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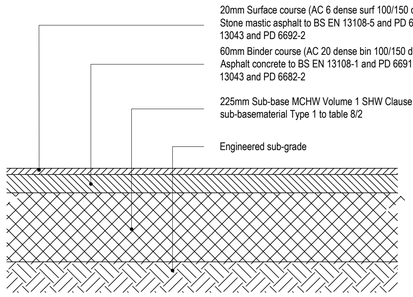
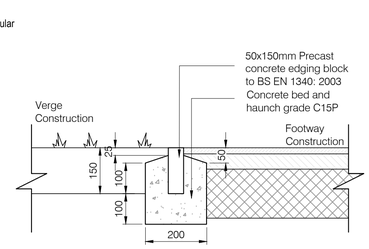


Where a capping layer is specified, sub-base thickness can be reduced. Pavement Design CD 225 Revision 1 gives guidance on capping and sub-base thickness design based on CBR values with and without a capping layer.

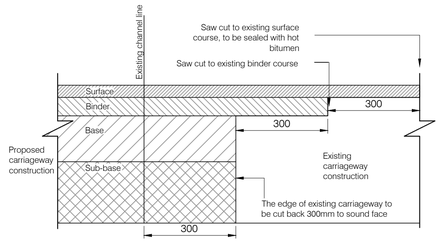
Bituminious Footpath Construction Detail - NHBC

scale 1:10



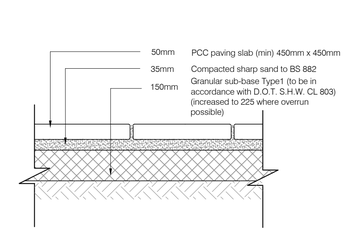
Footway Edging (E)

(scale 1:10)



Tie in to Existing Road Detail

(scale 1:10)



Concrete Paving Slabs Construction (suitable for non-trafficked areas only)

scale 1:10

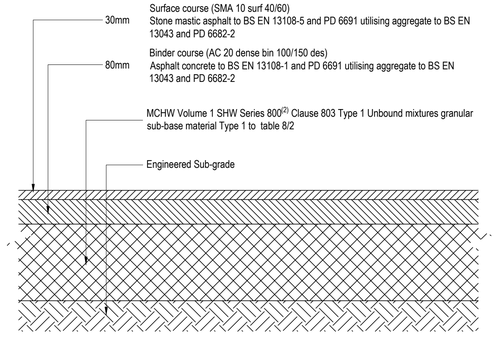


Table 3 - Minimum sub-base thickness for paved areas

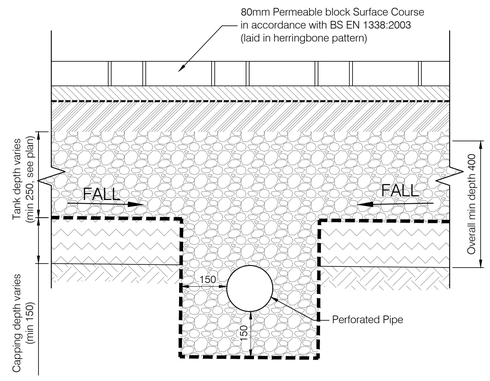
CBR Values	Minimum thickness (mm) of sub-base (consolidated in accordance with MCHW Volume 1 clause 801, table 8/4)
Less than 2%	Subgrade requires improvement (*)
2-3%	325
3-5%	250
5-7%	150
7-20%	100

*frost susceptibility of the sub-grade; where susceptible to frost, a suitable capping layer should be included below the sub-base to a depth to ensure that construction will not be affected by frost heave.
Granular sub-bases should be tested and certified as being non-frost susceptible and non-plastic.
Notes:
1 Minimum thickness of sub-base may be considered for reduction when using proprietary geogrid, provided they can be adequately justified and designed by an Engineer in accordance with Technical requirement R5.
2 Specialist advice should be sort to improve the subgrade.

Shared drives having infrequent use by commercial vehicles (Table 2c NHBC)

Scale 1:10

Notes
1 In the first column, European harmonised names for the pavement layers are with the old UK designations included in brackets.
2 Where a capping layer is specified, sub-base thickness can be reduced. Pavement Design CD 225 Revision 1 gives guidance on capping and sub-base thickness design based on CBR values with and without a capping layer.
3 For the minimum thickness of the sub-base for different CBR values, refer to Table 3.
4 Bond coat in accordance with BS 594987 should be applied to ensure effective bonding of the asphalt layers.
5 Bituminous mixtures/asphalt can be used as a partial replacement of a full thickness granular sub-base type 1 material.
6 If the binder course is subjected to an extensive period of trafficking before the surface course is applied, a recipe mixture containing a higher bitumen content will be more durable/resistant to fretting/ravelling under traffic.
7 Where laid to either a 90 or 45 degree herringbone pattern, the edge perimeter should be laid with one single row of stretcher bond set parallel to the edge restraint. Where block pavers are laid abutting drainage channels, gulley grates, etc. the upper surface of the block pavers should be set 3-6mm above the grating.
Manufacturer's declared value markings W3 and S4 are acceptable. Where W3 is 1.0 kg/m2 or less and S4 is 45 or more based on 'C scale unit' (for abrasion, class A2 = maximum result is 23mm, class A1 = no performance determined).
8 A 38mm thickness of graded 15/20mm unbound aggregate to BS EN 13242 (gravel), well rolled and compacted, should be used.
9 Reference to clauses are in relation to the relevant European and/or British Standards.
10 Asphalt contractors should be certified in accordance with the National Highway Sector Schemes for Quality Management in Highway Works - Scheme 16



