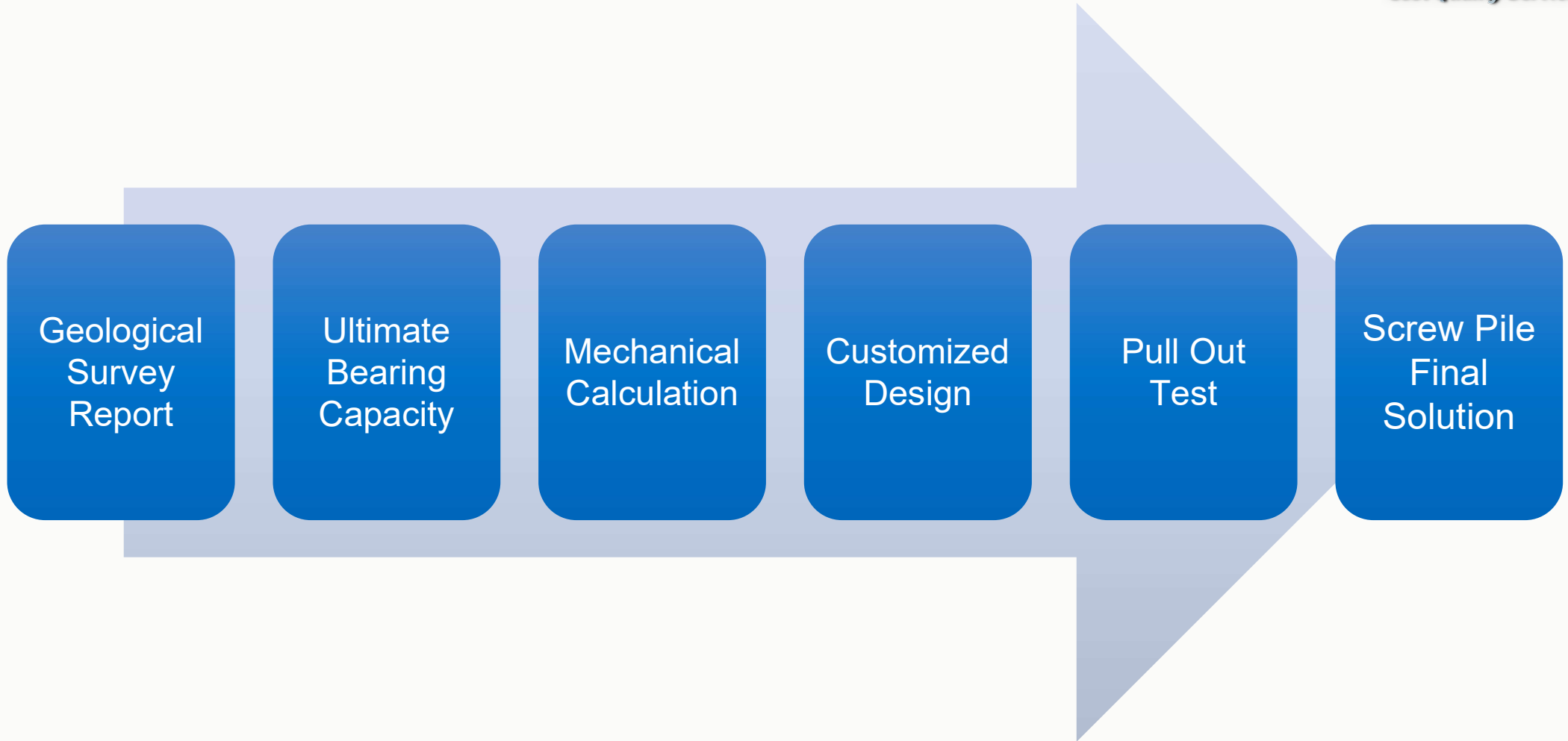
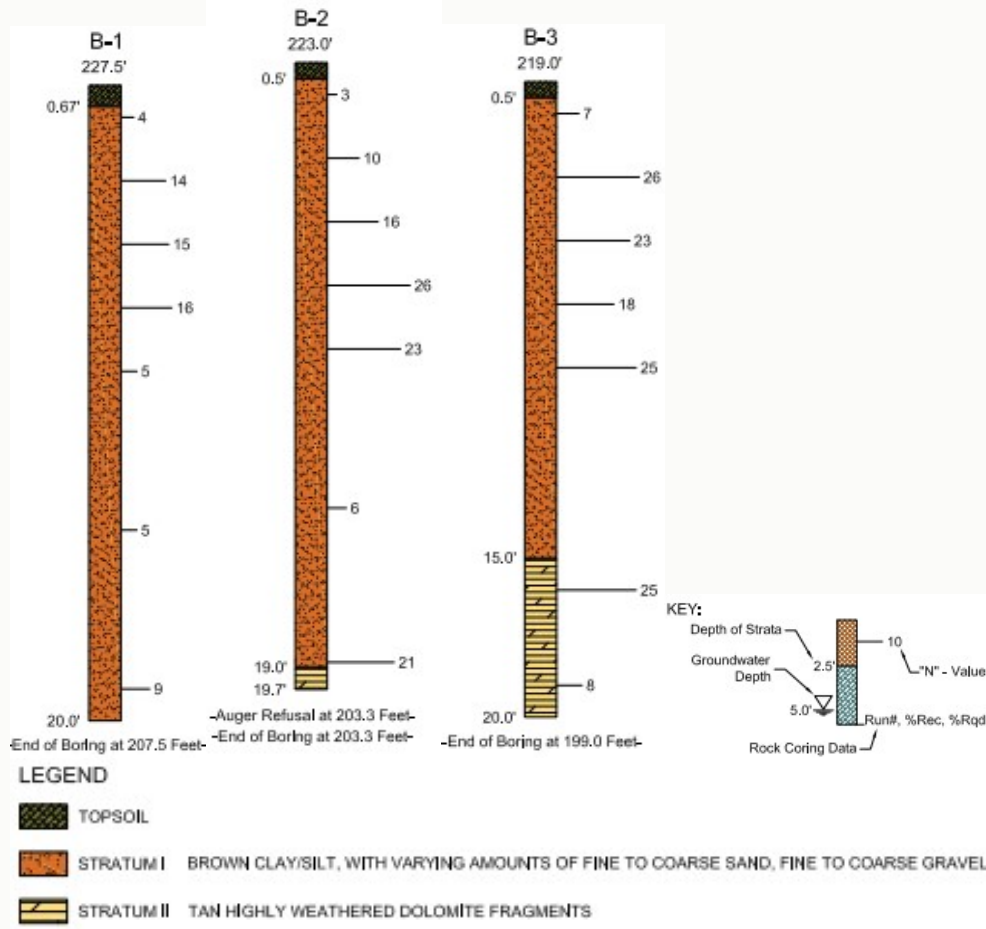


