

Legend

- to be removed
- * New R Girder (For size and length see sheet D40)
- TYPE II-1
- Detail Number
- Retrosit
- Cross Frame at bottom Flange (See Sht. D48)

**PLAN-SPANS 11, 12 & 13 (S.B.)
- SPANS B12 & B13 (S.B.)**

Note:
Exact location of existing x-frame can be obtained from Shop drawings. (Available from state of Illinois Department of Transportation)

- End x-Frame, Type 2, See sheet SR 3. Vol. # 13 for detail.
- For Repair, Girder Web near Bearing Stiffener. See Sht. SR-5. Vol. # 13 for detail.

FILE NAME = I:\7290\7290.12 - Bridge Painting I11\CA000\4-016-1112 - Main\I11\37-016-1112.Fram 24.dgn

COLLINS ENGINEERS

USER NAME = tsheli	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

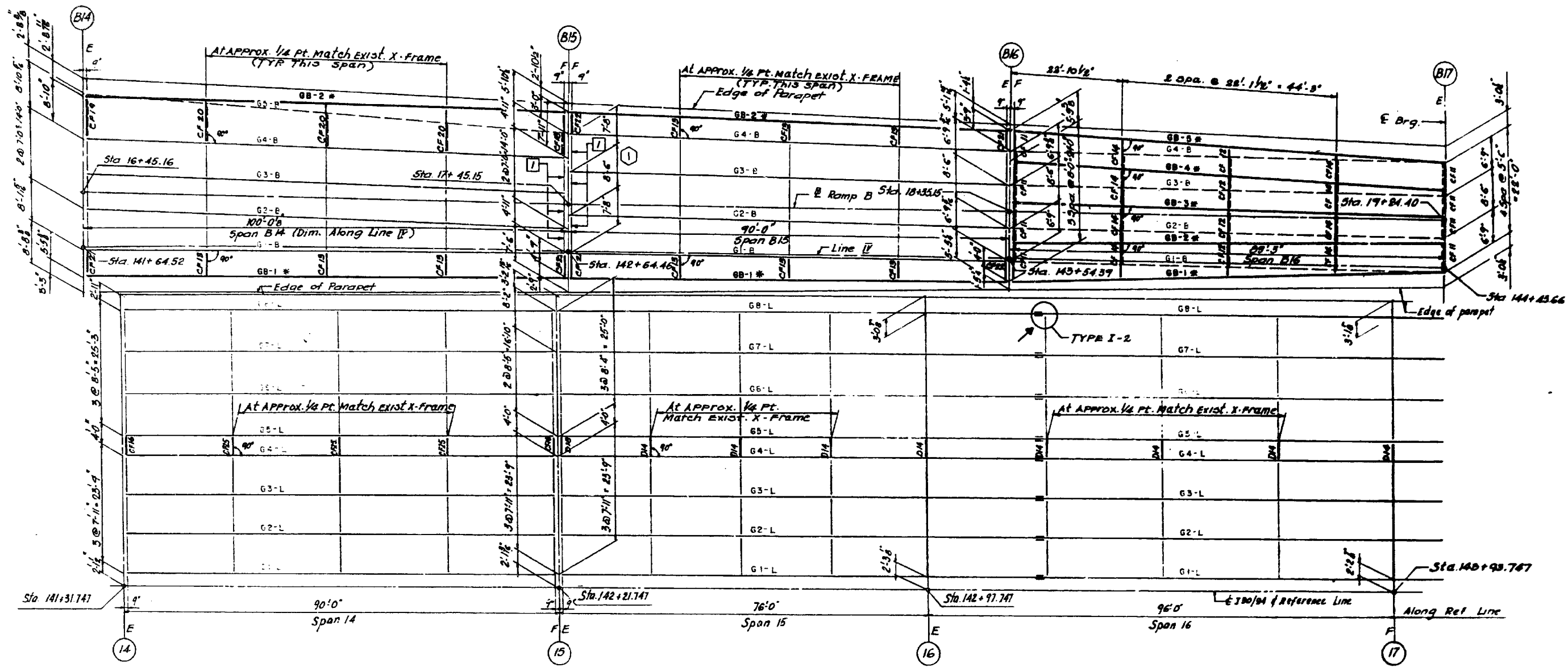
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SB WIDENING FRAMING PLAN, SPANS 11-13
LOCATION 4 - STRUCTURE NO. 016-1112**

SCALE: NTS

STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 101
			CONTRACT NO. 60V21	
ILLINOIS FED. AID PROJECT				



Legend

- to be removed
- * New R Girder (For size and length see sheet D40)
- ⚡ Denotes Existing Cracked Weld location at transverse Stiffener to underside of Top flange. (Typ.)
- TYPE I-1 Detail Number Fatigue Retrofit Repair Cross-Frame at Top Flange. (See Sht. D48)
- ① ② End x-Frame, Type 2, See sheet SR3, Vol #13 for detail.

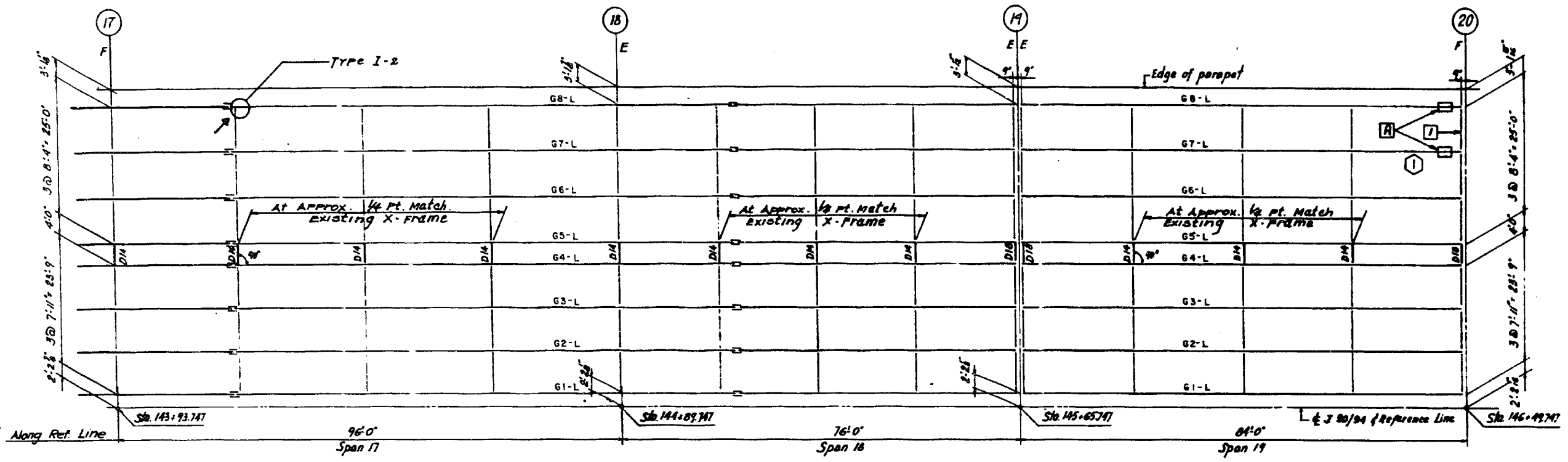
PLAN- SPANS B14, B15 & B16 (S.B.)
- SPANS 14, 15 & 16 (S.B.)

USER NAME = tsheh	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

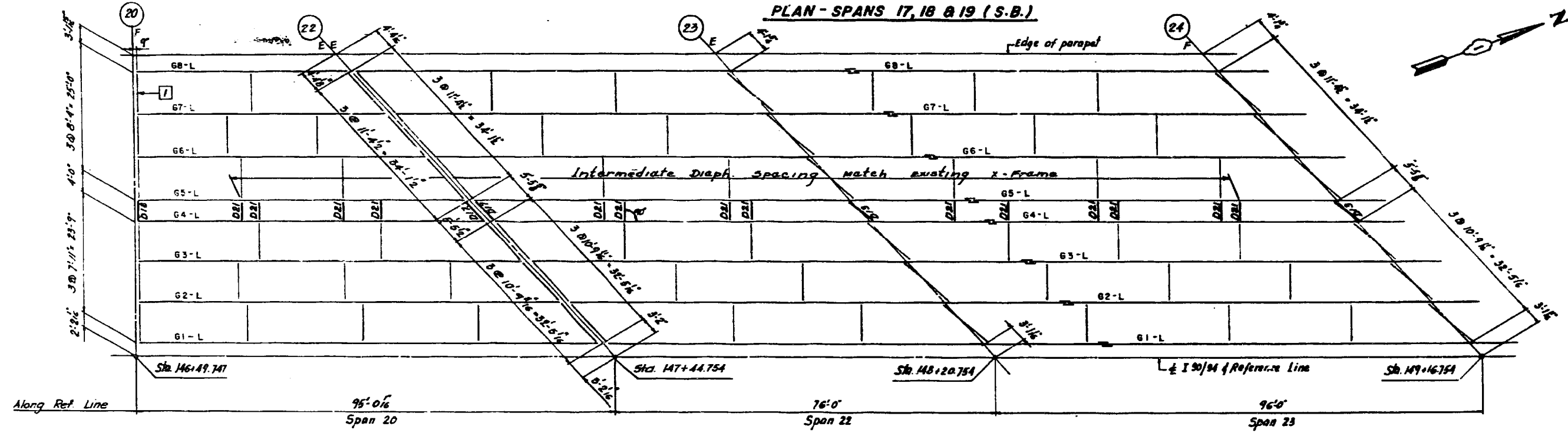
SB WIDENING FRAMING PLAN, SPANS 14-16	
LOCATION 4 - STRUCTURE NO. 016-1112	
SCALE: NTS	STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 102
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

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PLAN - SPANS 17, 18 & 19 (S.B.)



PLAN - SPANS 20, 22 & 23 (S.B.)

Legend

- ① End Cross Frame, Type 2, See sht SR-3, Vol #13 for detail.
- Ⓜ For Repair, Girder Web near Bearing Stiffener See sht. SR-5, Vol. #13 for detail.
- ⚡ Damages Existing cracked Weld location at transverse stiffener to underside of Top flange (Typ.)
- TYPE I-2 Detail Number Fatigue Retrofit Repair (cross-frame at top flange. (See Sht. D48))

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COLLINS ENGINEERS

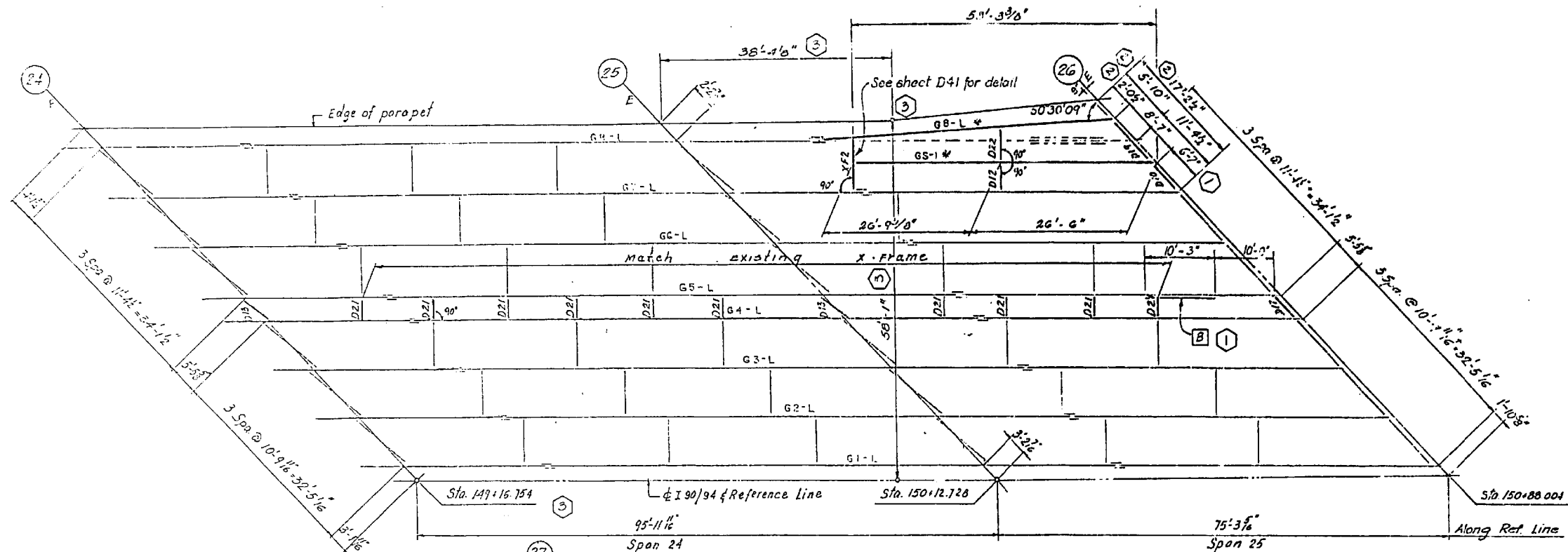
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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

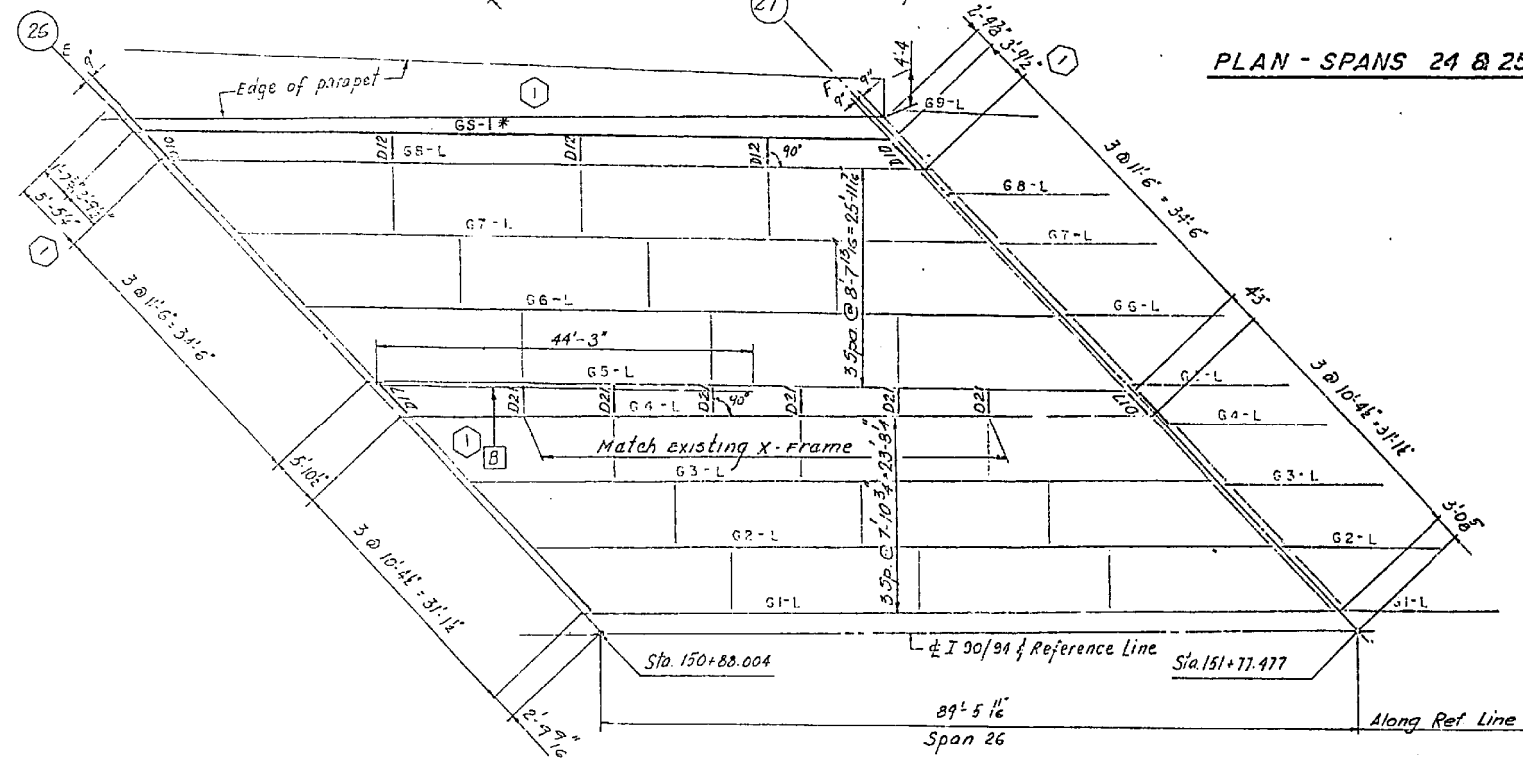
SB WIDENING FRAMING PLAN, SPANS 17-23
LOCATION 4 - STRUCTURE NO. 016-1112

SCALE: NTS STA. TO STA.

F.A.I. RTÉ. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 103
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

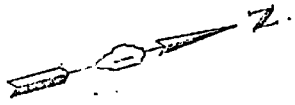


PLAN - SPANS 24 & 25 (S.B.)



PLAN - SPAN 26 (S.B.)

- Legend**
- to be removed
 - * New TP Girder (For size and length see sheet D40)
 - [B] Longitudinal Reinforcing Repair (side indicated) See Sht SR-5 Vol #13 for detail.



FILE NAME = I:\7290\7290.12 - Bridge\Painting\Illinois\40.016-1112 - Main\Ine\40.016-1112.Fram 27.dgn

COLLINS ENGINEERS

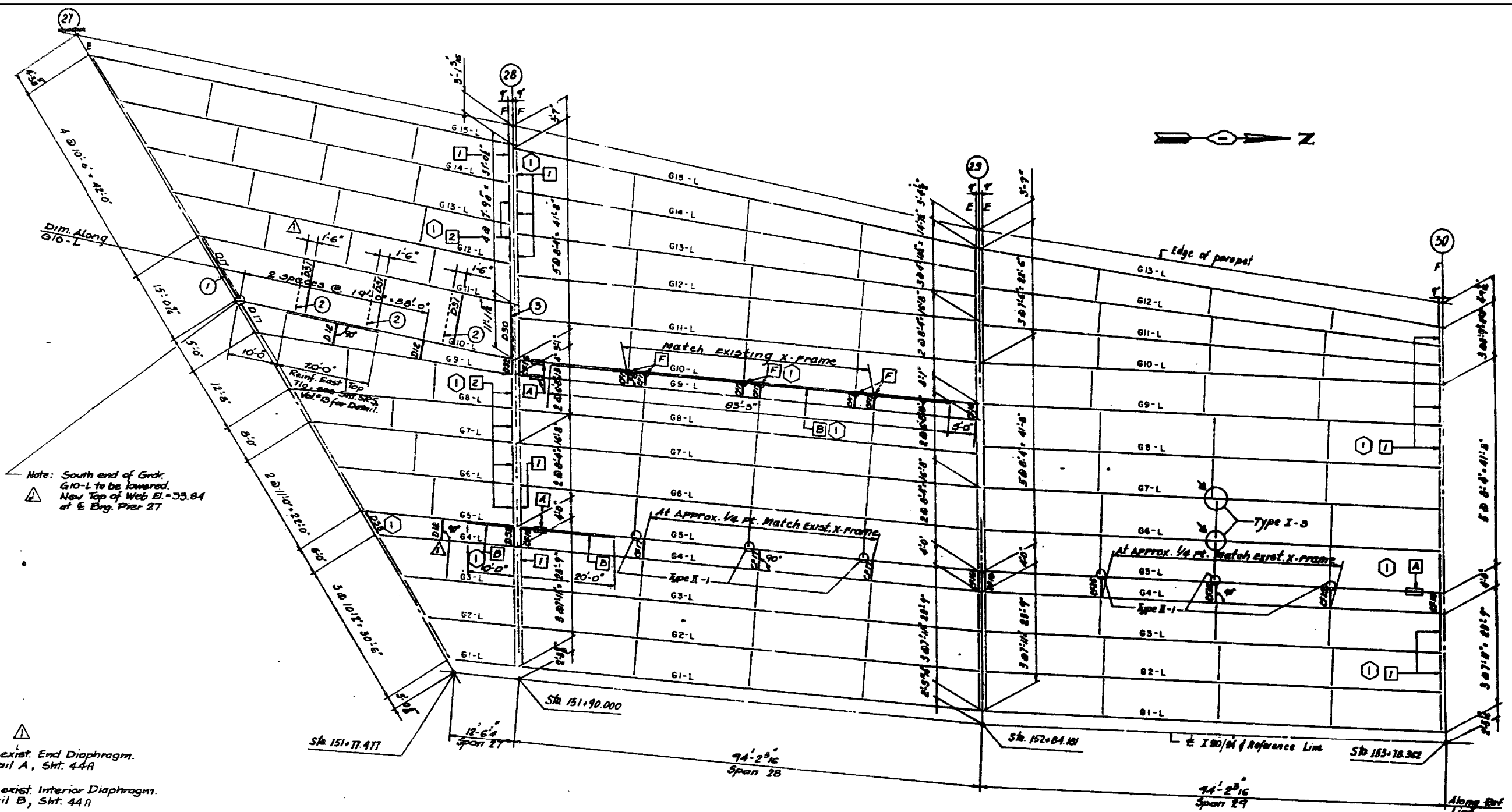
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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SB WIDENING FRAMING PLAN, SPANS 24-26
LOCATION 4 - STRUCTURE NO. 016-1112**

SCALE: NTS STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 104
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



Note: South end of Grd. G10-L to be lowered. New Top of Web El. = 33.84 at E. Brg. Pier 27

- ① - Remove exist. End Diaphragm. See Detail A, Sht. 44A
- ② - Remove exist. Interior Diaphragm. See Detail B, Sht. 44A
- ③ - Remove exist. End Diaphragm. See Detail C, Sht. 44A.

Contractor to furnish End Diaphragm D17 & D30, intermediate Diaphragm D31 between Girders G10-L & G11-L.

Legend

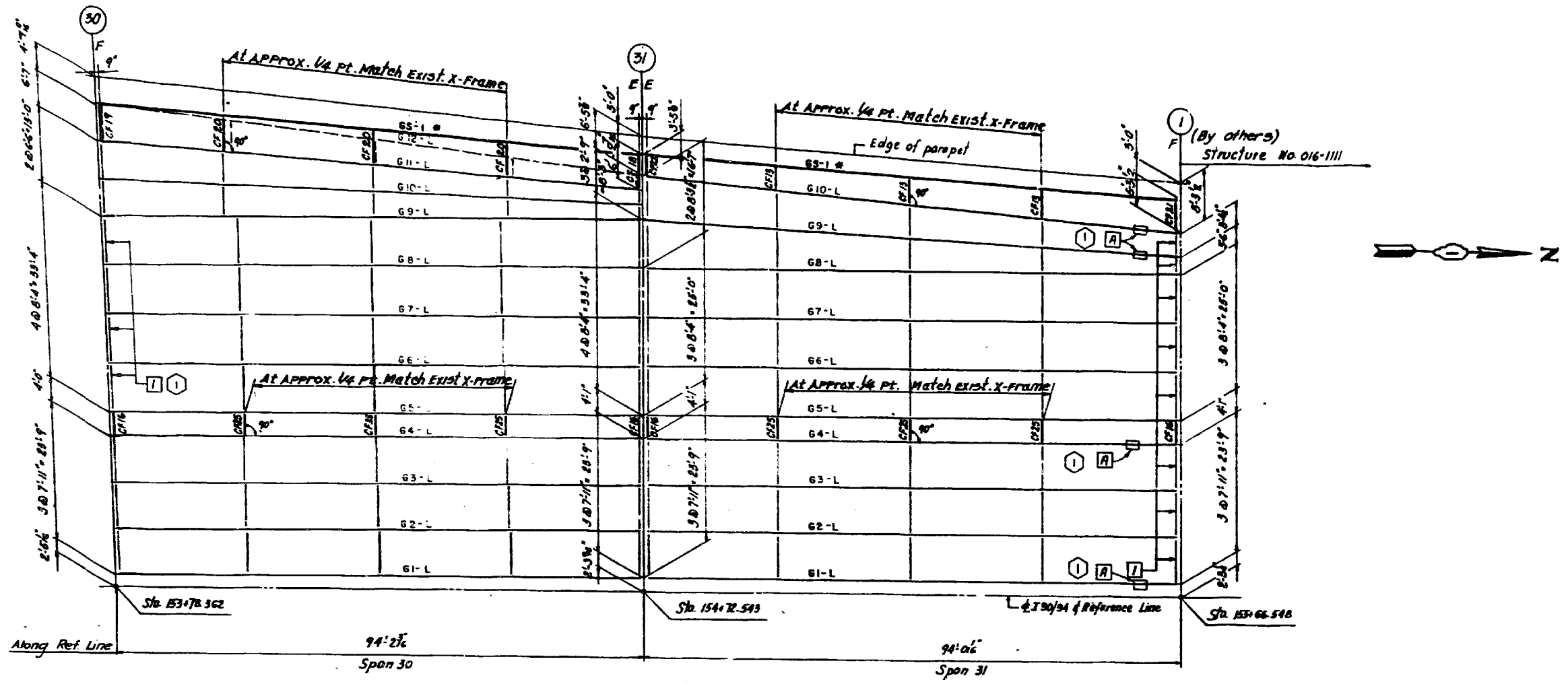
- ⚡ Denotes Existing Cracked Weld location at transverse Stiffener to underside of Top Flange (Typ)
- TYPE I, I - Detail Number
Fatigue Retrofit Repair cross-frame at Top Flange (See Sht. D48)
- ① - End X-Frame, Type 2, see Sht. SR3, Vol. 13 for Detail.
- ② - End Diaphragm D2, see Sht. SR3, Vol. 13 for Detail.
- A - For Repair, Girder Web near Bearing Stiffener, see Sht. SR5, Vol. 13 for Detail.
- B - Longitudinal Reinforcing Repair (side indicated), see Sht. SR5, Vol. 13 for Detail.
- F - Special Cross Frame Connection at Longitudinal Reinforcing, see Sht. SR6, Vol. 13 for Detail.

PLAN - SPANS 27, 28 & 29 (S.B.)

USER NAME = tsheli	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 105
CONTRACT NO. 60V21				

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PLAN - SPANS 30 & 31 (S.B.)

Legend

- to be removed
- * New IR Girder (For size and length see sheet D40.)
- Ⓛ End x-Frame Type 2, See Sht. SR-3 Vol #13 for detail.
- Ⓜ For Repair, Girder Web near Bearing Stiffener See sheet SR-5, Vol #13 for detail.

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PLOT SCALE = 2.0000' / in.	CHECKED - JMS	REVISED -
PLOT DATE = 6/23/2016	DATE - JUNE, 2016	REVISED -

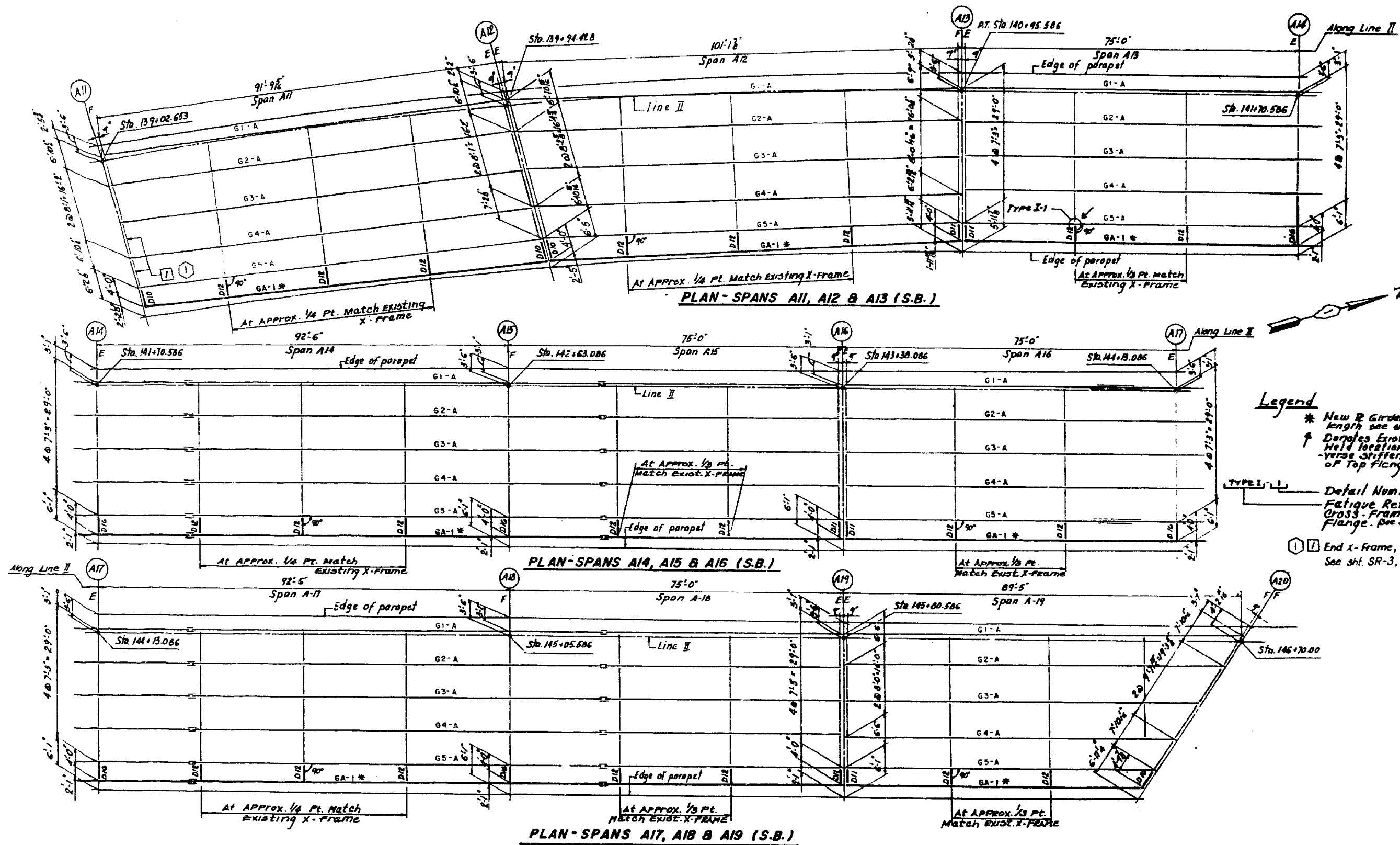
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SB WIDENING FRAMING PLAN, SPANS 30 & 31
LOCATION 4 - STRUCTURE NO. 016-1112

SCALE: NTS STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 106
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

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PLAN - SPANS A11, A12 & A13 (S.B.)

PLAN - SPANS A14, A15 & A16 (S.B.)

PLAN - SPANS A17, A18 & A19 (S.B.)

- Legend**
- * New R Girder (For size and length see sheet 240)
 - ↑ Denotes Existing Cracked Weld location at transverse stiffener to underside of Top Flange (Typ)
 - TYPE I - I Detail Number Fatigue Retrofit Repair Cross-Frame at Top Flange. (see Sht. D-48)
 - ① ② End X-Frame, Type 2. See sht. SR-3, Vol #13 for details

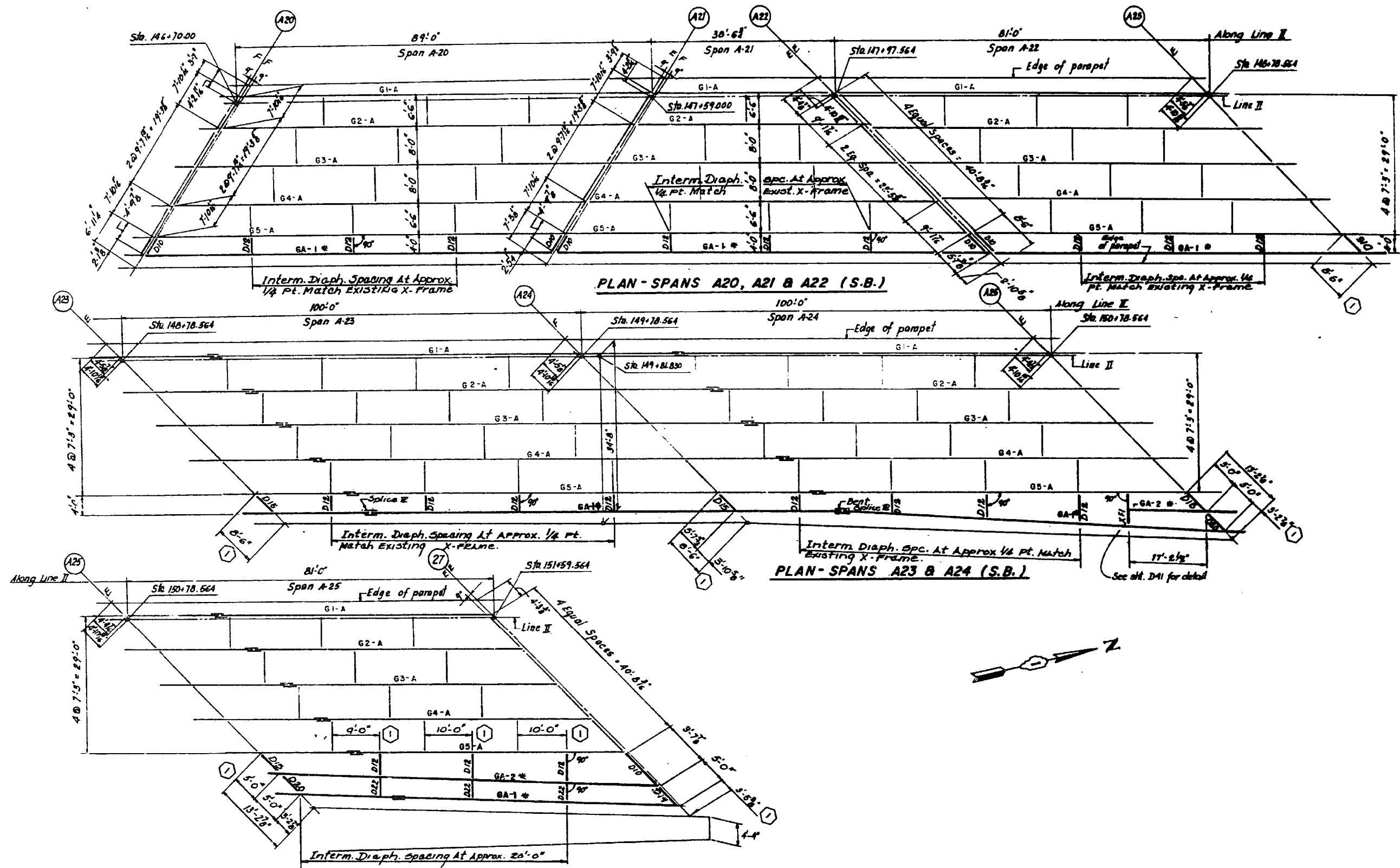
COLLINS ENGINEERS

USER NAME = tsheli	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SB WIDENING FRAMING PLAN, SPANS A11-A19
LOCATION 4 - STRUCTURE NO. 016-1112
SCALE: NTS STA. TO STA.

F.A.I. RTÉ. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 107
CONTRACT NO. 60V21				ILLINOIS FED. AID PROJECT



PLAN - SPANS A20, A21 & A22 (S.B.)

PLAN - SPANS A23 & A24 (S.B.)

PLAN - SPAN A25 (S.B.)

Legend
 * New R Girder (For size and length see sheet D40 & D41)

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 DATE - JUNE, 2016

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SB WIDENING FRAMING PLAN, SPANS A20-A25
 LOCATION 4 - STRUCTURE NO. 016-1112

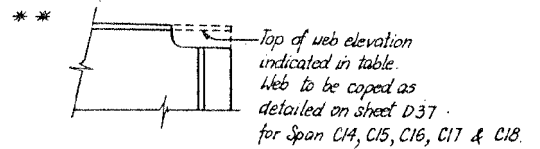
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 STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 108
CONTRACT NO. 60V21			ILLINOIS FED. AID PROJECT	

FILE NAME = I:\7290\7290.12 - Bridge\Painting\III\CA000\4-016-1112 - Main\Ims\45_016-1112_Girders 13.dgn

SPAN	GIRDER	BEARING	* * * SOUTH END		* * * NORTH END		FLANGE PLATES				a	b	BEARING STIFFENER	c	INTERMEDIATE STIFFENERS		SHEAR STUD SPACINGS				D.L. CAMBER	
			ELEV	ANGLE	ELEV.	ANGLE	1	2	3	4					d	e	f	g	h	$\Delta \epsilon$	$\Delta \delta$	
31	GN-1	92'-7 1/2"	45.41	90°-45'-45"	45.64	91°-03'-28"	14'-3/4"	16'-1"	14'-1 1/4"	16'-1 1/2"	18'-0"	56'-7 1/16"	7 1/2" x 3/4"	2'-6"	6 @ 5'-0"	5 1/2" x 1/2"	12%*	—	6 @ 13"	3 @ 15"	2"	1 3/8"
C13	GC-1	78'-6 1/2"	30.39	89°-56'-12"	36.62	89°-57'-57"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	15'-6"	47'-6 1/2"	5 1/2" x 3/4"	—	—	—	2 1/4"	—	3 @ 22"	16 @ 24"	1 1/2"	1 1/16"
C14	GC-1	79'-2"	36.59	91°-10'-48"	34.66	91°-14'-25"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	15'-6"	48'-2"	5 1/2" x 3/4"	—	—	—	7"	2 @ 20"	2 @ 22"	16 @ 24"	1 7/16"	1"
C15	GC-1	76'-10 3/8"	34.66	88°-13'-54"	32.90	88°-16'-59"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	15'-0"	46'-10 3/8"	5 1/2" x 3/4"	—	—	—	11 1/4"	—	3 @ 22"	16 @ 24"	3/4"	9/16"
C16	GC-1	94'-1 3/4"	34.06	88°-41'-35"	32.23	88°-34'-57"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	18'-6"	57'-1 1/2"	5 1/2" x 3/4"	—	—	—	14 3/8"	7 @ 16"	6 @ 18"	15 @ 22"	1 3/8"	1"
C16	GC-2	94'-2 1/16"	34.10	88°-15'-35"	32.06	88°-08'-57"	"	"	"	"	"	57'-2 1/2"	"	—	—	—	15"	6 @ 16"	7 @ 18"	15 @ 22"	1 1/16"	3/4"
C16	GC-3	94'-2 1/8"	33.04	86°-13'-47"	30.97	87°-55'-57"	"	"	"	"	"	57'-2 1/2"	"	—	—	—	13 3/4"	6 @ 16"	7 @ 18"	15 @ 22"	1 1/4"	7/8"
C16	GC-4	94'-2 1/16"	32.88	88°-41'-78"	30.68	88°-34'-52"	"	"	"	"	"	57'-2 1/2"	"	—	—	—	13 1/4"	6 @ 16"	7 @ 18"	15 @ 22"	1 1/2"	1 1/16"
C17	GC-1	94'-2 1/16"	32.23	84°-19'-25"	30.14	84°-21'-17"	"	"	"	"	"	57'-2 1/2"	5 1/2" x 3/4"	—	—	—	13 1/2"	6 @ 16"	7 @ 18"	15 @ 22"	1 1/2"	1 1/16"
C18	GC-1	95'-5 1/4"	30.11	81°-55'-36"	28.93	85°-34'-00"	14'-3/4"	"	14'-1 1/8"	14'-1 1/8"	18'-6"	58'-5 1/4"	6 1/2" x 3/4"	—	—	—	6 5/8"	8 @ 16"	6 @ 18"	15 @ 22"	0"	0"
C19	GC-1	81'-6 1/8"	28.92	91°-10'-19"	28.72	91°-11'-42"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	16'-0"	49'-6 1/8"	5 1/2" x 3/4"	—	—	—	18"	—	3 @ 21"	17 @ 24"	9/16"	3/8"
D11	GD-1	78'-7 1/8"	33.48	81°-04'-42"	29.75	81°-14'-11"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	15'-6"	47'-7 1/8"	6 1/2" x 3/4"	—	—	—	8 1/2"	5 @ 15"	5 @ 17"	15 @ 20"	1 3/4"	1 1/4"
D12	GD-1	81°-11 3/4"	29.68	82°-23'-58"	25.48	90°-04'-21"	"	"	"	"	16'-0"	50°-11 3/8"	6 1/2" x 3/4"	—	—	—	7 3/8"	7 @ 15"	5 @ 17"	15 @ 20"	1 1/4"	5/8"
D13	GD-1	81'-6 1/2"	24.93	85°-49'-46"	20.46	91°-23'-17"	"	"	"	"	15'-0"	49'-6 1/2"	6 1/2" x 3/4"	—	—	—	11 1/4"	5 @ 15"	5 @ 20"	12 @ 24"	0"	0"
D13	GD-2	82°-1 1/8"	25.39	85°-44'-05"	20.69	89°-17'-36"	14'-3/4"	14'-3/4"	14'-1 1/8"	14'-1 1/8"	16'-0"	50°-1 1/8"	6 1/2" x 3/4"	—	—	—	14 3/8"	5 @ 18"	5 @ 20"	12 @ 24"	0"	0"

① May adjust spacing for stiffener to match cross frame connection, variation not to exceed 6" max.
 * Length of Brgs for Spans C14, C15, C16, C17 & C18 is from the center of Brg. at one end of Girder to the center of the cross Beams at the other. See Framing Plan for details.
 Stud shear connectors shall be provided by the contractor



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USER NAME = tshel	DESIGNED - VC	REVISED -
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	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NB WIDENING NEW GIRDERS	
LOCATION 4 - STRUCTURE NO. 016-1112	
SCALE: NTS	STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 109
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\7290\7290.12 - Bridge - Bridge - Main\me\46.016-1112 - Main\me\46.016-1112.Girders 14.dgn

