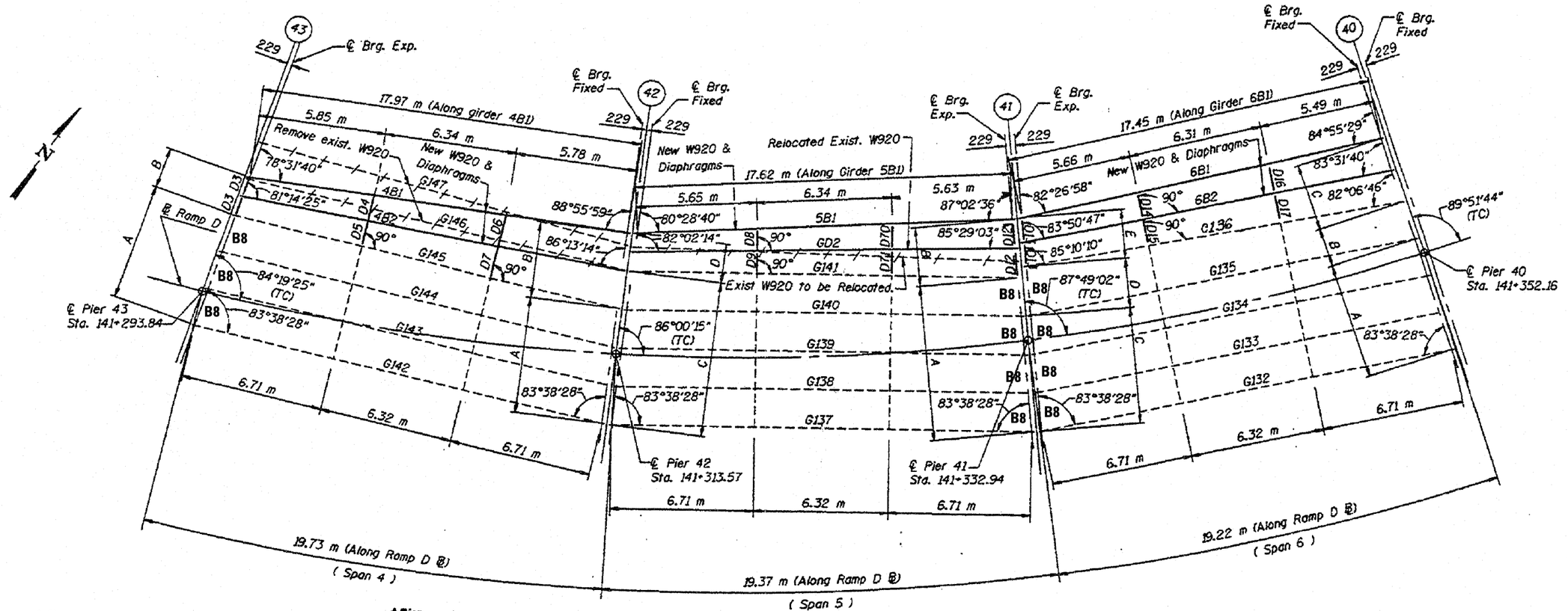
SECTION A-A

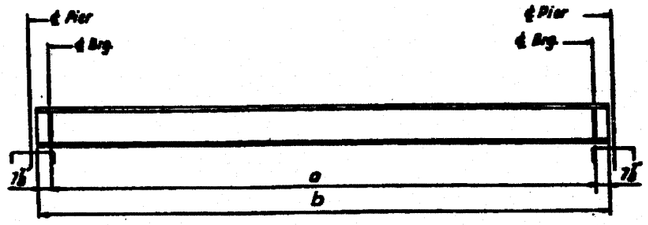
NOTES:

1. All dimensions are in millimeters (mm) except as noted.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN & GIRDER ELEVATION SPANS 1 TO 3 – LOCATION 8 STRUCTURE NO. 016–1059				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -						94	2010-127-BP	COOK	160	120
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -								CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 3 OF 9 SHEETS	STA.	TO STA.			ILLINOIS FED. AID PROJECT		

$FILE$



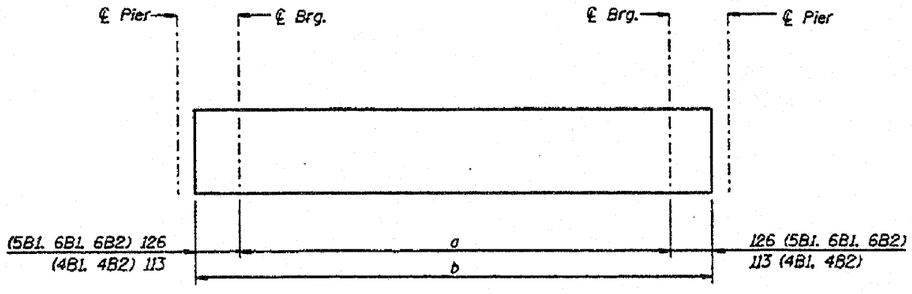


GIRDER ELEVATION

Girder GD2 36" WF Beam

Dimension Table		
Girder	a	b
GD-2	58'-5"	59'-0⅝"

FRAMING PLAN SPANS 4, 5 & 6



BEAM SPACING ALONG THE ℄ BEARING

	Pier 43	Pier 42	Pier 41	Pier 40
A	3 Spa. @ 1.85 m(-) = 5.56 m	3 Spa. @ 1.85 m(-) = 5.56m	4 Spa. @ 1.85 m = 7.40 m	3 Spa. @ 1.85 m(-) = 5.56 m
B	2 Spa. @ 975 = 1.95 m	2 Spa. @ 1.82 m = 3.64 m	2 Spa. @ 1.40 m = 2.80 m	1.85 m
C	-	4 Spa. @ 1.85 m = 7.40 m	3 Spa. @ 1.85 m(-) = 5.56 m	2 Spa. @ 1.60 m = 3.20 m
D	-	2 Spa. @ 925 = 1.85 m	2.34 m	-
E	-	-	2 Spa. @ 1.17 m = 2.34 m	-

DIMENSION TABLE

Span	Beam	a (m)	b (m)
4	4B1 4B2	17.97 18.22	18.20 18.45
5	5B1	17.62	17.87
6	6B1 6B2	17.45 17.75	17.70 18.00

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

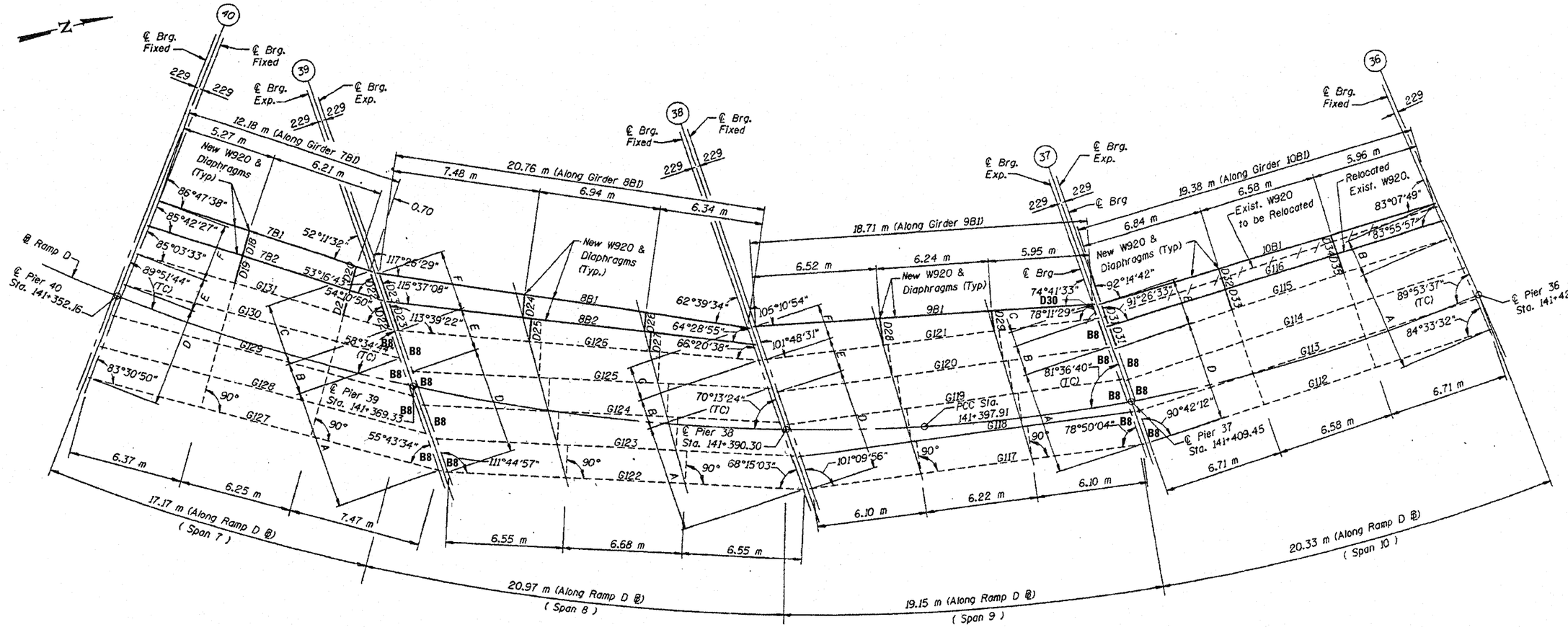
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & GIRDER ELEVATION SPANS 4 TO 6 – LOCATION 8
STRUCTURE NO. 016-1059

SCALE: NTS | SHEET NO. 4 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	121
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

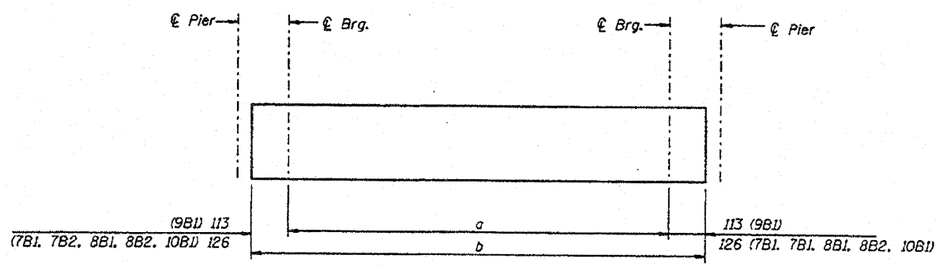
@FILE1 @



BEAM SPACING ALONG THE ℄ BEARING

	Pier 40	Pier 39	Pier 38	Pier 37	Pier 36
A	-	3 Spa. @ 2.22 m =6.66 m	3 Spa. @ 2.00 m = 6.00 m	3 Spa. @ 1.91 m(±) = 5.74 m	3 Spa. @ 1.87 m = 5.61 m
B	-	1.74 m	1.67 m	1.70 m	2 Spa. @ 1.04 m = 2.08 m
C	-	2 Spa. @ 1.72 m = 3.44 m	2 Spa. @ 963 = 1.93 m	820	-
D	3 Spa. @ 1.85 m =5.56 m	3 Spa. @ 2.00 m =6.00 m	3 Spa. @ 1.91 m(±) = 5.74 m	3 Spa. @ 1.86 m = 5.58 m	-
E	1.84 m	2.39 m	1.93 m	2 Spa. @ 1.31 m = 2.62 m	-
F	2 Spa. @ 1.62 m = 3.24 m	2 Spa. @ 1.70 m = 3.40 m	1.95 m	-	-

FRAMING PLAN SPANS 7, 8, 9 & 10



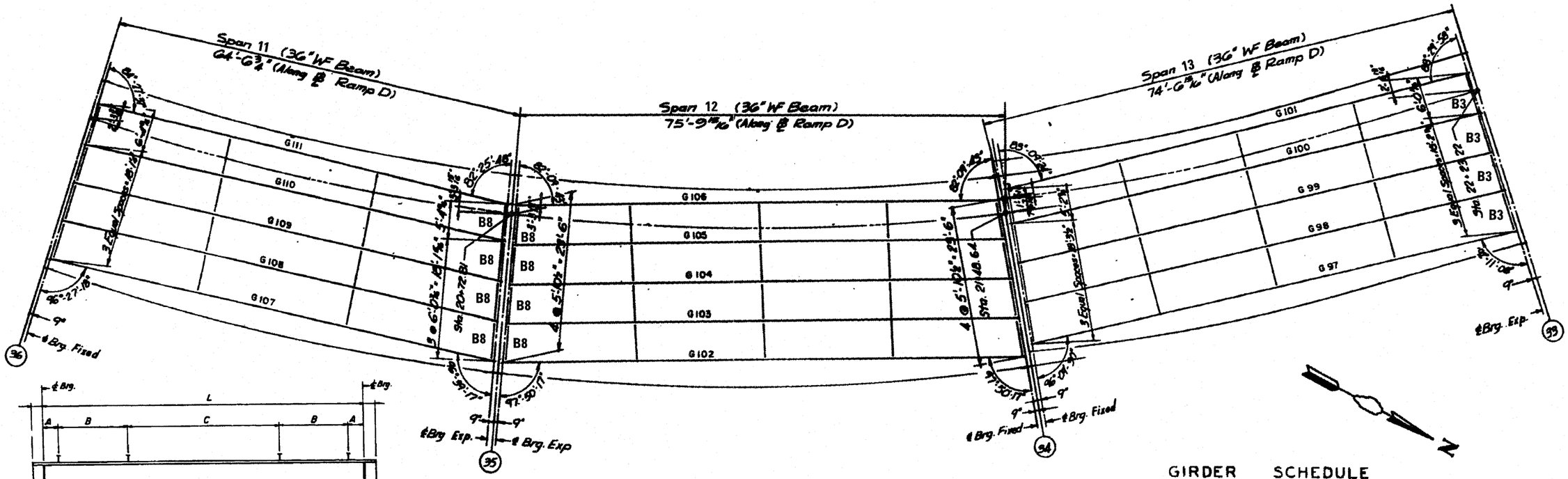
DIMENSION TABLE

Span	Beam	a (m)	b (m)
7	7B1 7B2	12.18 13.33	12.43 13.58
8	8B1 8B2	20.76 20.43	21.01 20.68
9	9B1	18.71	18.94
10	10B1	19.38	19.63

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN & GIRDER ELEVATION SPANS 7 TO 10 – LOCATION 8 STRUCTURE NO. 016-1059
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS / SHEET NO. 5 OF 9 SHEETS / STA. / TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	122
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

@FILE1@



BEAM ELEVATION - SPANS 4 THRU 13

SPAN	GIRDER	L	A	B	C
	G-101	72'-8 3/16"	9"	19 @ 8"	46 @ 12"
	G-100	73'-5 3/8"	9"	27 @ 8"	36 @ 12"
13	G-99	74'-4 1/2"	9"	25 @ 8"	40 @ 12"
	G-98	75'-2 5/8"	9"	25 @ 8"	41 @ 12"
	G-97	76'-1"	9"	16 @ 9"	63 @ 12"
	G-106	73'-7 1/4"	9"	20 @ 8"	46 @ 12"
	G-105	75'-2 7/16"	9"	22 @ 8"	45 @ 12"
12	G-104	76'-10 9/16"	9"	22 @ 8"	46 @ 12"
	G-103	78'-5 11/16"	9"	22 @ 8"	48 @ 12"
	G-102	80'-0 7/8"	9"	18 @ 8"	55 @ 12"
	G-111	62'-5 3/8"	9"	18 @ 8"	37 @ 12"
	G-110	63'-9 1/16"	9"	24 @ 8"	31 @ 12"
11	G-109	65'-2 1/16"	9"	24 @ 8"	32 @ 12"
	G-108	66'-6 1/16"	9"	25 @ 8"	32 @ 12"
	G-107	67'-11 1/8"	9"	20 @ 6"	47 @ 12"
	G-116	63'-6 7/8"	9"	16 @ 8"	41 @ 12"
	G-115	64'-0 11/16"	9"	26 @ 8"	28 @ 12"
10	G-114	64'-7"	9"	26 @ 8"	29 @ 12"
	G-113	65'-1 1/16"	9"	26 @ 8"	29 @ 12"
	G-112	65'-7 1/8"	9"	24 @ 8"	40 @ 12"
	G-121	60'-6 1/2"	9"	18 @ 8"	35 @ 12"
	G-120	60'-4 5/8"	9"	24 @ 8"	27 @ 12"
9	G-119	60'-4 3/4"	9"	24 @ 8"	27 @ 12"
	G-118	60'-4 7/8"	9"	24 @ 8"	27 @ 12"
	G-117	60'-4 7/8"	9"	18 @ 8"	35 @ 12"

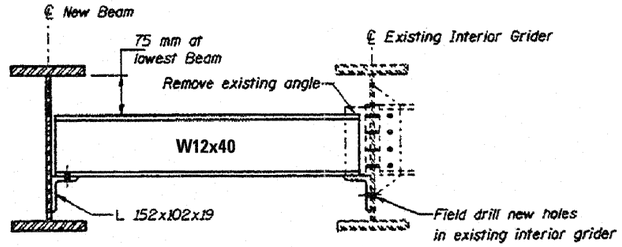
FRAMING PLAN SPANS 11, 12 & 13

SPAN	GIRDER	L	A	B	C
	G-126	65'-10 1/8"	9"	20 @ 8"	38 @ 12"
	G-125	64'-11 1/8"	9"	25 @ 8"	38 @ 12"
8	G-124	64'-11 1/16"	9"	25 @ 8"	38 @ 12"
	G-123	64'-11 1/16"	9"	25 @ 8"	38 @ 12"
	G-122	64'-11 3/16"	9"	37 @ 6"	30 @ 12"
	G-131	41'-7 15/16"	9"	8 @ 9"	34 @ 12"
	G-130	51'-6 1/16"	9"	15 @ 8"	30 @ 12"
7	G-129	56'-3 3/8"	9"	26 @ 8"	20 @ 12"
	G-128	61'-1"	9"	26 @ 8"	25 @ 12"
	G-127	65'-10 7/16"	9"	28 @ 6"	27 @ 12"
	G-135	60'-8 1/16"	9"	26 @ 8"	25 @ 12"
6	G-134	62'-0 1/2"	9"	26 @ 8"	26 @ 12"
	G-133	63'-4 15/16"	9"	26 @ 8"	27 @ 12"
	G-132	64'-8 1/16"	9"	26 @ 6"	37 @ 12"
	G-141	59'-4 9/16"	9"	14 @ 9"	37 @ 12"
	G-140	60'-8 1/16"	9"	26 @ 8"	25 @ 12"
5	G-139	62'-0 1/2"	9"	26 @ 8"	20 @ 12"
	G-138	63'-4 15/16"	9"	26 @ 8"	27 @ 12"
	G-137	64'-8 1/16"	9"	26 @ 6"	37 @ 12"
	G-145	60'-8 1/16"	9"	26 @ 8"	25 @ 12"
4	G-144	62'-0 1/2"	9"	26 @ 8"	26 @ 12"
	G-143	63'-4 15/16"	9"	26 @ 8"	27 @ 12"
	G-142	64'-8 1/16"	9"	26 @ 6"	37 @ 12"

GIRDER SCHEDULE

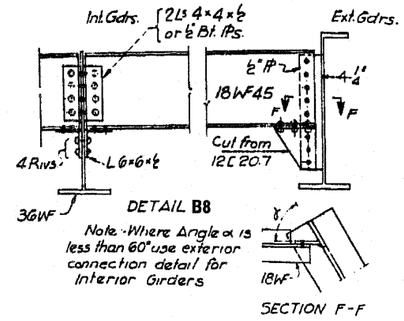
MARK	SECTION	COVER PLATES SIZE	COVER PLATES LENGTH
G97	36WF230	15" x 5/8"	53'-0
G98, G99	36WF182	11" x 1 1/16"	52'-6
G100	36WF182	11" x 1/2"	50'-0
G101	36WF194	11" x 3/4"	51'-0
G102	36WF245	15" x 1 1/4"	61'-6
G103, G104, G105	36WF182	11" x 5/8"	55'-0
G106	36WF194	11" x 7/16"	55'-0
G107	36WF182	11" x 3/8"	49'-0
G108,	36WF195	11" x 3/4"	50'-0
G109, G110	36WF195	11" x 3/8"	48'-6
G111	36WF150	11" x 5/8"	45'-6
G112	36WF150	11" x 1/16"	49'-0
G113, G114, G115	36WF195	11" x 3/8"	48'-6
G116	36WF150	11" x 1/2"	44'-0
G117	36WF150	11" x 1/2"	40'-6
G118, G119, G120	36WF135	11" x 1/2"	43'-0
G121	36WF150	11" x 1/2"	40'-6
G122	36WF150	11" x 1"	50'-0
G123, G124, G125	36WF135	11" x 7/16"	48'-6
G126	36WF150	11" x 15/16"	49'-0
G127	36WF150	11" x 1"	50'-6
G128, G129	36WF135	11" x 1/2"	42'-0
G130	36WF135	—	—
G131	36WF150	—	—
G132, G137, G142	36WF150	11" x 3/8"	48'-6
G133, G134, G138	36WF135	11" x 1/2"	46'-0
G139, G143, G144	36WF135	11" x 1/2"	46'-0
G135, G140, G145	36WF135	11" x 1/2"	42'-0
G136, G141	36WF150	11" x 1/2"	37'-6

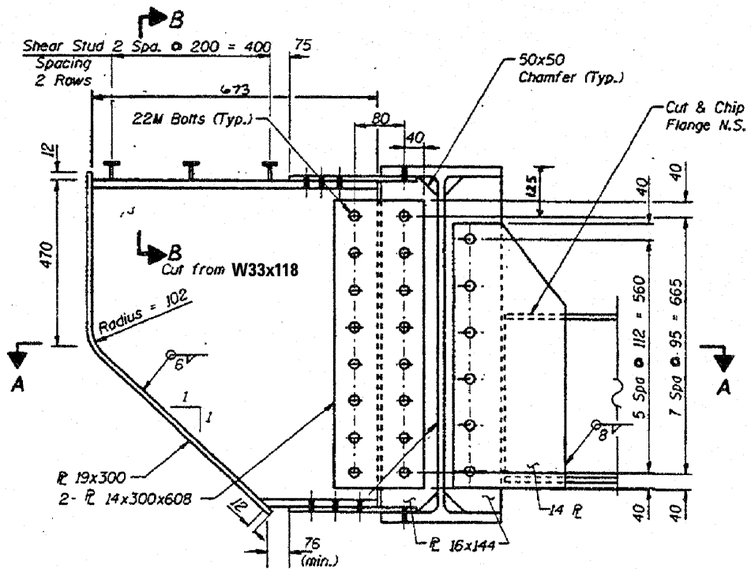
FILE NAME =
USER NAME = rgoll
PLOT SCALE = 1.0000 ' / IN.
PLOT DATE = 3/28/2011
DESIGNED - AMR
DRAWN - AMR
CHECKED - JMH
DATE - MARCH, 2011
REVISED -
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
FRAMING PLAN SPANS 11 TO 13 & GIRDER SCHEDULE – LOCATION 8
STRUCTURE NO. 016-1059
SCALE: NTS
SHEET NO. 6 OF 9 SHEETS
STA.
TO STA.
F.A.I. RTE. 94
SECTION 2010-127-BP
COUNTY COOK
TOTAL SHEETS 160
SHEET NO. 123
CONTRACT NO. 60N01
ILLINOIS FED. AID PROJECT



END DIAPHRAGM DETAIL

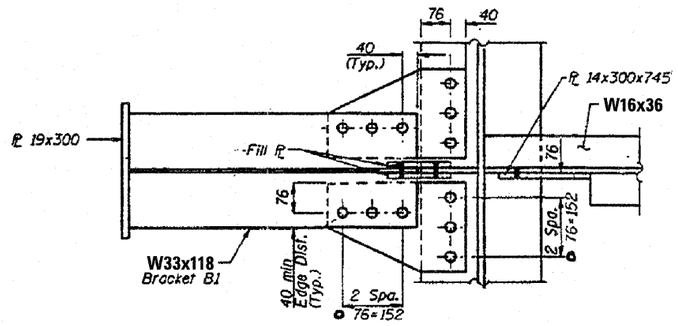
(Showing connection to existing beam)



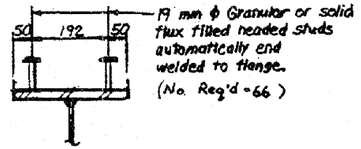


DIAPHRAGM D_1 & BRACKET B_1

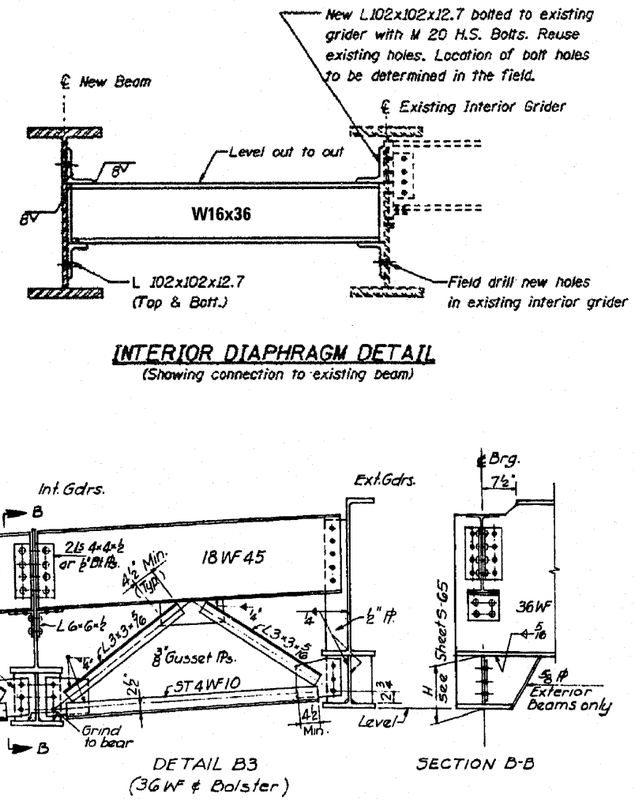
B_1 - 11 Required
D_1 - 64 Required



SECTION A-A

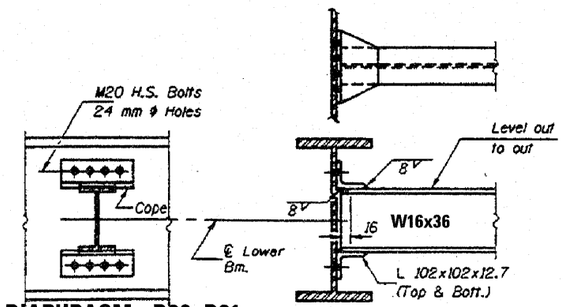


SECTION B-B



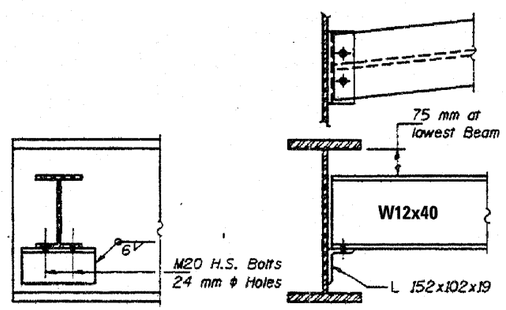
INTERIOR DIAPHRAGM DETAIL

(Showing connection to existing beam)



DIAPHRAGM D20, D21

1 Required for Each Diaphragm. No. Listed



DIAPHRAGM $D_2, D_3, D_{12}, D_{13}, D_{22}, D_{23}, D_{30}, D_{31}$

D_2 - 8 Required
D_3, D_{12}, D_{13}, D_{22}, D_{23}, D_{31} - 2 Required Each
D_{30} - 1 Required

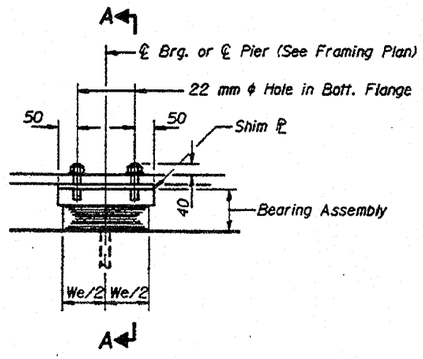
DETAIL B3
(36WF ϕ Bolster)

SECTION B-B

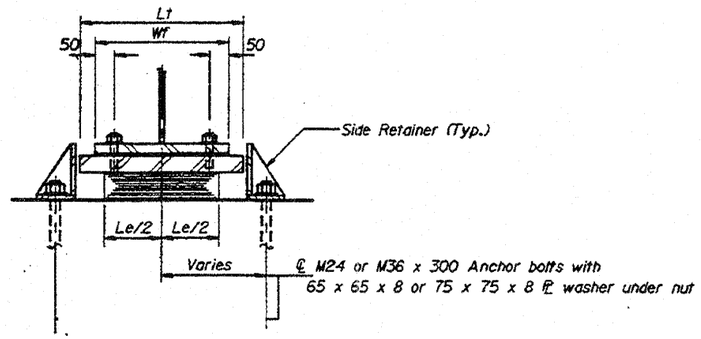
NOTES:

1. All dimensions are in millimeters (mm) except as noted.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM & CROSS FRAME DETAILS – LOCATION 8 STRUCTURE NO. 016–1059	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	124
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -					CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 7 OF 9 SHEETS / STA. / TO STA.			ILLINOIS	FED. AID PROJECT	



ELEVATION AT PIER



SECTION A-A

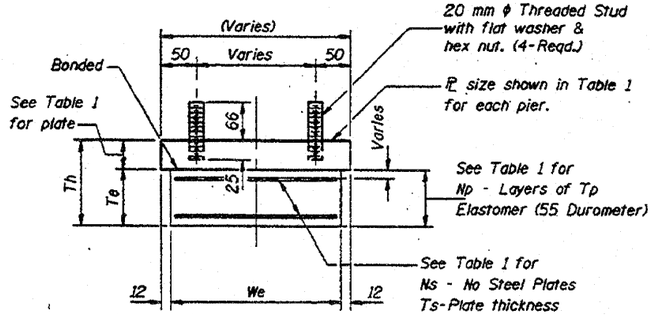
LEGEND

Wf	= Wide flange
We	= Width of Elastomer Pad
Le	= Length of Elastomer Pad
Tp	= Thickness of Elastomer Layers
Np	= Number of Elastomer Layers
Ts	= Thickness of Steel Plate
Ns	= Number of Steel Plate
ERT	= Effective Rubber Thickness
Te	= Thickness of Bearing Pad

NOTES:

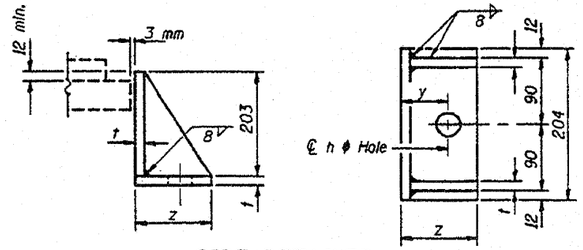
1. All structural steel in bearing assemblies shall be AASHTO M270 grade 345 steel.
2. All dimensions are in millmeters (mm) except as noted.

