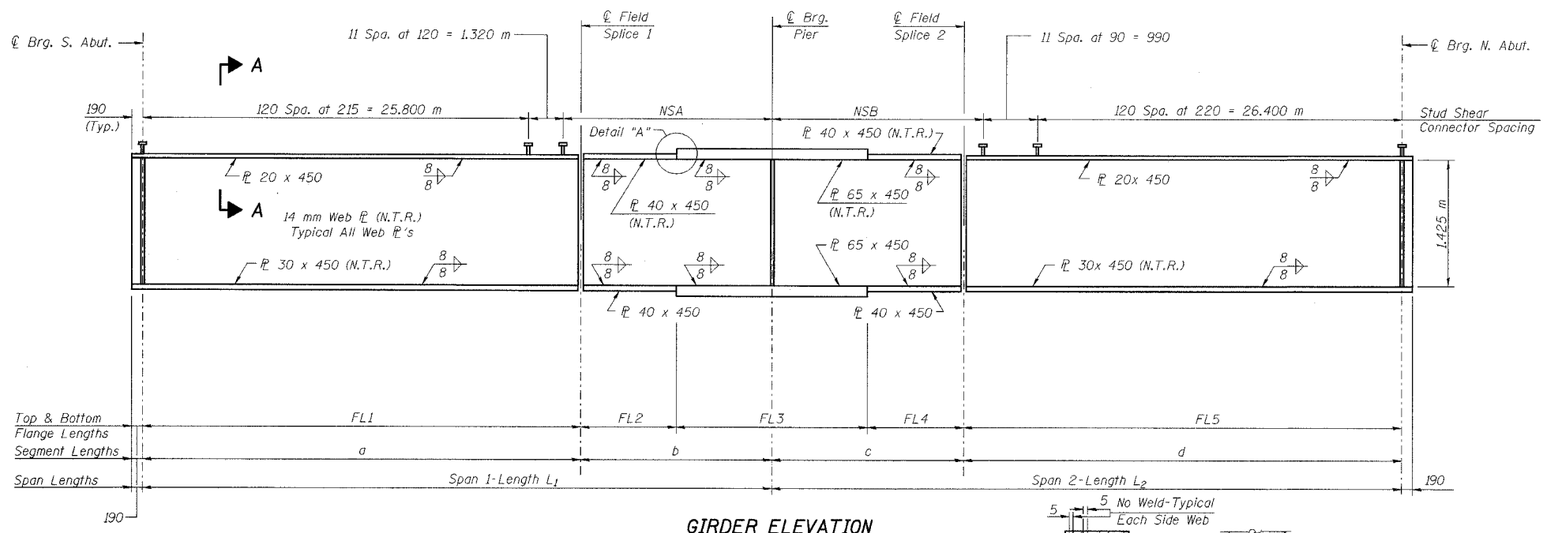
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. I. 80/94	*	COOK	90	12
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT-		

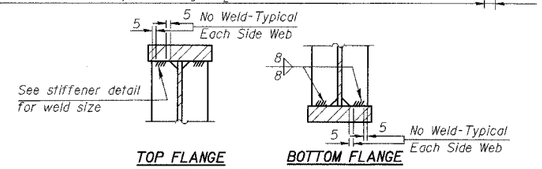
SHEET NO. 16
29 SHEETS

*2004-133F
CONTRACT NO. 62898



GIRDER ELEVATION

"N.T.R." denotes plates to which notch toughness requirements are applicable



TOP FLANGE — BOTTOM FLANGE

STIFFENER TO FLANGE WELD

Typical for Bearing Stiffeners

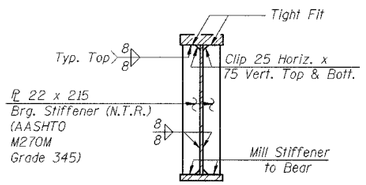
STUD SHEAR CONNECTOR SPACING (Meters)

Girder	Pier	
	NSA	NSB
1	12.463	12.565
2	12.462	12.565
3	12.461	12.565
4	12.460	12.564
5	12.459	12.564
6	12.458	12.564

"NOT IN CONTRACT"

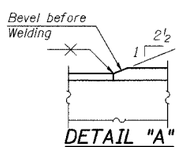
GIRDER TOP AND BOTTOM FLANGE LENGTHS (Meters)

Girder	FL1	FL2	FL3	FL4	FL5
1	27.708	7.521	8.749	7.591	27.969
2	27.708	7.521	8.749	7.591	27.968
3	27.707	7.520	8.749	7.591	27.968
4	27.706	7.520	8.749	7.591	27.968
5	27.705	7.520	8.749	7.591	27.968
6	27.705	7.520	8.749	7.591	27.968



