

FIRST SLAB CASTING

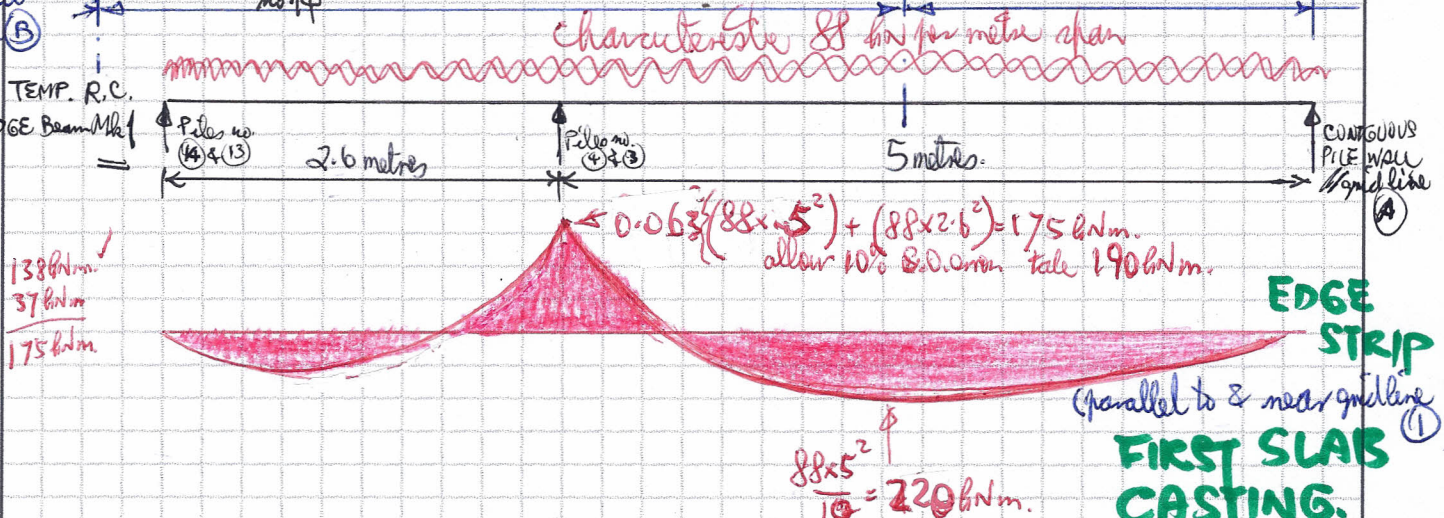
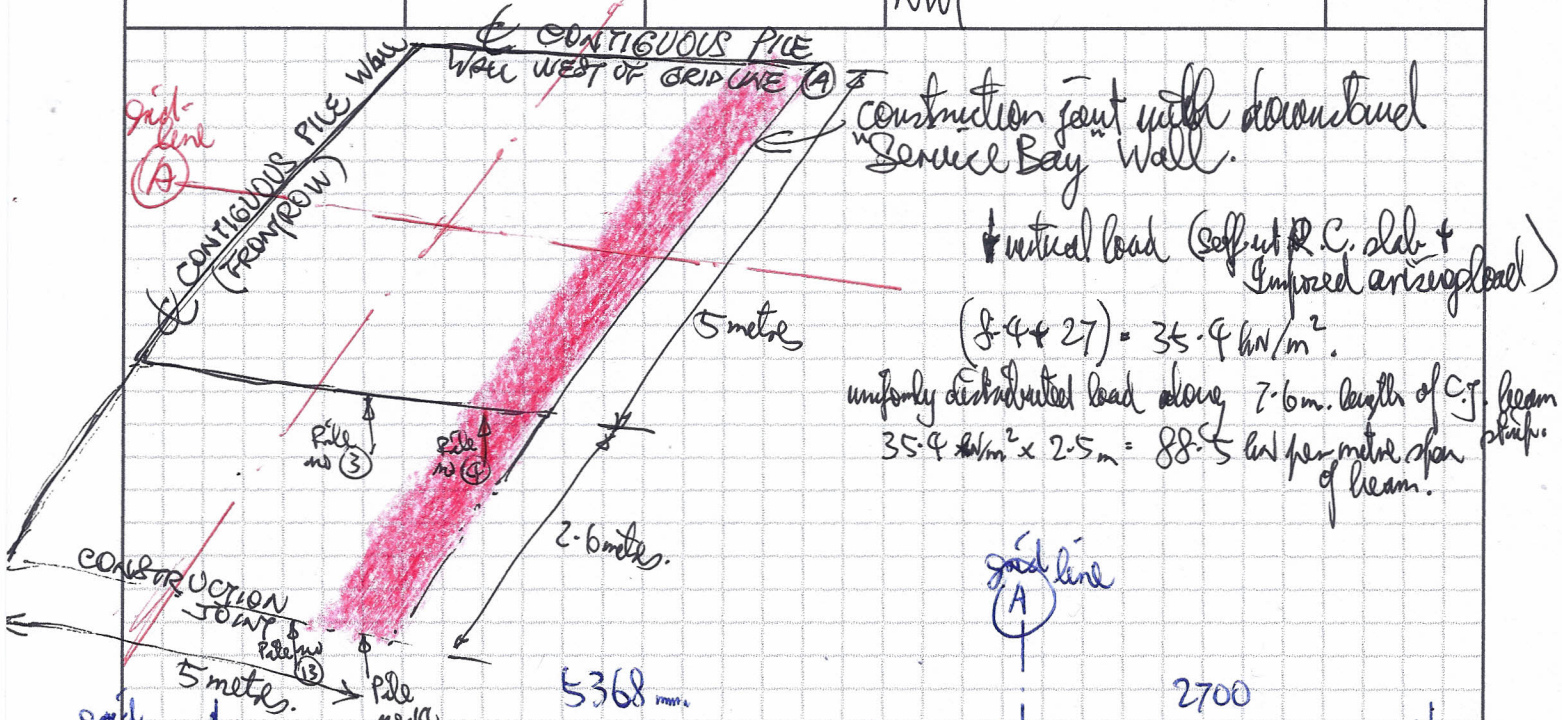
Calculations