TYPE I ELASTOMERIC EXP. BRG.



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. Weight included with Structural Steel.

Bolts ϕ (mm)	Y	Z	t	h
24	54	100	14	30
36	70	140	16	44

TABLE 1-TYPE I ELASTIC EXPANSION BEARING

Location	Bearing Type	BEARING PAD DIMENSIONS										Slope Max. %	Top Steel Plate Size	Anchor Bolt Type A307	Anchor Bolts Required
		We	Wf	Le	Tp	Np	Ts	Ns	ERT	Te	Th				
Pier 45	306 b	306	305	458	14	4	5	3	56	71	121	2.20	50x330x508	M36	2
Pier 43-South	178 c	178	305	306	10	5	2.5	4	50	60	100	3.37	40x202x356	M24	2
Pier 43-North	152 b	152	304	254	8	5	2	4	40	48	88	3.16	40x176x354	M24	2
Pier 41-South	152 b	178	304	306	8	5	2	4	40	48	88	3.16	40x202x356	M24	2
Pier 41-North	178 b	178	304	306	10	4	2.5	3	40	48	88	2.7	40x202x356	M24	2
Pier 39-South	178 a	178	304	306	10	3	2.5	2	30	35	75	2.02	40x202x356	M24	2
Pier 39-North	178 b	178	304	306	10	4	2.5	3	40	48	88	2.7	40x202x356	M24	2
Pier 37-South	152 b	152	304	254	8	5	2	4	40	48	88	3.16	40x176x354	M24	2
Pier 37-North	178 b	178	304	306	10	4	2.5	3	40	48	88	2.7	40x202x356	M24	2

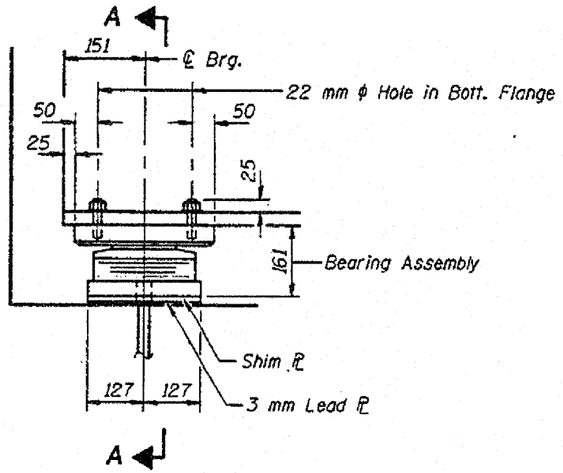
TABLE 2 - SHIM PLATES

Location	Beam Designation	Shim Plate Size	Location	Beam Designation	Shim Plate Size
Pier 43-North	4B1	61x176x354	Pier 39-South	7B1	20x202x356
	4B2	35x176x354	Pier 39-North	7B2	10x202x356
	G145	68x176x354			
	G144	70x176x354			
	G143	73x176x354	Pier 37-South	9B1	21x176x354
	G142	68x176x354		G121	126x176x354
			Pier 37-North	G116	114x202x356
Pier 41-South	5B1	47x202x356			
	GD2	60x202x356			

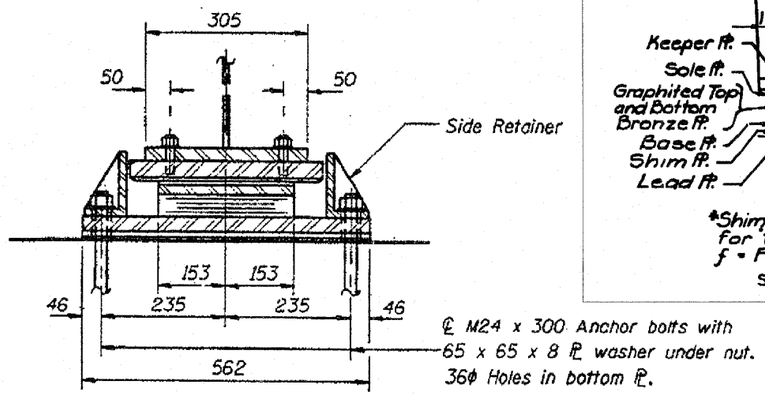
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE I ELASTOMERIC BEARING DETAILS – LOCATION 8 STRUCTURE NO. 016-1059			
		DRAWN - AMR	REVISED -					
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -					
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 8 OF 9 SHEETS	STA.	TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	125
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

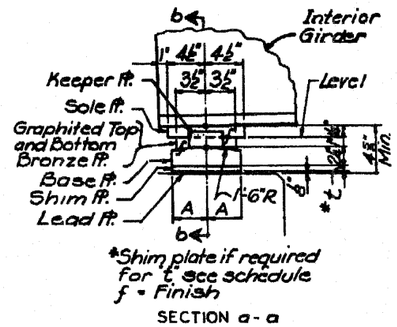
@FILE@



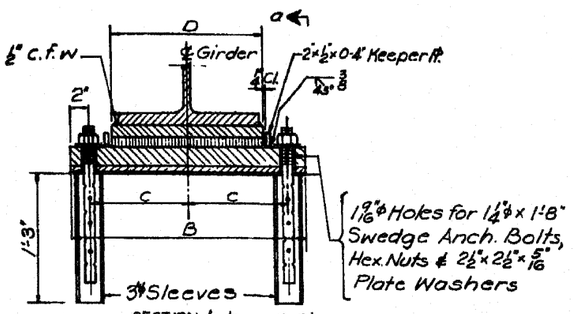
ELEVATION AT ABUT.



SECTION A-A



SECTION a-a



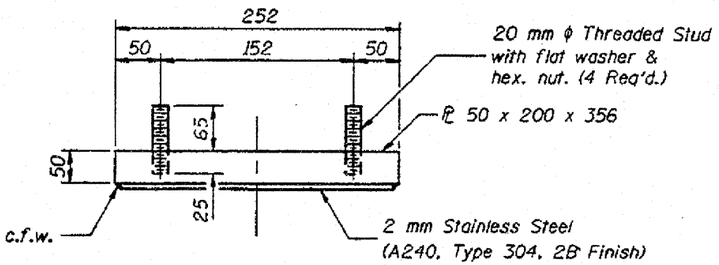
SECTION b-b

EXPANSION BEARING DETAILS
Scale 1½"=1'-0"

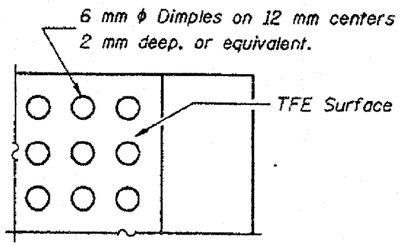
EXPANSION BEARING SCHEDULE						
MARK		DIMENSIONS A	B	C	D	REMARKS
E1		4"	2'-3"	11½"	1'-5½"	Typical for 16" Flange
E2		4"	1'-10½"	9¼"	1'-1"	Typical for 12" Flange

Note: Use typical bearings mark E1 and E2 unless otherwise noted.

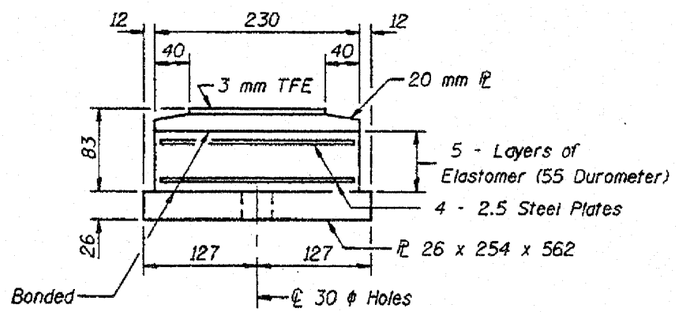
TYPE II TFE ELASTOMERIC EXP. BRG.



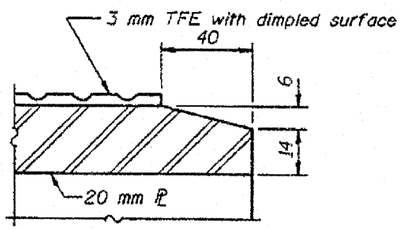
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

LEGEND

Wf	= Wide flange
We	= Width of Elastomer Pad
Le	= Length of Elastomer Pad
Tp	= Thickness of Elastomer Layers
Np	= Number of Elastomer Layers
Ts	= Thickness of Steel Plate
Ns	= Number of Steel Plate
ERT	= Effective Rubber Thickness
Te	= Thickness of Bearing Pad

NOTES:

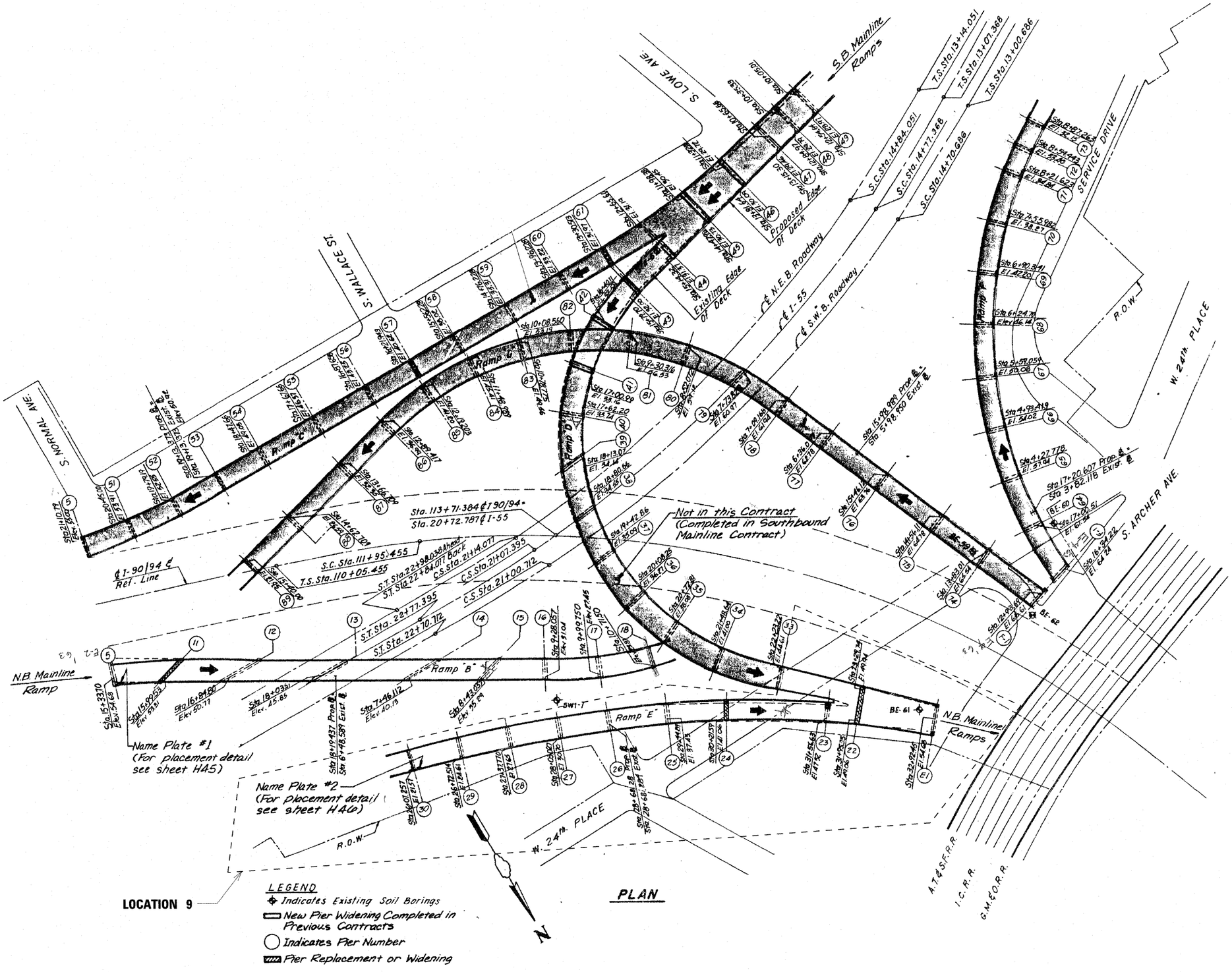
1. All structural steel in bearing assemblies shall be AASHTO M270 grade 345 steel.
2. All dimensions are in milimeters (mm) except as noted.

TYPE II ELASTIC EXPANSION BEARING
TABLE 2

Location	Bearing Type	BEARING PAD DIMENSIOS Wf	We	Le	Tp	Np	Ts	Ns	ERT	Te	Th	Steel Plate Size top	bottom	Anchor Bolt Type A307	Anchor Bolts Required
West abutment	230 a	305	230	306	10	5	2.5	4	50	83	161	50x252x356	26x254x562	M24	2

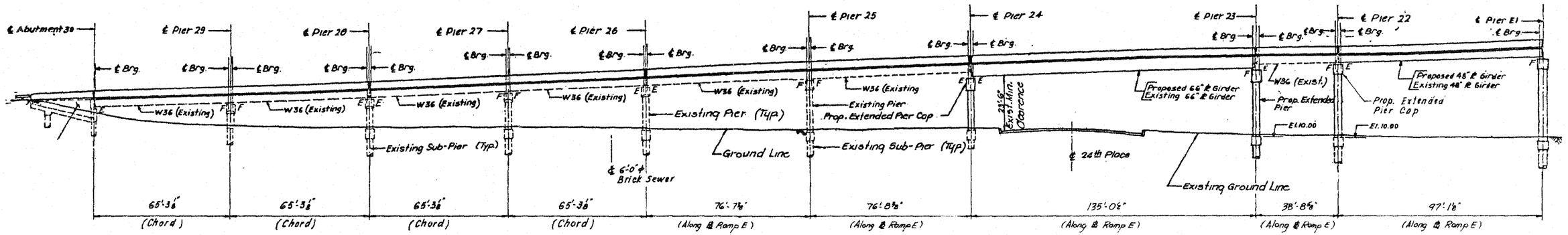
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	E1, E2 & TYPE II ELASTOMERIC EXP. BEARING DETAILS – LOCATION 8 STRUCTURE NO. 016-1059	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	126
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS SHEET NO. 9 OF 9 SHEETS STA. TO STA.			CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -					ILLINOIS FED. AID PROJECT		

$FILE$



FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS**	**GENERAL PLAN – LOCATION 9**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -	**DEPARTMENT OF TRANSPORTATION**	**STRUCTURE NO. 016-1047**	94	2010-127-BP	COOK	160	127
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -						CONTRACT NO. 60N01	
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS | SHEET NO. 1 OF 9 SHEETS | STA. | TO STA.			ILLINOIS	FED. AID PROJECT	

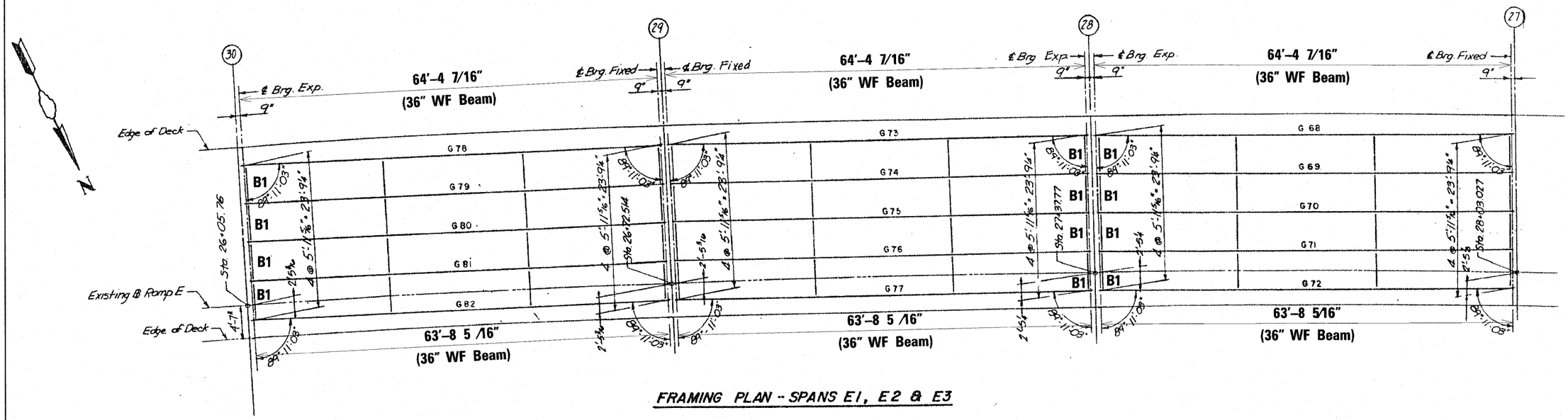
$FILE$



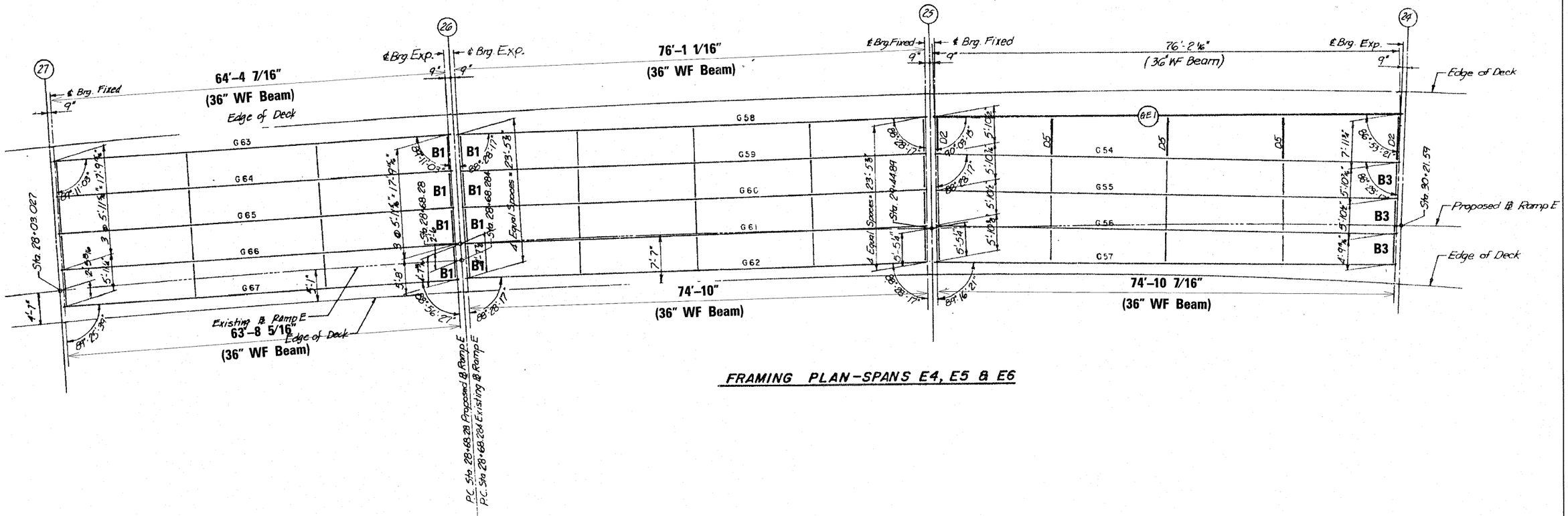
RAMP E

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL ELEVATION – LOCATION 9 STRUCTURE NO. 016-1047			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	128
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 2 OF 9 SHEETS	STA. TO STA.			ILLINOIS	FED. AID PROJECT	

$FILE$



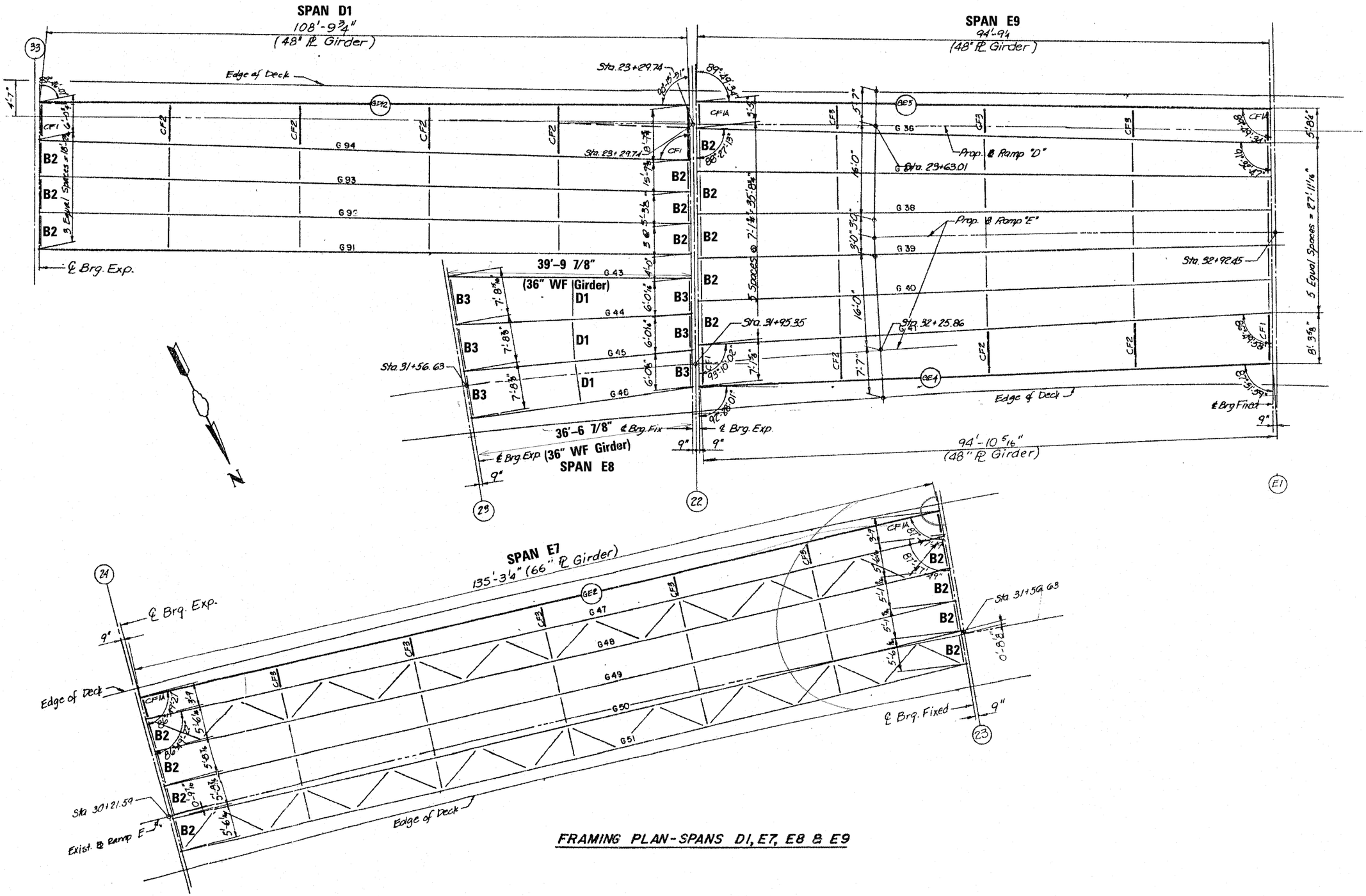
FRAMING PLAN - SPANS E1, E2 & E3



FRAMING PLAN-SPANS E4, E5 & E6

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS E1 TO E6 – LOCATION 9 STRUCTURE NO. 016–1047	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	129
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS SHEET NO. 3 OF 9 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

$FILE$

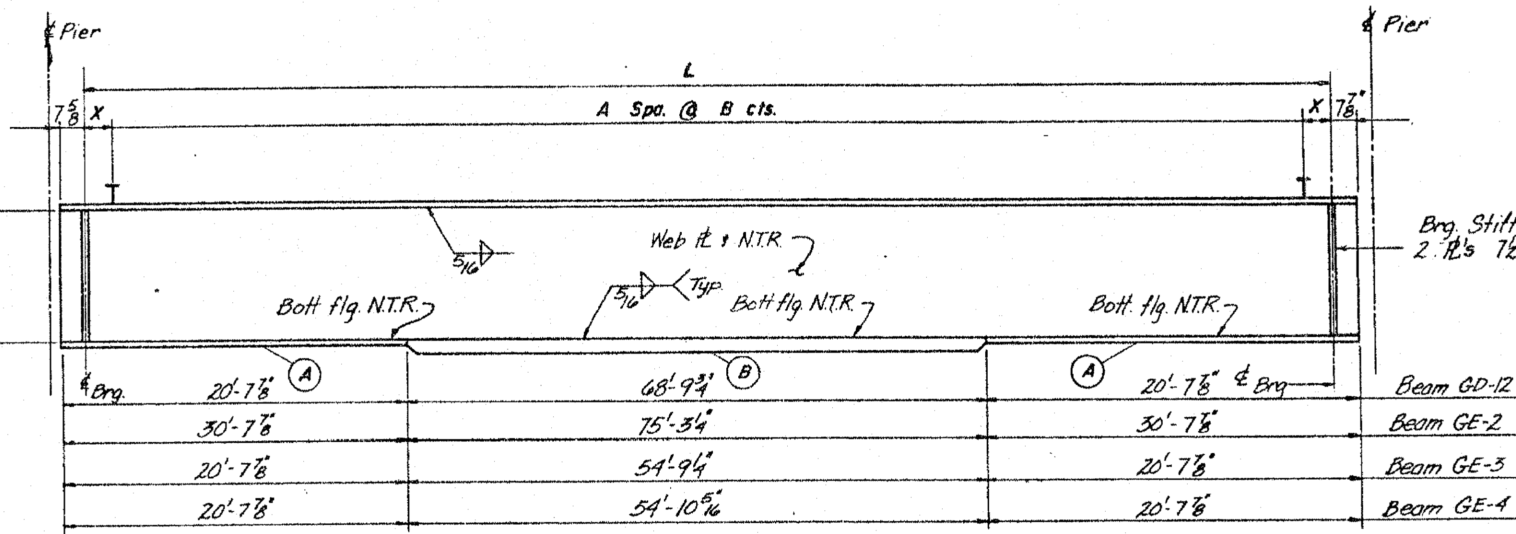


FRAMING PLAN - SPANS D1, E7, E8 & E9

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS D1 & E7 TO E9 – LOCATION 9 STRUCTURE NO. 016-1047
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS / SHEET NO. 4 OF 9 SHEETS / STA. / TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

