

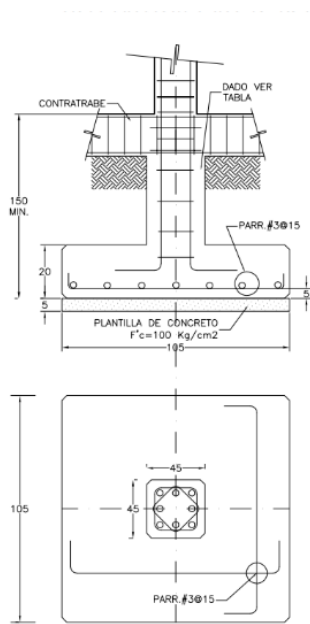


# CALCULO DE VOLUMEN DE OBRA

Taller de construcción

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ARQ. PEDRO ALBERTO GARCÍA LÓPEZ



ZAPATA Z-1

ZAPATA 1

concepto	Eje tramo	Unidad	base	longitud	Altura	volumen	Abundamiento
Excavación	A-B	1-2	M <sup>3</sup>	1.25	1.55	2.421875	1.30
Total = 3.1484 m <sup>3</sup>							

concepto	Eje tramo	Unidad	base	longitud	altura	volumen	Desperdicio
Concreto f'c=100/cm <sup>2</sup>	A-B	1-2	M <sup>3</sup>	1.25	1.25	0.078125	1.1 (10%)
Total 0.859375							

Concreto f'c=200/cm <sup>2</sup>	A-B	1-2	M <sup>3</sup>	1.05	1.05	0.2025	1.1 (10%)
Total 0.24225							

Concepto:	Eje tramo	Unidad	base	longitud	Altura	Pz	Desperdicio	Total	
Varilla congado N°3	A-B	1-2	Pz	/	1.23	/	8	1.03	10.1352
	1-2	A-B	Pz	/	1.23	/	8	1.03	10.1352
								20.2704	

$$Pz = 20.2704 \div 12 = 1.6892 \text{ pz} = 2 \text{ pz}$$

Formulas =

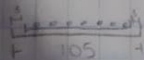
Volumen = base (Altura) (Area)

[excavacion y concreto f'c=100/cm<sup>2</sup> = Anchales .20 (10 de cada lado para sero para tener espacio para trabaso.]

Zp1 (varilla congado N°3) Procedimiento =

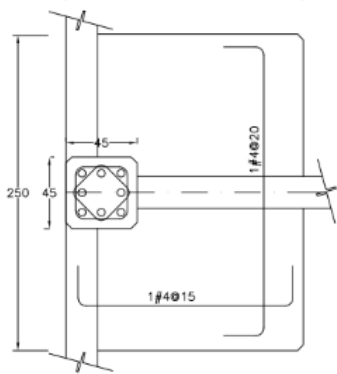
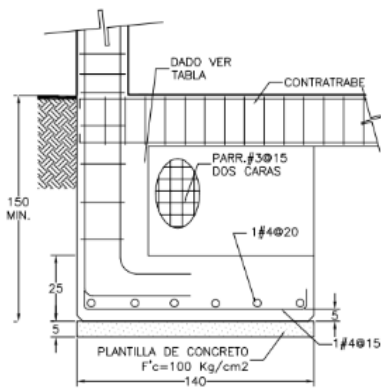


$$3/8" \times 0.0254 = 0.009525(12) = 0.1143 = 12$$



$$105 - 0.06 = 99 \text{ cm} \quad \frac{12}{99} = 12 \quad 99 \div 24 = 123$$

$$Pz = 105 / 15 = 7.00 \text{ pz} = 8 \text{ pz}$$



ZAPATA Z-2

Zapata 2

Conceptos	Eje Tramo	Unidad	base	longitud	Altura	Volume	Abandono
Excavación	A-B	1-2	M <sup>3</sup>	1.60	2.70	1.55	6.696
							30%
							1.30
							Total = 8.7048 m <sup>3</sup>

Conceptos	Eje tramo	Unidad	base	longitud	Altura	Volume	Dependencia
Concreto P200	A-B	1-2	M <sup>3</sup>	1.60	2.70	0.05	0.216
							Total = 0.2376 m <sup>3</sup>

Conceptos	Eje Tramo	Unidad	base	longitud	Altura	Volume	Dependencia
Concreto P200	A-B	1-2	M <sup>3</sup>	1.40	2.50	.25	0.875
							Total = 0.9625 m <sup>3</sup>

Conceptos	Eje Tramo	Unidad	base	longitud	Pz.	Dependencia (S)
Varilla Compacta	A-B	1-2	Pza	1	1.66	10
N <sup>4</sup>	1-2	A-B	Pza	1	2.76	13
						Total = 12.43
						Total = 37.674
						55.104

