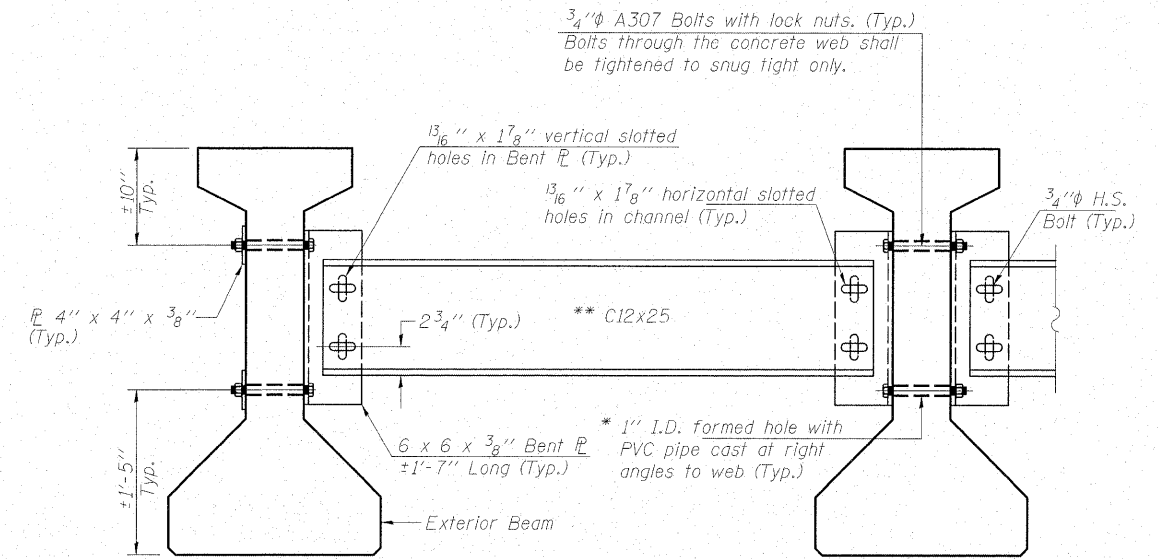
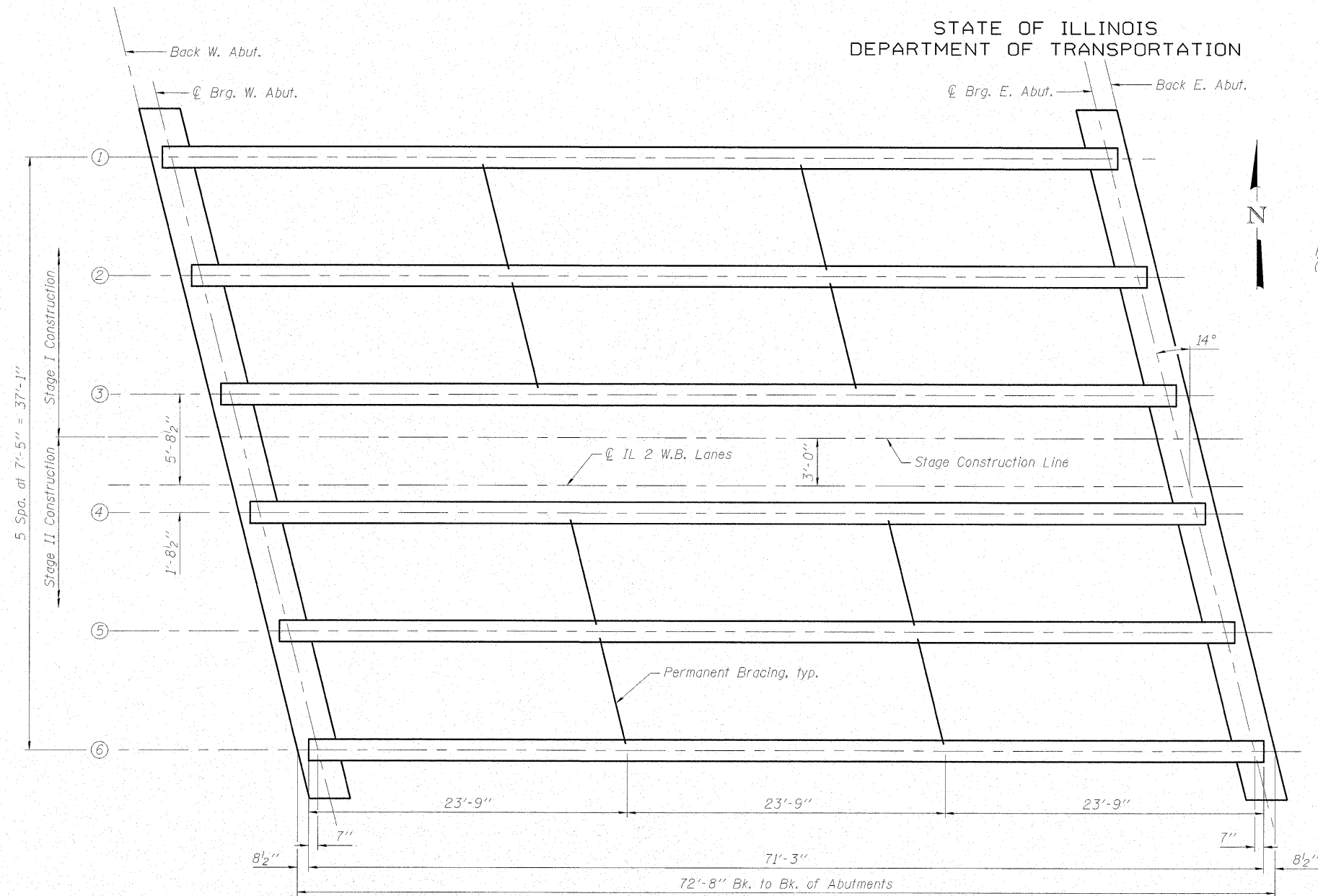