SPAN	GIRDER	L (ft)	SOUTH END		NORTH END		WEB		FLANGE PLATES				a	b	BEARING STIFFENER	c	INTERMEDIATE STIFFENERS		SHEAR STUD SPACINGS				D.L. CAMBER			
			TOP OF WEB ELEV.	ANGLE α	TOP OF WEB ELEV.	ANGLE β	h	t	(1)	(2)	(3)	(4)					d	(6)	e	f	g	h	Δδ/ΔL	Δδ/ΔL		
25	65-1	52'-2 1/2"	—	—	34.819	48°08'15"	48°	3/8"	—	—	12'-0"	12'-0"	—	52'-2 1/2"	—	—	For details	—	—	15'-0"	50'-0"	60'-0"	150'-0"	1'-0"	3/8"	
26	65-1	88'-6 1/2"	34.185	48°46'32"	35.121	48°46'32"	48°	3/8"	14'-0"	14'-0"	14'-0"	14'-0"	17'-6"	53'-6 1/2"	6'-0"	—	—	—	15'-0"	50'-0"	60'-0"	150'-0"	1'-0"	3/8"		
30	65-1	93'-3 1/2"	38.047	82°47'22"	40.361	82°49'02"	60°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	25'-0"	45'-3 1/2"	5'-0"	2'-6"	20'-0"	5'-0"	15'-0"	60'-0"	120'-0"	180'-0"	0'-0"	0'-0"		
31	65-1	92'-8 1/2"	40.445	84°43'28"	42.872	84°41'41"	60°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	25'-0"	45'-3 1/2"	5'-0"	2'-6"	20'-0"	5'-0"	15'-0"	60'-0"	120'-0"	180'-0"	1'-0"	7/8"		
2	A8	6A-1	98'-5"	44.958	81°48'15"	43.061	81°34'15"	48°	3/8"	14'-0"	14'-0"	14'-0"	14'-0"	18'-0"	54'-5"	6'-0"	—	—	—	7'-0"	60'-0"	60'-0"	180'-0"	1'-0"	3/8"	
2	B8	6B-1	89'-8"	42.997	81°18'46"	40.329	81°21'09"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	22'-0"	61'-0"	6'-0"	2'-6"	30'-0"	5'-0"	15'-0"	—	120'-0"	200'-0"	1'-0"	3/8"	
2	A8	6A-1	91'-2 1/2"	42.781	77°09'34"	42.117	91°59'46"	48°	3/8"	14'-0"	14'-0"	14'-0"	14'-0"	18'-0"	53'-2 1/2"	6'-0"	—	—	—	15'-0"	60'-0"	60'-0"	180'-0"	0'-0"	0'-0"	
2	A19	6A-1	65'-10 1/2"	34.417	89°49'15"	33.879	85°27'28"	48°	3/8"	12'-0"	12'-0"	12'-0"	12'-0"	13'-0"	39'-10 1/2"	6'-0"	—	—	—	11'-0"	—	—	180'-0"	5'-0"	1'-0"	
2	A20	6A-1	87'-1 1/2"	33.879	82°47'31"	33.408	82°07'25"	48°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	17'-0"	53'-1 1/2"	5'-0"	—	—	—	9'-0"	—	—	50'-0"	170'-0"	19'-0"	1'-0"
2	A21	6A-1	90'-6"	33.403	84°32'07"	32.907	85°28'51"	48°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	18'-0"	54'-6"	5'-0"	—	—	—	9'-0"	—	—	60'-0"	170'-0"	1'-0"	3/8"
2	B12	6B-1	88'-4 1/2"	32.981	82°41'16"	35.699	95°28'40"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	19'-0"	49'-4 1/2"	6'-0"	2'-6"	60'-0"	5'-0"	7'-0"	—	120'-0"	170'-0"	1'-0"	3/8"	
2	B12	6B-2	98'-7"	41.371	77°17'07"	37.315	92°24'19"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	19'-0"	59'-7"	6'-0"	2'-6"	60'-0"	5'-0"	8'-0"	—	200'-0"	190'-0"	1'-0"	1'-0"	
2	B8	6B-1/2	98'-4 1/2"	35.706	81°47'42"	32.907	91°34'07"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	19'-0"	59'-4 1/2"	6'-0"	2'-6"	60'-0"	5'-0"	8'-0"	—	90'-0"	310'-0"	1'-0"	1'-0"	
2	B13	6B-3	98'-2 1/2"	32.245	81°18'46"	32.571	88°57'10"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	19'-0"	59'-2 1/2"	6'-0"	2'-6"	60'-0"	5'-0"	7'-0"	—	90'-0"	310'-0"	1'-0"	3/8"	
2	B4	6B-1	98'-5 1/2"	31.848	91°01'25"	28.029	90°53'50"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	25'-0"	48'-5 1/2"	5'-0"	2'-6"	20'-0"	5'-0"	5'-0"	60'-0"	110'-0"	100'-0"	1'-0"	3/8"	
2	B4	6B-E	98'-5 1/2"	32.539	88°16'37"	27.909	88°09'08"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	19'-0"	57'-5 1/2"	6'-0"	2'-6"	60'-0"	5'-0"	7'-0"	—	200'-0"	190'-0"	1'-0"	1'-0"	
2	B5	6B-1	88'-5 1/2"	28.027	90°28'36"	24.378	90°31'22"	60°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	25'-0"	38'-5 1/2"	5'-0"	—	—	—	7'-0"	—	—	100'-0"	210'-0"	1'-0"	1'-0"
2	B5	6B-E	88'-7 1/2"	27.899	87°41'14"	23.891	87°34'57"	60°	3/8"	12'-0"	14'-0"	12'-0"	14'-0"	25'-0"	38'-7 1/2"	5'-0"	—	—	—	12'-0"	—	—	300'-0"	200'-0"	1'-0"	1'-0"
	B16	6B-1	88'-7 1/2"	24.316	91°33'33"	20.502	92°24'29"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	22'-0"	43'-7 1/2"	6'-0"	2'-6"	300'-0"	5'-0"	6'-0"	—	120'-0"	210'-0"	3'-0"	5'-0"	
	B16	6B-2	88'-6 1/2"	24.179	90°58'44"	20.393	90°49'36"	60°	3/8"	—	—	—	—	—	—	—	—	—	—	—	—	120'-0"	210'-0"	1'-0"	3'-0"	
	B16	6B-3	88'-6"	24.040	87°25'59"	20.283	87°44'58"	60°	3/8"	—	—	—	—	—	—	—	—	—	—	—	—	120'-0"	210'-0"	1'-0"	3'-0"	
	B16	6B-4	88'-6 1/2"	23.902	87°49'24"	20.172	87°40'17"	60°	3/8"	—	—	—	—	—	—	—	—	—	—	—	—	120'-0"	210'-0"	1'-0"	3'-0"	
	B16	6B-5	88'-6 1/2"	23.815	87°37'48"	20.064	87°28'44"	60°	3/8"	14'-0"	16'-0"	14'-0"	16'-0"	22'-0"	43'-6 1/2"	6'-0"	2'-6"	300'-0"	5'-0"	6'-0"	—	120'-0"	210'-0"	3'-0"	1'-0"	

① & Org to Special X-Frame
 ② May adjust spacing for stiffener to match cross frame connection.

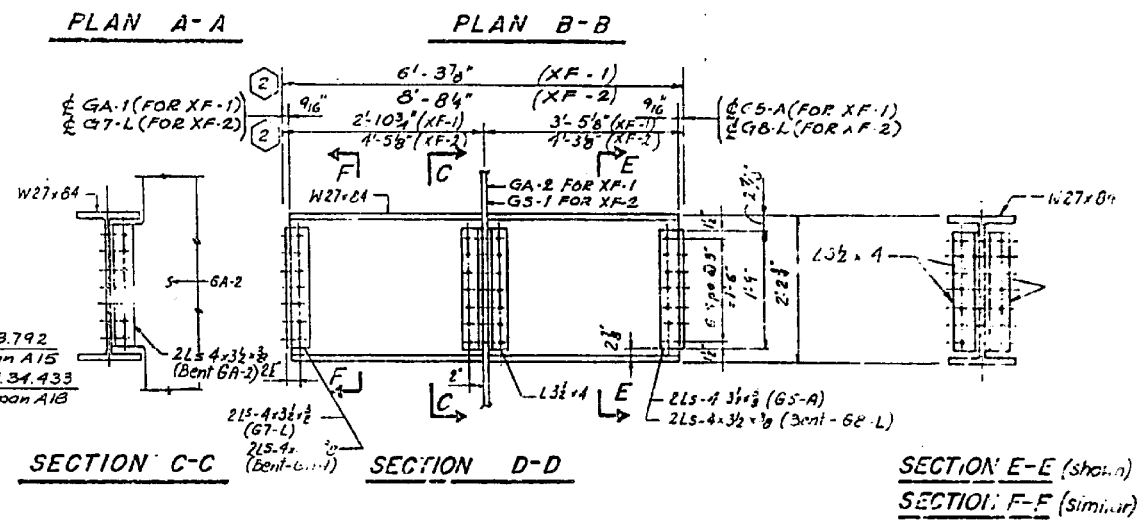
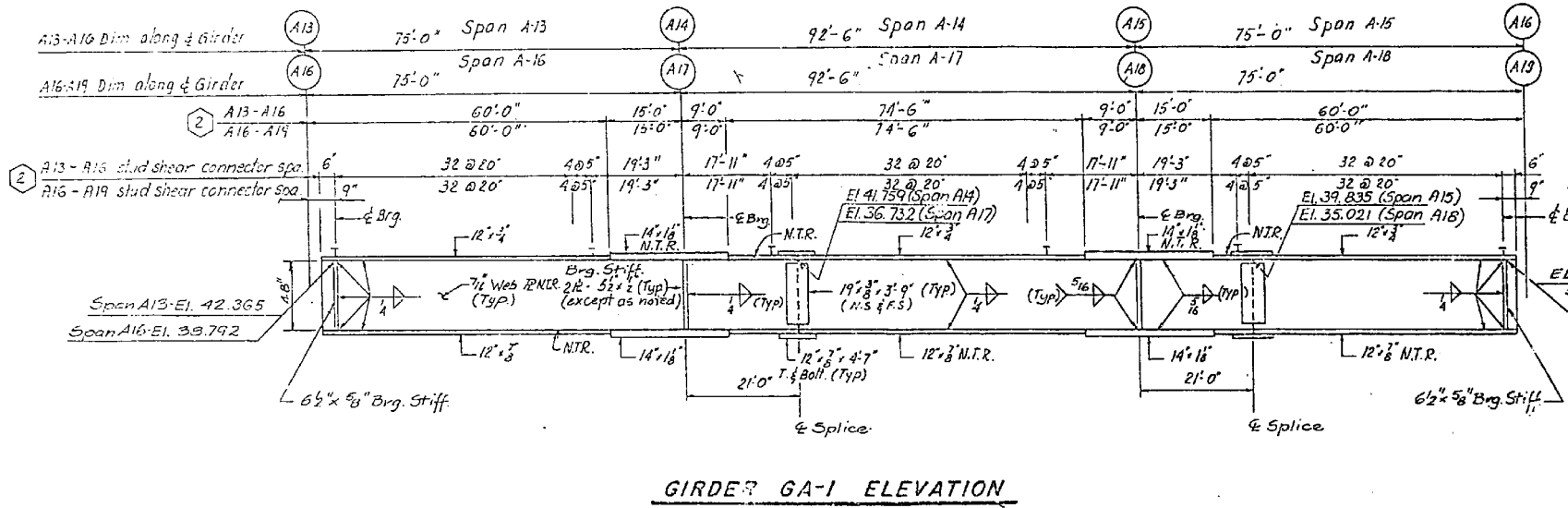
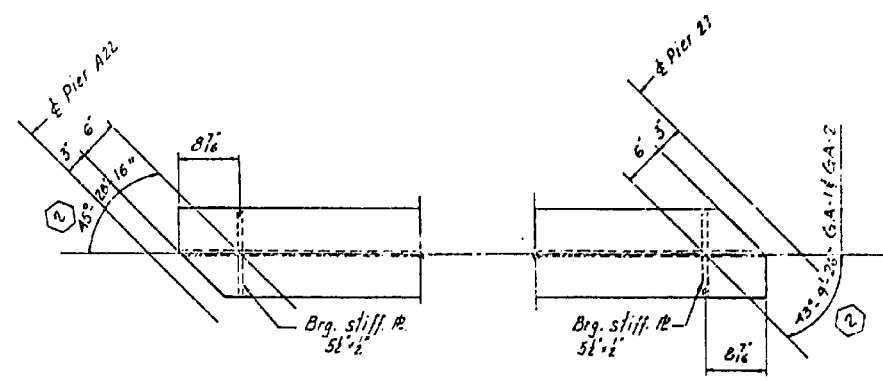
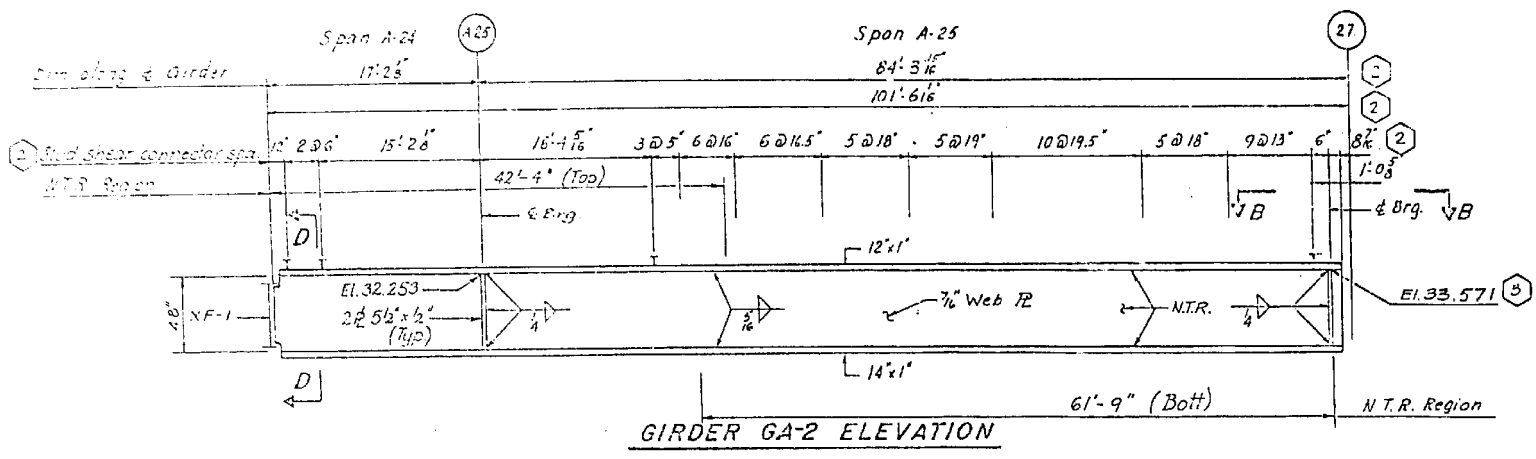


USER NAME = tsheh	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

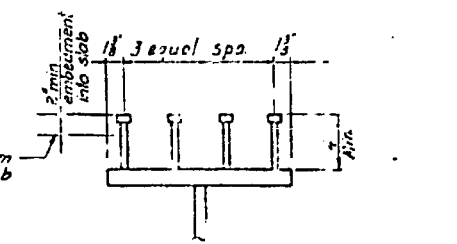
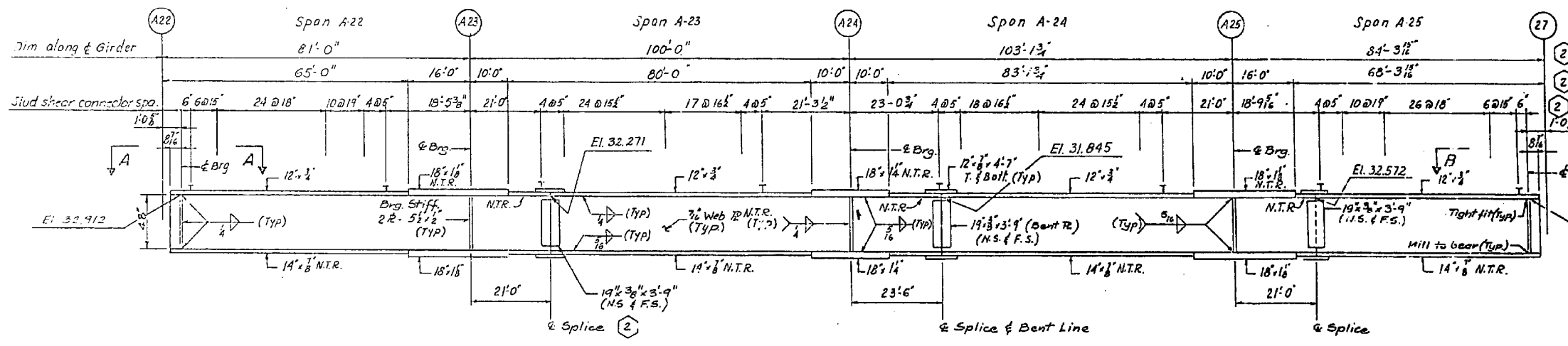
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SB WIDENING NEW GIRDERS
 LOCATION 4 - STRUCTURE NO. 016-1112
 SCALE: NTS STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 110
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



Note: Shear Connector locations at flange splice plates to be adjusted by installer, to miss splice bolts. Length of shear connectors to be determined by the Contractor in the field to insure a projection of a minimum of 2" into deck slab. Shear connectors have to be furnished in this contract.



Note: N.S. - denotes near side. F.S. - denotes far side. See Sht. D42 for Splice detail.

USER NAME = tsheh	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

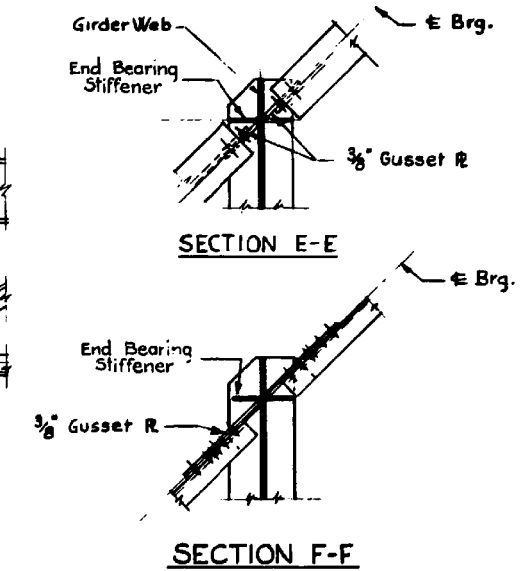
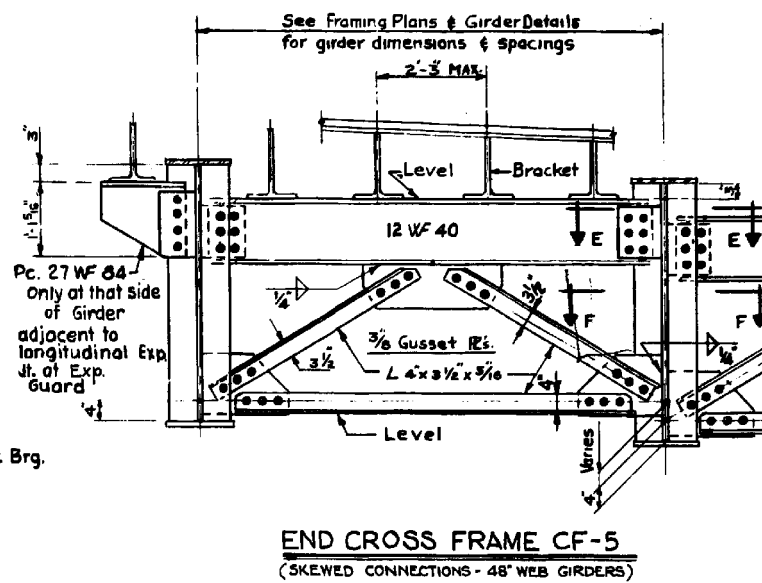
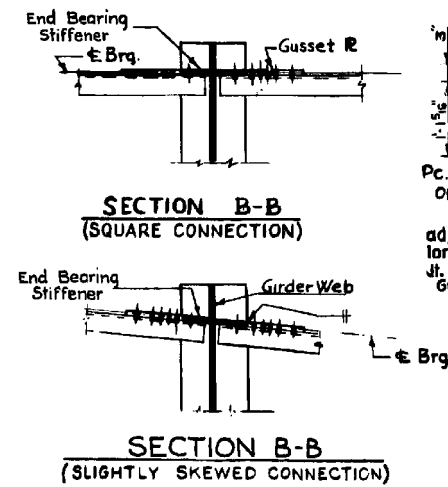
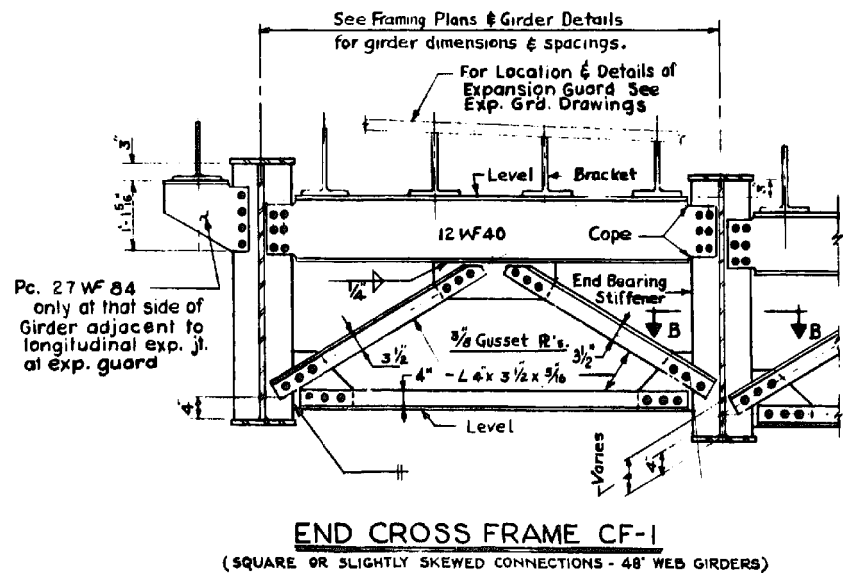
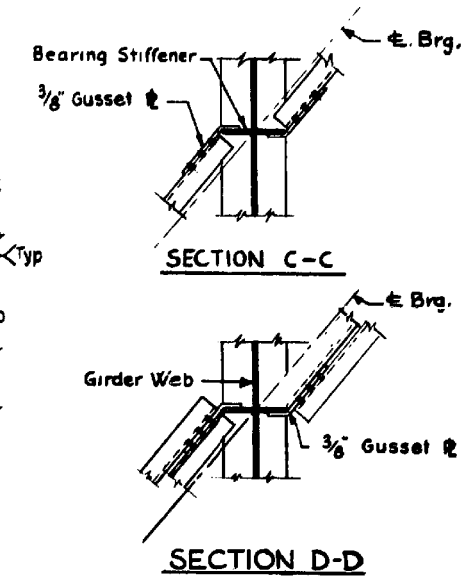
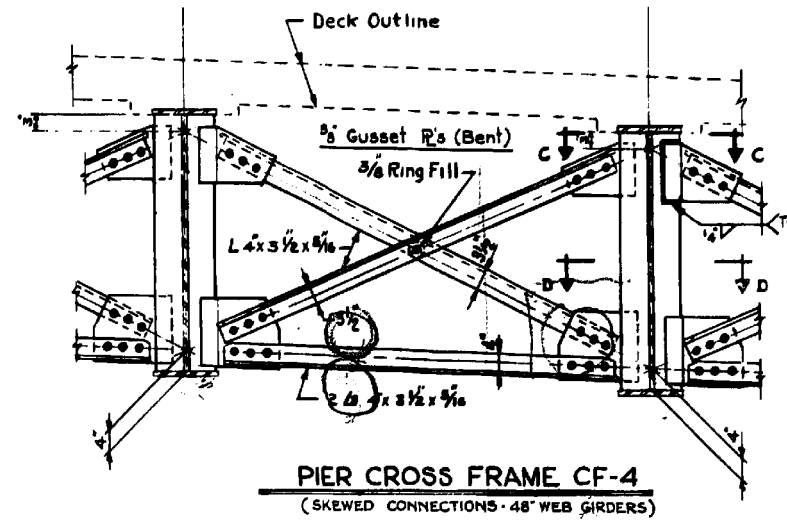
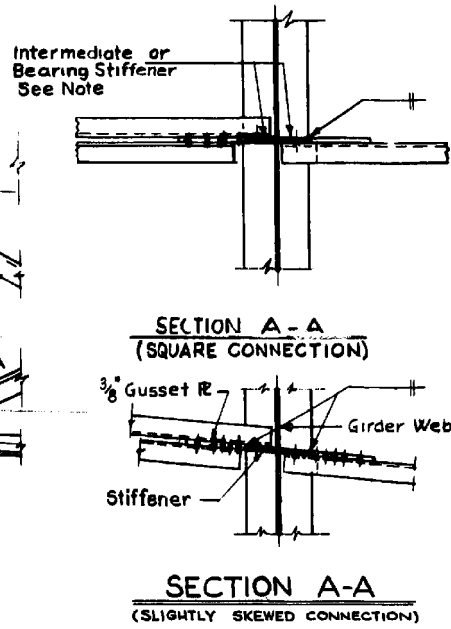
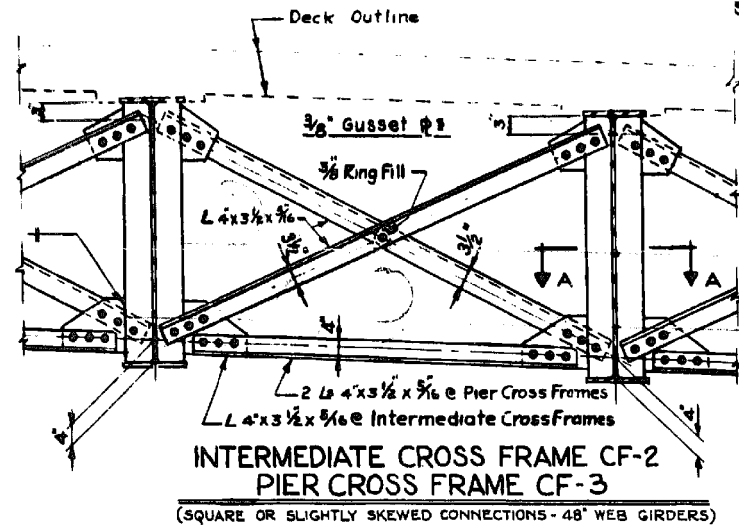
SB WIDENING NEW GIRDS	
LOCATION 4 - STRUCTURE NO. 016-1112	
SCALE: NTS	STA. TO STA.

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-043BP	COOK	147	111
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

FILE NAME = I:\7290\7290.12 - Bridge Painting III\ACADD\4.016-1112 - Main\me47.016-1112.Girders 15.dgn

Note:

Intermediate Cross Frames shall be connected to web stiffeners, relocated to suit. Where a relocation in excess of 6" is required, additional stiffeners shall be provided for cross frame connections.



FILE NAME = I:\7290\7290.12 - Bridge Painting III\ACADD\4-016-1112 - Main\me48.016-1112.Details.dwg

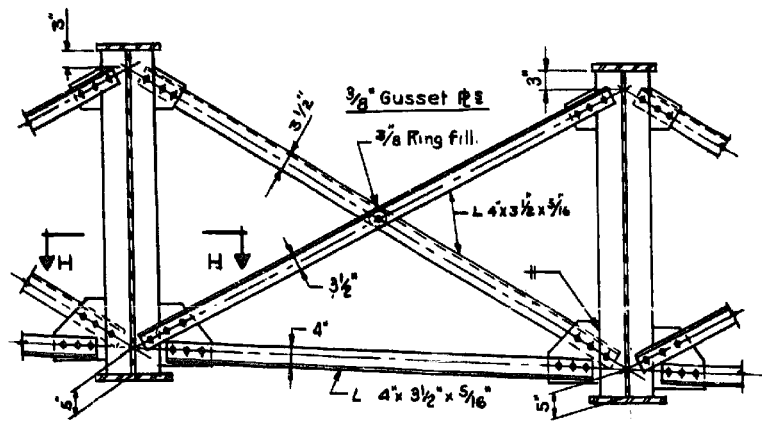
COLLINS ENGINEERS

USER NAME = tsheh	DESIGNED - VC	REVISED -
PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

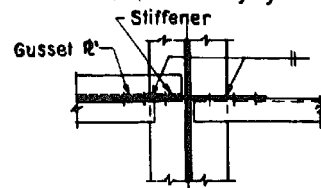
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ORIGINAL CROSS FRAME DETAILS
LOCATION 4 - STRUCTURE NO. 016-1112
SCALE: NTS STA. TO STA.

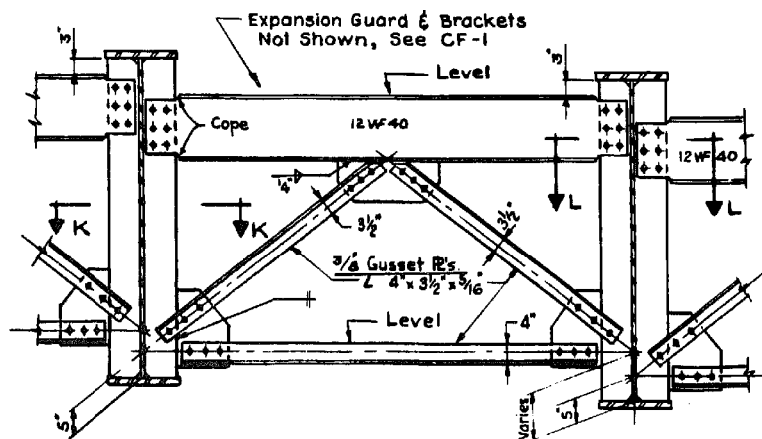
F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 112
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



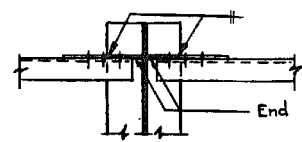
INTERMEDIATE CROSS FRAME CF-6
(Square or slightly skewed connections 54' or 60' web girders)



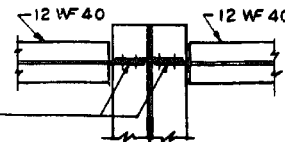
SECTION H-H



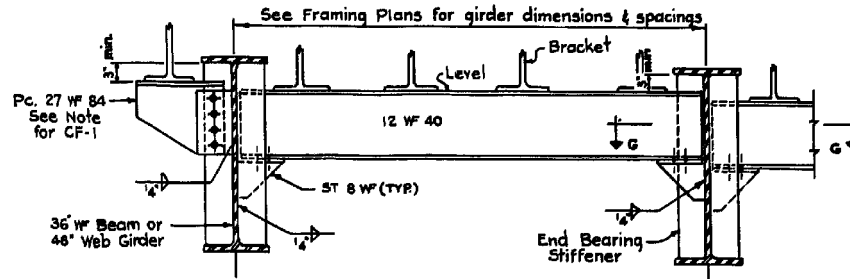
END CROSS FRAME CF-7
(Square or slightly-skewed connections 54' or 60' web girders)



SECTION K-K

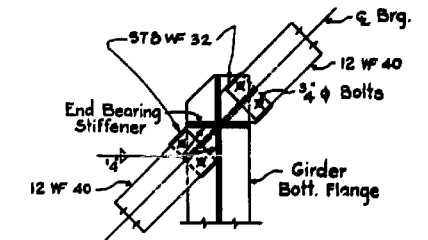


SECTION L-L

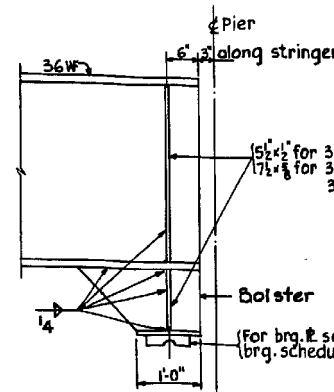


END DIAPHRAGMS D1
(Skewed connection to 36 WF beams & 48' web girders)

Note: Special 5 1/2" x 1/2" End Bearing Stiffeners shall be provided at skewed ends of 36 WF Beams for end diaphragm connections.

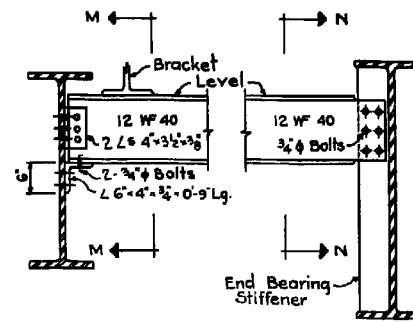


SECTION G-G
(Skew connections)

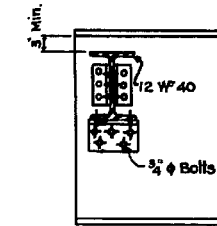


Span	Stringer	Size	Bolster
27	G1-L thru G8-L	36 WF 135	ST16 WF 65
27	G9-L	36 WF 230	ST12 WF 65
27	G10-L thru G13-L	36 WF 300	ST12 WF 65
26	G6-R, G7-R, G8-R	36 WF 300	ST12 WF 65
26	G9-R, G10-R	36 WF 230	ST12 WF 65
21	G1-R thru G4-R (North End)	36 WF 135	ST12 WF 50
21	G1-R thru G4-R (South End)	36 WF 135	ST15 WF 58

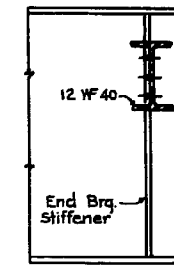
BEAM BOLSTER DETAIL



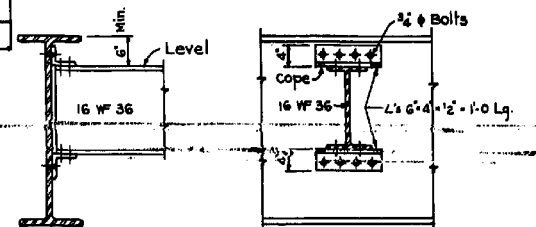
END DIAPHRAGMS D2
(Square or slightly skewed connection to 36 WF beams & 48' web girders)



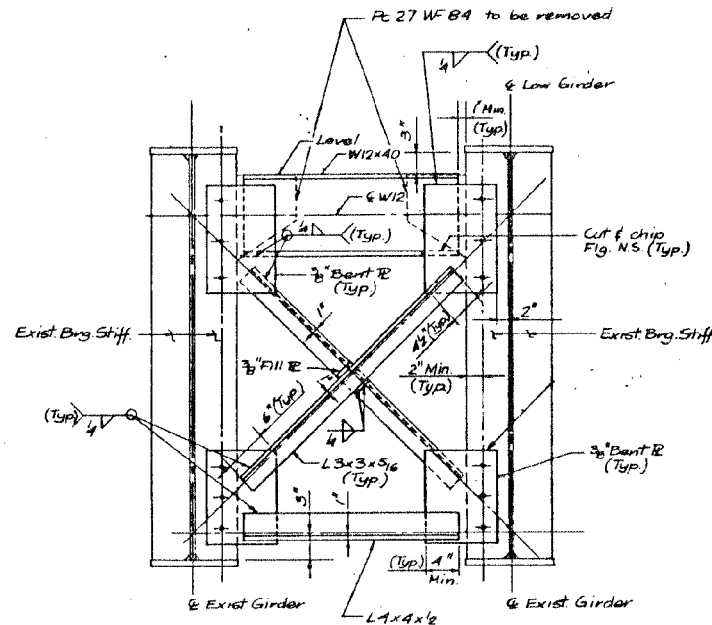
SECTION M-M



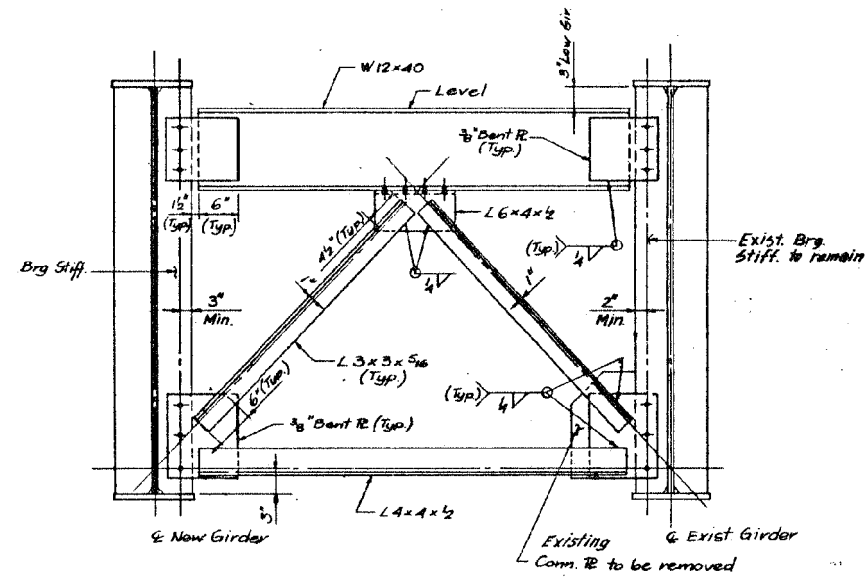
SECTION N-N



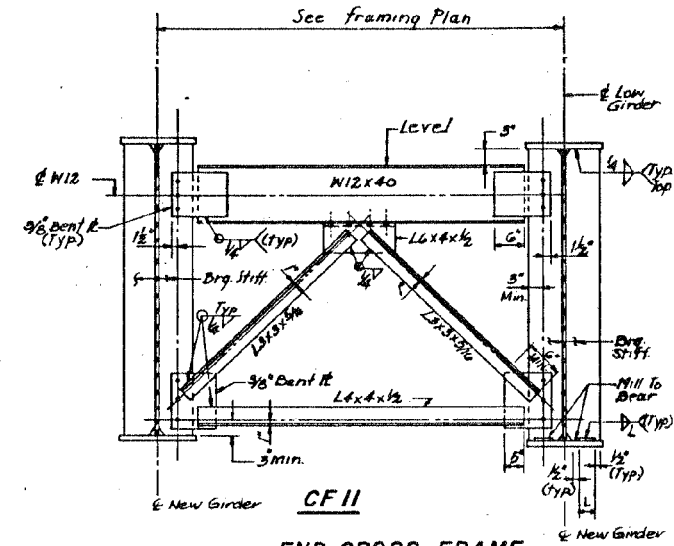
INTERIOR DIAPHRAGMS D3
(Square or slightly skewed connection to 36 WF beams or 48' web girders)



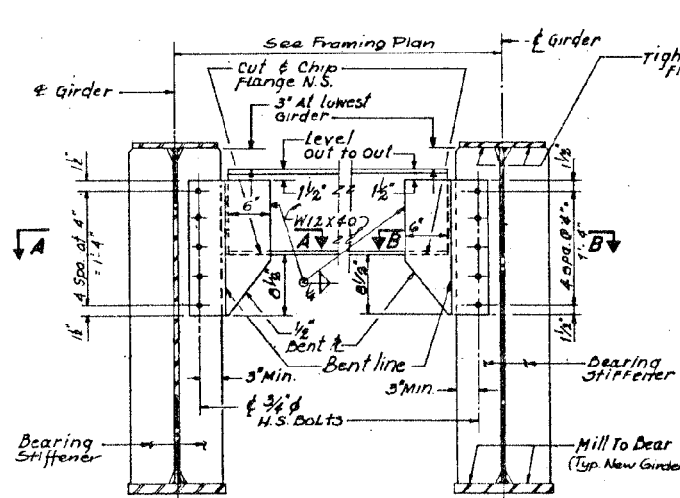
CF 16
END CROSS FRAME
 LOOKING TOWARD & PIER



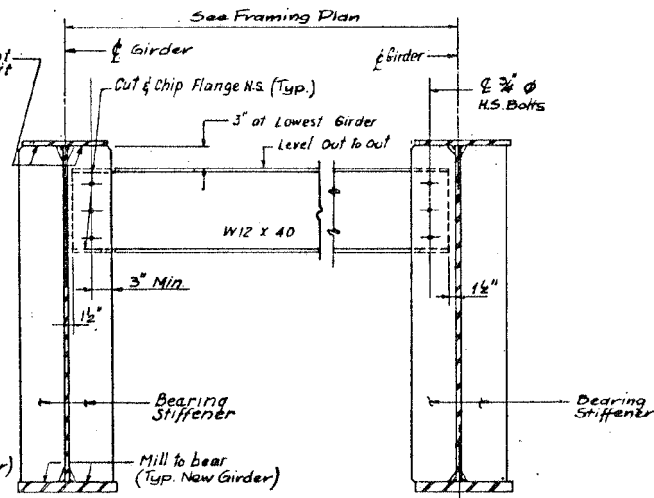
CF 18
CF 19 (OPP. HAND)
END CROSS FRAME
 LOOKING TOWARD & PIER



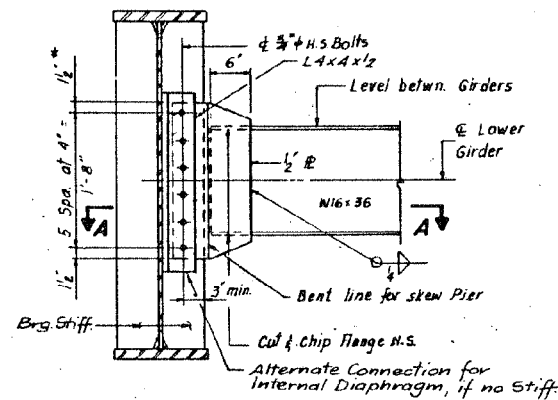
CF 11
END CROSS FRAME
 (60\"/>



D10 (Exist. Stiff. to New Stiff.)
D17 (Exist. Stiff. to Exist. Stiff.)
END DIAPHRAGM
 (48\"/>

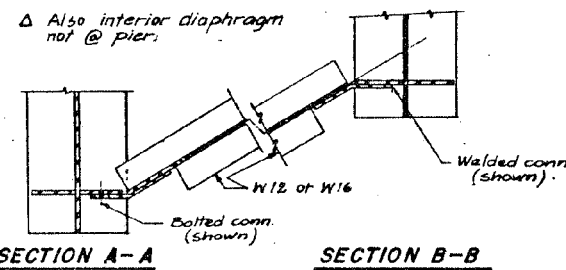


D11 (Exist. Stiff. to New Stiff.)
D18 (Exist. Stiff. to Exist. Stiff.)
END DIAPHRAGM
 (48\"/>



D13 & D14 (Exist. Stiff. to Exist. Stiff.)
 * Field drill holes in stiffener using bent fl as template, if req'd.