Design Flow



Geological Survey Report



Soil Unit Weight

Internal Friction Angle

Viscid Cohesive Force

Soil Shear Strength

Description	Approximate Depth to Bottom of Stratum	Material Encountered	Estimated Dry Density ¹ (kN/m ³)	Estimated Effective Angle of Internal Friction, ϕ ¹ (degrees)	Estimated Undrained Cohesion ¹ (kPa)
Stratum 1A	To maximum excavation depths of 2.5 to 3.5 meters ²	Silty Sand (SM) & Clayey Sand (SC)	15	30	N/A
Stratum 1B		Sandy Lean Clay (CL)	15	20	25

1. Parameters expressed above are estimates.
 2. Maximum excavation depth observed.



N Value Test

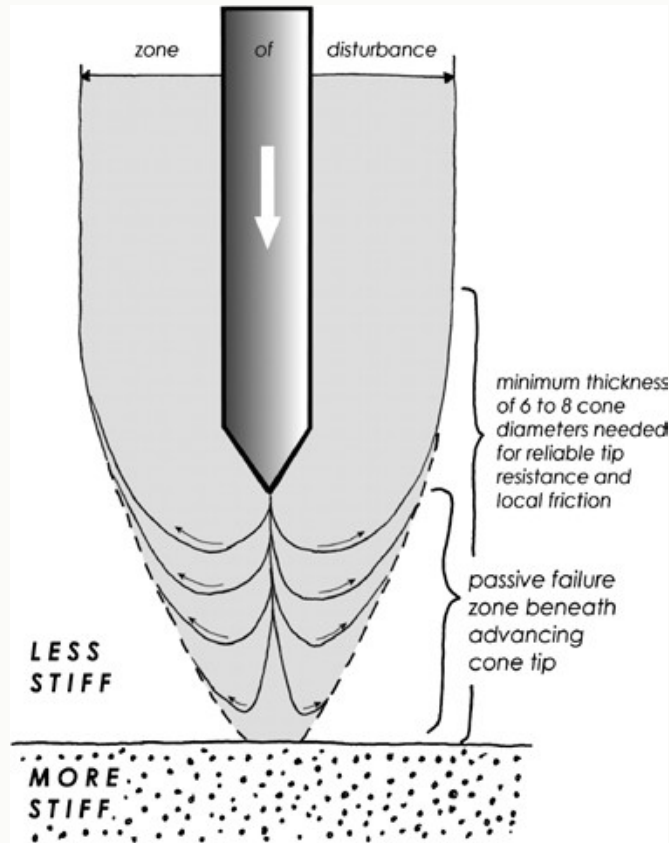
SPT Driving Force Penetration Test

N Value

provide information

Soil Density

Soil Bearing Capacity

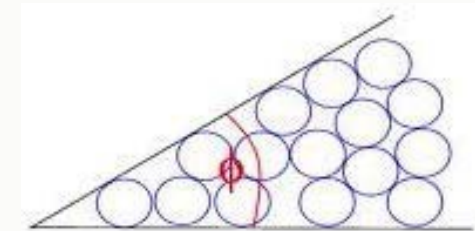


Internal Friction Angle

Internal friction angle is the parameter of soil edge cutting strength

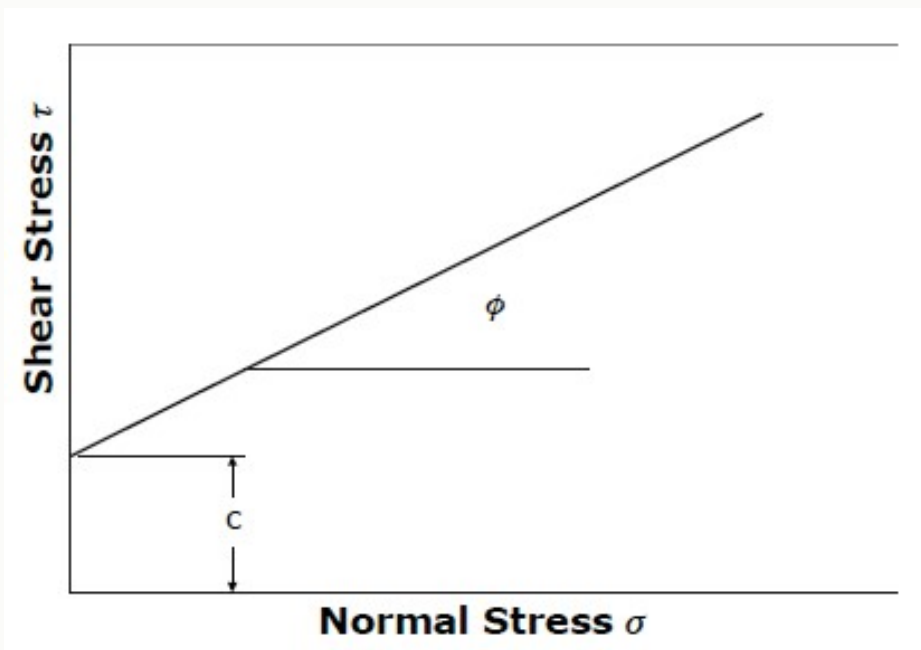
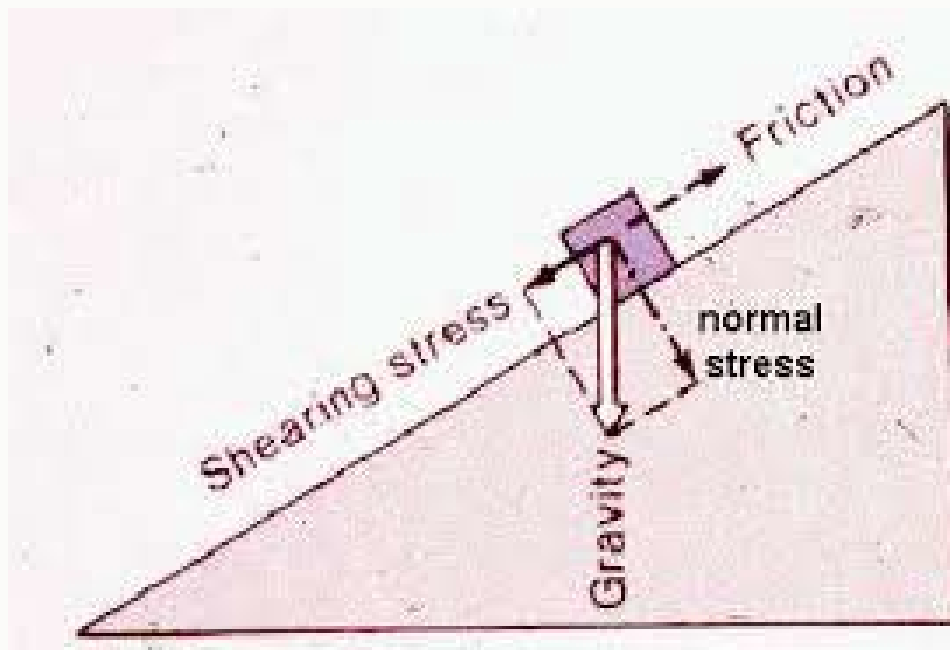
Correlation between SPT-N value, friction angle, and relative density (Meyerhoff 1956)

