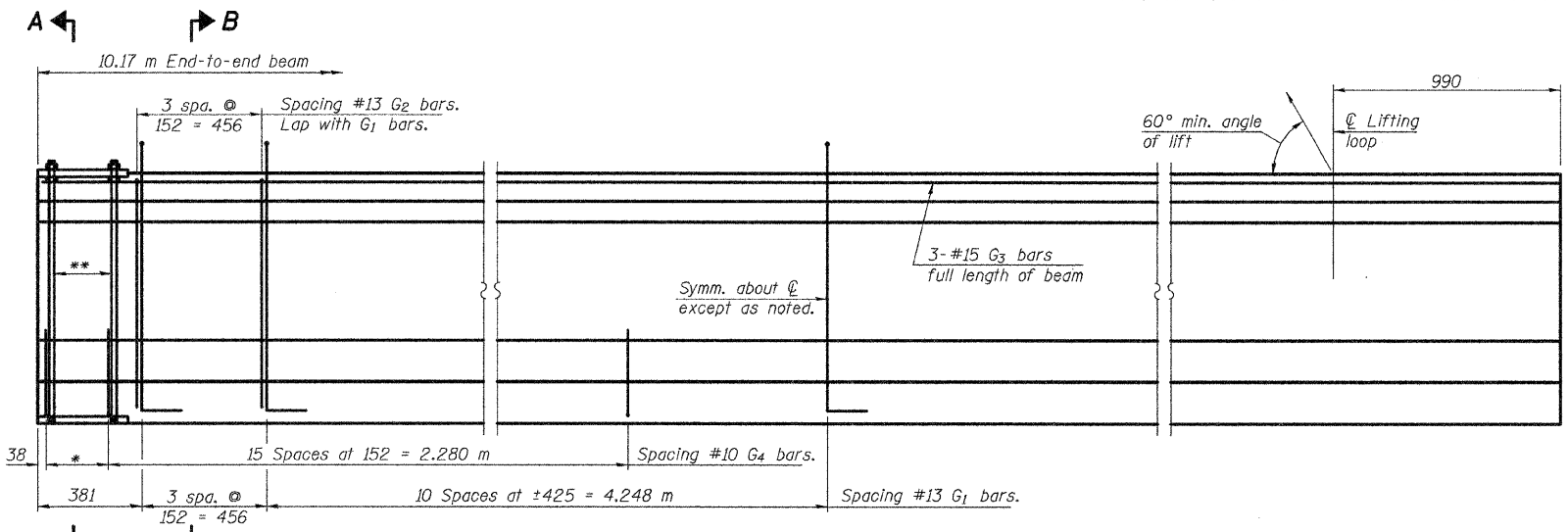


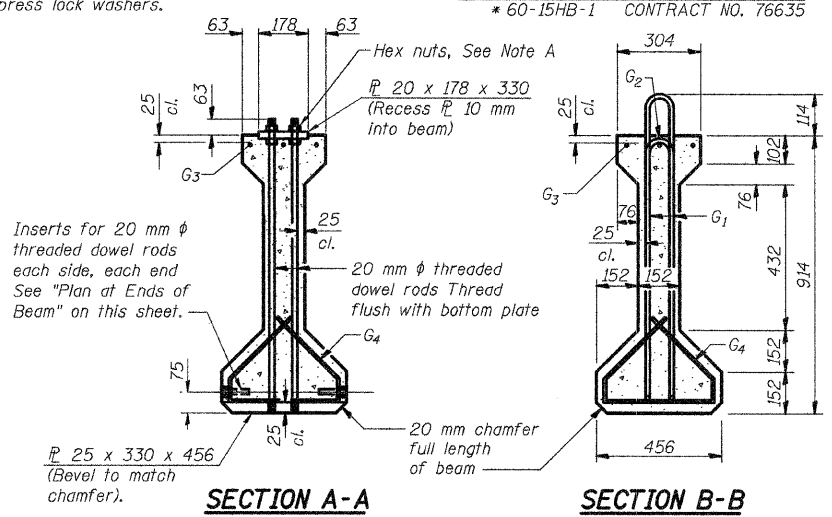
ROUTE NO.	SECTION	COUNTY	STATION	SHEET
F.A.P. 310	*	MADISON	239	148
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
* 60-15HB-1 CONTRACT NO. 766.35				

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



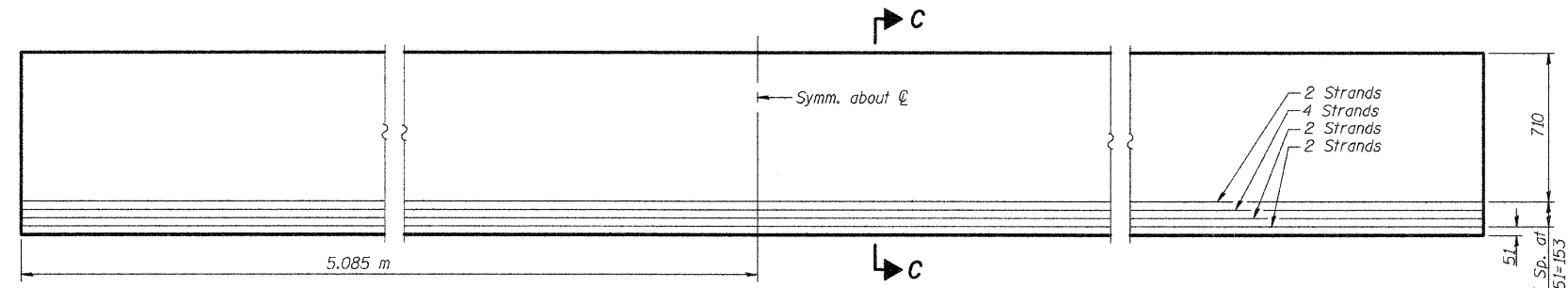
**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

