

# Basal Stabilisation Options: Initial Guidance Notes

Using basal stabilisation of a structural stone fill reduces the volume of stone required in construction, and consequently reduces the volume of excavation and imported fill. This reduces construction costs and CO<sub>2</sub> emissions which is more sustainable and environmentally friendly. The stabilisation provides a long lasting effect, but it is often the temporary loading during construction (before the surfacing) that determines the critical design condition. The following “rules of thumb” provide a guide for comparison of the options available. For a more detailed assessment ABG provides a complementary design calculation service based on the soil conditions (e.g. CBR), stone grading, and traffic conditions.

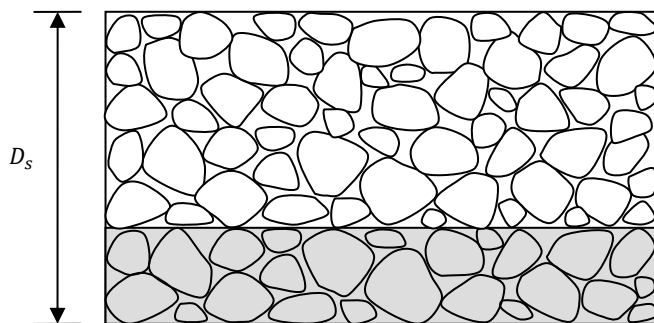


Figure A

## STONE ONLY

Basal stone layer of specified depth ' $D_s$ ' (with no geosynthetic stabilisation). Up to 150mm of 'lost stone' on soft ground as stone layer pushes into soft ground.

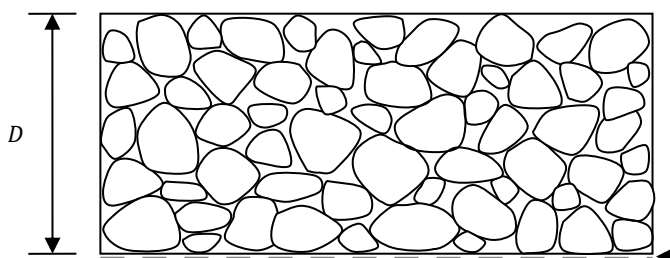


Figure B

## SEPARATION GEOTEXTILE

Reduced stone layer ' $D$ ' ( $\approx D_s - 150\text{mm}$  on soft ground) with inclusion of **ABG Terrex NW9** or **ABG Abtex SG18/9** separator geotextiles for well graded stone. Textile grade must be higher for coarse stone.

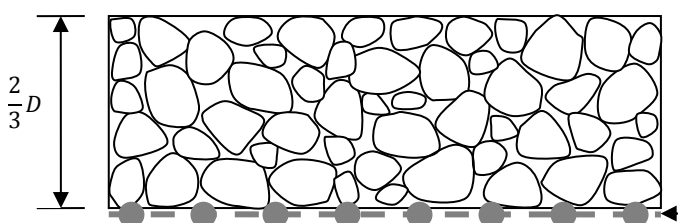


Figure C

## WOVEN GEOTEXTILE

Basal Stone Layer of depth ' $\frac{2}{3}D$ ' with inclusion of woven **ABG Gridtex Type 2** ground stabilisation and separation geotextile.

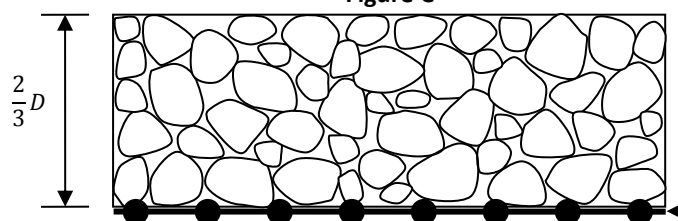


Figure D

## GEOGRID

Basal Stone Layer of depth ' $\frac{2}{3}D$ ' with inclusion of **ABG Abgrid 30/30** ground stabilisation grid (on soft ground add **ABG Terrex NW9** separator geotextile).

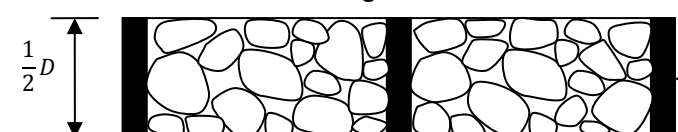


Figure E

## GEOCELL

Basal Stone Layer of depth ' $\frac{1}{2}D$ ' with inclusion of **ABG Abweb GW 200/300** (on soft ground add **ABG Terrex NW9** separator geotextile).

Note: For Figures B, C & D the use of an upper ground stabilisation grid will provide further strength and reduce rutting