SERVICES:

SOIL STABILISATION

OVERVIEW:

Soil Stabilisation has many attractions in today's construction market. Cost and environmental benefits figure largely in the appeal of the soil modification process which enables granular and cohesive soils to be upgraded by the in-situ mixing of binders with the host material. ERS utilises a range of techniques to convert previously unworkable, weak or contaminated soil into durable, cost effective construction material.

TECHNIQUES:

SOLIDIFICATION

The addition of binders to soils alters the properties of the soil and produces a monolithic material. This process can alter granular soils to produce cement bound granular material (CBGM) of various grades for use in road pavement construction, and below ground bearing slabs in commercial and or domestic structures. Soils may be treated in situ or ex situ depending upon site conditions. The soil being treated may be inert or contaminated.

STABILISATION

This technique produces a material which is not monolithic but has greater strength than the original soil. The binders may be added in situ or ex situ as they are for solidified soils. This process uses less binder than a solidification process. The specification for highway works (SHW) states that in order to be classified as stabilised a minimum of 2.5% of binder must be introduced into the soil.

BULK FILL MODIFICATION

This technique is used in earthworks to dry soils such that wet cohesive soils can be altered to convert them into a soil suitable for compaction. Cohesive soils which have a minimum of 10% clay fraction may be treated to achieve a California Bearing Ratio (CBR) in excess of 5%.

APPLICATIONS:

- Contaminated sites
- Wet sites with cohesive materials
- Piling platforms
- Road construction
- Car and Lorry Parks
- Heavy pavements for docks
- Airport aprons

ADVANTAGES:

- Reduction of materials to be taken off site
- Reduction of the importation of virgin materials
- Reduced vehicle movements both on and off site
- Reduction in land fill tax liabilities
- Reduced carbon footprint
- Significant cost savings