Groundworks and Foundations
Part 2
Advanced Foundations
(Commercial, Industrial, High-rise and Basements)

To attend Part 2 of the LABC Groundworks and Foundations course delegates must have attended Part 1 (Basic).

The course will count for 3 hours CPD.

Course content:

- The submission - information required by BCO's
- Soils and soil classification (advanced)
    - Filled ground – engineered, non-engineered
    - Heave/shrinkage
    - Building near trees
    - Groundwater and its effects
    - Subsidence - rectification
- Site investigations (additional information)
    - Advanced requirements
    - British Standards
- Foundation types
    - Horizontal, vertical, advanced theory of foundation behavior
    - Deep strip (CDM 15, regulation 22, trenches)
    - Trenchfill
    - Raft foundations, piled rafts
    - Pad and beam foundations
    - Mini-piling for restricted access and delicate adjacent structures
    - Ground improvement – advanced
        - Theory
        - Vibro-stone columns
        - Vibro-concrete columns
        - Dynamic compaction
        - Lime/cement stabilization
    - Piling
        - Displacement – driven precast, steel tubes and H-section, jacked, sheet piles
        - Replacement – CFA, CHD, Rotary bored, drilled piles
        - Tension piles and ground anchors
- Retaining walls (large)
    - Bored pile retaining walls, contiguous piling, secant piling
    - Diaphragm walls
- Basements
    - Open site
    - Adjacent to existing buildings or structures
    - Beneath buildings (ASUC Guidance)
    - Underpinning in basements
- Testing, static, dynamic, integrity
- Foundation/Pile calculations
- Piling – good practice guide
- Contamination
    - Definitions
    - Hazard investigations and reports, rectification, validation
- What to look out for/what can go wrong
- Q&A