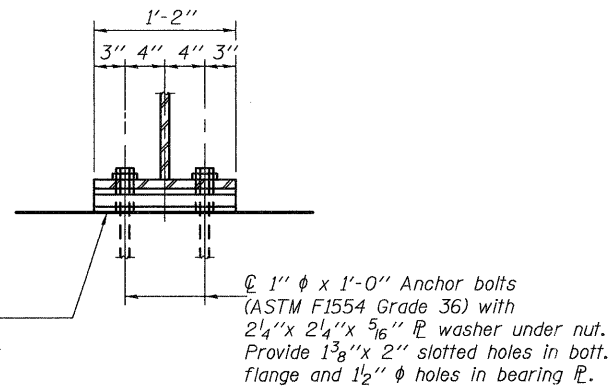


ELEVATION AT ABUTMENTS



SECTION A-A

***AASHTO M 270 Grade 50.

ABUTMENT BEARING
(12 Required)

INTERIOR GIRDER MOMENT TABLE		
		0.5 Sp.
I_s	(in ⁴)	22575
$I_c(n)$	(in ⁴)	48419
$I_c(3n)$	(in ⁴)	36343
S_s	(in ³)	1003
$S_c(n)$	(in ³)	1276
$S_c(3n)$	(in ³)	1180
DC1	(k/')	1.004
M _{DC1}	(k)	1051
DC2	(k/')	0.150
M _{DC2}	(k)	157
DW	(k/')	0.371
M _{DW}	(k)	388
M \bar{k} + IM	(k)	1510
M _u (Strength I)	(k)	4735
$\phi_f M_n$	(k)	6110
f_s DC1	(ksi)	12.6
f_s DC2	(ksi)	1.6
f_s DW	(ksi)	3.9
f_s 1.3(\bar{k} +IM)	(ksi)	18.5
f_s (Service II)	(ksi)	36.6
V _r	(k)	27.2

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) 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) due to long-term composite (superimposed) dead loads (in⁴ and in³).

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 \bar{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 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M \bar{k} + IM

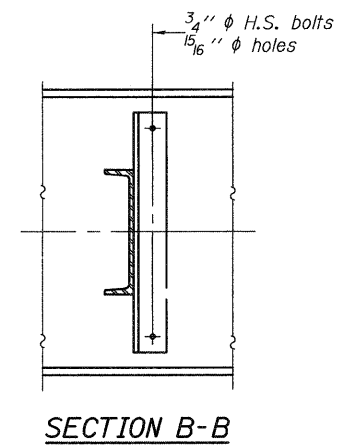
$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M \bar{k} + IM

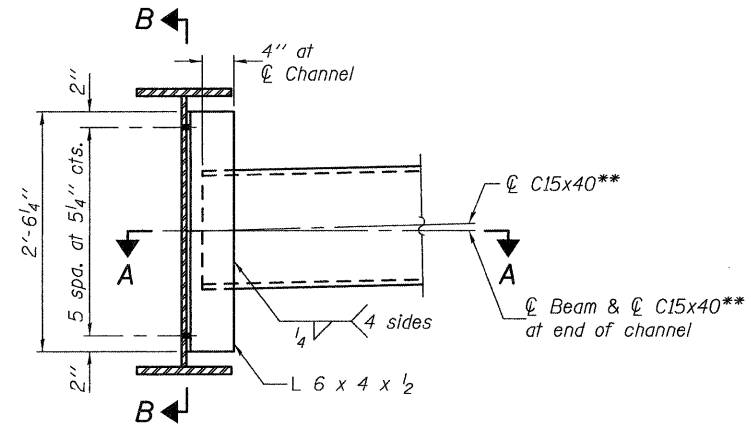
V_r: Factored shear range computed according to Article 6.10.10.

INTERIOR GIRDER REACTION TABLE - HL93 Loading		
		Abutments
R _{DC1}	(k)	45.9
R _{DC2}	(k)	6.9
R _{DW}	(k)	17.0
R \bar{k} + IM	(k)	89.1
R _{Total}	(k)	158.9

Notes: All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
Two hardened washers are required for each set of oversized holes.