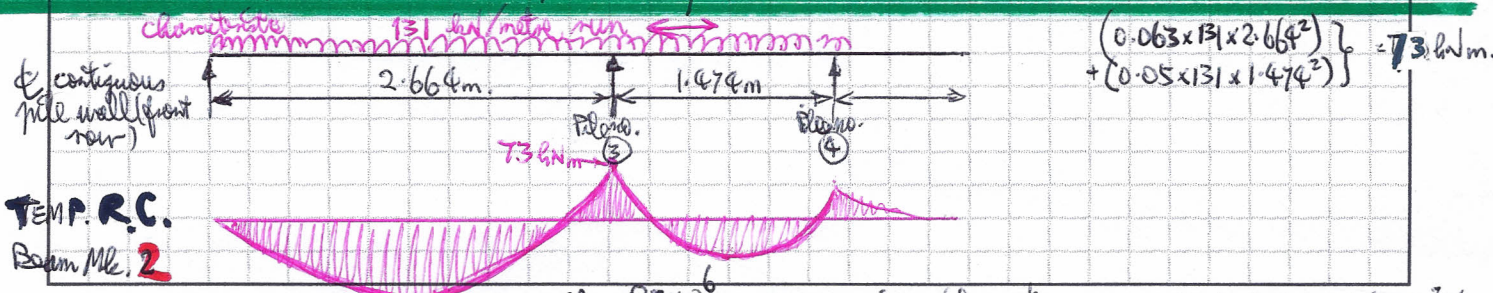
CHARTERED ENGINEERS
BUILDING DESIGN CONSULTANTS
3rd July 2015
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take effective width of beam strip at 1 metre $\frac{M}{bd^2} = \frac{220 \times 10^6}{1000 \times 310^2} = 2.08$
 requires reinforcement = $0.011 \times 1000 \times 310 = 3410 \text{ mm}^2/\text{metre width}$
 H25 at 150 c/c gives $3272 \text{ mm}^2/\text{metre width}$.



