

TOP OF BEAM ELEVATIONS

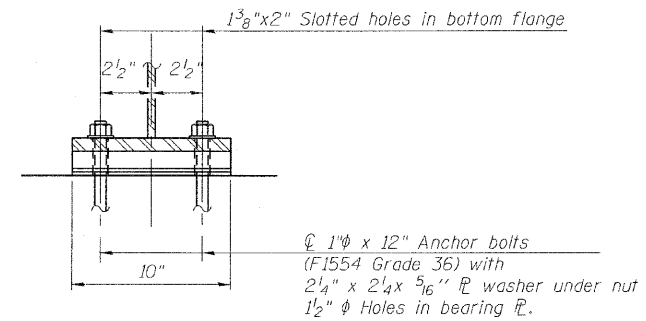
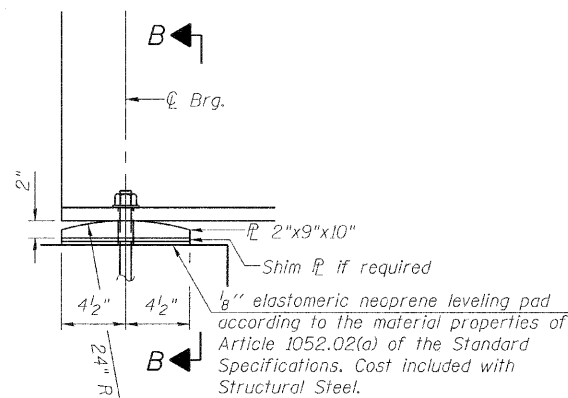
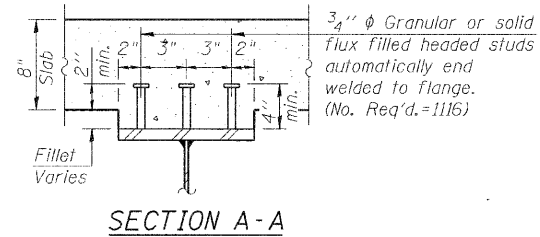
(For Fabrication Only)

Beam	Location	
	℄ Brg. N. Abut.	℄ Brg. S. Abut.
1	478.15	478.28
2	478.29	478.42
3	478.44	478.57
4	478.44	478.57
5	478.30	478.43
6	478.13	478.26

BILL OF MATERIAL

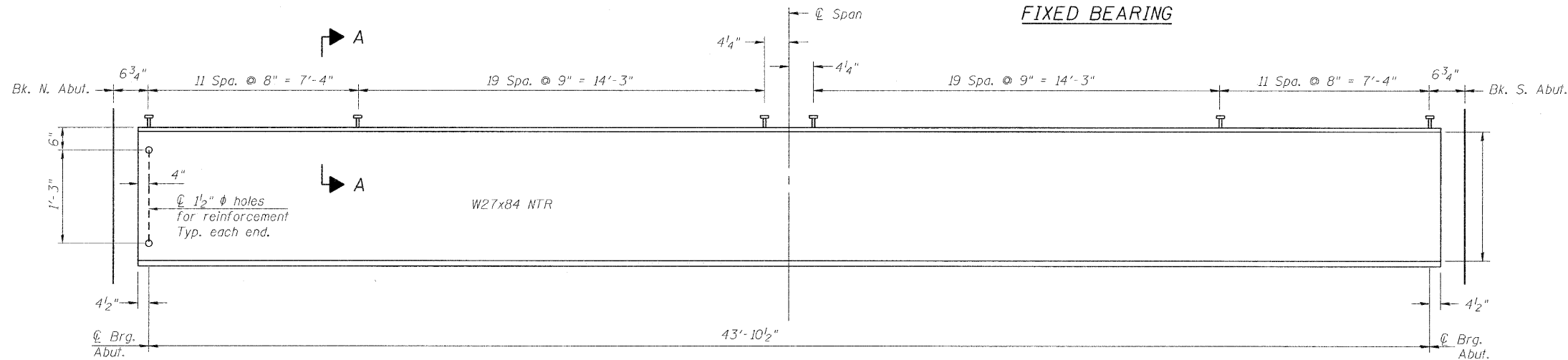
Item	Unit	Total
Furnishing and Erecting Structural Steel	L. Sum	1
Stud Shear Connectors	Each	1116
Anchor Bolts, 1"	Each	24

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT BEARING

SECTION B-B



BEAM ELEVATION

"NTR" denotes members to which notch toughness requirements are applicable.

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.

Structural steel for bearing plates shall be AASHTO M270, Grade 36.

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

See sheet 12 of 20 for diaphragm and additional beam bearing details.

- 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).
- 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.).
- $M_k + Imp$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + Imp$
- $\phi_r M_n$: 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).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_k + Imp$
- V_r : Factored shear range computed according to Article 6.10.10.

INTERIOR BEAM MOMENT TABLE		
		0.5 Span (Appr.)
I_s	(in ⁴)	2850
$I_c(n)$	(in ⁴)	9014
$I_c(3n)$	(in ⁴)	6904
S_s	(in ³)	213
$S_c(n)$	(in ³)	338
$S_c(3n)$	(in ³)	308
DC1	(k/')	0.879
M_{DC1}	(k)	211.5
DC2	(k/')	0.363
M_{DC2}	(k)	87.4
DW	(k/')	0.267
M_{DW}	(k)	64.2
$M_k + Imp$	(k)	592.4
M_u (Strength I)	(k)	1507
$\phi_r M_n$	(k)	1930
f_s DC1	(ksi)	11.9
f_s DC2	(ksi)	3.4
f_s DW	(ksi)	2.5
f_s 1.3(4 + Imp)	(ksi)	27.3
f_s (Service II)	(ksi)	45.2
V_r	(k)	22.3

INTERIOR BEAM REACTION TABLE		
HL93 Loading		
		Abut's.
R_{DC1}	(k)	19.3
R_{DC2}	(k)	8.0
R_{DW}	(k)	5.9
$R_k + Imp$	(k)	78.1
R_{Total}	(k)	111.3

BEAM DETAILS
STRUCTURE NO. 050-0250

DESIGNED	CMF
CHECKED	TMM
DRAWN	RNH
CHECKED	TMM

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SHEET NO. 13 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	1279	6R, B	LASALLE	190	115
CONTRACT NO.				66547	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					