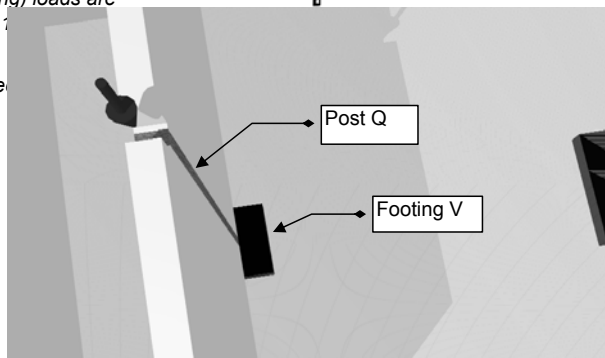


# Square Footing Calculator



**Assumptions:** 1. Load is applied to the center of footing. 2. No uplift or moment (bending) loads are applied. 3. Soil over the footing is the only surcharge load applied. 4. Design based on ACI 318 Code. 5. All rebar is properly spaced and not epoxy-coated

**Disclaimer:** All users of this software shall comply with State Engineering Law; which specifies the practice of engineering.



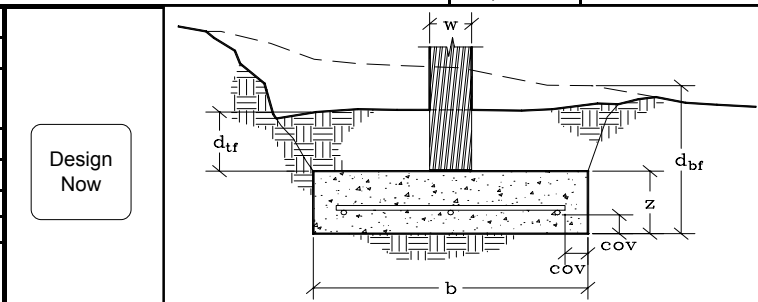
Job Name	2-story example
Footing I.D.	Footing V
Other Info	Load from post Q

## Applied Footing Loads

Live, psf	Dead, psf	Tributary Length, ft	Tributary Width, ft.	Live Load, lbs	Reduced Live Load, lbs.	Dead Load, lbs
Other point load: all Live, all Dead, or some of each, lbs.		From Post Q		2,135 lb		1,100 lb
				Total service load: P <sub>serv</sub> =	3,235 lb	

## Soil and Footing Input

Soil Bearing Capacity	q <sub>s</sub> = 1,500 psf
Permit Soil Bearing Capacity Increase For Size and Depth?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Depth to bottom of footing, ft.	D <sub>br</sub> = 1.00 ft
Depth of soil over top of footing, ft.	D <sub>tr</sub> = 1.00 ft
Square Footing Width, ft.	b = 1.75 ft
Footing Depth, inches	z = 8.00 in
Post or Bearing Plate Narrowest Dimension, inches	w = 7.25 in



## Concrete and Rebar Input

Concrete Strength, psi	f <sub>c</sub> = 2,500 psi
Steel Yield Strength, psi	F <sub>y</sub> = 40,000 psi
Rebar Cover, inches	cov = 3.00 in
Rebar Size	# 4 ▼
No. of Bars (Each Direction)	n = 3

## RESULTS

Footing size based on allowable soil pressure:	Footing Size Okay, 21% oversized for soil bearing
Temp. & Shrinkage Rebar:	Ok
Rebar check for bending:	Ok 1565% extra flexural rebar provided
One-Way Shear Check:	Footing Thickness Ok
Punching Shear:	Footing Thickness Ok
Rebar Development Length:	Ok
<b>Satisfactory Design</b>	

**FINAL DESIGN**  
Use 1.75 ft. x 1.75 ft. x 8 in. footing, with 2500 psi min. concrete strength, 3 in. min. concrete cover, and (3) #4 GR 40 rebar each way.

## Miscellaneous Report Detail

Maximum applied soil pressure: 1,244 psf	Allowable soil pressure used for design: 1,500 psf
Weight of footing only: 306 lb	Weight of footing plus surcharge: 576 lb
Ultimate applied moment in footing: 485 ft-lb	Allowable moment in footing (phi*Mn): 7,616 ft-lb
Ultimate applied one-way shear in footing: 585 lb	Allowable one-way shear (phi*Vn): 8,033 lb