

Stitch Pier Design - Simplified Method

Shoring

Loading

Granular Soils

Surcharge:	S	72 psf
Active Load:	Wa	35 pcf
Passive:	Wp	350 pcf
Factor of Safety:	FS	1.3
Creep Load:	Cp	0 pcf
Eff. Creep Factor	Cf	0 Factor x Cp

Point Load:	PLa	0 lbs
PLa Dist. from top of wall:	PLDa	0 ft
Point Load:	PLb	0 lbs
PLb Dist. from top of wall:	PLDb	0 ft

Retained Height:	H	10 ft
Neglected Depth:	ND	0 ft
Starting Passive Value:	SPV	0 pcf

Pier Diameter:	PD	24 in
Pier Spacing:	PS	6 ft
Eff. Passive Factor	PF	2 Factor x PD

Equilibrium Depth:	D	11.56 ft
Required Depth = 1.2*D:	RD	13.87 ft
Location of Zero Shear:	Y	5.28 ft
Design Moment:	M	1,305 k-in

Cover on Soldier Beam:	CC	1 in
Minimum Lagging Bearing:	BL	3 in
Soldier Beam Yield Stress	Fy	50 ksi
Lagging Braces Beam?:		Yes

Recommended Size	W12X40
Soldier Pier Size Used:	W12X40
Demand-to-Capacity:	0.83 <1, OK

Use W12X40 soldier beam placed in 24" diameter pier w/14'-0" minimum embedment

Wood Species:	Construction
Pressure Treated?:	Yes
Soil Arching Reduction Factor:	0.6
Max Lagging Pressure w/o Surcharge:	400 psf
Load Duration Factor, Cd:	0.9
Lagging Span:	67 in

[illegible]