DIAPHRAGM D
(20 Required)

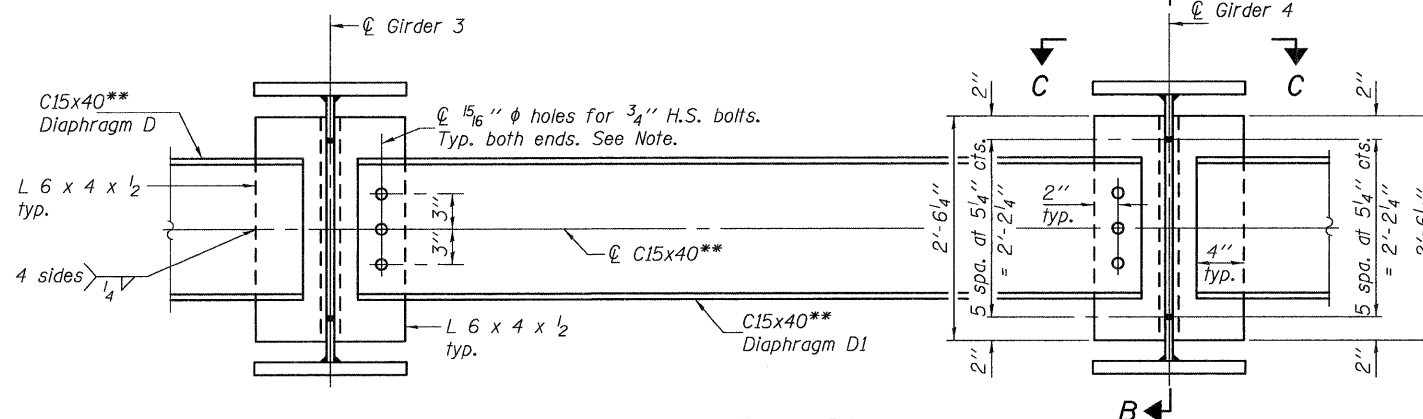
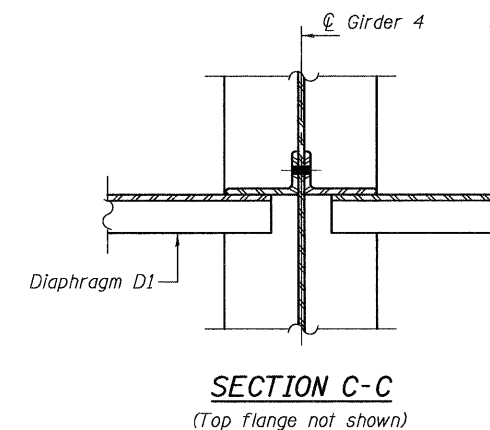


**Alternate channel C15x50 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

***TOP OF WEB ELEVATIONS**

Location	\bar{C} Brg. N. Abut.	\bar{C} Brg. S. Abut.
Girder 1	657.32	656.77
Girder 2	657.47	656.92
Girder 3	657.58	657.03
Girder 4	657.58	657.03
Girder 5	657.47	656.92
Girder 6	657.32	656.77

*For fabrication use only.



Note: Install only the center bolt at each end of diaphragm D1. The bolts shall be finger tightened prior to deck pour to permit rotation of diaphragm D1. Install the remaining bolts and fully tighten after stage two deck pour is complete.

DESIGNED - Stephen M. Ryan
CHECKED - F. Teklehaimanot
DRAWN - h.t. duong
CHECKED - SMR/FT

EXAMINED
PASSED

Thomas J. Donagale
ENGINEER OF BRIDGE DESIGN

DATE - 10/11/2011

ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 070-0050

SHEET NO. 14 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
320	(102BY)B-1	MOULTRIE	45	23
CONTRACT NO. 74280			ILLINOIS FED. AID PROJECT	