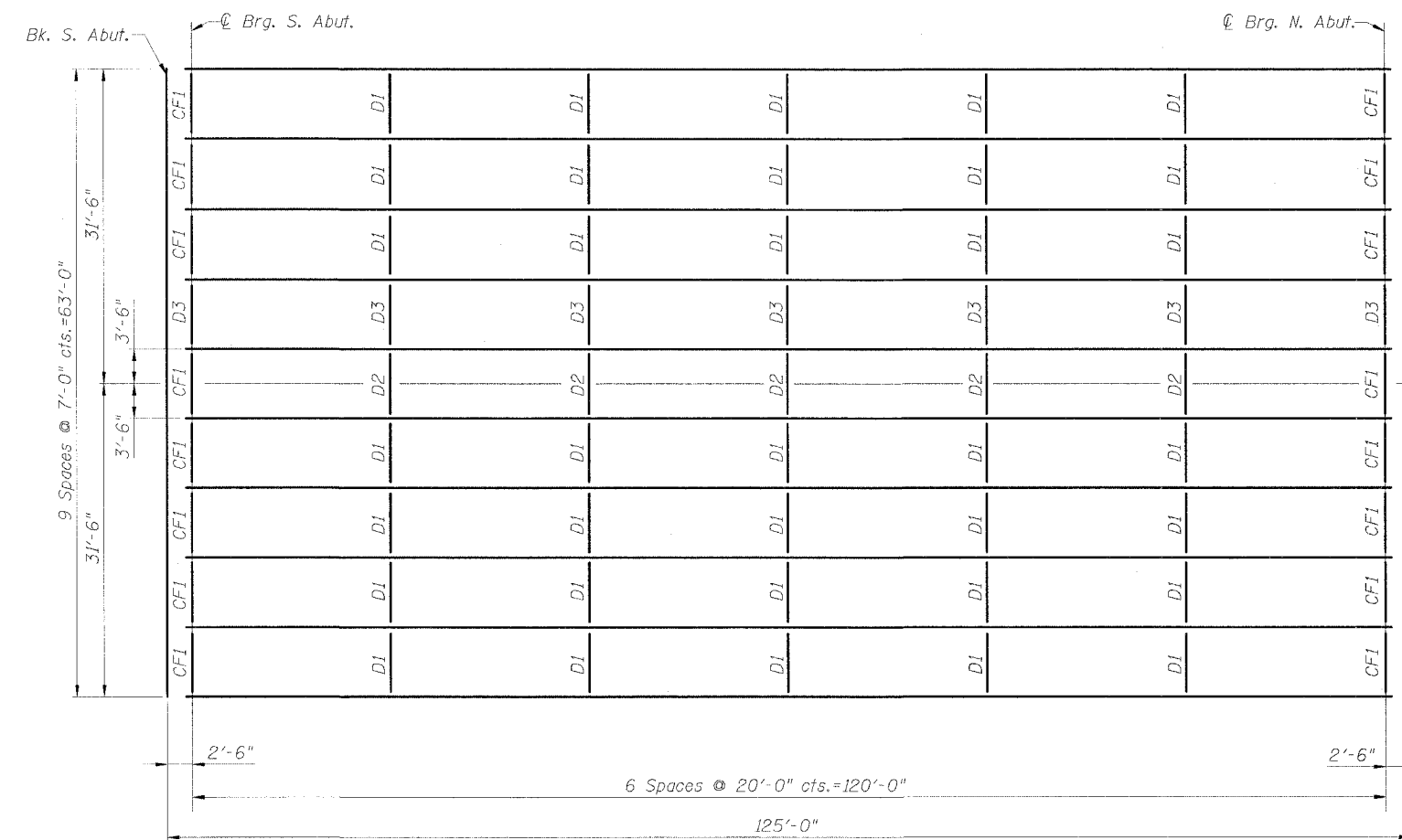
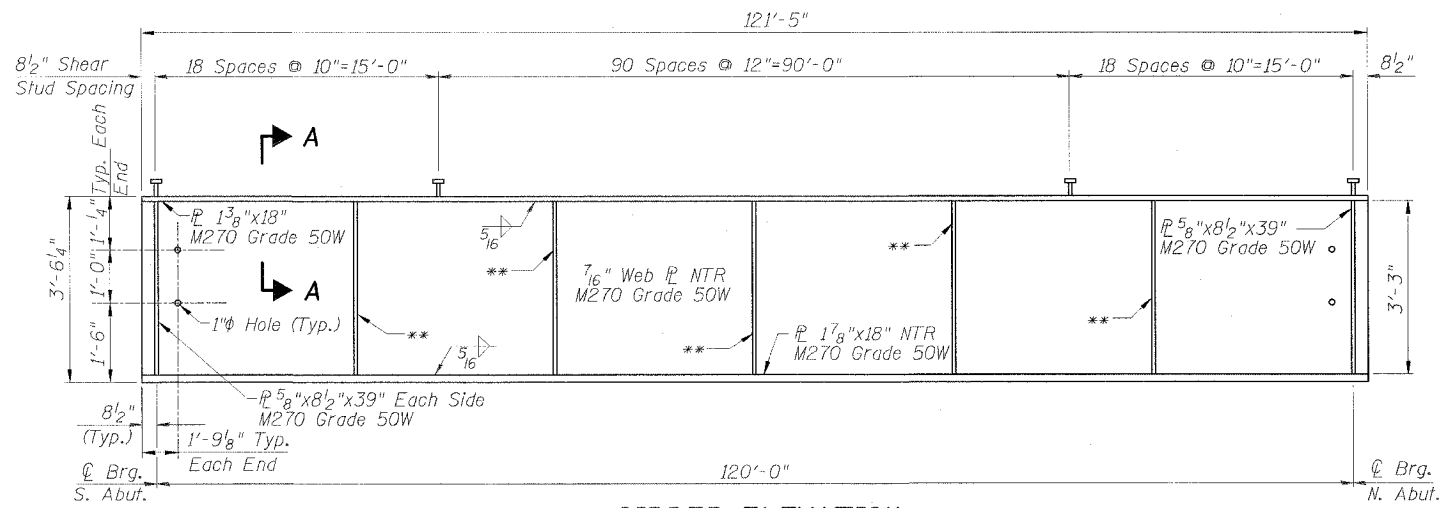