$\frac{M}{bd^2} = \frac{93 \times 10^6}{1000 \times 310^2} = 0.97$ requires reinforcement: $0.0057 \times 1000 \times 310 = 1767 \text{ mm}^2/\text{metre width}$
 H16 at 150 gives $1340 \text{ mm}^2/\text{m}$ not enough.
 Provide H20 at 150 $\rightarrow 2094 \text{ mm}^2/\text{m width OK}$

From Rich. Tant Assoc. des. no. 3561-S056 dated 9th May 2014

1:50 Calculations

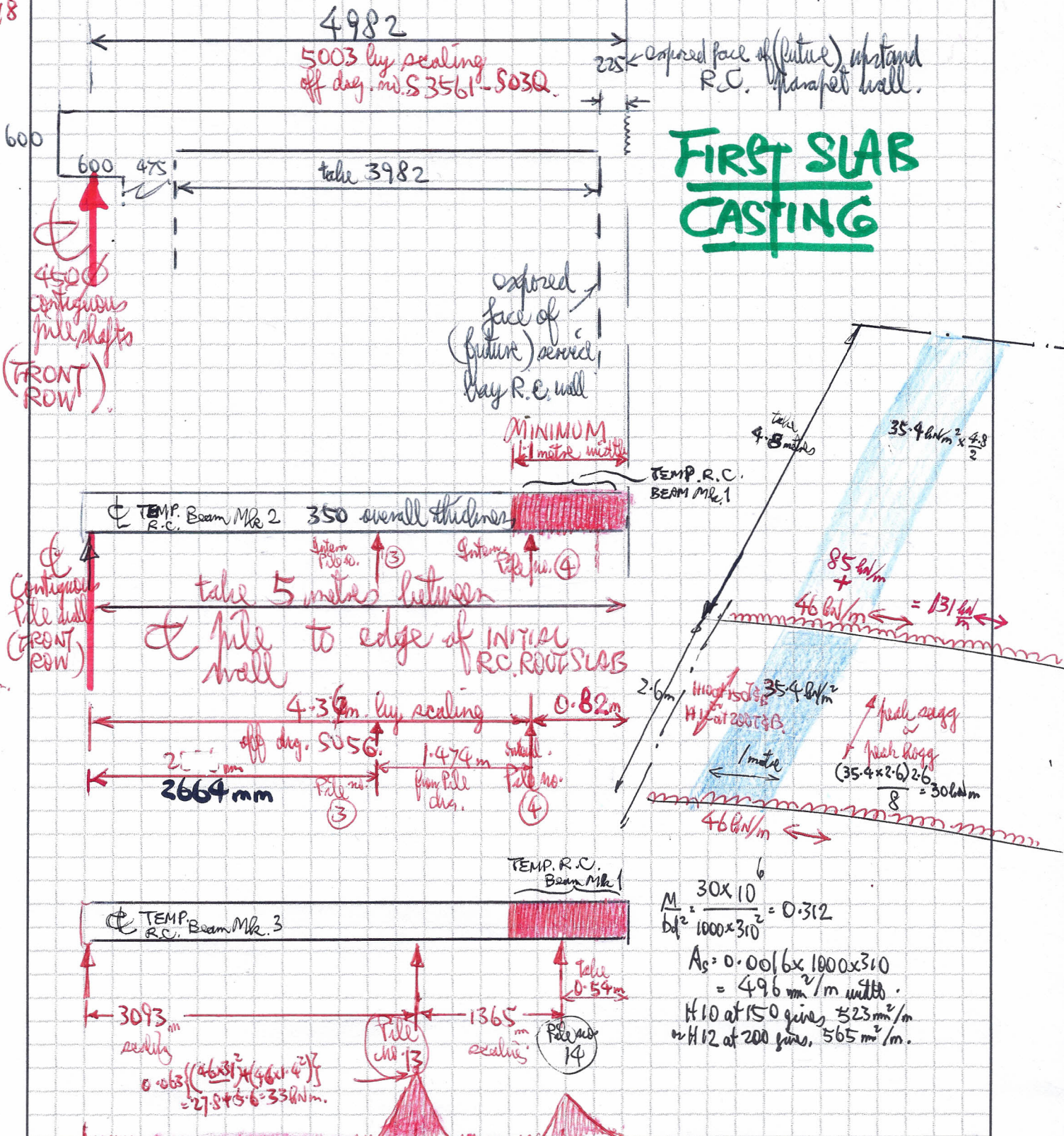
R.E. des. no. 3561/S109 June 2014
R.C. detail /S03Q July 2014



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HIDDEN BEAM STRIPS (No. 2 & 3) beam no. 2 supported by temp. col. on pile no. 3 & 4
beam no. 3 supported by temp. col. on pile no. 13 & 14

4778



FIRST SLAB CASTING

$$\frac{M}{bd^2} = \frac{30 \times 10^6}{1000 \times 310^2} = 0.312$$

$$A_s = 0.0016 \times 1000 \times 310 = 496 \text{ mm}^2/\text{m width}$$

H10 at 150 gives 523 mm²/m
or H12 at 200 gives 565 mm²/m

take $\frac{46 \times 31^2}{10} = 44 \text{ bars/m}$

$$\frac{M}{bd^2} = \frac{44 \times 10^6}{1000 \times 310^2} = 0.46 \quad A_s = 0.0028 \times 1000 \times 310 = 868 \text{ mm}^2/\text{m}$$

H 12 at 150 gives 753 mm²/m width NOT ENOUGH
H 16 at 150 gives 1340 mm²/m width OK.