INTERIOR DIAPHRAGM AT PIER
 (48\"/>



SECTION A-A **SECTION B-B**

FILE NAME = I:\7290\7290.12 - Bridge Painting III\AC00\4-016-1112 - Main\me50.016-1112.Details.3.dgn

COLLINS ENGINEERS

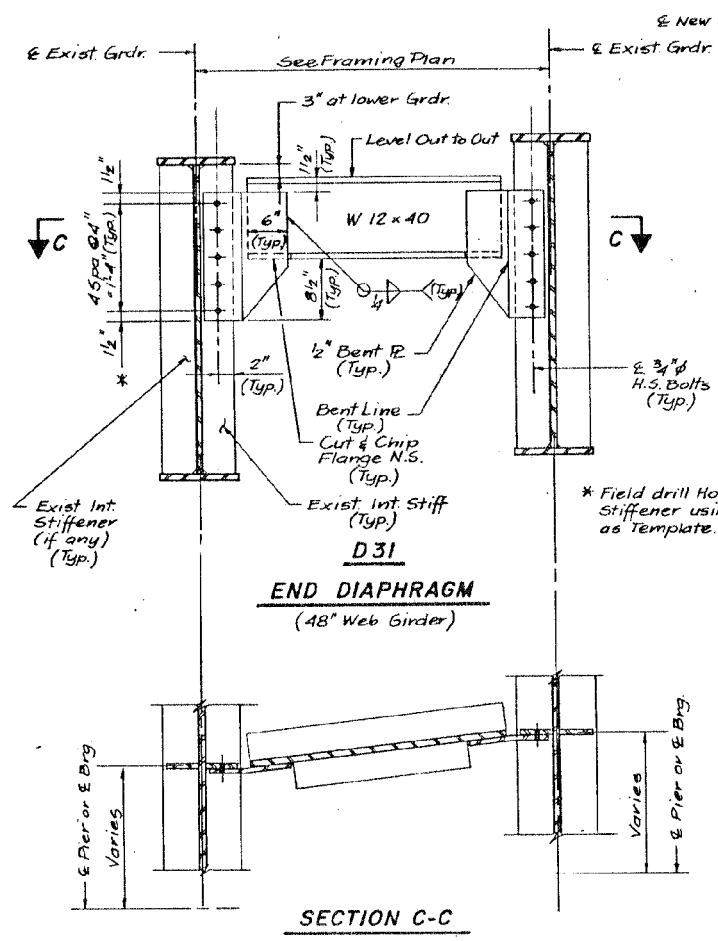
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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS FRAME AND DIAPHRAGM DETAILS (1989)
 LOCATION 4 - STRUCTURE NO. 016-1112

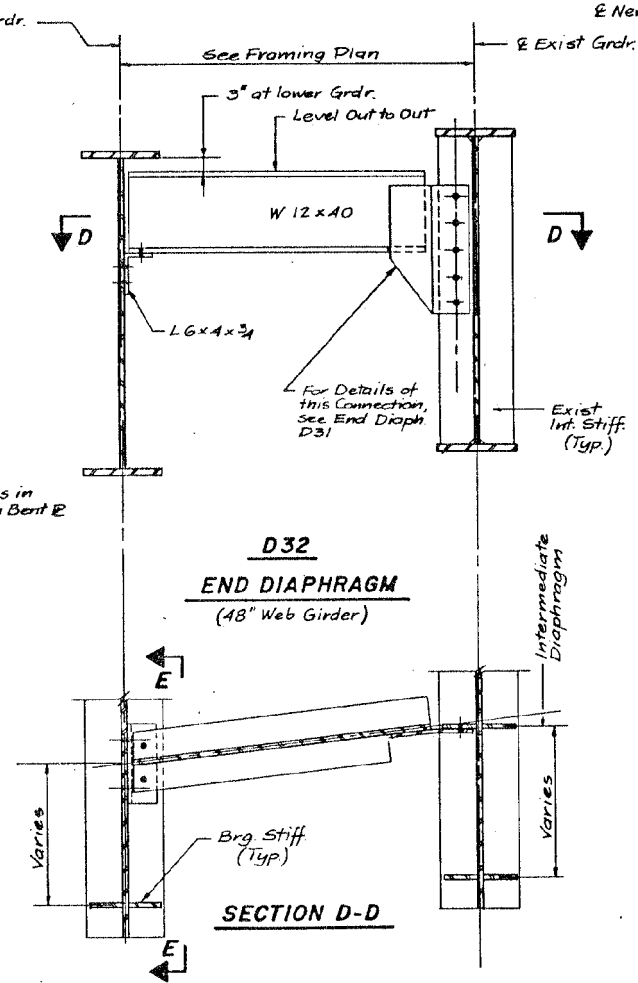
SCALE: NTS STA. TO STA.

F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 114
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



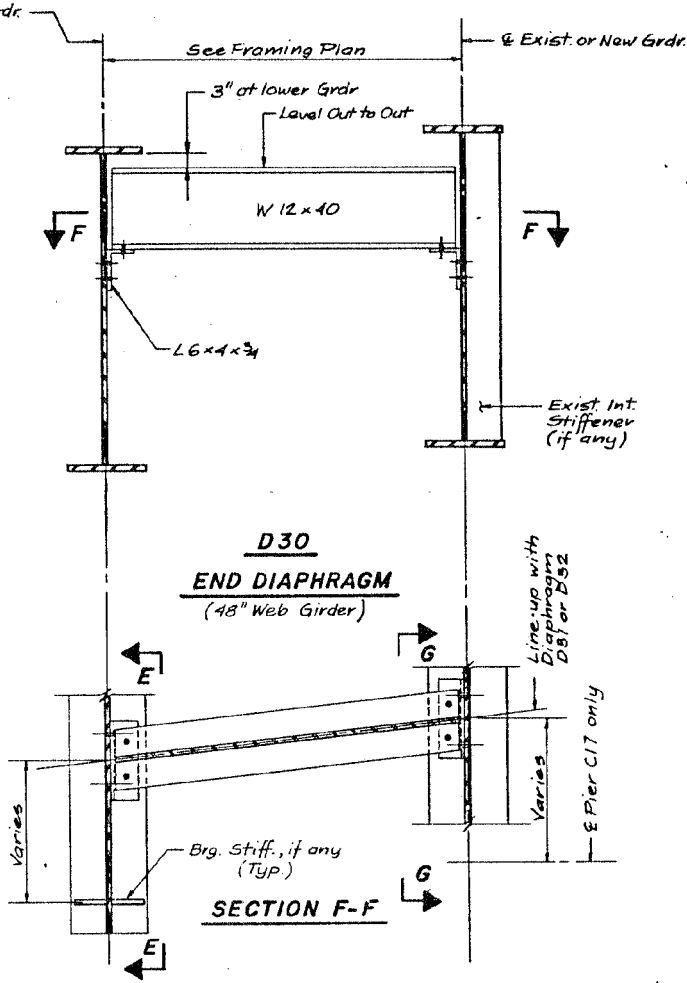
D31
END DIAPHRAGM
(48" Web Girder)

SECTION C-C



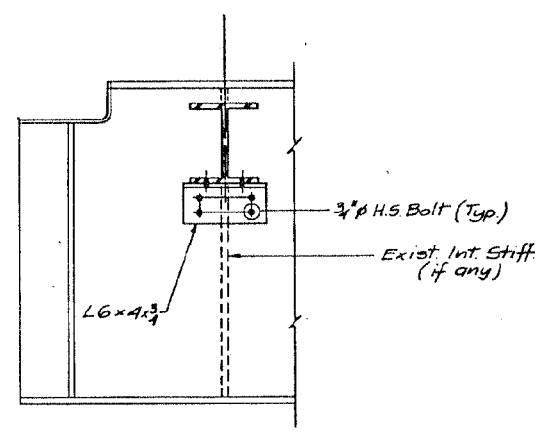
D32
END DIAPHRAGM
(48" Web Girder)

SECTION D-D

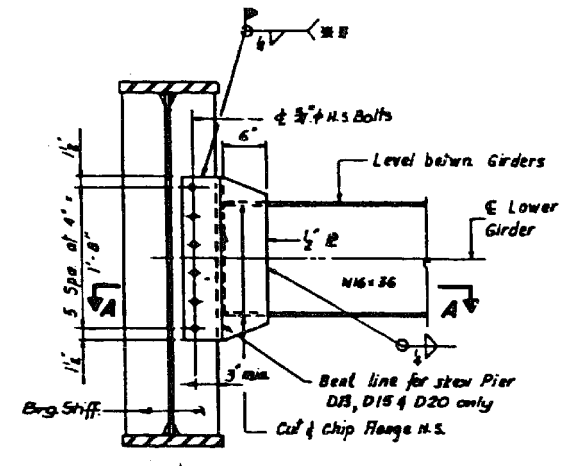


D30
END DIAPHRAGM
(48" Web Girder)

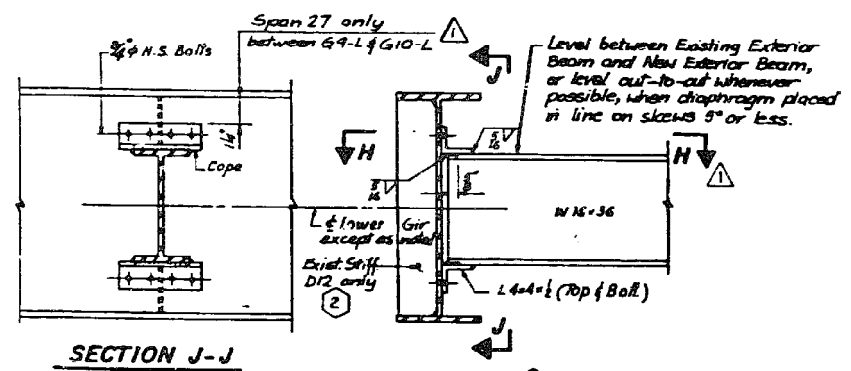
SECTION F-F



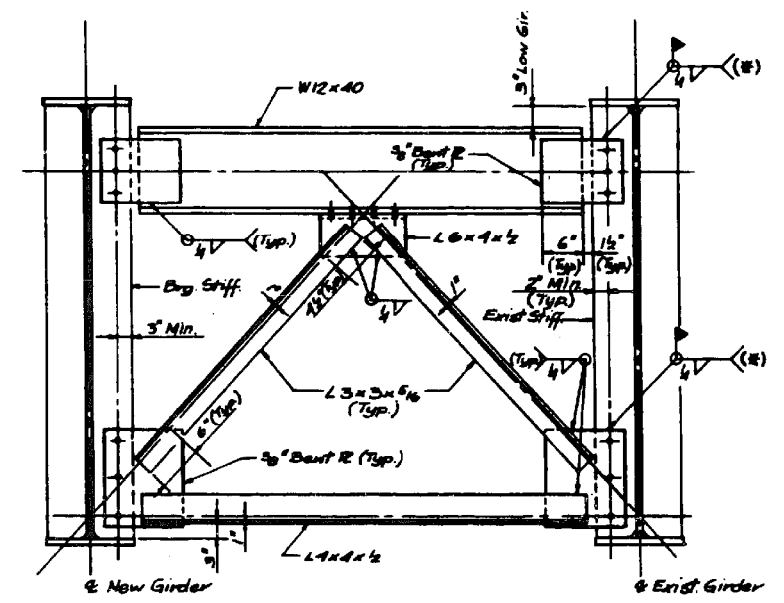
SECTION E-E
SECTION G-G (opp hand)



D13 & D14 (Exist. Stiff. to Exist. Stiff.)
D15 & D16 (Exist. Stiff. to New Stiff.)
D20 (New Stiff. to New Stiff.)
INTERIOR DIAPHRAGM AT PIER
(48" Web Girder)



D12, D22
INTERIOR DIAPHRAGM
(48" Web Girder)
(36" W Section)



CF21
CF22 (OPP HAND)
END CROSS FRAME
LOOKING TOWARD & PIER

Optional weld may be used in the event that bolting of the connection is not feasible as determined in the field by the engineer. Modification of the gusset plates may be required to provide adequate clearance for welding. Cast incidental to erecting structural steel.

FILE NAME = I:\7290\7290.12 - Bridge Painting III\AC00\4.016-1112 - Main\me\51.016-1112_Details_4.dgn

COLLINS ENGINEERS

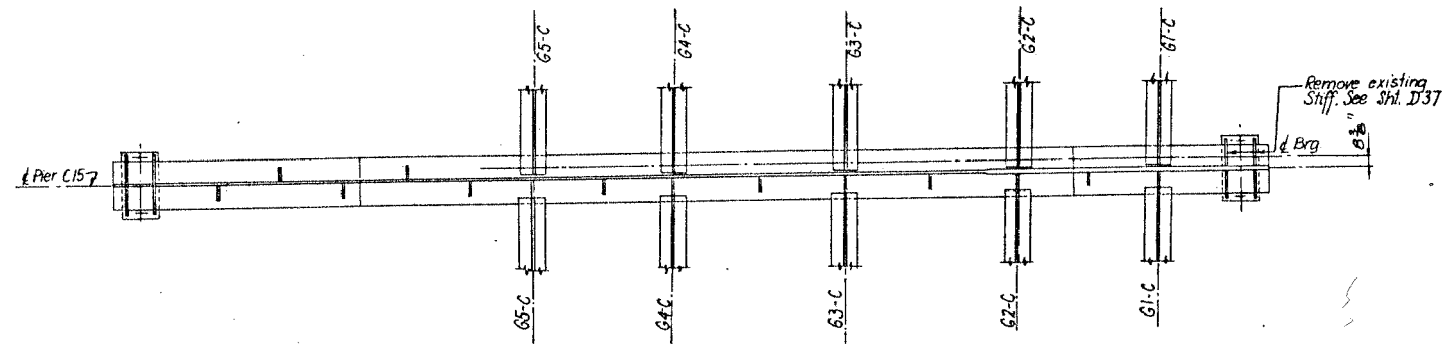
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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

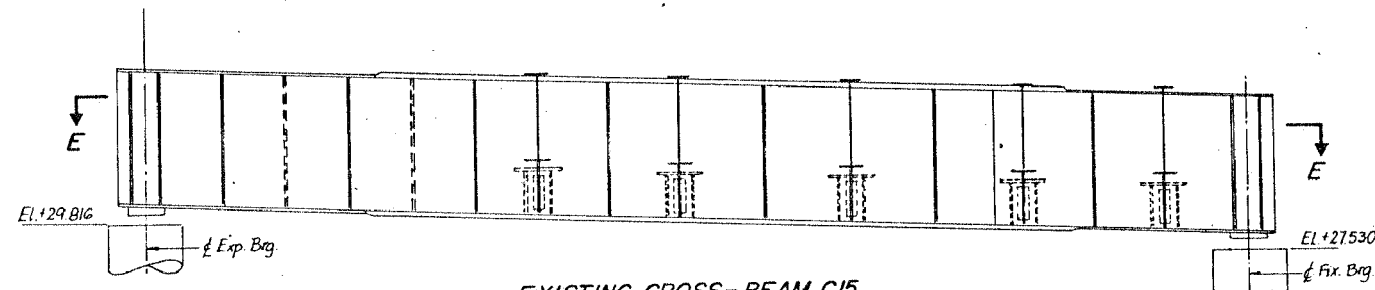
CROSS FRAME AND DIAPHRAGM DETAILS (1989)
LOCATION 4 - STRUCTURE NO. 016-1112

SCALE: NTS STA. TO STA.

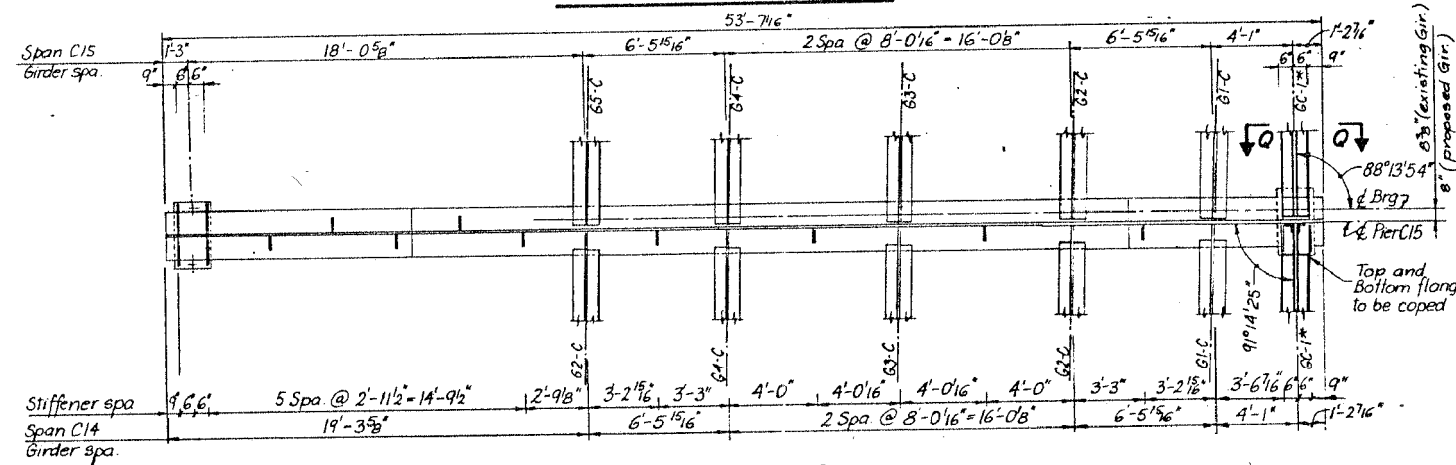
F.A.I. RFE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 115
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



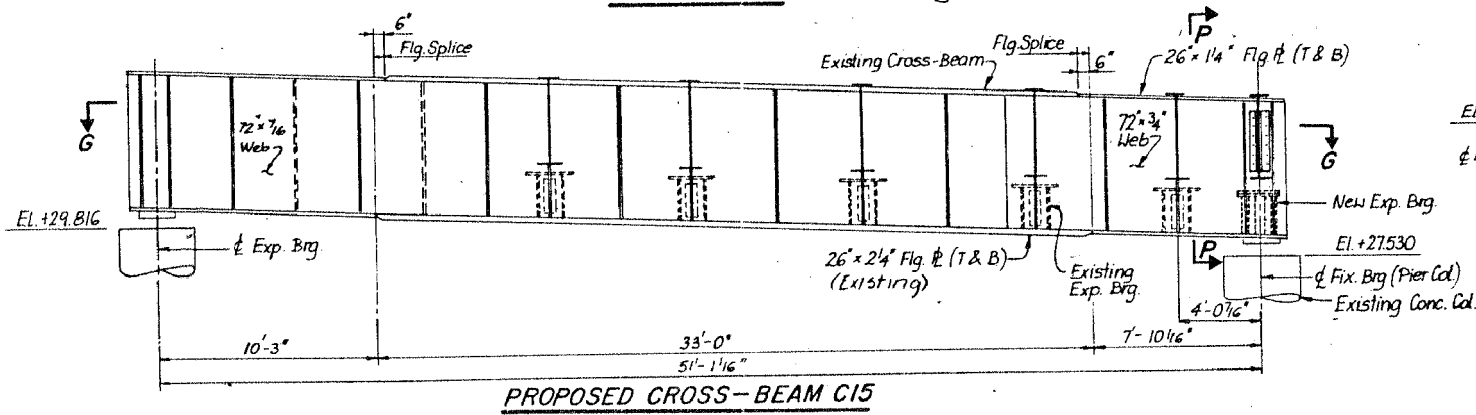
SECTION E-E



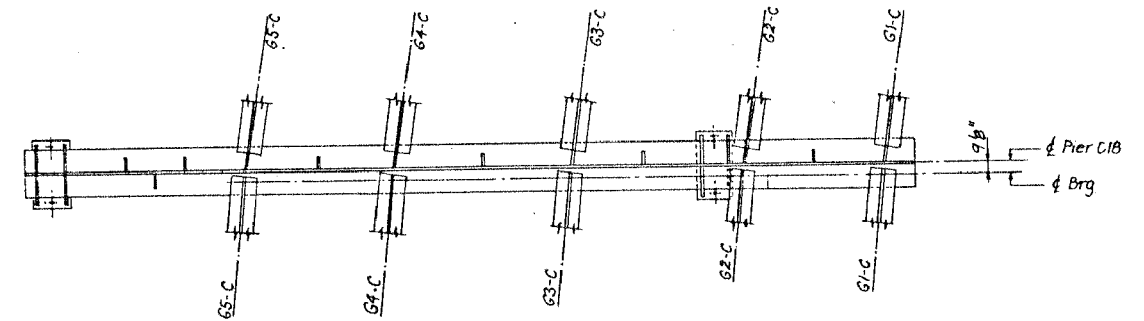
EXISTING CROSS-BEAM C15



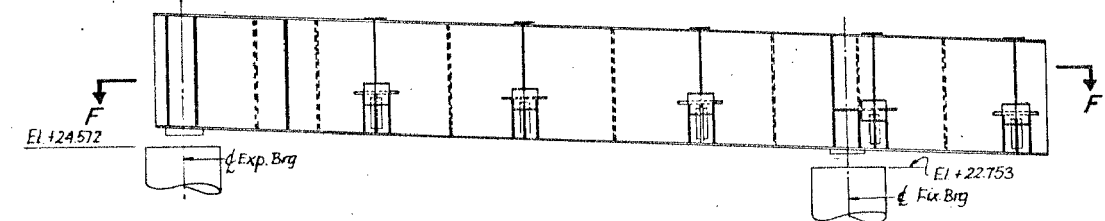
SECTION G-G * New Stringer



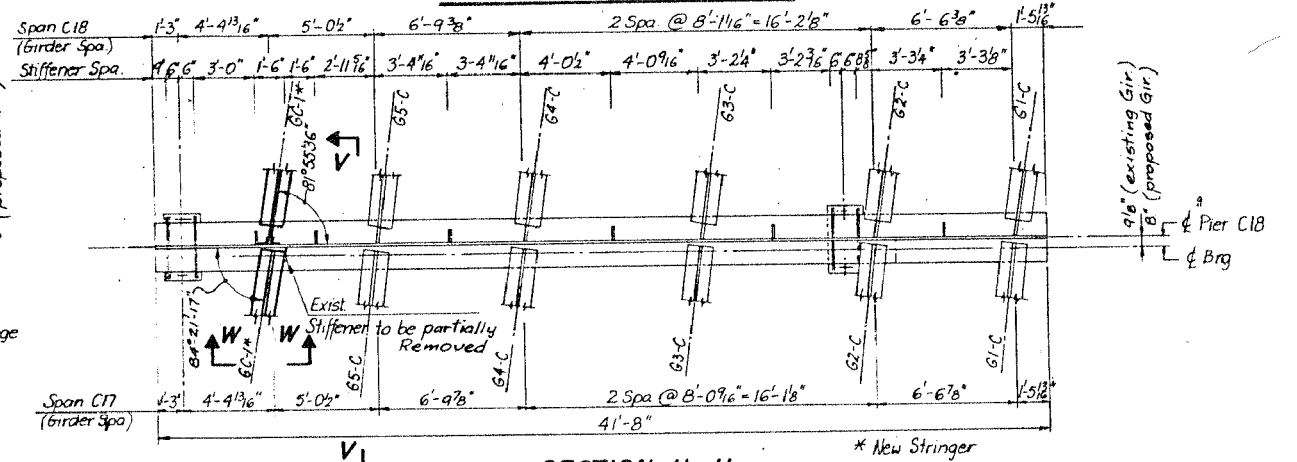
PROPOSED CROSS-BEAM C15



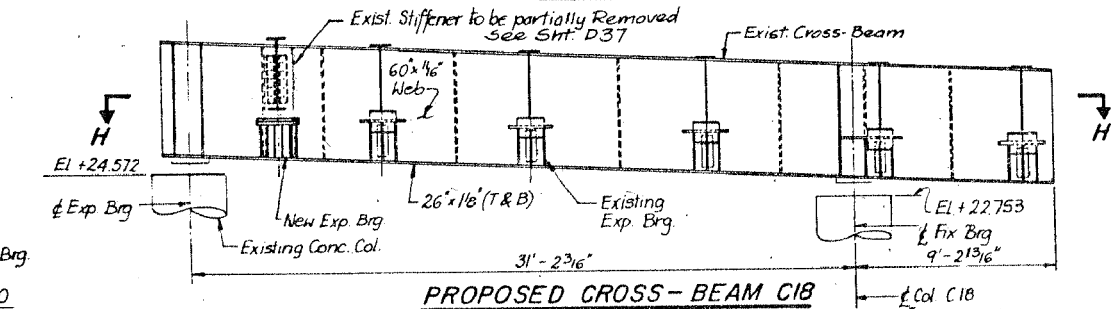
SECTION F-F



EXISTING CROSS-BEAM C18



SECTION H-H



PROPOSED CROSS-BEAM C18

FILE NAME = I:\7290\7290.12 - Bridge Painting III\AC000\4.016-1112 - Main\In\52.016-1112.Cross Beams Ldgn

COLLINS ENGINEERS

USER NAME = tsheh
 PLOT SCALE = 2.0000' / in.
 PLOT DATE = 6/23/2016

DESIGNED - VC
 DRAWN - VC
 CHECKED - JMS
 DATE - JUNE, 2016

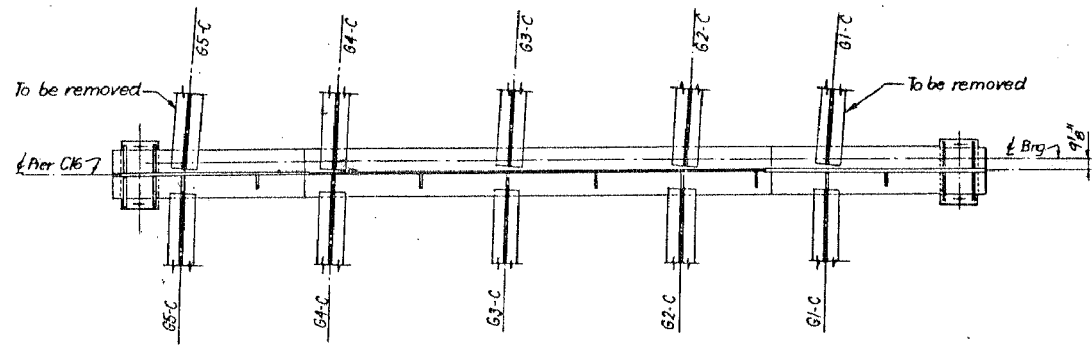
REVISED -
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

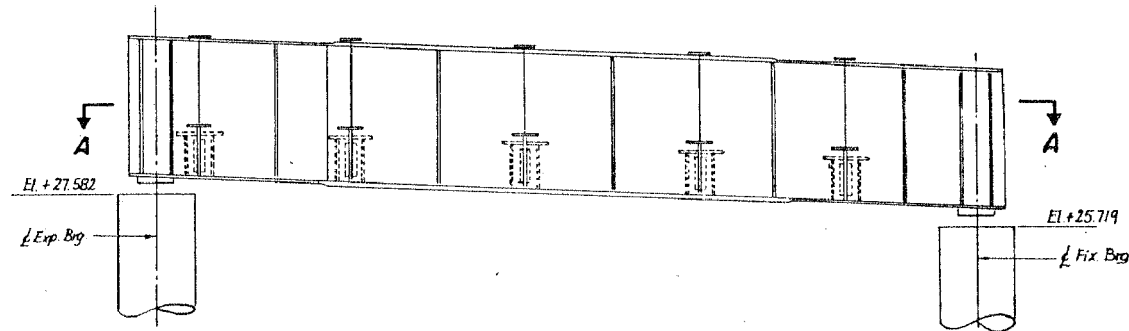
**CROSS BEAMS C15 AND C18
 LOCATION 4 - STRUCTURE NO. 016-1112**

SCALE: NTS STA. TO STA.

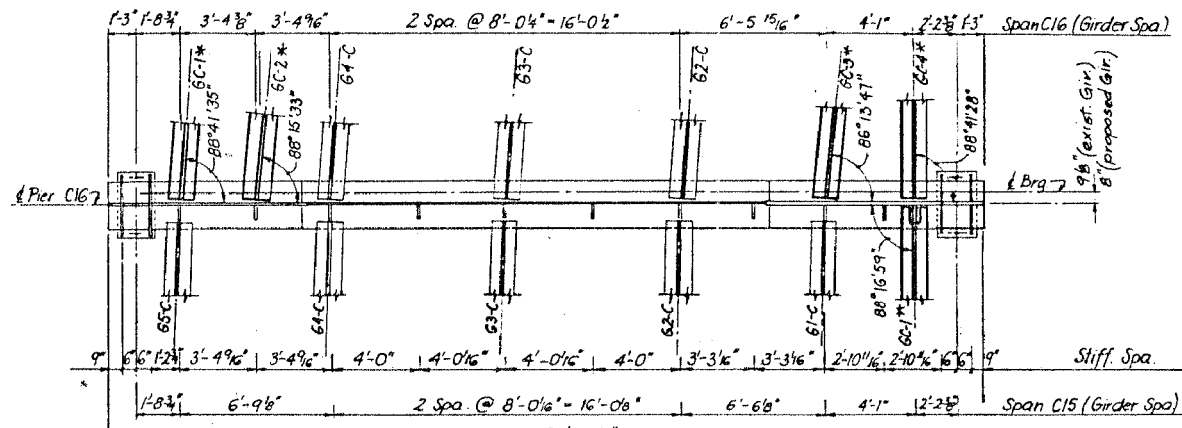
F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 116
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



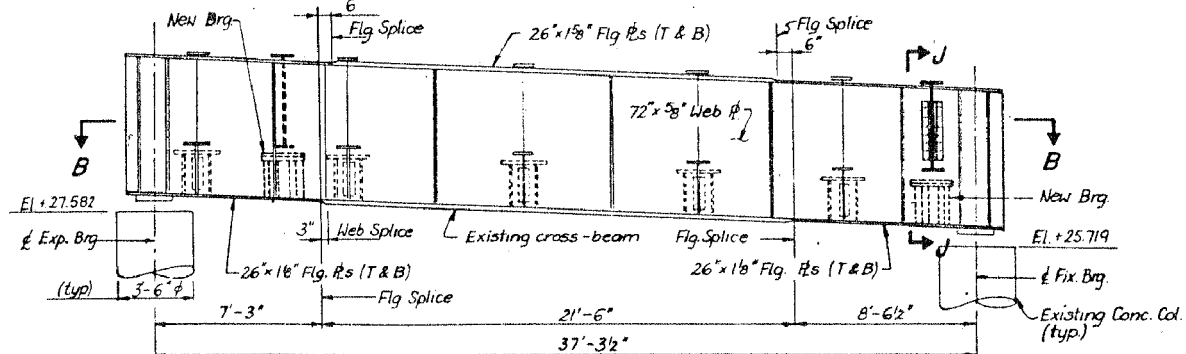
SECTION A-A



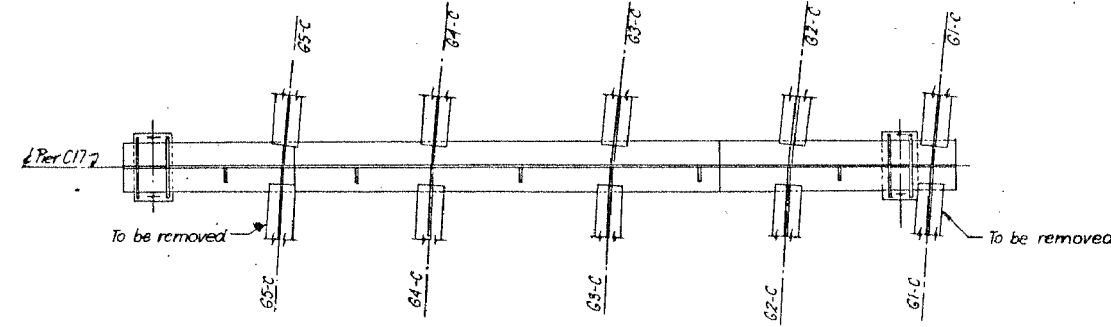
EXISTING CROSS-BEAM C16



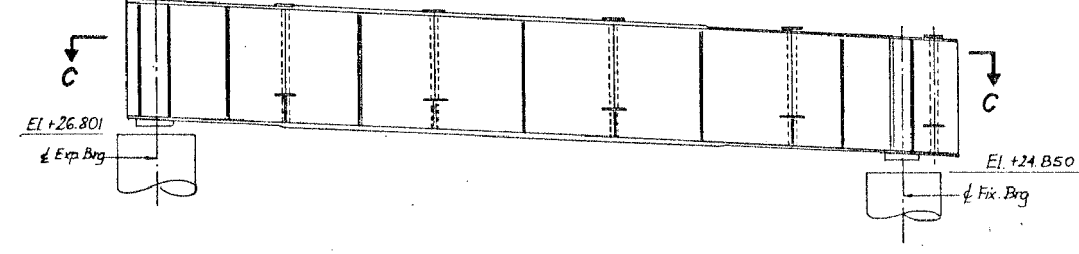
SECTION B-B



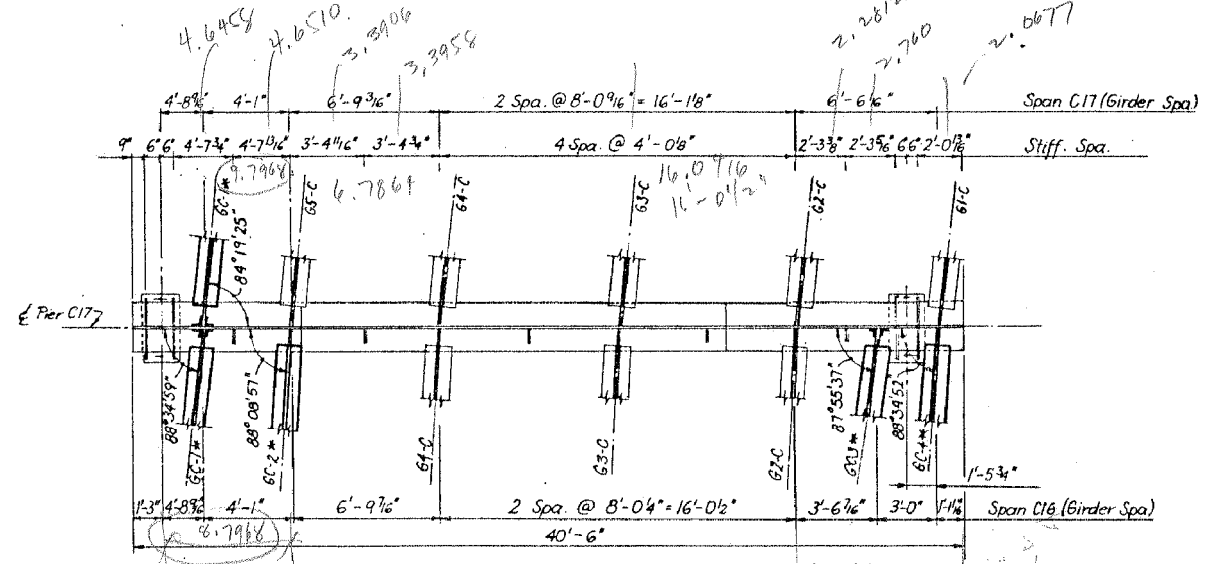
PROPOSED CROSS-BEAM C16



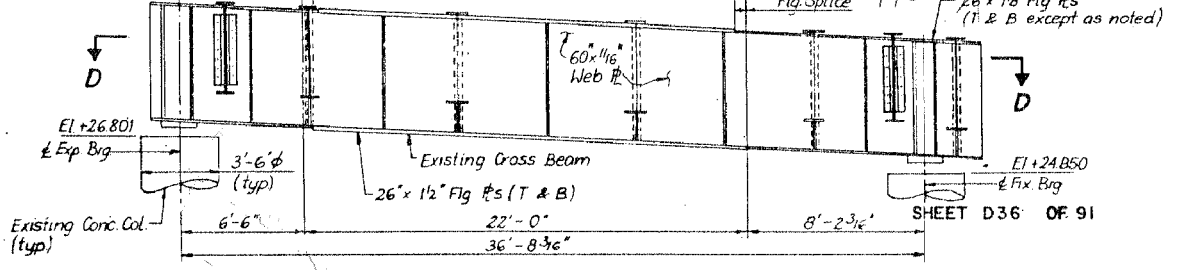
SECTION C-C



EXISTING CROSS-BEAM C17



SECTION D-D



PROPOSED CROSS-BEAM C17

FILE NAME = I:\7290\7290.12 - Bridge Painting III\CA000\4-016-1112 - Main\Ine\53.016-1112.Cross Beams 2.dgn

COLLINS ENGINEERS

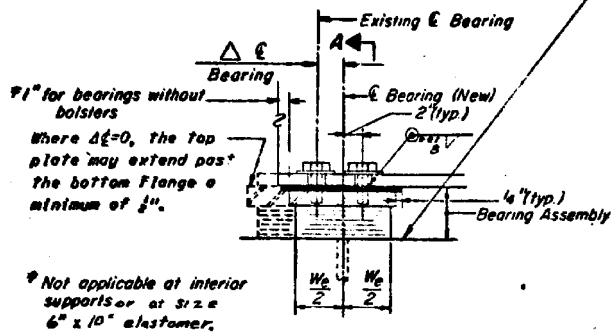
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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

CROSS BEAMS C16 AND C17	
LOCATION 4 - STRUCTURE NO. 016-1112	
SCALE: NTS	STA. TO STA.

F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 117
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

$\Delta \epsilon$ is with respect to girders except for bearings with bolsters

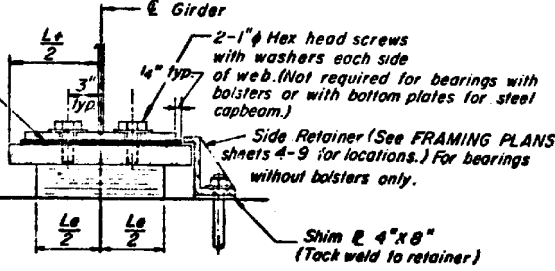


Not applicable at interior supports or at size 6" x 10" elastomer.

TYPICAL SECTION

Elastomer sits on a concrete capbeam except when bolster is required as scheduled on this sheet and steel capbeams as scheduled on sheet 16.

Use shim plates for field adjustments for bearings without bolsters and for bearings not on steel capbeams.



SECTION A-A

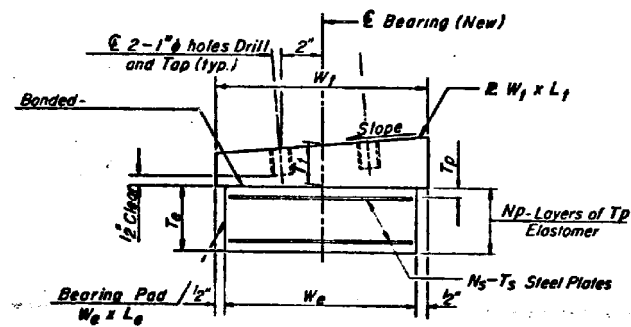
TYPE I ELASTOMERIC EXP. BRG.

TABLE OF DIMENSIONS AND THICKNESSES
TYPE I - BEARINGS WITH BOLSTERS

Section	Pier	Girder	Bottom Plates				Shim Plate Thickness	Anchor Bolt Diameter
			W _b	L _b	B _w	B _L		
		R5-R7	12"	22"	0"	8 1/2"	1 1/2"	
		R8	13"	24"	0"	8 1/2"	1 1/2"	
	19(N)	2L, 3L, 2R, 3R	12"	22"	0"	8 1/2"	1 1/2"	
106		1L, 1R	12"	22"	0"	8 1/2"	1 1/2"	
		4L, 5L, 4R, 5R	11"	20"	0"	8 1/2"	1 1/2"	
		6L-6L, 6R-6R	12"	22"	0"	8 1/2"	1 1/2"	

TABLE OF DIMENSIONS - TYPE I
ELASTOMERIC EXPANSION BEARINGS

W _c	L _c	Series	T _p	N _p	T _s	N _s	T _e
6"	10"	a	3/8"	3	14 ga.	2	1 1/2"
6"	10"	b	3/8"	5	14 ga.	4	1 1/2"
6"	10"	c	3/8"	6	14 ga.	5	2 1/2"
7"	12"	a	3/8"	3	3/32"	2	1 1/2"
7"	12"	b	3/8"	4	3/32"	3	1 1/2"
7"	12"	c	3/8"	5	3/32"	4	2 1/2"
9"	12"	a	3/8"	5	3/32"	4	2 1/2"
9"	12"	b	3/8"	7	3/32"	6	3 1/2"
9"	12"	c	3/8"	8	3/32"	7	3 1/2"
10"	14"	a	3/8"	5	1/8"	4	2 1/2"
10"	14"	b	3/8"	6	1/8"	5	3 1/2"
10"	14"	c	3/8"	7	1/8"	6	3 1/2"
10"	14"	d	3/8"	8	1/8"	7	4 1/2"
11"	16"	a	3/8"	4	1/8"	3	2 1/2"
11"	16"	b	3/8"	5	1/8"	4	3"
11"	16"	c	3/8"	6	1/8"	5	3 1/2"
11"	16"	d	3/8"	7	1/8"	6	4 1/2"
12"	18"	a	3/8"	3	3/16"	2	2 1/2"
12"	18"	b	3/8"	4	3/16"	3	2 1/2"
12"	18"	c	3/8"	5	3/16"	4	3 1/2"
12"	18"	d	3/8"	6	3/16"	5	4 1/2"
12"	18"	e	3/8"	7	3/16"	6	5 1/2"
14"	20"	a	3/8"	7	3/16"	6	5 1/2"
15"	22"	a	3/8"	6	3/16"	5	5 1/2"
16"	24"	a	3/8"	6	3/16"	5	5 1/2"

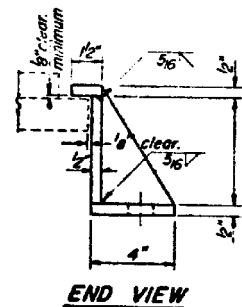


BEARING ASSEMBLY

If existing anchor bolt is located on new centerline it shall be used for new retainer. For bearings on steel capbeam provide new bolts as shown on sheet 16.

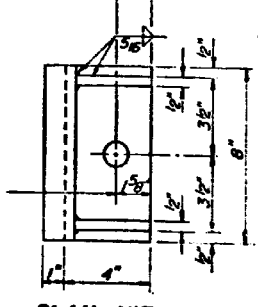
If existing anchor bolt interferes with retainer cut bolt at concrete surface. If existing anchor bolt is located so as to interfere with the placement of the new anchor bolt the entire bolt shall be removed.

If existing anchor bolt is located outside of retainer cut existing anchor bolt at concrete surface.



END VIEW

Side Retainer hole 4" larger in diameter than bolt.