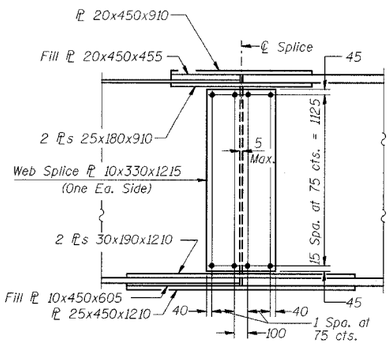
AT PIER & ABUTMENT

BEARING STIFFENERS

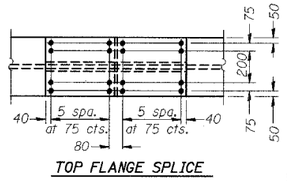


DETAIL "A"

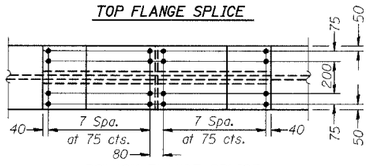
(Typ. Top & Bott. Flange)



WEB SPLICE

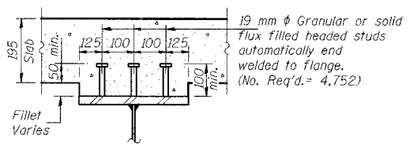


TOP FLANGE SPLICE



BOTTOM FLANGE SPLICE

FIELD SPLICE 1 & 2



SECTION A-A

"NOT IN CONTRACT"

Notes:

1. For Span Lengths L_1, L_2 & Segment Lengths a thru d, see Sheet No. 15 of 29.
2. All Flange Plates & Web Plates shall be AASHTO M270M Grade 345.
3. All Field Splice Plates, except Fill Plates, shall be AASHTO M270M Grade 345 and shall meet the Notch Toughness Requirements (N.T.R.)
4. All dimensions are in millimeters (mm) except noted otherwise.

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp.1	Pier	0.6 Sp.2
Is	(10^6 mm⁴)	14,961	35,865	14,961
Ic (n)	(10^6 mm⁴)	35,458	---	35,458
Ic (3n)	(10^6 mm⁴)	25,654	---	25,654
Ss	(10^3 mm³)	22,520	46,129	22,520
Sc (n)	(10^3 mm³)	30,178	---	30,178
Sc (3n)	(10^3 mm³)	27,541	---	27,541
Sbt	(10^3 mm³)	675	2,194	675
wℓ	(kN/m)	16	29	16
Mℓ	(kN·m)	1,510	6,339	1,503
sℓ	(kN/m)	9	---	9
Msℓ	(kN·m)	945	---	963
M℄	(kN·m)	1,817	1,945	1,833
M (Imp)	(kN·m)	454	389	458
5/3[M℄+M(Imp)]	(kN·m)	3,785	3,890	3,819
Ma	(kN·m)	8,111	13,298	8,171
Mbt	(kN·m)	12	29	12
fsℓ (non-comp)	(MPa)	67	137	67
fsℓ (comp)	(MPa)	34	---	35
fs 5/3[M℄+M(Imp)]	(MPa)	125	84	127
ft	(MPa)	18	13	18
fs(Overload)	(MPa)	227	222	228
fs (Total)	(MPa)	295	288	297
Fcr(Overload)	(MPa)	328	312	328
VR	(kN)	300	---	300
Fcr	(MPa)	345	323	345

INTERIOR GIRDER REACTION TABLE				
		S. Abut.	Pier	N. Abut.
R ℓ	(kN)	355	1,379	361
R ℄	(kN)	232	461	232
Imp.	(kN)	70	115	70
R (Total)	(kN)	657	1,955	663

Fcr - Critical average flange stress (smaller of Fcr1 or Fcr2 for partially braced flanges and Fy for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4).

Fcr (Overload) - Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5.

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total and Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to live load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead load (see AASHTO 10.38).

VR is the maximum ℄ + impact shear range in span.

Ma (Applied Moment) = 1.3 [Mℓ + Msℓ + 5/3 (M℄ + M (Imp))]

fs (Overload) is the sum of stresses due to Mℓ + Msℓ + 5/3 (M℄ + M (Imp))

fs (Total) is the sum of stresses due to 1.3 [Mℓ + Msℓ + 5/3 (M℄ + M (Imp))]

Sbt is the section modulus for one top flange plate for lateral flange bending.

Mbt is the lateral bending moment during construction for flange plate (factored).

f_ℓ is the calculated normal stress at the edge of flange due to lateral bending (factored).

M℄ and R℄ include the effects of centrifugal force and superelevation.

DESIGNED	MEA
CHECKED	MAS/ACF
DRAWN	LK
CHECKED	ACF

ILLINOIS DEPARTMENT OF TRANSPORTATION
I-94 EAST BOUND / IL 394 SOUTH BOUND

GIRDER ELEVATION & DETAILS

SB ILLINOIS ROUTE 394 OVER INTERSTATE 80
F.A.P. 332 SECTION 2004-133F
COOK COUNTY
STA. 440+193.335 STRUCTURE NO. 016-2796

DATE 05/16/05
SCALE ---

HNTB

lkalita
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