

Deep Foundations are required when:

1. Depth is great to adequate bearing materials
2. Friction resistance is required

Deep Foundations:

- Buildings loads to deepest, more competent soils
- 2 types
 - End bearing
 - Bearing through friction
- Piles materials used
 - wood
 - steel
 - pre cast concrete

Dense piles support the Building

Grade beams not supported by soil

underpinning process

Dig narrow

Pour new conventional

Reinforce with steel

Floating Foundation

water table depth

floating hazards

site boundaries

deep foundations can solve many challenges for large buildings

shallow are less safe and expensive

underpinning is a common occurs in urban environments.