INTERIOR GIRDER MOMENT TABLE

		0.5 Span
I_s	(in⁴)	61458
$I_c(n)$	(in⁴)	126198
$I_c(3n)$	(in⁴)	94842
$I_c(cr)$	(in⁴)	- - - - - -
S_s	(in³)	1971
$S_c(n)$	(in³)	2439
$S_c(3n)$	(in³)	2269
$S_c(cr)$	(in³)	- - - - - -
DC1	(k/')	1.207
M_{DC1}	('k)	2243
DC2	(k/')	0.157
M_{DC2}	('k)	292
DW	(k/')	0.405
M_{DW}	('k)	752
$M_{\underline{k} \cdot IM}$	('k)	2405
M_u (Strength I)	('k)	8506
$\phi_f M_n$	('k)	12288
f_s DC1	(ksi)	13.7
f_s DC2	(ksi)	1.5
f_s DW	(ksi)	4.0
f_s ($\underline{k}$+IM)	(ksi)	11.8
f_s (Service II)	(ksi)	34.6
$0.95R_hF_yf$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	- - - - - - -
$\phi_f F_n$	(ksi)	- - - - - - -
V_r	(k)	77.4

INTERIOR GIRDER REACTION TABLE

		W. Abut.	E. Abut.
R_{DC1}	(k)	74.2	74.2
R_{DC2}	(k)	9.6	9.6
R_{DW}	(k)	24.7	24.7
$R_{\underline{k} + IM}$	(k)	137.0	137.0
R_{Total}	(k)	245.4	245.4

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to short-term composite live loads (in.⁴ and in.³).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite dead loads (in.⁴ and in.³).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_{\underline{k} \cdot IM}$: Un-factored live load moment plus dynamic load allowance (impact) ((kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1}+ M_{DC2}) + 1.5 M_{DW} + 1.75 $M_{\underline{k} \cdot IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
M_{DC2}/ $S_c(3n)$ or M_{DC2} / $S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
M_{DW} / $S_c(3n)$ or M_{DW} / $S_c(cr)$ as applicable.

f_s ($\underline{k}$+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
$M_{\underline{k} \cdot IM}$ / $S_c(n)$ or $M_{\underline{k} \cdot IM}$/ $S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
f_{sDC1} + f_s DC2 + f_{sDW} + 1.3 f_s ($\underline{k}$ + IM)

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (f_{sDC1}+ f_s DC2) + 1.5 f_{sDW} + 1.75 f_s $\underline{k}$ + IM

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).

V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.
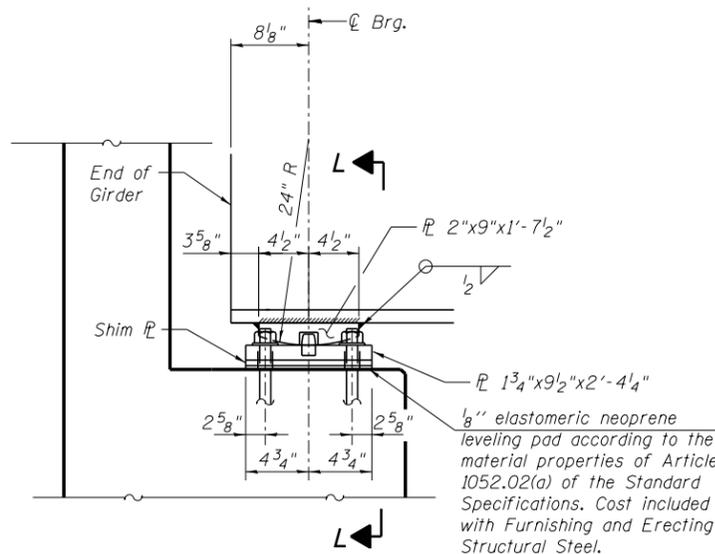
ELEVATION AT ABUTMENT
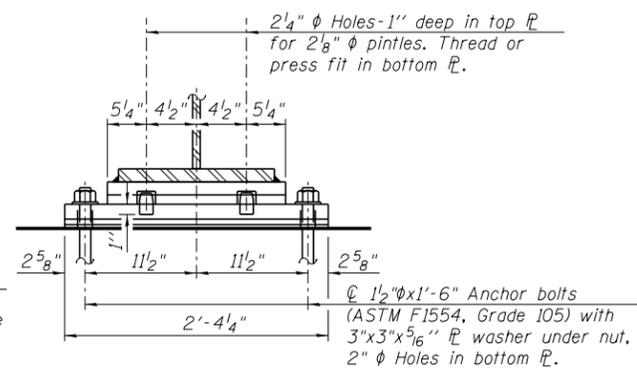
SECTION L-L

LOW PROFILE FIXED BEARING AT ABUTMENT

(E. Abut. Girders 4 thru 11)
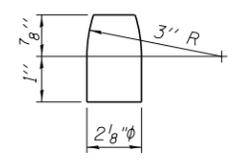
PINTLE

FILL PLATE SCHEDULE

(In addition to adjustment shims, see General Notes)
Cost included with Structural Steel

Abutment	Girder	Plate Thickness t
East	5	$\frac{1}{4}$"
East	7	$\frac{1}{2}$"

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, $1\frac{1}{2}$"	Each	32

NOTES:

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

2. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

4. The structural steel plates and pintles of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.

5. Two $\frac{1}{8}$ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

6. Steel members required for bearing assembly shall be included in the cost of Furnishing and Erecting Structural Steel.

7. All (embedded and separate) bearing plates, anchor bolts, nuts, washers, and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

FILE NAME =	USER NAME = mbecker	DESIGNED - DTS/AWH	REVISED -		
		CHECKED - AWH/AAY	REVISED -	STATE OF ILLINOIS	GIRDER DETAILS 4 OF 4
0900167.68620.28.stdt4.dgn	PLOT SCALE =	DRAWN - PRT	REVISED -	DEPARTMENT OF TRANSPORTATION	STRUCTURE NO. 090-0167
	PLOT DATE = 7/16/2012	CHECKED - MRB	REVISED -		SHEET NO. SB28 OF SB65 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	90-[14R}(14HB-4,14,14HVB)BR]	TAZEWELL	2433	1939
	CONTRACT NO. 68620			
	ILLINOIS FED. AID PROJECT			

x:\10000s\10056\engineering_documents_phase_ii\174overJefferson\Final\0900167_68620.28_stdt4.dgn

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