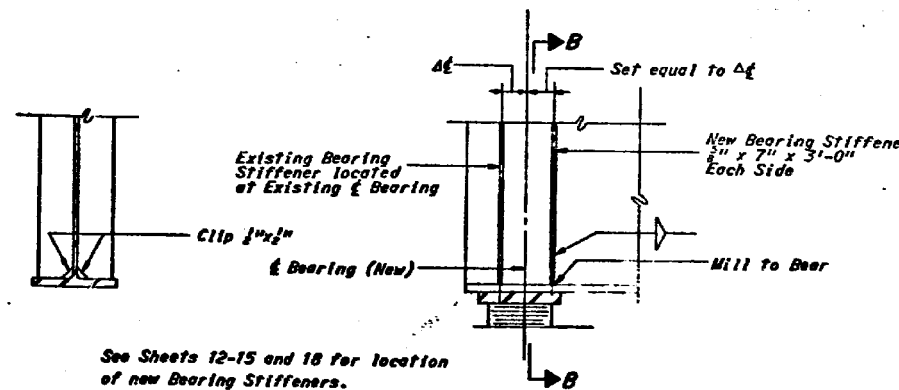
PLAN VIEW

SIDE RETAINER

Substitute guide bracket for side retainer for bearings with bolsters at locations shown on FRAMING PLANS sheets 4-9. For detail of GUIDE BRACKET see sheet 20.

For definitions of W_b, L_b, B_w, and B_L see sheets 20 and 21. B_w is used when the bearings have four anchor bolts, otherwise B_w is equal to zero. Furnish shims as required.

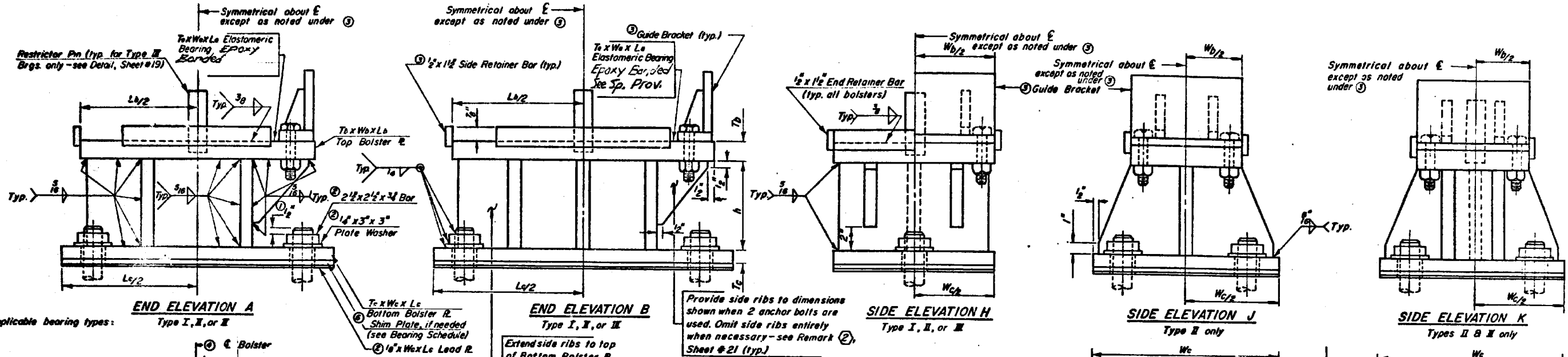
Centerline of elastomeric bearing and centerline of bolster shall be coincident with existing centerline of anchor bolts except for Pier 22 (South). See sheet 23. Top bolster plate thickness (T_b) = 1 1/2"



SECTION B-B

ADDITIONAL BEARING STIFFENER DETAIL

T_p denotes thickness of each elastomeric layer
N_p denotes number of elastomeric layers
T_s denotes thickness of each steel plate
N_s denotes number of steel plates



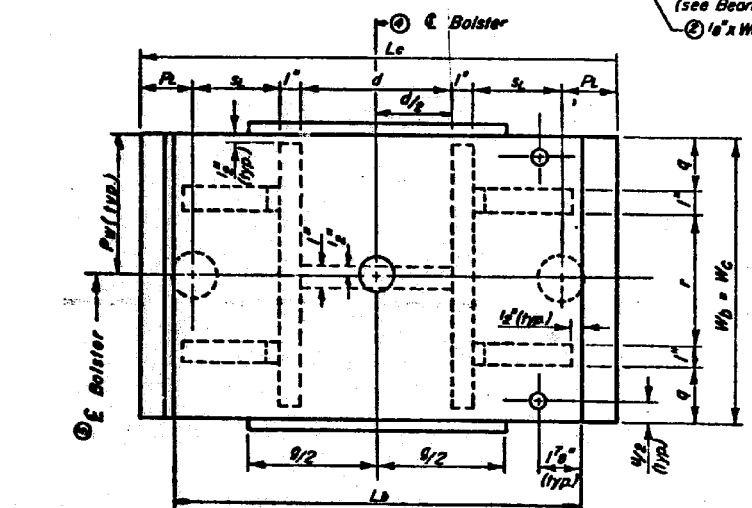
END ELEVATION A
Type I, II, or III

END ELEVATION B
Type I, II, or III

SIDE ELEVATION H
Type I, II, or III

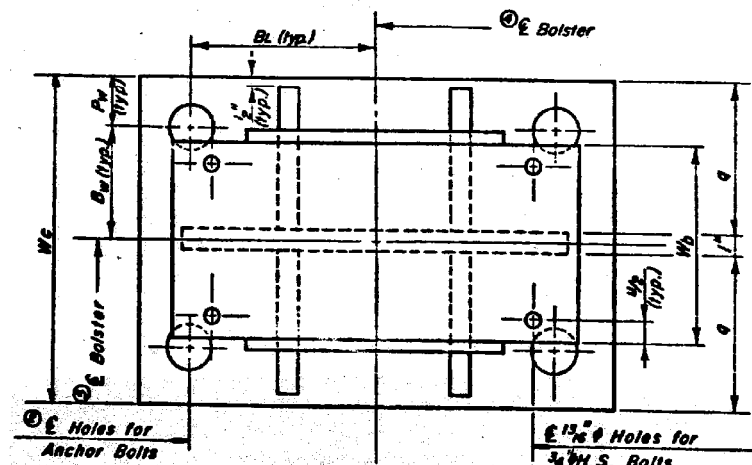
SIDE ELEVATION J
Type II only

SIDE ELEVATION K
Types II & III only



BOLSTER PLAN A-H
Type I, II, or III

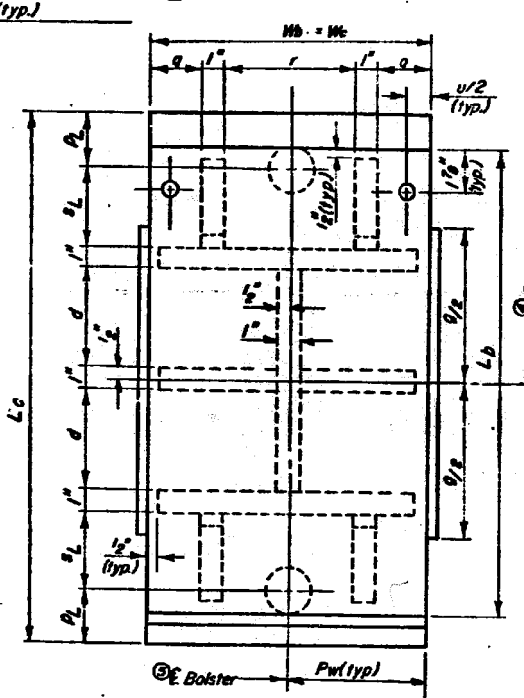
Applicable bearing types: Type I, II, or III



BOLSTER PLAN A-J
Type II only

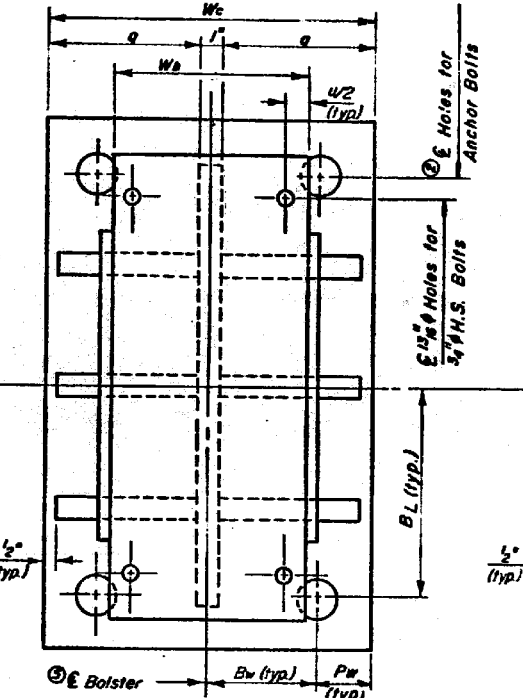
Applicable bearing types: Type II only

- Notes:**
- Existing anchor bolts shall be cut off by mechanical means to provide 2" dimension above bar. Provide 1/2" dimension above bar for new anchor bolts.
 - Holes for all the anchor bolts in the bottom bolster plate, shim plate and lead plate shall be 1/8" larger in diameter than the anchor bolts themselves. Holes in the 2 1/2" x 2 1/2" bars and in the 3" x 3" plate washers shall be 1/8" larger in diameter than the anchor bolts.
 - The 1/2" x 1 1/2" side-retainer bars shall be furnished for all bolsters supporting Type I bearings, except as shown on the Framing Plans where the guide bracket assembly and the 1/2" H.S. bolts will be substituted. For those bolsters supporting Types II or III bearings, the guide bracket assembly and 1/2" H.S. bolts shall be substituted for the side-retainer bars.
 - The 1/2" bolster, as shown, shall be coincident with the T.F.E. bearing assembly. The T.F.E. bearing assembly shall be coincident with the 1/2" girder, unless otherwise noted.
 - The 1/2" bolster, as shown, shall be coincident with the new and existing 1/2" bearing, unless otherwise noted.
 - Shim plates shall have the same plan dimensions as the bottom bolster plate.



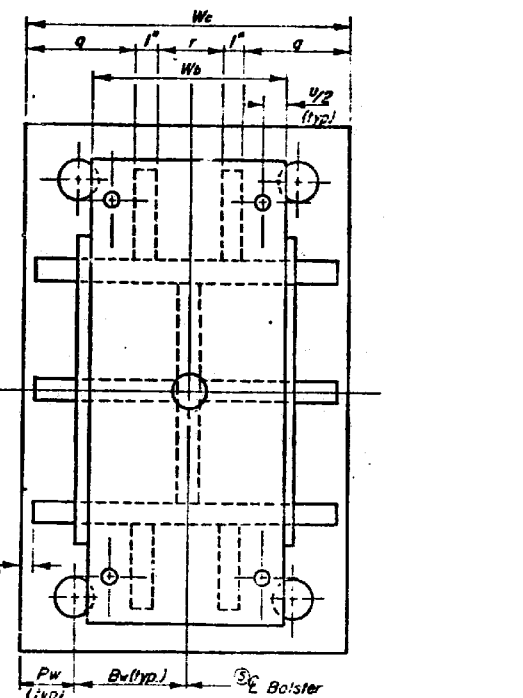
BOLSTER PLAN B-H
Type I & II only

Applicable bearing types: Types I & II only



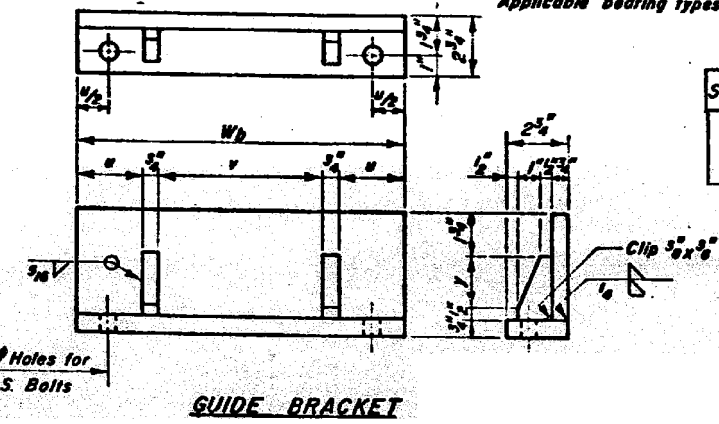
BOLSTER PLAN B-J
Type II only

Applicable bearing types: Type II only



BOLSTER PLAN B-K
Types II & III only

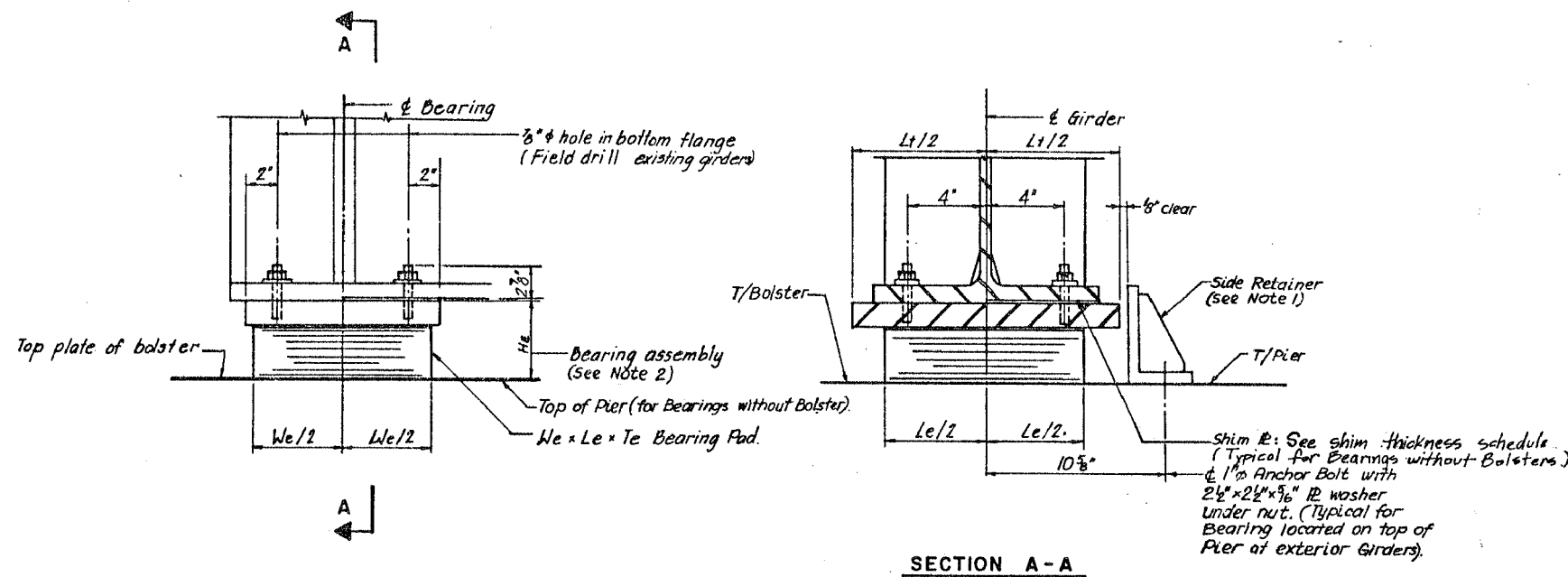
Applicable bearing types: Types II & III only



GUIDE BRACKET

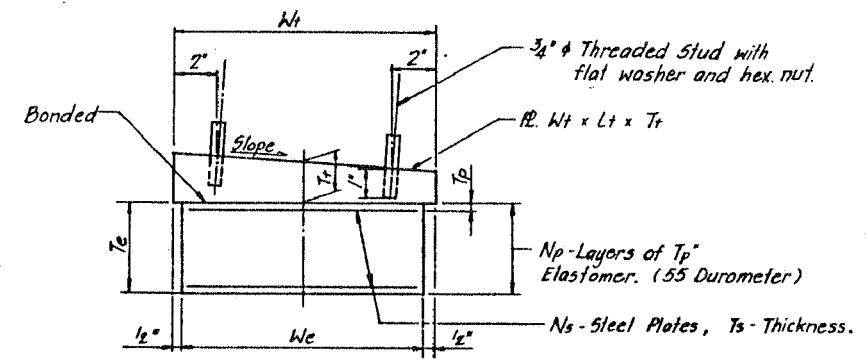
SECTION	PIER	GIRDER	NO. REQ'D	BEARING TYPE	PLAN VIEW		BOTTOM BOLSTER PLATE		d	g	P _L	P _W	q	r	s _L	u	v	y	h	REMARKS	
					END	SIDE	T _C	W _C													L _C
106	19 (S)	1L-3L, 1R-3R	6	II	A	H	1"	10"	19"	7"	9"	2"	5"	2 1/2"	3"	3"	2"	4 1/2"	12"	5 1/2"	
		1L-3L, 1R-3R	6	I	B	H	1"	12"	22"	4 1/2"	13"	2 1/2"	6"	2 1/2"	5"	2 1/2"	2"	6 1/2"	2 1/2"	5"	(3)
		4L-5L, 4R-5R	4	I	B	H	1"	11"	21"	4 1/2"	11"	2"	5 1/2"	2 1/2"	2"	2 1/2"	2"	5 1/2"	2 1/2"	5 1/2"	(3)
19 (N)	6L-6L, 6R-6R	6L-6L, 6R-6R	6	I	B	H	1"	12"	22"	4 1/2"	13"	2 1/2"	6"	2 1/2"	5"	2 1/2"	2"	6 1/2"	12"	5 1/2"	(3)
		6L-6L, 6R-6R	6	I	B	H	1"	12"	22"	4 1/2"	13"	2 1/2"	6"	2 1/2"	5"	2 1/2"	2"	6 1/2"	12"	5 1/2"	(3)

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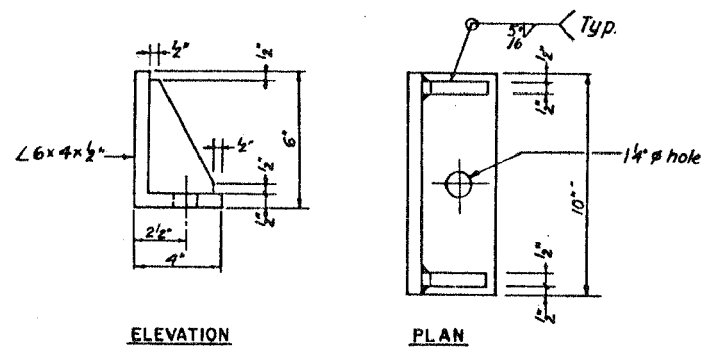


TYPICAL ELEVATION

TYPE I ELASTOMERIC EXPANSION BEARING



BEARING ASSEMBLY



ELEVATION

PLAN

SIDE RETAINER DETAILS

TABLE OF DIMENSIONS - TYPE I ELASTOMERIC EXPANSION BEARINGS

W _e	L _e	SERIES	T _p	N _p	T _s	N _s	T _e
9	12	b	3/8	7	5/16	6	5 3/16
10	14	a	7/16	5	1/8	4	2 1/4
10	14	b	7/16	6	1/8	5	3 1/4

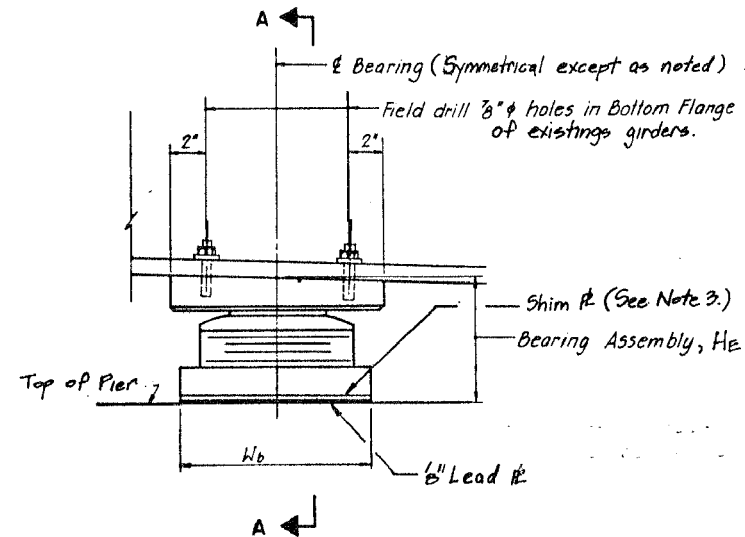
TYPE I ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE	PIER LOCATION	GIRDER NO.	W _e	L _e	SERIES	TOP PLATE			SLOPE %	y	H _e	NO. REQ'D	REMARKS
						T _p	N _p	T _s					
016-1112	X 12(S)	GIR-GBR	10	14	b	2 3/8	11	16	29	6	5 3/8	8	R,E (GIR,GBR)
	X 12(N)	GIR-GBR	10	14	b	2 3/8	11	16	30	6	5 3/8	8	R,E (GIR,GBR)
	X 14(S)	GIR-GBR	10	14	b	2 3/8	11	16	25	6	5 3/8	8	R,E (GIR,GBR)
	X 14(N)	GIR-GBR	10	14	b	2 3/8	11	16	20	6	5 3/8	8	R,E (GIR,GBR)
	X 21(S)	GIR-GMR	10	14	b	2 3/8	11	16	16	6	5 3/8	14	R,B
	X 22(S)	GIR, G2R	10	14	b	2 3/8	11	16	3.1	6	5 3/8	2	R,E (GIR)
		G3R-G1R	10	14	b	2 3/8	11	16	1.7	6	5 3/8	10	R,E (G1R)
	X 26(N)	GIR-G1R	10	14	b	2 3/8	11	16	1.6	6	5 3/8	11	R,E (GIR,G1R)
	X 29(S)	G5R-G1R	10	14	b	2 3/8	11	16	1.6	6	5 3/8	7	R,E (G1R)
	X 29(N)	G5R-G1R	10	14	b	2 3/8	11	16	1.6	6	5 3/8	7	R,E (G1R)
	X 31(S)	G1R-G1R	10	14	b	2 3/8	11	16	1.0	6	5 3/8	11	R,E (G1R,G1R)
	X 31(N)	G1R-G1R	10	14	b	2 3/8	11	16	1.0	6	5 3/8	9	R,E (G1R)
		GNI	10	14	b	2 3/8	11	16	1.0	6	5 3/8	1	N,E
	X C13(M)	GIC-G5C	10	14	b	2 1/2	11	16	2.3	6	5 3/8	5	R,E (G5C)
		GCI	10	14	b	2 1/2	11	16	2.3	6	5 3/8	1	N,E
	X C14(N)	GIC-G5C	9	12	b	2	10	14	2.0	5	4 5/16	5	R,B
		GCI	9	12	b	2	10	14	2.0	5	4 5/16	1	N,B
	X C15(N)	GCI	9	12	b	1 3/4	10	14	2.3	5	4 5/16	1	N,E
	X C16(N)	GCI-GC4	9	12	b	1 3/4	10	14	2.3	5	4 5/16	4	N,E (GCI,GC4)
	X C18(S)	GCI	9	12	b	1 3/4	10	14	2.0	5	4 5/16	1	N,E
X C19(S)	GIC-G5C	9	12	b	2	10	14	1.0	6	5 3/8	5	R,B	
	GCI	9	12	b	2	10	14	1.0	6	5 3/8	1	N,B	
X C20(S)	GIC-G5C	9	12	b	2	10	14	0.0	6	5 3/8	5	R,E (GIC)	
	GCI	9	12	b	2	10	14	0.0	6	5 3/8	1	N,E	
X C20(N)	GIC-G5C	9	12	b	2	10	14	0.0	6	5 3/8	5	R,E (GIC)	
X D12(S)	G1D-G5D	9	12	b	2	10	14	5.0	6	5 3/8	5	R,B	
	GDI	9	12	b	2	10	14	5.0	6	5 3/8	1	N,B	
X D12(N)	G1D-G5D	9	12	b	2	10	14	5.2	6	5 3/8	5	R,B	
	GDI	9	12	b	2	10	14	5.2	6	5 3/8	1	N,B	
X D14(Abut)	GDI-G4D	9	12	b	2	10	14	5.4	6	5 3/8	4	R,B	
	GDI-GD2	9	12	b	2	10	14	5.4	6	5 3/8	2	N,B	

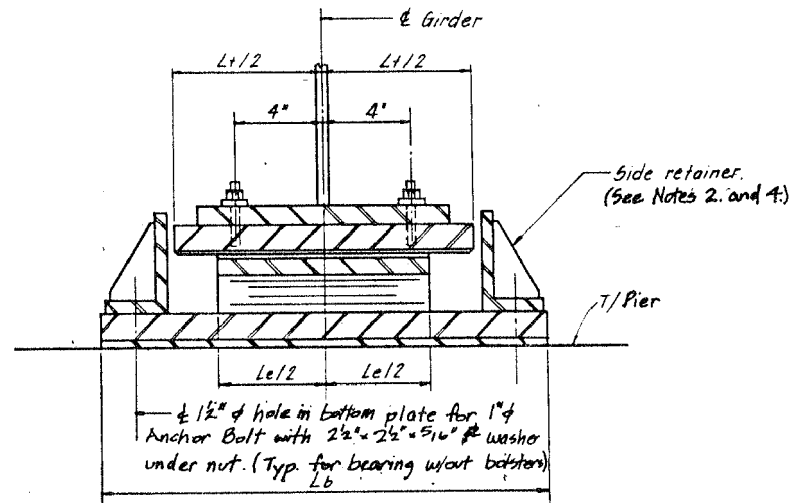
Remarks: B - Bolster required. See Bolster Schedule and Details.
 E - Provide Side Retainer at inside face of Exterior Girder.
 N - New Bearings for Roadway Widening.
 R - Replacement Bearings for existing girders.
 ⊗ - See Bolster Schedule for y and H_e dimensions.

Notes:
 1. Side Retainer details for Bearings located on top of Pier are shown on this sheet. For Bearings requiring Bolster, see Bolster Detail sheet for Side Retainer Details.
 2. Height of Bearing Assembly, H_e, includes the Top Plate and Elastomeric Pad and does not include Shim Plate.

FILE NAME = I:\7290\7290.12 - Bridge Painting III\ACADD\4-016-1112 - Main\me\58_016-1112.Brgs 5.dgn

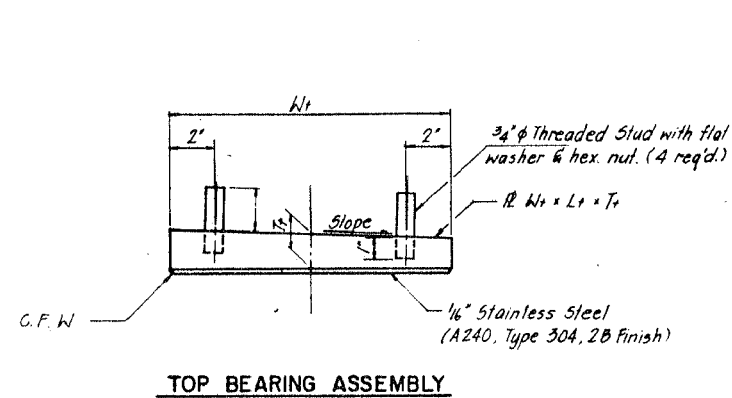


TYPICAL ELEVATION

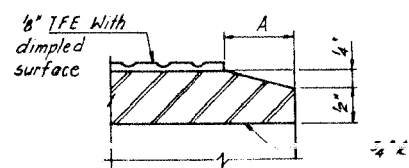
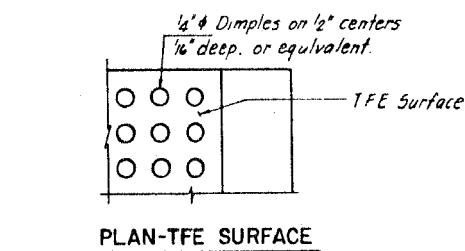


SECTION A - A

TYPE II TFE ELASTOMERIC EXPANSION BEARING



TOP BEARING ASSEMBLY

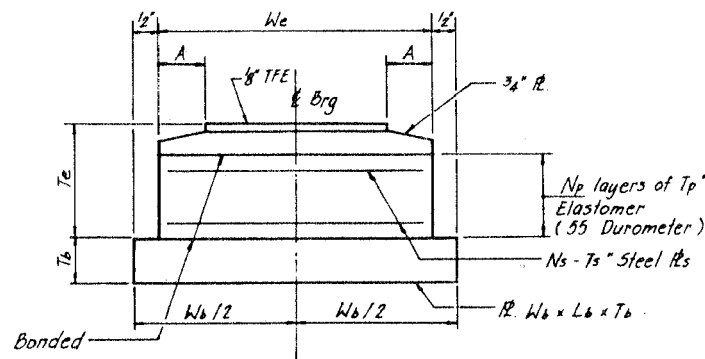


SECTION THRU TFE

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.

We	6"	7"	9"	10"	11"	12"
A	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"



BOTTOM BEARING ASSEMBLY

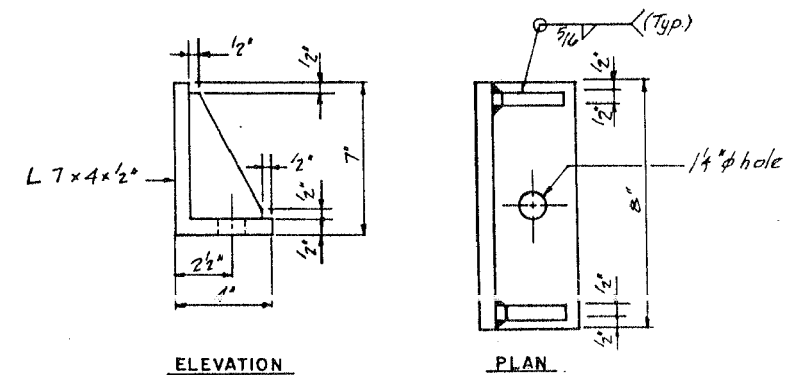
TYPE II ELASTOMERIC EXPANSION BEARING SCHEDULE

STRUCTURE	PIER LOCATION	GIRDER NO.	We	Le	SERIES	TOP PLATE				BOTTOM PLATE			He	NO. REQ'D	REMARKS
						Tt	Wt	Lt	SLOPE%	Tb	Wb	Lb			
016-1112	X15(N)	GIR-G0R	9	12	b	2	10 1/2	4	15	14	10	22 1/2	7 1/2	8	R
	X22(N)	GIR-G12R	9	12	b	2	10 1/2	14	2.2	14	10	22 1/2	7 1/2	12	R
	X26(S)	GIR-G12R	9	12	b	2	10 1/2	14	2.0	14	10	22 1/2	7 1/2	12	R

Remarks: R - Replacement bearings.

TABLE OF DIMENSIONS - TYPE II ELASTOMERIC EXPANSION BEARINGS

We	Le	SERIES	Tp	Np	Ts	Ns	Te
9	12	b	3/8	7	3/32	6	4 1/16

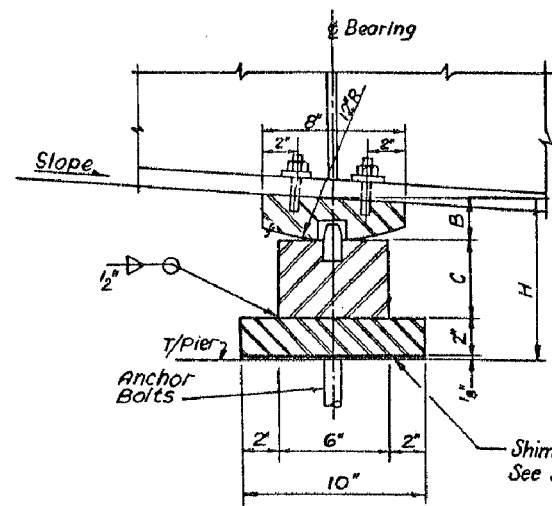


SIDE RETAINER DETAILS

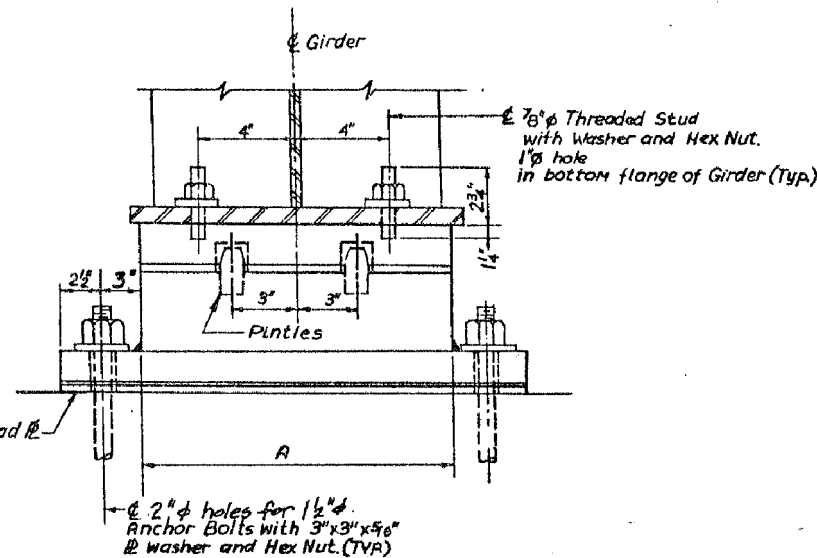
NOTES:

- Height of bearing assembly, He, includes top plate, elastomeric assy, bottom plate, and b' lead plate. He does not include shim plate.
- Side retainer details for bearings located on top of pier are shown on this sheet. For bearings requiring a bolster, see bolster details for side retainer details.
- See shim thickness schedule for required shims. Shims located in this position are typical for bearings without bolsters.
- For bearings without Bolster the side Retainer shall be tack welded to bottom plate as shown after the girder and bearing assembly have been set into their final position.

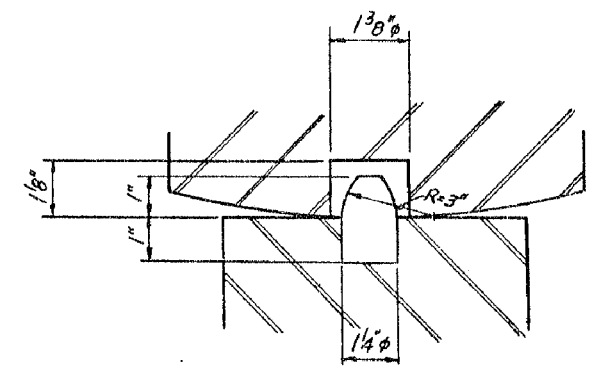
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SECTION



ELEVATION



PINTLE DETAIL

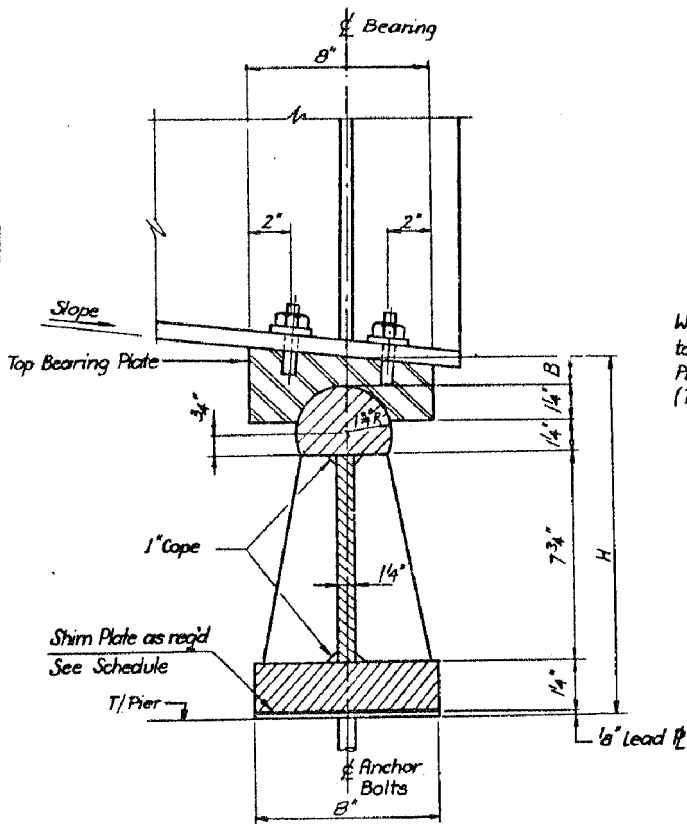
TYPE F3 FIXED ROCKER

(Fixed Bolster)

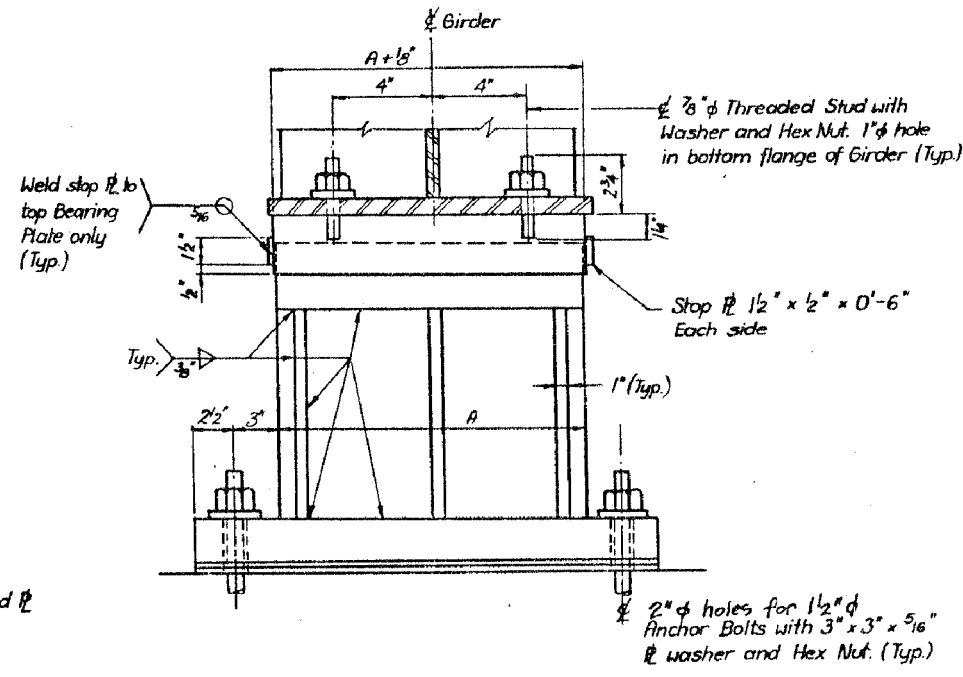
FIXED BEARING SCHEDULE - ROADWAY WIDENING

STRUCTURE	PIER LOCATION	GIRDER NO.	NO. REQ'D.	BEARING TYPE	A"	B"	C"	H"	SLOPE %
016-1112	1(S) ⊕	GN-1	1	F3	15	2 1/2	8 3/4	13 1/8	0.0
	X C14 (S)	GC-1	1	F4	13	1 7/8	-	13 1/2	2.6
	X C19 (N)	GC-1	1	F4	13	1 7/8	-	13 1/2	0.0
	X D11 (N)	GD-1	1	F3	15	2 1/2	12 3/4	17	4.7
	X D13 (S)	GD-1	1	F3	15	2 1/2	2 5/8	6 7/8	5.7
X D13 (N)	GD-1,2	2	F3	15	2 1/2	2 5/8	6 7/8	4.7	

⊕ - Pier No. 1(S) from structure no. 016-1111



SECTION



ELEVATION

TYPE F4 FIXED ROCKER

FILE NAME = I:\7290\7290.12 - Bridge\Painting\III\AC000\4\016-1112 - Main\me60.016-1112.Brgs 7.dgn

