

CIPPENHAM SOIL REINFORCED ACOUSTIC BUND WINDSOR, BERKSHIRE, UK

SLOPE REINFORCEMENT

Product: ParaGrid®

Problem

Bearing in mind the high cost of residential land and the excessive noise from the M4 motorway located adjacent to the development, the client's aims were:

- To provide an acoustic barrier
- To construct a steep sided embankment having long-term structural stability and allowing development to achieve maximum land take.
- To provide an aesthetically pleasing naturally vegetated embankment face.

Solution

Maccaferri's solution was a soil reinforced bund with a steep sided embankment slope, 60 degrees from the horizontal, and a shallow rear face embankment slope of 30 degrees.

The steep sided face was formed using a temporary rising shutter system, allowing the ParaGrid to wrap around and provide an anchored slope face. A biodegradable matting, BioMac C, was used to retain top soil behind the slope face and provide short term erosion protection, thus encouraging rapid plant growth.

Primary soil reinforcement was provided by ParaGrid 80/15S in 1000mm lifts with Terram 42A used to provide the necessary secondary reinforcement. The finished embankment is 6m high and 1200m in length.



After construction

Date: July 1997



After construction

Date: September 1997

Main contractor name:

ALFRED MCALPINE CIVIL ENGINEERING LTD

Product used:

PARAGRID®, BIOMAC® C

Construction info

Construction date: JULY 1997

Benefits

- Construction of the soil reinforced embankment was completed in approximately eight weeks. A relatively quick and easy system to install. Low maintenance required.
- A cost-effective soil reinforced bund solution using cheaper low shear strength soils imported to site.
- A successful solution providing both stability of the bund and an environmentally friendly appearance.
- Additional land achieved adding value to the housing units and increasing the potential sales of properties.
- The vegetated face of the bund absorbs a significant amount of the noise rather than simply reflecting it.



After construction

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