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



NOTES:

- All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
- Two hardened washers are required for each set of oversized holes.
- All holes shall be  $1/16$ " unless otherwise noted.
- $5/16$ " x 3" x 3" plate washers are required over all slotted holes.
- All bolts shall be galvanized according to AASHTO M232.
- Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
- Cost of Permanent Bracing is included with Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42".

- \* Fabricator shall locate to miss strands within permissible tolerances.
- \*\* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

PERMANENT BRACING DETAILS FOR  
42" PPC I-BEAMS

FRAMING PLAN

INTERIOR BEAM MOMENT TABLE		
0.5 Sp. 1		
$I$	(in <sup>4</sup> )	90956
$I'$	(in <sup>4</sup> )	288183
$S_b$	(in <sup>3</sup> )	5153
$S_b'$	(in <sup>3</sup> )	8886
$S_t$	(in <sup>3</sup> )	3736
$S_t'$	(in <sup>3</sup> )	30113
$DC1$	(k/ft)	1.248
$M_{DC1}$	(k)	766.4
$DC2$	(k/ft)	0.150
$M_{DC2}$	(k)	92.1
$DW$	(k/ft)	0.333
$M_{DW}$	(k)	204.5
$M_L + IM$	(k)	1155.1

- $I$ : Non-composite moment of inertia of beam section (in<sup>4</sup>).
- $I'$ : Composite moment of inertia of beam section (in<sup>4</sup>).
- $S_b$ : Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- $S_b'$ : Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- $S_t$ : Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- $S_t'$ : Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- $DC1$ : 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.).

INTERIOR BEAM REACTION TABLE		
		Abut.
$R_{DC1}$	(k)	43.7
$R_{DC2}$	(k)	5.3
$R_{DW}$	(k)	11.7
$R_L + IM$	(k)	85.6
$R_{Total}$	(k)	146.3

FRAMING PLAN  
IL RTE. 2 WB OVER UNNAMED TRIBUTARY TO THE ROCK RIVER  
STATION 115+16.00

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20 SHEETS	561	31-1BR-2	LEE	92	65
		STRUCTURE NO. 052-0079	CONTRACT NO. 64B05		
		FED. ROAD DIST. NO. _	ILLINOIS FED. AID PROJECT		



DESIGNED - JAE
CHECKED - KEF
DRAWN - SGM
CHECKED - RJA/KEF