

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94	*	COOK	631	473
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* (2425 & 2626) R-2		CONTRACT NO. 62111		

TOP OF WEB ELEVATIONS (m)*
(For fabrication use only)

Beam	€ Brg. W. Abut.	€ Pier 1	€ Field Splice	€ Field Splice	€ Pier 2	€ Brg. E. Abut.
N.12	189.038	189.033	189.031	188.990	188.978	188.938
N.11	189.118	189.118	189.118	189.078	189.063	189.013
N.10	189.183	189.183	189.183	189.143	189.128	189.078
N.9	189.288	189.288	189.288	189.248	189.233	189.183
N.8	189.343	189.343	189.343	189.302	189.283	189.218
N.7	189.403	189.403	189.403	189.362	189.343	189.278
N.6	189.453	189.453	189.453	189.412	189.393	189.328
N.5	189.493	189.493	189.493	189.452	189.433	189.368
N.4	189.468	189.468	189.468	189.427	189.408	189.343
N.3	189.418	189.418	189.418	189.377	189.358	189.293
N.2	189.363	189.363	189.363	189.322	189.303	189.238
N.1	189.303	189.303	189.303	189.262	189.243	189.178
S.1	189.303	189.303	189.303	189.262	189.243	189.178
S.2	189.363	189.363	189.363	189.322	189.303	189.238
S.3	189.413	189.413	189.413	189.372	189.353	189.288
S.4	189.453	189.453	189.453	189.411	189.393	189.328
S.5	189.493	189.493	189.493	189.452	189.433	189.368
S.6	189.468	189.468	189.468	189.427	189.408	189.343
S.7	189.428	189.428	189.428	189.387	189.368	189.303
S.8	189.378	189.378	189.378	189.337	189.318	189.253
S.9	189.313	189.313	189.313	189.272	189.253	189.188
S.10	189.218	189.218	189.218	189.189	189.173	189.118
S.11	189.158	189.158	189.158	189.124	189.108	189.053
S.12	189.083	189.078	189.077	189.042	189.028	188.983

GIRDERS N.1-N.9 & S.1-S.9 REACTION TABLE

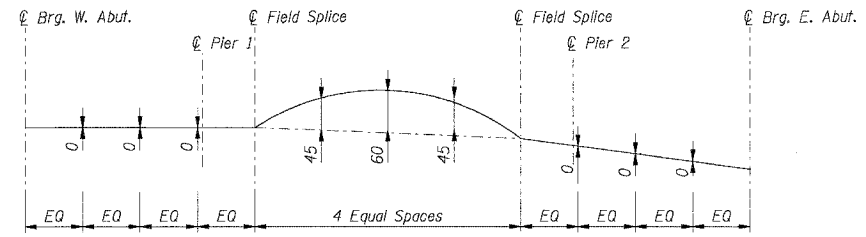
	End Support	Interior Pier
R @ (kN)	78	698
R L (kN)	223	313
Imp. (kN)	63	76
R (Total) (kN)	364	1087

GIRDERS N.10, N.11 & S.10, S.11 REACTION TABLE

	End Support	Interior Pier
R @ (kN)	84	746
R L (kN)	223	312
Imp. (kN)	63	76
R (Total) (kN)	369	1134

GIRDERS N.12 & S.12 REACTION TABLE**

	End Support	Interior Pier
R @ (kN)	138	1170
R L (kN)	181	277
Imp. (kN)	51	67
R (Total) (kN)	370	1515



TYPICAL CAMBER DIAGRAM*

GIRDERS N.1-N.9 & S.1-S.9 MOMENT TABLE

	0.4 Span 1	Pier 1	0.5 Span 2
Is	10260	10260	9740
Ic (n)			24950
Ic (3n)			18280
Ss	14250	14250	13950
Sc (n)			20280
Sc (3n)			18310
Z			
Q	23.74	23.74	16.03
M @	13	1789	970
s @			7.65
Ms @			561
M L	612	717	1309
M (Imp)	172	174	279
S ₃ [M L + M(Imp)]	1308	1485	2646
Ma	1717	4256	5429
Mu			7656
fs @ non-comp	1	126	70
fs @ (comp)			31
fs S ₃ [M L + M(Imp)]	92	104	130
fs (Overload)	93	230	231
fs (Total)	120	299	
VR	331		328