$\frac{1}{2} (0.0254) = 0.0127 (12) = 0.1524 = 16$   
 $140 - 0.06 = 134$   
 $+ 1.34 = 135.34$   
 $135.34 - 1.66 = 133.68$   
 $133.68 - 1.66 = 132.02$   
 $132.02 - 1.66 = 130.36$   
 $130.36 - 1.66 = 128.70$   
 $128.70 - 1.66 = 127.04$   
 $127.04 - 1.66 = 125.38$   
 $125.38 - 1.66 = 123.72$   
 $123.72 - 1.66 = 122.06$   
 $122.06 - 1.66 = 120.40$   
 $120.40 - 1.66 = 118.74$   
 $118.74 - 1.66 = 117.08$   
 $117.08 - 1.66 = 115.42$   
 $115.42 - 1.66 = 113.76$   
 $113.76 - 1.66 = 112.10$   
 $112.10 - 1.66 = 110.44$   
 $110.44 - 1.66 = 108.78$   
 $108.78 - 1.66 = 107.12$   
 $107.12 - 1.66 = 105.46$   
 $105.46 - 1.66 = 103.80$   
 $103.80 - 1.66 = 102.14$   
 $102.14 - 1.66 = 100.48$   
 $100.48 - 1.66 = 98.82$   
 $98.82 - 1.66 = 97.16$   
 $97.16 - 1.66 = 95.50$   
 $95.50 - 1.66 = 93.84$   
 $93.84 - 1.66 = 92.18$   
 $92.18 - 1.66 = 90.52$   
 $90.52 - 1.66 = 88.86$   
 $88.86 - 1.66 = 87.20$   
 $87.20 - 1.66 = 85.54$   
 $85.54 - 1.66 = 83.88$   
 $83.88 - 1.66 = 82.22$   
 $82.22 - 1.66 = 80.56$   
 $80.56 - 1.66 = 78.90$   
 $78.90 - 1.66 = 77.24$   
 $77.24 - 1.66 = 75.58$   
 $75.58 - 1.66 = 73.92$   
 $73.92 - 1.66 = 72.26$   
 $72.26 - 1.66 = 70.60$   
 $70.60 - 1.66 = 68.94$   
 $68.94 - 1.66 = 67.28$   
 $67.28 - 1.66 = 65.62$   
 $65.62 - 1.66 = 63.96$   
 $63.96 - 1.66 = 62.30$   
 $62.30 - 1.66 = 60.64$   
 $60.64 - 1.66 = 58.98$   
 $58.98 - 1.66 = 57.32$   
 $57.32 - 1.66 = 55.66$   
 $55.66 - 1.66 = 54.00$   
 $54.00 - 1.66 = 52.34$   
 $52.34 - 1.66 = 50.68$   
 $50.68 - 1.66 = 49.02$   
 $49.02 - 1.66 = 47.36$   
 $47.36 - 1.66 = 45.70$   
 $45.70 - 1.66 = 44.04$   
 $44.04 - 1.66 = 42.38$   
 $42.38 - 1.66 = 40.72$   
 $40.72 - 1.66 = 39.06$   
 $39.06 - 1.66 = 37.40$   
 $37.40 - 1.66 = 35.74$   
 $35.74 - 1.66 = 34.08$   
 $34.08 - 1.66 = 32.42$   
 $32.42 - 1.66 = 30.76$   
 $30.76 - 1.66 = 29.10$   
 $29.10 - 1.66 = 27.44$   
 $27.44 - 1.66 = 25.78$   
 $25.78 - 1.66 = 24.12$   
 $24.12 - 1.66 = 22.46$   
 $22.46 - 1.66 = 20.80$   
 $20.80 - 1.66 = 19.14$   
 $19.14 - 1.66 = 17.48$   
 $17.48 - 1.66 = 15.82$   
 $15.82 - 1.66 = 14.16$   
 $14.16 - 1.66 = 12.50$   
 $12.50 - 1.66 = 10.84$   
 $10.84 - 1.66 = 9.18$   
 $9.18 - 1.66 = 7.52$   
 $7.52 - 1.66 = 5.86$   
 $5.86 - 1.66 = 4.20$   
 $4.20 - 1.66 = 2.54$   
 $2.54 - 1.66 = 0.88$   
 $0.88 - 1.66 = -0.78$   
 $-0.78 - 1.66 = -2.44$   
 $-2.44 - 1.66 = -4.10$   
 $-4.10 - 1.66 = -5.76$   
 $-5.76 - 1.66 = -7.42$   
 $-7.42 - 1.66 = -9.08$   
 $-9.08 - 1.66 = -10.74$   
 $-10.74 - 1.66 = -12.40$   
 $-12.40 - 1.66 = -14.06$   
 $-14.06 - 1.66 = -15.72$   
 $-15.72 - 1.66 = -17.38$   
 $-17.38 - 1.66 = -19.04$   
 $-19.04 - 1.66 = -20.70$   
 $-20.70 - 1.66 = -22.36$   
 $-22.36 - 1.66 = -24.02$   
 $-24.02 - 1.66 = -25.68$   
 $-25.68 - 1.66 = -27.34$   
 $-27.34 - 1.66 = -29.00$   
 $-29.00 - 1.66 = -30.66$   
 $-30.66 - 1.66 = -32.32$   
 $-32.32 - 1.66 = -33.98$   
 $-33.98 - 1.66 = -35.64$   