\*3 spaces at 76 = 228  
\*\*4- 20 mm  $\phi$  threaded dowel rods at 76 cts., Each Face.



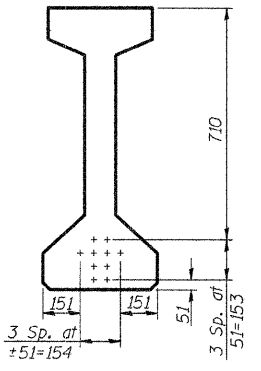
**SECTION A-A**

**SECTION B-B**



**ELEVATION OF BEAM**  
(Showing Prestressing Steel)

Parameter	Value
$I$ ( $10^6 \text{ mm}^4$ )	20,249
$I'$ ( $10^6 \text{ mm}^4$ )	82,020
$S_b$ ( $10^3 \text{ mm}^3$ )	51,867
$S_b'$ ( $10^3 \text{ mm}^3$ )	107,953
$S_t$ ( $10^3 \text{ mm}^3$ )	38,643
$S_t'$ ( $10^3 \text{ mm}^3$ )	531,818
$w$ (kN/m)	16.16
$M_D$ (kN-m)	199
$s_D$ (kN/m)	5.47
$M_{SD}$ (kN-m)	67
$M_L$ (kN-m)	295
$M$ (Imp) (kN-m)	89



**SECTION C-C**

$I$  and  $I'$  are the moment of inertia and composite moment of inertia of the beam section.  
 $S_b$  and  $S_b'$  are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.  
 $S_t$  and  $S_t'$  are the non-composite and composite section modulus for the top fiber of the prestressed beam.  
 $M_D$  is the moment due to dead loads on the non-composite prestressed beam.  
 $M_{SD}$  is the moment due to dead loads on the composite section.  
 $M_L$  is the moment due to live load on the composite section.  
 $M$  (Imp) is the moment due to live load impact on the composite section.

Reaction	Value (kN)
$R_D$	80
$R_{SD}$	27
$R_L$	155
Imp.	47
$R$ (Total)	309

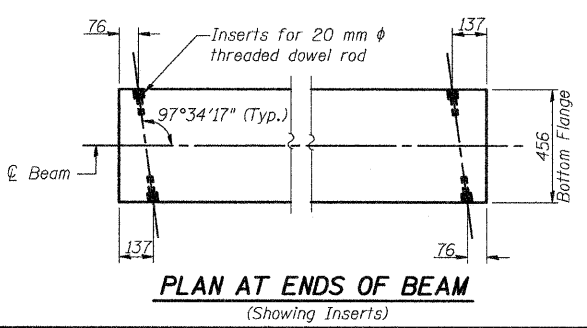
**\* BAR LIST**

Bar	No.	Size	Length (m)	Shape
$G_1$	27	#13	2.267	U
$G_2$	8	#13	1.733	I
$G_3$	3	#15	10.09	I
$G_4$	38	#10	1.244	S

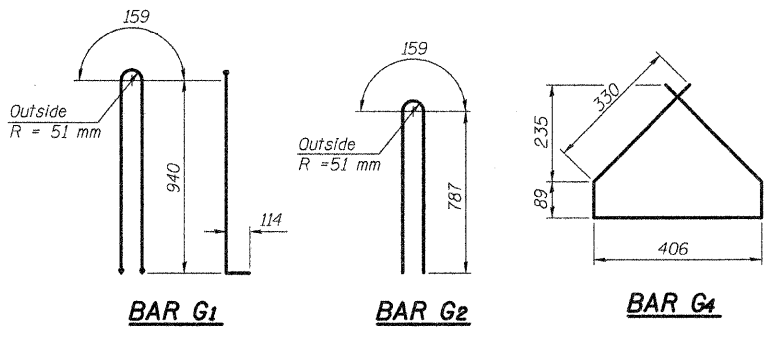
\* For one beam only. (12 required)

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 914 mm	m	122.0



**PLAN AT ENDS OF BEAM**  
(Showing Inserts)



**BAR G1**

**BAR G2**

**BAR G4**

DESIGNED	ADL
CHECKED	WLW
DRAWN	ADL/DGM
CHECKED	WLW

**36" P.P.C. I-BEAM & DETAILS**  
**(WEST APPROACHES)**  
FAP RTE. 310 (IL RTE. 255) OVER  
CH ROUTE 4 (HUMBERT ROAD)  
SECTION 60-15HB-1  
MADISON COUNTY  
STATION 38+829.909  
SN 060-0308 (NB) & 060-0309 (SB)