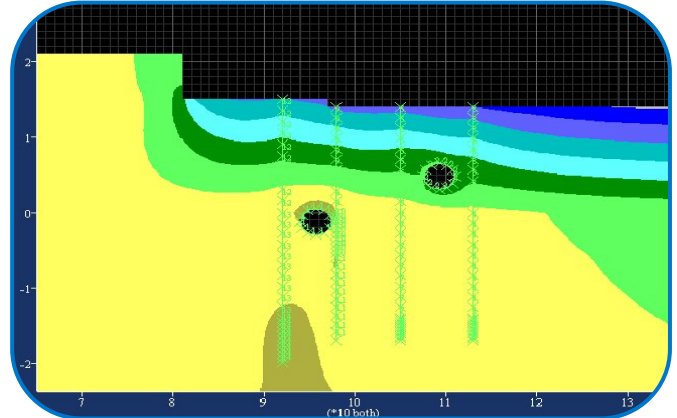


Supermarket, Woolwich

Our Services

- Finite Difference Analysis
- Ground Movements
- Sewer Deflections
- Structural Movements



Ground Movement Predictions

CGL were engaged to analyse and assess ground movements, structural distortions and moments associated with the re-development of a site in Woolwich.

The project comprised the demolition of an existing multi-storey office block with basement parking and the construction of a new Tesco superstore with basement parking and residential accommodation above.

Beneath the site, some 3m and 10m below the formation level lie two historic brick lined sewers, both 3.5m in diameter. These were constructed at the instigation of Joseph Bazalgette in the early 1900s.

CGL were required to analyse stress changes and movements on the tunnels generated by the re-development of the site for the purpose of providing assurance to Thames Water Limited (TWL).

Finite difference software, FLAC, was used to analyse the problem, incorporating structural liners, pile foundations, and allowing the calculation of ground movements, structural forces and displacements throughout the proposed construction sequence.

The complex analysis of the liner established low movements within the Thanet Sands and Upper Chalk underlying the site. These were reported to, and approved by, Thames Water Ltd., the sewer operator.

The analysis enabled pile sleeves to be dispensed with, and allowed the removal of a significant number of piles from the proposed development – generating a significant cost saving on substructure works.

Client: Walsh Associates Limited
Project: Tesco, Woolwich