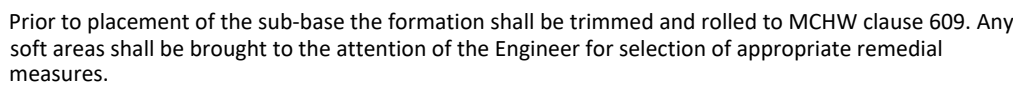


Pavement construction shown below shall be generally carried out in accordance with the current Highways Agency Specification for Highway Works (MCHW) in particular series 600, 700, 800, 900 and 1000 clauses, BS 7533 Pavements constructed with clay, natural stone or concrete pavers and the Precast Concrete Paving and Kerb Association.

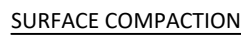
If the pavement construction does not exceed to a total thickness of 450mm and thus does not penetrate soils which may be affected by frost action, there is a risk of frost heave of the subgrade occurring in prolonged severe winter effects causing damage to the pavement. Thickening of the pavement towards 450mm will reduce the risk.

Turning movements of loaded heavy goods vehicles may cause movements of blocks if jointing sand is lost. It is important therefore that jointing sand is replenished periodically to avoid movement of blocks.



Formation +20mm, -30mm
Sub-base +5mm, -10mm
Laying course +10mm, -5mm
Surface course +6mm, -6mm

PAVEMENT LOADING LIMITS



Prior to placement of the sub-base the formation shall be trimmed and rolled to MCHW clause 609. Any soft areas shall be brought to the attention of the Engineer for selection of appropriate remedial measures.

Laid blocks shall be subject to passes of a vibrating plate compactor with a minimum plate area of 0.25m² which gives an effective force per unit area of plate of 75 kN/m² with a frequency of 65-100Hz with a minimum mass of 200kg, or as required by the block manufacturer. Sufficient passes shall be made to produce an even surface.

SURFACE TOLERANCE

Tolerance of the surface shall be:-
 Surface Course $\pm 6\text{mm}$.
 Laying Course $\pm 20\text{mm}$.
 Sub-base $\pm 20\text{mm}$.
 Formation $+20\text{mm}$, -30mm .
 Difference in levels at the joints of adjacent paving units not greater than 2mm.

PAVEMENT LOADING LIMITS

Pavement has been design for traffic category 4 conditions 'Pedestrian areas used by cars, small vans, light commercial vehicles, emergency vehicles and maintenance vehicles.

NOTES.

1. Kerb backing normally brought up to 40mm below top of kerb, but where final surface of adjacent foot way is flagged, kerb backing shall finish 75mm below top of kerb.
2. Gap between kerbs shall be 1 to 2mm.
3. Kerbs to be bedded and hanchied in one operation on concrete grade as shown.
4. Precast concrete kerbs shall be laid to the requirements of BS 7533:Part 6
5. Radius kerbs shall be used where the radius is less than 12m.
6. Kerb face to be shuttered and mechanically vibrated to ensure proper compaction.

LIMITATIONS OF USE.

1. For use as an edging to pavements accommodating normal traffic loadings and manoeuvres.

NOTES AND SPECIFICATION FOR PERMEABLE BLOCK PAVING

The coarse graded aggregate subbase has not been designed to carry construction traffic. It is vital that subbase is kept free from traffic and construction debris. If the subbase is required to be used for construction traffic, the Engineer shall be consulted prior to trafficking.

Due to the nature of the coarse graded aggregate, the Contractor shall construct a trial area (min. 10mx10m) and test typical construction plant on this area to determine suitability. The Contractor shall consult with all sub-contractors to ensure they are satisfied the plant can be used on the subbase materials prior to construction.

Coarse graded aggregate shall comply with BS EN 12620 and shall be designated Type 1/2 and shall be graded as follows:- and shall meet the following physical properties:-

Sieve Size mm (nearest UK equivalent)	Coarse aggregate 40mm to 5mm
40	100
31.5	98 - 100
20	90 - 99
10	25 - 70
4	0 - 15
2	0 - 5

