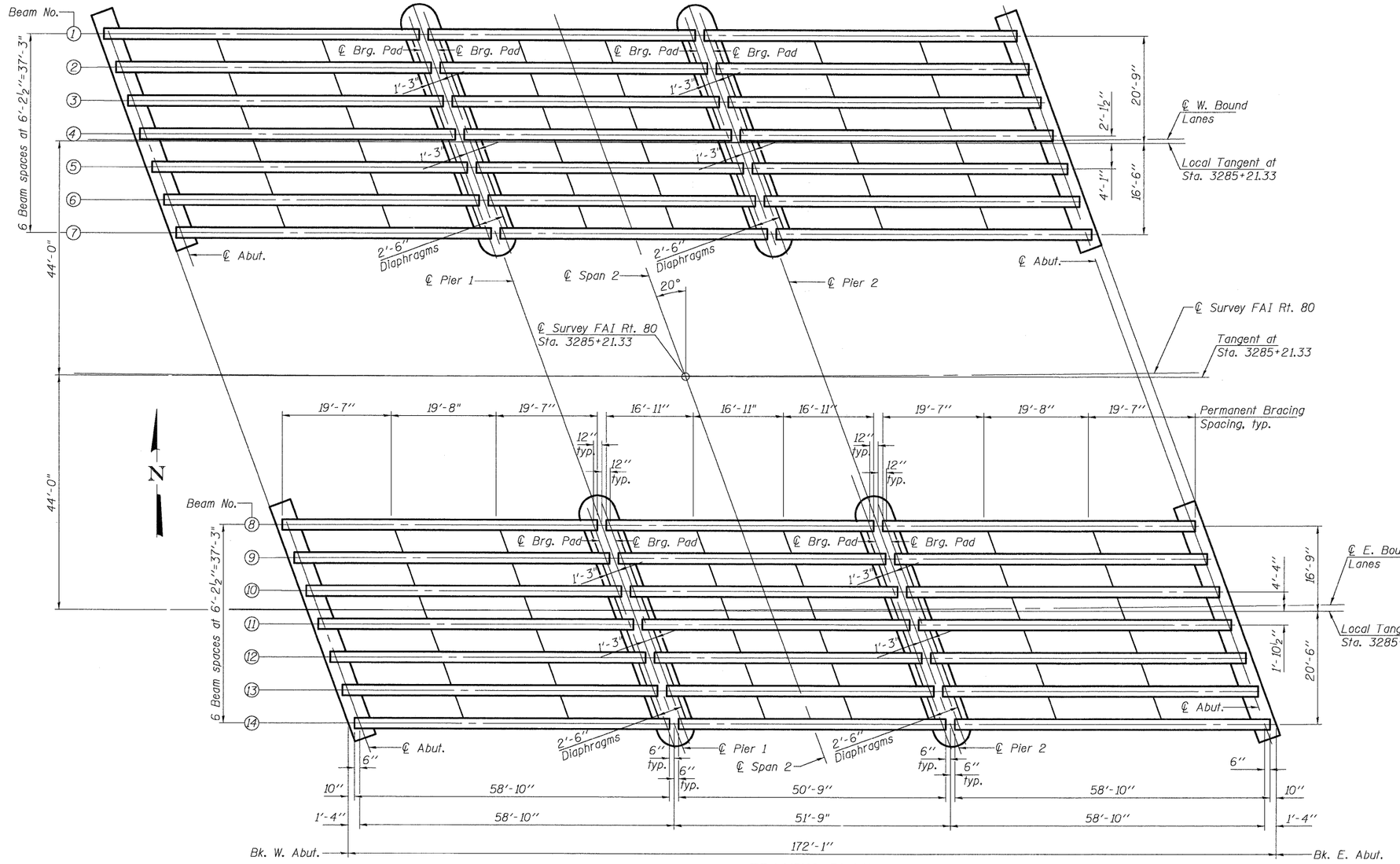


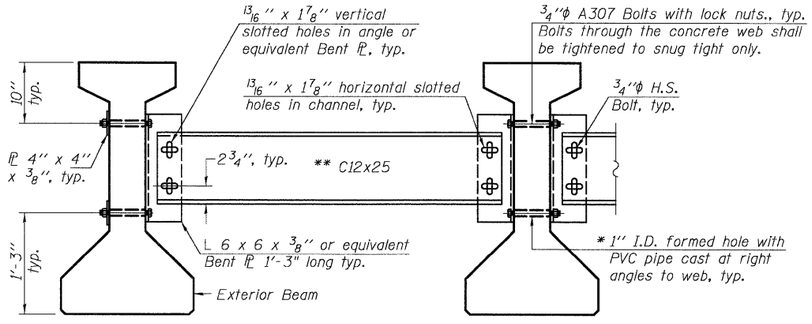
FRAMING PLAN

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	48648	———	48648
I'	(in^4)	172192	———	172192
S_b	(in^3)	3165	———	3165
S_b'	(in^3)	5916	———	5916
S_t	(in^3)	2358	———	2358
S_t'	(in^3)	25514	———	25514
ℓ_D	(k/')	1.02	———	1.02
M_{ℓ_D}	('k)	440	———	340
$s\ell_D$	(k/')	0.42	0.42	0.42
$M_{s\ell_D}$	('k)	121	129	10
M_{ℓ_L}	('k)	350	240	246
M_I	('k)	95	67	70

INTERIOR BEAM REACTION TABLE				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R_{ℓ_D}	(k)	29.9	29.9	26.3
* $R_{s\ell_D}$	(k)	10.0	12.6	12.6
* R_{ℓ_L}	(k)	32.6	20.0	20.0
* R_I	(k)	8.9	5.5	5.7
R_{Total}	(k)	81.4	68.0	64.6

*The total $R_{s\ell_D}$, R_{ℓ_L}, and impact reactions 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.

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 ($in.^3$).
ℓ_D: Un-factored non-composite dead load (kips/ft.).
M_{ℓ_D}: Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
$s\ell_D$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
$M_{s\ell_D}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_{ℓ_L}: Un-factored live load moment on the composite section (kip-ft.).
M_I: Un-factored moment due to impact on the composite section (kip-ft.).



PERMANENT BRACING DETAILS

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.
*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.
The cost of the permanent bracing as shown is included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36". Estimated weight of Structural Steel for one permanent brace = 196 pounds.

PLOT DATE = 09/08/2009
FILE NAME = ...\006-0172_0173-66908-026-framing-plan.dgn
PLOT SCALE = 10.11.76824 '' / IN.
USER NAME = CFC.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 05061
SCALE
DATE 6/25/09
DESIGN BY RM/MCB
DRAWN BY TFC
CHECKED BY MCB

SHEET NO. 26
45 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	BUREAU	344	179
		CONTRACT NO. 66908		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

FRAMING PLAN
SN 006-0172 (EB) & SN 006-0173 (WB)

*06-17BR & BR-1, 7VB-M, 6BR & 6, 7 RS-1 & I]