

Step 8) Design for Bending						
Bottom reinforcement Along Parallel Edge						
Area of reinf. Required				Ast req	540	sqmm/m
Area of reinforcement provided				Ast provided	545	sqmm/m
				Check		OK
Top reinforcement Along Parallel Edge						
Area of reinf. Required				Ast req	1080	sqmm/m
Area of reinforcement provided				Ast provided	1102	sqmm/m
				Check		OK
Bottom reinforcement Along Perpendicular Edge						
Area of reinf. Required				Ast req	540	sqmm/m
Area of reinforcement provided				Ast provided	545	sqmm/m
				Check		OK
Top reinforcement Along Perpendicular Edge						
Area of reinf. Required				Ast req	1080	sqmm/m
Area of reinforcement provided				Ast provided	1102	sqmm/m
				Check		OK
Step 9) Design for Shear						
Along Parallel Edge						
One Way shear check do not applicable for 2 piles pile-cap design						$11.2.2.1 \quad V_c = \left(0.16 \lambda \sqrt{f'_c} + 17 \rho_w \frac{V_w d}{M_w} \right) b_w d$
						$= 0.29 \lambda \sqrt{f'_c} b_w d$
Along Perpendicular Edge						
One Way shear check do not applicable for 2 piles pile-cap design						$11.4.7.9 \quad 0.66 \sqrt{f'_c} b_w d$
Step 10) Design of Face reinforcement						
Area of side face reinf. Required		SFR% x D x Beff sfr		Asfr Req	150	Sqmm
Area of side face reinf. Provided				Asfr pro	213	Sqmm
						10.14 — Bearing strength
Step 11) Design For Column Load Transfer						
Area of pilecap base		Area of Pilecap	A1	0.81	sqm	Clause 10.14
Area of column		Bc x Dc	A2	0.49	sqm	Clause 10.14
Modification Factor		Sqrt(A1/A2) <= 2		1.29		Clause 10.14
Concrete Bearing capacity		$\Phi_c \times 0.85 \times \text{Modification Factor} \times A2 \times F_{ck} \times 1000$		6984.71	kN	Clause 10.14
Check				SAFE		
Area Of Dowels					-	sqmm

$$11.2.2.1 \quad V_c = \left(0.16 \lambda \sqrt{f'_c} + 17 \rho_w \frac{V_w d}{M_w} \right) b_w d$$

$$= 0.29 \lambda \sqrt{f'_c} b_w d$$

$$11.4.7.9 \quad 0.66 \sqrt{f'_c} b_w d$$

10.14 — Bearing strength

10.14.1 — Design bearing strength of concrete shall not exceed $\phi(0.85 f'_c A_1)$, except when the supporting surface is wider on all sides than the loaded area, then the design bearing strength of the loaded area shall be permitted to be multiplied by $\sqrt{A_2/A_1}$ but by not more than 2.