1:50

$35.4 \text{ kN/m}^2 \times 2.5 \text{ m} = 88.5 \text{ kN/m run.}$

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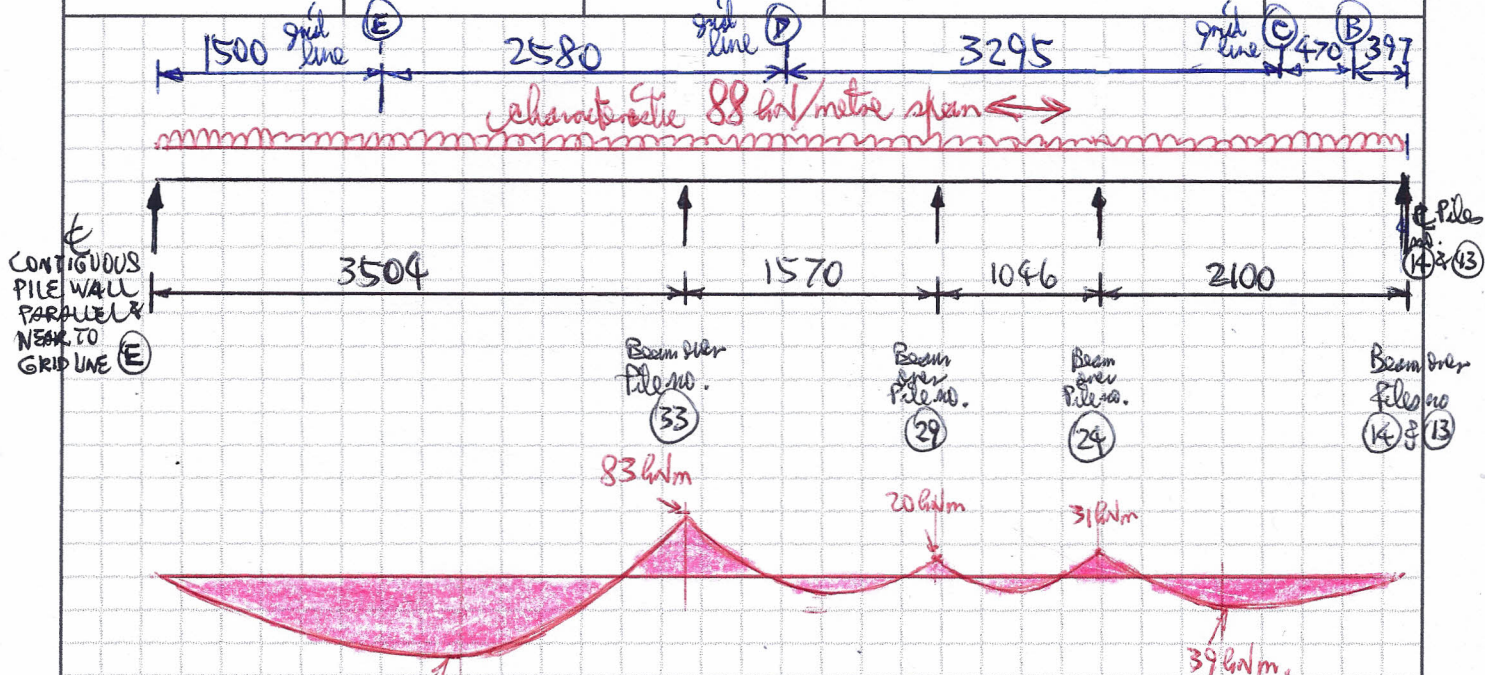
Calculations SECOND SLAB CASTING



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SECOND SLAB CASTING EDGE STRIP