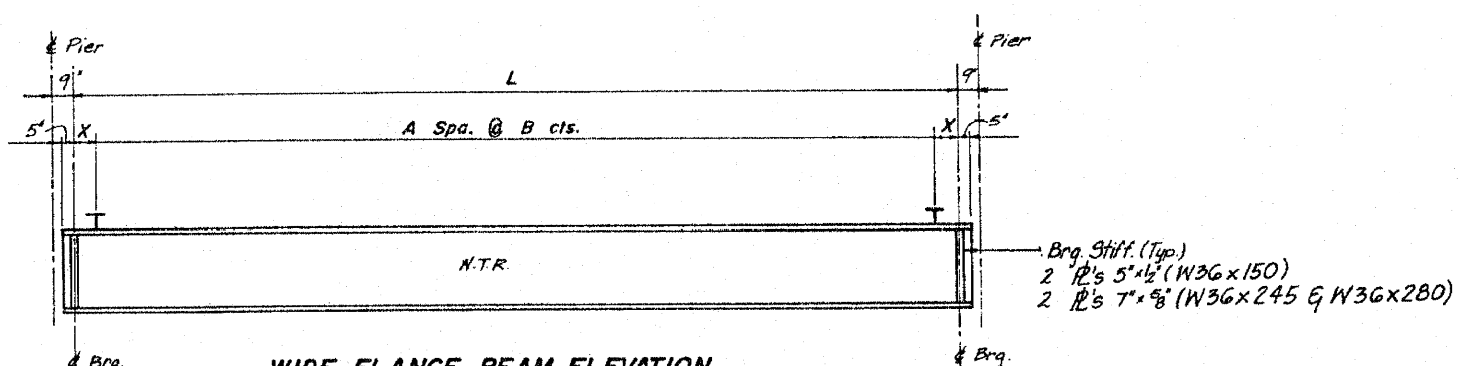
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	130
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



WELDED PLATE BEAM ELEVATION

WELDED PLATE BEAMS,																		
SPAN	BEAM	L (℄ BRG. TO ℄ BRG)	d	t	TOP FLG.	BOTTOM FLANGE		TOP OF WEB ELEV. ℄ BRG.				STUDS PER ROW	SHEAR CONNECTORS SPACING				
						A	B	PIER NO.	ELEV.	PIER NO.	ELEV.		A	B	C	D	X
D1	GD-12	108'-9 3/4"	48	1/2	3/4 x 16	1 x 16	2 x 16	D33	43.762	E22	49.326	4	92	14"			9"
E7	GE-2	155'-3 1/4"	66	9/16	3/4 x 16	1 x 16	2 x 16	E24	41.076	E23	47.328	4	67	24"			9"
E9	GE-3	94'-9 1/4"	48	1/2	3/4 x 16	7/8 x 16	1 3/4 x 16	E22	49.409	#E-1	54.900	4	93	12"			9"
E9	GE-4	94'-10 5/16	48	1/2	3/4 x 16	7/8 x 16	1 3/4 x 16	E22	48.144	#E-1	52.750	4	93	12"			9"



WIDE FLANGE BEAM ELEVATION

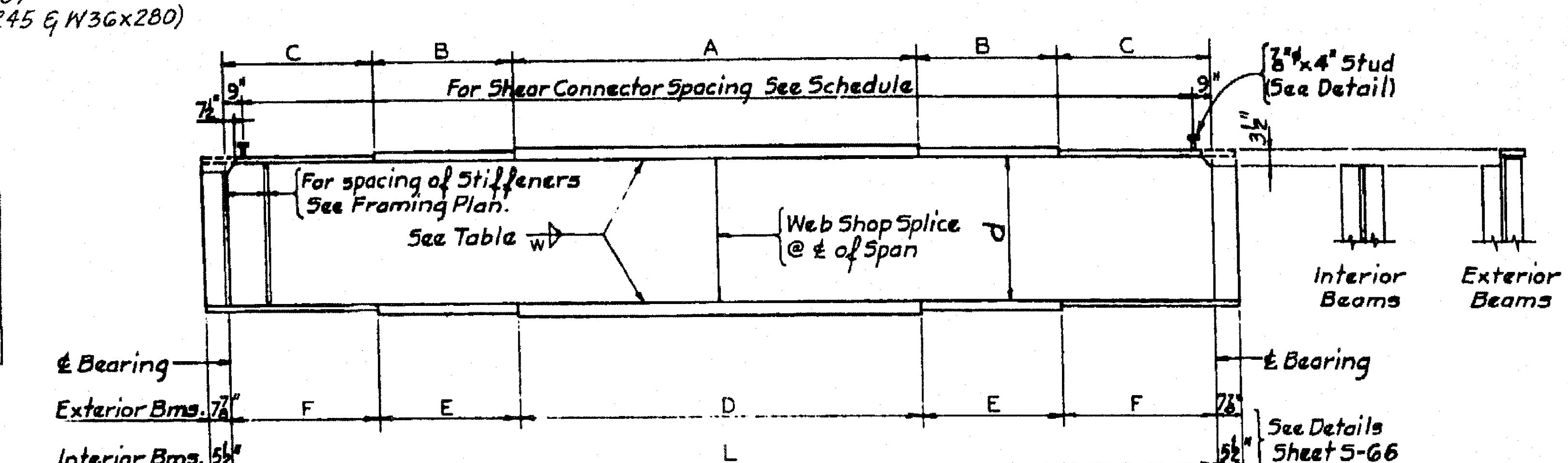
WIDE FLANGE BEAMS GN-1 TO GN-19														
SPAN	BEAM	BEAM SIZE	L (℄ BRG. TO ℄ BRG)	TOP OF BEAM ELEV. AT ℄ BEARINGS				STUDS PER ROW	SHEAR CONNECTORS SPACING				
				PIER NO.	ELEV.	PIER NO.	ELEV.		A	B	C	D	X
E6	GE-1	W36x245	76'-2 1/16"	E25	37.540	E24	41.083	4	89	10"	"		9"

GIRDER SCHEDULE (WF ONLY)

MARK	SECTION	COVER PLATES	
		SIZE	LENGTH
G43, G44, G45	36WF135	—	—
G46	36WF135	—	—
G58	36WF194	11"x 7/8"	54'-6
G54, G55, G56, G59, G60, G61	36WF182	11 x 11/16	53'-0
G57	36WF194	11"x 1"	54'-0
G62	36WF194	11"x 9/16	51'-0
G63, G68, G73, G78	36WF150	11"x 1/2"	42'-0
G64, G65, G66, G69, G70, G71, G74, G75, G76, G79, G80, G81	36WF135	11"x 9/16	47'-0
G67, G72, G77, G82	36WF150	11"x 1/2"	40'-0

SCHEDULE OF WELDED PLATE GIRDERS

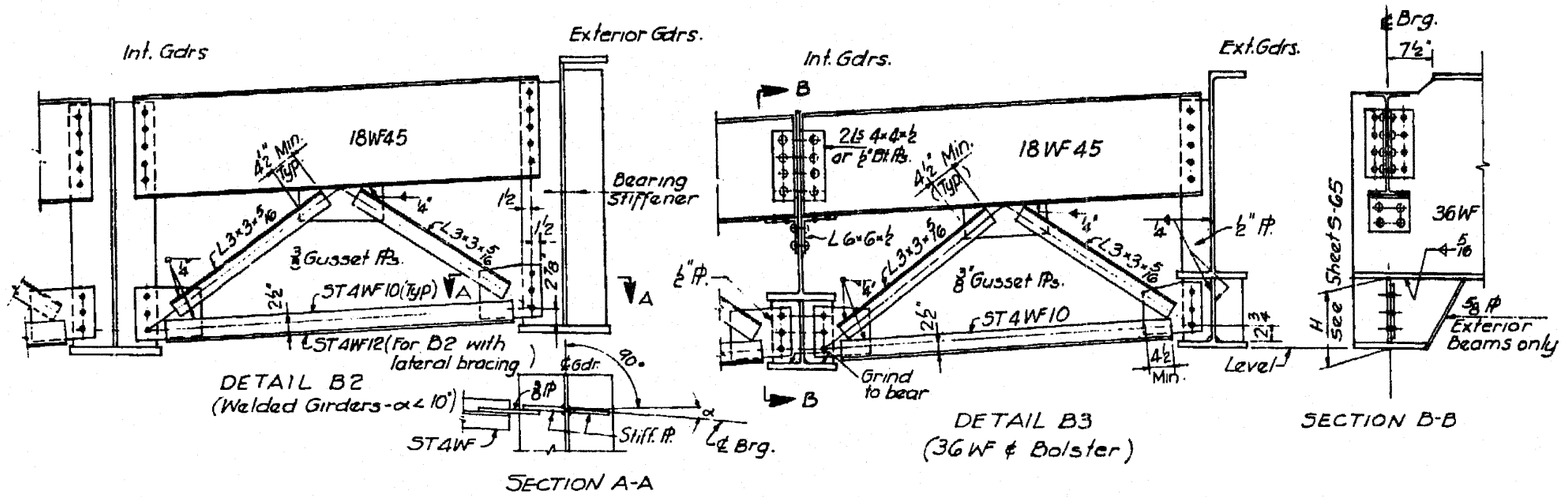
RAMP	NO.	L	WEB		TOP FLANGE			BOTTOM FLANGE		
			d	THICK	A	B	C	D	E	F
E & D	G36	94'-9 11/16	48"	7/16"	16x1 1/4x46'-9 11/16	—	16x7/8x24'-0	16x2x64'-9 11/16	—	16x1x15'-0
	G37	94'-9 5/16	48"	3/8"	16x1x44'-9 5/16	—	16x3/4x25'-0	16x1 3/4x61'-9 5/16	—	16x1x18'-0
	G38	94'-9 5/16	48"	3/8"	16x1x44'-9 5/16	—	16x3/4x25'-0	16x1 3/4x61'-9 5/16	—	16x1x18'-0
	G39	94'-9 9/16	48"	3/8"	16x1x44'-9 9/16	—	16x3/4x25'-0	16x1 3/4x61'-9 9/16	—	16x1x18'-0
	G40	94'-10 1/8	48"	3/8"	16x1x44'-10 1/8	—	16x3/4x25'-0	16x1 3/4x61'-10 1/8	—	16x1x18'-0
	G41	94'-11	48"	3/8"	16x1x44'-11	—	16x3/4x25'-0	16x1 3/4x61'-11	—	16x1x18'-0
E	G47	134'-11	66"	1/2"	20x2 1/4x70'-0	16x1 7/8x17'-5 1/2	16x1x15'-0	16x3 1/2x70'-0	16x2 3/4x17'-5 1/2	16x1 1/4x15'-0
	G48	134'-4 13/16	66"	7/16"	16x1 3/8x69'-4 13/16	—	16x1x32'-6	16x2 1/4x66'-4 13/16	16x1 5/8x14'-0	16x1x20'-0
	G49	133'-10 11/16	66"	7/16"	16x1 3/8x68'-10 11/16	—	16x1x32'-6	16x2 1/4x65'-10 11/16	16x1 5/8x14'-0	16x1x20'-0
	G50	133'-4 9/16	66"	7/16"	16x1 3/8x68'-4 9/16	—	16x1x32'-6	16x2 1/4x65'-4 9/16	16x1 5/8x14'-0	16x1x20'-0
	G51	132'-10 3/8	66"	1/2"	16x2x68'-10 3/8	16x1 1/2x15'-0	16x1x17'-0	16x2 3/4x68'-10 3/8	16x2x15'-0	16x1x17'-0
D	G91	108'-8 5/8	48"	7/16"	16x1 3/4x60'-8 5/8	—	16x1 1/4x24'-0	16x2 3/4x56'-8 5/8	16x2x14'-0	16x1x12'-0
	G92	108'-8 5/8	48"	3/8"	16x1 1/4x58'-8 5/8	—	16x1x25'-0	16x2 1/4x58'-8 5/8	16x1 5/8x10'-0	16x1x15'-0
	G93	108'-8 3/4	48"	3/8"	16x1 1/4x58'-8 3/4	—	16x1x25'-0	16x2 1/4x58'-8 3/4	16x1 5/8x10'-0	16x1x15'-0
	G94	108'-8 7/8	48"	3/8"	16x1 1/4x58'-8 7/8	—	16x1x25'-0	16x2 1/4x58'-8 7/8	16x1 5/8x10'-0	16x1x15'-0

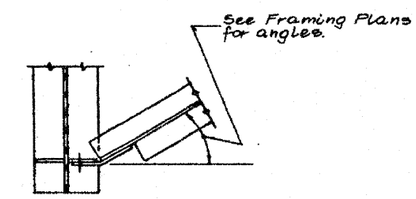


WELDED GIRDER DIAGRAM - SIMPLE SPANS

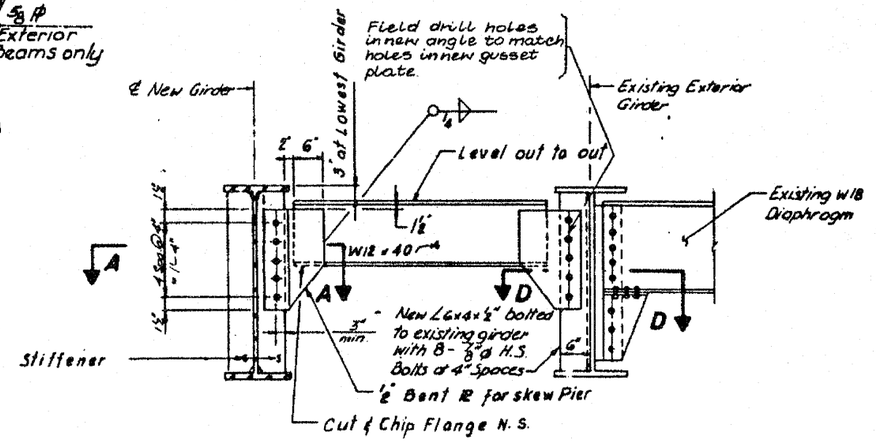
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER ELEVATIONS & SCHEDULES - LOCATION 9 STRUCTURE NO. 016-1047	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	131
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -			CONTRACT NO. 60N01				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 5 OF 9 SHEETS / STA. / TO STA.	ILLINOIS FED. AID PROJECT				

$FILE$



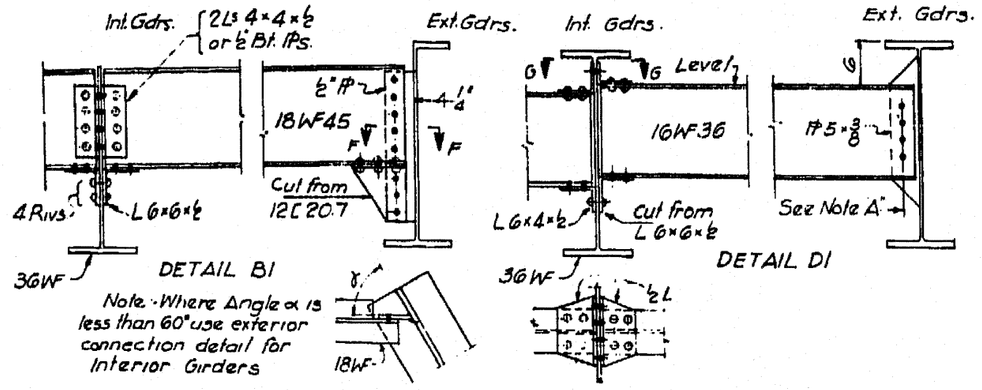


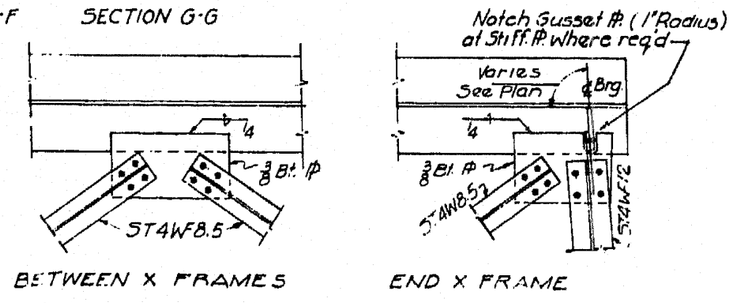
SECTION A-A



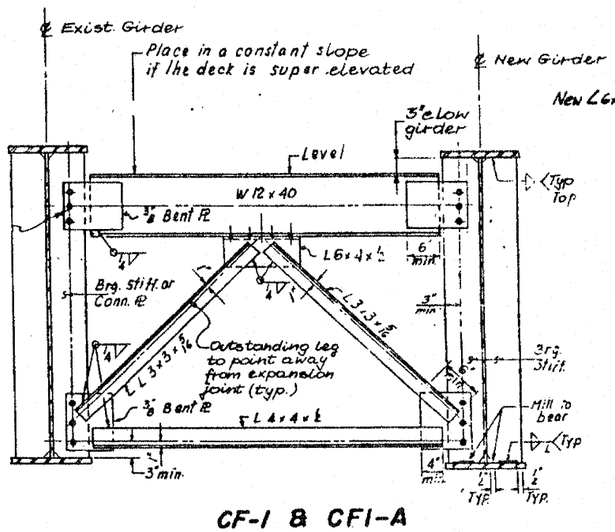
D-2

END DIAPHRAGM



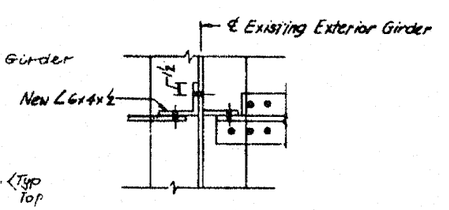


LATERAL BRACING CONNECTIONS



CF-1 & CF1-A

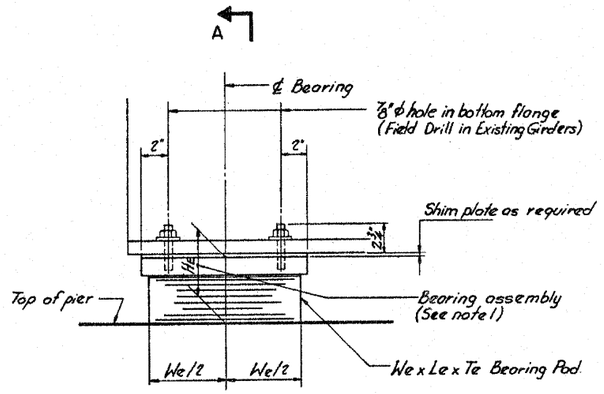
TYPICAL END CROSS FRAME



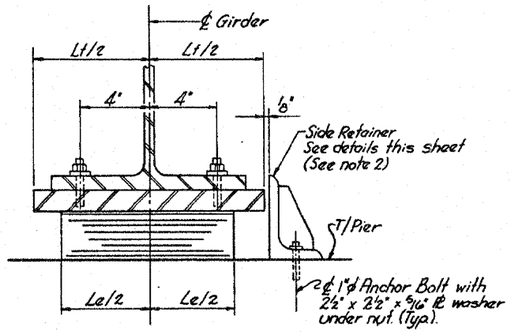
SECTION D-D

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM & CROSS FRAME DETAILS – LOCATION 9 STRUCTURE NO. 016-1047			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	132
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 6 OF 9 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT		

$FILEL$

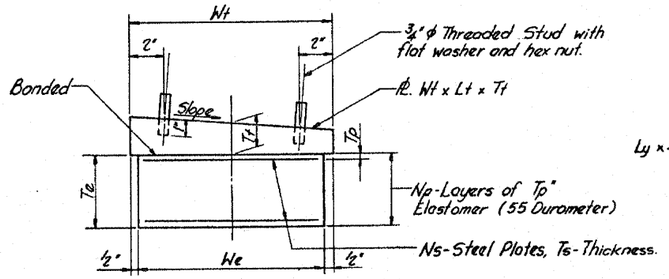


TYPICAL ELEVATION

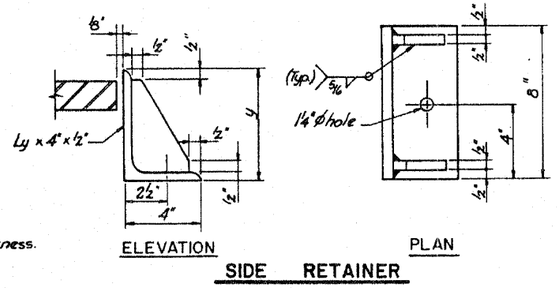


SECTION A-A

TYPE I ELASTOMERIC EXPANSION BEARING



BEARING ASSEMBLY



SIDE RETAINER

Notes:
1. Height of bearing assembly, HE, includes top plate and elastomeric pad and does not include shim plate.
2. Provide side retainer of inside face of exterior girder.

TABLE OF DIMENSIONS - TYPE I
ELASTOMERIC EXPANSION BEARINGS

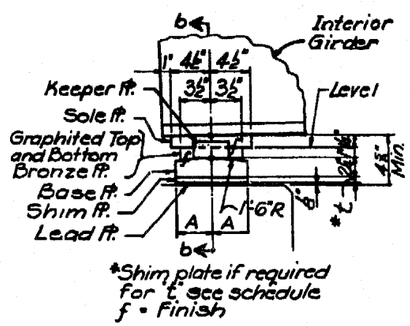
We	Le	Series	Tp	Np	Ts	Ns	Te
7	12	c	3/8	5	3/32	4	2¼
11	16	b	1/2	3	1/8	4	3
11	16	a	1/2	7	1/8	6	4¼
9	12	a	3/8	5	3/32	4	2¼
9	12	b	3/8	7	3/32	6	3⅝
10	14	a	7/16	5	1/8	4	2 11/16
10	14	b	7/16	6	1/8	5	3¼
10	14	d	7/16	8	1/8	7	4⅝

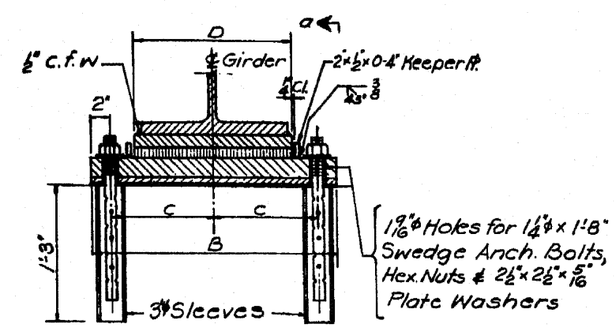
Tp - denotes thickness of each elastomeric layer.
Np - denotes number of elastomeric layers.
Ts - denotes thickness of each steel plate.
Ns - denotes number of steel plates.

TYPE I ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE NO.	PIER LOCATION	GIRDER	We	Le	SERIES	TOP PLATE Tt	TOP PLATE Wt	TOP PLATE Lt	TOP PLATE SLOPE %	Y	HE	NO. REQ'D.	REMARKS
016-1047	28(S)	G75-G77	7	12	c	2	8	14	4.1	6	4¼	2	R, E
		G74-G76	7	12	c	2	8	14	4.1	6	4¼	3	R
	26(S)	G63, G67	7	12	c	2	8	14	4.1	6	4¼	2	R, E
		G64-G66	7	12	c	2	8	14	4.1	6	4¼	3	R
	26(N)	G58, G62	9	12	b	1½	10	14	4.1	6	4 11/16	2	R, E
		G59-G61	9	12	b	1½	10	14	4.1	6	4 11/16	3	R
	24(S)	G54-G57	10	14	a	1¾	11	17	4.0	6	4 7/16	4	R, E (G57)
		GE1	10	14	a	1¾	11	17	4.0	6	4 7/16	1	N, E
	24(N)	G47-G51	10	14	d	2	11	16	4.0	7	6⅝	5	R, E (G51)
		GE2	11	16	d	2	11	16	4.0	7	6⅝	1	N, E
	22(N)	G36-G41	10	14	b	2	11	16	4.5	6	5¼	6	R
		GE3, GE4	11	16	b	1 7/8	12	18	4.5	6	4⅞	2	N, E

Remarks: N - New bearing for roadway widening.
E - Exterior girder: side retainer required at inside face.
R - Replacement bearing.





EXPANSION BEARING DETAILS
Scale 1½"=1'-0"

EXPANSION BEARING SCHEDULE							
MARK		DIMENSIONS A	B	C	D		REMARKS
E2		4"	1'-10⅝"	9½"	1'-1"		Typical for 12" Flange

Note: Use typical bearings mark E1 and E2 unless otherwise noted.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

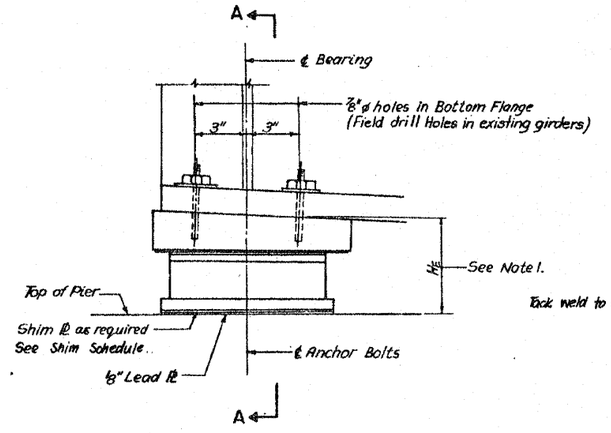
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E2 & TYPE I ELASTOMERIC EXPANSION BEARING DETAILS – LOCATION 9
STRUCTURE NO. 016-1047

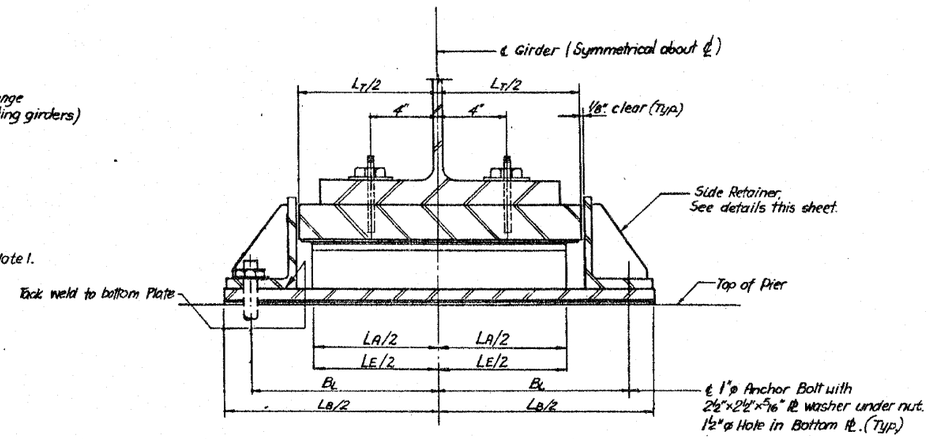
SCALE: NTS | SHEET NO. 7 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	133
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

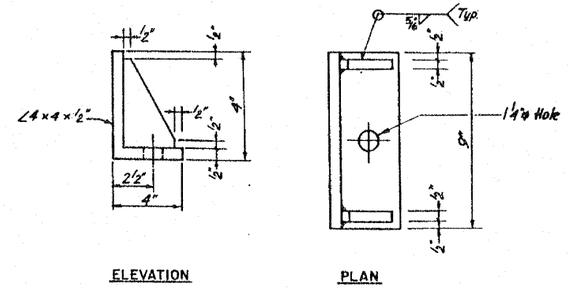
$FILE$



TYPICAL ELEVATION

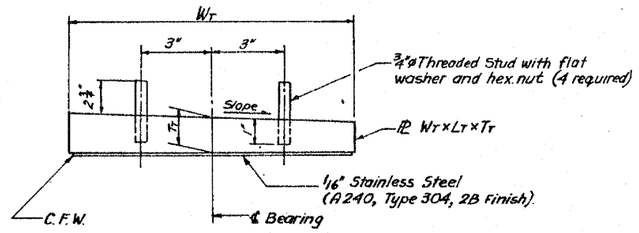


SECTION A–A

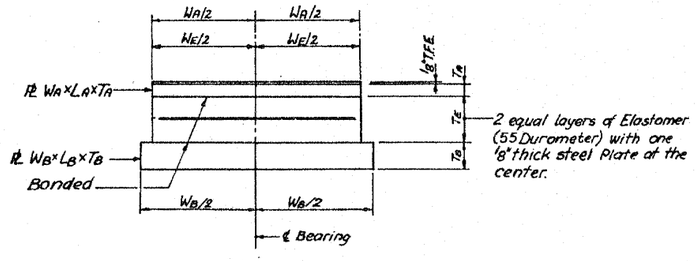


SIDE RETAINER DETAILS

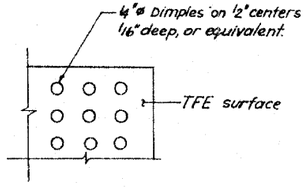
TYPE IV TFE ELASTOMERIC EXPANSION BEARING



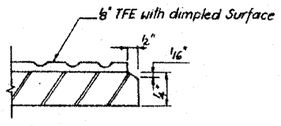
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



