

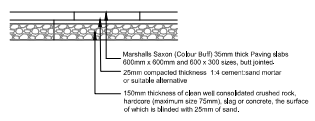
- 80mm 'Brett Omega' block paving (Colour to be Charcoal) laid with nibs interlocking and in 90° herringbone pattern.
- 50mm thick 6mm sized stone Laying Course Aggregate, graded as per Table.
- 130mm Road Base to be Dense Bitumen Macadam (0/22) 50 PEN to SHW Clause 929 and laid to SHW Clause 903. 75mm dia. drain holes at 750mm centres, filled with 6mm laying course aggregate.
- Varying thickness 20mm sized stone Sub base to be Open Graded Crushed Block, graded as per Table. See drainage draw for thickness.
- Tanking membrane (Marshall's M380 or similar approved) dressed up kerb / edgings etc to form a tank. Overlaps to be minimum 300mm and tape jointed.
- 200mm Capping Layer material to be Class 6F1, 6F2, 6F3, 9A or 9B in line with SHW Clause 613 and compacted in line with SHW Clause 612

**SUB-BASE THICKNESS**

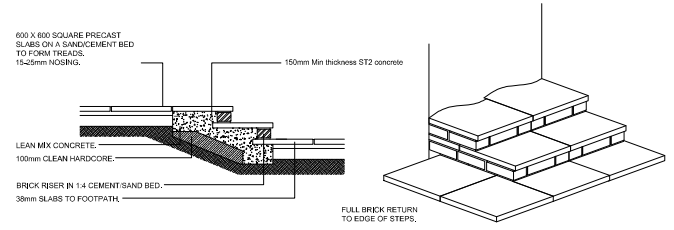
CBR VALUE	MINIMUM SUB-BASE THICKNESS
LESS THAN 2%	SEEK ENGINEERS ADVICE
2%-3%	325
3%-5%*	300
5%-7%	160
7%-20%	160

\* 4% CBR ASSUMED SUBJECT TO ONSITE TESTING

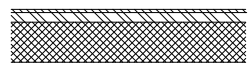
**PERMEABLE BLOCK PAVED ROAD CONSTRUCTION EMERGENCY & SERVICE VEHICLE USE (Cat 5)**



**Patio Paving Slab**

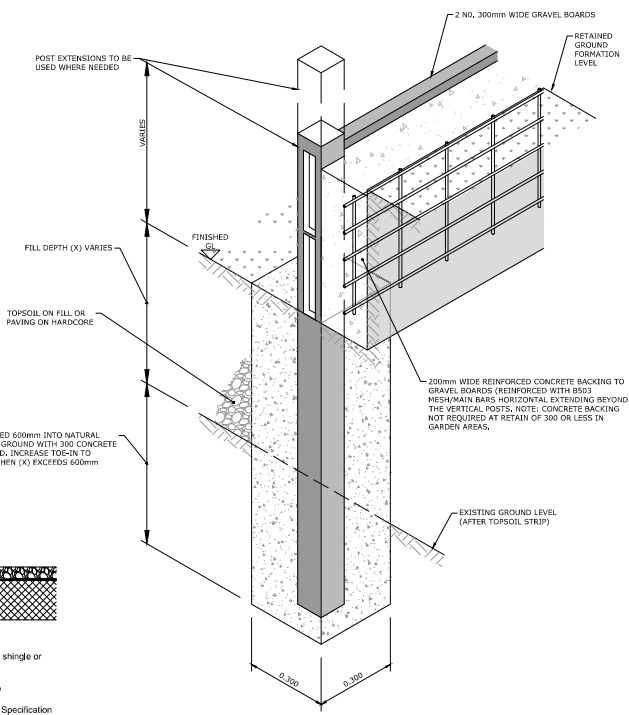


**PATIO STEPS**



- Surface course: 20mm thick DBM (100/150 pen) with crushed rock aggregate to BS 4987 (group 3 mix). Colour to be black. 0/10mm size to clause 7.5
- Binder course: 60mm thick DBM (100/150 pen) with crushed rock aggregate to BS 4987 (group 2 mix). 0/20mm size to clause 6.5
- Sub-base: 250mm thick Type 1 Granular Material to DoT Specification Clause 603. 4% assumed in this design - see CBR table for varying CBR results and the effect on the pavement design.