MOMENT TABLE - Symmetrical Composite 3 Span
(Composite in positive moment area only)

GIRDERS N.10, N.11 & S.10, S.11 MOMENT TABLE

	0.4 Span 1	Pier 1	0.5 Span 2
Is	10260	10260	9740
Ic (n)			26870
Ic (3n)			19960
Ss	14250	14250	13950
Sc (n)			20900
Sc (3n)			18990
Z			
Q	25.38	25.38	17.67
M @	16	1908	1069
s @			7.65
Ms @			574
M L	611	702	1327
M (Imp)	172	170	282
S ₃ [M L + M(Imp)]	1306	1455	2682
Ma	1719	4371	5623
Mu			7753
fs @ non-comp	1	134	77
fs @ (comp)			30
fs S ₃ [M L + M(Imp)]	92	102	128
fs (Overload)	93	236	235
fs (Total)	121	307	
VR	330		328

MOMENT TABLE - Symmetrical Composite 3 Span
(Composite in positive moment area only)

GIRDERS N.12 & S.12 MOMENT TABLE**

	0.4 Span 1	Pier 1	0.5 Span 2
Is	13940	13940	13140
Ic (n)			32250
Ic (3n)			23740
Ss	19090	19090	18710
Sc (n)			25980
Sc (3n)			23660
Z			
Q	40.03	40.03	16.64
M @	66	2908	1004
s @			23.30
Ms @			1688
M L	542	643	1147
M (Imp)	153	156	244
S ₃ [M L + M(Imp)]	1158	1332	2319
Ma	1592	5512	6515
Mu			10036
fs @ non-comp	3	152	54
fs @ (comp)			71
fs S ₃ [M L + M(Imp)]	61	70	89
fs (Overload)	64	222	214
fs (Total)	83	289	
VR	273		270

MOMENT TABLE - Symmetrical Composite 3 Span
(Composite in positive moment area only)

Notes:
Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
Ic(n) and Ss(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to live load.
Ic(3n) and Ss(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).
s DL, Ms DL, and tabulated DL Reactions include the future wearing surface.
VR is the maximum Live Load + Impact shear range in span.
Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.
Ma (Applied Moment) = 1.3LM DL + Ms DL + 5/3(M LL + M Imp).
The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.
fs (Overload) is the sum of the stresses due to M DL + Ms DL + 5/3(M LL + M Imp).
fs (Total) (Non-compact section) is the sum of the stresses due to 1.3LM DL + Ms DL + 5/3(M LL + M Imp).

* Top of web elevations and camber diagram exclude the Noise Abatement Wall selfweight.
** s DL, Ms DL, and tabulated DL reactions of Girders N.12 and S.12 include the Noise Abatement Wall selfweight.

SHT. BS-31 OF 60

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. ROUTE 80/94 (KINGERY EXPRESSWAY)
EB & WB INSIDE LANES (MAINLINE) CONSTRUCTION
I-80/94 OVER BURNHAM AVENUE
STRUCTURE NO. 016-2791 STA. 6+772.591
SECTION 1977-121-R
COOK COUNTY

**DESIGN DATA TABLES,
TOP OF WEB ELEVATIONS
& CAMBER DIAGRAM**

DATE: 7/18/2005
DRAWN BY: NK
CHECKED BY: TCU

TENG
TENG & ASSOCIATES, INC.
ENGINEERS/ARCHITECTS/PLANNERS
CHICAGO, ILLINOIS

I:\DOCUMENTS\193150\STRUCT\06\ST11602A.DGN
 7-12-05 10:06:45
 2-3-06 18:10:12 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
 BALZEEKI