PLAN – TFE SURFACE



SECTION THRU TFE

TYPE IV ELASTOMERIC EXPANSION BEARING SCHEDULE

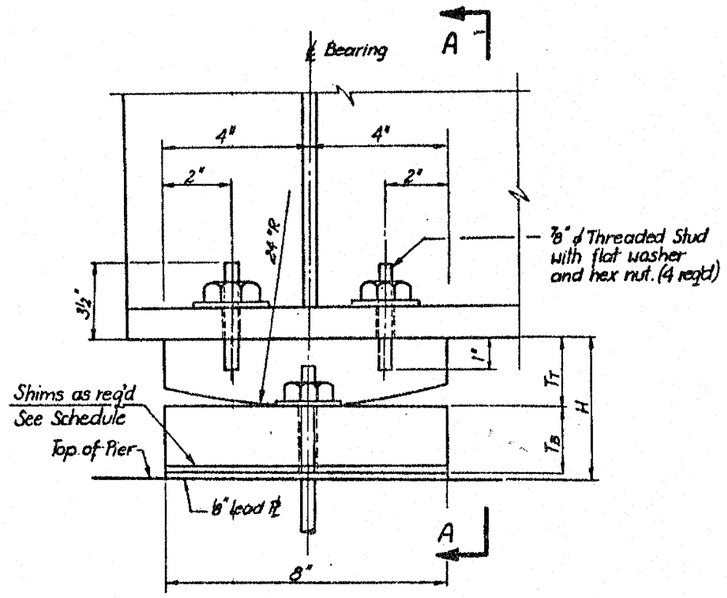
STRUCTURE NO.	PIER LOCATION	GIRDER NO.	NO. REQ'D	ELASTOMER T_E	ELASTOMER W_E	ELASTOMER L_E	TOP PLATE T_T	TOP PLATE W_T	TOP PLATE L_T	% SLOPE	BOTTOM BEARING ASSEMBLY T_A	W_A	L_A	T_B	W_B	L_B	B_L	H_E	REMARKS
016-1047	9.3(N)	691-699	4	1⅜	10	14	1⅞	12½	16		1¼	10	14	⅞	11	24½	10⅜	4 11/16	R, G 1/16", ℗
		GDIE	1	1⅜	10	14	1⅞	12½	16		1¼	10	14	⅞	11	24½	10⅜	4 11/16	N, ℗

Remarks:
R – Replacement Bearings.
N – New Bearings for roadway widening.
G – Grind concrete pier cap under bearing by amount shown
℗ – Pier 9.3(N) is from STRUCTURE No. 016-1059

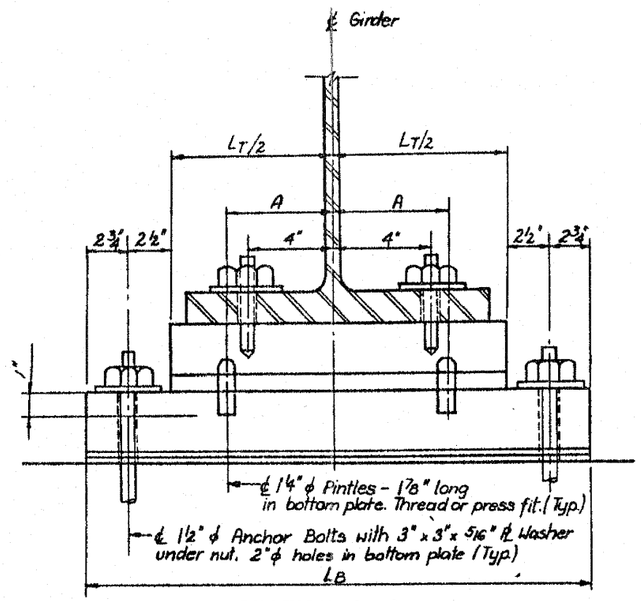
Notes:
1. Height of Bearing Assembly, H_E, includes ⅛" lead Plate. (Does not include Shims if required.)
2. For Bearings without Bolsters, the Side Retainer shall be tack welded as shown after the Girder and Bearing assembly have been set into their final position.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPE IV ELASTOMERIC EXPANSION BEARING DETAILS – LOCATION 9 STRUCTURE NO. 016-1047	F.A.I. RTE. 94 | SECTION 2010-127-BP | COUNTY COOK | TOTAL SHEETS 160 | SHEET NO. 134
		DRAWN - AMR	REVISED -			CONTRACT NO. 60N01
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS | SHEET NO. 8 OF 9 SHEETS | STA. | TO STA.	ILLINOIS FED. AID PROJECT
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -			

$$FILE$$



ELEVATION

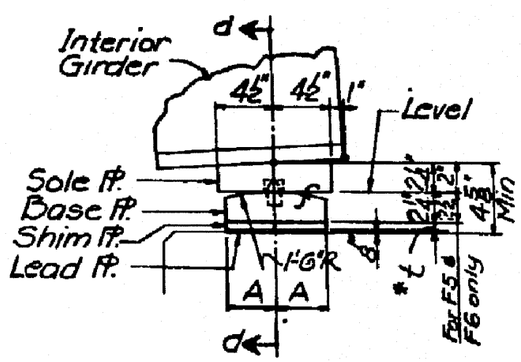


SECTION A-A

FIXED BEARING SCHEDULE

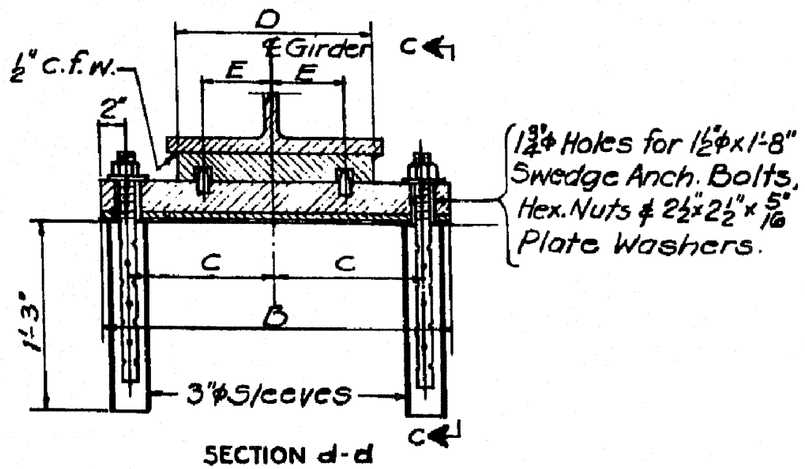
STRUCTURE NO.	PIER LOCATION	GIRDER NO.	B.ING. TYPE	NO. REQ'D.	T_T "	L_T"	T_B "	L_B"	A "	H "
016-1047	23(S)	GE2	F1	1	2½	17	2	27½	5	4⅝
	22(S)	GD12	F1	1	2½	17	2	27½	5	4⅝

FIXED BEARING - TYPE F1



*Shim plate if required for t" see schedule
f = Finish

SECTION c-c



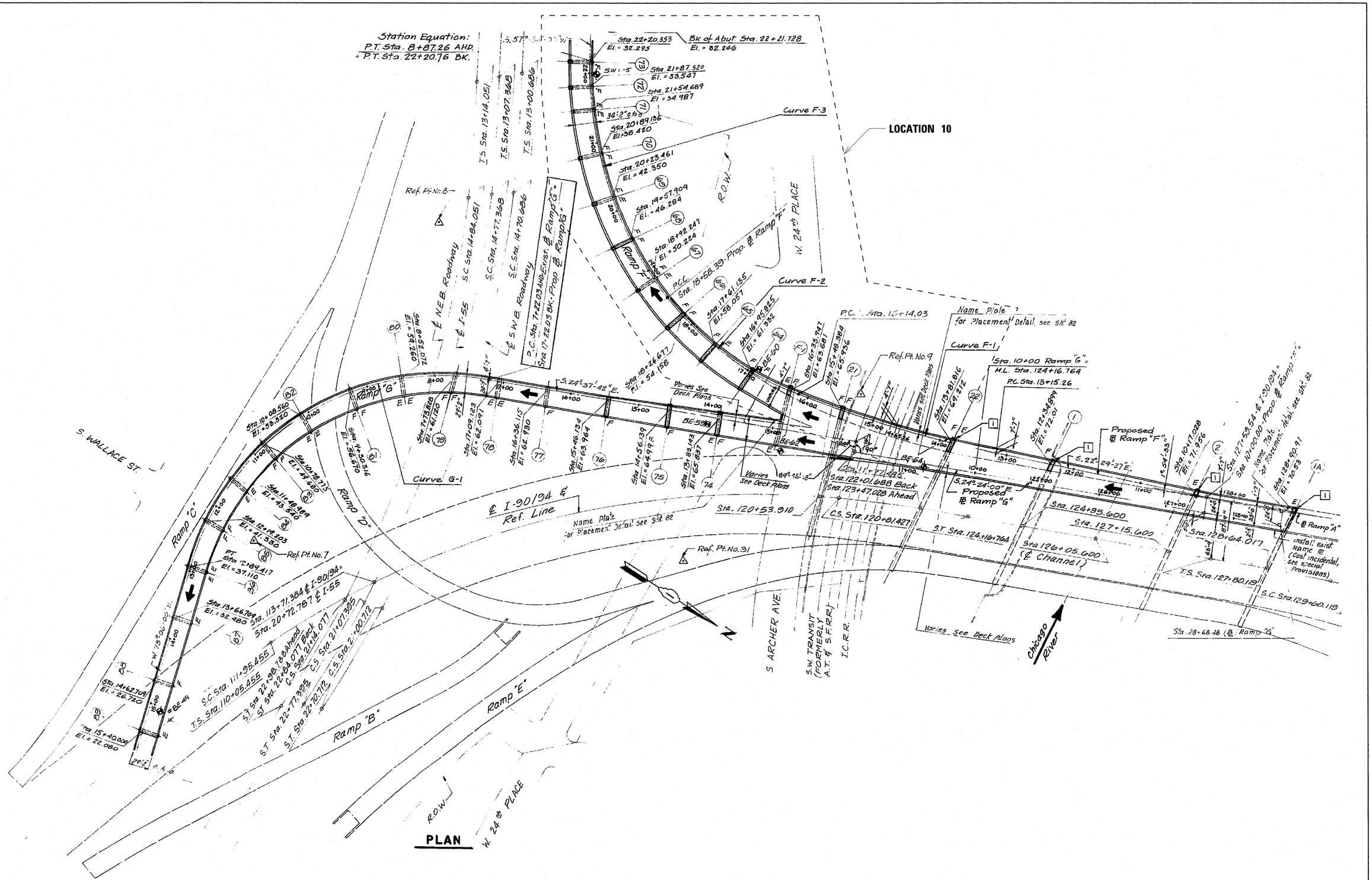
SECTION d-d

FIXED BEARING DETAILS

FIXED BEARING SCHEDULE							
MARK		DIMENSIONS					REMARKS
		A	B	C	D	E	
F		4"	2'-3"	11½"	1'-3"	5½"	Typical for 16" flange
F2		4"	1'-10½"	9½"	11"	3½"	Typical for 12" flange
F5		6"	2'-3"	11½"	1'-3"	5½"	Girder G47, Pier 23
F7		4½"	2'-3"	11½"	1'-3"	5½"	Girder G51, Pier 23

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIXED BEARING DETAILS – LOCATION 9 STRUCTURE NO. 016-1047			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	135
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 9 OF 9 SHEETS	STA. TO STA.		ILLINOIS FED. AID PROJECT			

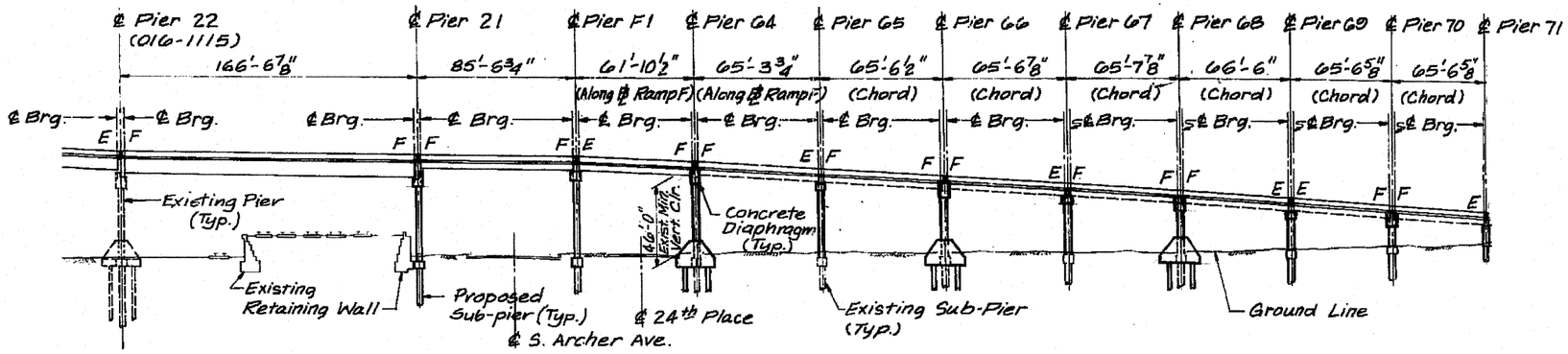
$FILES



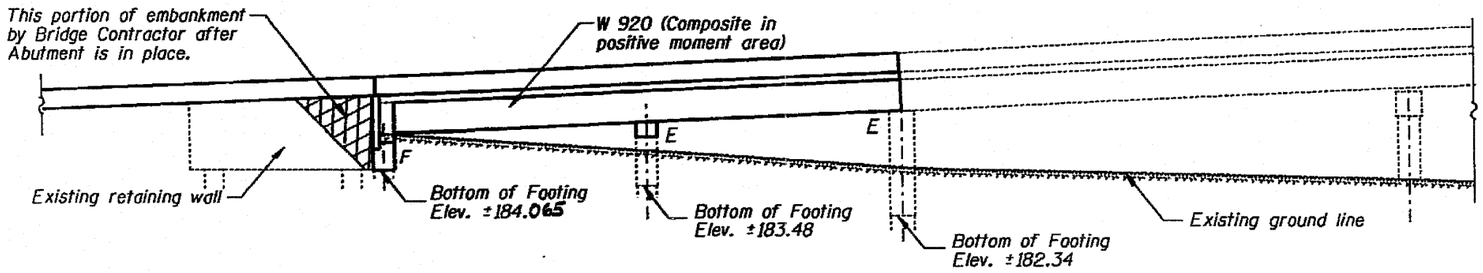
FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN – LOCATION 10 STRUCTURE NO. 016-1062		
		DRAWN - AMR	REVISED -				
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 1 OF 12 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	136
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

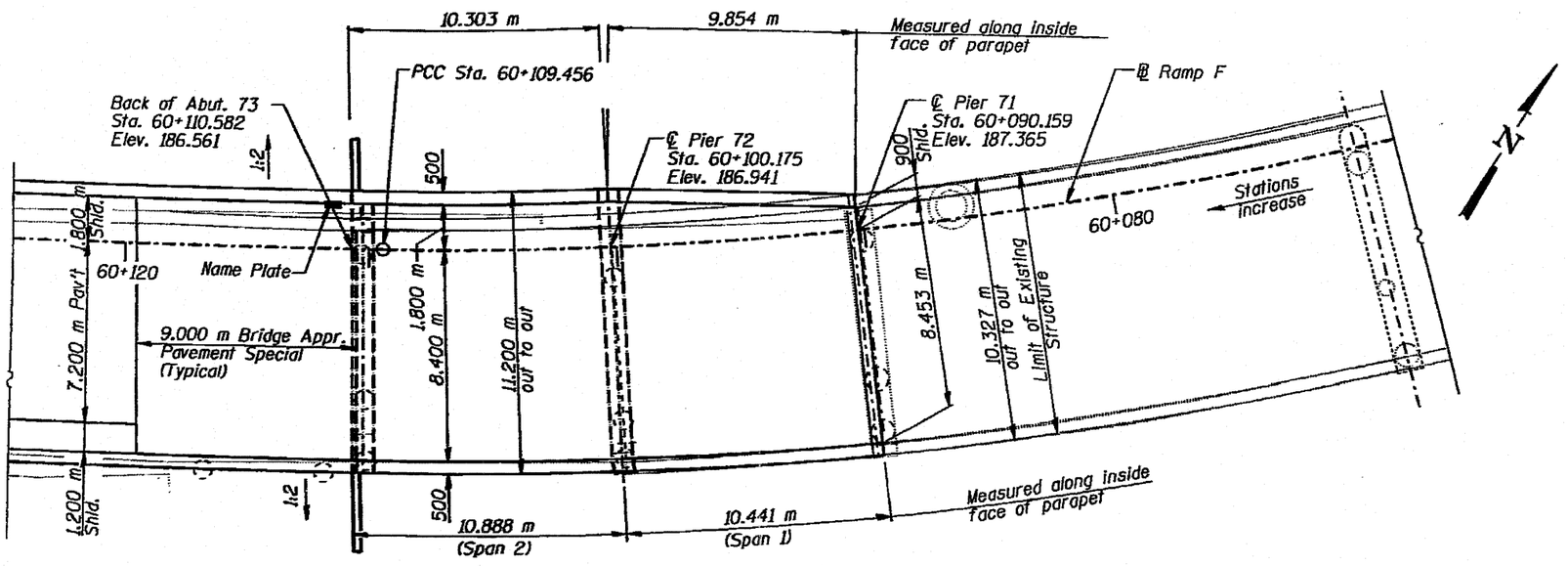
$FILE$



ELEVATION
PIERS 22 TO 71



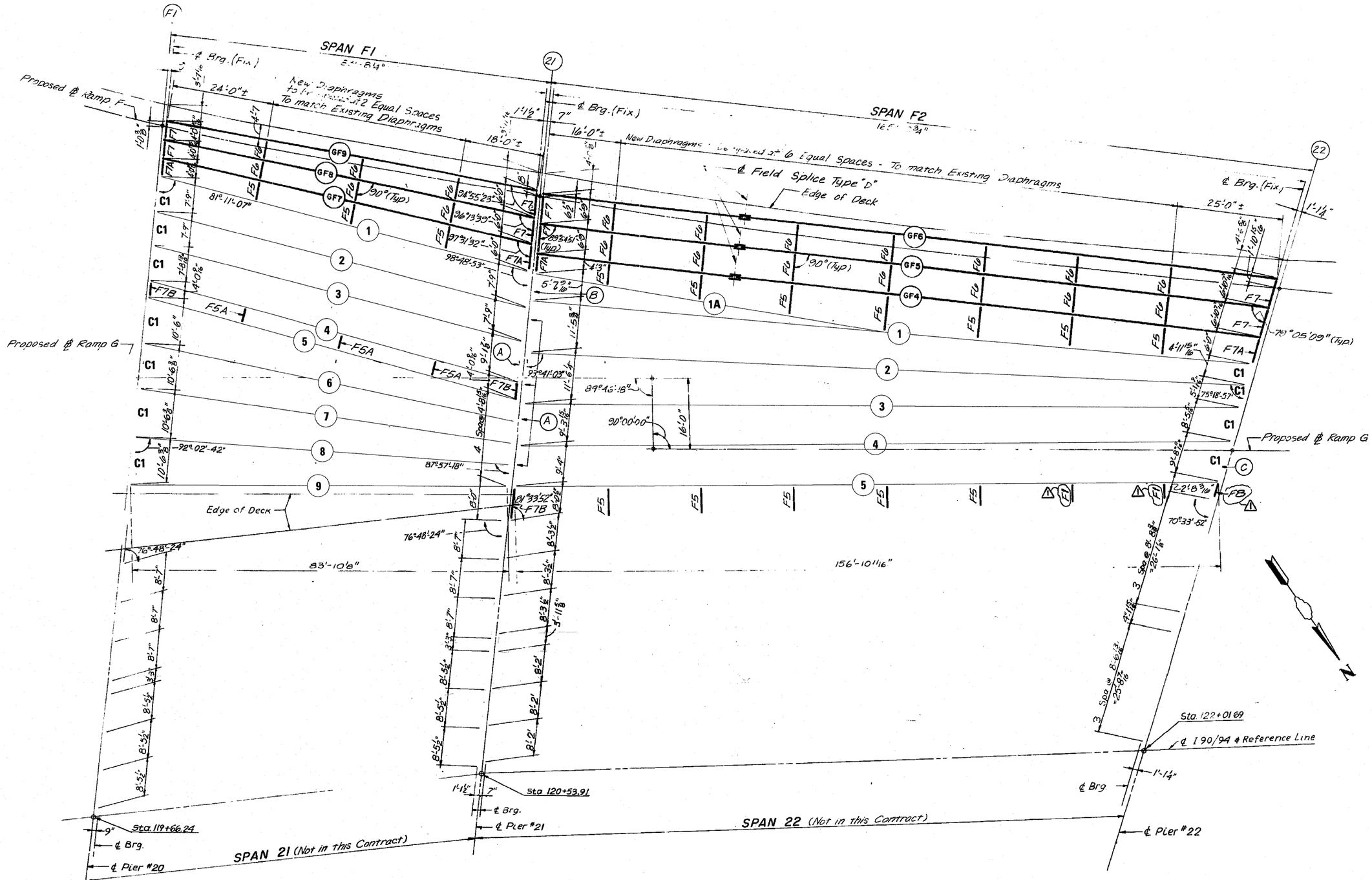
ELEVATION
PIERS 71 TO 73



PLAN
PIERS 71 TO 73

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION – LOCATION 10 STRUCTURE NO. 016–1062			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	137
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -									CONTRACT NO. 60N01
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 2 OF 12 SHEETS	STA. TO STA.			ILLINOIS	FED. AID PROJECT	

$FILE$

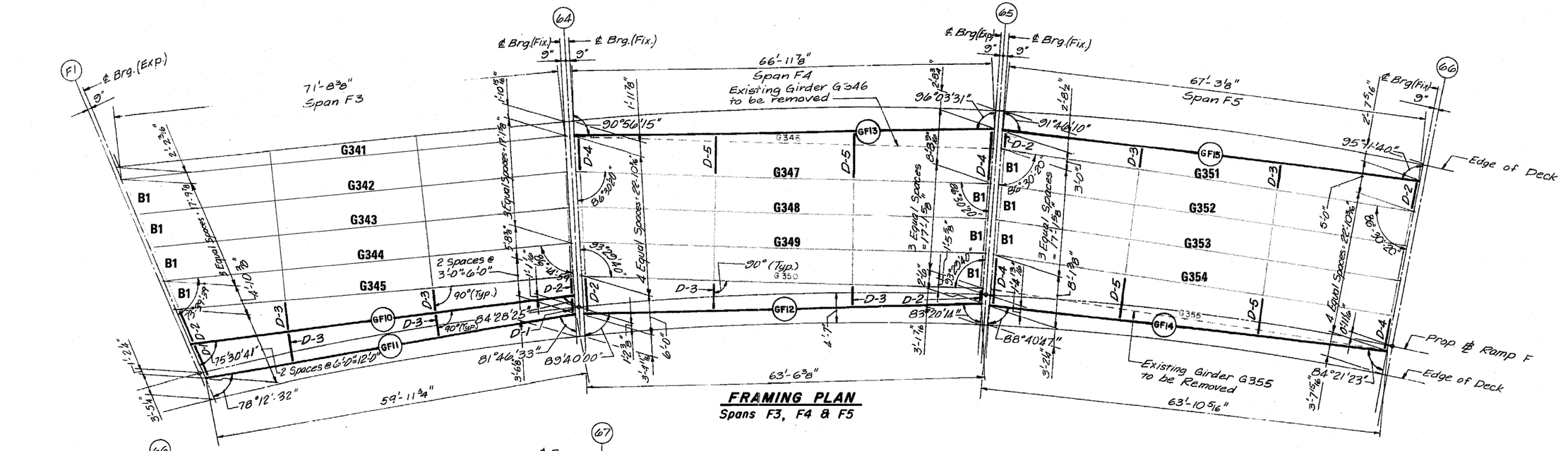


FRAMING PLAN
Spans F1 & F2

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS F1 & F2 – LOCATION 10 STRUCTURE NO. 016–1062
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS | SHEET NO. 3 OF 12 SHEETS | STA. | TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	138
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

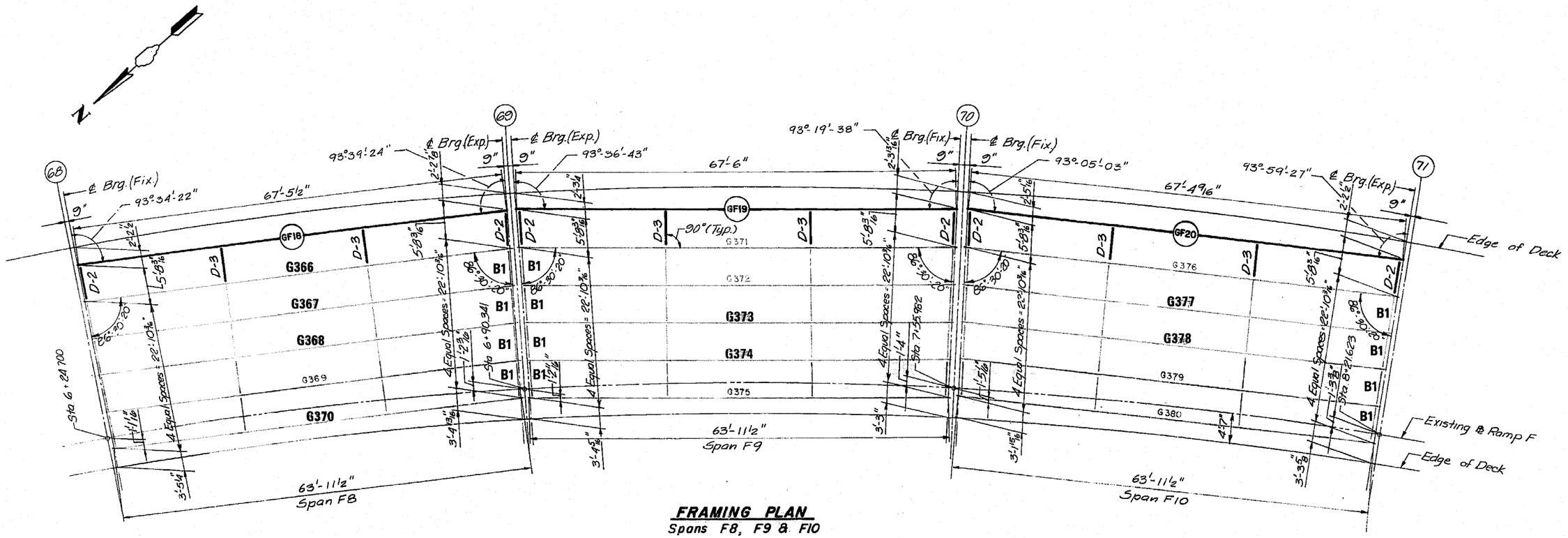
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN SPANS F3 TO F7 – LOCATION 10
STRUCTURE NO. 016-1062

SCALE: NTS | SHEET NO. 4 OF 12 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	139
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILEL$

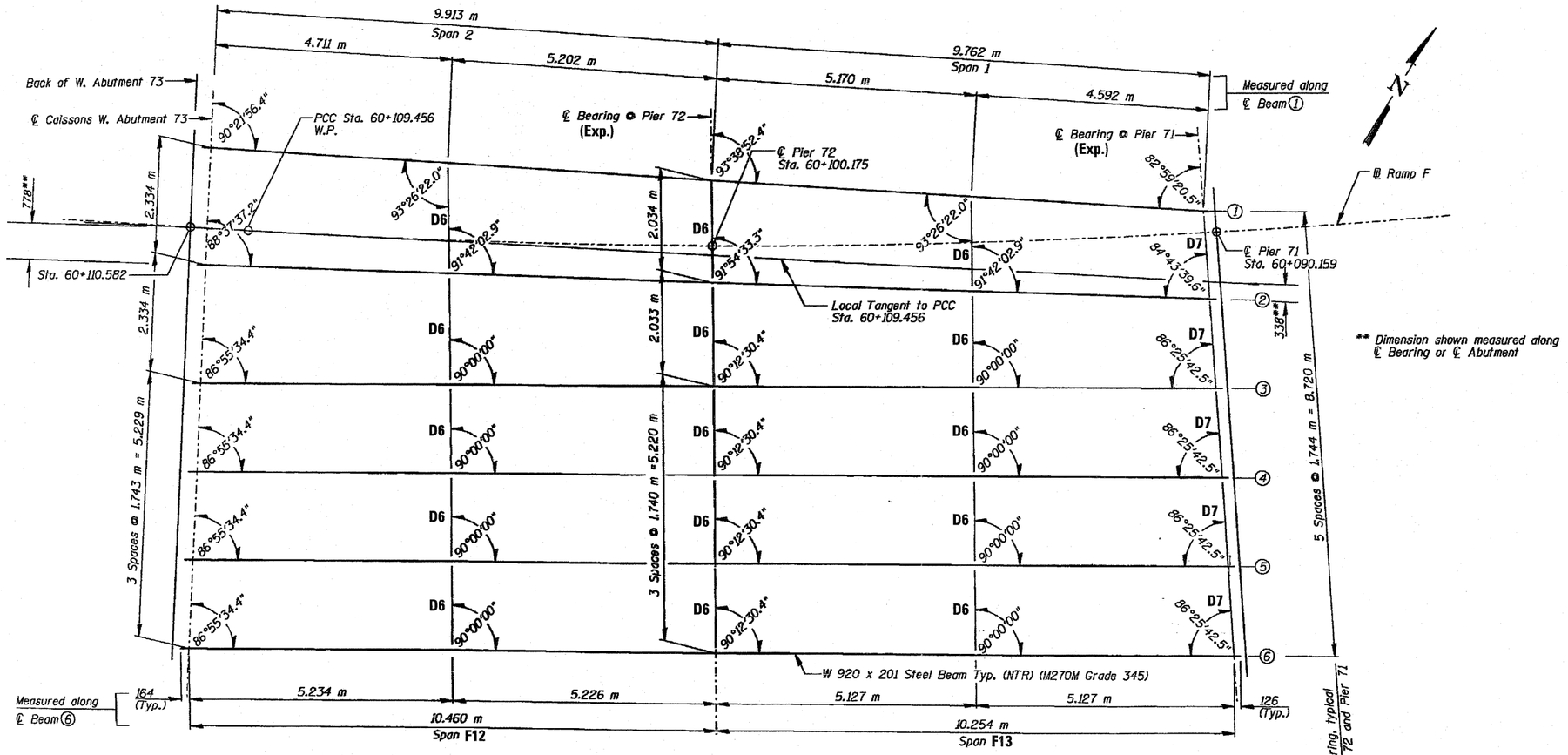


FRAMING PLAN
Spans F8, F9 & F10

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS F8 TO F10 – LOCATION 10 STRUCTURE NO. 016-1062		
		DRAWN - AMR	REVISED -				
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 5 OF 12 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	140
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



** Dimension shown measured along ℄ Bearing or ℄ Abutment

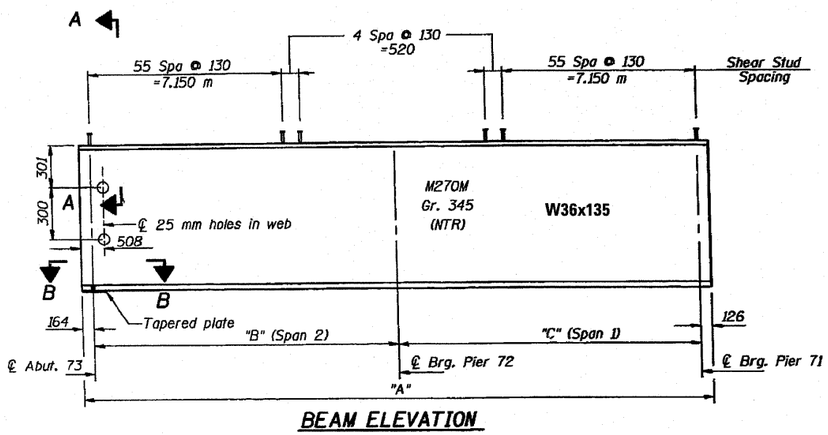
LEGEND

W.P. Denotes Work Point

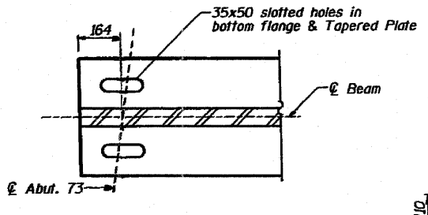
◯ Denotes Beam Number

NTR denotes Notch Toughness Requirements.