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
350	57B-31	COOK	62	34
FED. ROAD DIST. NO. 7			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 60440				



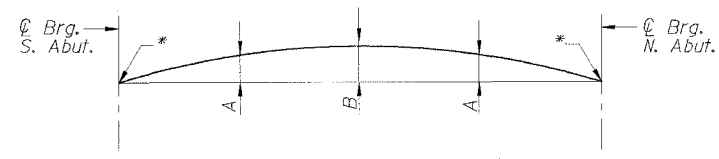
PLAN



GIRDER ELEVATION

"NTR" denotes plates to which toughness requirements are applicable.

** $\phi 5/8 \times 5/2 \times 38$ " M270 Grade 50W West face of Web Girder 5, East face of Web Girder 4 Only. See Section at Diaphragm D3



CAMBER DIAGRAM

* Final top of web elevations to be used in computing the bearing's seat elevation.

Girder	A	B
2-4, 7-9	4 3/8"	6 1/4"
5 & 6	3 3/4"	5 1/4"
1 & 10	4"	5 5/8"

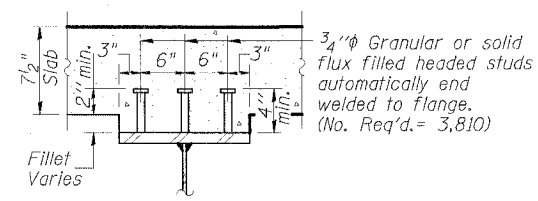
Girder	℄ Brg. S. Abut.	℄ Brg. N. Abut.
1	605.297	605.893
2	605.437	606.033
3	605.577	606.173
4	605.717	606.313
5	605.857	606.453
6	605.857	606.453
7	605.717	606.313
8	605.577	606.173
9	605.437	606.033
10	605.297	605.893

