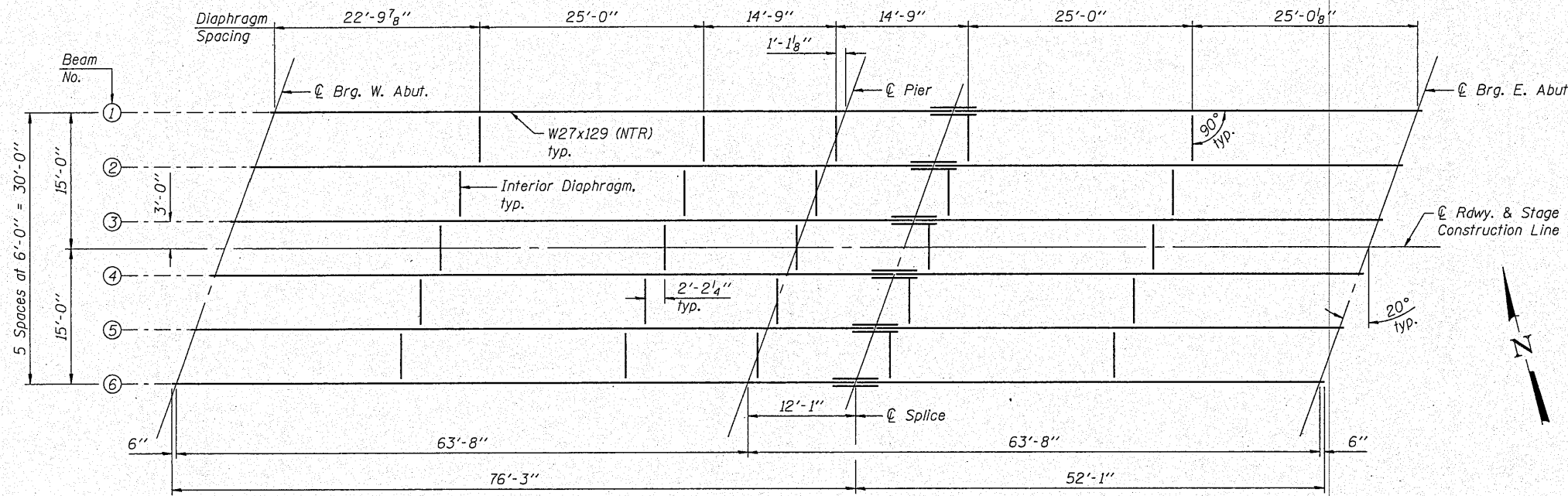
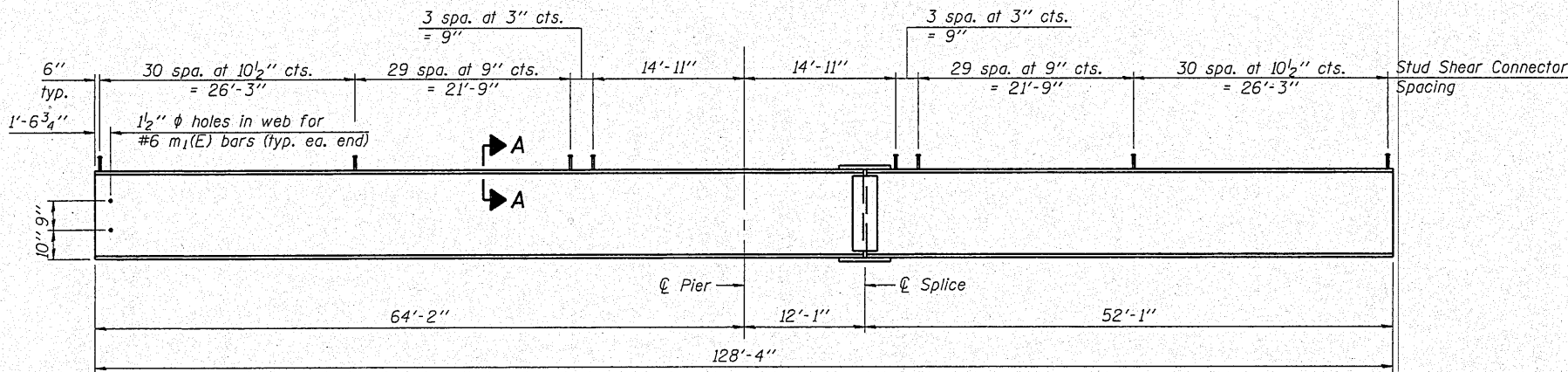


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



ELEVATION

TOP OF BEAM ELEVATIONS

(For Fabrication Only)

	℄ Brg. W. Abut.	℄ Pier	℄ Splice	℄ Brg. E. Abut.
Beam 1	575.547	575.560	575.563	575.517
Beam 2	575.657	575.670	575.673	575.637
Beam 3	575.747	575.760	575.763	575.747
Beam 4	575.747	575.760	575.763	575.747
Beam 5	575.637	575.671	575.677	575.657
Beam 6	575.517	575.561	575.569	575.547

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R _{DC1}	(k)	18.0	59.9
R _{DC2}	(k)	3.9	11.3
R _{DW}	(k)	7.0	20.1
R _{℄ + IM}	(k)	70.7	93.9
R _{Total}	(k)	99.5	185.2

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
I _s	(in ⁴)	4760	4760
I _c (n)	(in ⁴)	12631	-
I _c (3n)	(in ⁴)	9195	-
S _s	(in ³)	345	345
S _c (n)	(in ³)	505	-
S _c (3n)	(in ³)	455	-
Z	(in ³)	-	395
DC1	(k/')	.752	.752
M _{DC1}	(k)	213.4	381.1
DC2	(k/')	.150	.150
M _{DC2}	(k)	50.8	55.4
DW	(k/')	.267	.267
M _{DW}	(k)	90.5	98.6
M _{℄ + IM}	(k)	701.3	434.1
M _u (Strength I)	(k)	1693	1453
* ϕ _r M _n , ϕ _r M _{nc}	(k)	2494	1646
f _s DC1	(ksi)	7.42	13.25
f _s DC2	(ksi)	1.34	1.93
f _s DW	(ksi)	2.39	3.43
f _s 1.3(℄ + IM)	(ksi)	21.66	19.63
f _s (Service II)	(ksi)	32.81	38.24
** f _s (Total)(Strength I)	(ksi)	-	-
V _r	(k)	24.3	-

* Compact sections

** Non-Compact and slender sections

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).

Z: Plastic Section Modulus of the steel section in non-composite areas (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_{℄ + 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_{℄ + IM}

ϕ_rM_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

ϕ_rM_{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_{℄ + 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_{℄ + IM}

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

Notes:

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

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.

All structural steel beams shall conform to the requirements of AASHTO M 270 Grade 50.

See sheet 13 of 22 for Section A-A, splice, bearing, and diaphragm details.



DESIGNED - BAS

CHECKED - KEF

DRAWN - SGM

CHECKED - BAS

STRUCTURAL STEEL
STRUCTURE NO. 036-0070

SHEET NO. 12	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	657	(116-C)BR-1	HENDERSON	56	29
CONTRACT NO. 68761					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					