FRAMING PLAN

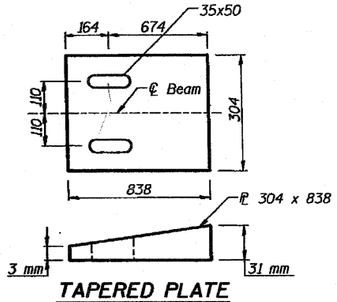


BEAM ELEVATION



SECTION B-B

Location	"A" (m)	"B" (m)	"C" (m)
Beam 1	19.965	9.913	9.762
Beam 2	20.172	10.032	9.850
Beam 3	20.397	10.160	9.947
Beam 4	20.600	10.260	10.050
Beam 5	20.801	10.359	10.152
Beam 6	21.004	10.460	10.254

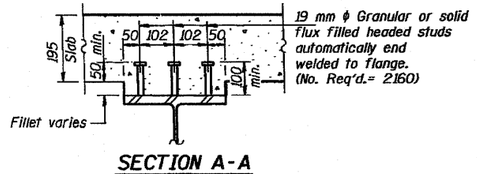


TAPERED PLATE

6 required

NOTES:

All dimensions are in millimeters (mm) except as noted.



SECTION A-A

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

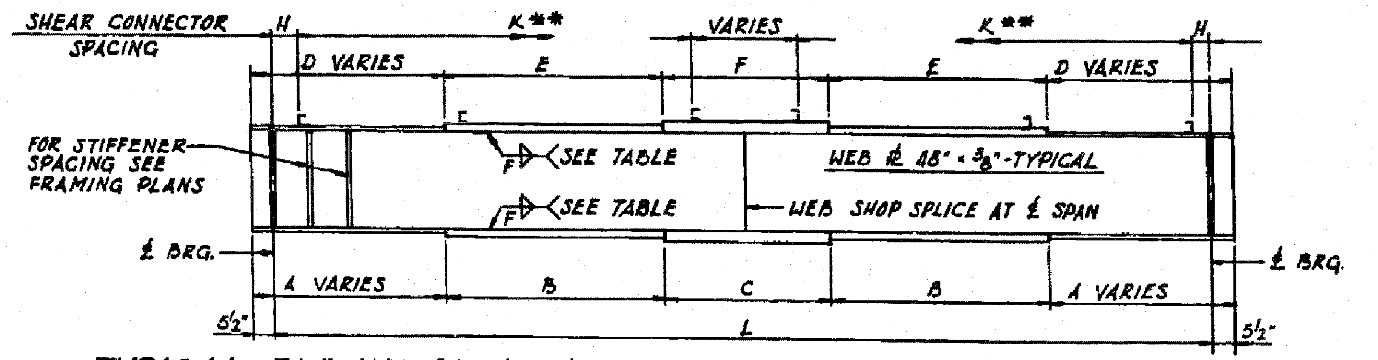
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN & GIRDER ELEVATION SPANS F12 & F13 – LOCATION 10
STRUCTURE NO. 016-1062

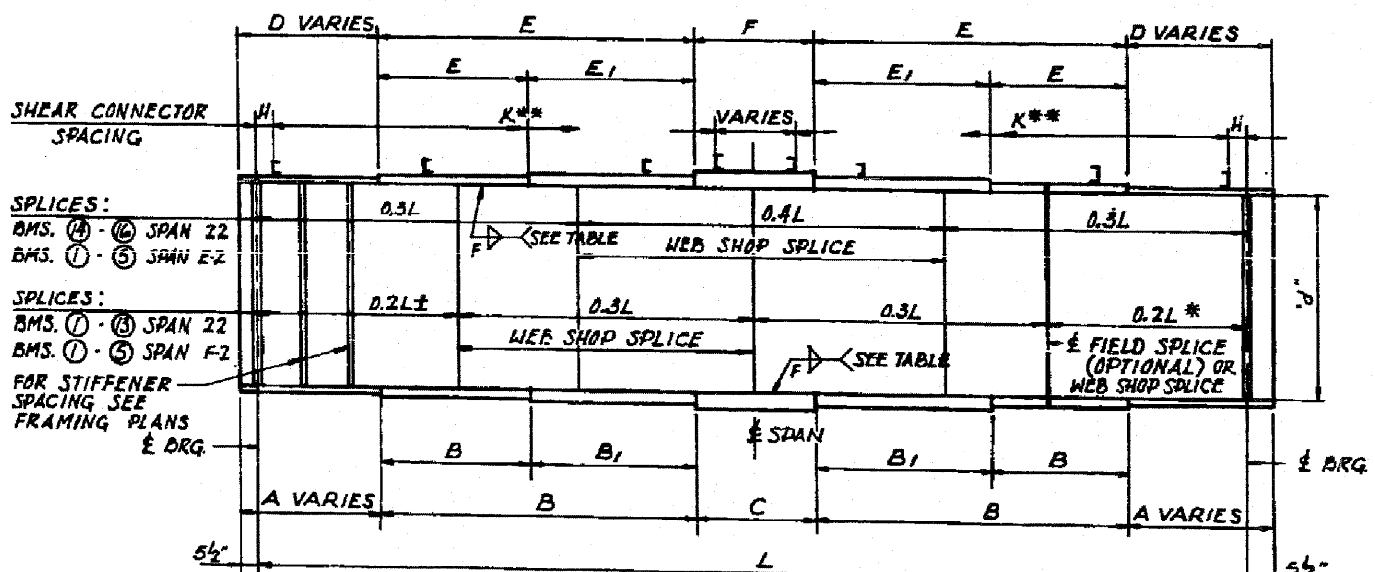
SCALE: NTS | SHEET NO. 6 OF 12 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	141
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



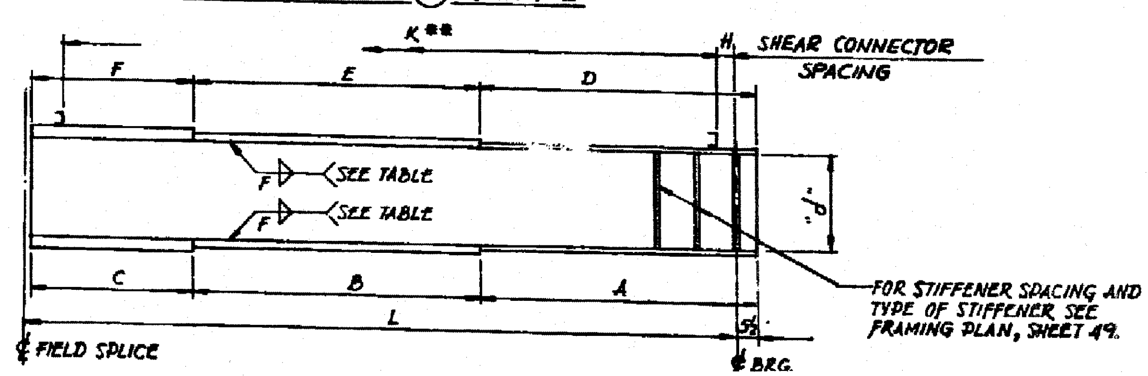
TYPICAL ELEVATION OF 48" WELDED PLATE BEAMS - SPAN F-1



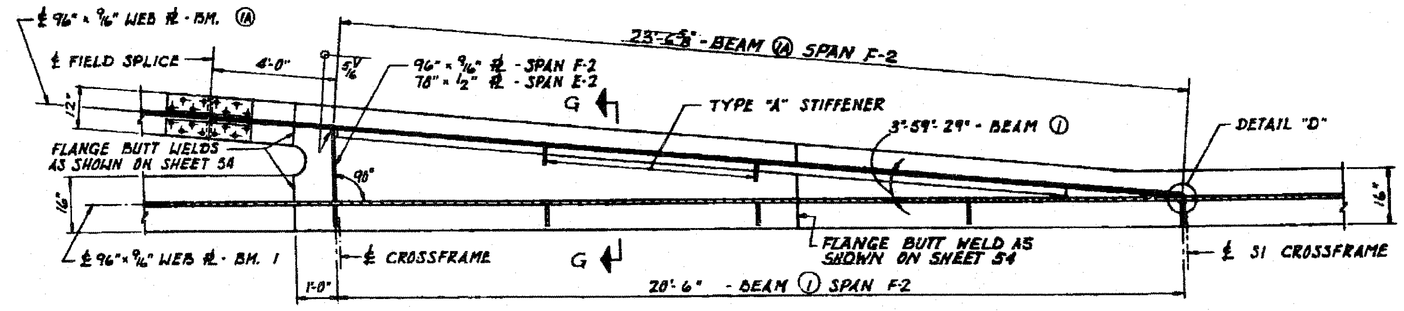
NOTES:
0.2L- DIMENSION CAN BE ADJUSTED TO AVOID INTERFERENCE WITH INTERMEDIATE STIFFENERS AND LATERAL BRACING CONNECTIONS.

78" × ½" WEB ℄ - SPAN E-2
96" × 9/16" WEB ℄ - SPANS 22 AND F-2

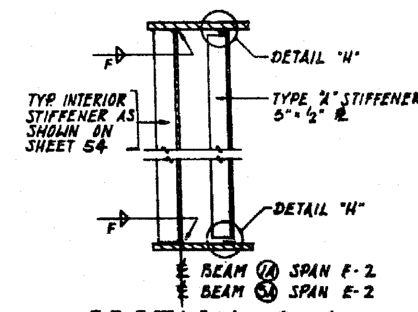
TYPICAL ELEVATION OF 96" WELDED PLATE BEAMS
EXCEPT BEAM (1A) SPAN F-2



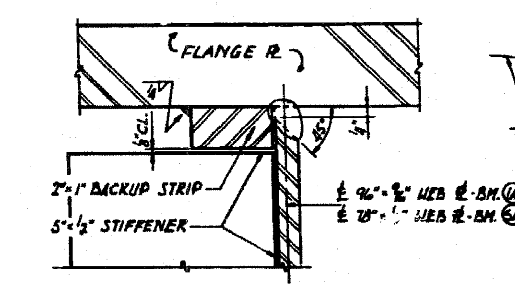
TYPICAL ELEVATION OF 96" WELDED PLATE BEAM (1A)



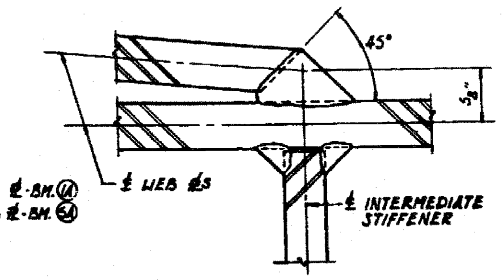
CONNECTION DETAIL OF BEAM (1A) TO BEAM (1) SPAN F-2-SHOWN



SECTION G-G



DETAIL "H"



DETAIL "D"

WELDED PLATE BEAM SCHEDULE

SPAN	BEAM	L	d	t	BOTTOM FLANGE PLATES A	BOTTOM FLANGE PLATES B OR B, B1	BOTTOM FLANGE PLATES C	TOP FLANGE PLATES D	TOP FLANGE PLATES E OR E, E1	TOP FLANGE PLATES F
F1	1	84'-4 9/16	48	3/8	16×1¼	16×1¾×14'-0	16×2×27'-0"	16×¾	—	16×1⅛×45'-0
	2	84'-4 9/16	48	3/8	16×1	—	16×1⅞×56'-0	16×¾	—	16×⅞×19'-0"
	3	84'-4 9/16	48	3/8	16×1	—	16×1⅞×56'-0	16×¾	—	16×⅞×19'-0"
	4	84'-7 5/16	48	3/8	16×1¼	—	16×2×53'-0	16×¾	—	16×1×38'-0
	5	84'-7 5/16	48	3/8	16×1¼	16×2¼×18'-6	16×2½×19'-0	16×¾	—	16×1⅝×56'-6
	6	83'-9⅞	48	3/8	16×1½	16×2¼×17'-0	16×2½×19'-0"	16×¾	—	16×1½×55'-0
	7	83'-5 5/16	48	3/8	16×1	—	16×1⅝×52'-0	—	—	16×¾
	8	83'-5¼	48	3/8	16×1	—	16×1⅝×52'-0	—	—	16×¾
	9	83'-10⅛	48	3/8	16×1¼	16×1¾×14'-0	16×2×27'-0"	16×¾	—	16×1⅛×45'-0
F2	1A	55'-7 1/16	96	9/16	12×1	12×1½×20'-0	12×2×18-0"	12×¾	12×1×20-0	12×1½×18'-0"
	*** 1	161'-4"	96	9/16	SEE SCHEMATIC PLAN		26×3½×46'-4"	SEE SCHEMATIC PLAN		26×3×46'-4"
	2	160'-8 1/16	96	9/16	16×1	16×2×13'-6 16×2¾×24'-0	16×3×35'-0	16×⅞	16×1¾×36'-0	16×2×44'-0"
	3	160'-2 15/16	96	9/16	16×1	16×2×13'-6 16×2¾×24'-0	16×3×35'-0	16×⅞	16×1¾×36'-0	16×2×44'-0"
	4	158'-9 1/16	96	9/16	16×1	16×2×18'-6 16×2¾×24'-0	16×3×35'-0"	16×⅞	16×1¾×36'-0	16×2×44'-0"
	5	156'-10 11/16	96	9/16	16×1⅜	16×2½×22'-0 16×3×20'-0	16×3½×29'-6	16×1	16×2×37'-0	16×2¼×46'-0"

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

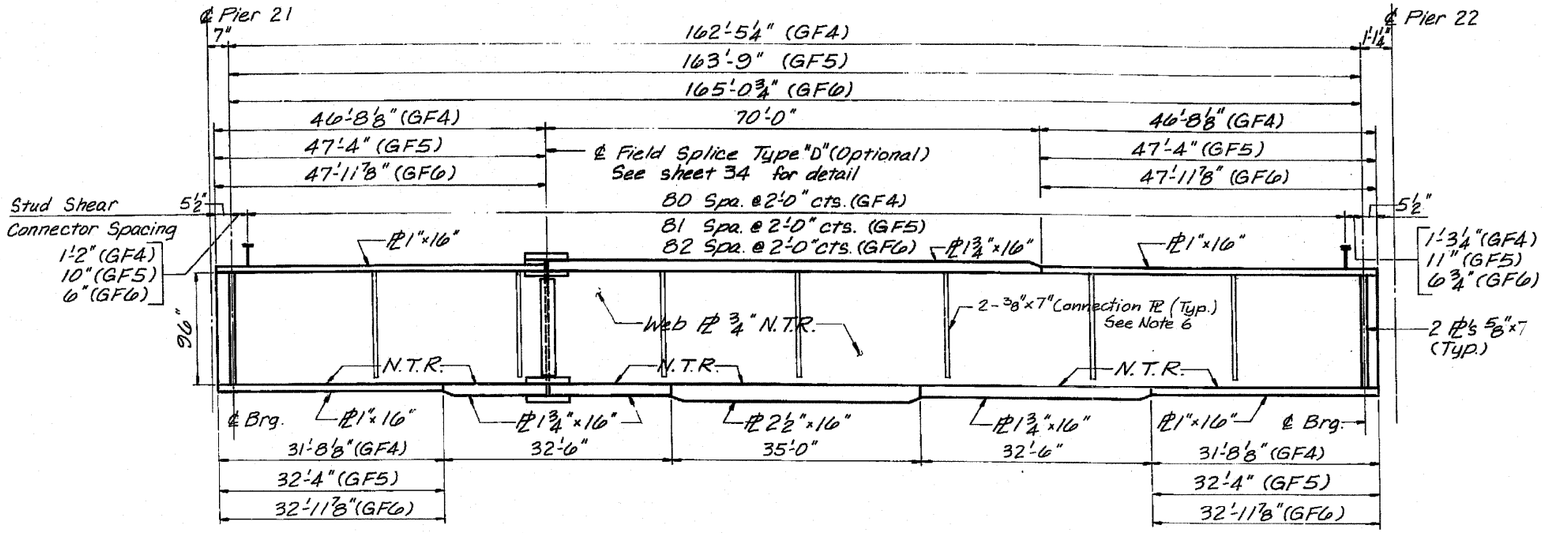
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER ELEVATIONS & SCHEDULE – LOCATION 10
STRUCTURE NO. 016-1062

SCALE: NTS | SHEET NO. 7 OF 12 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	142

CONTRACT NO. 60N01
ILLINOIS FED. AID PROJECT



GIRDERS GF4 THRU GF6 ELEVATION – SPAN F2

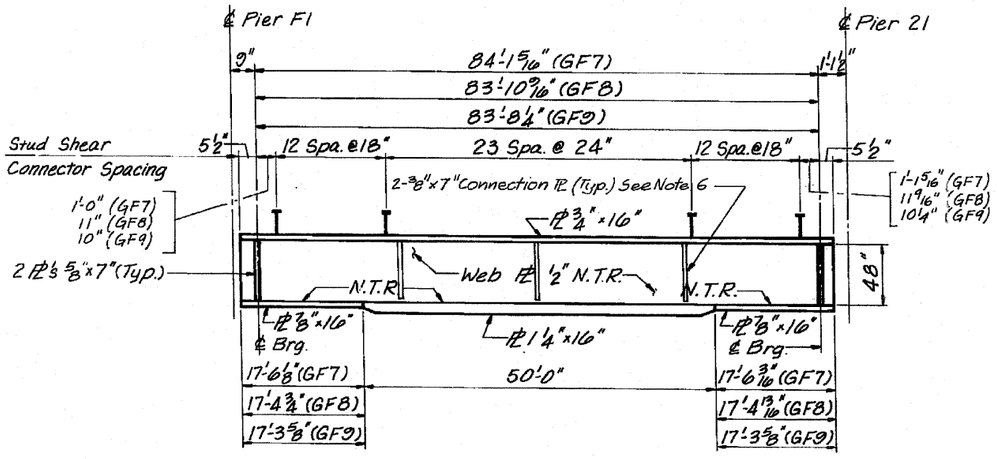
(Looking West)

GIRDER SCHEDULE

MARK	SECTION	COVER PLATES SIZE	COVER PLATES LENGTH
G341	36WF230	15"x⅞"	45'-6
G342	36WF160	11"x½"	47'-6
G343	36WF150	11"x½"	47'-6
G344	36WF135	11"x⁹⁄₁₆"	47'-6
G345	36WF150	11"x½"	44'-6
G351, G356, G361, G366, G371, G376	36WF160	11"x⁹⁄₁₆"	48'-6
G347, G352, G357, G362, G367, G372, G377	36WF135	11"x⁹⁄₁₆"	47'-6
G348, G353, G358, G363, G368, G373, G378	36WF135	11"x⁹⁄₁₆"	47'-6
G349, G354, G359, G364, G369, G374, G379	36WF135	11"x⁹⁄₁₆"	47'-6
G350, G360, G365, G370, G375, G380	36WF150	11"x½"	44'-6

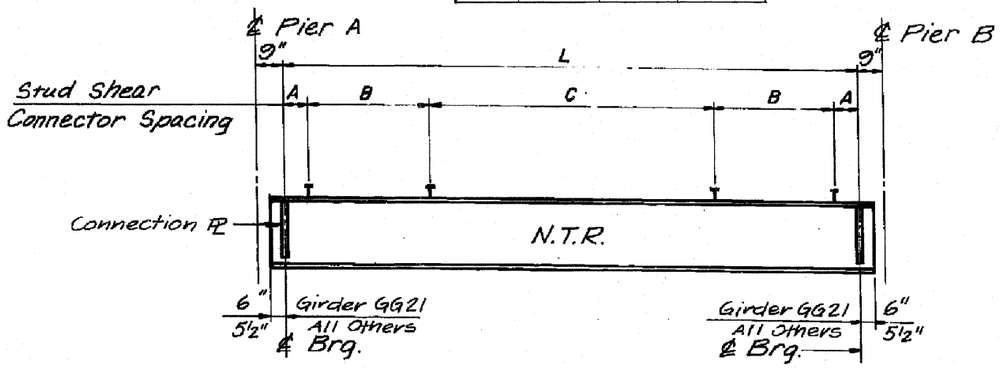
WIDE FLANGE BEAMS GF10 THRU GF20

SPAN	BEAM	BEAM SIZE	L (℄ BRG. TO ℄ BRG)
F3	GF10	W36x150	61'-8½"
F3	GF11	W36x150	59'-11¾"
F4	GF12	W36x135	63'-6⅜"
F4	GF13	W36x194	66'-11⅞"
F5	GF14	W36x182	63'-10⁵⁄₁₆"
F5	GF15	W36x150	67'-3⅜"
F6	GF16	W36x170	67'-3¼"
F7	GF17	W36x170	67'-4¹³⁄₁₆"
F8	GF18	W36x170	67'-5½"
F9	GF19	W36x170	67'-6"
F10	GF20	W36x170	67'-4⁹⁄₁₆"



GIRDERS GF7 THRU GF9 ELEVATION – SPAN F1

(Looking West)



WIDE FLANGE BEAM ELEVATION

Girders GF10 thru GF20

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	
		DRAWN - AMR	REVISED -	
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -	
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -	

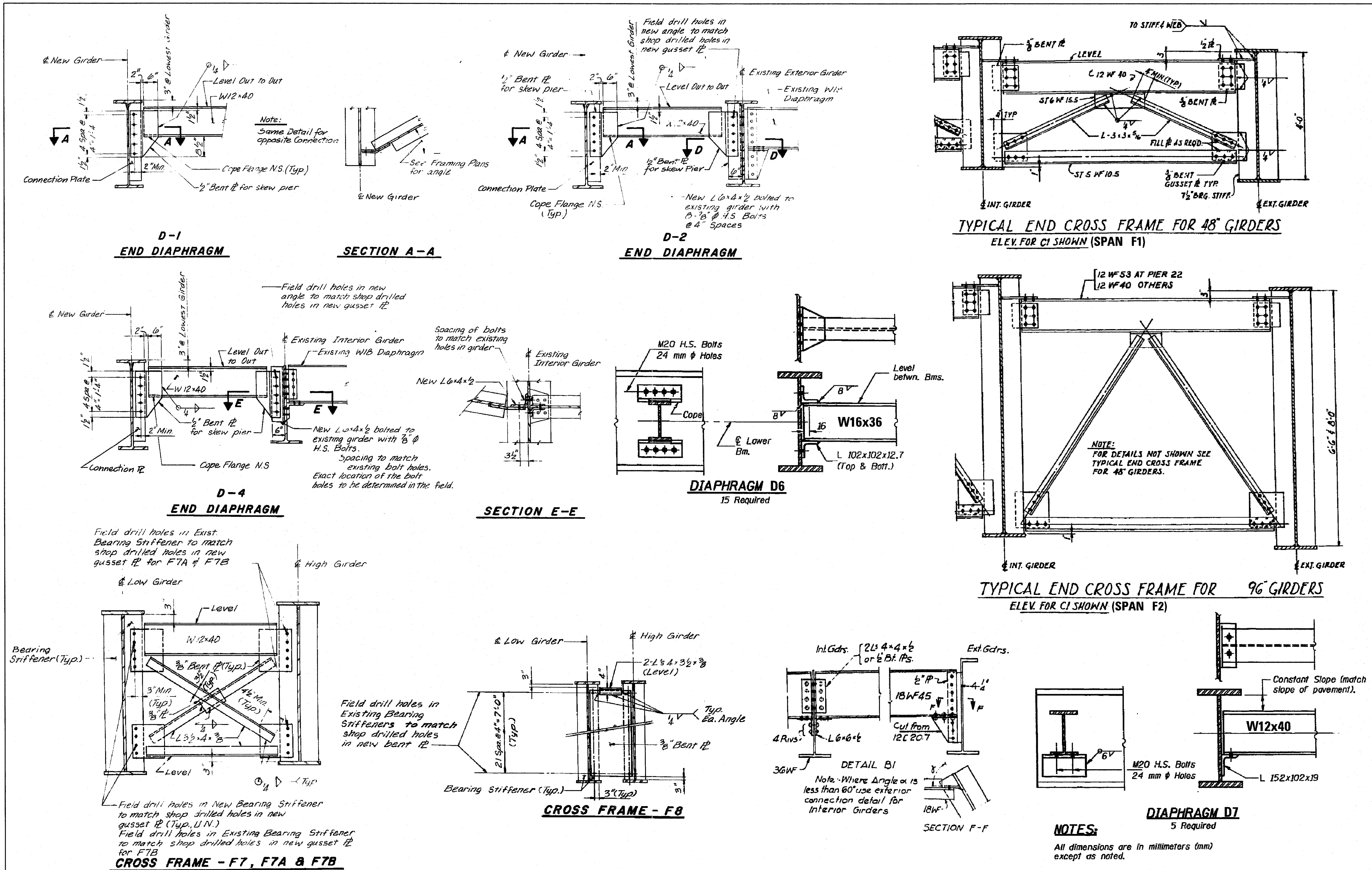
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER ELEVATIONS & SCHEDULES – LOCATION 10
STRUCTURE NO. 016-1062

SCALE: NTS | SHEET NO. 8 OF 12 SHEETS | STA. | TO STA.

