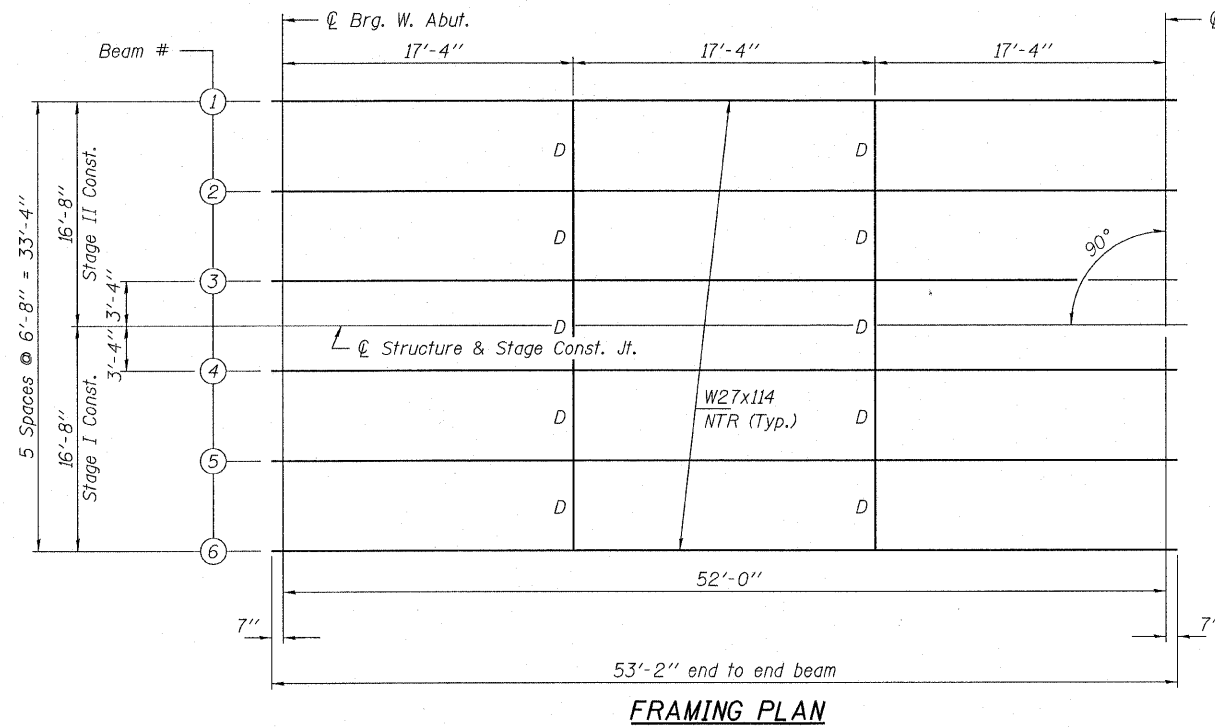
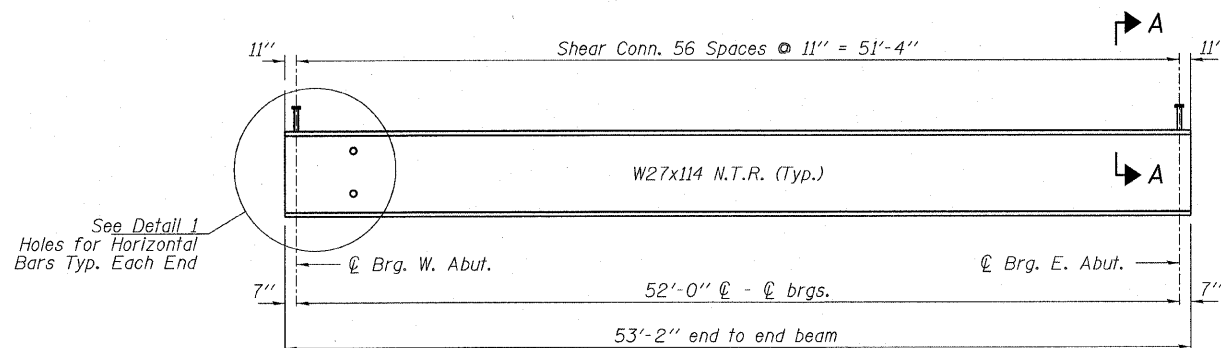


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DEPARTMENT OF TRANSPORTATION

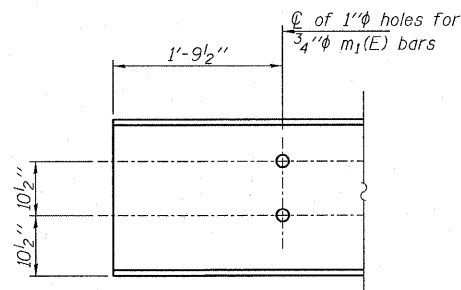


FRAMING PLAN



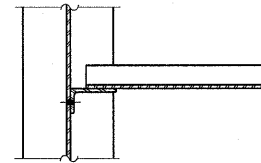
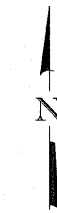
ELEVATION

Notes:
All beams are W27x114 Beams AASHTO M270, Grade 50.
All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