SPT N3 [Blows/0.3 m - 1 ft]	Soil packing	Relative Density [%]	Friction angle [°]
< 4	Very loose	< 20	< 30
4 - 10	Loose	20 - 40	30 - 35
10 - 30	Compact	40 - 60	35 - 40
30 - 50	Dense	60 - 80	40 - 45
> 50	Very Dense	> 80	> 45



Cohesion Strength

Cohesion Strength is the intensity of trimming when the stress pressure is zero



Test Area Selection

Test area should be within 5 meters of the sampling point.

At least select 3 point for pull out test area.

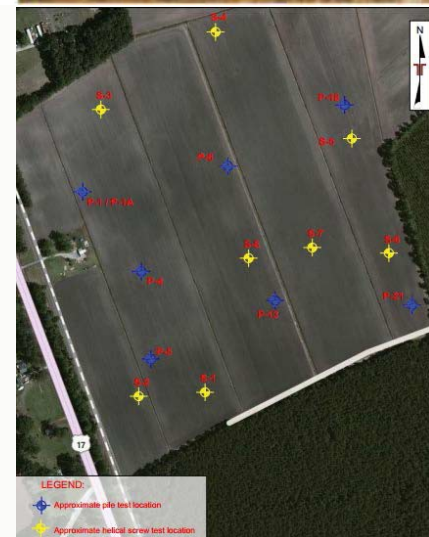
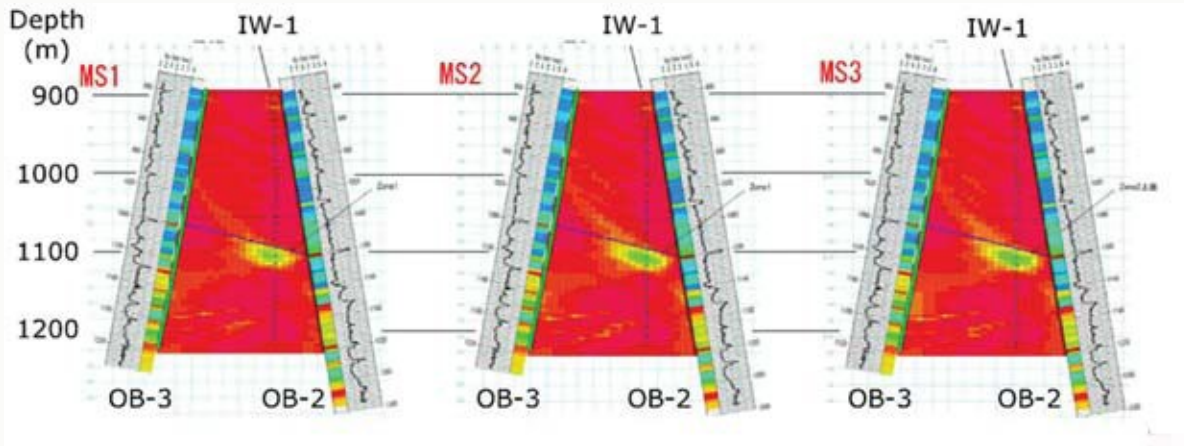
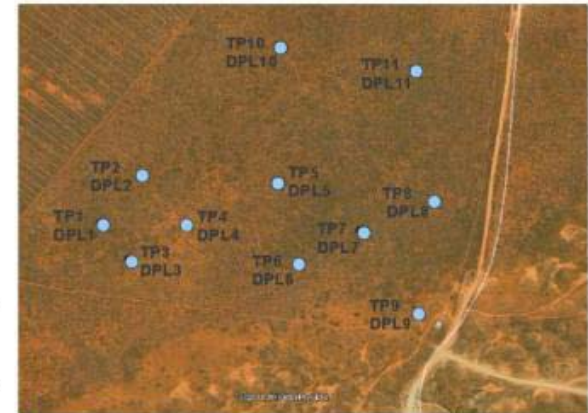
The most soft soil.

