

OAKLEIGH ROAD SOUTH VEHICLE DEPOT BARNET, LONDON, UNITED KINGDOM

Ground Improvement

Problem

Barnet Council was working with its appointed contractor, Willmott Dixon, to develop the Oakleigh Road South Vehicle Depot (the former Abbots Depot site).

The Oakleigh Road South Vehicle Depot will provide a range of facilities for Barnet's waste collection service.

Alongside parking facilities for refuse and recycling collection vehicles, the new depot will house a vehicle maintenance building and cleaning bay, refuelling facilities and a covered bulking facility allowing recyclables to be put into larger vehicles for processing outside the borough.

The road makeup at the site entrance/junction off Oakleigh Road South was then modified. To allow the Heavy Goods Vehicle (HGV) operations and accommodate the heavy loadings that affect the pavement structure, the use of a geogrid was considered. The general site CBR was 3% but with weak areas of CBR of 1%.

Solution

A reinforced pavement structure was then defined considering a subgrade CRB=1% and the use of the Maccaferri EG40S geogrid as soil stabilisation within the unbound layers.

The reinforced pavement structure was identified using the American Association of State Highways and Transportation Officials (AASHTO) method which is commonly used worldwide for the design of flexible pavements.

Such a method consists in defining a target thickness, called Structural Number SN, based on the expected traffic for the whole design life of the road and on the characteristics of the subgrade.

When the extruded biaxial geogrid MacGrid EG is introduced for base and/or subbase reinforcement, their structural contribution to the flexible pavement system can be quantified by the increase in the layer coefficient of the aggregate base and subbase course. This modified AASHTO method has been implemented in the in-house Maccaferri Software MACREAD 2.0 considering a parameter called LCR (Layer Coefficient Ratio).

Client: London Borough of Barnet

Designer / Consultant: Capita

Contractor: Willmott Dixon

Products used (Qty.)

Date of construction: 06/2016 - 07/2016

[Google Maps](#)

[Google Earth](#)



Initial phase in June 2016



Type 1 (SHW) sub-base material on top of Macgrid EG40S



MacGrid EG40S laid with min 300mm roll overlap