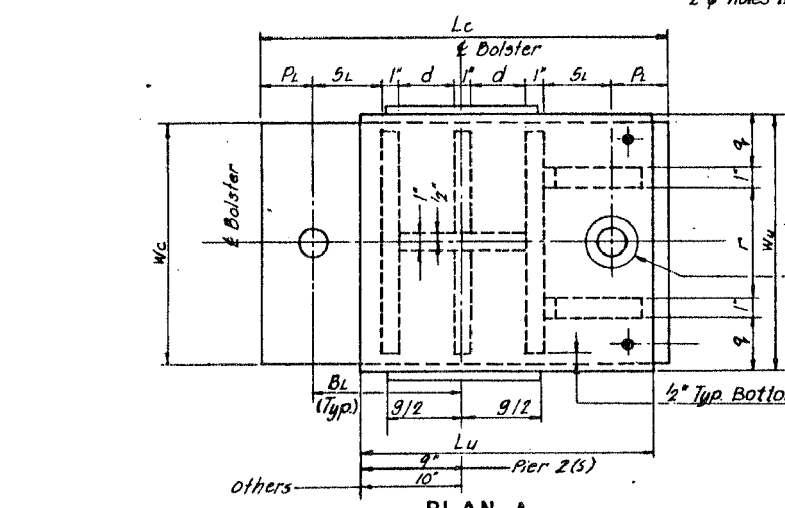
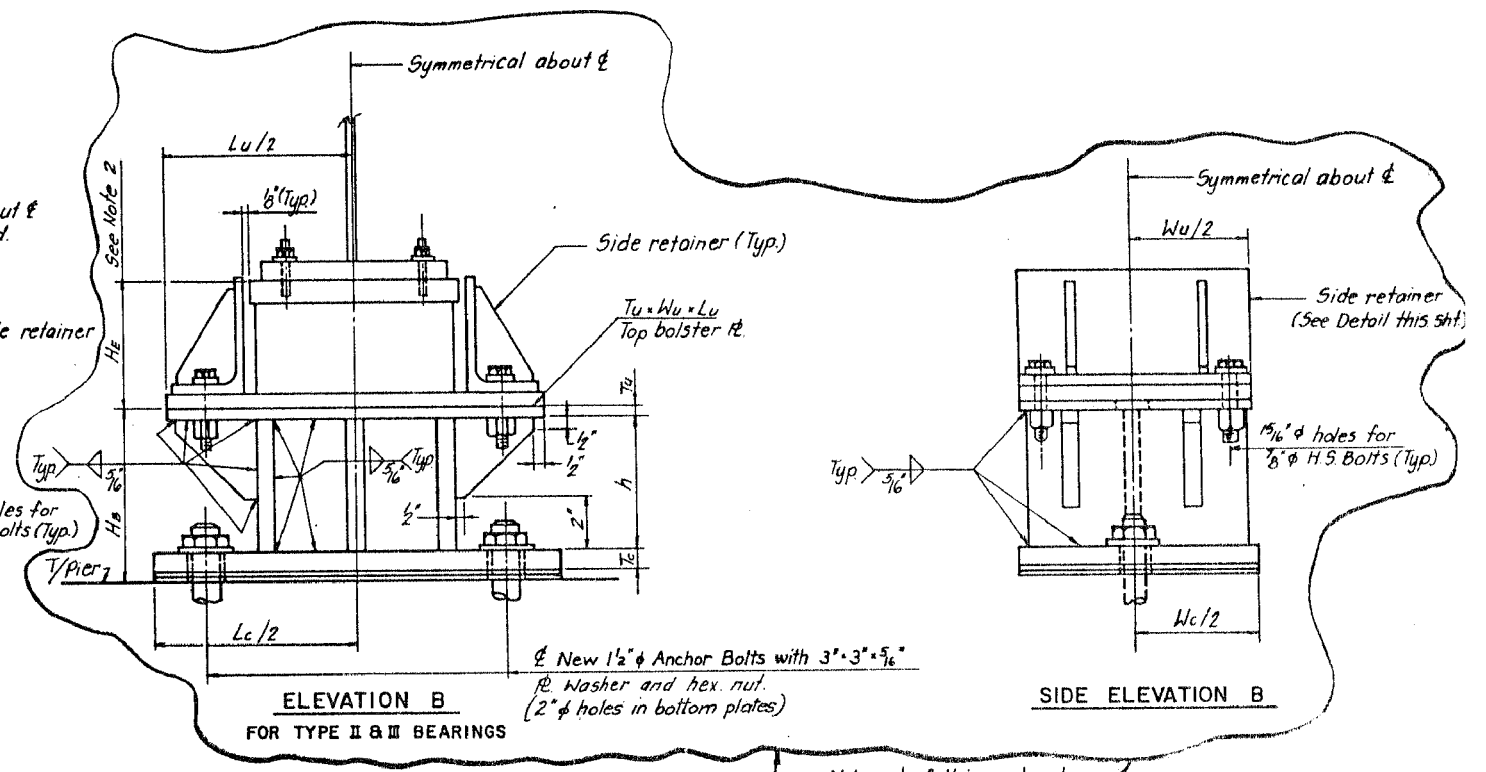
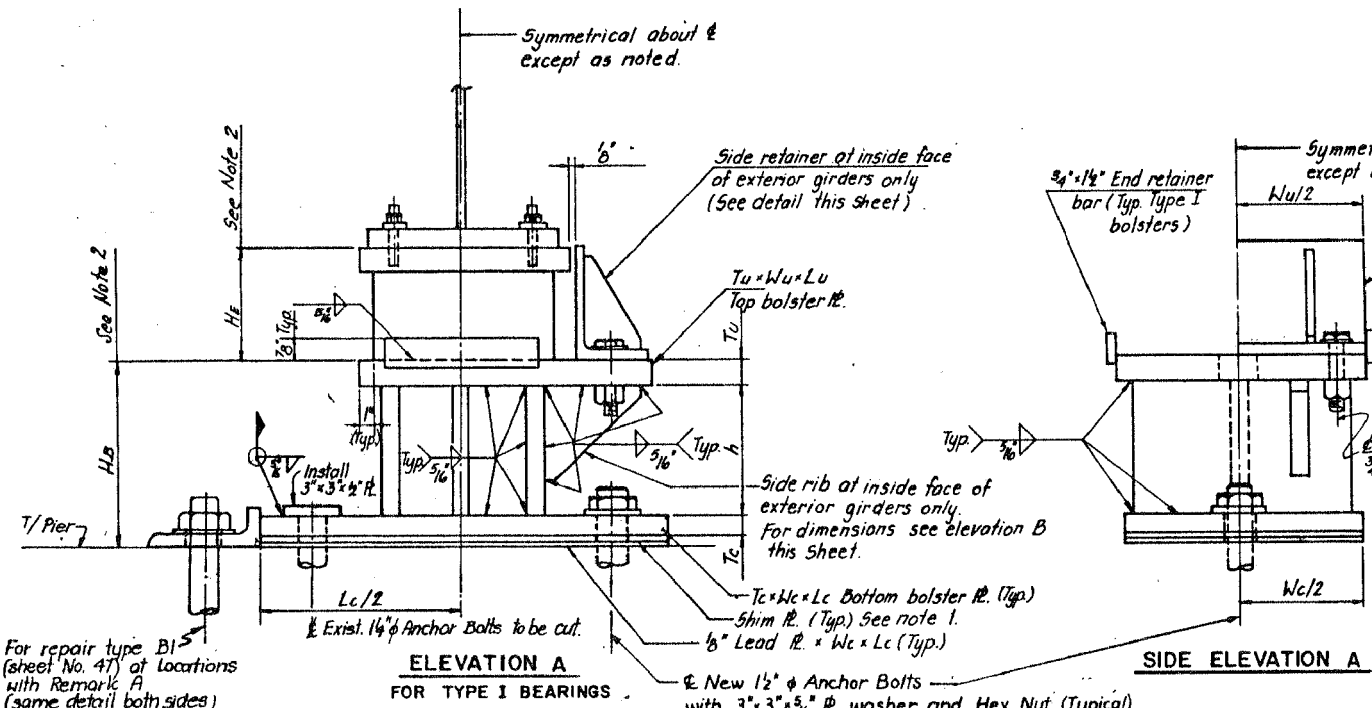


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PLOT DATE = 6/23/2016	DATE - JUNE, 2016	REVISED -

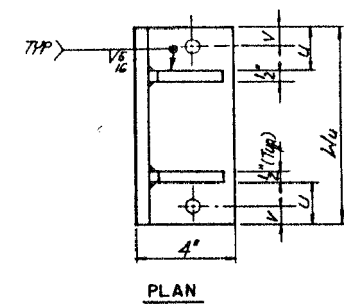
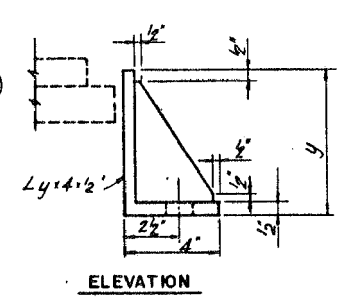
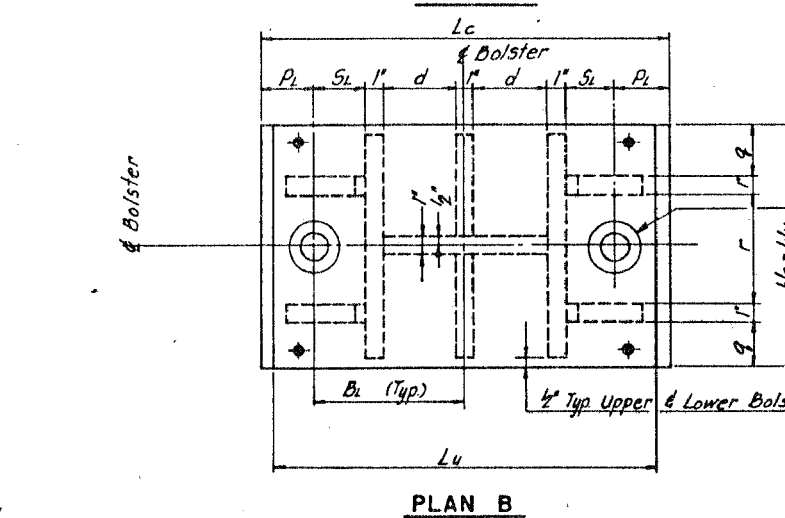
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIXED BEARING DETAILS (1989)
LOCATION 4 - STRUCTURE NO. 016-1112
SCALE: NTS STA. TO STA.

F.A.I. R.T.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 124
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



Notes:
 1. Provide Shim R. with thickness as needed. Shim R. shall have same plan dimensions as bottom R. of bolster, Wc x Lc see schedule.
 2. Hc - Height of bearing assembly, by bearing manufacturer.
 Hb - Height of bolster assembly including b" lead R., but not the shim R's.



BOLSTER SCHEDULE FOR ELASTOMERIC BEARINGS

STRUCTURE	PIER LOCATION	GIRDER NO.	NO. REQD.	BEARING TYPE	PLAN & ELEV.	TOP BOLSTER R.			BOTT. BOLSTER R.			ANCH. BOLT.		d	g	Pl.	q	r	Sl	u	v	y	h	Hb	Hc	REMARKS	
						Tu	Wu	Lu	Tc	Wc	Lc	Bw	Bt														Ø
016-1112	Z1(S)	G1R, G4R	2	I	A	1	11/2	20 1/2	1	11	22	0	8 1/2	1 1/2	4 1/2	12	2 1/2	4 1/2	2 1/2	1 1/4	6	5 3/8	8 5/8	5 3/8	E, A		
		G2R-G3R	12	I		1	11/2	16	1	11	22											6	5 3/8	8 5/8	5 3/8	A	
C14(N)		G1C-G4C	4	I		1	10 1/2	14	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, (5)		
		G1C	1	I		1	10 1/2	18 1/2	1	10	22				10						2 1/2	3 1/2	2 1/2	1 1/4	6	6 3/8	8 5/8
C19(S)		G1C, G1C	2	I		1	10 1/2	18 1/2	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, A(1D)		
		G2C-G5C	4	I		1	10 1/2	14	1	10	22				10						6	6 3/8	8 5/8	5 3/8	A		
D12(S)		G1D	1	I		1	10 1/2	18 1/2	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, A(1D)		
		G2D, G5D	4	I		1	10 1/2	14	1	10	22				10						6	6 3/8	8 5/8	5 3/8	A		
D12(N)		G1-D	1	I		1	10 1/2	18 1/2	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, A(1D)		
		G2-D-G5-D	4	I		1	10 1/2	14	1	10	22				10						6	6 3/8	8 5/8	5 3/8	A		
D14(N)		G1-D	1	I		1	10 1/2	18 1/2	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, A(1D)		
		G2-D-G5-D	4	I		1	10 1/2	14	1	10	22				10						6	6 3/8	8 5/8	5 3/8	A		
D14(Abut)		G1D, G4D	2	I		1	10 1/2	18 1/2	1	10	22				10						6	6 3/8	8 5/8	5 3/8	E, A(1D)		
		G2D, G4D	3	I	A	1	10 1/2	14	1	10	22	0	8 1/2	1 1/2	4 1/2	10	2 1/2				6	6 3/8	8 5/8	5 3/8	A		
D14(Abut)		G1-D	1	I	A	1	10 1/2	14	1	10	22	0	8 1/2	1 1/2	4 1/2	10	2 1/2				6	6 3/8	8 5/8	5 3/8	A		
		G2-D	1	I	A	1	10 1/2	14	1	10	22	0	8 1/2	1 1/2	4 1/2	10	2 1/2				6	6 3/8	8 5/8	5 3/8	A		

Remarks: A - Set new anchor bolt with repair Type B1; E - Provide side retainer at inside face.

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1986-004 1), UNLESS NOTED OTHERWISE.

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COLLINS ENGINEERS

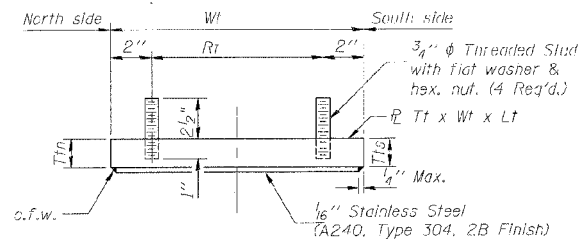
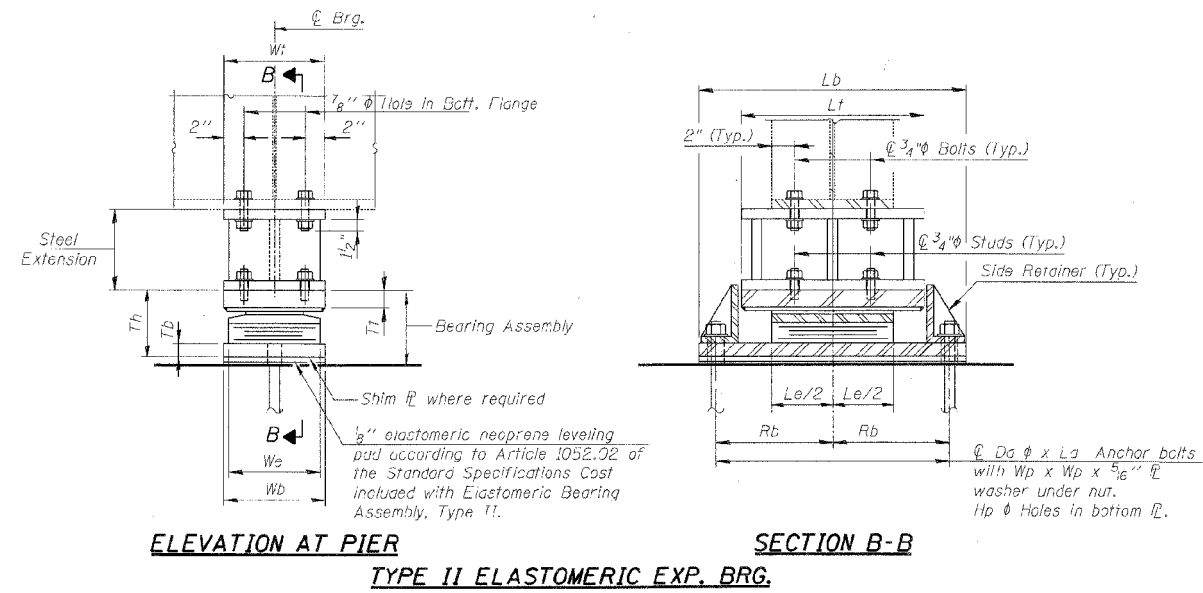
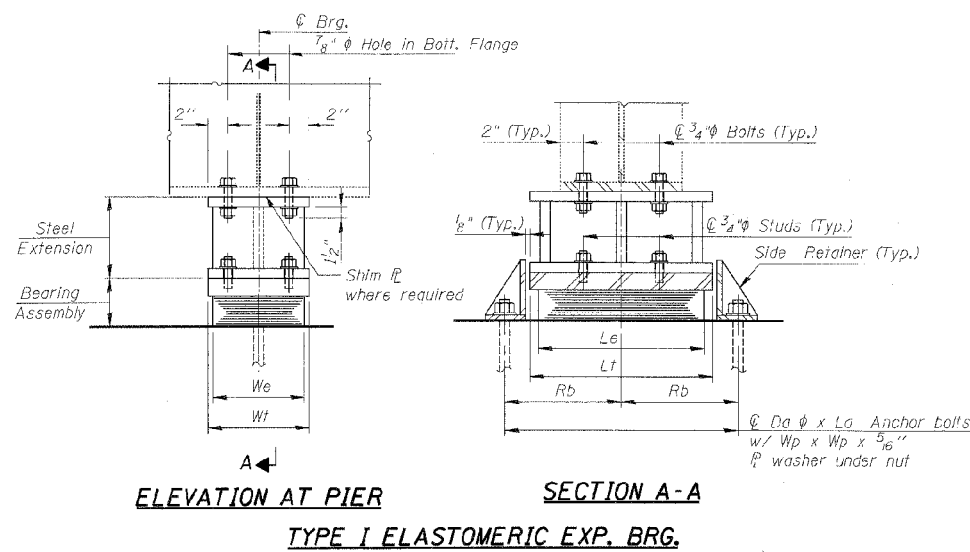
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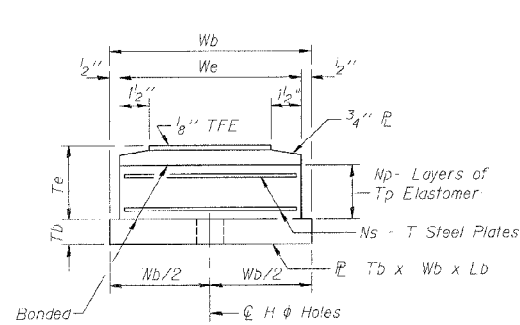
**BOLSTER DETAILS (1989)
LOCATION 4 - STRUCTURE NO. 016-1112**

SCALE: NTS STA. TO STA.

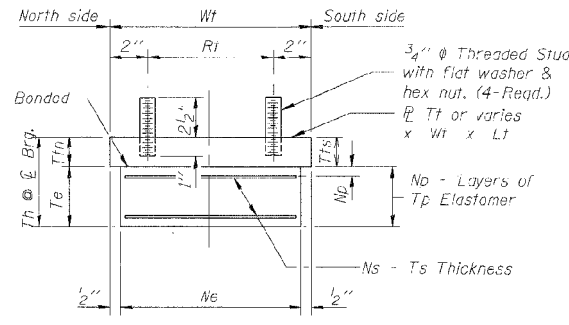
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90/94	2012-043BP	COOK	147	125
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



TOP BEARING ASSEMBLY FOR TYPE II BEARINGS



BOTTOM BEARING ASSEMBLY



BEARING ASSEMBLY

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

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place for Type I bearings.

Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Field drills in bottom flanges, side retainers and other steel members (except steel extensions) required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I or Type II.

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 1. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

ELASTOMERIC BEARING SCHEDULE (TYPE I AND II)

Bearing Location	Pier	Type	Bearing Designation	No. Req.'d	Th	Elastomeric Bearing						Top Plate				Bottom Plate			Anchor Bolts				Side Retainer							
						We	Le	Te	Tp	Np	Ts	Ns	Wt	It	Ttn	Tts	Rt	Wb	Lb	Tb	Dc	La	Rb	H	Wp	y	z	t	Hr	v
016-1112	A14	I	14-b	5	6 1/8	14	22	3 5/8	1/2	4	3 1/8	3	15	24	2 3/8	2 5/8	11	-	-	-	1 1/2	18	14 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6 9/16
	A17	I	14-b	5	6 1/8	14	22	3 5/8	1/2	4	3 1/8	3	15	24	2 3/8	2 5/8	11	-	-	-	1 1/2	18	14 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6 9/16
	A23	I	14-b	5	6 1/8	14	22	3 3/8	1/2	4	3 1/8	3	15	24	2 3/4	2 3/4	11	-	-	-	1 1/2	18	14 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6 9/16
	A25	I	14-b	5	6 1/8	14	22	3 5/8	1/2	4	3 1/8	3	15	24	2 3/4	2 3/4	11	-	-	-	1 1/2	18	14 7/8	-	3	2 3/4	5 1/2	5/8	1 3/4	6 9/16

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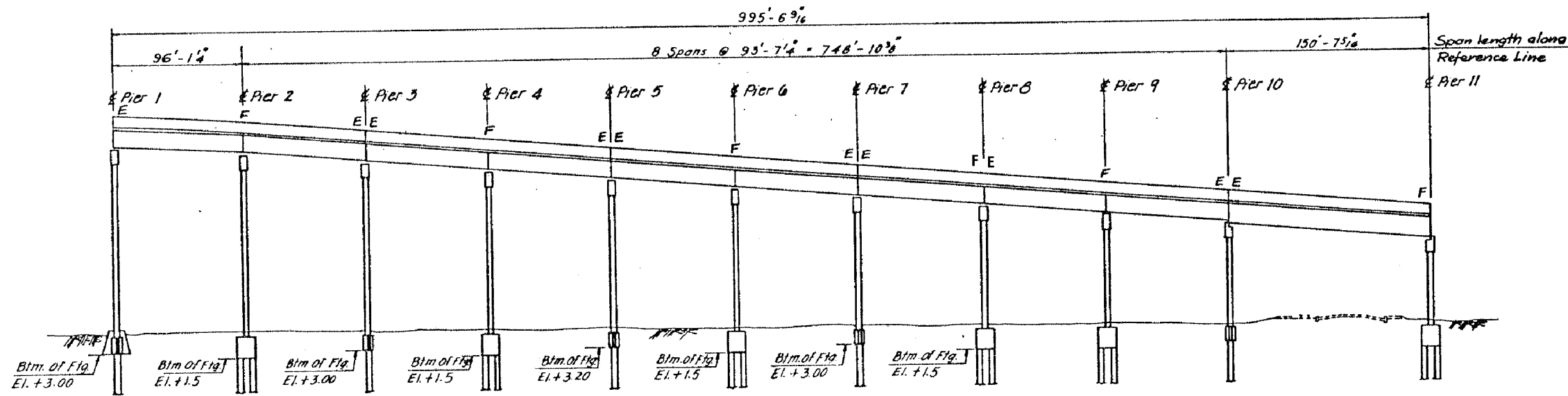
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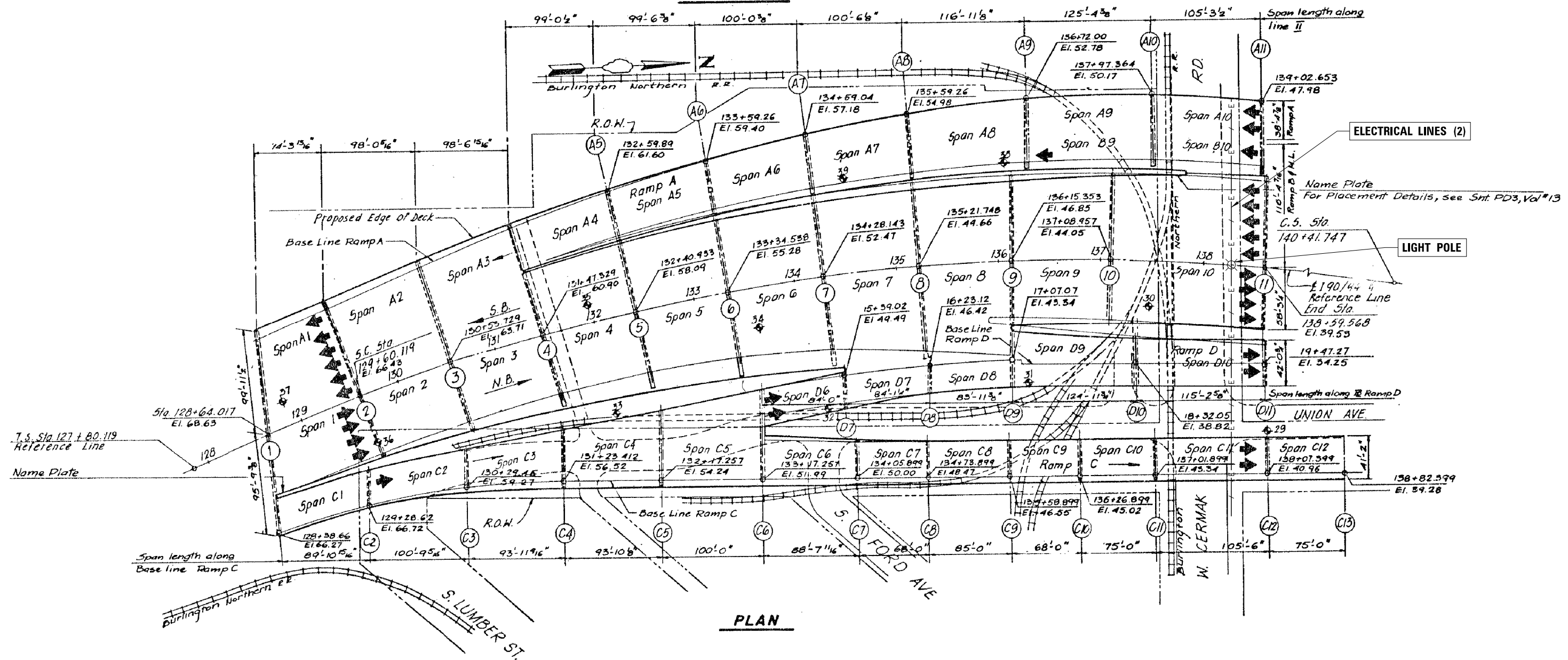
ELASTOMERIC BEARING DETAILS (2008)
LOCATION 4 - STRUCTURE NO. 016-1112

SCALE: NTS STA. TO STA.

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-043BP	COOK	147	126
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN

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COLLINS ENGINEERS

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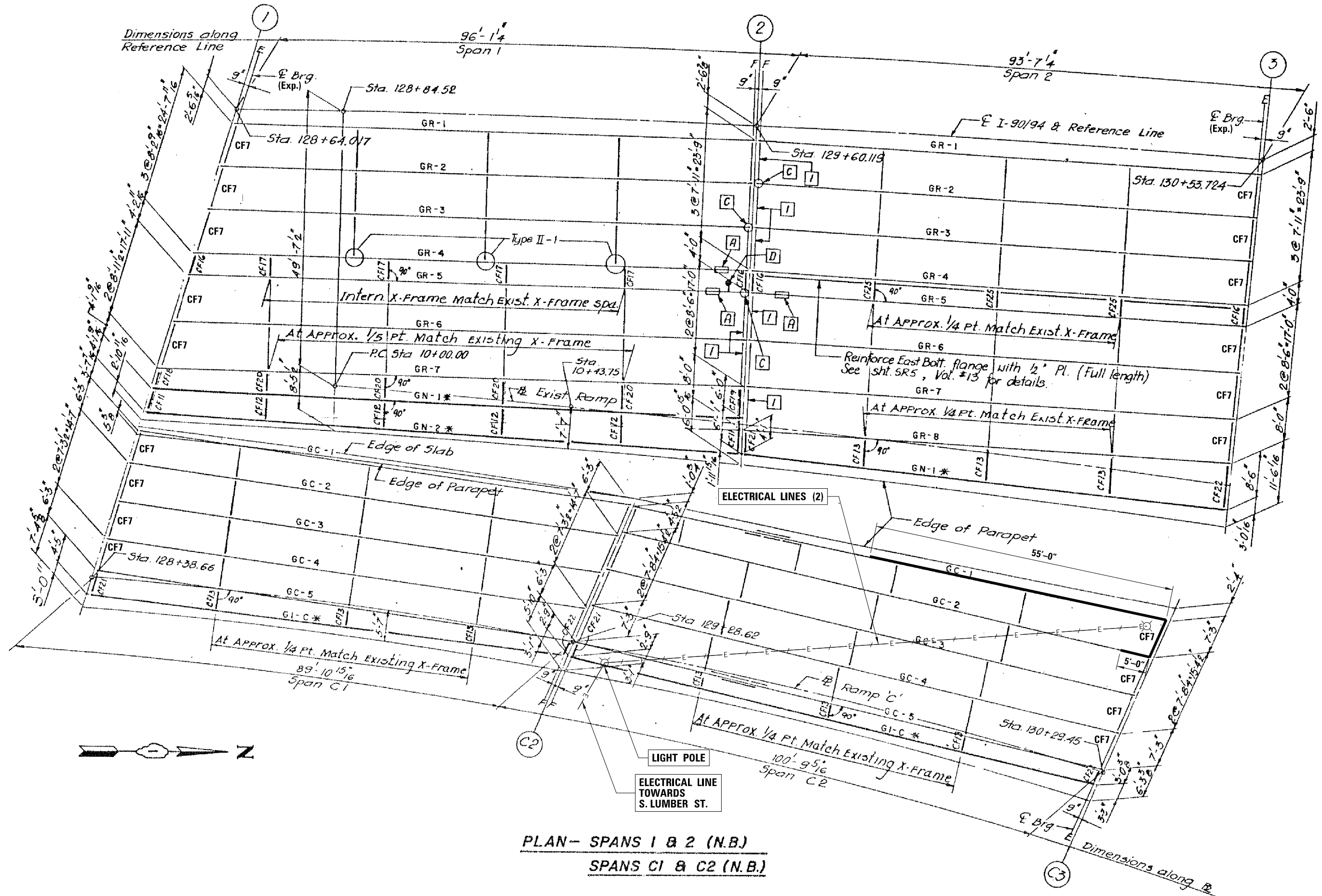
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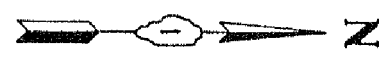
**GENERAL PLAN AND ELEVATION - LOCATION 5
 STRUCTURE NO. 016-1113**

SCALE: NTS STA. TO STA.

F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 127
CONTRACT NO. 60V21				ILLINOIS FED. AID PROJECT



PLAN - SPANS 1 & 2 (N.B.)
 SPANS C1 & C2 (N.B.)



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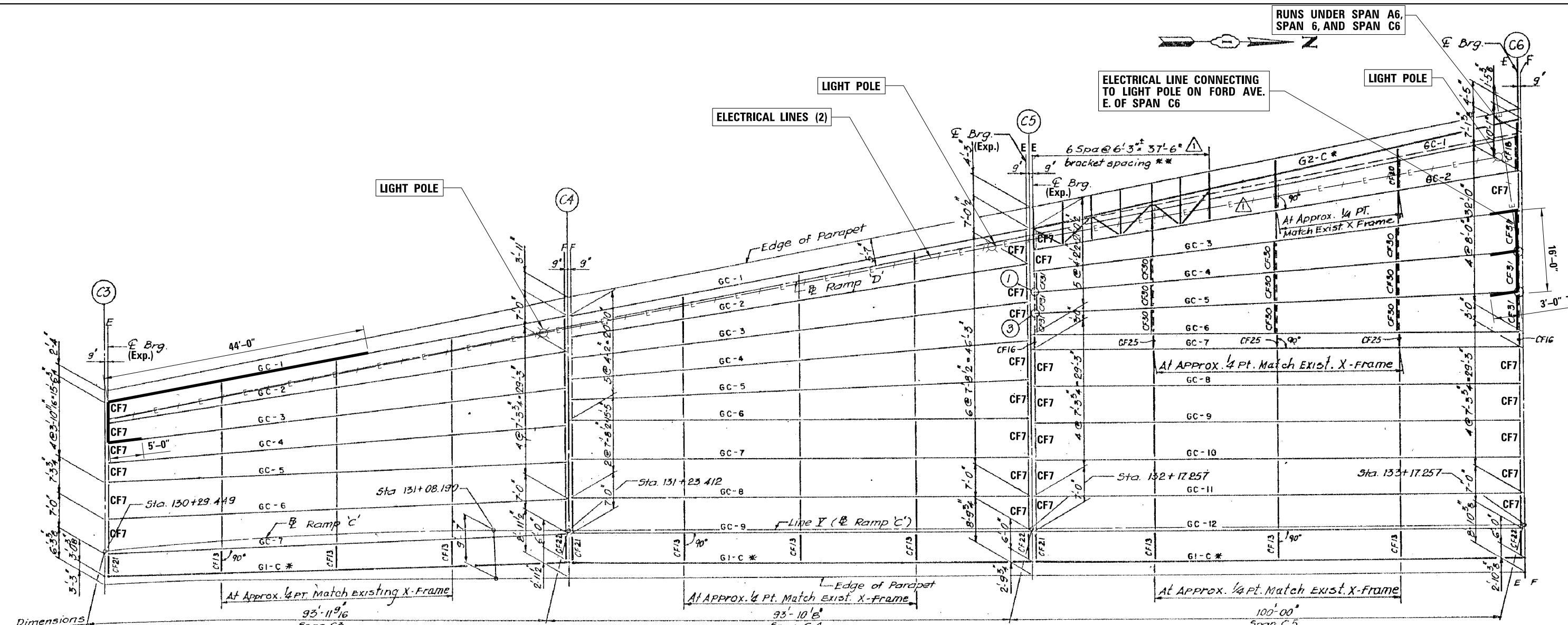
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FRAMING PLAN SPANS 1, 2, C1 & C2 - LOCATION 5
 STRUCTURE NO. 016-1113

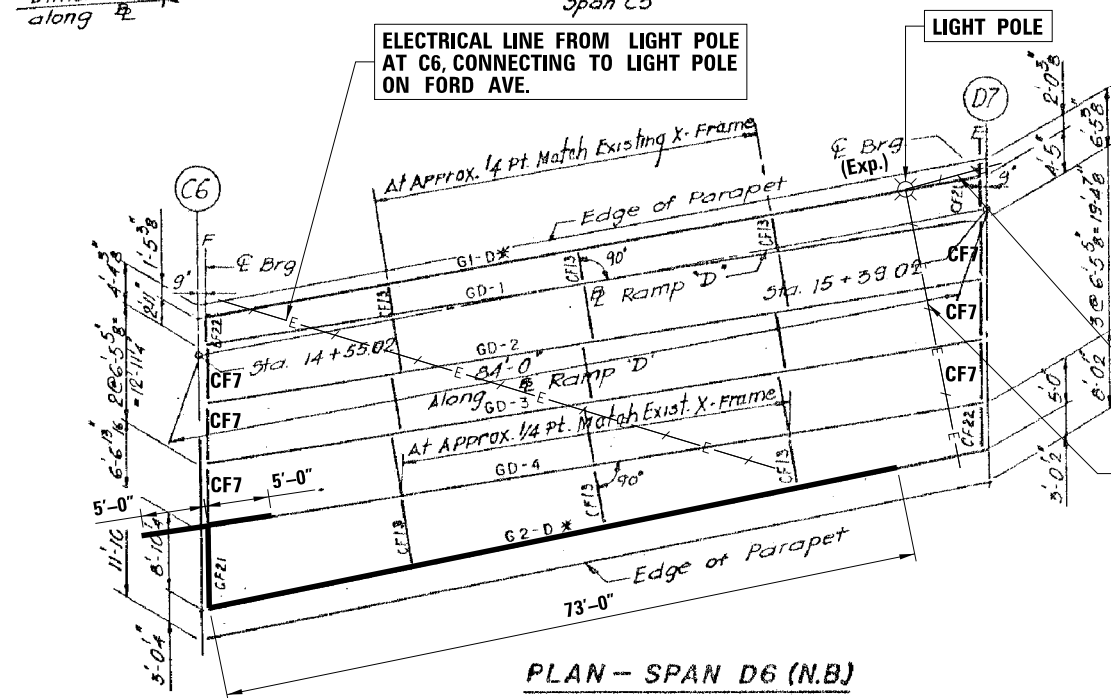
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CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

RUNS UNDER SPAN A6,
SPAN 6, AND SPAN C6



PLAN - SPANS C3 - C5 (N.B.)



PLAN - SPAN D6 (N.B.)

ELECTRICAL LINE FROM LIGHT POLE
AT C6, CONNECTING TO LIGHT POLE
ON FORD AVE.

ELECTRICAL LINES (2) RUNNING
ALONG S. UNION AVE.

ELECTRICAL LINES (2) CONNECTING
TO OTHER LIGHT POLE LOCATED
ON FORD AVE., E. OF SPAN C6

COLLINS ENGINEERS

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PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
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FRAMING PLAN SPANS C3 TO C5 & D6 - LOCATION 5
STRUCTURE NO. 016-1113

SCALE: NTS TO STA.

F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 129
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

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SPAN	GIRDER	L (ft to ft)	SOUTH END		NORTH END		WEB		FLANGE PLATES				a	b	BEARING STIFFENER	c	INTERMEDIATE STIFFENERS		SHEAR STUD SPACINGS				D.L. CAMBER		
			ELEV.	ANGLE α	ELEV.	ANGLE β	h	t	(1)	(2)	(3)	(4)					(5)	d	(6)	e	f	g	h	4Δ	Δℓ
1	GN-1	107'-10 5/8"	66.59	104°31'-37"	63.53	90°17'-03"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	21'-6"	64'-10 5/8"	5 1/2"×2"	2'-6"	2 0 5'	5'×5/16"	7'5/16"	12 0 16'	12 0 19'	11 0 20'	2 3/8"	3 1/8"	2 3/8"
1	GN-2	103'-11 1/8"	66.68	103°26'-38"	63.27	89°12'-03"	"	"	14×3"	18×3"	14×14"	18×14"	21'-6"	65'-11 1/8"	6 1/2"×5/8"	"	3 0 5'	"	17 9/16"	"	14 0 18'	16 0 24'	1 1/4"	2 9/16"	2 9/16"
2	GN-1	89'-4 5/16"	63.22	85°48'-35"	60.35	88°54'-33"	"	"	12×3"	14×3"	12×14"	14×14"	17'-6"	54'-4 5/16"	5 1/2"×1"	"	2 0 5'	"	8 3/16"	"	6 0 20'	17 0 24'	1 1/8"	1 1/8"	3/4"
3	GN-1	89'-3 3/4"	60.48	86°55'-27"	57.61	89°37'-37"	"	"	12×3"	14×3"	12×14"	14×14"	"	54'-3 3/4"	"	"	2 0 5'	"	7 3/8"	5 0 16'	12 0 19'	11 0 20'	5/8"	5/8"	1/2"
3	GN-2	89'-2"	60.30	85°17'-31"	57.32	87°59'-41"	"	"	12×3"	14×3"	12×14"	14×14"	"	54'-2"	"	"	2 0 5'	"	7"	5 0 16'	12 0 19'	11 0 20'	1 1/16"	5/8"	9/16"
4	GN-1	89'-2 1/2"	57.55	86°49'-41"	54.60	89°27'-32"	"	"	12×3"	14×3"	12×14"	14×14"	"	54'-2 1/2"	"	"	4 0 5' (1)	"	1 1/4"	"	12 0 13'	23 0 16'	13/16"	13/16"	5/8"
4	GN-2	88'-1 1/4"	57.26	85°21'-50"	54.38	88°05'-35"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-1 1/4"	5 1/2"×1"	2'-6"	4 0 5' (1)	5'×5/16"	9 5/8"	"	12 0 13'	22 0 16'	5/16"	5/16"	1/4"
5	GN-1	89'-1 1/2"	54.85	86°05'-18"	52.17	88°45'-42"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	54'-1 1/2"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	6 3/4"	5 0 16'	12 0 19'	11 0 20'	13/16"	13/8"	13/16"
5	GN-2	88'-10 1/2"	54.60	85°48'-11"	51.90	88°28'-35"	"	"	"	"	"	"	"	53'-10 1/2"	"	"	"	"	5 6'	5 0 16'	12 0 19'	"	13/16"	13/8"	7/8"
5	GN-3	88'-7"	54.35	85°32'-35"	51.69	88°12'-57"	"	"	"	"	"	"	"	53'-7"	"	"	"	"	16 1/2"	3 0 16'	13 0 19'	"	5/8"	1 1/16"	3/4"
6	GN-1	89'-1 1/2"	52.12	84°47'-52"	49.35	87°26'-24"	"	"	"	"	"	"	"	54'-1 1/2"	"	"	"	"	6 1/2"	5 0 16'	12 0 19'	"	1/2"	3/4"	1/2"
6	GN-2	88'-9 1/2"	51.85	85°04'-11"	49.10	87°41'-49"	"	"	"	"	"	"	"	53'-9 1/2"	"	"	"	"	7 1/2"	6 0 16'	11 0 19'	"	9/16"	3/4"	9/16"
6	GN-3	88'-6"	51.65	85°30'-51"	49.00	88°04'-23"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-6"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	6"	6 0 16'	11 0 19'	11 0 20'	5/8"	7/8"	1 1/16"
7	GN-1	88'-8 1/2"	49.17	84°14'-04"	46.12	86°55'-57"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-8 1/2"	5 1/2"×1"	2'-6"	4 0 5' (1)	5'×5/16"	11 6'	"	13 0 13'	22 0 16'	1 1/4"	2 1/4"	2 3/8"
7	GN-2	88'-2 1/2"	48.95	85°56'-33"	45.93	88°38'-26"	"	"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-2 1/2"	5 1/2"×1"	2'-6"	4 0 5' (1)	5'×5/16"	8"	"	13 0 13'	22 0 16'	1 1/4"	2 1/4"	2 3/8"
8	GN-1	88'-2 1/4"	45.97	84°38'-16"	42.62	87°17'-57"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-2 1/4"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	5 5/16"	6 0 16'	12 0 19'	10 0 20'	1/2"	1/2"	5/16"
C1	G1-C	88'-2"	65.33	100°12'-45"	61.88	105°33'-27"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	53'-2"	5 1/2"×1"	"	"	"	5"	"	10 0 20'	21 0 24'	0	0	0
C2	G1-C	99'-5"	61.72	98°22'-59"	59.27	98°35'-12"	"	"	14×3"	18×3"	14×14"	18×14"	19'-6"	60'-5"	6 1/2"×5/8"	"	"	"	19 1/2"	"	"	24 0 24'	0	0	0
C3	G1-C	92'-3 1/2"	58.31	90°11'-29"	55.57	90°15'-20"	"	"	12×3"	14×3"	12×14"	14×14"	19'-0"	54'-3 1/2"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	9 3/8"	6 0 16'	12 0 19'	11 0 20'	0	0	0
C4	G1-C	92'-5 1/8"	55.53	89°53'-45"	53.35	89°53'-15"	"	"	12×3"	14×3"	12×14"	14×14"	19'-0"	54'-5 1/8"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	10 3/8"	6 0 16'	12 0 19'	11 0 20'	5/8"	15/16"	5/8"
C5	G1-C	98'-5 1/2"	53.32	90°00'-17"	51.10	89°58'-46"	60"	7/16"	14×3"	16×3"	14×14"	16×14"	19'-6"	59'-5 1/2"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	7 1/2"	7 0 16'	11 0 21'	10 0 24'	15/16"	1 9/16"	1"
C5	G2-C	100'-7 5/16"	54.69	101°51'-46"	51.86	102°01'-57"	60"	7/16"	14×3"	18×3"	14×14"	18×14"	20'-0"	60'-7 5/16"	6 1/2"×5/8"	2'-6"	3 0 5'	5'×5/16"	9 1/2"	"	18 0 14'	18 0 19'	2 3/8"	3 1/4"	2 3/8"
C6	G1-C	87'-2 5/8"	51.92	87°52'-33"	49.90	87°56'-33"	"	"	12×3"	14×3"	12×14"	14×14"	17'-6"	52'-2 5/8"	5 1/2"×1"	"	"	"	19 5/16"	"	"	21 0 24'	19 1/16"	17 1/16"	7/8"
C6	G2-C	87'-1 1/2"	51.07	89°56'-58"	49.11	90°01'-21"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	17'-6"	52'-1 1/2"	5 1/2"×1"	2'-6"	2 0 5'	5'×5/16"	10 1/2"	4 0 16'	12 0 19'	11 0 20'	5/8"	13/16"	3/4"
C7	G2-C	45'-0 1/2"	49.75	89°59'-41"	"	"	48"	7/16"	"	"	12×3"	12×3"	"	45'-0 1/2"	5 1/2"×1"	"	"	"	For Details, see Sht. E31	"	"	0	4"	0	
D6	G1-D	82'-7 1/2"	51.85	99°31'-54"	48.65	99°17'-04"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	16'-6"	49'-7 1/2"	5 1/2"×1"	"	"	"	15 1/2"	"	"	20 0 24'	11 1/16"	9 1/16"	1/4"
D6	G2-D	83'-2 1/2"	51.19	101°01'-40"	47.76	100°52'-50"	"	"	"	"	12×14"	"	"	50'-2 1/2"	"	2'-6"	2 0 5'	5'×5/16"	6 1/4"	4 0 16'	11 0 19'	11 0 20'	9/16"	1 1/16"	5/8"
D7	G1-D	77'-3 3/8"	48.60	96°03'-46"	45.85	92°20'-05"	"	"	"	"	12×14"	"	"	44'-3 3/8"	"	"	"	"	7 9/16"	"	"	19 0 24'	9 1/8"	13/16"	3/8"
D7	G2-D	82'-9 1/2"	47.93	97°11'-48"	44.90	97°15'-04"	"	"	"	"	"	"	"	49'-9 1/2"	"	"	"	"	16 1/16"	"	"	20 0 24'	1 1/16"	7 1/16"	3/16"
D7	G3-D	83'-1 1/2"	47.71	98°53'-12"	44.77	98°54'-27"	"	"	"	"	"	"	"	50'-1 1/2"	"	"	"	"	18 1/2"	"	"	20 0 24'	1/4"	1 5/8"	15/16"
D8	G1-D	87'-8 5/8"	45.79	88°09'-27"	42.52	90°48'-48"	60"	7/16"	12×3"	14×3"	12×14"	14×14"	16'-6"	54'-8 5/8"	5 1/2"×1"	"	"	"	22 5/16"	"	"	21 0 24'	1/2"	9 1/16"	0
D10	G1-D	114'-5 1/2"	38.36	86°18'-12"	33.54	88°22'-16"	54"	7/16"	16×3"	16×3"	16×24"	16×24"	23'-0"	68'-5 1/2"	7 1/2"×3/4"	"	"	"	17 3/4"	6 0 19'	7 0 21'	17 0 24'	1 15/16"	3 3/8"	2 1/4"

COLLINS ENGINEERS

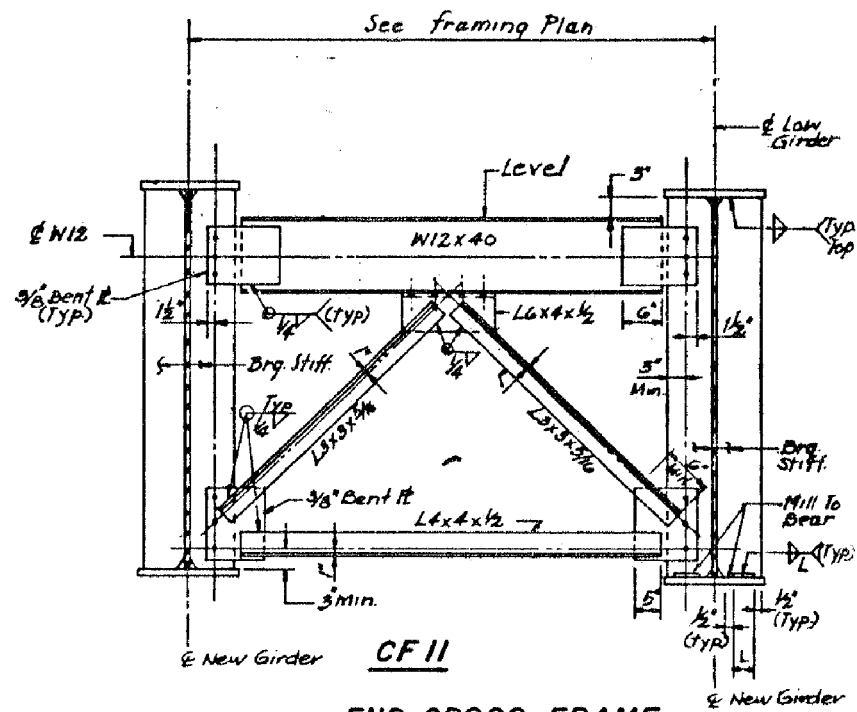
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 DRAWN - VC
 CHECKED - JMS
 DATE - JUNE, 2016

REVISED -
 REVISED -
 REVISED -
 REVISED -

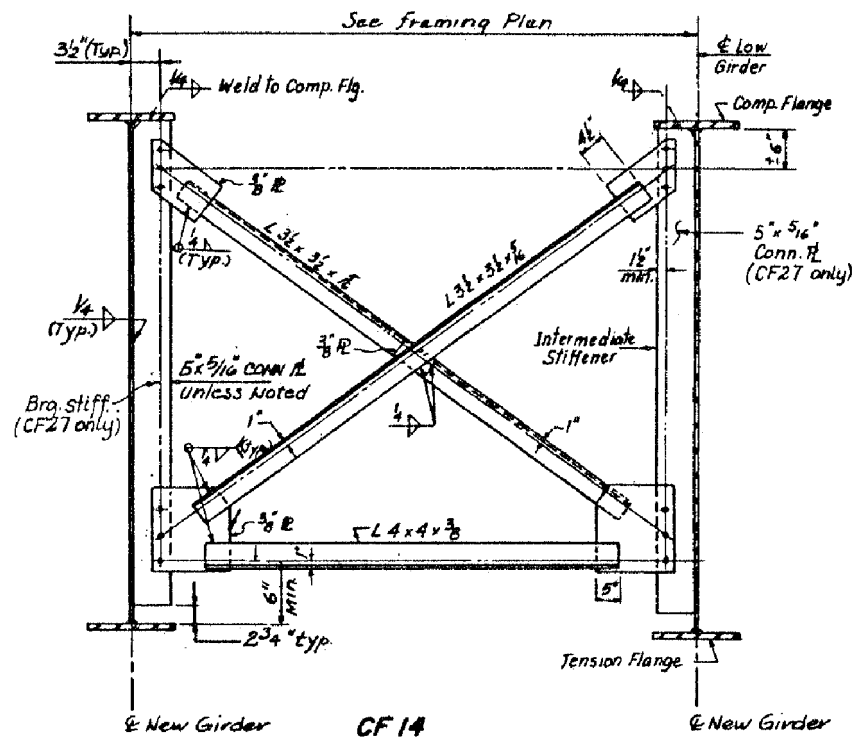
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GIRDER SCHEDULE - LOCATION 5
 STRUCTURE NO. 016-1113
 SCALE: NTS
 STA. TO STA.

