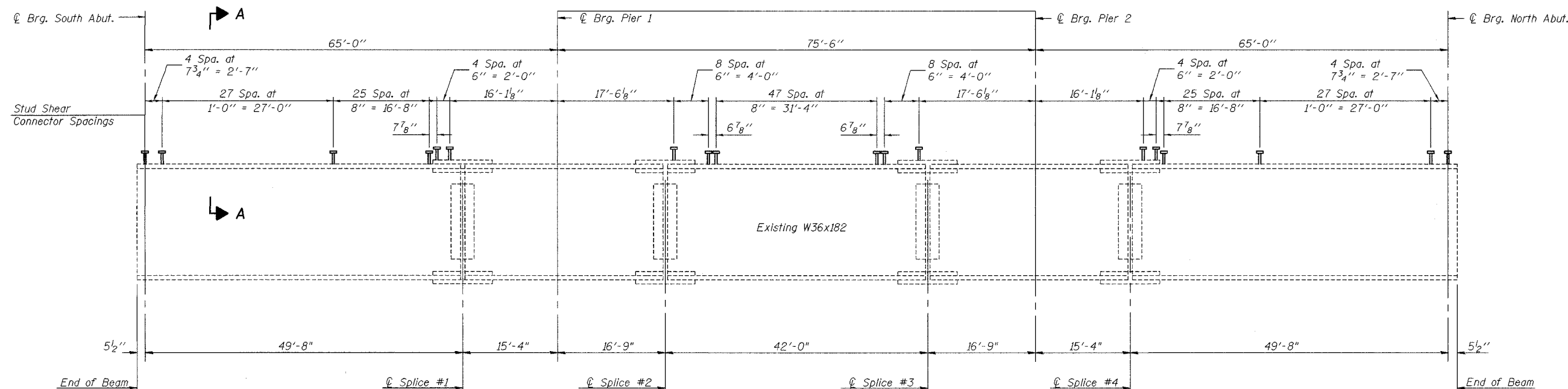
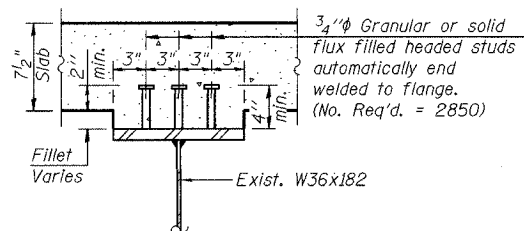


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Sheet 6 of 12



BEAM ELEVATION



SECTION A-A

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 & 2	0.5 Sp. 2
I_s (in ⁴)	11,300	11,300	11,300
I_c (n) (in ⁴)	25,473	-----	25,473
I_c (sn) (in ⁴)	18,680	-----	18,680
S_s (in ³)	622	622	622
S_c (n) (in ³)	847	-----	847
S_c (sn) (in ³)	765	-----	765
ϕ (k/ft.)	0.84	1.19	0.84
$M\phi$ (k)	258.3	564.7	182.2
$s\phi$ (k/ft.)	0.35	-----	0.35
$M_s\phi$ (k)	115.7	-----	151.8
M_k (k)	452.3	269.7	451.3
M (Imp) (k)	117.6	70.1	112.8
$s_3[M_k + M(\text{Imp})]$ (k)	949.8	566.3	940.2
M_a (k)	1721.0	1470.3	1656.4
* M_u (k)	-----	2132.5	-----
$f_s\phi$ non-comp (k.s.i.)	4.98	10.90	3.51
$f_s\phi$ (comp) (k.s.i.)	1.81	-----	1.51
$f_s s_3 (k + \text{Imp})$ (k.s.i.)	13.45	1.48	13.32
f_s (Overload) (k.s.i.)	20.24	12.38	18.34
** f_s (Total) (k.s.i.)	26.31	-----	23.84
VR (k)	54	-----	41

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 and S_c are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.
 I_c and S_c are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)
 VR is the maximum Live Load + Impact shear range in span.
 M_a (Applied Moment) = $1.3[M\phi + Ms\phi + s_3(M_k + M(\text{Imp}))]$.
 The Plastic Moment capacity (M_u) is computed according to AASHTO 10.48.1 and 10.50.1.1.
 f_s (Overload) is the sum of the stresses due to $M\phi + Ms\phi + s_3(M_k + M(\text{Imp}))$.
 f_s (Total) (Non-compact section) is the sum of the stresses due to $1.3[M\phi + Ms\phi + s_3(M_k + M(\text{Imp}))]$.

	N. & S. Abuts.	Piers 1 & 2
$R\phi$ (k)	29.77	91.81
R_k (k)	39.96	45.71
Imp. (k)	10.51	11.71
R (Total) (k)	80.24	149.23

* Compact section
 ** Braced non-compact and partially braced section.

Corporate License Number 184-001-084

BEAM ELEVATION
 PERRYVILLE ROAD BRIDGE
 OVER NORTH BRANCH KISHWAUKEE RIVER
 F.A.U. ROUTE 5148
 SECTION 06-00387-00-BR
 WINNEBAGO COUNTY
 STRUCTURE NUMBER 101-3063
 STATION 40+90

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LAYOUT	SMK	01/09/07
DRAWN	MMW	01/10/07
REVIEWED	SMK	01/10/07