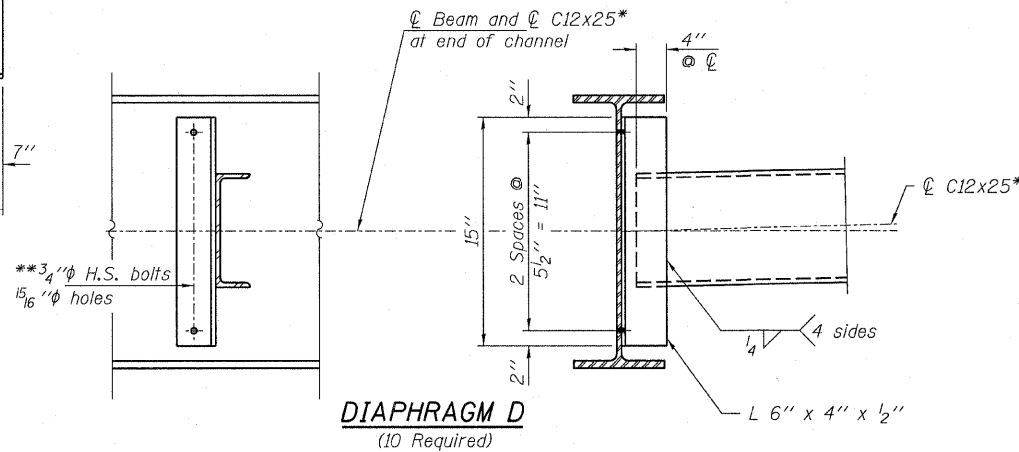


DETAIL 1

DESIGNED - P.S.L.
CHECKED - M.D.C.
DRAWN - D.T.M.
CHECKED - S.W.M.



TOP VIEW



DIAPHRAGM D
(10 Required)

Note:
Two hardened washers required for each set of oversized and long slotted holes.

*Alternate channel C12X30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if used, shall be provided at no extra cost to the Department.

**Except at Stage Construction Line on beam 3 provide standard long slotted holes (13/16" x 1 7/8", 1 7/8" vertically) in the connection angle. 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 loading.

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) 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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- Q : Un-factored non-composite dead load (kips/ft.).
- M_Q : Un-factored moment due to non-composite dead load (kip-ft.).
- s_Q : Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_s Q$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_L : Un-factored live load moment (kip-ft.).
- M_{Imp} : Un-factored moment due to impact (kip-ft.).
- M_a : Factored design moment (kip-ft.).
- $1.3 [M_Q + M_s Q + \frac{5}{8} (M_L + M_{Imp})]$
- f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M_Q + M_s Q + \frac{5}{8} (M_L + M_{Imp})$
- f_s (Total): Sum of stresses as computed from the moments below (ksi).
 $1.3 [M_Q + M_s Q + \frac{5}{8} (M_L + M_{Imp})]$
- VR: Maximum $\frac{1}{4}$ impact horizontal shear range within span for stud shear connector design (kips).
- Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1.

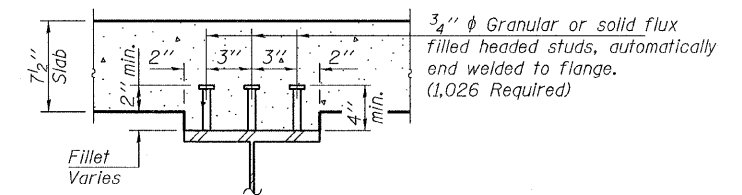
INTERIOR GIRDER MOMENT TABLE		
0.5 Span		
I_s	(in. ⁴)	4,080
$I_c(n)$	(in. ⁴)	11,857
$I_c(3n)$	(in. ⁴)	8,792
S_s	(in. ³)	299
$S_c(n)$	(in. ³)	456
$S_c(3n)$	(in. ³)	413
Q	(k/')	0.79
M_Q	(k-ft)	266
s_Q	(k/')	0.483
$M_s Q$	(k-ft)	163
M_L	(k-ft)	402
M_{Imp}	(k-ft)	114
$\frac{5}{8} [M_L + M_{Imp}]$	(k-ft)	860
M_a	(k-ft)	1,676
M_u	(k-ft)	2,164
f_s (non-comp)	(ksi)	10.7
f_s (comp)	(ksi)	4.7
$f_s \frac{5}{8} [M_L + M_{Imp}]$	(ksi)	22.6
f_s (Overload)	(ksi)	38.0
f_s (Total)	(ksi)	-
VR	(k)	45.9

*Compact Section

INTERIOR GIRDER REACTION TABLE		
Abutments		
R _Q	(k)	58.5
R _L	(k)	35.8
Imp.	(k)	10.1
R _{Total}	(k)	104.4

Location	¢ Brg. W. Abut.	¢ Brg. E. Abut.
BEAM 1	409.841	409.731
BEAM 2	410.101	409.991
BEAM 3	410.361	410.251
BEAM 4	410.621	410.512
BEAM 5	410.881	410.772
BEAM 6	411.140	410.032

TOP OF BEAM ELEVATIONS
(For fabrication only)



SECTION A-A

STRUCTURAL STEEL
STRUCTURE NO. 083-0063

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	SHEET NO. 12 19 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		2881	30B-1	SALINE	45	26
PROJECT NUMBER: 08.0045.130		DATE: 09/02/08		RALEIGH RD. OVER ELDORADO RESERVOIR SPILLWAY CONTRACT NO. 98533		
		FED. ROAD DIST. NO. 9		ILLINOIS FED. AID PROJECT		