JJ Mac Ltd

Ground Stabilisation

CASE STUDY

Kingsbrook Aylesbury

Adoptable Road Stabilisation

Project	jjm3216 - Adoptable Roads Ground Stabilisation
Location	Kingsbrook Aylesbury Housing Development
Client	ECL Civil Engineering - Buckinghamshire CC
Key works delivered	Roadway Capping Replacement - Stabilisation
Project Duration	June 2025
Stabilised Area	15,000m2
Earthworks	By MC

PROJECT OVERVIEW

- Adoptable Roads identified as suitable for **Capping** replacement by Cement Stabilisation of the site won excavated material.
- In-situ treatment of the material in 300mm deep layer with 2.0% - 3.0% Cement Addition
- Client requirements 95% Compaction and 15% CBR

  Design Criteria
  - MCHW Series 800 (clause 810) for capping and sub-base layers
  - CD 225 (Rev 1) and CD 226 for pavement foundations

ROJECT CHALLENGES

The project programme was challenging mainly due to the high loading on the 300mm layer. Binder spreading, water delivery and mixing had to be very precise to ensure the design CBR would be achieved.

The project has a very stringent test and compliance schedule. All target MCV and CBR test were taken daily

Poor CBR % at formation level would require careful working with heavy machinery not to damage the formation.

ENGINEERING AND SOLUTIONS TO OVERCOME THE CHALLENGES

To overcome the project challenges set by the client, our team:

- Worked with the client and advised on the findings of the site won material testing and classification.
- Our site team set to work with the MC team to develop a system to allow both earthworks and stabilisation to progress efficiently.

Completed Works

Stabilised Capping Replacement Tested for compliance with the specification and design.

ADVANTAGES

The works had numerous advantages to this site.

- Utilise site won material from Excavations – 100%
- Reduction of Primary Aggregates for Road Construction – 70%
- Reduction of Lorries from the surrounding roads – 70%
- Cost Saving over imported Agg and disposal of excavated material min 40%