

INTERIOR GIRDER MOMENT TABLE			
	0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in ⁴) 19,731	37,959	19,731
$I_c(n)$	(in ⁴) 42,549	69,544	42,549
$I_c(3n)$	(in ⁴) 32,059	53,077	32,059
$I_c(cr)$	(in ⁴) - - - -	43,130	- - - -
S_s	(in ³) 897	1650	897
$S_c(n)$	(in ³) 1147	1964	1147
$S_c(3n)$	(in ³) 1061	1833	1061
$S_c(cr)$	(in ³) - - - -	1721	- - - -
DC1	(k/ft) 0.993	1.127	0.993
MDC1	(k) 966	1831	679
DC2	(k/ft) 0.220	0.220	0.220
MDC2	(k) 217	397	152
DW	(k/ft) 0.310	0.310	0.310
M _{DW}	(k) 306	560	214
$M_k + IM$	(k) 1602	1782	1482
M_u (Strength I)	(k) 4741	6,744	3953
$\phi_r M_n$	(k) 5,688	7,688	5,688
f_s DC1	(ksi) 12.9	13.3	9.1
f_s DC2	(ksi) 2.5	2.8	1.7
f_s DW	(ksi) 3.5	3.9	2.4
f_s ($k + IM$)	(ksi) 16.8	12.4	15.5
f_s (Service II)	(ksi) 40.6	36.1	33.4
$0.95R_n F_y f$	(ksi) 47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi) - - - -	- - - -	- - - -
$\phi_r F_n$	(ksi) - - - -	- - - -	- - - -
V_r	(k) 60.9	60.9	65.1

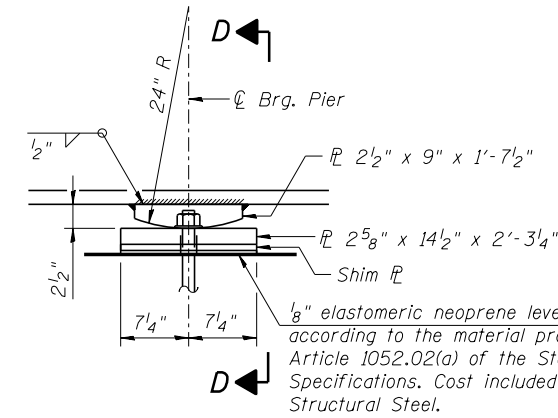
INTERIOR GIRDER REACTION TABLE			
	N. Abut.	Pier	S. Abut.
R _{DC1}	(k) 60.1	148.5	53.3
R _{DC2}	(k) 9.8	32.1	8.3
R _{DW}	(k) 13.8	45.2	11.7
R _{k + IM}	(k) 99.9	178.1	97.6
R _{Total}	(k) 183.6	403.8	170.8

All reactions are unfactored.
Reactions at abutments include weight of diaphragm

NOTES:

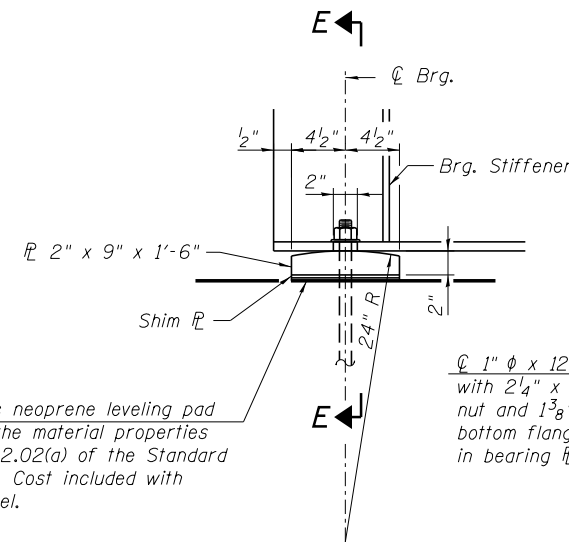
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 Gr. 36 anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y = 36ksi) at the pier.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Two 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.
- Steel members required for bearing assembly shall be included in the cost of structural steel.

- 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 (in⁴ and in³).
- $I_c(n), S_c(n)$: 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 (in⁴ and in³).
- $I_c(3n), S_c(3n)$: 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 (in⁴ and in³).
- $I_c(cr), S_c(cr)$: 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 (in⁴ and in³).
- DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: 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.).
MDC2: 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_{k + IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
 M_u (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 M_{DW} + 1.75 M_{k + IM}
 $\phi_r M_n$: 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).
MDC1 / 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).
MDC2 / S_{c(3n)} or MDC2 / 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 ($k + IM$): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
M_{k + IM} / S_{c(n)} or M_{k + IM} / S_{c(cr)} as applicable.
 f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(k + IM)$
 $0.95R_n F_y f$: 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 ($f_{sDC1} + f_{sDC2}$) + 1.5 f_{sDW} + 1.75 $f_s(k + IM)$
 $\phi_r F_n$: 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 PIER

FIXED BEARING AT PIER



ELEVATION

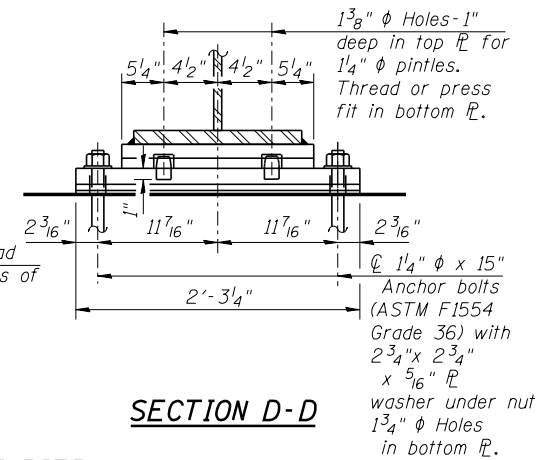
FIXED BEARING AT ABUTMENT

FILLER PLATE SCHEDULE

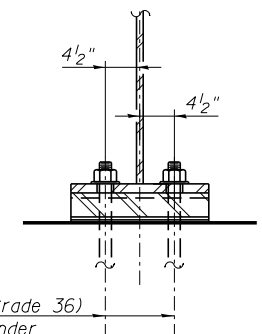
(In addition to adjustment shims, see General Notes)
Cost Included with Structural Steel

Location	Girder	Plate Thickness t
NB North Abut.	3	3/4"
SB North Abut.	7	1/4"

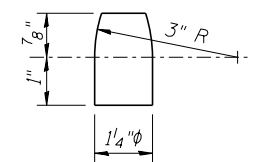
Fill plates to be the same horizontal dimensions as the bottom bearing plates.



SECTION D-D



SECTION E-E



PINTLE

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	Each	40
Anchor Bolts, 1 1/4"	Each	20



Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10056

FILE NAME =	USER NAME = mbecker	DESIGNED - MFB/DTS	REVISED -
		CHECKED - MRB/AAAY	REVISED -
		DRAWN - PRT	REVISED -
		CHECKED - MRB/AAAY	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER DETAILS 2 OF 3
STRUCTURE NO. 090-0165 / 0166

SHEET NO. SA22 OF SA47 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	90-[14R(14HB-4,14,14HB)BR]	TAZEWELL	2433	1886
			CONTRACT NO. 68620	
ILLINOIS FED. AID PROJECT				