

The results of the soakaway testing indicate infiltration rates are generally in the order of $\times 10^{-5}$ m/s to 10^{-6} m/s where a single test (SW101) was completed in accordance with BRE 365 guidance. Testing in locations SW102 to SW106 was not completed in accordance with BRE 365¹⁰ due to three full tests not being achieved as a result of slow infiltration rates and time constraints on site. Extrapolation of the results of the remaining failed locations was not undertaken as a second or third test was not possible due to time constraints.

6.3 CBR Testing

A total of thirteen (13 No.) in-situ CBR tests were undertaken by using a CBR apparatus in order to assess the CBR value of the near surface soils. The values recorded, varied between 1.4% and 10.9%, whilst in a few locations the test refused due to the soil density and compaction. A summary of all recorded CBR values is presented in Table 6. The CBR sheets are included in Appendix C.

Table 6. CBR testing results

<i>Location</i>	<i>Depth of test (mbgl)</i>	<i>Test Level (mOD)</i>	<i>Accepted CBR Value %</i>	<i>Notes</i>
CBR101	1.00	65.71	3.7	Test successful
CBR102	1.07	65.54	6.7	Test successful
CBR103	1.15	65.54	7.5	Test successful
CBR104	0.86	65.70	1.4	Test successful
CBR105	1.15	65.35	5.7	Test successful
CBR106	0.89	65.68	1.5	Test successful
CBR107	0.96	65.49	-	Test refused due to gravels
CBR108	0.90	65.13	-	Test refused due to gravels
CBR109	1.12	65.06	-	Test refused due to gravels
CBR110	1.03	65.22	-	Test refused due to gravels
CBR111	1.15	65.42	3.5	Test successful
CBR112	1.01	65.67	10.9	Test successful
CBR113	0.85	65.63	2.8	Test successful

It is anticipated that formation levels beneath areas of new hardstanding will be founded in Boyn Hill Gravel. Based on the results of the investigation and in-situ CBR testing, the following CBR values for the Boyn Hill Gravel have been determined:

- For the Boyn Hill Gravel, a design CBR value of 2% should be adopted for the pavement design at this stage.

All materials within 450mm of the road surface should be non-frost susceptible. The final design values detailed above should be determined once a source of fill material is known and verified prior to and

during construction. The design subgrade CBR values should be based upon the guidance presented within CD225¹².

During construction, it is recommended that the sub-grade formation layer be proof rolled prior to placement of the first layer of engineered fill material with any soft spots or loose deleterious areas identified during the proof roll removed and replaced with Engineered Fill. Any soft and/or compressible deposits identified in areas of proposed fill should be excavated and removed prior to the placement of Engineered fill. It is recommended that a suitably qualified geotechnical engineer inspects the formation prior to the commencement of backfill works.

It should be noted that for some of the locations, the test was carried out under wet conditions and this is considered to be the reason for some of the lower CBR values recorded. Careful management of road / pavement construction is recommended during periods of wet weather to protect the formation level and to minimise softening of the near surface layers.

During the previous investigation carried out by Atkins, CBR tests were undertaken in 9 No. locations using the TRL-DCP in-situ test method, to a maximum depth of approximately 1.20m. The average CBR values for depths of between ground level and 0.50m were 3% to 5%, whilst for depths between 0.50m and 1.20m were above 20%.

¹² CD 225 Design for new pavement foundations IAN 73/06 revision 1 (2009), HD 25/94

APPENDIX A

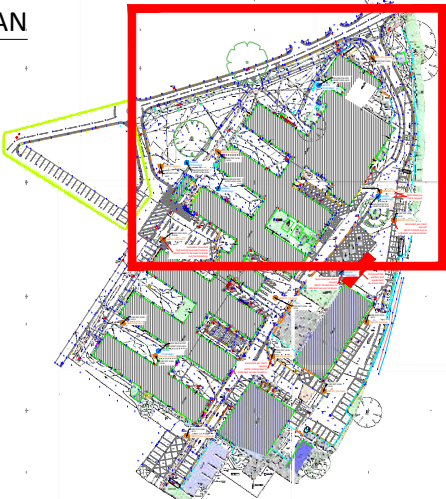
Exploratory Hole Records



KEY



KEYPLAN



Location ID	Ground level (mOD)	Test invert level (mOD)	Test depth (mbgl)
SW101	66.69	66.10	0.59
SW102	66.60	65.80	0.80
SW103	66.62	65.82	0.80
SW104	66.20	65.20	1.00
SW105	66.51	65.60	0.90
SW106	66.71	65.80	0.91

Location ID	Surface	Ground level (mOD)	Test level (mOD)	Test depth (mbgl)
CBR101	Grass	66.714	65.714	1.00
CBR102	Tarmac	66.614	65.544	1.07
CBR103	Tarmac	66.691	65.541	1.15
CBR104	Tarmac	66.563	65.703	0.86
CBR105	Tarmac	66.504	65.354	1.15
CBR106	Grass	66.569	65.679	0.89
CBR107	Tarmac	66.448	65.488	0.96
CBR108	Un-surfaced	66.033	65.133	0.90
CBR109	Grass	66.181	65.061	1.12
CBR110	Grass	66.252	65.222	1.03
CBR111	Tarmac	66.573	65.423	1.15
CBR112	Grass	66.676	65.666	1.01
CBR113	Grass	66.482	65.632	0.85

4	08/03/2024	Revised following completion of the site works
3	05/02/2024	Revised following Mace/BDP comments
2	26/01/2024	Revised following new liaison with University
1	18/01/2024	Revised following new client drawing
0	17/01/2024	First Issue
Rev	Date	Comments



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Project **Reading ECMWF Headquarters**

Client **Mace Construct Limited**

Drawing title **Exploratory Hole Location Plan**

Scale(s)	Job No.	Rev.
NTS	CGL/10078A	
Drawn	Dwg No.	
CGH 10/03/2024	CGL10078A - Sketch 1	4
Checked		
JSB 11/03/2024		
Approved		
RNS 11/03/2024		

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KEY

CBR

Soakaway

NO indicate

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NTS

Job No.

CGL10078A

Drawn

CGH

10/03/2024

Dwg No.

CGL10078A - Sketch 2

Rev.

4

Checked

JSB

11/03/2024

Approved

RNS

11/03/2024

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