 $-35.64 - 1.66 = -37.30$   
 $-37.30 - 1.66 = -38.96$   
 $-38.96 - 1.66 = -40.62$   
 $-40.62 - 1.66 = -42.28$   
 $-42.28 - 1.66 = -43.94$   
 $-43.94 - 1.66 = -45.60$   
 $-45.60 - 1.66 = -47.26$   
 $-47.26 - 1.66 = -48.92$   
 $-48.92 - 1.66 = -50.58$   
 $-50.58 - 1.66 = -52.24$   
 $-52.24 - 1.66 = -53.90$   
 $-53.90 - 1.66 = -55.56$   
 $-55.56 - 1.66 = -57.22$   
 $-57.22 - 1.66 = -58.88$   
 $-58.88 - 1.66 = -60.54$   
 $-60.54 - 1.66 = -62.20$   
 $-62.20 - 1.66 = -63.86$   
 $-63.86 - 1.66 = -65.52$   
 $-65.52 - 1.66 = -67.18$   
 $-67.18 - 1.66 = -68.84$   
 $-68.84 - 1.66 = -70.50$   
 $-70.50 - 1.66 = -72.16$   
 $-72.16 - 1.66 = -73.82$   
 $-73.82 - 1.66 = -75.48$   
 $-75.48 - 1.66 = -77.14$   
 $-77.14 - 1.66 = -78.80$   
 $-78.80 - 1.66 = -80.46$   
 $-80.46 - 1.66 = -82.12$   
 $-82.12 - 1.66 = -83.78$   
 $-83.78 - 1.66 = -85.44$   
 $-85.44 - 1.66 = -87.10$   
 $-87.10 - 1.66 = -88.76$   
 $-88.76 - 1.66 = -90.42$   
 $-90.42 - 1.66 = -92.08$   
 $-92.08 - 1.66 = -93.74$   
 $-93.74 - 1.66 = -95.40$   
 $-95.40 - 1.66 = -97.06$   
 $-97.06 - 1.66 = -98.72$   
 $-98.72 - 1.66 = -100.38$   
 $-100.38 - 1.66 = -102.04$   
 $-102.04 - 1.66 = -103.70$   
 $-103.70 - 1.66 = -105.36$   
 $-105.36 - 1.66 = -107.02$   
 $-107.02 - 1.66 = -108.68$   
 $-108.68 - 1.66 = -110.34$   
 $-110.34 - 1.66 = -112.00$   
 $-112.00 - 1.66 = -113.66$   
 $-113.66 - 1.66 = -115.32$   
 $-115.32 - 1.66 = -116.98$   
 $-116.98 - 1.66 = -118.64$   
 $-118.64 - 1.66 = -120.30$   
 $-120.30 - 1.66 = -121.96$   
 $-121.96 - 1.66 = -123.62$   
 $-123.62 - 1.66 = -125.28$   
 $-125.28 - 1.66 = -126.94$   
 $-126.94 - 1.66 = -128.60$   
 $-128.60 - 1.66 = -130.26$   
 $-130.26 - 1.66 = -131.92$   
 $-131.92 - 1.66 = -133.58$   
 $-133.58 - 1.66 = -135.24$   
 $-135.24 - 1.66 = -136.90$   
 $-136.90 - 1.66 = -138.56$   
 $-138.56 - 1.66 = -140.22$   
 $-140.22 - 1.66 = -141.88$   
 $-141.88 - 1.66 = -143.54$   
 $-143.54 - 1.66 = -145.20$   
 $-145.20 - 1.66 = -146.86$   
 $-146.86 - 1.66 = -148.52$   
 $-148.52 - 1.66 = -150.18$   
 $-150.18 - 1.66 = -151.84$   
 $-151.84 - 1.66 = -153.50$   
 $-153.50 - 1.66 = -155.16$   
 $-155.16 - 1.66 = -156.82$   
 $-156.82 - 1.66 = -158.48$   
 $-158.48 - 1.66 = -160.14$   
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 $-161.80 - 1.66 = -163.46$   
 $-163.46 - 1.66 = -165.12$   
 $-165.12 - 1.66 = -166.78$   
 $-166.78 - 1.66 = -168.44$   
 $-168.44 - 1.66 = -170.10$   
 $-170.10 - 1.66 = -171.76$   
 $-171.76 - 1.66 = -173.42$   
 $-173.42 - 1.66 = -175.08$   
 $-175.08 - 1.66 = -176.74$   
 $-176.74 - 1.66 = -178.40$   
 $-178.40 - 1.66 = -180.06$   
 $-180.06 - 1.66 = -181.72$   
 $-181.72 - 1.66 = -183.38$   
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 $-188.36 - 1.66 = -190.02$   
 $-190.02 - 1.66 = -191.68$   
 $-191.68 - 1.66 = -193.34$   
 $-193.34 - 1.66 = -195.00$   
 $-195.00 - 1.66 = -196.66$   
 $-196.66 - 1.66 = -198.32$   
 $-198.32 - 1.66 = -200.00$