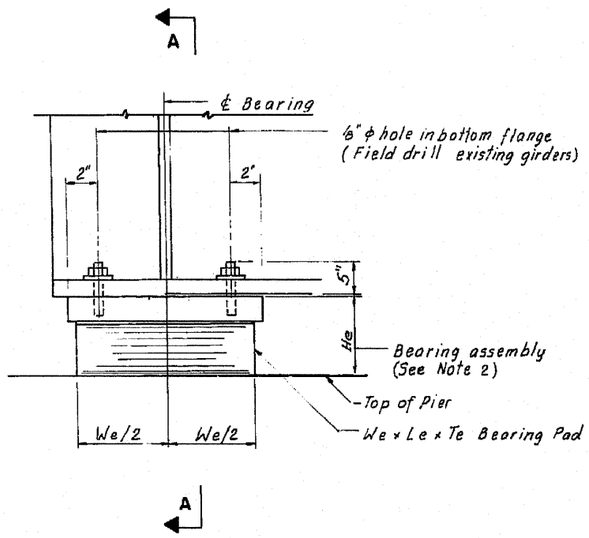
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	143
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILEL$

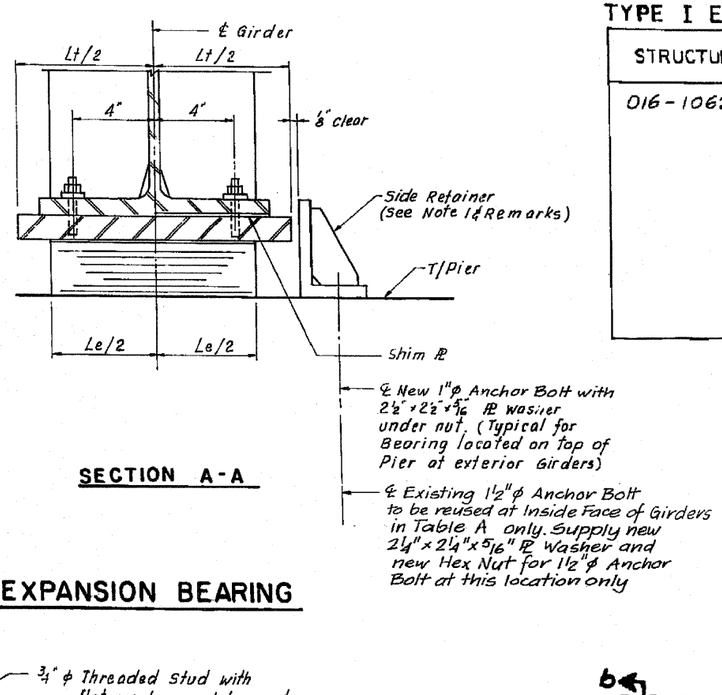


FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM & CROSS FRAME DETAILS - LOCATION 10 STRUCTURE NO. 016-1062
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS · SHEET NO. 9 OF 12 SHEETS · STA. · TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	144
		CONTRACT NO. 60N01		
		ILLINOIS FED. AID PROJECT		



TYPICAL ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXPANSION BEARING

TYPE I ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE	PIER LOCATION	GIRDER NO.	We	Le	SERIES	TOP PLATE Tt	TOP PLATE Wt	TOP PLATE Lt	TOP PLATE SLOPE %	y	He	NO. REQ'D
016-1062	F1 (S)	GF10, GF11	9	12	a	2 3/8	10	14	4.3	6	4 5/8	2
	65 (N)	GF12, GF13	9	12	a	↓	↓	↓	5.1	6	↓	2
	67 (N)	GF16	9	12	a	↓	↓	↓	5.6	6	↓	1
	69 (N)	GF18	9	12	a	↓	↓	↓	5.6	6	↓	1
	69 (S)	GF19	9	12	a	↓	↓	↓	5.8	6	↓	1
	69 (S)	G371-G375	9	12	a	↓	↓	↓	5.8	6	↓	5
	71 (N)	GF20	9	12	a	2 3/8	10	14	5.0	6	4 5/8	1

TABLE A

Location for Special Side Retainer Details where Exist. Anchor Bolts re-used.

STRUC. NO.	PIER NO.	GIRDER NO.	NO. REQ'D
016-1062	69(S)	G375	1

BEARING ASSEMBLY

SIDE RETAINER DETAILS

SECTION a-a

SECTION b-b

EXPANSION BEARING DETAILS

EXPANSION BEARING SCHEDULE

MARK	DIMENSIONS A	B	C	D	REMARKS
E1	4"	2'-3"	11½"	1'-5½"	Typical for 16" flange
E2	4"	1'-10½"	9¼"	1'-1"	Typical for 18" flange

Note: Use typical bearings mark E1 and E2 unless otherwise noted.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

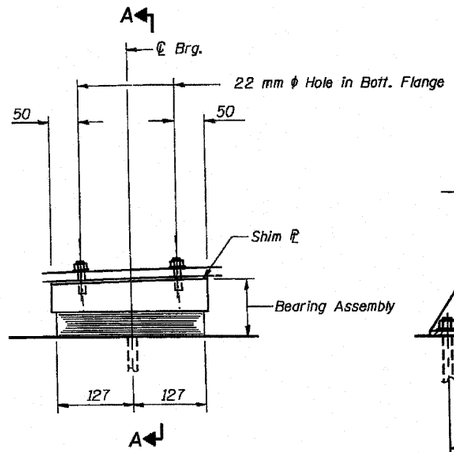
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E1, E2 & TYPE 1 ELASTOMERIC EXP. BEARING DETAILS – LOCATION 10
STRUCTURE NO. 016-1062

SCALE: NTS | SHEET NO. 10 OF 12 SHEETS | STA. | TO STA.

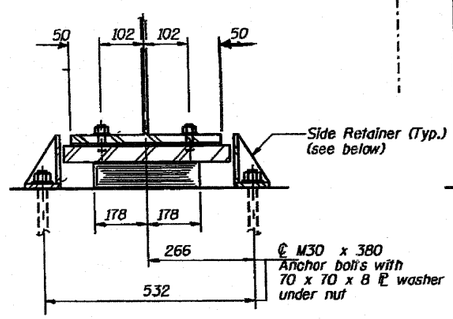
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	145
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$

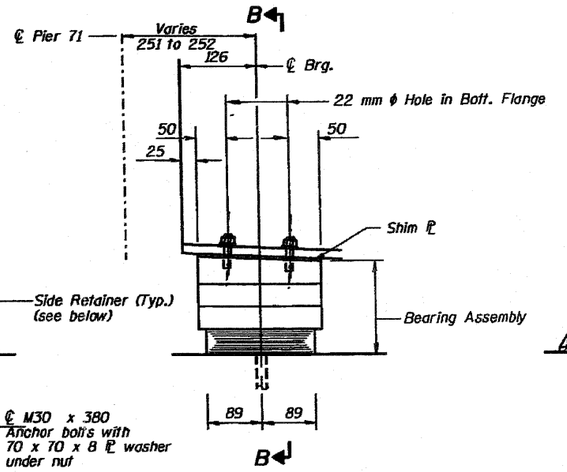


ELEVATION AT PIER 72

(Looking North)

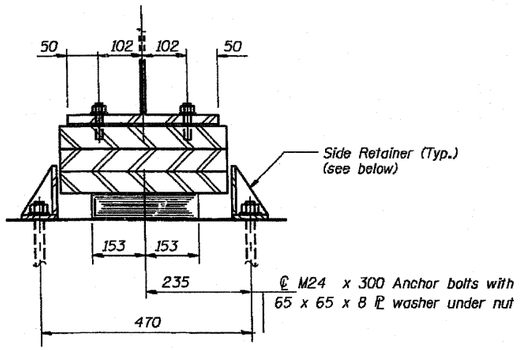


SECTION A-A



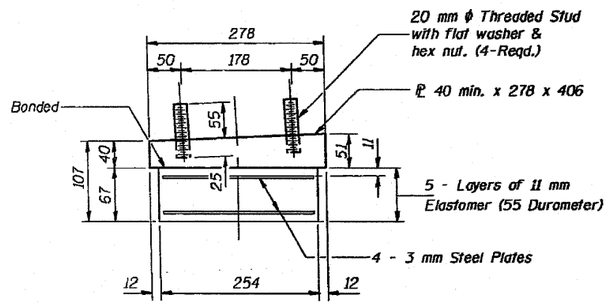
ELEVATION AT PIER 71

(Looking South)



SECTION B-B

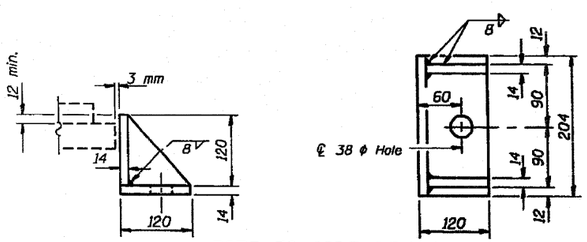
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

(6 Required)

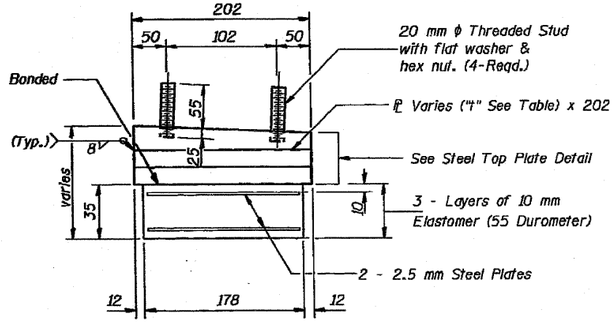
Note: Shim plates shall not be placed under Bearing Assembly.



PIER 72 SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Cost included with Furnishing Structural Steel.

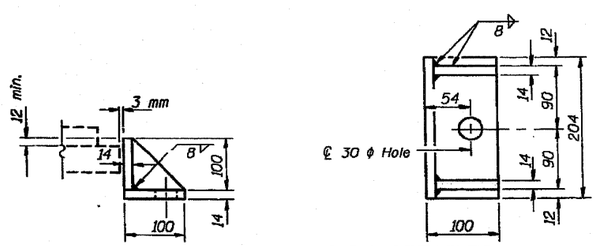
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

(6 Required)

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



PIER 71 SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Cost included with Furnishing Structural Steel.

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

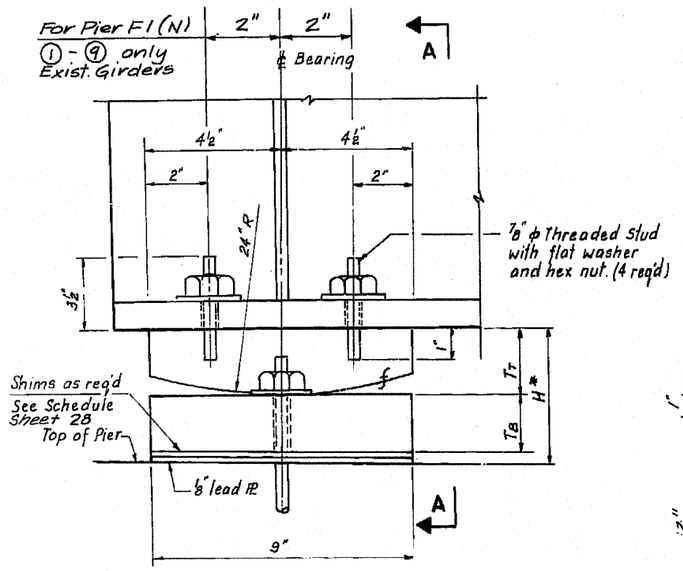
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE I ELASTOMERIC EXPANSION BEARING DETAILS – LOCATION 10
STRUCTURE NO. 016-1062

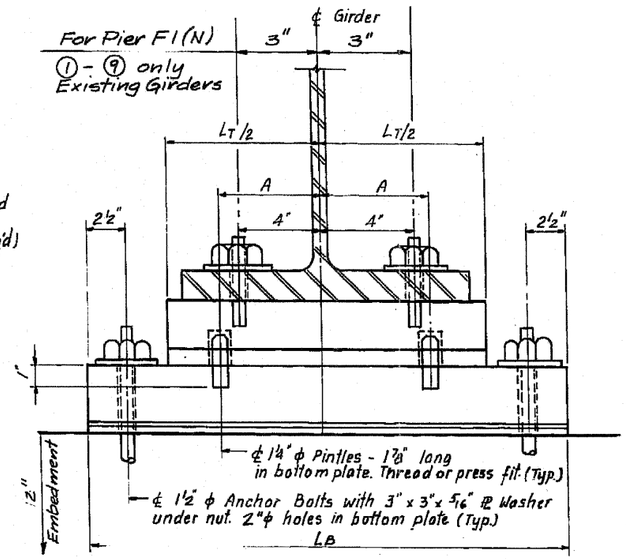
SCALE: NTS | SHEET NO. 11 OF 12 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	146
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

©FILE©



ELEVATION



SECTION A - A

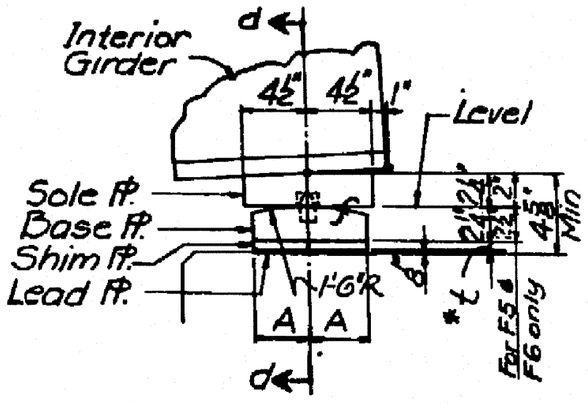
* H - height does not includes Shim PL.

FIXED BEARING - TYPE F1

f = Surface finish shall have ANSI surface roughness value not exceeding 250.

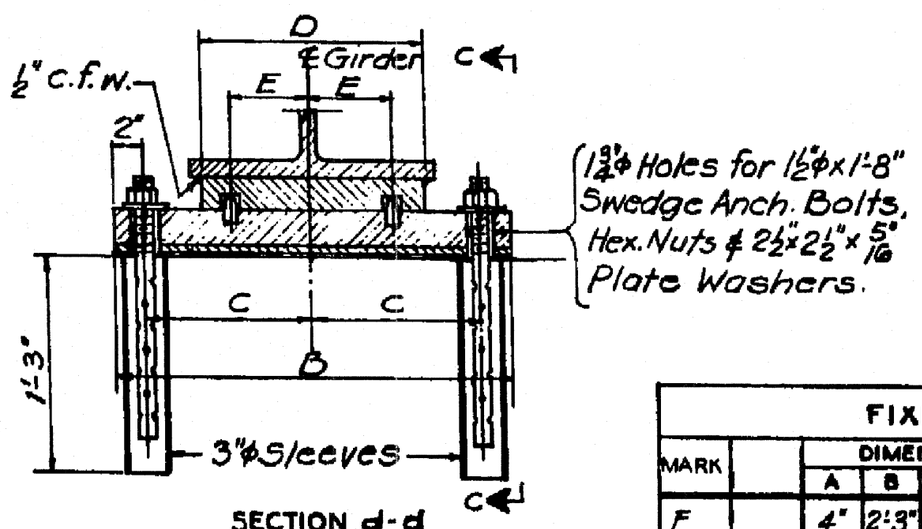
FIXED BEARING SCHEDULE - TYPE F1

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	BRG. TYPE	NO. REQ'D	T_T"	L_T"	T_B"	L_B"	A"	H"
016-1062	21(S)	GF7-GF9	F1	3	2½	17	1⅜	27	5	4
	F1(N)	① - ⑨	F1	9	2½	17	1⅜	27	5	4
	65(S)	GF14, GF15	F1	2	2½	17	1⅜	27	5	4
	67(S)	GF17	F1	1	2½	17	1⅜	27	5	4
	22(S)	GF4-GF6	F1	3	2½	17	1⅜	27	5	4



*Shim plate if required for t" see schedule
f = Finish

SECTION c - c



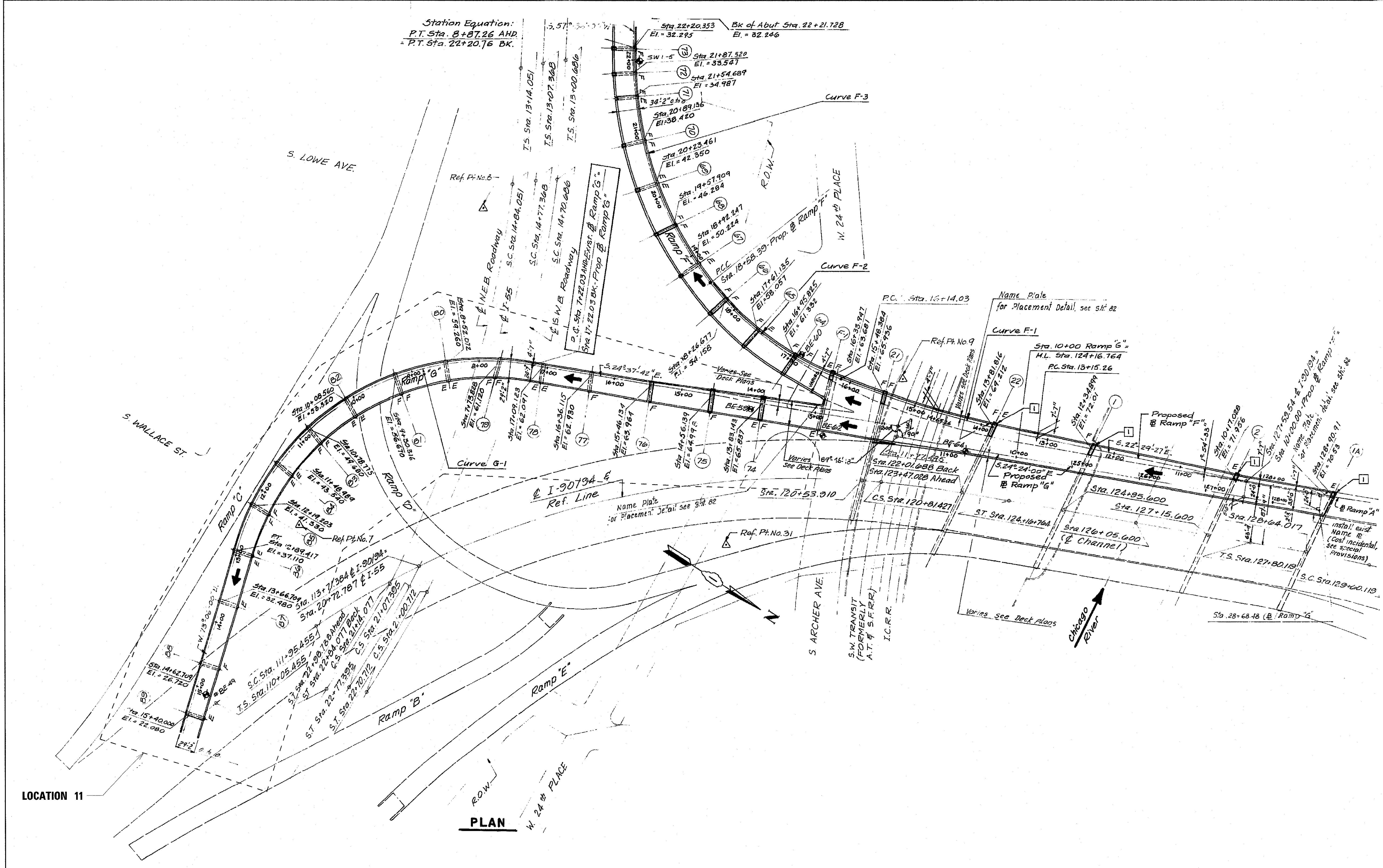
SECTION d - d

FIXED BEARING SCHEDULE							
MARK		DIMENSIONS					REMARKS
		A	B	C	D	E	
F		4"	2'-3"	11½"	1'-3"	5½"	Typical for 16" Flange

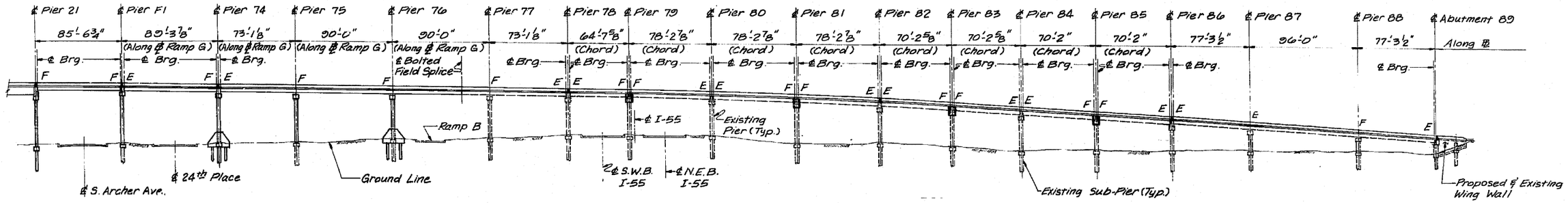
FIXED BEARING DETAILS

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIXED BEARING DETAILS – LOCATION 10 STRUCTURE NO. 016-1062		
		DRAWN - AMR	REVISED -				
	PLOT SCALE = 1.2000 ' / IN.	CHECKED - JMH	REVISED -				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 12 OF 12 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	147
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			



FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN – LOCATION 11 STRUCTURE NO. 016-1050	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -			94	2010-127-BP	COOK	160	148
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -			CONTRACT NO. 60N01				
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 1 OF 9 SHEETS / STA. / TO STA.	ILLINOIS FED. AID PROJECT				

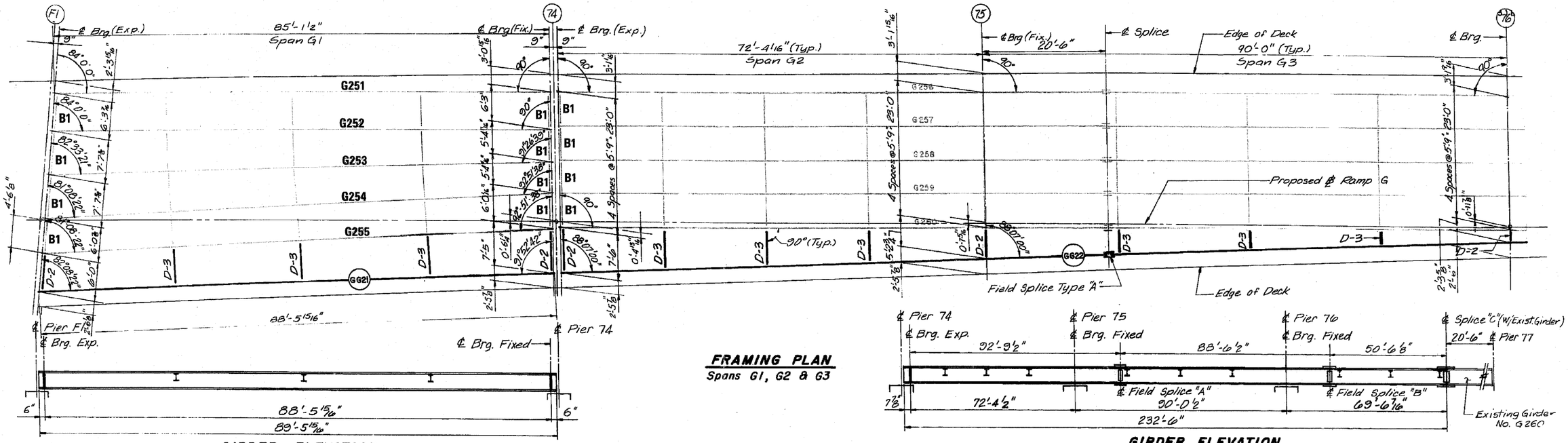


ELEVATION – RAMP G

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**GENERAL ELEVATION – LOCATION 11 STRUCTURE NO. 016–1050**
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS | SHEET NO. 2 OF 9 SHEETS | STA. | TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	149
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

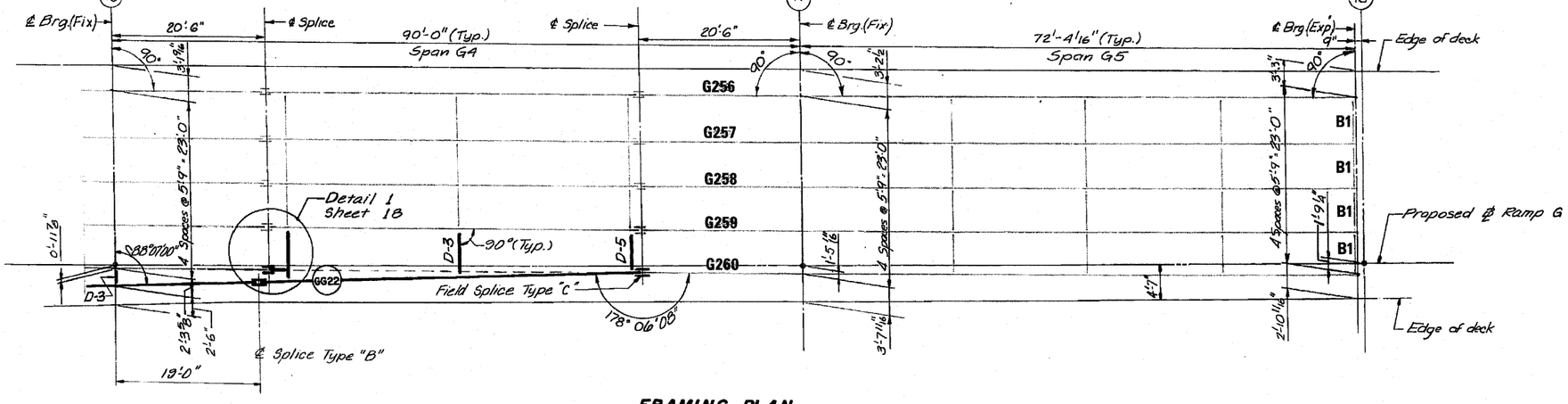
$FILE$



GIRDER ELEVATION
Girder GG21
(Looking East)

GIRDER ELEVATION
Girder GG22
(Looking East)

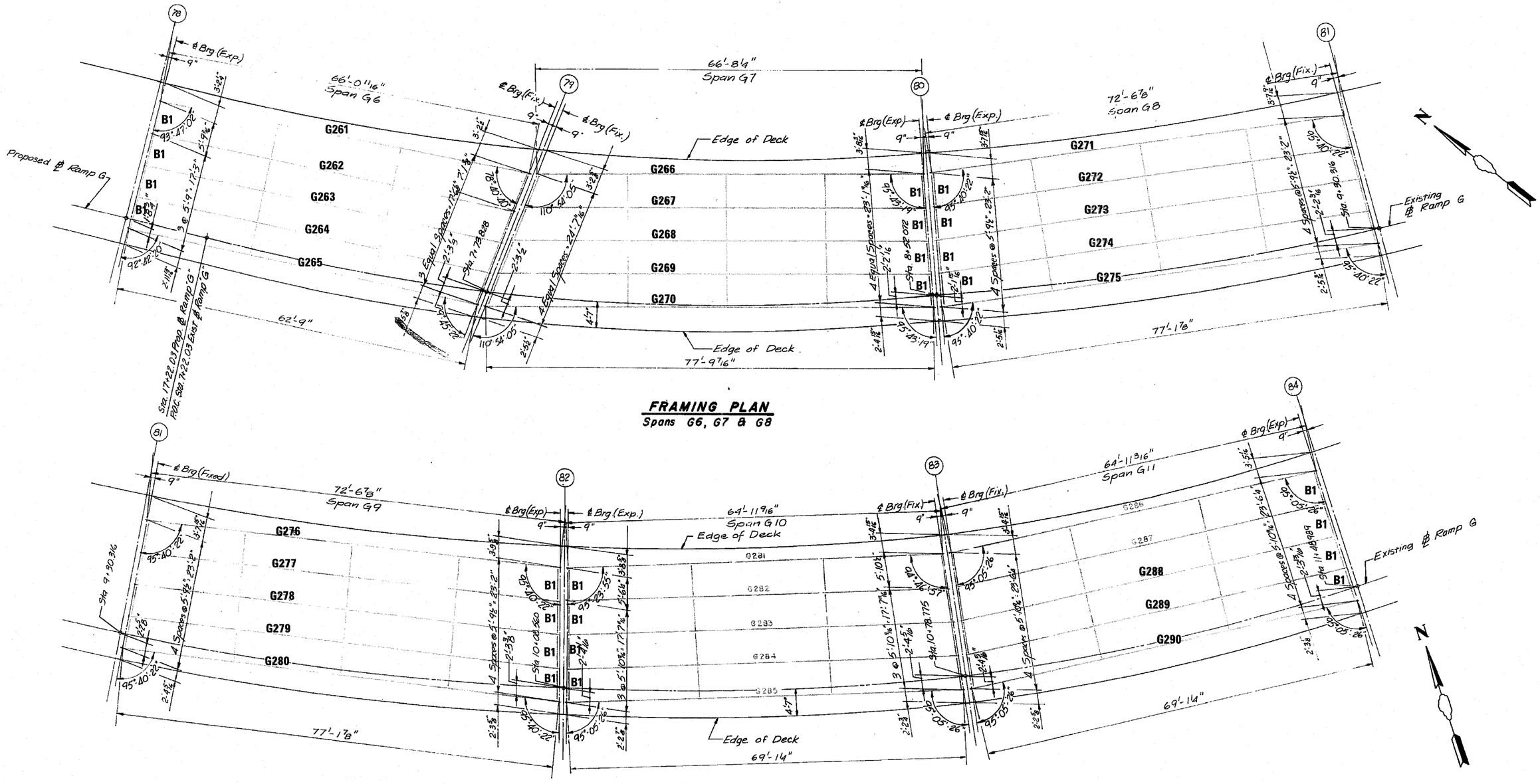
FRAMING PLAN
Spans G1, G2 & G3



FRAMING PLAN
Spans G4 & G5

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN SPANS G1 TO G5 – LOCATION 11 STRUCTURE NO. 016-1050			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -					94	2010-127-BP	COOK	160	150
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -							CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS	SHEET NO. 3 OF 9 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT		

