




John Shively PE

Upper setback $a_1 = 0.50$ ft
 Lower setback $a_2 = 0.50$ ft
 Height $h = 1.00$ ft
 Width $b = 6.00$ ft

Material

Soil creating foundation - Sand and Gravel - Foundation Soil

Basic soil parameters

No.	Name	Pattern	Φ_{ef} [°]	C_{ef} [psf]	γ [pcf]	γ_{su} [pcf]	δ [°]
1	Lean Clay		29.00	25.0	120.00	58.50	19.00
2	Granular Backfill		39.00	0.0	135.00	72.50	28.00
3	Sand and Gravel - Foundation Soil		30.00	0.0	130.00	67.50	20.00

All soils are considered as cohesionless for at rest pressure analysis.

Soil parameters**Lean Clay**

Unit weight : $\gamma = 120.0$ pcf
 Stress-state : effective
 Angle of internal friction : $\Phi_{ef} = 29.00^\circ$
 Cohesion of soil : $C_{ef} = 25.0$ psf
 Angle of friction struc.-soil : $\delta = 19.00^\circ$
 Saturated unit weight : $\gamma_{sat} = 121.0$ pcf

Granular Backfill

Unit weight : $\gamma = 135.0$ pcf
 Stress-state : effective
 Angle of internal friction : $\Phi_{ef} = 39.00^\circ$
 Cohesion of soil : $C_{ef} = 0.0$ psf
 Angle of friction struc.-soil : $\delta = 28.00^\circ$
 Saturated unit weight : $\gamma_{sat} = 135.0$ pcf

Sand and Gravel - Foundation Soil

Unit weight : $\gamma = 130.0$ pcf
 Stress-state : effective
 Angle of internal friction : $\Phi_{ef} = 30.00^\circ$
 Cohesion of soil : $C_{ef} = 0.0$ psf
 Angle of friction struc.-soil : $\delta = 20.00^\circ$
 Saturated unit weight : $\gamma_{sat} = 130.0$ pcf

Backfill

Backfill is not considered.

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	-	0.00 .. ∞	Lean Clay	