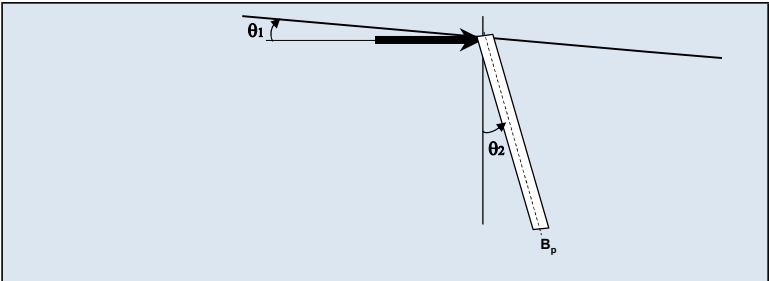


# ANALYSIS OF LATERAL SOIL RESISTANCE VERSUS DEFLECTION (P-Y CURVES) OF A SINGLE PILE

(Copyright © 2015, 2026, PILEPY. All Rights Reserved; By: InfraGEO Software)

PROJECT INFORMATION	
Project Name	
Project No.	
Project Location	
Analyzed By	
Reviewed By	

GENERAL INPUT PARAMETERS	
Analysis Description	
Ground Surface Elevation	100.00 feet
Design Groundwater Depth	20.00 feet
Ground Slope Angle, $\theta_1$	0.00 degrees
Pile Diameter or Width, $B_p$	36.00 inches
Pile Batter Angle, $\theta_2$	0.00 degrees
Number of Load Cycles, $N_c$	0.00 cycles



**REFERENCES:**

- Reese, L.C. and Van Impe, W., 2011, Single Piles and Pile Groups Under Lateral Loading, 2nd Ed., CRC Press.
- USACE, 1998, Technical Instructions, Design of Deep Foundations, Ch.4, Lateral Loads, TI 818-02.
- Wang, S.T., Vasquez, L. and Reese, L.C., 2008, "Study of the Behavior of Pile Groups in Liquefied Soil," Proceedings of 14th World Conference on Earthquake Engineering (WCEE), Beijing, China.

INPUT SOIL PARAMETERS												
Soil Depth, z (feet)	Layer 1		Layer 2		Layer 3		Layer 4					
	0.00	20.00	20.00	35.00	35.00	50.00	50.00	60.00				
<b>Soil Type Code for p-y Curve Criteria:</b> 1 = Sand (Reese et al., 1974) 2 = Sand (API, 1987) 3 = Stiff Clay w/o Free Water (Reese and Welch, 1972) 4 = Stiff Clay w/ Free Water (Reese et al., 1975) 5 = Soft Clay (Matlock, 1970) 6 = Liquefied Soil (Rollins et al., 2005)	1	1	6	6	1	1	3	3				
Total Soil Unit Weight (pcf)	115.00	115.00	100.00	100.00	120.00	120.00	120.00	120.00				
Saturated Soil Unit Weight (pcf)	120.00	120.00	105.00	105.00	125.00	125.00	125.00	125.00				
Soil Cohesion, c (psf)	0.00	0.00	800.00	800.00	0.00	0.00	2,000.00	2,000.00				
Soil Friction Angle, $\phi$ (degrees)	34.00	34.00	0.00	0.00	36.00	36.00	0.00	0.00				
Soil Modulus, k (pci)	30.00	30.00	30.00	30.00	125.00	125.00	1,000.00	1,000.00				

COMPUTED P-Y CURVES												
Soil Depth, z (feet)	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00
Elevation (feet)	95.00	90.00	85.00	80.00	75.00	70.00	65.00	60.00	55.00	50.00	45.00	40.00
Deflection, y (inches)	Lateral Soil Resistance, p (kip/inch)											
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.09	0.18	0.27	0.00	0.00	0.00	2.50	2.92	3.33	1.30	1.30	1.30
0.10	0.18	0.36	0.54	0.00	0.00	0.00	3.82	5.05	6.27	1.54	1.54	1.54
0.25	0.45	0.90	1.35	0.00	0.00	0.00	6.66	8.86	11.05	1.94	1.94	1.94
0.50	0.69	1.38	2.07	0.00	0.00	0.00	10.16	13.50	16.85	2.31	2.31	2.31
1.00	1.08	2.16	3.25	0.00	0.00	0.00	15.95	21.20	26.45	2.75	2.75	2.75
2.00	1.36	2.71	4.07	0.02	0.02	0.02	19.97	26.55	33.13	3.27	3.27	3.27
4.00	1.36	2.71	4.07	0.10	0.10	0.11	19.97	26.55	33.13	3.89	3.89	3.89
6.00	1.36	2.71	4.07	0.26	0.27	0.28	19.97	26.55	33.13	4.30	4.30	4.30