



Engineering for the

Environment

Soil Nailing and Ground Stabilisation techniques can afford significant environmental and Health & Safety benefits:

- Top down construction methods, often employed on soil nailing schemes;
 - Eliminate the need for any temporary works which may otherwise have been required to support a high excavated face.
 - Eliminate the need for backfill thus avoiding either the cost of importing fill or the difficulties of replacing site excavated cohesive materials.
 - Eliminate the need to excavate for working space. Only the excavation to fit in the development is required.
- The stability of existing structures and embankments has huge advantages over rebuilding, not only in terms of direct costs but also in maintaining serviceability, particularly, for example in railway embankment works.
- Where existing trees, vegetation or architectural features need to be retained, soil nailed steep slopes will enable their roots to be protected from disturbance when deep adjacent excavations are carried out.
- Road widening. Schemes can be confined within existing road curtilage by steepening existing slopes.















Design and

Installation Service

Plant and Equipment

Rotary and rotary percussive drilling methods are available using hydraulic and mini hydraulic crawler rigs, special portable drilling platforms which can be mounted on telehandlers or other 'on site' equipment are also available to reach awkward locations and/or difficult sites. Hand held equipment can be used in areas where there is especially poor access.

Soil Nailing

- Stabilising existing over-steep embankments.
- Stabilising existing concrete or masonry retaining walls and bridge abutments.
- Temporary support to excavations.

Ground Anchoring

- Anchoring for sheet piles or other embedded retaining wall systems.
- Tie backs for general applications.

Mini Piling

- Foundations.
- Underpinning.
- Slope stabilisation.

Dewatering and Well Boring

- Well pointing for temporary or permanent ground water lowering schemes.
- Leachate extraction and gas venting wells for contaminated sites.

Other Services

- Cementitious grouting
- · Chemical injection.
- Pressure pointing.











The Complete

Package

Phi Group is the largest retaining wall specialist in the UK. Manufacturing, supplying and building timber crib retaining walls, concrete crib retaining walls, soil nailing, soil panels and modular block reinforced earth systems.

Based in Cheltenham with regional offices in Harrogate and Dunfermline the company is at the forefront of retaining structure technology balancing engineering demands with environmental consideration.

From concept to construction, Phi Group offers a complete design, supply and construction service undertaken by our in house chartered engineers, and backed up by full indemnity insurance.

Phi Group's own directly employed experienced construction teams, operate nationwide completing the total design, supply and build package, thus affording, optimum peace of mind and minimum risk, to client and contractor alike.







Phi Group has full Link-up accreditation, enabling the company to provide engineering solutions to the Railway sector.





Phi Group belong to the RIBA CPD Providers Network. Phi Group are approved by Constructionline, pre-qualified to work within the public sector.





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