

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
304	2(B-5,B-6)	Pike	112	69
STA.		TO STA.		
FED. ROAD DIST. NO. 6		ILLINOIS FED. AID PROJECT		

NOTES

Inserts for 3/4" Ø threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq.in.

Non-prestressing steel shall conform to the requirements of ASTM A 706, Grade 60 (IL Modified).

A minimum 2 1/2" Ø lifting pin shall be used to engage the lifting loops during handling.

Reinforcement bars designated (E) shall be epoxy coated.

The bottom plates and studs shall be galvanized according to AASHTO M311 and ASTM A385.

Threaded rods shall be ASTM F 1554 Grade 55.

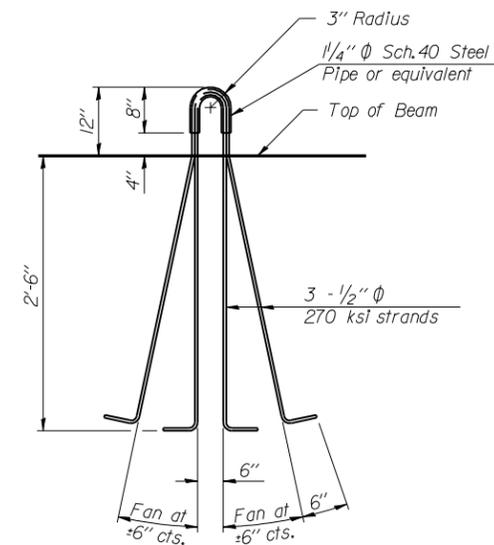
The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 36 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

INTERIOR BEAM MOMENT TABLE

		0.5 Span
I	(in ⁴)	51,840
I'	(in ⁴)	188,984
S _b	(in ³)	3,373
S _b '	(in ³)	6,344
S _t	(in ³)	2,513
S _t '	(in ³)	12,847
Q	(k/ft)	1.02
M _Q	(k-ft)	363.9
s _Q	(k/ft)	0.450
M _{s_Q}	(k-ft)	160.8
M _t	(k-ft)	419.1
M _{imp}	(k-ft)	117.4

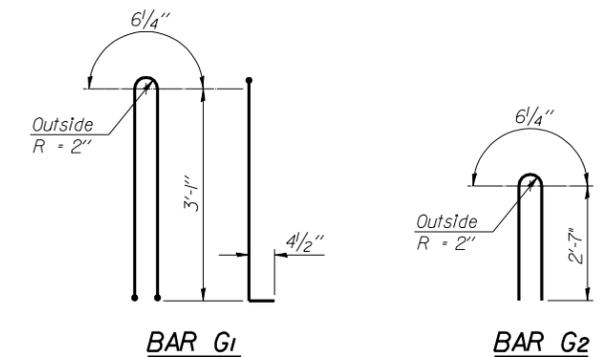
INTERIOR BEAM REACTION TABLE

		Abut.
R (DL)	(k)	27.2
R _s (DL)	(k)	12.0
R (LL)	(k)	31.3
Imp.	(k)	8.8
R (TOTAL)	(k)	78.5



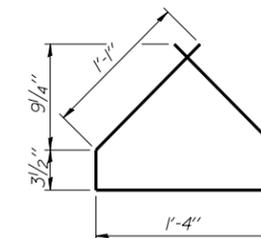
LIFTING LOOP DETAIL

- I: Non-composite moment of inertia of beam section (in⁴).
- I': Composite moment of inertia of beam section (in⁴).
- S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_b': Composite section modulus for the bottom fiber of the prestressed beam (in³).
- S_t: Non-composite section modulus for the top fiber of the prestressed beam (in³).
- S_t': Composite section modulus for the top fiber of the prestressed beam (in³).
- Q: Un-factored non-composite dead load (kips/ft.).
- M_Q: Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
- s_Q: Un-factored long-term composite (superimposed) dead load (kips/ft.).
- M_{s_Q}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- M_t: Un-factored live load moment on the composite section (kip-ft.).
- M_{imp}: Un-factored moment due to impact on the composite section (kip-ft.).



BAR G1

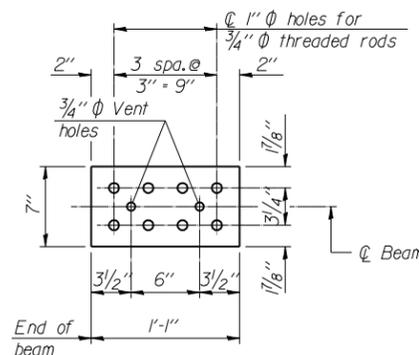
BAR G2



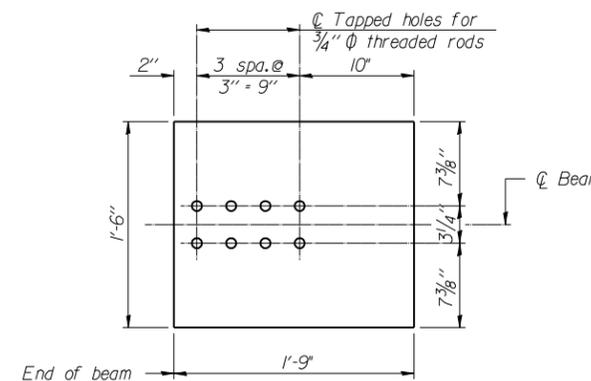
BAR G4

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36 In.	Foot	327



TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.

REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEAM DETAILS
 ILLINOIS ROUTE 96 OVER
 BROWN CREEK
 PIKE COUNTY
 FAP RTE 304 - SECTION 2(B-5,B-6)
 STATION 456+34.50
 STRUCTURE NO. 075-0509

SCALE: N/A
 DATE: SEPT 2007

DRAWN BY: JLS
 CHECKED BY: DSP