Typical section through permeable parking

scale: 1:10

Material Key:

- 50mm Laying course and jointing material, type 2/6.3 Gc 80/20 in accordance with BS EN 13242:2002. Refer to table 1 for particle size distribution
- Geotextile. To be either monofilament woven, non woven firmly bonded or needle punched non-woven fabric. To cover the entire basal area of laying course. Installed, lapped and jointed as per manufacturers instructions.
- 100mm Thickness of 20mm dense bitumen binder course, AC32 base 40/60 rec to clause 906 (MCHW Vol 1 series 900) (PD6691 Annex B). After construction works are complete, layer to be punctured with 75mm dia holes at 750mm centres on an orthogonal grid. Holes filled with 5mm clean stone
- Course graded stone sub-base. Course graded aggregate, type 4/20 in accordance with BS EN 13242:2002. Refer to table 2 for particle size distribution
- Impermeable barrier. Use 2000 gauge polythene non-porous membrane. To cover the entire basal area and sides of sub-base. Installed, lapped and jointed as per manufacturers instructions.
- 350mm Capping thickness based on interpretive results from SI value of 2% where CBR testing was not carried out. CBR testing may prove a reduction in capping is acceptable or where type 3 sub-base stone layer is equal to or greater than 450mm, capping reduces to 150mm. Capping material to be class 6F1 or 6F2 material, complying with Clause 613 and Tables 6/1 and 6/2 of DfT SHW.
- Subgrade. Proof rolled natural subgrade (not topsoil)

Notes:
- Permeable blocks must be 80mm and laid in herringbone pattern
- This detail gives minimum specifications. Manufacturer/supplier of block paving may override this specification. Advice should be sought from engineer if this is the case.
- If contractor wishes to carry out CBR testing, this should be an Equilibrium Suction Index type of CBR, as water will not be allowed to flow to the sub-grade following completion of the road
- All materials within 450mm of finished surface level to be non-frost susceptible

KEY PLAN

NO ABNORMAL RISKS ASSOCIATED WITH THIS DRAWING. REFER TO OTHER DRAWINGS	NO ABNORMAL RISKS ASSOCIATED WITH THIS DRAWING. REFER TO OTHER DRAWINGS	NO ABNORMAL RISKS ASSOCIATED WITH THIS DRAWING. REFER TO OTHER DRAWINGS.
Construction Risks	Maintenance/cleaning Risks	Demolition/adaptation Risks

In addition to the hazard/risks normally associated with the type of works detailed on this drawing take note of the above.
It is assumed that all works on this drawing will be carried out by a competent contractor working, where appropriate, to an appropriate method statement.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX

General Notes:

1. The Contractor shall check all tie-ins for line and level with existing before commencing any works. The Engineer should be notified immediately in writing, should any errors be found.
2. Should any change in slab level be considered, agreement shall be sought from the clients engineer prior to commencement and shall take full account of all restrictions to the slab level.
3. For construction details refer to the relevant BSP drawing numbers listed on the drawing issue sheet.
4. The contractor is to keep a record of any variations made on site, so that an as constructed drawing can be prepared upon completion of the project.
5. The contractor should check all dimensions on site. no dimensions are to be scaled from these drawings.
6. It is the contractors/subcontractors responsibility to ensure compliance with the current building regulations and codes of practice, with specific attention drawn to specification, workmanship and testing.
7. All dimensions are in millimetres unless otherwise stated.
8. The BSP Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.
9. All pavement construction materials placed within 450mm of finished surface levels are to be non-frost susceptible.
10. The contractor shall carry out insitu CBR tests to establish the capping/sub-base requirements prior to commencing construction.
11. Clause numbers refer to Department for Transport Specification for Highway Works (SHW).
12. Capping material shall be class 6F1 or 6F2 material complying with clause 613 and tables 6/1 and 6/2 of SHW and shall be compacted in accordance with table 6/4 SHW.
13. Non-permeable sub-base material shall be Type 1 granular material complying with Clause 803 of SHW. Permeable sub-base shall be Type 3 granular material complying with Clause 805 of SHW.

REV							
P03	Updated permeable paving construction.						
	IOO	28/01/25	OM	28/01/25	MA	28/01/25	
P02	Private parking bay construction added						
	GHB	16/10/20	SMRS	16/10/20	MV	16/10/20	
P01	Initial Issue						
	JL	11/09/20	SMRS	11/09/20	MV	11/09/20	
REV	COMMENT						
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE	

SCALE @ A1	ISSUING OFFICE	PROJECT NUMBER
As Shown	DERBY	19-0400

CLIENT APPROVAL

- A - APPROVED
- B - APPROVED WITH COMMENTS
- C - DO NOT USE

STATUS	PURPOSE OF ISSUE
S1	PRELIMINARY

• CIVIL • STRUCTURAL • TRANSPORTATION • GEOTECHNICAL • ENVIRONMENTAL
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Also offices in Nottingham, Leicester and Sheffield

PROJECT

RAF Upwood - Regeneration

TITLE

Private Construction Details

CLIENT

EVERA LLP

PROJECT ORIGINATOR ZONE LEVEL TYPE ROLE NUMBER	REV
RAFU-BSP-ZZ-ZZ-DR-C-0235-01	P03