$FILE$

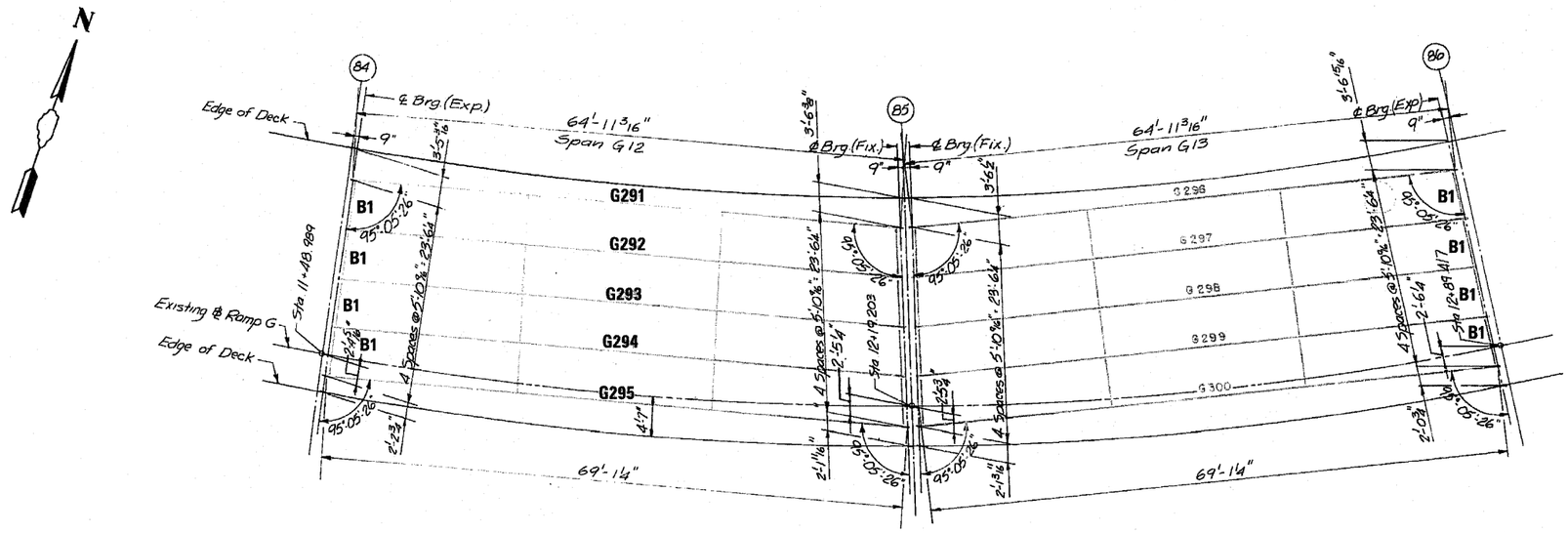


FRAMING PLAN
Spans G6, G7 & G8

FRAMING PLAN
Spans G9, G10 & G11

FILE NAME =	USER NAME = rgoll	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS**	**FRAMING PLAN SPANS G6 TO G11 – LOCATION 11**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - AMR	REVISED -	**DEPARTMENT OF TRANSPORTATION**	**STRUCTURE NO. 016-1050**	94	2010-127-BP	COOK	160	151
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -					CONTRACT NO. 60N01		
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		SCALE: NTS / SHEET NO. 4 OF 9 SHEETS / STA. / TO STA.			ILLINOIS FED. AID PROJECT		

FILE

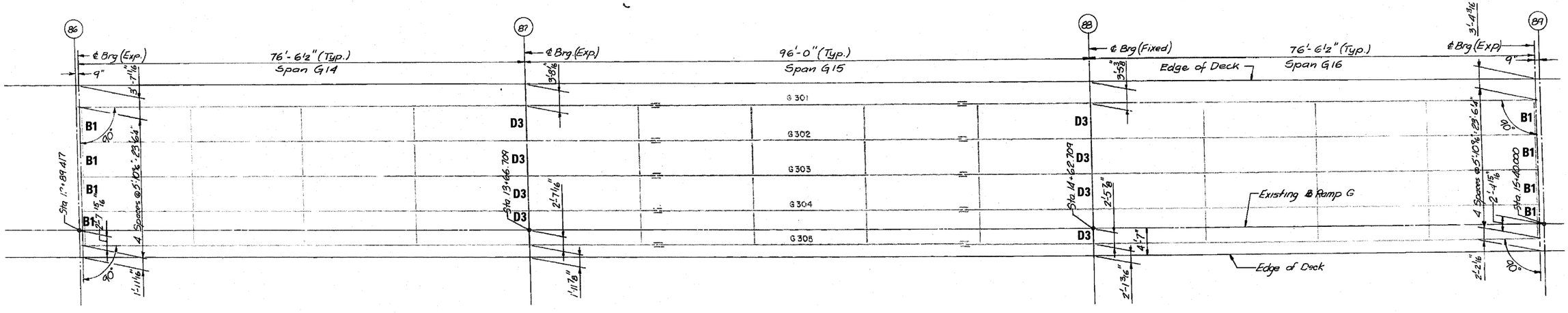


FRAMING PLAN
Spans G12 & G13

GIRDER SCHEDULE

MARK	SECTION	COVER PLATES	
		SIZE	LENGTH
G251	36WF260	15" x 13/16"	60'-0
G252	36WF260	15" x 7/8"	59'-0
G253	36WF260	15" x 3/4"	61'-0
G254	36WF260	15" x 3/4"	62'-0
G255	36WF280	15" x 15/16"	62'-0
G261	36WF150	11" x 11/16"	48'-0
G262	36WF135	11" x 11/16"	48'-6
G263, G264	36WF135	11" x 1/2"	47'-0
G265	36WF150	11" x 7/8"	46'-0
G266	36WF160	11" x 9/16"	47'-0
G267	36WF150	11" x 7/8"	50'-0
G268	36WF170	11" x 9/16"	51'-0
G269	36WF182	11" x 7/8"	52'-6
G270	36WF230	15" x 15/16"	57'-0
G271, G276	36WF182	11" x 3/4"	51'-0
G272, G273, G277, G278	36WF182	11" x 9/16"	52'-6
G274, G279	36WF182	11" x 11/16"	53'-0
G275, G280	36WF230	15" x 3/4"	56'-6
G281	36WF150	11" x 5/8"	45'-6
G282	36WF135	11" x 9/16"	48'-0
G283, G284	36WF135	11" x 3/4"	52'-0
G285	36WF182	11" x 3/4"	50'-0
G286, G291, G296	36WF150	11" x 9/16"	46'-0
G287-288-292-293-297 & 298	36WF135	11" x 11/16"	50'-0
G289, G294, G299	36WF135	11" x 3/4"	52'-0
G290, G295, G300	36WF182	11" x 3/4"	49'-0

Note: Cover plates on bottom flanges only.

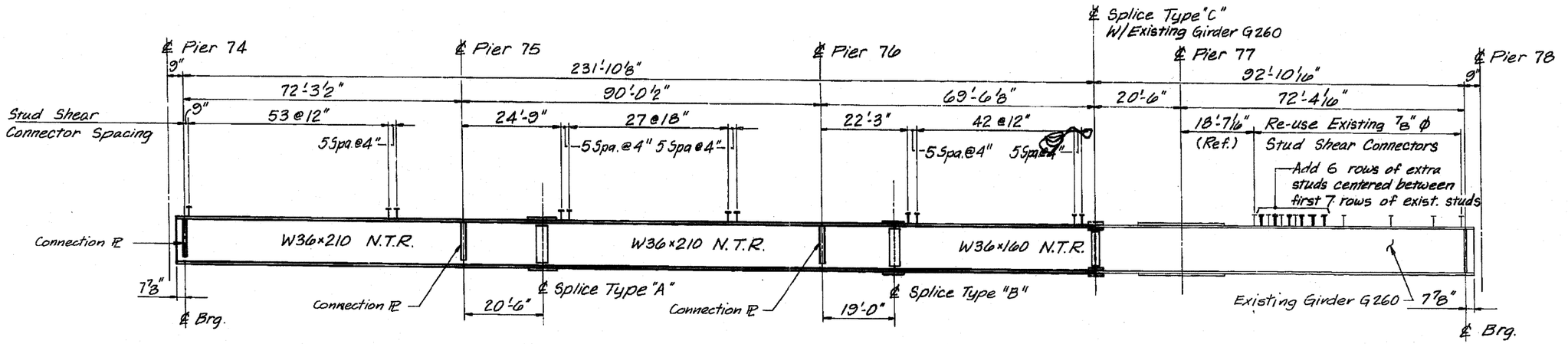


FRAMING PLAN
Spans G14, G15 & G16

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**FRAMING PLAN SPANS G12 TO G16 & GIRDER SCHEDULE – LOCATION 11 STRUCTURE NO. 016-1050**
		DRAWN - AMR	REVISED -		
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -		SCALE: NTS | SHEET NO. 5 OF 9 SHEETS | STA. | TO STA.
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -		

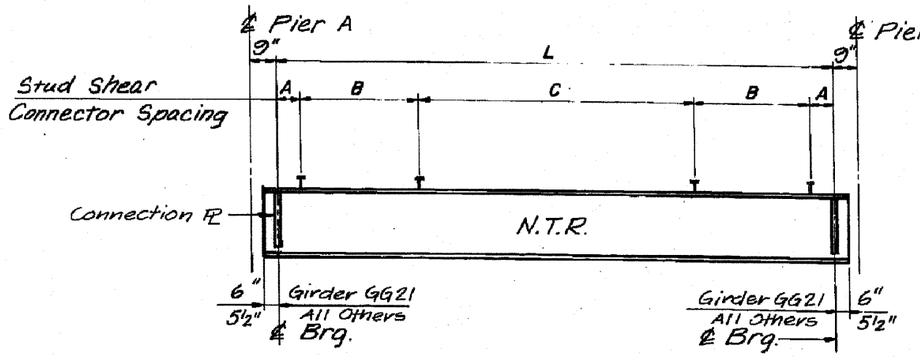
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	152
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



WIDE FLANGE BEAM GG22 ELEVATION — SPANS G2, G3 & G4

(Looking East)

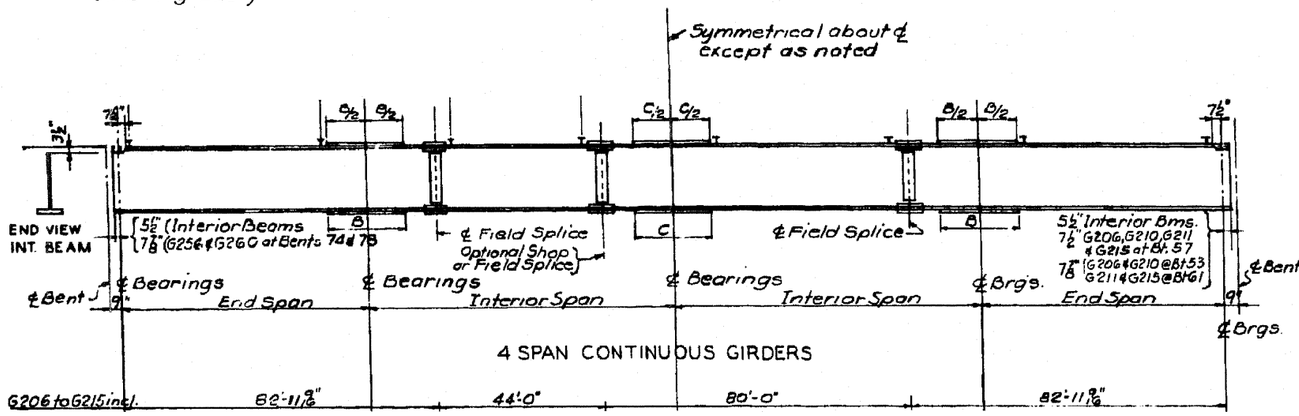


WIDE FLANGE BEAM ELEVATION

GIRDER GG21

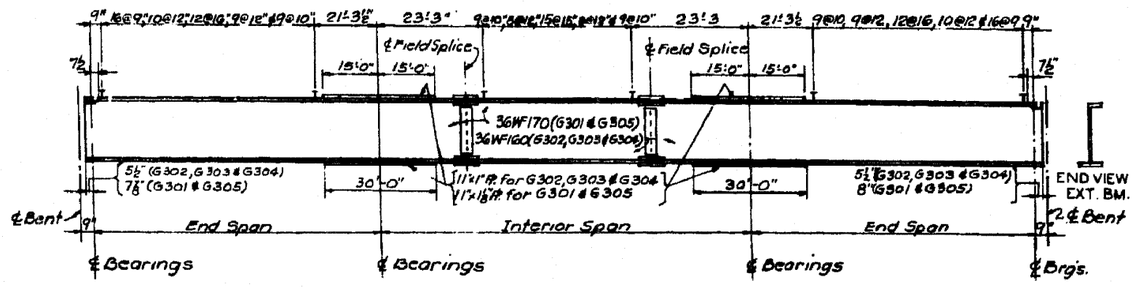
WIDE FLANGE BEAM GG21

SPAN	BEAM	BEAM SIZE	L (℄ BRG. TO ℄ BRG)
G1	GG21	W36×300	88'-5 15/16"



SCHEDULE OF 4 SPAN CONTINUOUS GIRDERS - WF BEAMS

GIRDER NUMBER	BEAM SIZE	COVER PLATE B	COVER PLATE C
G256 and G260	36WF160	11"×1"×22'-0"	11"×1"×24'-0"



3 SPAN CONTINUOUS GIRDERS

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

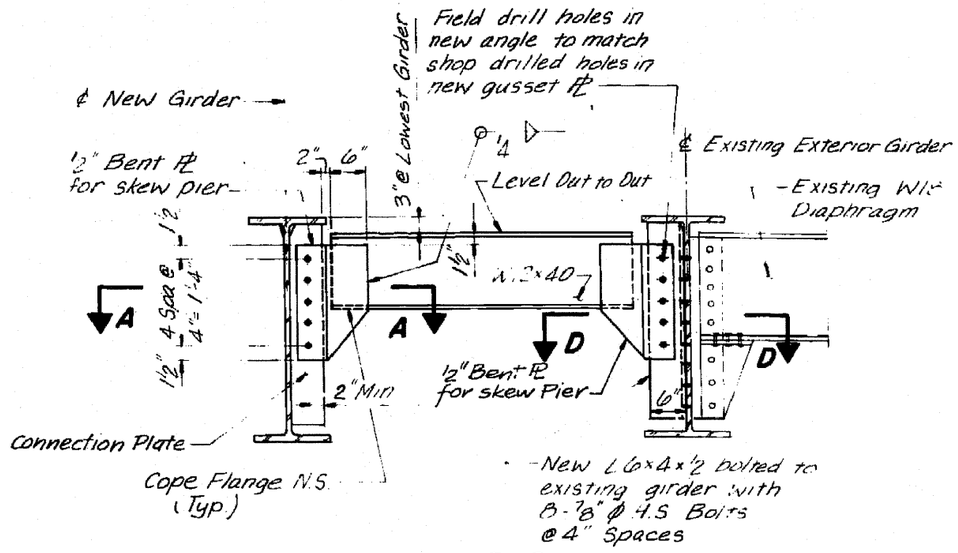
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER ELEVATIONS – LOCATION 11
STRUCTURE NO. 016–1050

SCALE: NTS | SHEET NO. 6 OF 9 SHEETS | STA. | TO STA.

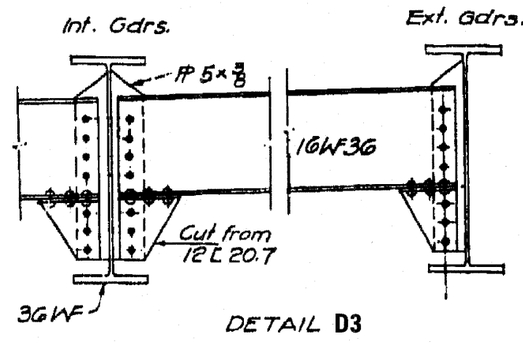
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	153
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

#FILEL$

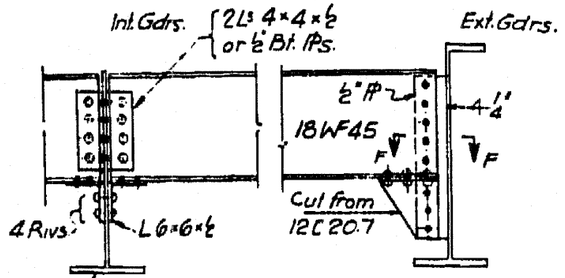


D-2

END DIAPHRAGM

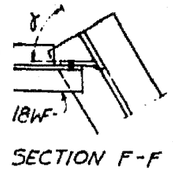


DETAIL D3



DETAIL B1

Note - Where Angle α is less than 60° use exterior connection detail for Interior Girders



SECTION F-F

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -
		DRAWN - AMR	REVISED -
	PLOT SCALE = 1.0000 ' / IN.	CHECKED - JMH	REVISED -
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -

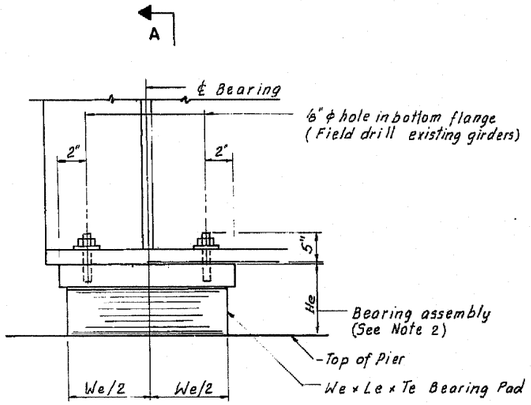
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS – LOCATION 11
STRUCTURE NO. 016-1050

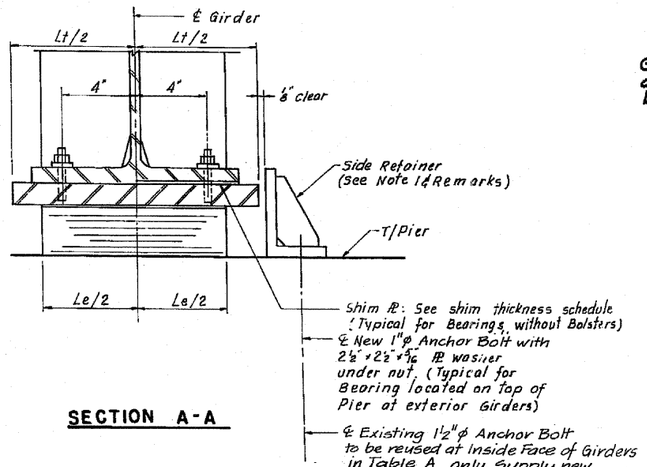
SCALE: NTS | SHEET NO. 7 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	154
		CONTRACT NO. 60N01		
	ILLINOIS FED. AID PROJECT			

$FILE$



TYPICAL ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXPANSION BEARING

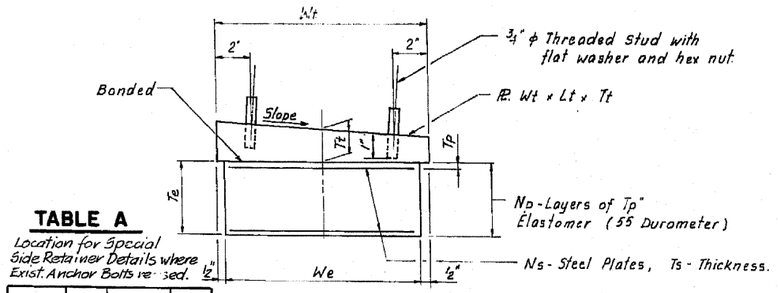
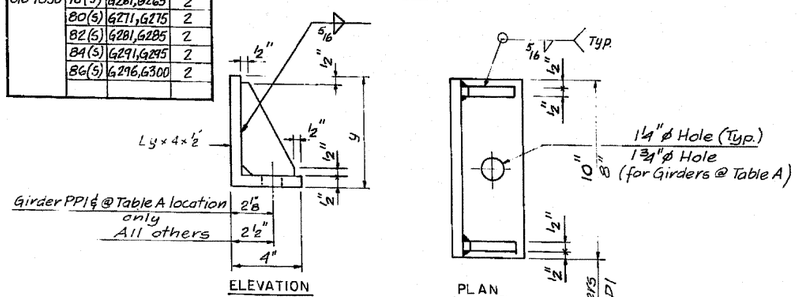


TABLE A

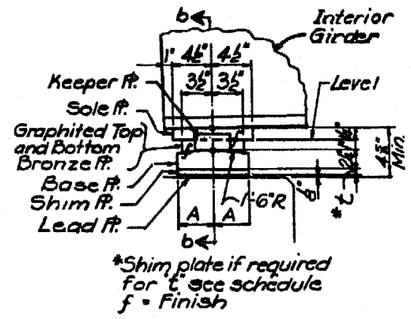
Location for Special Side Retainer Details where Exist. Anchor Bolts reused.

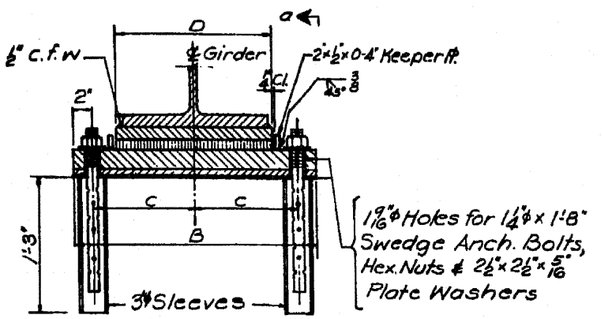
STRUC. NO.	PIER NO.	GIRDER NO.	NO. REQ'D
016-1050	78(S)	G261, G265	2
	80(S)	G271, G275	2
	82(S)	G281, G285	2
	84(S)	G291, G295	2
	86(S)	G296, G300	2

BEARING ASSEMBLY



SIDE RETAINER DETAILS





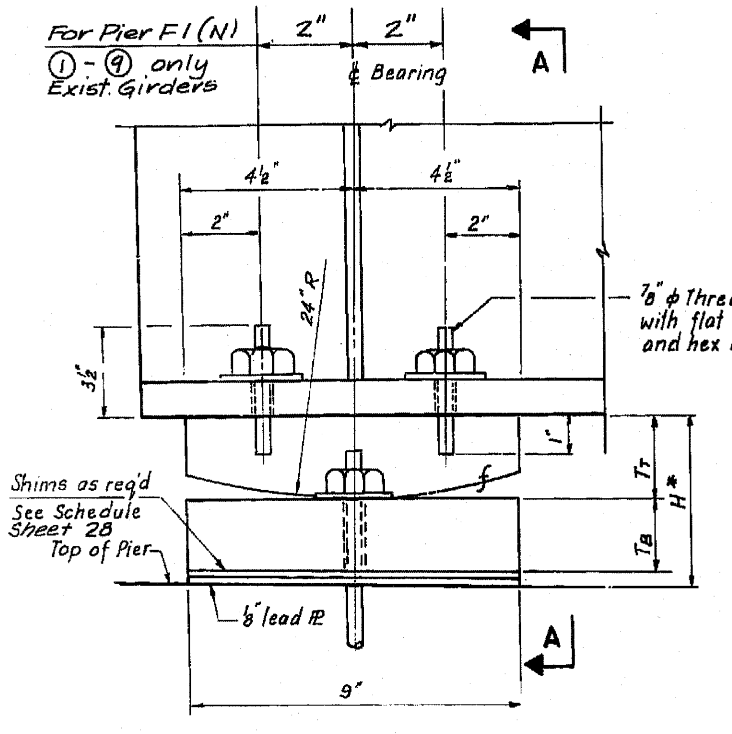
EXPANSION BEARING DETAILS
Scale 1½"=1'-0"

EXPANSION BEARING SCHEDULE						
MARK		DIMENSIONS A	B	C	D	REMARKS
E1		4"	2'-3"	11½"	1'-5½"	Typical for 16" Flange
E2		4"	1'-10½"	9¼"	1'-1"	Typical for 12" Flange
87		6"	1'-10½"	9¼"	1'-1"	

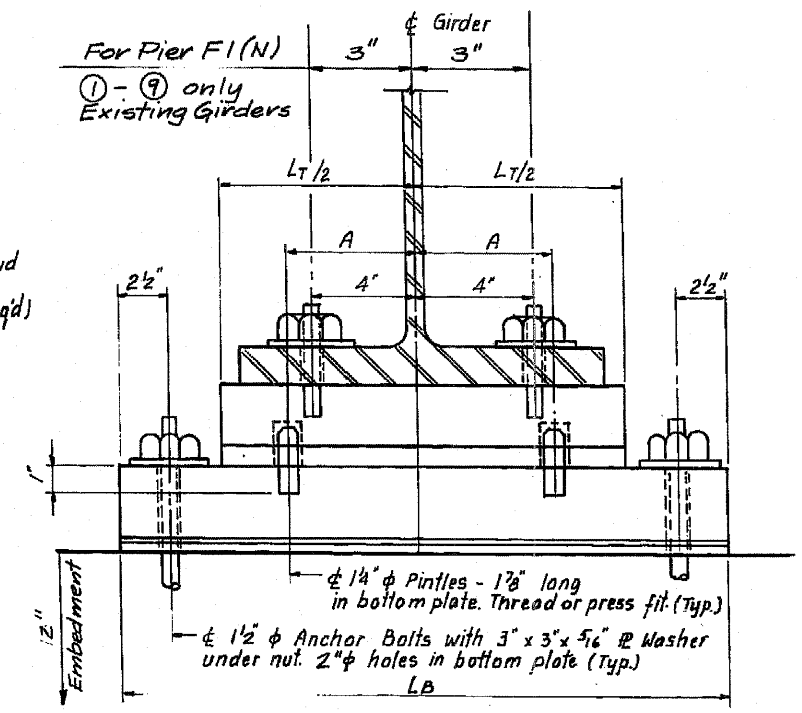
Note: Use typical bearings mark E1 and E2 unless otherwise noted.