The most hard soil.

The most representative soil area.



Key
● Test Pit & DPL location



Screw Blade Selection



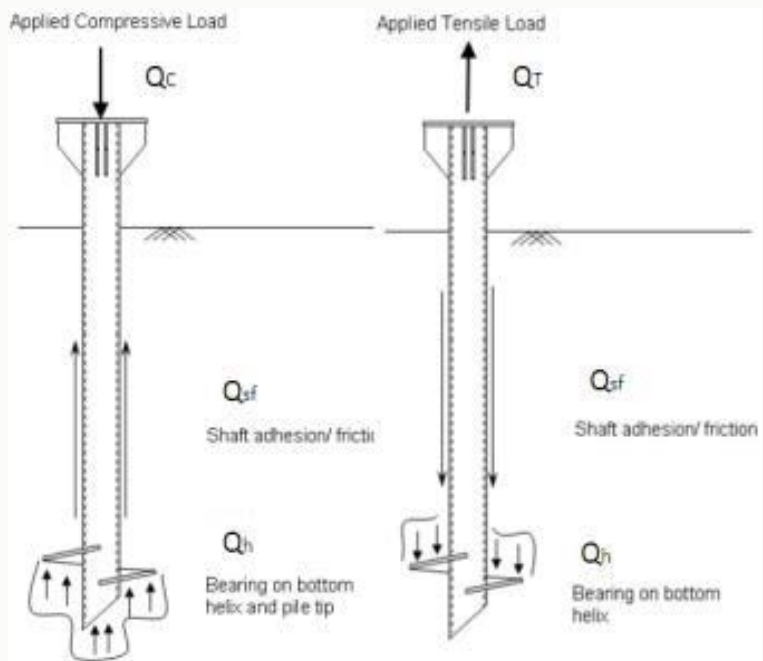
	Grade of soil or rock	Description	Screw Pile
1	MH, CH, OL, ML, CL	Clay or silt	Big blade screw pile
2	SC, SM, SP	Clay, silt, sand, Poor sandy soil	Big blade screw pile
3	SW, GC, GM, GP	High quality sand, clay sand, silt sand, Poor inferior gravel	Small blade screw pile
4	GW	High quality inferior gravel	Small blade screw pile



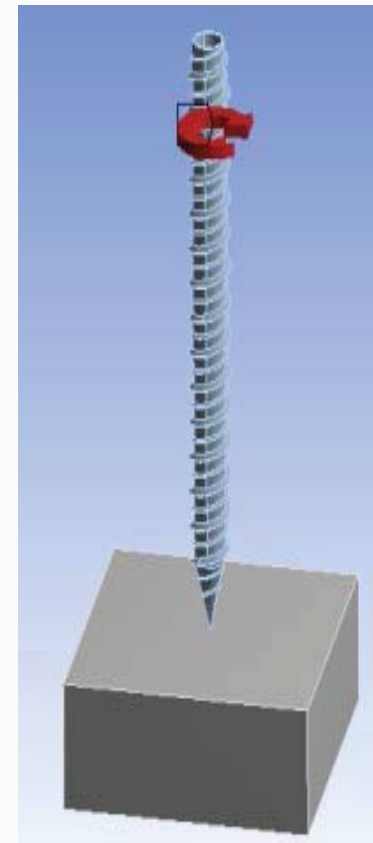
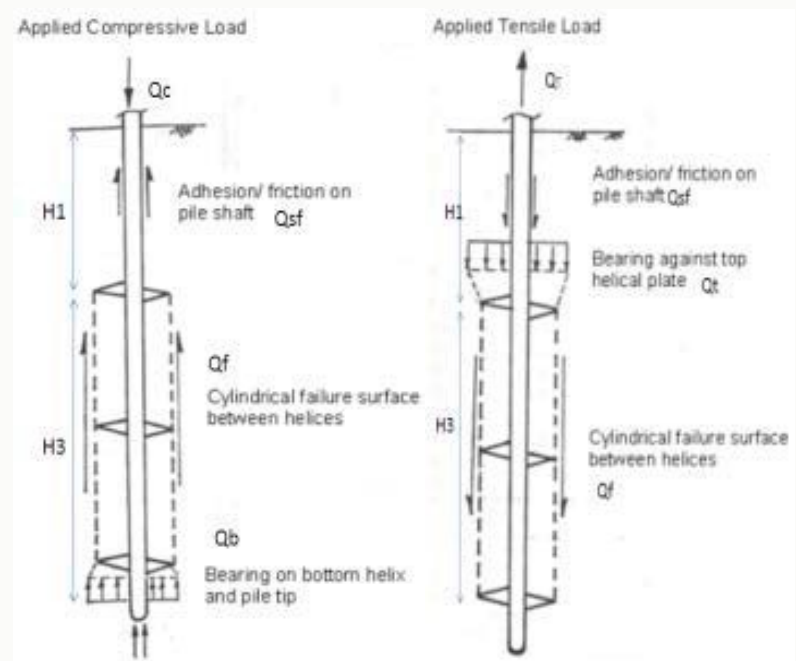
Ultimate Bearing Capacity