	0.5 Sp. 1	
I_s	(in ⁴) 25,882	
I_c (n)	(in ⁴) 52,467	
I_c (3n)	(in ⁴) 38,757	
S_s	(in ³) 1,372	
S_c (n)	(in ³) 1,657	
S_c (3n)	(in ³) 1,545	
ϕ	(k/')	0.977
$M\phi$	(k')	1,758
* $s\phi$	(k/')	0.825
* $M_s\phi$	(k')	1,485
$M\frac{1}{2}$	(k')	1,196
M (Imp)	(k')	244
$S_3[M\frac{1}{2} + M(\text{Imp})]$	(k')	2,400
* M_a	(k')	7,337
M_u	(k')	7,457
$f_s\phi$ non-comp	(ksi)	15
* $f_s\phi$ (comp)	(ksi)	12
$f_s\phi_3[M\frac{1}{2} + M(\text{Imp})]$	(ksi)	17
* f_s (Overload)	(ksi)	44
f_s (Total)	(ksi)	
VR	(k)	57

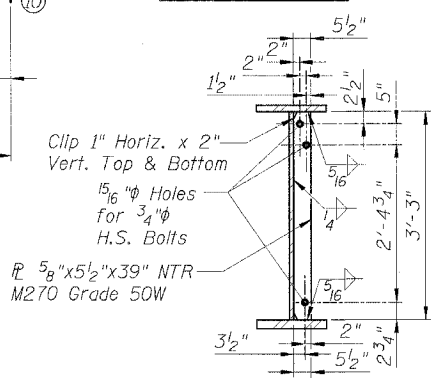
	N. Abut.	S. Abut.
$R\phi$	(k)	94.1
* $R_s\phi$	(k)	49.5
$R\frac{1}{2}$	(k)	47.0
Imp.	(k)	9.6
* R (Total)	(k)	200.2

* Includes additional superimposed dead load due to utilities.

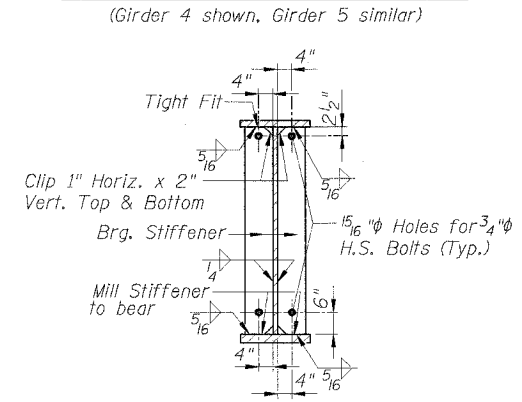
I_s and S_s are the moment of inertia and section modulus of the steel section used in computing f_s (Total & Overload).
 I_c (n) and S_c (n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c (3n) and S_c (3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads.
 VR is the maximum live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3[M\phi + M_s\phi + S_3(M\frac{1}{2} + I)]$.
 M_u is the Full Plastic Moment Capacity for Compact, Braced section.
 f_s (Overload) is the sum of the stresses due to $M\phi + M_s\phi + S_3(M\frac{1}{2} + I)$.
 f_s (Total) is the sum of the stresses due to $1.3[M\phi + M_s\phi + S_3(M\frac{1}{2} + I)]$.
 $M_s\phi$ Moment due to dead loads on composite section.
 $M\frac{1}{2}$ Moment due to live load on non-composite or composite section.
 $M(\text{Imp})$ Moment due to live load impact on non-composite or composite section.



SECTION A-A



SECTION AT DIAPHRAGM D3



SECTION AT ABUTMENT

Notes:
 1. For diaphragm details see Sheet S10.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Erecting Structural Steel	L. Sum	1
Stud Shear Connectors	Each	3,810

Structural Steel provided in a separate Fabrication Contract. Only Stud Shear connectors and Erecting Structural Steel are included in this Contract.

ILLINOIS DEPARTMENT OF TRANSPORTATION
 FRAMING PLAN & DETAILS
 FAP 350 IL ROUTE 50 (CICERO AVE.) OVER
 NORTH BRANCH OF THE CHICAGO RIVER
 COOK COUNTY STATION 23+65.80
 SECTION 57B-31
 STRUCTURE NO. 016-2782

NAME	DATE

SCALE: NONE
 DATE: AUGUST 18, 2006
 DRAWN BY: M. Belton
 CHECKED BY: R. Clinton