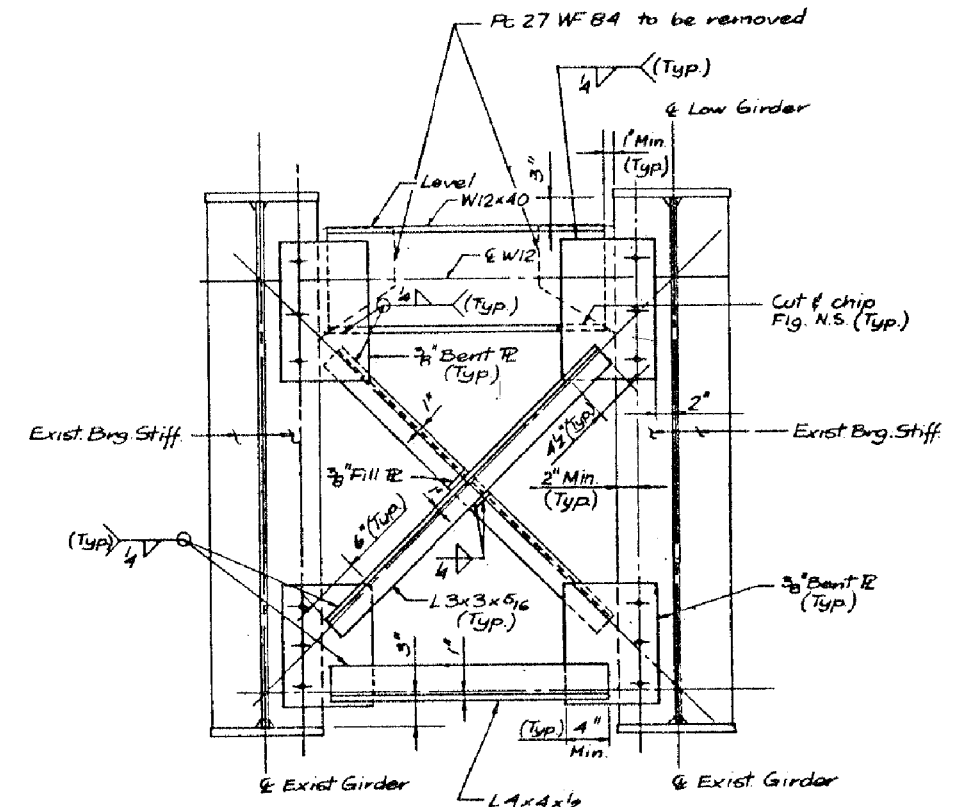
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CONTRACT NO. 60V21			ILLINOIS FED. AID PROJECT	



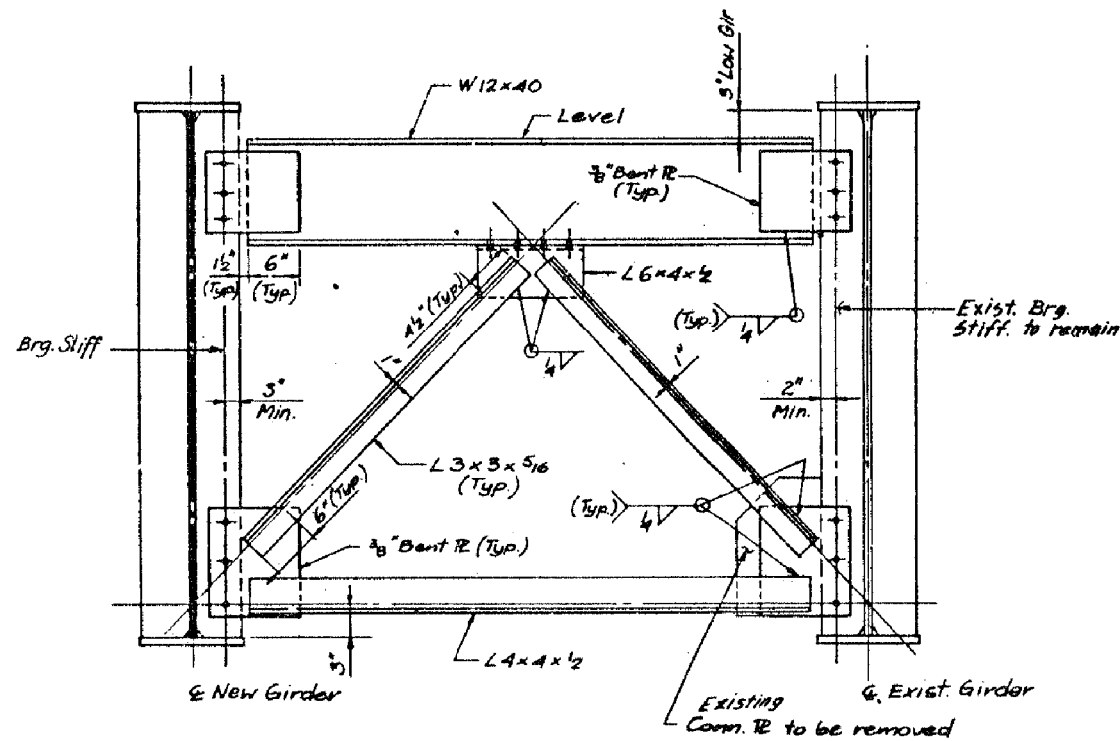
CF 11
END CROSS FRAME
 (60" Web Girder)
 Looking toward & Pier



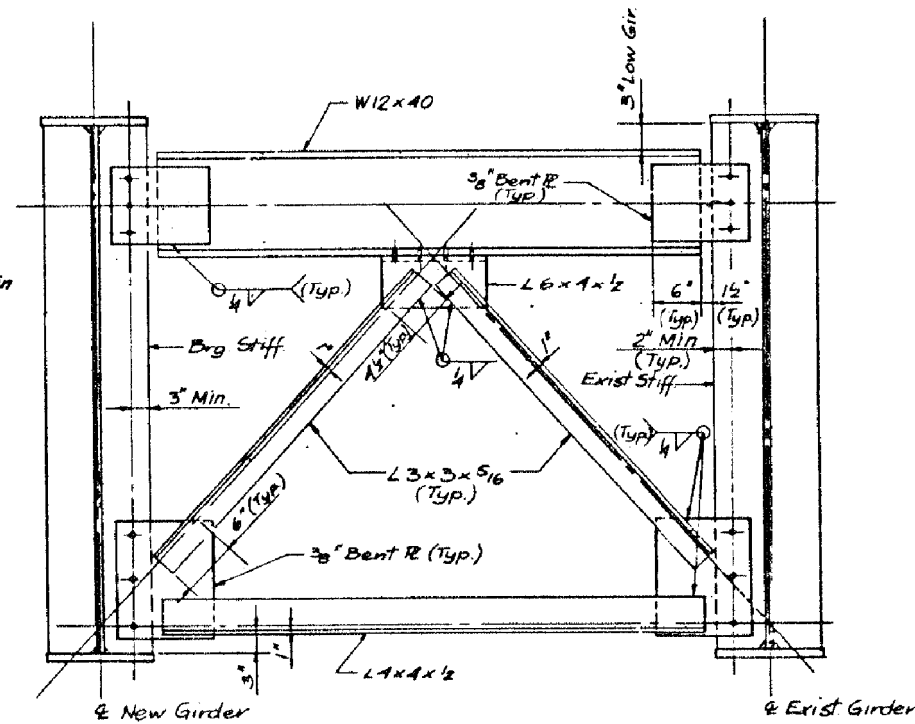
CF 14
CF 27
INTERIOR CROSS FRAME
 (60" Web Girder)



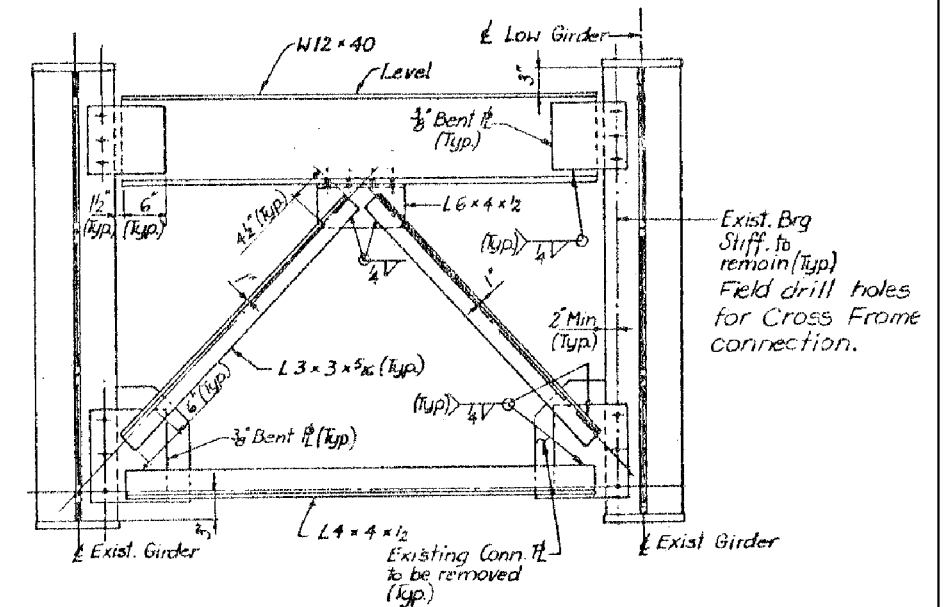
CF 16
END CROSS FRAME
 LOOKING TOWARD & PIER



CF 18
CF 19
END CROSS FRAME
 LOOKING TOWARD & PIER



CF 23 & CF 21
CF 24 & CF 22 (OPP. HAND)
END CROSS FRAME
 LOOKING TOWARD & P.I.E.R.



CF 31
END CROSS FRAME

FILE NAME = I:\7290\7290.12 - Bridge Painting III\ACADD\05.016-1113 - Ramp.32.016-1113.Details.rvt

COLLINS ENGINEERS

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PLOT SCALE = 2.0000' / in.	DRAWN - VC	REVISED -
PLOT DATE = 6/23/2016	CHECKED - JMS	REVISED -
	DATE - JUNE, 2016	REVISED -

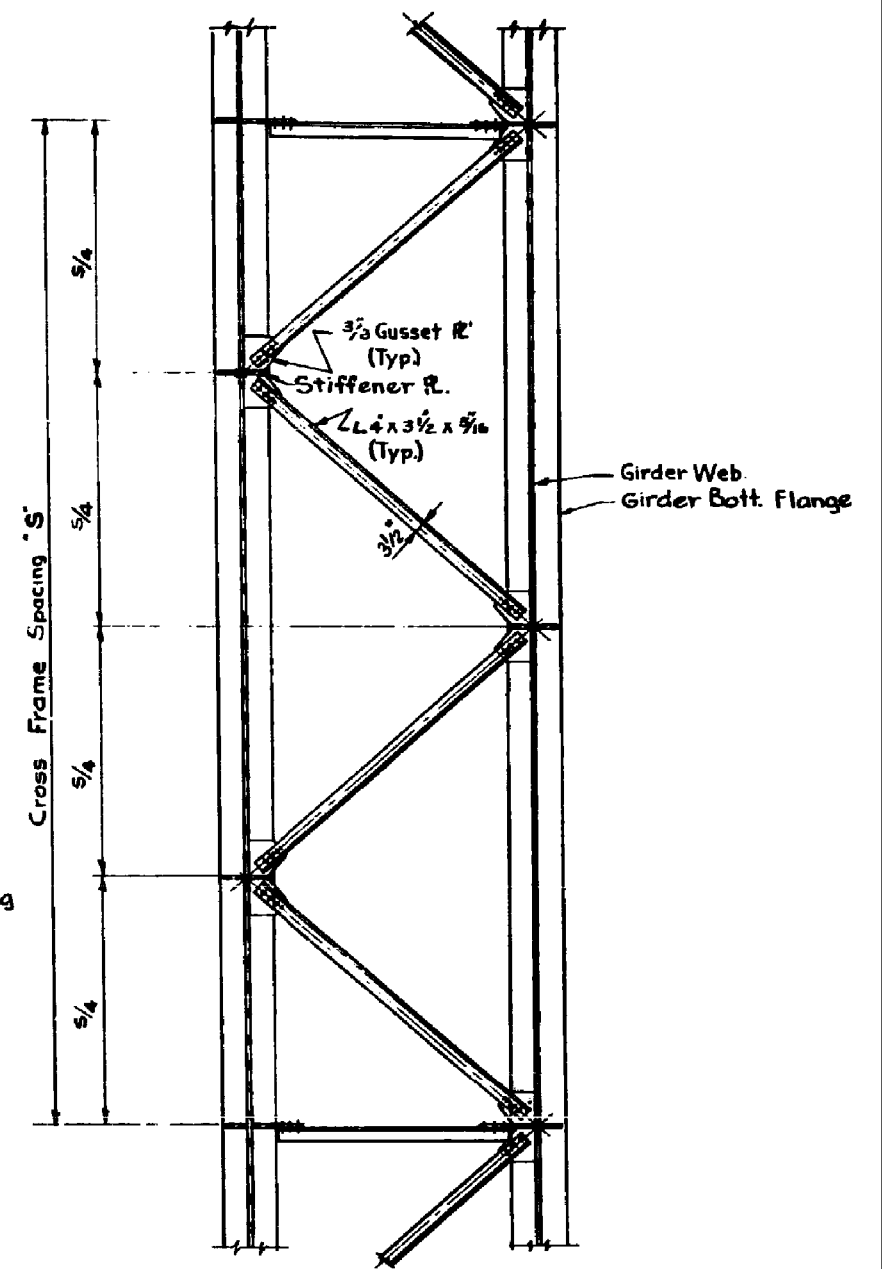
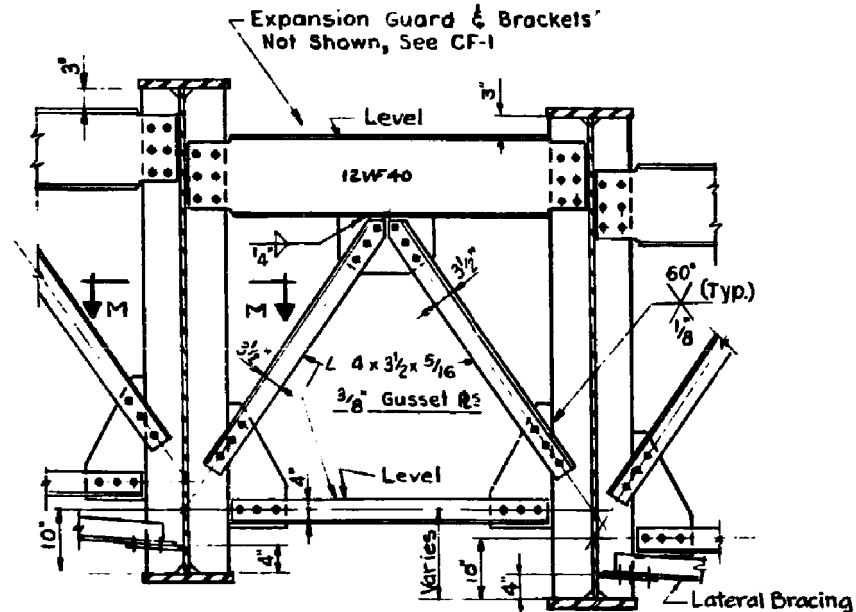
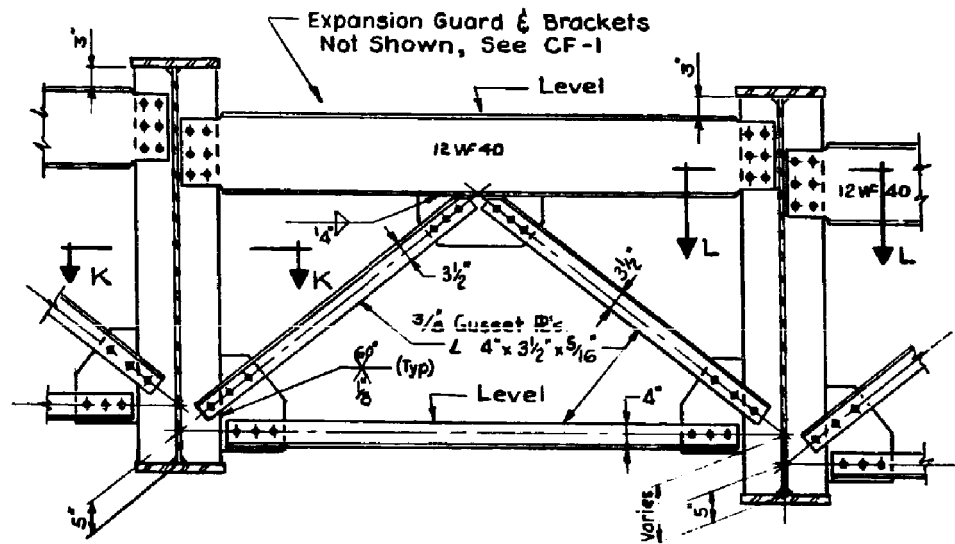
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS FRAME DETAILS - LOCATION 5
 STRUCTURE NO. 016-1113

SCALE: NTS

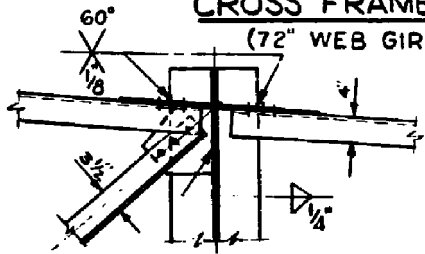
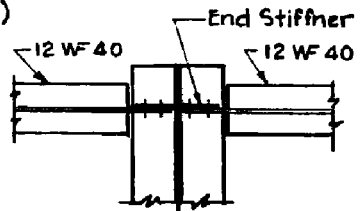
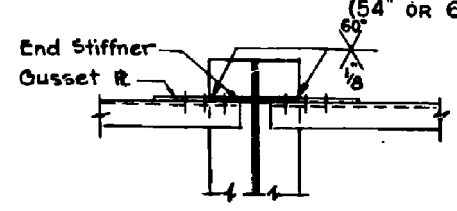
STA. TO STA.

F.A.I. R.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 132
CONTRACT NO. 60V21			ILLINOIS FED. AID PROJECT	



CROSS FRAME CF-7
(54" OR 60" WEB GIRDERS)

CROSS FRAME CF-9
(72" WEB GIRDERS)



SECTION K-K

SECTION L-L

SECTION M-M

END CROSS FRAMES
SQUARE OR SLIGHTLY SKEWED CONNECTIONS

LATERAL BRACING PLAN
(SPANS 10 & A9)

Note: For general layout of lateral bracing, see Framing Plans

FILE NAME = I:\7290\7290.12 - Bridge Painting III\CAD\05.016-1113 - Ramp\34.016-1113.Details.dgn

COLLINS ENGINEERS

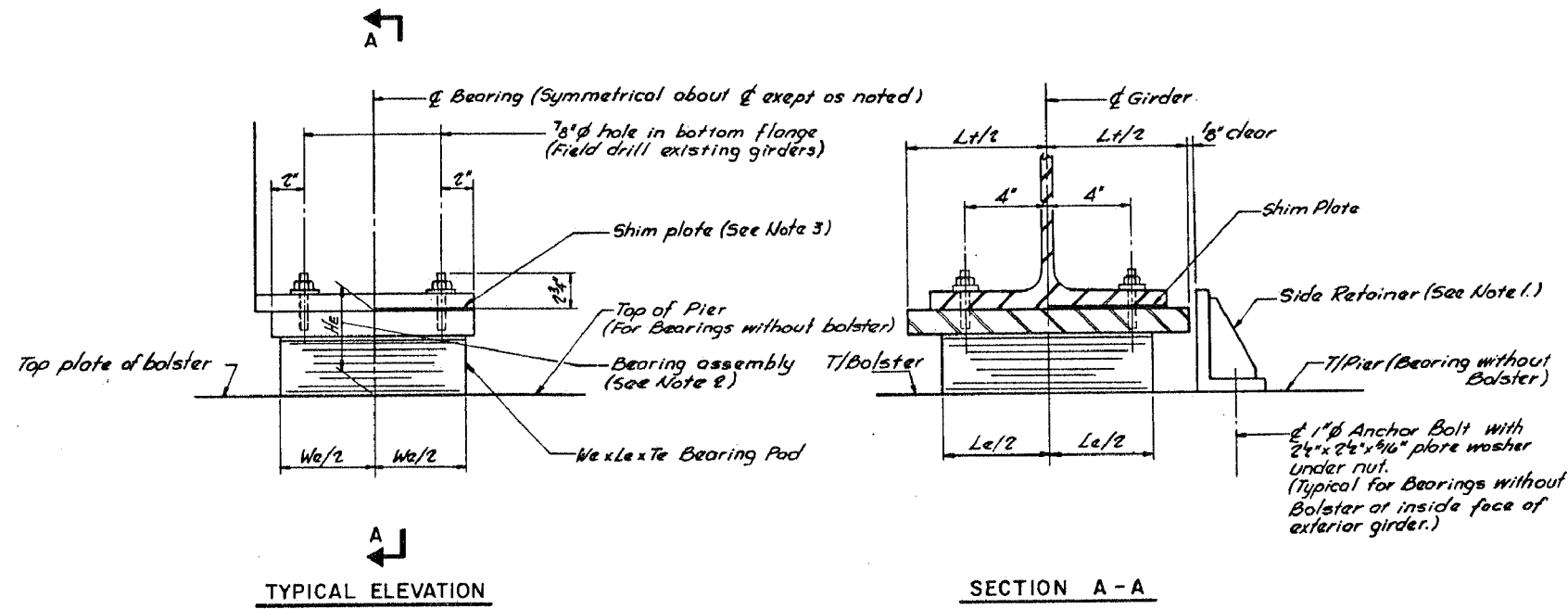
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	DATE - JUNE, 2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

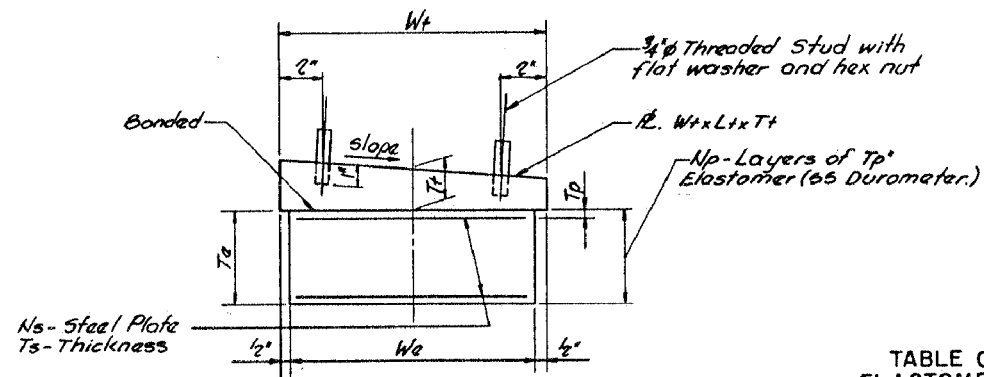
CROSS FRAME & LATERAL BRACING DETAILS - LOCATION 5
STRUCTURE NO. 016-1113

SCALE: NTS TO STA.

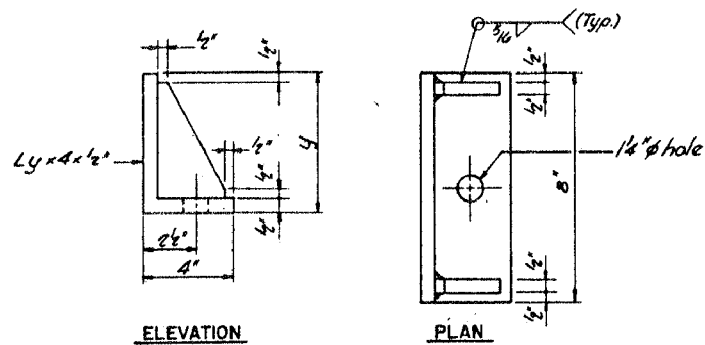
F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 133
				CONTRACT NO. 60V21
ILLINOIS FED. AID PROJECT				



TYPE I ELASTOMERIC EXPANSION BEARING



BEARING ASSEMBLY



SIDE RETAINER DETAILS

TABLE OF DIMENSIONS - TYPE I ELASTOMERIC EXPANSION BEARINGS

We	Le	Series	Tp	Np	Ts	Ns	Te
9	12	a	5/16	5	3/32	4	2 1/4
9	12	b	3/8	7	3/32	6	5 3/16
10	14	a	1/16	5	1/8	4	2 1/16
10	14	b	1/16	6	1/8	5	3/4
10	14	c	1/16	7	1/8	6	3 13/16
10	14	d	1/16	8	1/8	7	4 3/8
11	16	c	1/2	6	1/8	5	3 5/8
11	16	d	1/2	7	1/8	6	4 1/4

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

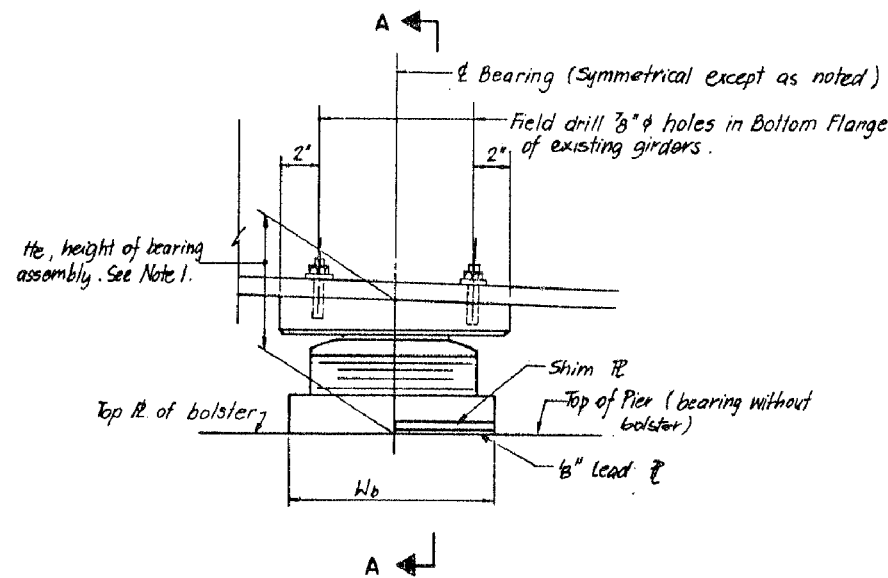
STRUCTURE NO.	PIER LOCATION	GIRDER NO.	We	Le	SERIES	TOP PLATE			Y	HE	NO. REQ'D	REMARKS		
						T	W	L						
016-1113	1(N)	GN-1,GN-2,G1-C	9	12	b	12	10	14	2.6	⊗	⊗	3	N, B	
	3(S)	GR-1 → GR-B	10	14	b	2	11	16	3.1	6	5 1/4	⊗	R, E (GR-1)	
		GN-1	10	14	b	2	11	16	3.1	6	5 1/4	1	N, E	
	5(N)	GR-1 → GR-B	10	14	b	2	11	16	2.6	6	5 1/4	⊗	R, E (GR-1)	
		GN-1, GN-2	10	14	b	2	11	16	2.6	6	5 1/4	2	N, E (GN-2)	
	5(S)	GR-1 → GR-B	10	14	b	2	11	16	3.1	⊗	⊗	⊗	8	R, B
		GN-1, GN-2	10	14	b	2	11	16	3.1	⊗	⊗	⊗	2	N, B
	5(N)	GR-1 → GR-B	10	14	b	2	11	16	2.6	⊗	⊗	⊗	9	R, B
		GN-1, GN-2, GN-3	10	14	b	2	11	16	2.6	⊗	⊗	⊗	3	N, B
	7(S)	GR-1 → GR-10	10	14	b	2	11	16	3.6	6	5 1/4	10	R, E (GR-1)	
		GN-1, GN-2, GN-3	10	14	b	2	11	16	3.6	6	5 1/4	3	N, E (GN-3)	
	7(N)	GR-1 → GR-11	10	14	b	2	11	16	2.6	6	5 1/4	11	R, E (GR-1)	
		GN-1, GN-2	10	14	b	2	11	16	2.6	6	5 1/4	2	N, E (GN-2)	
8(N)	GR-1 → GR-12	10	14	b	2	11	16	2.6	⊗	⊗	12	R, B		
	GN-1, G1-D	10	14	b	2	11	16	2.6	⊗	⊗	2	N, B		
10(S)	GR-1 → GR-9	10	14	b	2	11	16	3.6	⊗	⊗	9	R, B		
016-1113	C3(S)	GC-1 → GC-5	10	14	d	2 1/2	11	16	4.2	7	6 5/8	5	R, E (GC-1)	
		GC-1	10	14	d	2 1/2	11	16	4.2	7	6 5/8	1	N, B (G1-C)	
	C7(S)	GC-1, GC-5	10	14	a	2	11	16	1.6	5	4 1/8	5	R	
		G1-C → G2-C	10	14	a	2	11	16	1.6	5	4 1/8	2	N, E	
	C7(N)	GC-2 → GC-5	9	12	a	2 1/2	10	14	2.1	5	4 1/2	4	R	
		G1-C, G2-C, G3-C	9	12	a	2 1/2	10	14	2.1	5	4 1/2	3	N, E (G1-C, G3-C)	
	C9	GC-1 → GC-5	10	14	a	2	11	16	2.1	⊗	⊗	5	R, B	
		G3-C	10	14	a	2	11	16	2.1	⊗	⊗	1	N, B	
	C11	G1-C	10	14	c	2	11	16	2.1	⊗	⊗	1	N, B	
	C13(S)	GC-1 → GC-5	9	12	a	2	10	14	2.1	5	4 1/4	5	R, E (GC-1)	
		G1-C	9	12	a	2	10	14	2.1	5	4 1/4	1	N, E (G1-C)	
	D7(S)	GD-1 → GD-4	9	12	b	2	10	14	4.2	⊗	⊗	4	R, B	
		G1-D, G2-D	9	12	b	2	10	14	4.2	⊗	⊗	2	N, B	
D7(N)	GD-1 → GD-3	9	12	b	2	10	14	3.1	⊗	⊗	3	R, B		
	G1-D, G2-D, G3-D	9	12	b	2	10	14	3.1	⊗	⊗	3	N, B		
DB(N)	GD-1 → GD-4	9	12	b	2	10	14	5.1	⊗	⊗	4	R, B		
D10(S)	GD-1 → GD-8	11	16	d	2 1/2	12	18	4.2	⊗	⊗	8	R, B		
D10(N)	GD-1 → GD-6	11	16	c	2 1/2	12	18	4.2	⊗	⊗	6	R, B		
	G1-D	11	16	c	2 1/2	12	18	4.2	⊗	⊗	1	N, B		

Notes:

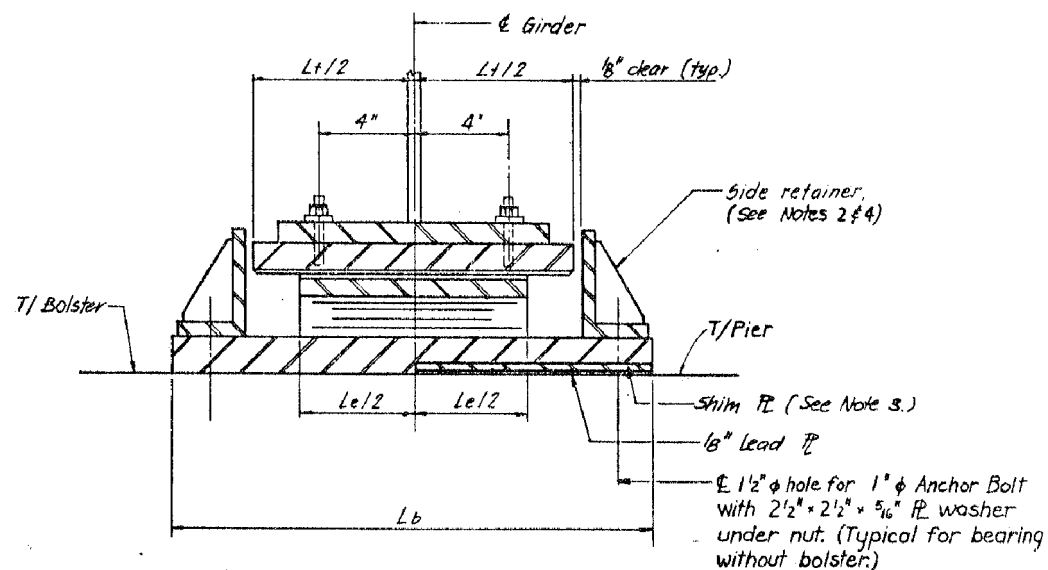
- Side Retainer Details for Bearings without Bolster are shown on this sheet. For Bearings requiring a Bolster, see Bolster Details for Side Retainer details.
- Height of Bearing Assembly, HE, includes Top Plate and Elastomeric Pad and does not include Shim Plate.
- See Shim Thickness Schedule for required shims.

Remarks: B - Bolster required, See Bolster Details and schedule.
 E - Exterior girder, Side Retainer required of inside face of exterior girder.
 N - New bearing for roadway widening.
 R - Replacement bearing for existing girders.
 ⊗ - See Bolster schedule for y and HE dimensions. Sheet BRB 21

FILE NAME = I:\7290\7290.12 - Bridge\Painting III\CA000\05.016-1113 - Ramp\36.016-1113.Brqs 2.dgn



TYPICAL ELEVATION

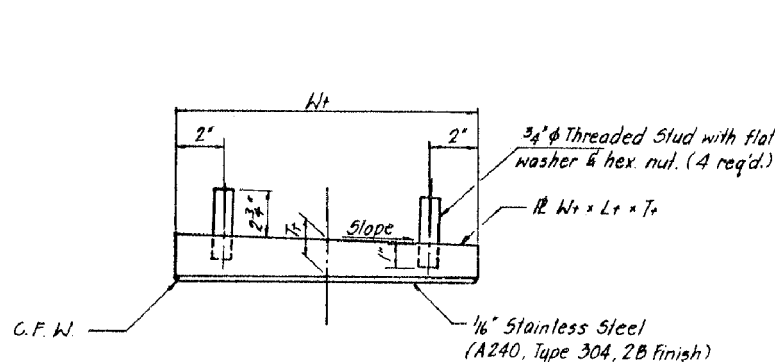


SECTION A-A

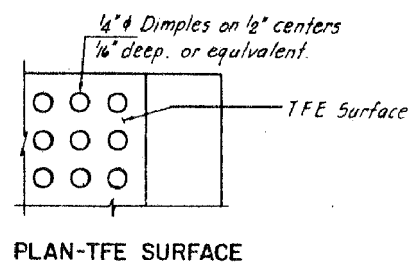
W_b	L_b	SERIES	T_p	N_p	T_s	N_s	T_b
9	12	b	$\frac{5}{8}$	7	$\frac{3}{32}$	6	$\frac{1}{16}$
10	14	a	$\frac{7}{16}$	5	$\frac{1}{8}$	4	$\frac{3}{32}$
11	16	a	$\frac{1}{2}$	4	$\frac{1}{8}$	3	$\frac{3}{32}$

T_p - denotes thickness of each elastomeric layer
 N_p - denotes number of elastomeric layers
 T_s - denotes thickness of each steel plate
 N_s - denotes number of steel plates

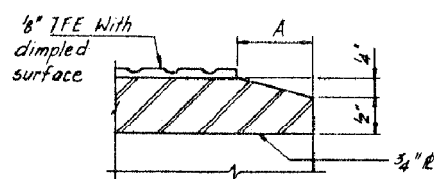
TYPE II TFE ELASTOMERIC EXPANSION BEARING



TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



SECTION THRU TFE

Note: The $\frac{1}{8}$ 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 $\frac{1}{8}$ TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

W_b	6'	7'	9'	10'	11'	12'
A	1"	1"	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "

TYPE II ELASTOMERIC BEARING SCHEDULE

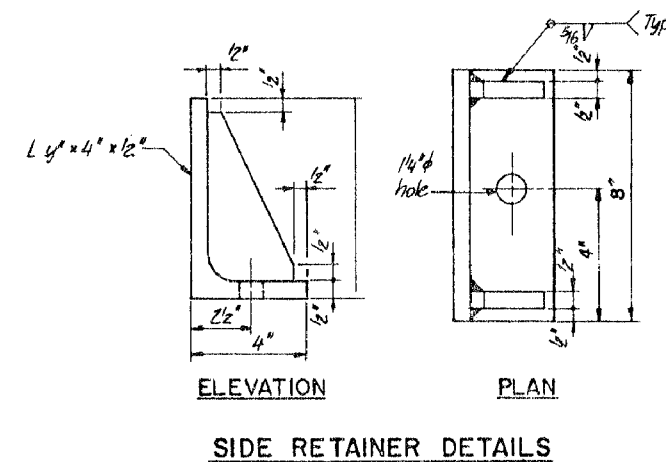
STRUCTURE NO.	PIER LOCATION	GIRDER NO.	W_b	L_b	SERIES	TOP PLATE			BOTTOM PLATE			y	H_E	NO. REQ'D	REMARKS	
						T_t	W_t	L_t	SLOPE%	T_b	W_b					L_b
016-1113	10(N)	GR-1 → GR-11	11	16	a	2 1/2	12	18	2.6	1	12	26 1/2	⊕	⊕	11	R, B
	C3(N)	GC1 → GC7	11	16	a	1 1/8	11 3/4	18	2.6	1 1/8	12	26 1/2	6	6 1/8	7	R
		G1-C	11	16	a	1 1/8	11 3/4	18	2.6	1 1/8	12	26 1/2	6	6 1/8	1	N
	C6(S)	GC-2 → GC-12	10	14	a	2 1/2	11	16	2.6	1 1/2	11	24 1/2	7	7 3/4	11	R
		G1-C, G2-C	10	14	a	2 1/2	11	16	2.6	1 1/2	11	24 1/2	7	7 3/4	11	N
	C10(S)	G3-C	9	12	b	2	10	14	2.1	1	10	22 1/2	⊕	⊕	1	N, B
C10(N)	G1-C	9	12	b	2	10 1/4	14	2.1	1	10	22 1/2	⊕	⊕	1	N, B	

Remarks: B - Bolster required. See Bolster Schedule and Details.
R - Replacement bearings for existing girders.
N - New bearings for Roadway Widening
⊕ - See Bolster Schedule for y and H_E dimensions.

