STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE			0.5 Sp. 1
	I_s	(in^4)	6,710
	$I_c(n)$	(in^4)	17,995
	$I_c(3n)$	(in^4)	13,056
	S_s	(in^3)	406
	$S_c(n)$	(in^3)	598
	$S_c(3n)$	(in^3)	537
	Z	(in^3)	-
	DC1	(k/')	0.790
	M_{DC1}	('k)	450
	DC2	(k/')	0.15
	M_{DC2}	('k)	84
	DW	(k/')	0.266
	M_{DW}	('k)	152
	M_{L+IM}	('k)	888
	M_u (Strength I)	('k)	2,449
*	$\phi_f M_n$, $\phi_f M_{nc}$	('k)	3,040
	f_s DC1	(ksi)	13.5
	f_s DC2	(ksi)	1.9
	f_s DW	(ksi)	3.4
	f_s 1.3(L+IM)	(ksi)	23.2
	f_s (Service II)	(ksi)	42.0
**	f_s (Total)(Strength I)	(ksi)	-
	V_r	(k)	22.6

* Compact sections
** Non-Compact and slender sections

INTERIOR GIRDER REACTION TABLE		Abut.
R_{DC1}	(k)	26.6
R_{DC2}	(k)	4.9
R_{DW}	(k)	9.0
R_{L+IM}	(k)	69.8
R_{Total}	(k)	110.3

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) 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) due to long-term composite (superimposed) dead loads (in^4 and in^3).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (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_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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

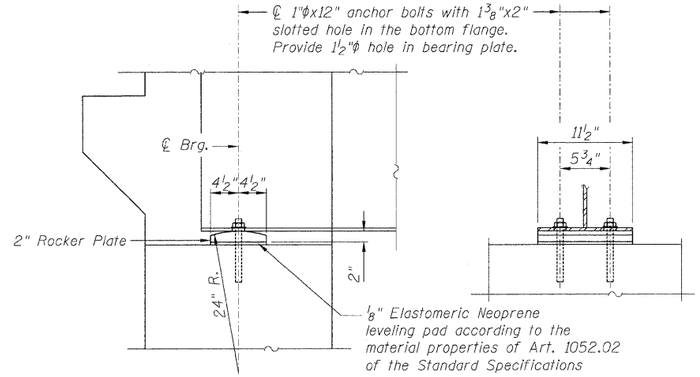
$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

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

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



ABUTMENT BEARING DETAILS

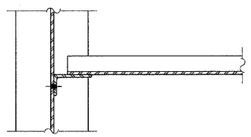
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

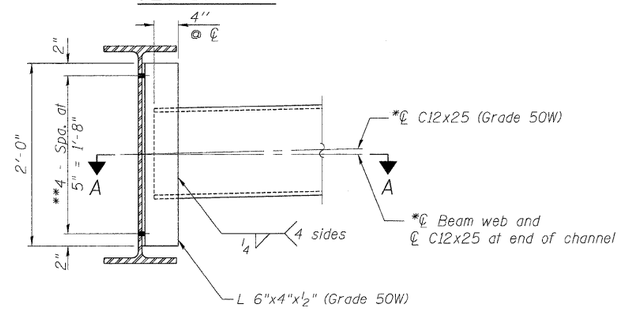
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

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



SECTION A-A



INTERIOR DIAPHRAGM

(25 Required)

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

Notes:
Two hardened washers required for each set of oversized holes.
*Alternate channels C12X30 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
**3/4"ϕ HS bolts, 15/16"ϕ holes, except on Beam 4 connection angle use 3/4"ϕ HS bolts, 13/16"x1 7/8" holes.
Bolts in slots shall be finger tight until the second stage pour is complete.
Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load, allowing maximum displacement without laterally stressing main members.

ZROKA engineering
Zroka Engineering, P.C.
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Chicago, IL 60613

DESIGNED	LAS
CHECKED	JLA
DRAWN	SAW
CHECKED	LAS

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 027-0099

SHEET NO. 14 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	796	(106)BR-3	FORD	48	25
		SN 027-0099	CONTRACT NO. 66916		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		