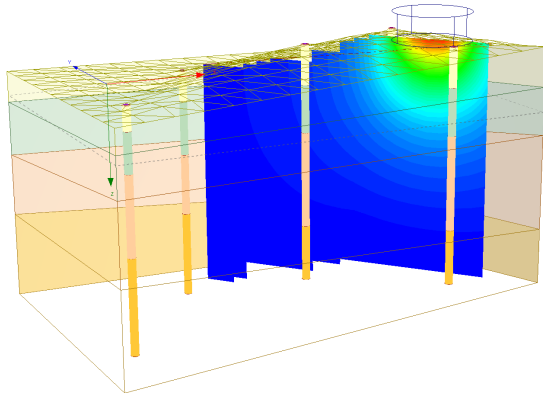# Settle3
Settlement and Consolidation Analysis

Model non-horizontal ground surfaces using borehole data

What is Settle3?

Used by top geotechnical engineers for civil projects around the world, Settle3 is a three-dimensional program for the analysis of vertical consolidation and settlement under foundations, embankments, and surface loads. The program combines the simplicity of one-dimensional analysis with the power and visualization capabilities of more sophisticated three-dimensional programs.

What's New in Settle3

Settle3 has added a number of new features to make settlement analysis easier to use and more cost-effective.

Ground Improvement

- For the Ground Improvement feature, we've added two additional methods to improve a region of ground for settlement: Stone Columns and Vibro-Compaction. Use the Stone Columns method to improve any selected area of the region of ground for settlement. For sandy soils, users can apply the Vibro-Compaction method. Once ground improvement is applied, users can conduct a Ground Improvement Sensitivity Analysis to analyze the impact on settlement in an optimized and cost-effective way.

Embankment Cross-Section Designer

- For users creating embankments, we have added a new and more flexible approach to designing embankments with the Embankment Cross Section Designer.
    - Interactively add any shapes or soil layers to an embankment cross-section
    - Add layers and multiple stages and easily edit vertices
    - Drag and drop embankments across the ground surface to calculate load and settlement

Dry Ground Settlement

- For users calculating settlement of dry sands during dynamic shaking, Settle3 has added a new Dry Ground Settlement feature. Two different methods can be used in the analysis: Standard Penetration Test (SPT) and Cone Penetration Test (CPT).

Find more details: rocscience.com/software/settle3

Plans & Pricing

Personal License: Locked to one computer.

- Lease: **USD $995/year**
  Leased annually. Includes Maintenance+.
- Perpetual: **USD $1,895**
  Purchased outright. Includes 12 months of Maintenance+.

Flexible License: Installed on any number of machines. The license file sits on the server.

- Lease: **USD $1,295/year**
  Leased annually. Includes Maintenance+.
- Perpetual: **USD $2,495**
  Purchased outright. Includes 12 months of Maintenance+.

Maintenance+

Maintenance+ is our enhanced maintenance and support services subscription, purchased annually at 20% of the license cost.

With Maintenance+ Continuous Software you get access to all feature releases, enhancements, and bug fixes throughout the year and as soon as they're available. You also have access to convenient License Services, the support of our experts, and exclusive learning offerings.

Contact us at | software@rocscience.com

Analysis
- Non-horizontal soil layers
- Multiple boreholes
- Horizontal soil layers
- Multiple layers/soil types
- Multiple loads
- Multi-stage analysis
- Time-dependent consolidation based on Terzaghi theory
- Immediate, primary and secondary consolidation (creep)
- Hydro-consolidation
- Ground improvement sensitivity

Compute
- Field point grid
- Line query
- Point query
- Back analysis using preload or time
- Point query

Contour Data
- Settlement
- Secondary consolidation
- Stress
- Pore pressure and excess pore pressure
- Modulus of subgrade reaction
- Virgin and recompression consolidation settlements
- Horizontal stresses

CPT Data Interpretation
- CPT analysis based on qc, fs, and u2
- Determine soil profile
- Over 25 parameters calculated
- Five SBT options

Empirical Methods
- Burland and Burbidge
- Schmertmann
- Peck, Hanson, Thornburn
- Schultze and Sherif
- D'Appolonia

Export
- One click export to Excel
- Copy to clipboard
- Export image files
- Info Viewer
- Drawing, annotation, and dimensioning toolkit
- Customize/save view options

Groundwater
- Define multiple water grids
- Define multiple piezo lines
- Staged water table elevation
- Horizontal drainage
- Wick drain regions

Liquefaction
- Post-triggering LDI and settlement
- Pre-defined SPT calculation methods
- Ground profile for LDI
- SPT, CPT, VST data
- Dry ground settlement using SPT or CPT
- Multiple analysis methods
- Comprehensive results

Loading
- Different shape load
- Staged loading, pre-load
- Embankment
- Excavation
- Uniform or variable
- Flexible or rigid
- Staged loading
- Horizontal loading

Material Types
- Linear elastic
- Non-linear
- Janbu
- Koppejan
- Collapsible soil
- Variable with depth
- Database of typical properties

Modeling
- Interactive editing
- Right-click shortcuts
- Easily define arcs and circles
- Import/export .dxf files
- Grid/vertex/object snapping
- Interactive sidebar
- Depth control
- Undo/redo
- Metric or imperial units
- Data tips
- Ground improvement: Stone Columns, Vibro-Compaction
- Embankment Designer

Non-Horizontal Ground Surface
- Define using boreholes and CPT points
- 3D surface contour
- Define soil profile by depth or elevation

Stress Computation Method
- Westergaard
- Vertical ratio (2:1, angle)
- Multiple Layer
- Boussinesq

Visualization
- Plan view/3D view
- Plot contours on horizontal, vertical or user-defined planes
- Plot results on vertical or horizontal lines
- Plot multiple stages, times or locations on one graph
- Animate/rotate 3D view
- Isosurfaces