ALL MATERIALS SHOWN ON THIS SHEET ARE FURNISHED UNDER A SEPARATE SUPPLY CONTRACT (SECTION 1988-004 I), UNLESS NOTED OTHERWISE.

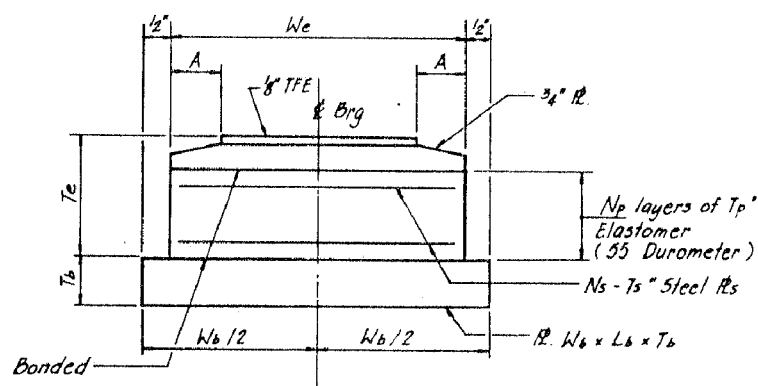
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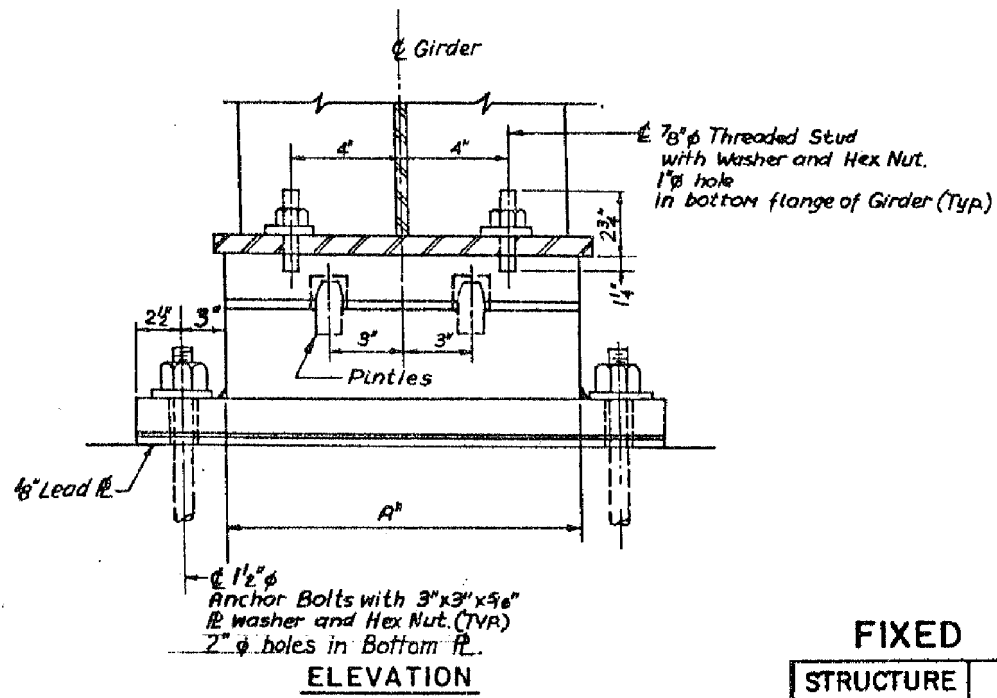
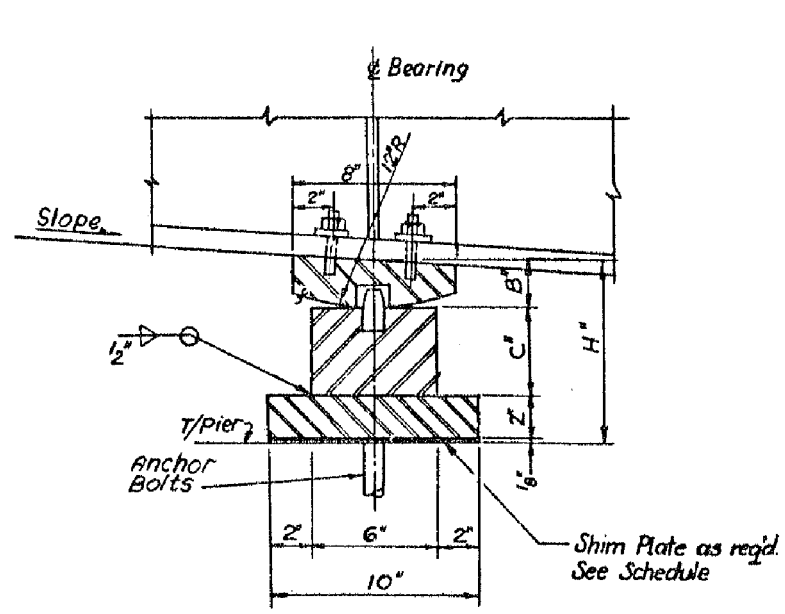
- Height of bearing assembly, H_E , includes top plate, elastomeric assly, bottom plate, and $\frac{1}{8}$ lead plate. H_E does not include shim plate.
- Side retainer details for bearings located on top of pier are shown on this sheet. For bearings requiring a bolster, see bolster details for side retainer details.
- See shim thickness schedule for required shims.
- For Bearings without Bolster the Side Retainer shall be tack welded as shown after the girder and bearing assembly have been set into their final position.



SIDE RETAINER DETAILS

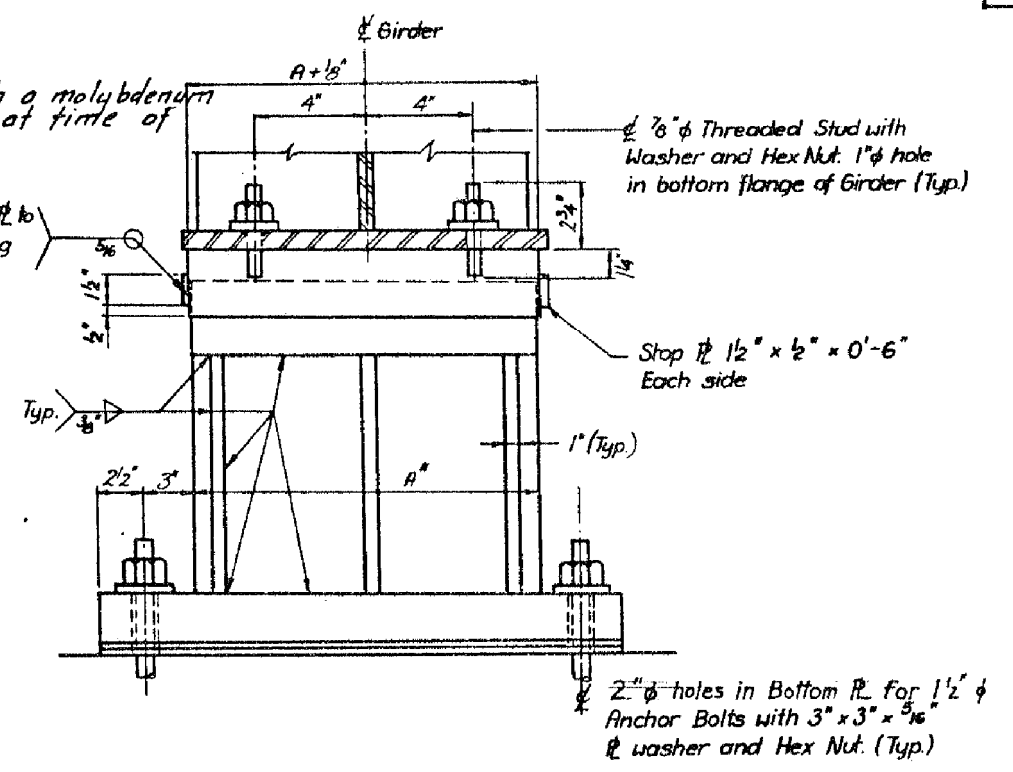
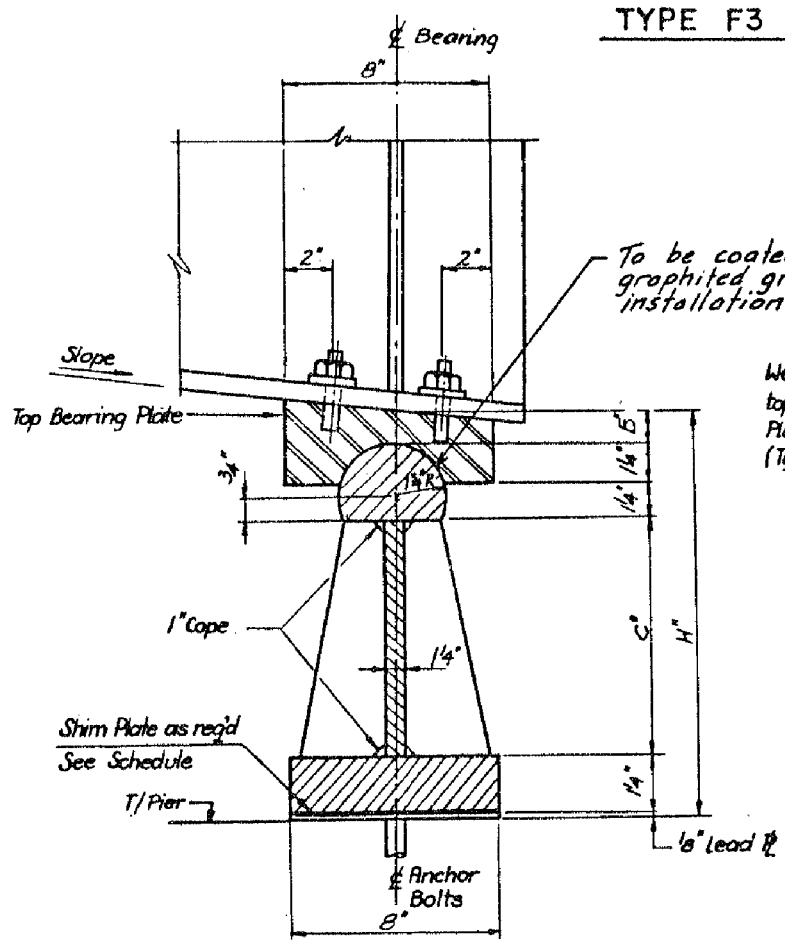
BOTTOM BEARING ASSEMBLY





FIXED BEARING SCHEDULE

STRUCTURE NO.	PIER LOCATION	GIRDER NO.	BEARING TYP.	NO. REQ'D	A"	B"	C"	H"	SLOPE %
016-1113	B(S)	GN-1, GN-2, G1-D	F4	3	13	2 1/8	7 3/4	13 3/4	4.2
	CG(N)	G1-D, G2-D G1-C, G2-C	F3	4	13	2 1/4	3 1/2	7 7/8	2.1
	DB(S)	G0-1 thru G0-3	F4	3	13	2 1/8	7 1/2	13 1/2	4.2
		G2-D, G3-D	F4	2	13	2 1/8	7 1/2	13 1/2	4.2



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COLLINS ENGINEERS

USER NAME = tsheli	DESIGNED - VC	REVISED -
DRAWN - VC	REVISED -	
PLOT SCALE = 2.0000' / in.	CHECKED - JMS	REVISED -
PLOT DATE = 6/23/2016	DATE - JUNE, 2016	REVISED -

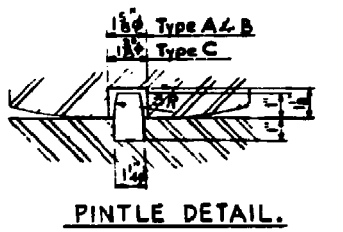
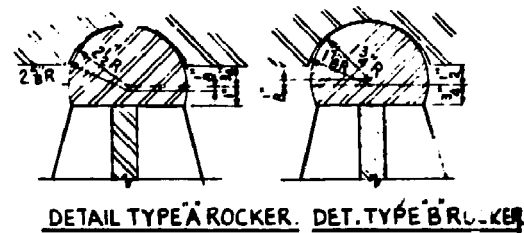
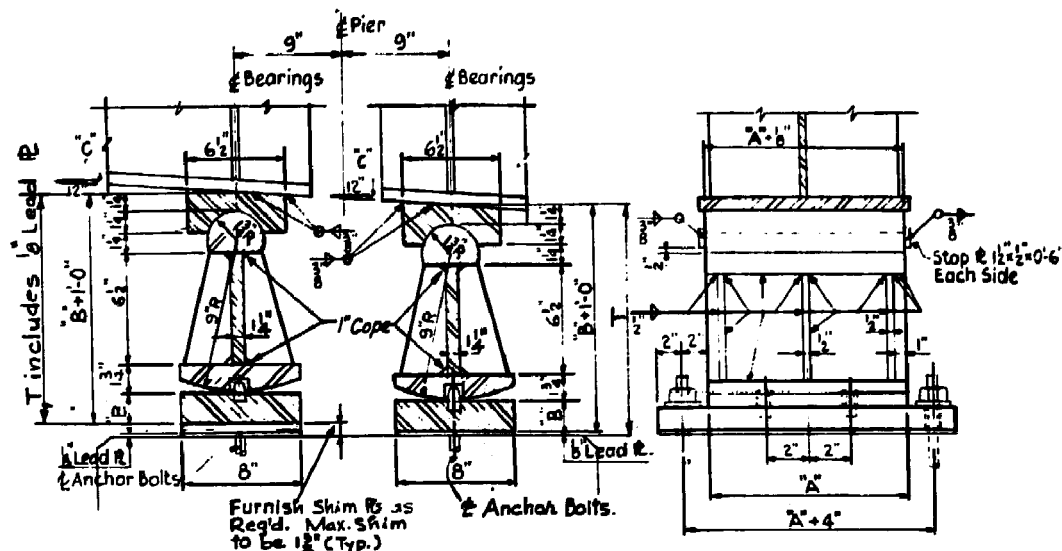
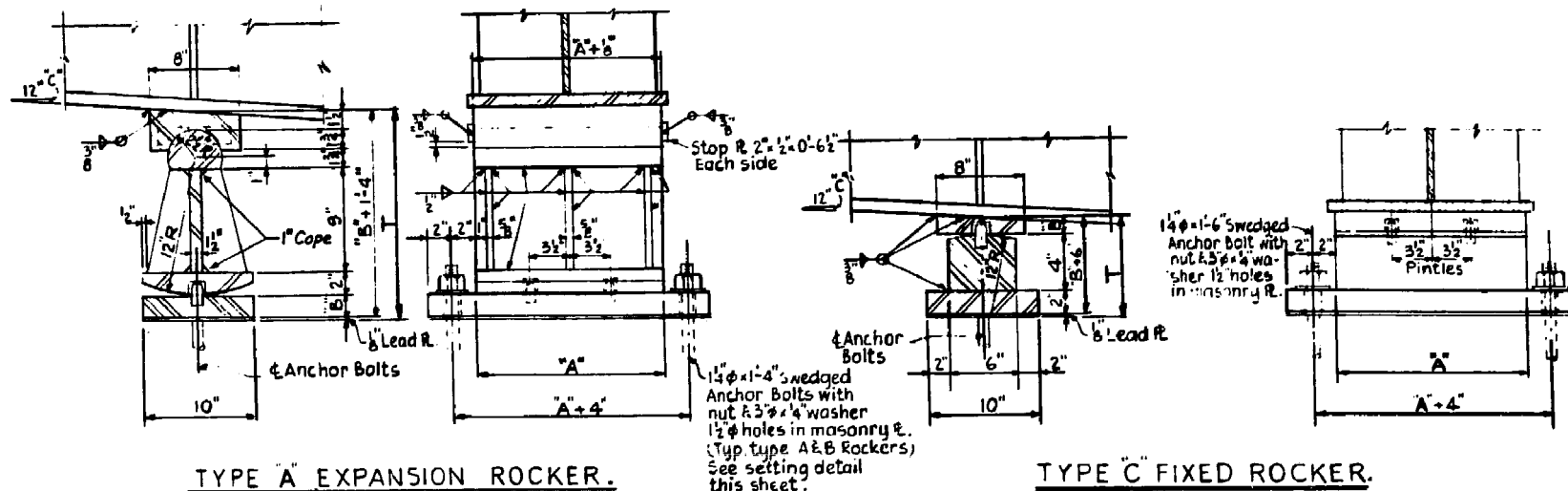
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE F3 & F4 FIXED BEARING DETAILS - LOCATION 5
STRUCTURE NO. 016-1113

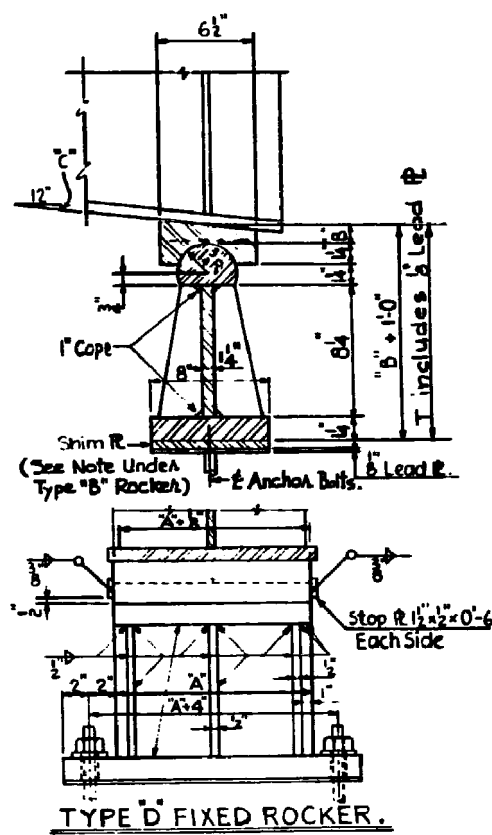
F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 136
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				

SCALE: NTS TO STA. TO STA.

ROCKER SCHEDULE



ROCKER DETAILS.
3'-1-0"



SPAN	GIRDER	ROCKER TYPE	SOUTH END DIMENSIONS				NORTH END DIMENSIONS				
			A	B	C	T	ROCKER TYPE	A	B	C	T
1	GL-1,5,6,7,8,9 GR-1	B	13	1 1/2	3/16	1-1 3/8					
	GL-2 to GL-4	B	"	1 3/8	"	1-1 1/2					
	GR-2 to GR-4	B	"	"	1/4	"					
	GR-5 to GR-8	B	"	1 1/2	5/16	1-1 5/8					
2	GL-1					0-7 3/8	B	13	1 1/2	5/16	1-1 3/8
	GL-2 to GL-9					0-7 3/8	"	"	1 3/8	"	1-1 1/2
3	GL-1	B	"	1 1/4	"	1-1 3/8					
	GL-2 to 10	"	"	1 3/8	"	1-1 1/2					
4	GL-1						B	"	1 1/4	"	1-1 3/8
	GL-2 to 10						"	"	1 3/8	"	1-1 1/2
5	GL-1	B	"	1 1/4	"	1-1 3/8					
	GL-2 to 10	"	"	1 3/8	"	1-1 1/2					
6	GL-1						B	"	1 1/4	3/16	1-1 3/8
	GL-2 to 11						"	"	1 3/8	"	1-1 1/2
7	GL-1	B	"	1 1/4	"	1-1 3/8	D	"	1 3/8	"	1-1 1/2
	GL-2 to 11	"	"	1 3/8	"	1-1 1/2	"	"	1 3/8	"	1-1 1/2
8	GL-1	"	"	1 1/4	"	1-1 3/8					
	GL-2 to 11	"	"	1 3/8	"	1-1 1/2					
9	GL-1						B	"	1 1/4	3/8	1-1 3/8
	GL-2 to 11						"	"	1 1/2	"	1-1 1/2
10	GL-1 to 4	A	15	1 5/8	"	1-5 3/4					
	GL-6 to 15	"	"	"	"	"					
	GL-5	"	"	1 1/2	"	1-5 3/8					
	GL-16	"	"	1 3/8	"	1-6					
A5	GA-1 to GA-6	B	13	1 3/8	1/4	1-1 1/2					
A6	GA-1 to GA-7						B	13	1 3/8	5/16	1-1 1/2
A7	GA-1 to GA-8	B	"	1 3/8	"	1-1 1/2					
	GA-9						B	"	1 1/2	3/8	1-1 3/8
A8	GA-1 to GA-7						B	"	1 3/8	3/16	1-1 1/2
	GA-8						B	"	1 3/8	3/16	1-1 1/2
A9	GA-1	C	15	1 3/8	3/16	0-8	A	15	1 5/8	5/16	1-5 3/4
	GA-2 to GA-6	C	"	1 3/8	1/4	0-7 3/4	"	"	1 1/2	3/8	1-5 5/8
A10	GA-1 to GA-5	A	13	1 3/8	3/16	1-5 3/4					
C4	GC-1,6,7,8,9						B	13	1 3/8	3/16	1-1 1/2
	GC-2 to GC-5						"	"	1 1/4	"	1-1 3/8
C9	GC-1, GC-8 to 12	B	13	1 1/2	1/4	1-1 3/8					
	GC-2 to GC-7	"	"	1 3/8	"	1-1 1/2					
C6	GC-2 to GC-4	C	"	1 1/2	"	0-7 3/8	B	"	1 3/8	"	1-1 1/2
C-9	GC-1, GC-5	A	"	2"	"	1-6 3/8					
	GC-2 to GC-4	A	"	1 3/8"	"	1-6"					
C10	GC-1 to GC-5	B	13"	1 1/2"	1/4"	1-1 3/8"					
	GC-1 to GC-5						± pier				
C-11	GC-1, GC-5	A	17"	2 1/2"	1/4"	1-6 1/2"					
	GC-2 to GC-4	"	"	2"	"	1-6 1/2"					
D-6	GD-1 to GD-4	C	13"	1 3/8"	3/8"	0-7 3/4"					
D-7	GD-1 to GD-4						B	13"	1 3/8"	1/2"	1-1 1/2"

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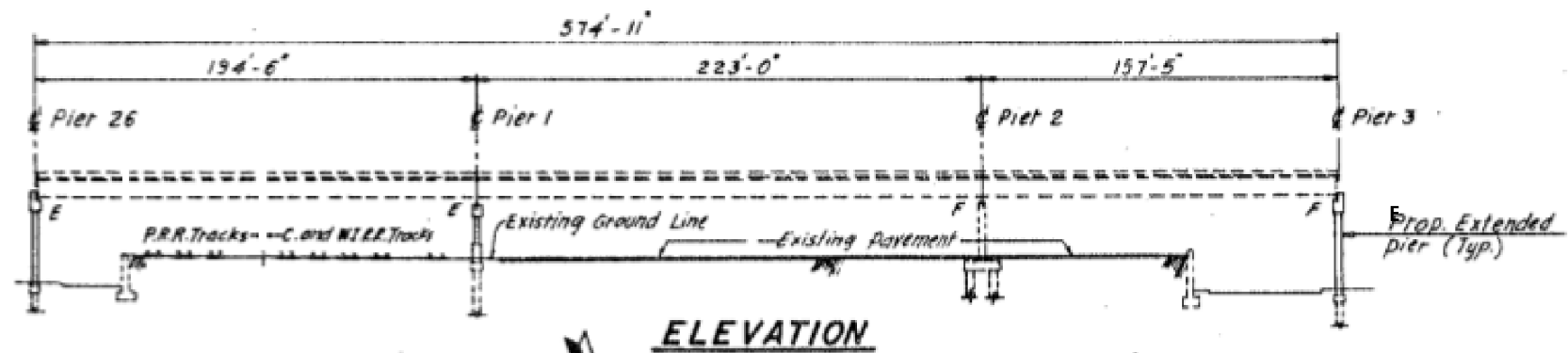
COLLINS ENGINEERS

USER NAME = tshh	DESIGNED - VC	REVISED -
DRAWN - VC	REVISED -	
PLOT SCALE = 2.0000' / in.	CHECKED - JMS	REVISED -
PLOT DATE = 6/23/2016	DATE - JUNE, 2016	REVISED -

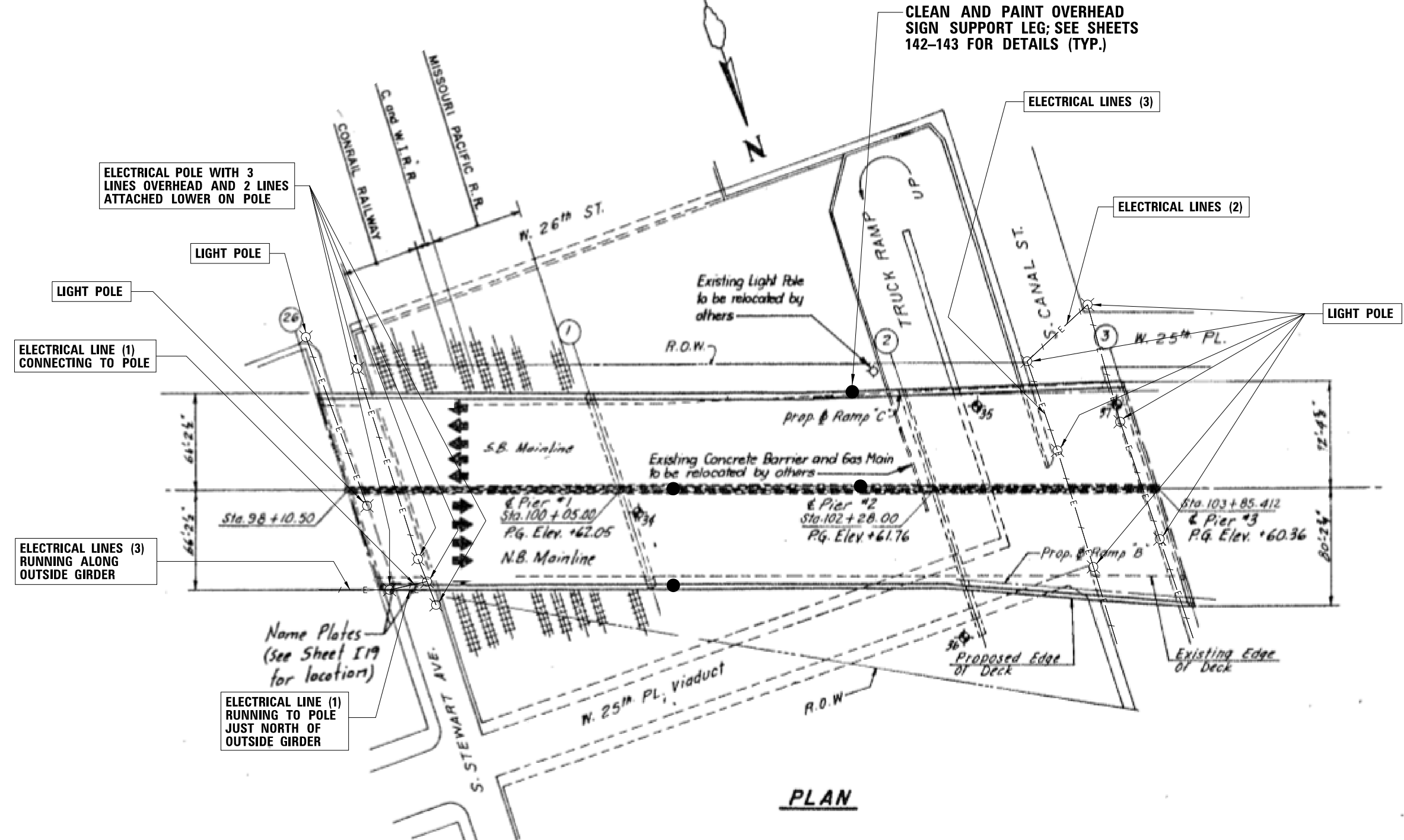
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE A, B, C & D ROCKER DETAILS - LOCATION 5
STRUCTURE NO. 016-1113
SCALE: NTS STA. TO STA.

F.A.I. RE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 137
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN

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COLLINS ENGINEERS

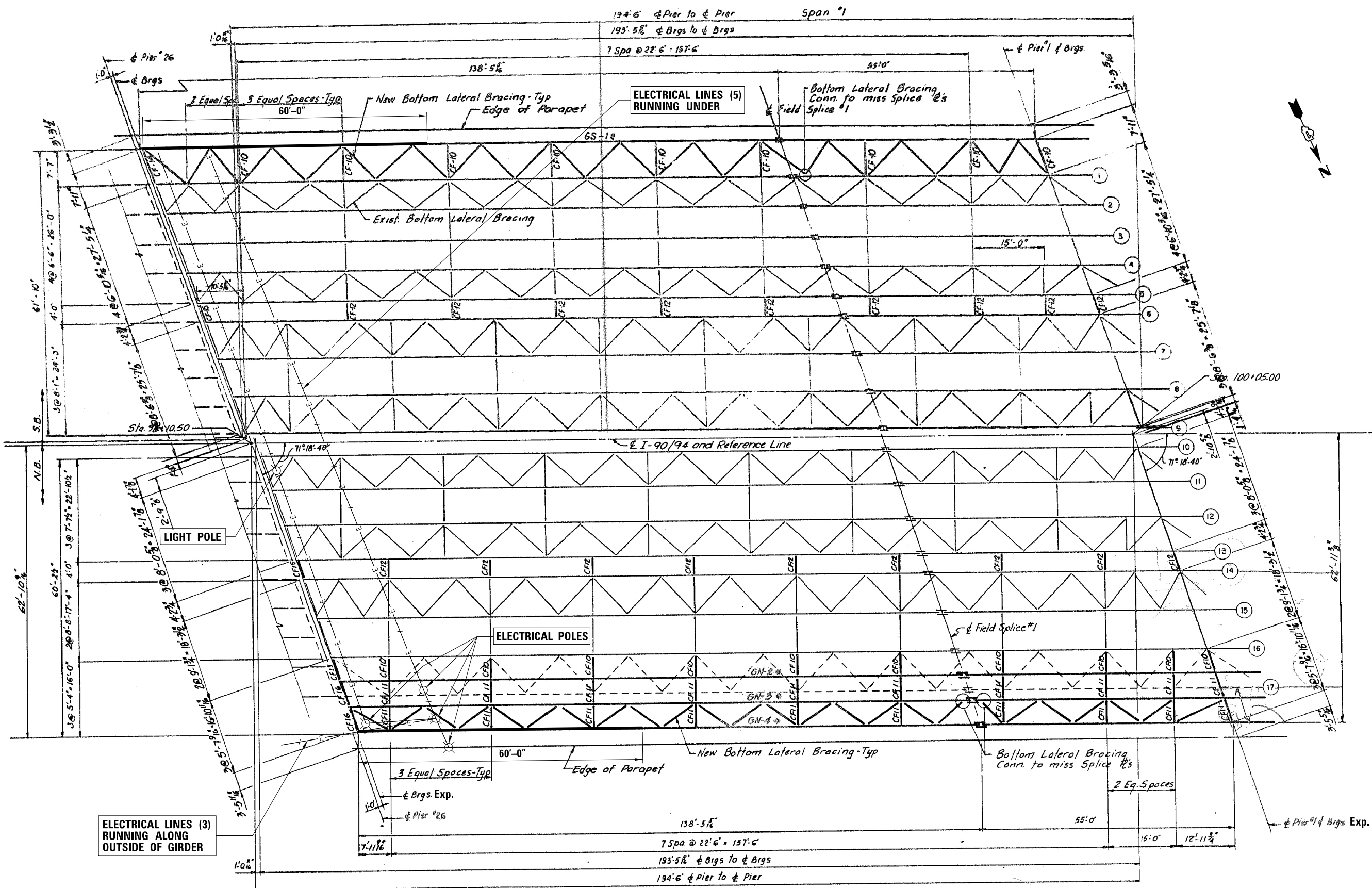
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PLOT DATE = 6/23/2016	DATE - JUNE, 2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION - LOCATION 6
STRUCTURE NO. 016-1116**

SCALE: NTS TO STA. TO STA.

F.A.I. R.T.E. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 138
CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



PLAN - SPAN - 1

LEGEND
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COLLINS ENGINEERS

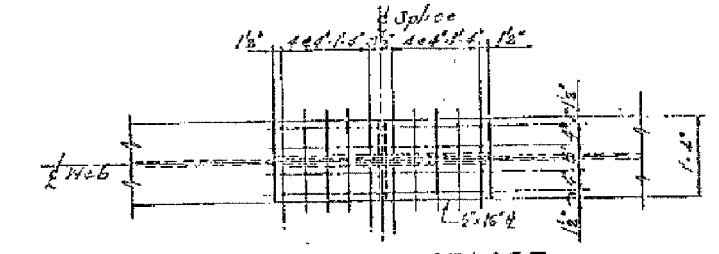
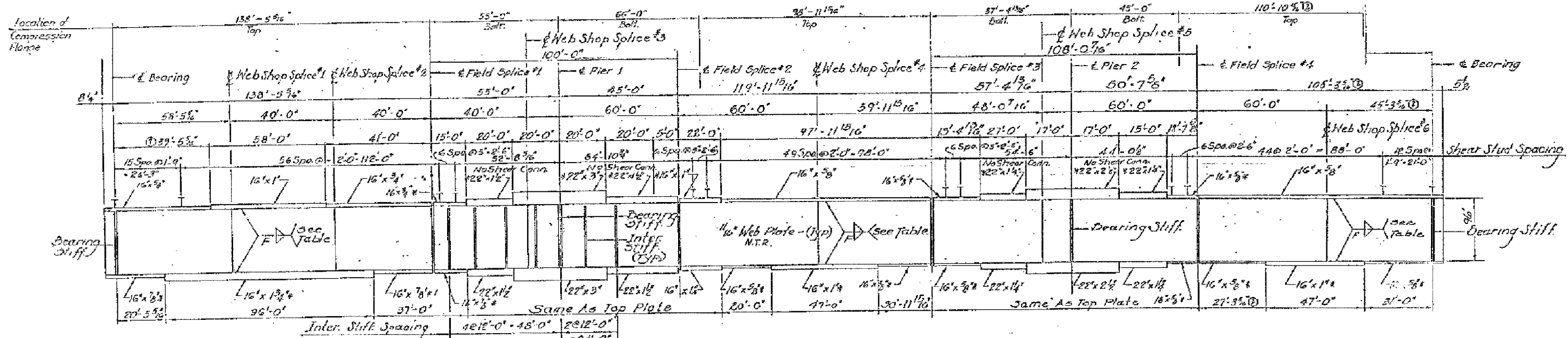
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	DATE - JUNE, 2016	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

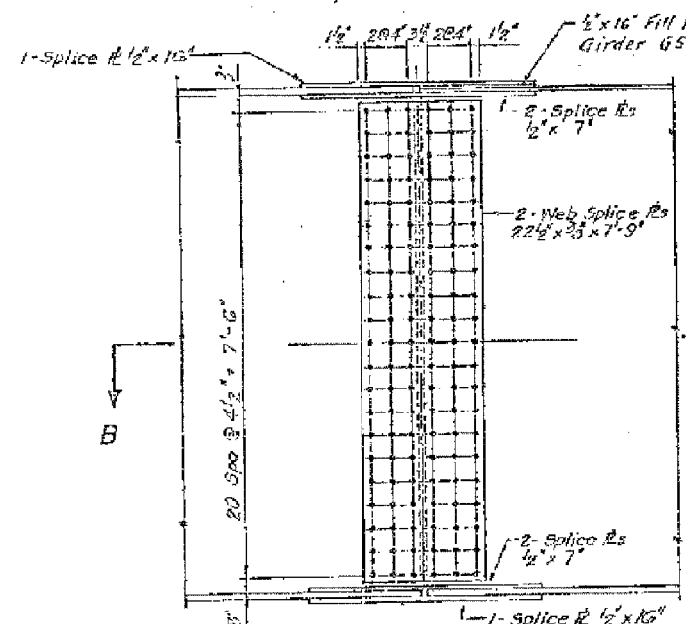
**FRAMING PLAN SPAN 1 - LOCATION 6
 STRUCTURE NO. 016-1116**

SCALE: NTS STA. TO STA.

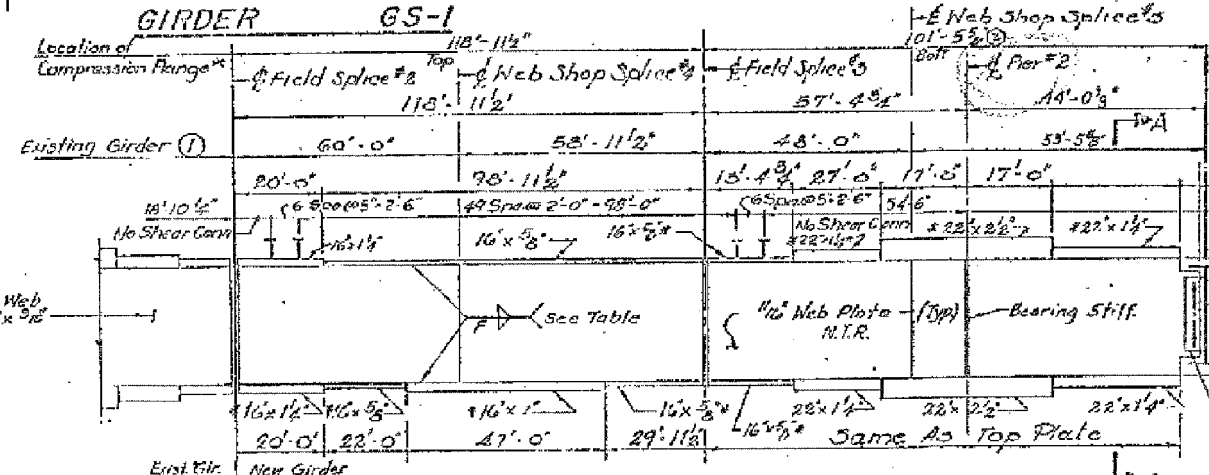
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CONTRACT NO. 60V21				
ILLINOIS FED. AID PROJECT				



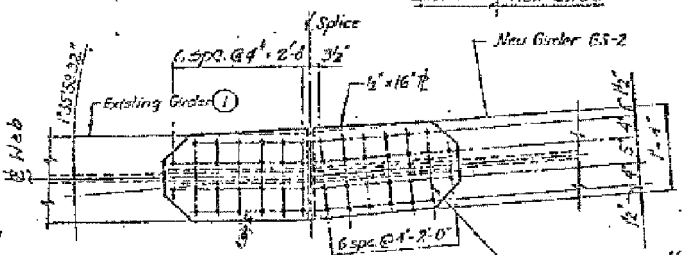
FLANGE SPLICE
GS-1, SPLICE #1
GS-2, SPLICE #3



TYPICAL FIELD SPLICE ELEVATION
(N.T.R. ALL SPLICE PLATES)



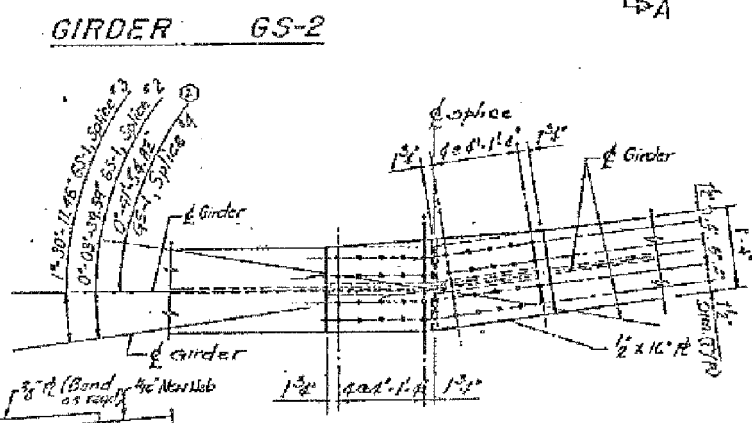
GIRDER GS-1



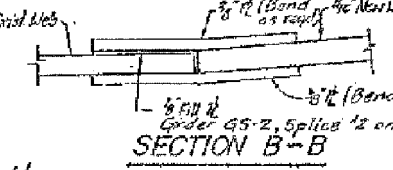
FLANGE SPLICE
GIRDER GS-2, SPLICE #2

FLANGE PLATE THICKNESS	WELD SIZE
1/2" thru 3/4"	3/8"
3/4" thru 1 1/4"	7/16"
1 1/4" thru 2 1/4"	5/8"
2 1/4" thru 3"	1"

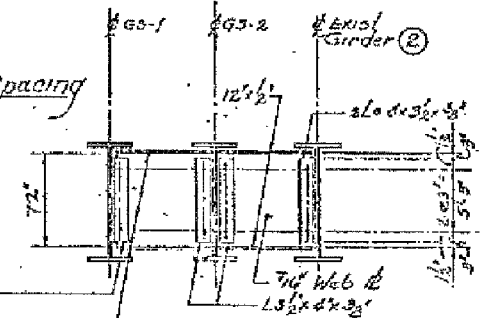
NOTE: Extend larger fillet weld 1'-0" beyond flange splice.