Properties	Category to BS EN 13242 or BS 12620
Grading	4/20 (preferred) or 4/40, Gc 85-15, GTC 20/17.5
Fines Content	f ₄
Shape	F ₁₅₀
Resistance to Fragmentation	LA ₁₀
Durability: Water absorption to BS EN 1097-6:2000, Clause 7 - for WA > 2%	WA _{4x2} ²
Magnesium Sulphate Soundness	MS ₁₈
Resistance to Wear	M _w ² 0
Acid Soluble Sulphate Content: - Aggregates other than air-cooled blast-furnace slag - Air-cooled blast-furnace slag	AS _{0.2} AS _{1.0}
Total Sulphur: - Aggregates other than air-cooled blast-furnace slag - Air-cooled blast-furnace slag	≤ 1% by mass ≤ 2% by mass
Volume Stability of Blast-Furnace and Steel Slags: - Air-cooled blast-furnace slag - Steel slag	Free from dicalcium silicate and iron disintegration in accordance with BS EN 13242 : 2002, 6.4.2.2 V _s
Leaching of Contaminates	Blast furnace slag and other recycled materials should meet the requirements of the Environment Agency 'Waste Acceptance Criteria' for inert waste when tested in accordance with BS EN 12457-3.
10% Fines	100kN
Other Properties	Particals shall be rough and angular to provide good interlocking between particles. Sands and gravels with rounded particles shall not be used.

Bituminous materials shall be to BS EN 13108.

The laying course material shall comply with the requirements of a material of type 2/6.3 Gc 80/20 to BS EN 13242, graded as follows:

BS Sieve Size (mm)	Percentage passing by mass (%)
14	100
10	98 - 100
6.3	80 - 99
2.0	0 - 20
1.0	0 - 5
0.063	0 - 2 (BS EN 12620 fines category f ₂)

A trial area (minimum 10m x 10m) shall be laid with blocks and compacted to determine suitability of material in order to achieve the required levels.

Precast concrete blocks shall comply with BS EN 1338 and shall be suitable for use for permeable pavements. Precast concrete blocks shall have the following physical properties:-

Tensile Splitting Strengths & Failure Level	Abrasion	Skid/Slip (pendulum value)	Freeze/Thaw (kg/m ³)
No block shall have a tensile strength less than 3.6MPa for a failure load less than 250N/mm.	≤ 20	45 min	≤ 1.0

The geosynthetic filter shall be a polyethylene mono-filament with the following properties:

Mass / unit area	(EN 965)	greater than 100g/m ²
Tensile strength	(EN ISO 10319)	Longitudinal - greater than 25kN/m Transverse - greater than 25kN/m
Elongation at break	(EN ISO 10319)	Longitudinal - less than 25% Transverse - less than 25%
Opening size	(EN ISO 12956)	Approx. 0.45mm
Water permeability	(EN ISO 11058)	greater than 200 x 10-3 m/s

The tensile properties of the material shall be measured in accordance with EN ISO 10319. All vehicles shall be prevented from trafficking directly over the material. The material shall be protected from ultra-violet light.

Maintenance of the block paving systems shall be carried out as follows:

Maintenance required	Description	Surface or subsurface	Regular	Remedial
Inspection	Inspect catchments at outlets once a year (if appropriate)	Surface	Yes	
Surface cleaning	To minimise clogging, clean dirt and other matter from the surface at least twice a year by seeping, early spring (after winter) and autumn (after leaf fall).	Surface	Yes	
Managing vegetation	Weed control between blocks (use non-toxic biodegradable weedkillers).	Surface	Yes	
Re-establish infiltration capacity	For block surfaces, lift surface and replace gravel bedding and geotextile as necessary. For continuous concrete permeable surfaces, replace gravel infill. For continuous porous surfaces, replace surface. (All likely to be after a period of about 15-20 years)	Sub-surface		Yes Yes Yes
Screen runoff from adjacent areas	Pass through screens on downpipes, filters or use gully silt traps.	Surface	Yes	
Good housekeeping	Minimise use of salt or grit for de-icing, keep landscaped areas well maintained and prevent soil being washed on to pavement.	Surface	Yes	

Where pavements are constructed on subgrades that have volume change potential and where roots vegetation penetrate below the pavement formation, there is a risk that movement may occur resulting in deformation being evident in the surface, particularly during prolonged periods of dry weather. To reduce this risk, the thickness of the subbase shall be increased.

Rev.	Date	By	Description
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PROJECT			
RESIDENTIAL DEVELOPMENT CAMPAIGNS LANE DEEPIING ST NICHOLAS			
DRAWING			
PAVEMENT CONSTRUCTION DETAILS			
SCALE: NTS		DATE: 08.04.2022	
DRAWN BY: WRA		REV: -	
STATUS: PRELIMINARY			
DWG No: 00037/E06			-