TYPE I ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE	PIER LOCATION	GIRDER NO.	We	Le	SERIES	TOP PLATE Tt	Wt	Lt	SLOPE %	y	He	NO. REQ'D
016-1050	F1(S)	GG21	10	14	a	2'8	11	16⅝	1.25	6	4 13/16	1
	74(S)	GG22	9	12	a	2⅜	10	14	1.21	6	4⅝	1
	78(S)	G261	9	12	a				2.65	6		1
	78(S)	G262	9	12	a				226	6		1
	78(S)	G263	9	12	a				2.04	6		1
	78(S)	G264	9	12	a				1.79	6		1
	78(S)	G265	9	12	a	2⅜	10	14	1.43	6	4⅝	1
	80(S)	G271-G274	9	12	a	2⅜	10	14	3.48	6	4⅝	4
	80(S)	G275	9	12	a	2⅜	10	16½	3.48	6	4⅝	1
	82(S)	G281-G285	9	12	a	2⅜	10	14	5.44	6	4⅜	5
	84(S)	G291-G295	9	12	a	2⅜	10	14	6.32	6	4⅝	5
	86(N)	G296-G300	9	12	a	2⅜	10	14	6.06	6	4⅝	5



ELEVATION



SECTION A - A

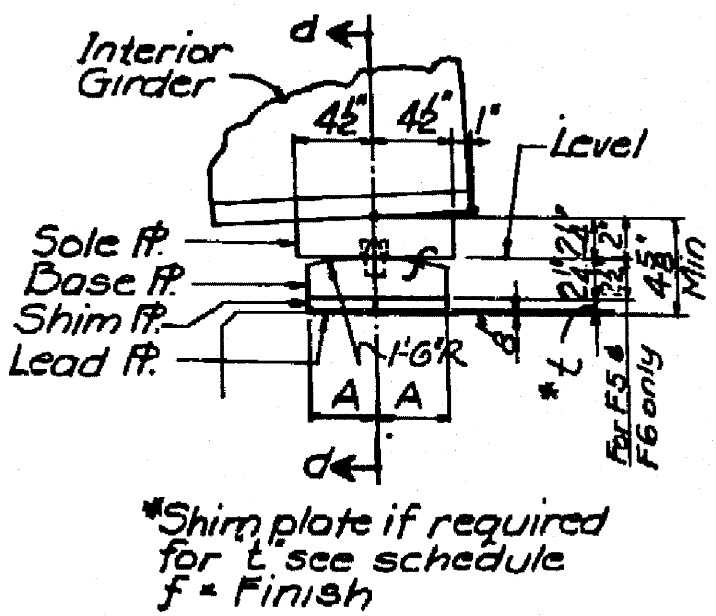
* H - height does not includes Shim ℞.

FIXED BEARING - TYPE F1

f = Surface finish shall have ANSI surface roughness value not exceeding 250.

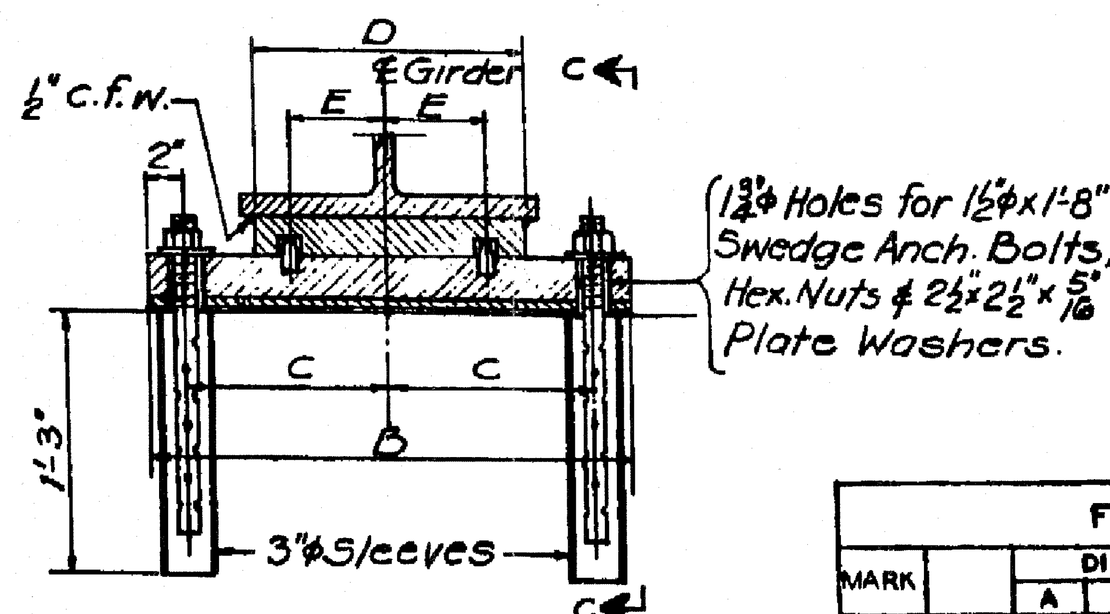
FIXED BEARING SCHEDULE - TYPE F1

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	BRG. TYPE	NO. REQ'D	T_T "	L_T"	T_B "	L_B"	A"	H"
016-1050	74 (N)	GG21	F1	1	2½	17	2	27	4½	4⅝



*Shim plate if required for "t" see schedule
f = Finish

SECTION c - c



SECTION d - d

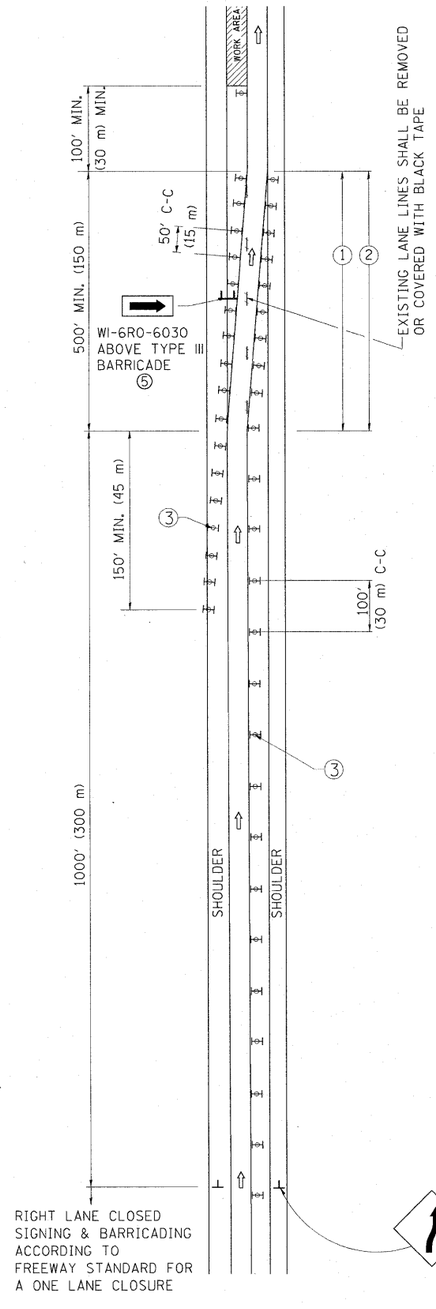
FIXED BEARING DETAILS

FIXED BEARING SCHEDULE

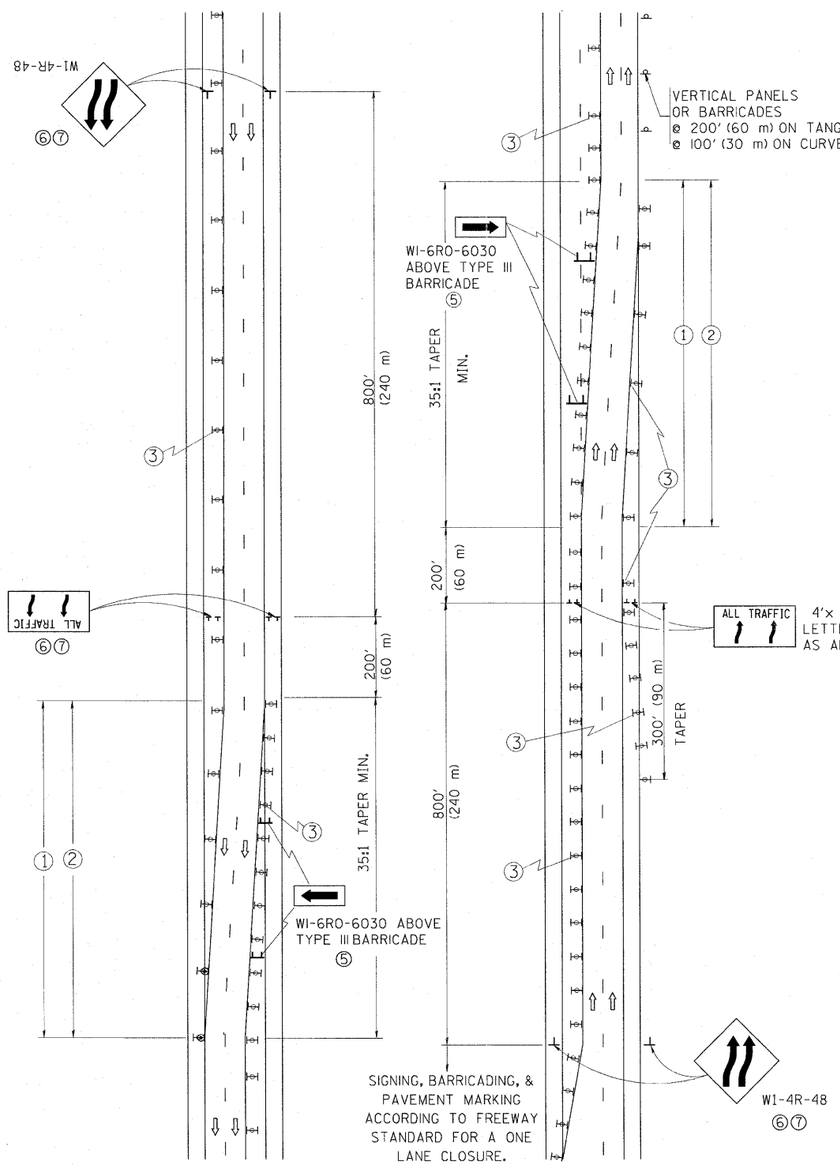
MARK		DIMENSIONS A	B	C	D	E		REMARKS
F		4"	2'-3"	11½"	1'-3"	5½"		Typical for 16" flange

FILE NAME =	USER NAME = rgall	DESIGNED - AMR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIXED BEARING DETAILS - LOCATION 11 STRUCTURE NO. 016-1050	F.A.I. RTE. 94	SECTION 2010-127-BP	COUNTY COOK	TOTAL SHEETS 160	SHEET NO. 156
		DRAWN - AMR	REVISED -					CONTRACT NO. 60N01		
	PLOT SCALE = 1.0000 '/ IN.	CHECKED - JMH	REVISED -		SCALE: NTS · SHEET NO. 9 OF 9 SHEETS · STA. · TO STA.		ILLINOIS FED. AID PROJECT			
	PLOT DATE = 3/28/2011	DATE - MARCH, 2011	REVISED -							

SINGLE LANE WEAVE



MULTI-LANE WEAVE



GENERAL NOTES

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 24 HOURS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON NCHRP 350 TEMPORARY SIGN SUPPORTS. TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

ALL TRAFFIC 4'x 8' (1.2 m x 2.4 m); 1 (25) BORDER; 10 (250) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

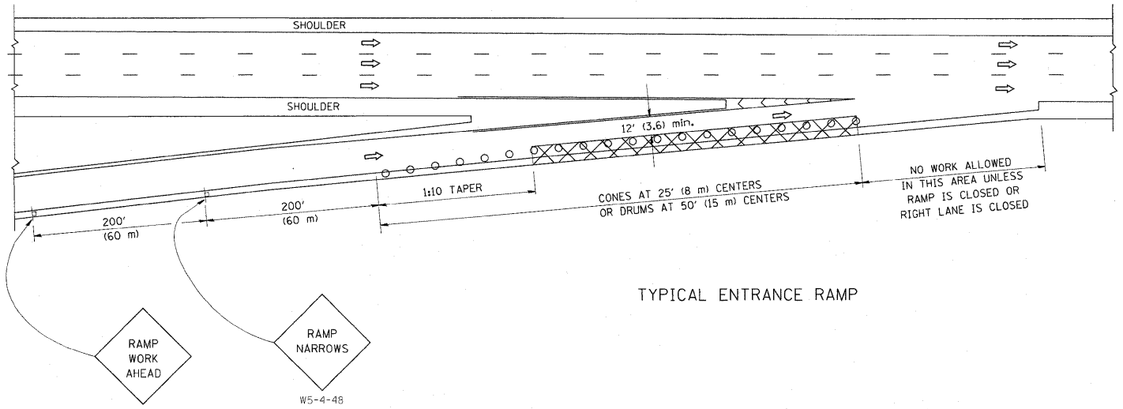
W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

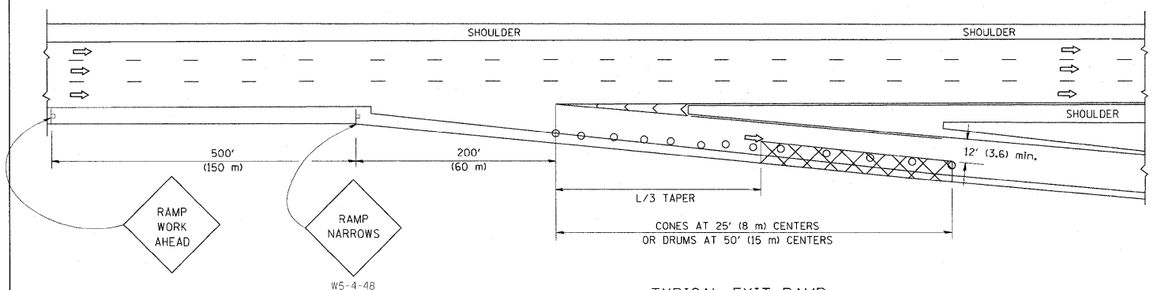
FILE NAME = W:\diststd\22x34\ts09.dgn	USER NAME = leyse	DESIGNED - DWS	REVISED - JAF 01-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE**
		DRAWN -	REVISED - JAF 02-06		
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - SPB 01-07		
	PLOT DATE = 1/26/2010	DATE - 02-87	REVISED - SPB 12-09		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	157
	TC-09	CONTRACT NO. 60N01		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

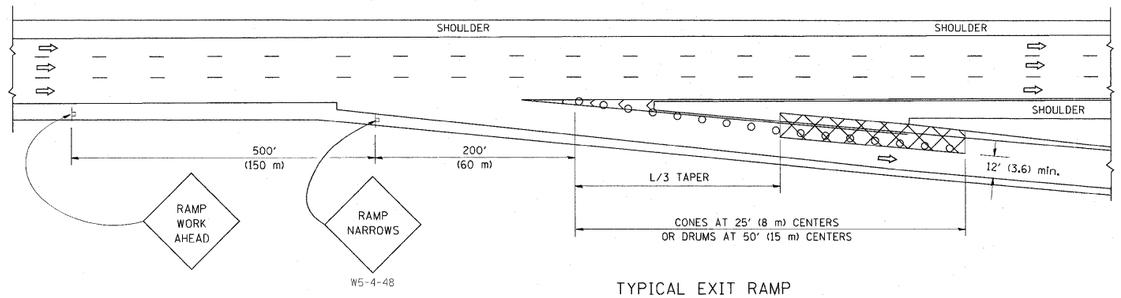
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

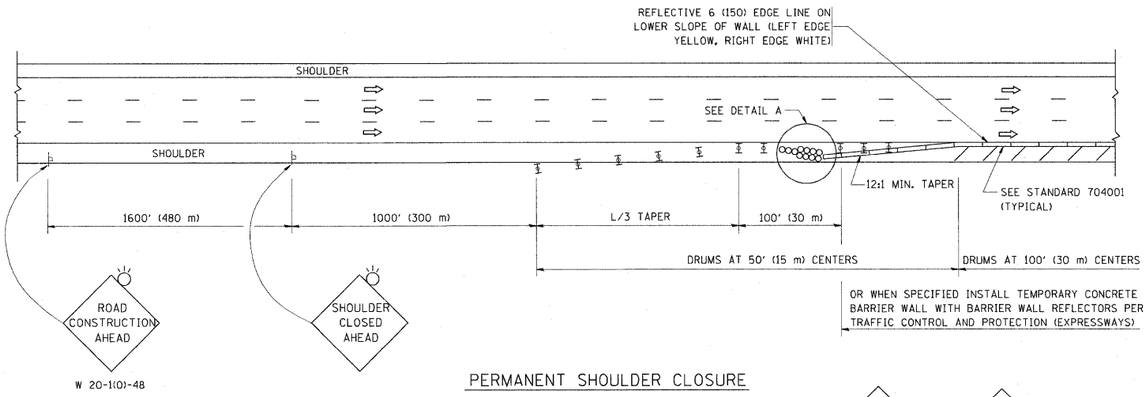
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER:	METRIC L=0.65(W)(S)	ENGLISH L=(W)(S)

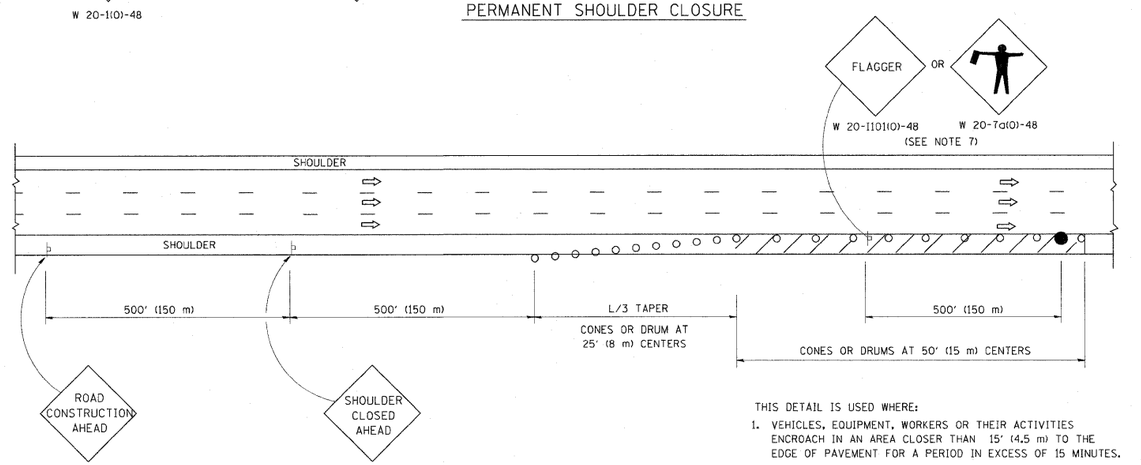
W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



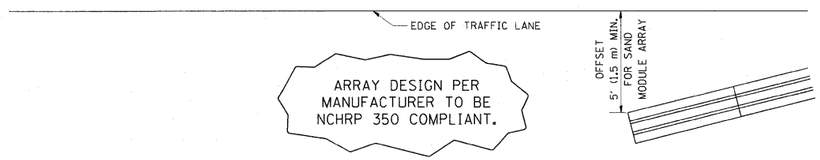
PERMANENT SHOULDER CLOSURE



THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

DAYTIME SHOULDER CLOSURE



DETAIL "A"
IMPACT ATTENTUATOR, TEMPORARY
(SEE NOTE 5)

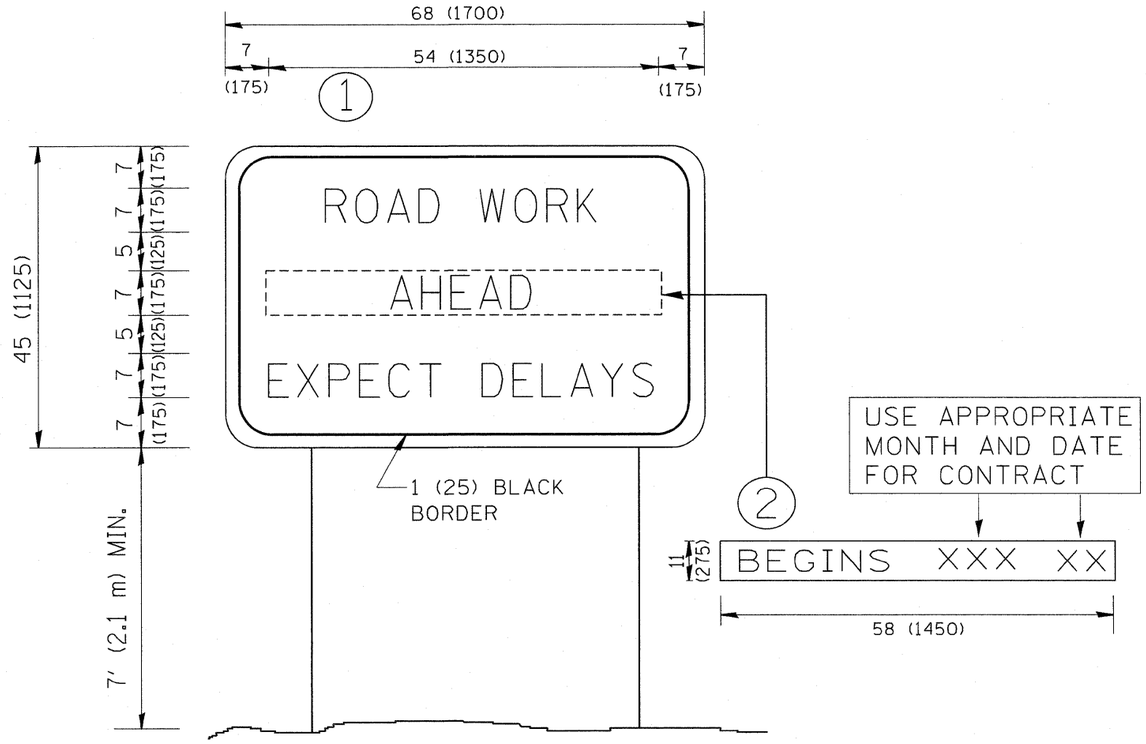
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc17.dgn	USER NAME = leyso	DESIGNED -	REVISED - 04-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES
		DRAWN - D.W.S.	REVISED - J.A.F. 12-06		
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - S.P.B. 01-07		
	PLOT DATE = 1/26/2010	DATE - 11-96	REVISED - S.P.B. 12-09		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	158
	TC-17	CONTRACT NO. 60N01		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		



NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN (1) WITH INSTALLED PANEL (2) ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL (2) SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\diststd\22x34\tc22.dgn	USER NAME = gaglianobt	DESIGNED -	REVISED - R. MIRS 09-15-97
		DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 02-02-99
	PLOT DATE = 1/4/2008	DATE -	REVISED - C. JUCIUS 01-31-07

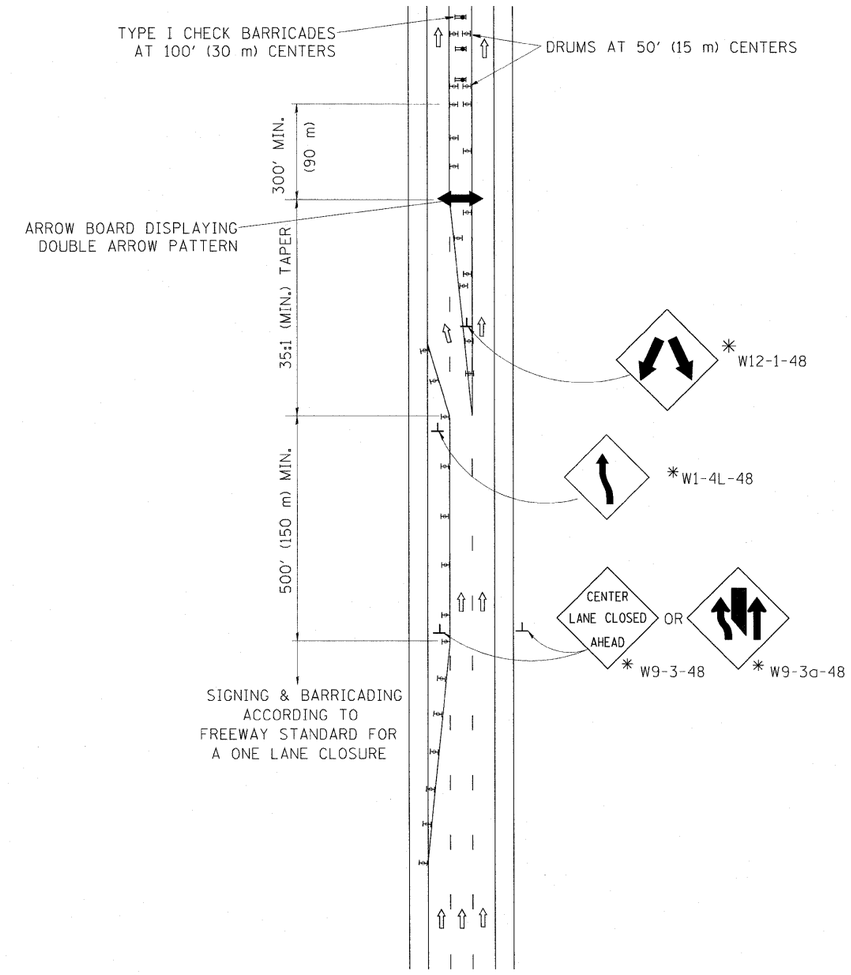
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD INFORMATION SIGN

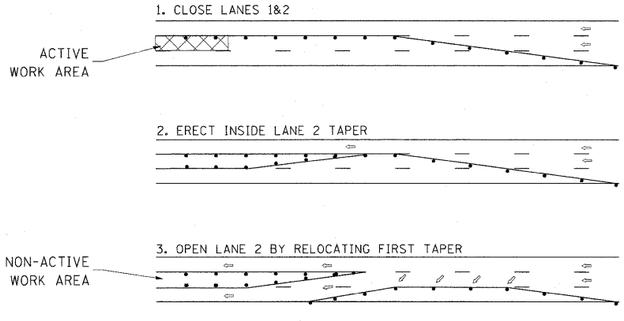
SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	159
	TC-22	CONTRACT NO. 60N01		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

CENTER LANE CLOSURE



INSTALLATION SEQUENCE

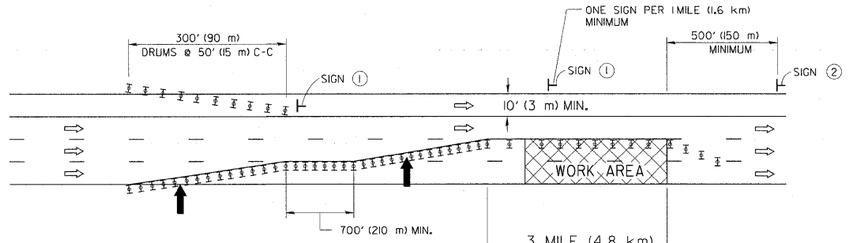


NOTES

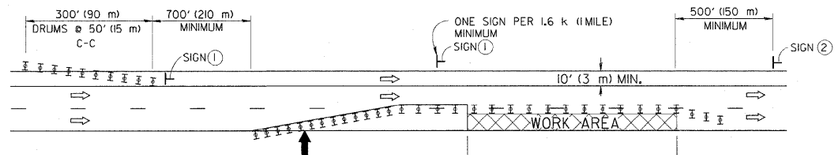
1. DRUMS WITH STEADY BURN LIGHTS SHALL BE USED AT 50' (15 m) CENTERS ON ALL TAPERS AND TANGENTS IN ADVANCE OF WORK AREA.
2. CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.
3. CENTER LANE CLOSURE CONFIGURATION IS NOT TO BE USED WITH WORKERS PRESENT.

SHOULDER LANE

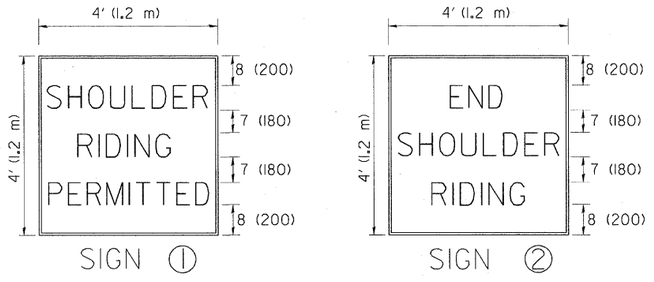
NOTE: CLOSURE SHALL BE USED ONLY FOR OPERATIONS LASTING 72 HOURS OR LESS.



SIGNING AND BARRICADING ACCORDING TO FREEWAY STANDARD FOR A TWO LANE CLOSURE



SIGNING AND BARRICADING ACCORDING TO FREEWAY STANDARD FOR A ONE LANE CLOSURE



6 (150) SERIES "C" LEGEND
BLACK LEGEND
WHITE REFLECT. BACKGROUND
1 (25) BORDER

SYMBOLS

- DIRECTION OF TRAFFIC
- ARROWBOARD
- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT *
- TYPE II BARRICADE, OR DRUM WITH MONO-DIRECTIONAL STEADY BURN LIGHT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

* ALL SIGNS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).

FILE NAME = W:\diststd\22x34\tc25.dgn	USER NAME = leyso	DESIGNED -	REVISED - J.A.F. 04-03	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TRAFFIC CONTROL DETAILS FOR FREEWAY CENTER LANE CLOSURE SHOULDER LANE**
		DRAWN -	REVISED - S.P.B. 01-07		
	PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED - S.P.B. 12-09		SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.
	PLOT DATE = 1/26/2010	DATE -	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	2010-127-BP	COOK	160	160
	TC-25	CONTRACT NO. 60N01		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		