Bearing capacity model of single blade

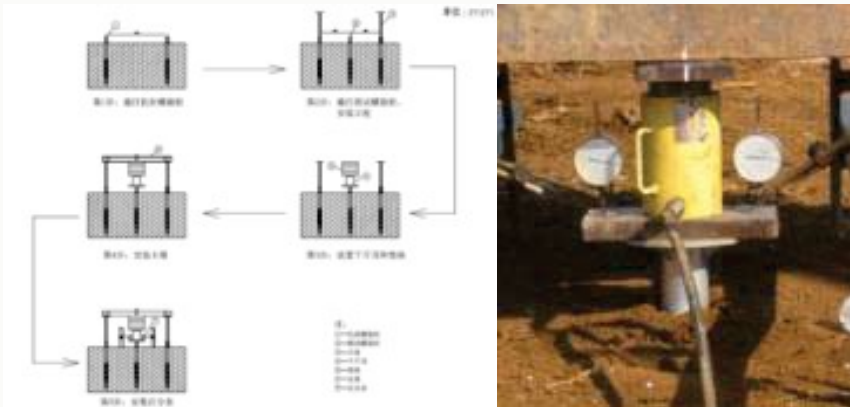
Big blade screw pile



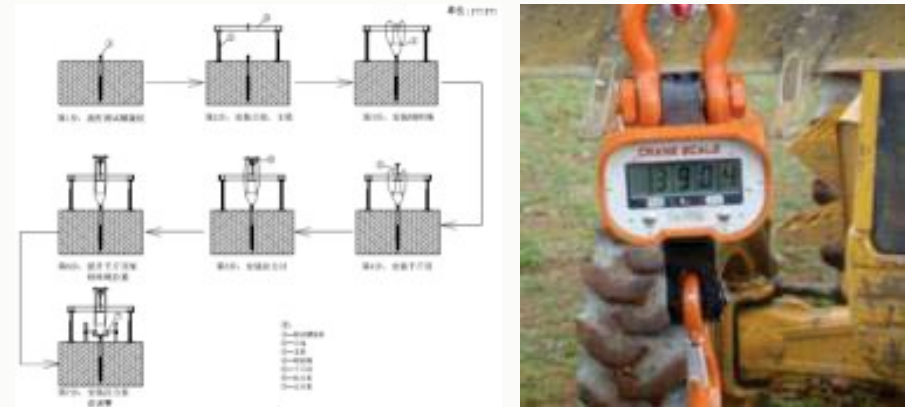
Small blade screw pile



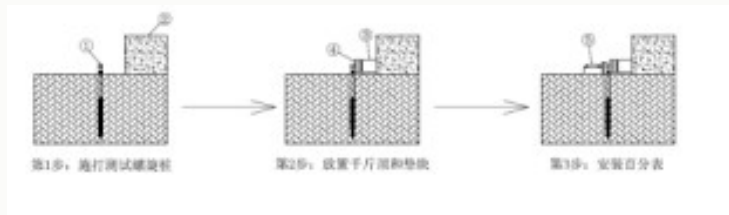
Pull Out Test



Test of compressive bearing capacity



Test of tensile bearing capacity



Test of lateral bearing capacity



Final Screw Pile Solution

