OXFORDSHIRE COUNTY COUNCIL

Foundation CBR Table

CD 225 Design for new Pavement foundations (formerly IAN 73/06) must guide the design of pavement foundations. The CBR table below is based on class 2 restricted foundation design. Class 2 foundation can only be used where the design traffic does not exceed 80msa.

Road pavement foundations are to be designed as part of the technical submission made to OCC, the foundation is to be based on the design (lowest) CBR results from the ground investigation (GI) report. The foundation design is to be used for construction if in situ CBR results are of the same value or greater than the design CBR. If the in situ CBR results are less than the design CBR then the road pavement foundation will need to be redesigned.

CBR testing is required at 30m centres, the lowest CBR result is to be used to determine the needed foundation. Foundation requirements are to be approved by OCC's engineer before the foundation is constructed, this will require the in situ CBR results to be provided.

CBR (%)	Subbase on Capping (mm)		Subbase Only (mm)
	Subbase	Capping	
≤2.5	Ground Stabilisation		Ground Stabilisation
2.5 – 5.0	250	420	420
5.0 – 7.5	200	250	265
7.5 – 10.0	165	220	240
10.0 – 12.5	150	200	220
12.5 – 15.0	150	170	210
15.0≥	150	150	200

(figures used in table above have been extracted from figures 3.18 and 3.20 of CD225).

- All subbase is to be Type 1 in compliance with MCHW1 803.
- All capping is to be 6F2 or 6F5 in compliance with MCHW1 613.
- Grading certificates for all granular fills are to be provided for every 500 tonnes.
- Foundations on cohesive soils are to use subbase on capping foundation type.

Ground Stabilisation
CBR results of 2.5% or less will require ground stabilisation. The method of ground stabilisation and design is to be approved by OCC's scheme engineer prior to implementation.
Implementation without OCC's engineer approval could result in the road becoming unadoptable or remediation works at the contractors or developer's expense if the ground stabilisation method or design is not accepted by OCC's engineer.

There are various ground stabilisation methods available, these include:

- Lime/cement soil stabilisation – is to be used where there are cohesive soils.
- Increased capping – if a suitable load bearing soil is within 1m of formation, the relatively soft material above is to be excavated and filled with capping in compliance with above.
- Geo-grid – is to only be used as a last resort if either of the options above are not possible.

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