

# Case Study

## Housing Development Luton



### Project Description:

Appointed to work with Maccaferri to provide the specialist earthworks and stabilisation of chalk arisings for a mechanically stabilised earth (MSE) structure as part of a new housing development.

<b>Key Works:</b>	Earthworks Chalk Stabilisation
<b>Client:</b>	Redrow Homes
<b>Date / Duration:</b>	August 2019 / 12 wks
<b>Cut / Fill Volume:</b>	13,315m <sup>3</sup>
<b>Chalk Stabilisation:</b>	8,096m <sup>3</sup>
<b>MSE Structure:</b>	Max Height – 9.6m Length – 105m

### Project Challenges / GDL Solutions:

- Cement stabilisation of chalk is non-routine in such applications since achieving structural grade compaction of the chalk is not straightforward given the material's propensity to degrade under excessive compaction.
- In determining the strength characteristics for the materials, we collected samples from site, prepared stabilised samples in our laboratory and utilised our tie-up with Strathclyde University to undertake large shear box tests on the stabilised chalk. We also undertook a compaction study in our own laboratory in order to develop a workable specification.

### Project Benefits for Client:

- The chalk material was originally scheduled for offsite / landscaping with a replacement import material required and thus the economic & environmental savings for the project were substantial.



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