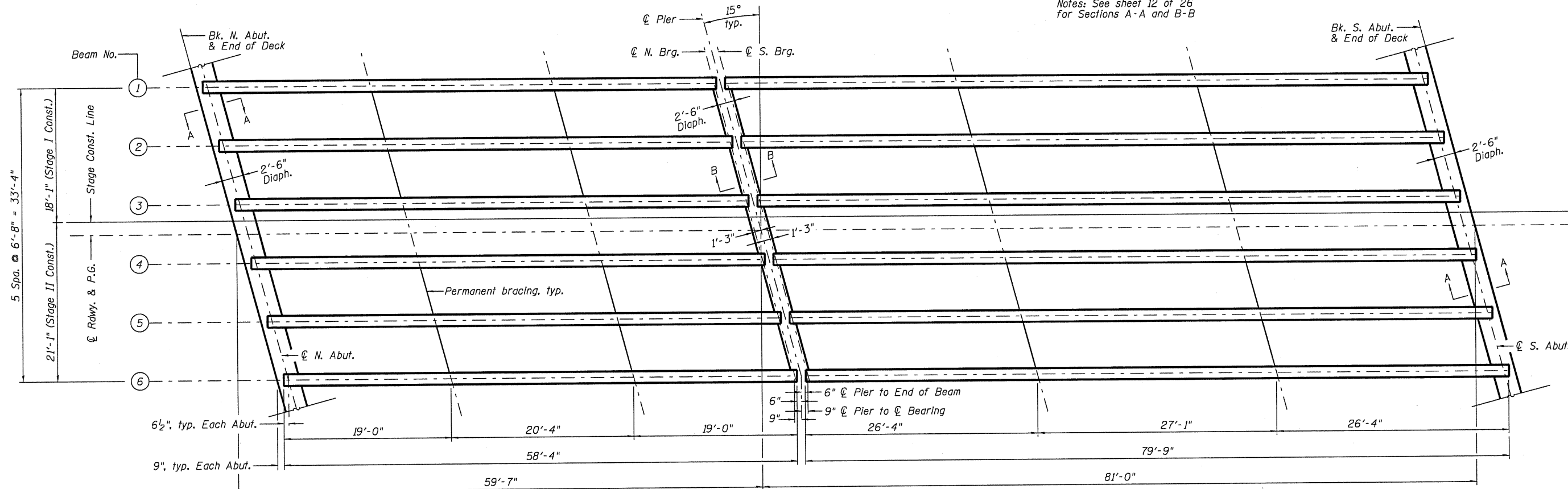


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes: See sheet 12 of 26
for Sections A-A and B-B



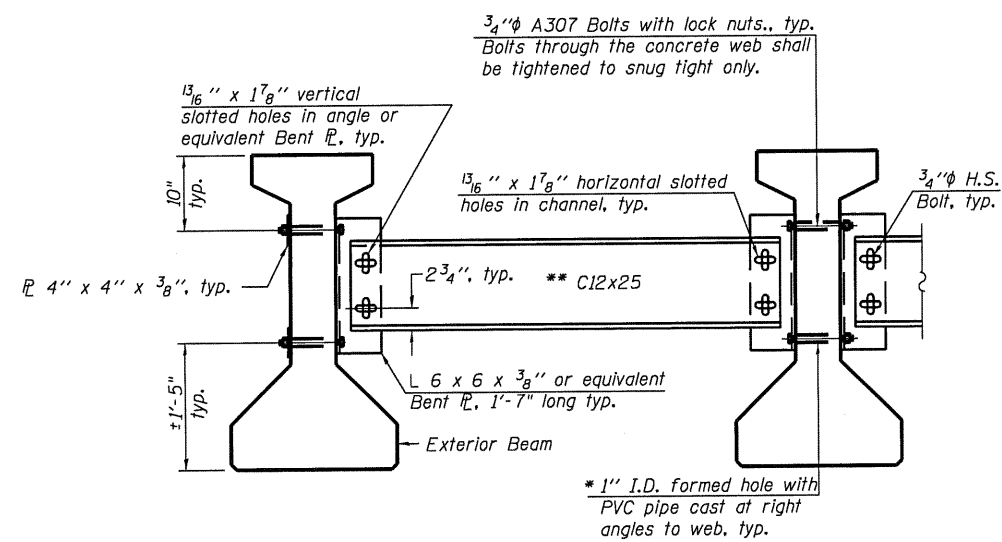
FRAMING PLAN

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

	0.4 Sp. 1	Pier	0.6 Sp. 2
I	(in ⁴) 90,956	-	90,956
I'	(in ⁴) 288,697	-	288,697
S_b	(in ³) 5,153	-	5,153
S_b'	(in ³) 9,026	-	9,026
S_t	(in ³) 3,736	-	3,736
S_t'	(in ³) 28,823	-	28,823
$DC1$	(k/ft) 1.16	-	1.16
M_{DC1}	(k) 478	-	903
$DC2$	(k/ft) 0.15	0.15	0.15
M_{DC2}	(k) 21	87	70
DW	(k/ft) 0.33	0.33	0.33
M_{DW}	(k) 46	192	155
$M_L + IM$	(k) 682	835	954

	N. Abut.	Pier - Span 1	Pier - Span 2	S. Abut.
R_{DC1}	(k) 33.4	33.4	45.9	45.9
R_{DC2}	(k) 2.7	6.0	7.2	4.8
R_{DW}	(k) 5.3	11.8	14.1	9.4
$R_L + IM$	(k) 87.6	101.9	111.2	96.2
R_{Total}	(k) 129.0	153.1	178.4	156.3

* The total R_{DC2} , R_{DW} and $R_L + IM$ are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios. The bearing design at a pier is based on the maximum reactions of either span.



**PERMANENT BRACING DETAIL FOR
42'' PPC I-BEAMS**

- 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 $15/16$ " ϕ 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.
 - Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

- * Fabricator shall locate to miss strands within permissible tolerances.
- ** Alternate C12x30 channels are permitted to facilitate material acquisition.

DESIGNED	C.M.W.
CHECKED	J.S.A.
DRAWN	T.J.W.
CHECKED	C.M.W.

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

**FRAMING PLAN
STRUCTURE NO. 086-0505**

SHEET NO. 13 of 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	566	1(B-2)	SCOTT	77	40
	CONTRACT NO. 72B91				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			