GIRDER GS-2

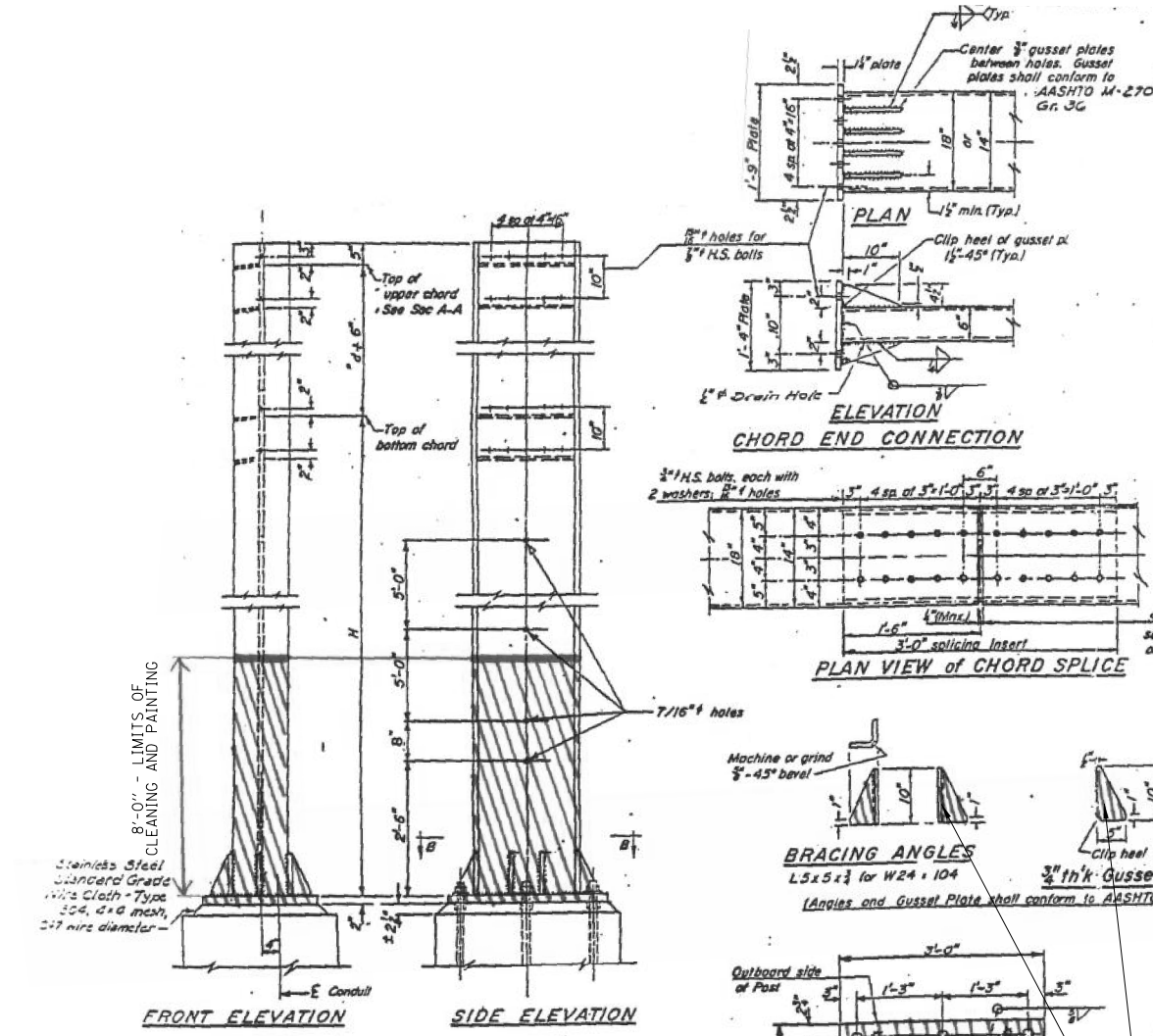


SECTION B-B



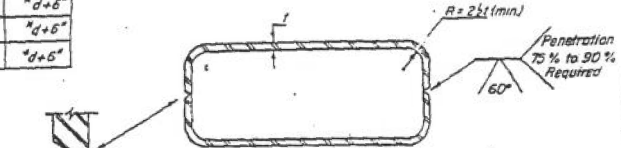
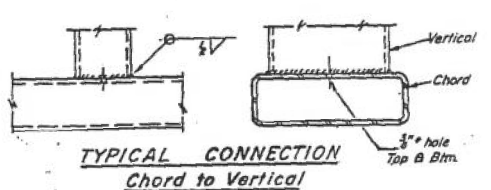
SECTION A-A

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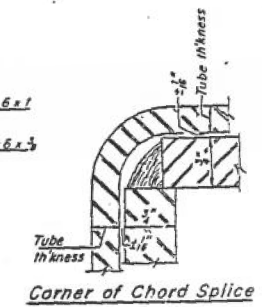
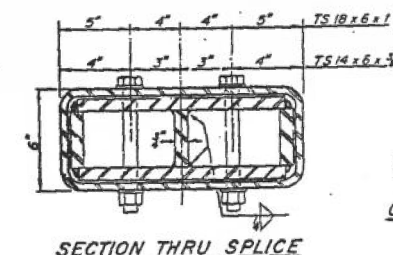
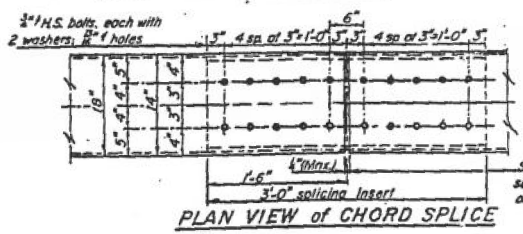


Span	Camber at Centerline	Chord	Vertical	Post	C-C Chords
0 to 70'	2"	TS 14 x 6 x 1/2	TS 10 x 6 x 1/2	W 24 x 104	"d+6"
71 to 80'	2"	TS 14 x 6 x 1/2	TS 10 x 6 x 1/2	W 24 x 104	"d+6"
81 to 90'	4"	TS 18 x 6 x 1/2	TS 14 x 6 x 1/2	W 24 x 104	"d+6"
91 to 100'	4"	TS 18 x 6 x 1/2	TS 14 x 6 x 1/2	W 24 x 104	"d+6"
101 to 110'	4"	TS 18 x 6 x 1/2	TS 14 x 6 x 1/2	W 24 x 104	"d+6"
111 to 124'	4"	TS 18 x 6 x 1/2	TS 14 x 6 x 1/2	W 24 x 104	"d+6"

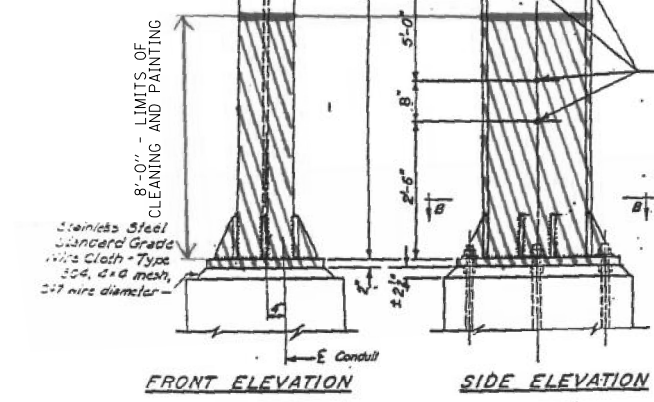
*d is sign depth + 2"



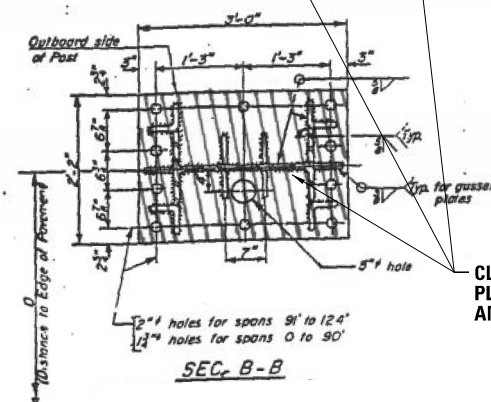
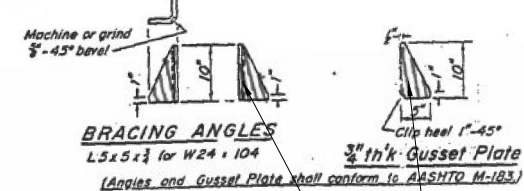
ALTERNATE BUILT-UP TUBE
Width, depth and thickness shall be as indicated for TS members indicated in table.



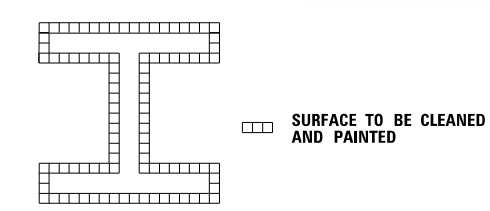
CAMBER DIAGRAM
Camber required See table.



POST
W 24 x 104



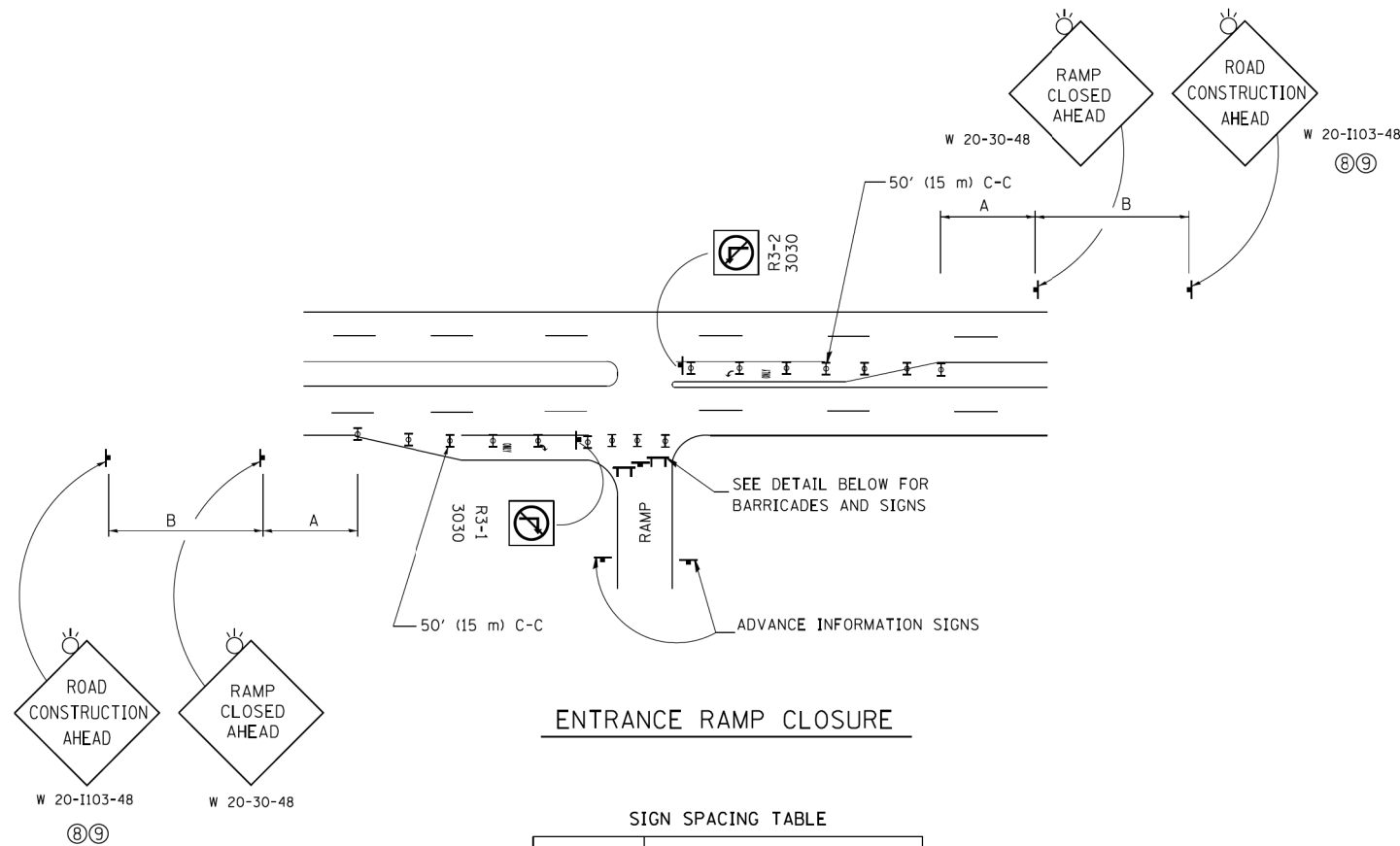
CLEAN AND PAINT BASE PLATE, GUSSET PLATES, AND BRACING ANGLES



SUPPORT POST PAINTING DETAIL

Structure No.	Station	Span	*d	Camber at E	Exterior Unit Lgth. (L)	Interior Unit Lgth. (L)	No. of Panels (N)	Panel Lgth. (P)	Chord Size	Vertical Size	Post Size	L.H. Post Dim. H	R.H. Post Dim. H
		78'-8"	10'-8"	4"	27'-10 1/8"	22'-11 7/8"	13	6'-8 15/16"	TS 18 x 6 x 1/2	TS 14 x 6 x 1/2	W 24 x 104	15'-7 1/4"	15'-4 1/2"

NOTE: (2)-SUPPORT LEGS PER SPAN STRUCTURE

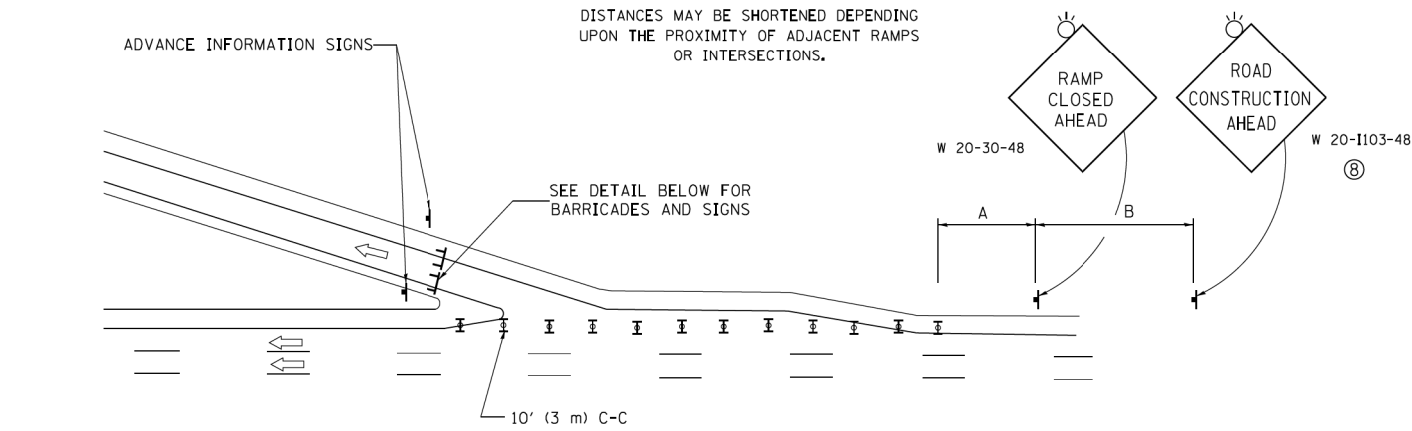


ENTRANCE RAMP CLOSURE

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

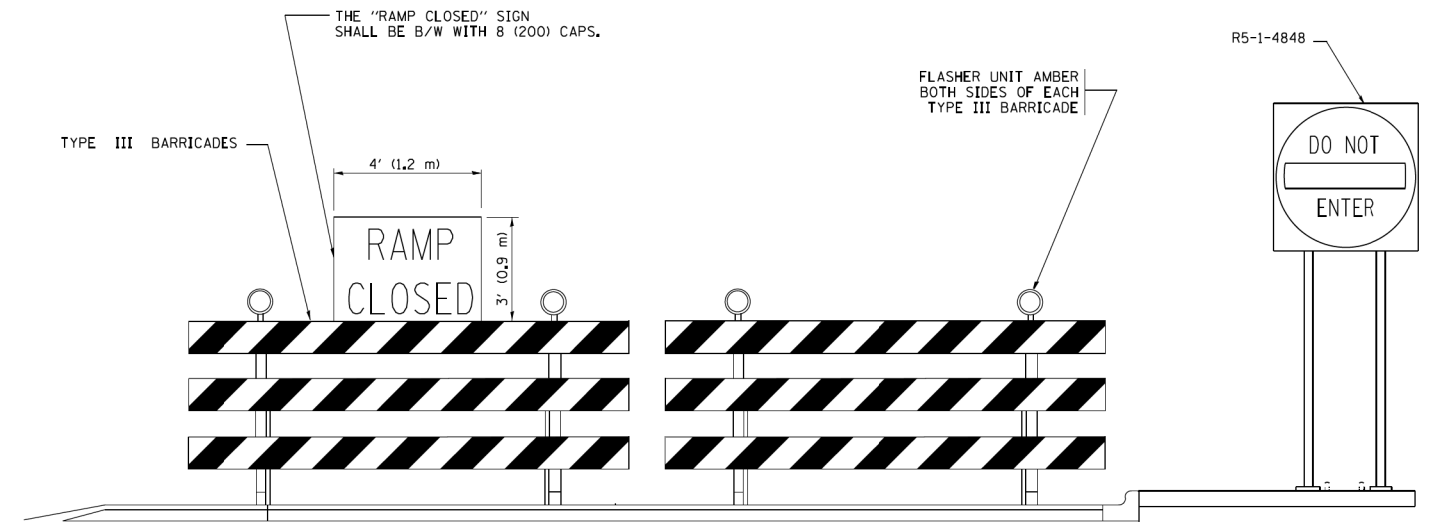
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



EXIT RAMP CLOSURE

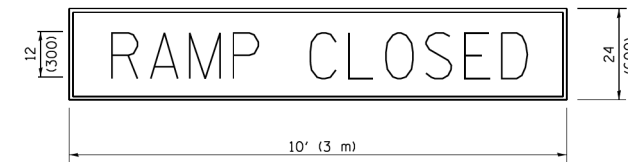
SYMBOLS

- ▬ TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- ▬ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



DETAIL FOR REQUIRED BARRICADES & SIGNS

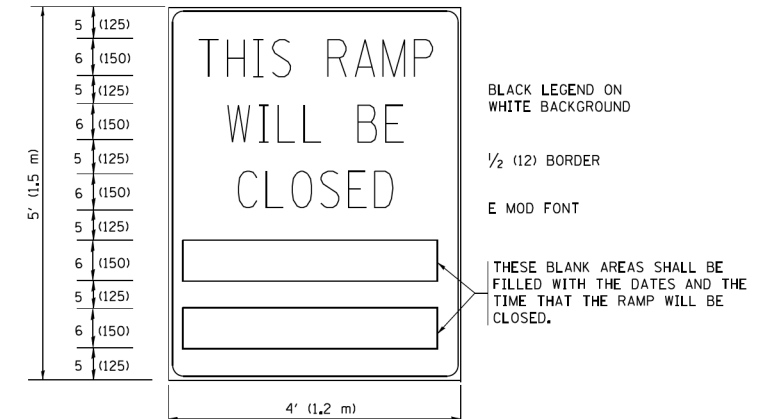
RAMP CLOSURE ADVANCE WARNING SIGN



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY
E MOD FONT
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

RAMP CLOSURE ADVANCE INFORMATION SIGN



BLACK LEGEND ON WHITE BACKGROUND

1/2 (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

GENERAL NOTES:

- ① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- ② STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
- ③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- ⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- ⑥ AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- ⑦ THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH.
- ⑧ ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ⑨ ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

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

FILE NAME =	USER NAME = footemj	DESIGNED - DWS	REVISED - JAF 02-06
ca:\pwork\pwork\dot\footemj\d0108315\td08.sgn		DRAWN -	REVISED - SPB 01-07
	PLOT SCALE = 50.000' / in.	CHECKED -	REVISED - SPB 12-09
	PLOT DATE = 7/8/2013	DATE - 02-83	REVISED - MD 06-13

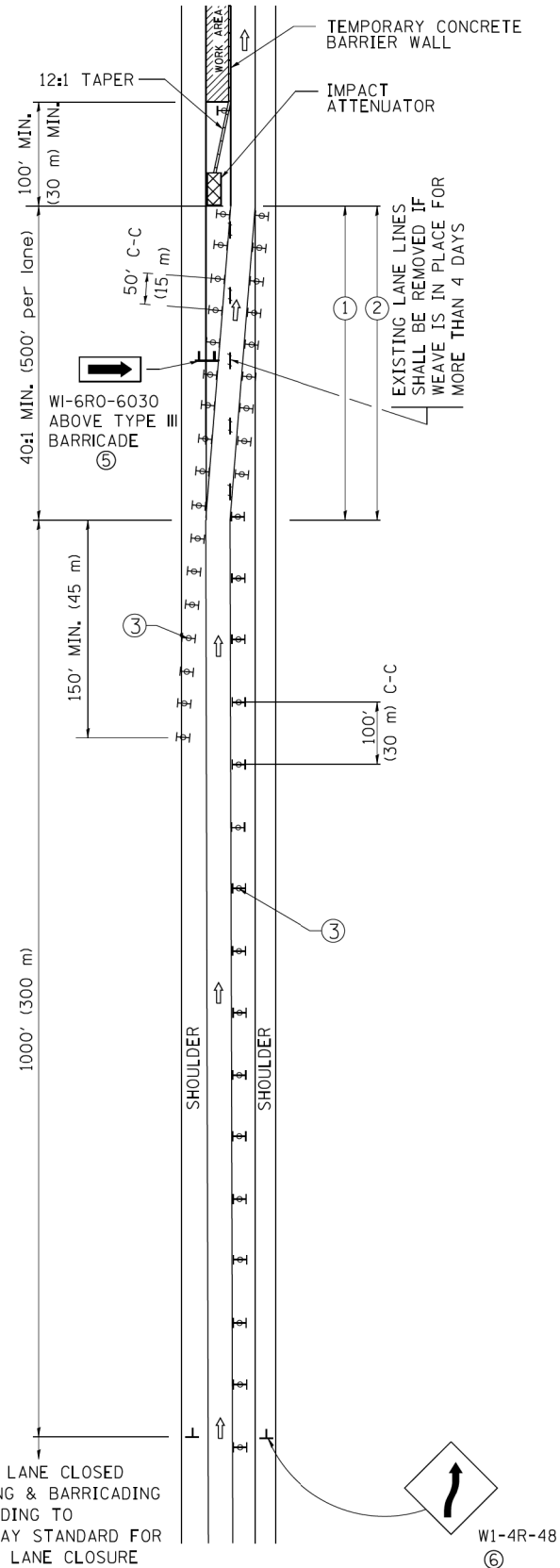
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE AND EXIT RAMP
CLOSURE DETAILS**

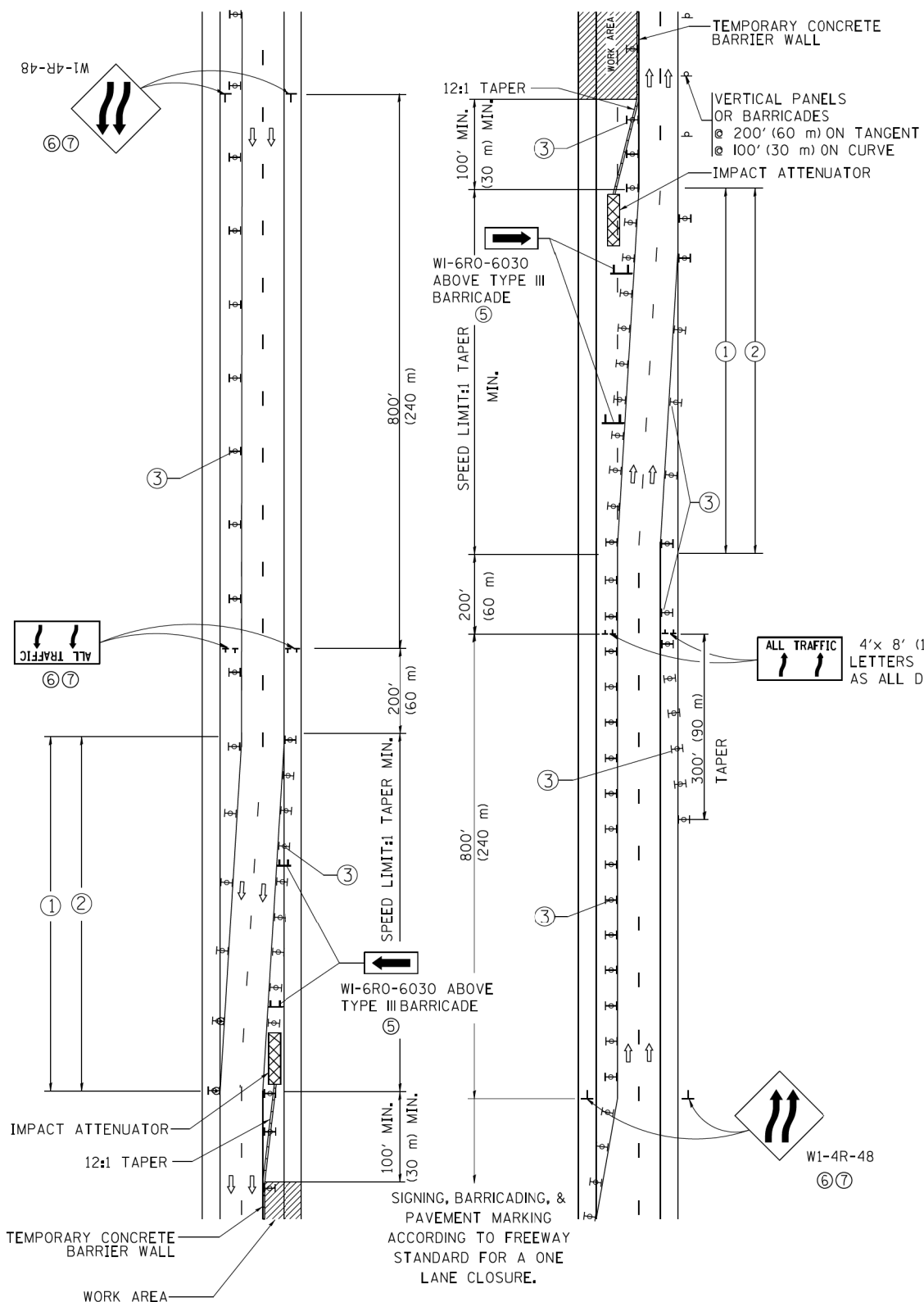
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2012-043BP	COOK	147	144
TC-08		CONTRACT NO. 60V21		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

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 4 DAYS IN DURATION.
- ② CONTINUOUS 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 TYPE III BARRICADES MAY BE OMITTED 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.

SYMBOLS

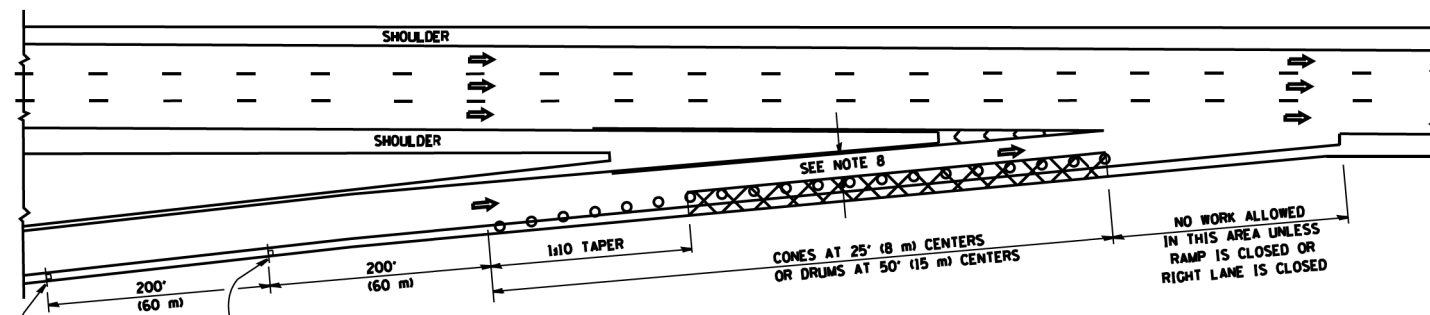
- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR
- W1-4R-48
- W24-1-48

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

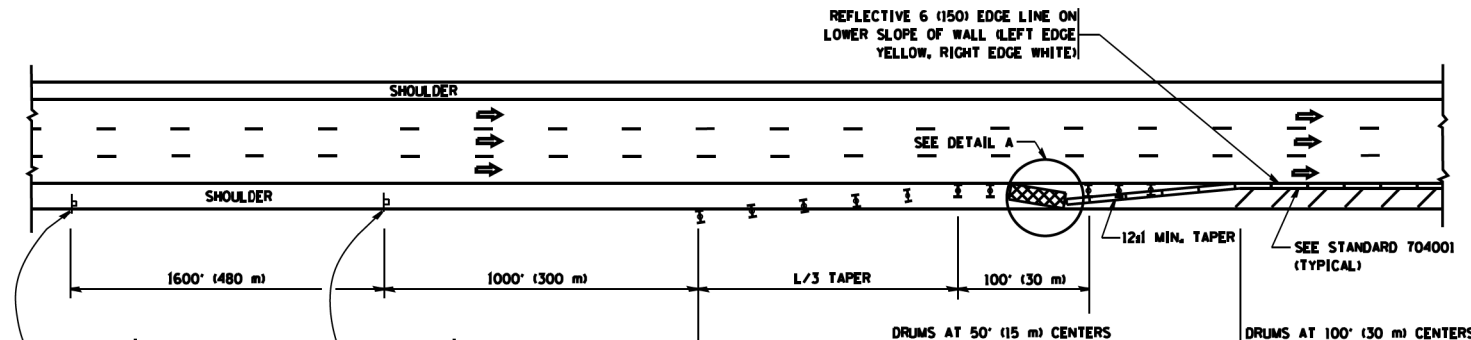
FILE NAME =	USER NAME = footemj	DESIGNED - DWS	REVISED - JAF 02-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE	F.A.I. RTE. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 145	
ca:\p\work\p\dot\footemj\d0108315\td09\fign	PLOT SCALE = 50.000' / in.	DRAWN -	REVISED - SPB 01-07			SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	TC-09		CONTRACT NO. 60V21
	PLOT DATE = 7/1/2013	CHECKED -	REVISED - SPB 12-09					FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT	
		DATE - 02-87	REVISED - MD 06-13								

PARTIAL RAMP CLOSURE DETAILS

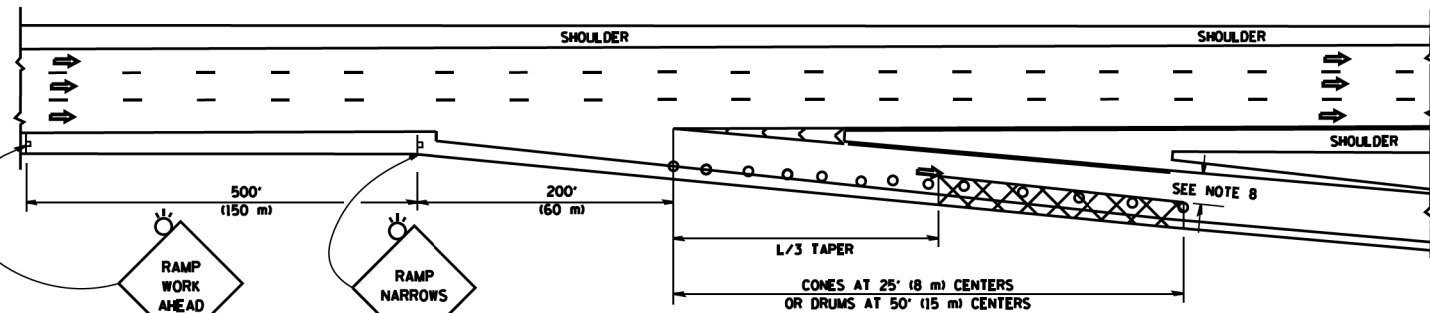
SHOULDER CLOSURE DETAILS



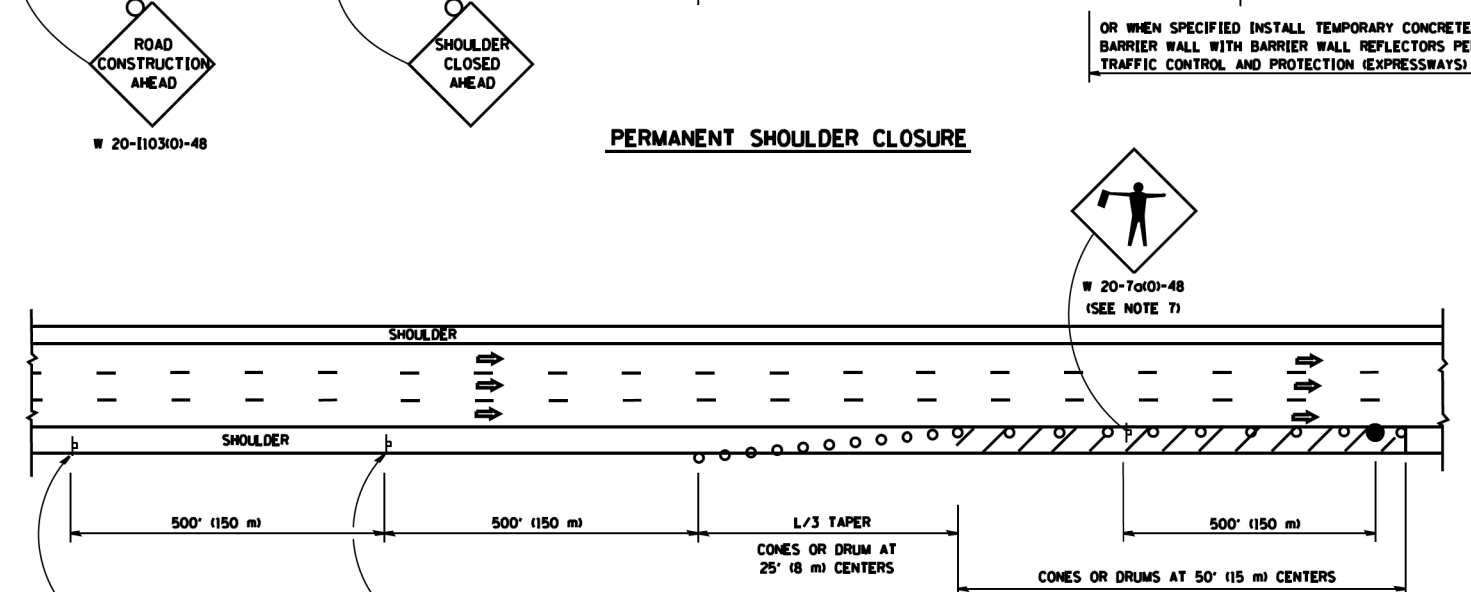
TYPICAL ENTRANCE RAMP



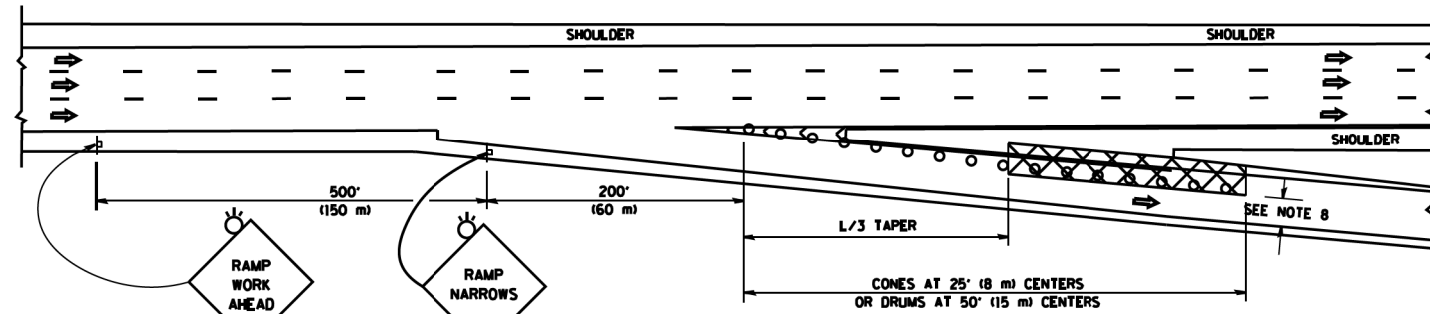
PERMANENT SHOULDER CLOSURE



TYPICAL EXIT RAMP



DAYTIME SHOULDER CLOSURE



TYPICAL EXIT RAMP

SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

GENERAL NOTES

1. THE "L" DISTANCE EQUALS:

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

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.

5. THE IMPACT ATTENUATOR, 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/MASH.
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 ACTIVITY 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.
8. 12' MIN. WIDTH TANGENT SECTION
16' MIN. WIDTH CURVE SECTION.

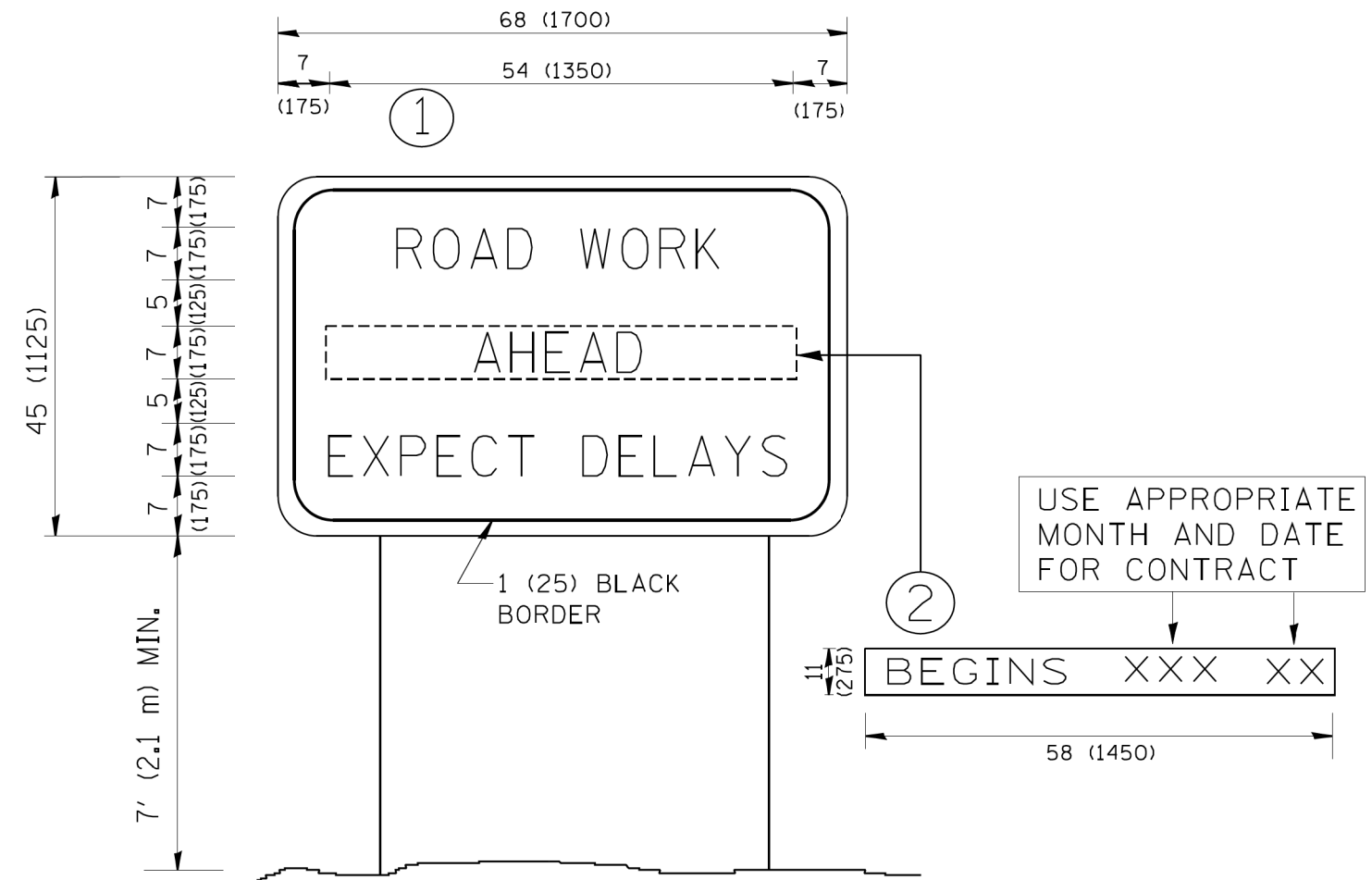
ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350/MASH COMPLIANT.

**DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)**

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.

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

FILE NAME =	USER NAME = leysa	DESIGNED -	REVISED - J.A.F. 12-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pwr\work\pwrdoct\leysa\00108315\tcl7.dgn		DRAWN - D.W.S.	REVISED - S.P.B. 01-07		90/94	2012-043BP	COOK	147	146			
	PLOT SCALE = 100.0000' / 1" =	CHECKED -	REVISED - S.P.B. 12-09		TC-17					CONTRACT NO. 60V21		
	PLOT DATE = 4/17/2014	DATE - 11-96	REVISED - M.D. 06-13		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 = gegl1enobt	DESIGNED - DRAWN -	REVISED - R. MIRS 09-15-97
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. 90/94	SECTION 2012-043BP	COUNTY COOK	TOTAL SHEETS 147	SHEET NO. 147
TC-22		CONTRACT NO. 60V21		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				