(Parallel to & near grid line ①)

$$\frac{M}{bd^2} = \frac{108 \times 10^6}{1000 \times 310^2} = 1.12$$

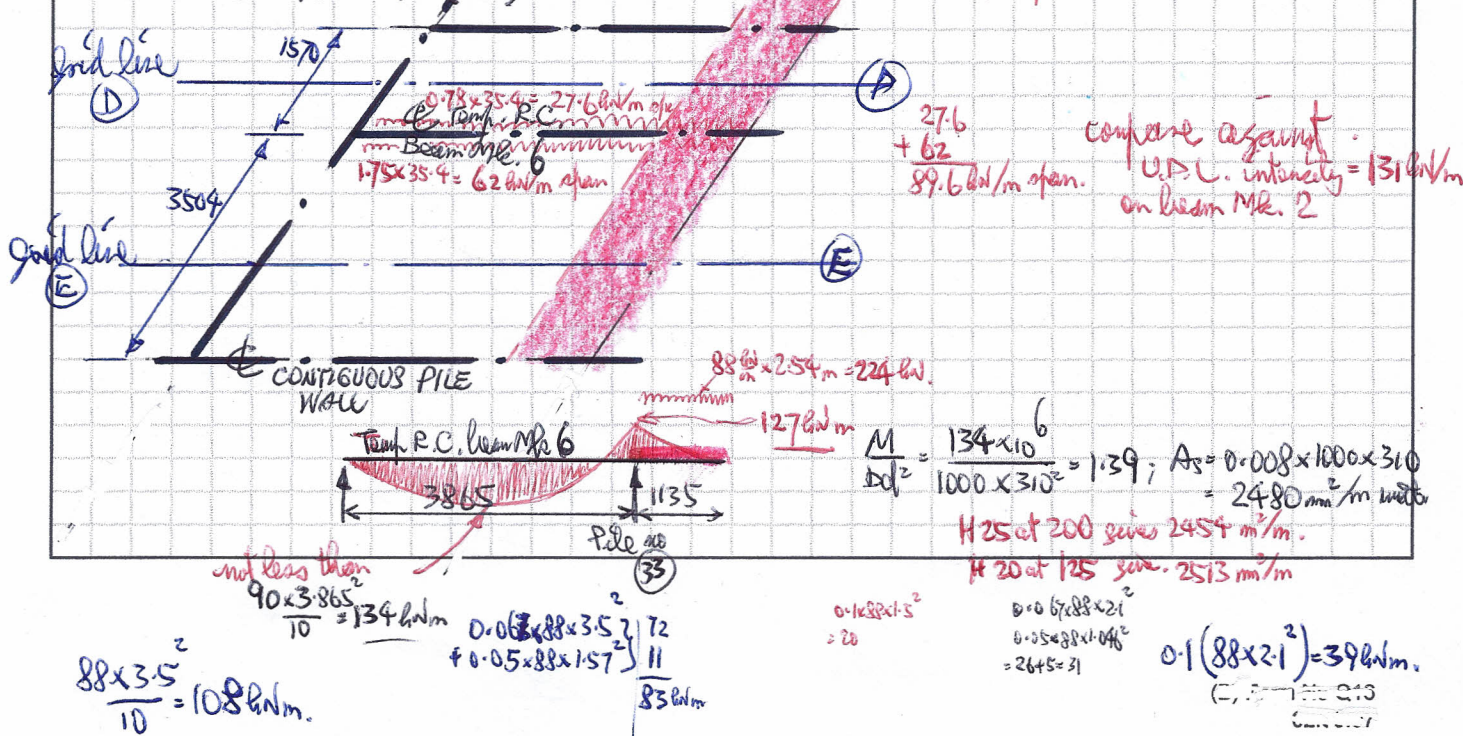
$$A_{st} = 0.0065 \times 1000 \times 310 = 2015 \text{ mm}^2/\text{m width.}$$

H20 at 150% gives 2094 mm²/m width.
Provide H20 at 150% Top & Bottom.

5079
1:100

BY INSPECTION AT SECOND SLAB CASTING: TEMPORARY R.C. Beam No. 6

CARRIES A WIDE (SH) SLAB AREA.



$$\frac{88 \times 3.5^2}{10} = 108 \text{ kNm.}$$

$$\frac{M}{bd^2} = \frac{134 \times 10^6}{1000 \times 310^2} = 1.39; A_{st} = 0.008 \times 1000 \times 310 = 2480 \text{ mm}^2/\text{m width.}$$

H25 at 200 gives 2454 mm²/m.
H20 at 125 gives 2513 mm²/m

$$0.1(88 \times 2.1^2) = 39 \text{ kNm.}$$