**DBM DRIVEWAY CONSTRUCTION**



**GRAVEL CONSTRUCTION**

**GRAVEL BOARDS 600mm MAX RETENTION**



- Surface course: 60mm thick of 20mm nominal size stone. Pea shingle or similar. To be consistent size and colour.
- Membrane: Permeable 'anti-weed' containment membrane
- Sub-base: 250mm thick Type 1 Granular Material to DoT Specification Clause 603.

**Laying Course Aggregate**

Laying Course Grading	
Recommended BS EN 12620 aggregate grading (mm)	Z6/3
Recommended BS EN 12620 grading / tolerance category	Gr80/20

Grading Details	
Sieve size (mm)	Percentage by mass passing ISO 565 sieve
31.5	100
20	100
14	100
10	98 to 100
6.3	80 to 99
4	0 to 20
2	0 to 5
1	0 to 5
0.063	0 to 2

BS 7533-13:2009 states that only the grading of the laying course should be tested, as it is not possible to test to the same physical properties of the sub-base aggregate but the source material of the 2.6.3mm should achieve the same values.

**OGCR and OGCG Sub-base Gradings**

Table VII	
Grading Requirements	
Recommended BS EN 12620 aggregate grading (mm)	4/20
Recommended BS EN 12620 grading / tolerance category	Gr80/20 GCr20/15

Table VIII	
Grading Details	
Sieve size (mm)	Percentage by mass passing ISO 565 sieve
31.5	98 to 100
20	90 to 99
14	10
10	25 to 70
6.3	0 to 15
4	0 to 15
3.15	0 to 5
2	0 to 5

**OGCR and OGCG Physical Properties**

Properties	Category to BS EN 12620 or BS 12620
Grading	4/20 (preferred) or 4/40, Gc: BS-15, GCr: 20/15
Fines Content	16
Shape	F <sub>1.5</sub>
Resistance to Fragmentation	L <sub>A</sub> 100
Internal Angle of Friction	40°
Durability	W <sub>10,2</sub>
Water absorption to BS EN 1099: 6:2005/A1:2005, Clause 7 - for W <sub>10,2</sub>	M <sub>10</sub>
Magnesium sulphate soundness	M <sub>10,20</sub>
Resistance to wear	A <sub>10,20</sub>
Acid Soluble sulphate content - aggregates other than air cooled blast furnace slag and air cooled blast furnace slag	A <sub>10</sub>
Iron sulphur - aggregates other than air cooled blast furnace slag and air cooled blast furnace slag	≤ 1% by mass ≤ 2% by mass
Volume stability of blast furnace and steel slags, air cooled blast furnace slag	Free from diatom silica and iron disintegration in accordance with BS EN 12442:2002+A1:2007, 6.4.2.2 V <sub>1</sub>
Blast furnace slag and other recycled materials should meet the requirements of the Environment Agency 'Waste Acceptance Criteria' (A) for inert waste when tested in accordance with BS EN 12457:3	
Leaching of contaminants	

A) Guidance on waste acceptance criteria for inert waste is given in the Environment Agency's Guidance for waste destined for disposal in landfills.

**NOTES**

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
- ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, EUROPEAN NORMS, CODES OF PRACTICE AND BUILDING PRACTICE.
- ALL DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING THE WORKS ON SITE. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
- FOR CIVIL & STRUCTURAL HEALTH & SAFETY HAZARDS PLEASE REFER TO DESIGNERS RISK ASSESSMENTS.
- IF YOU DO NOT UNDERSTAND FULLY ANY OF THE DETAILS SHOWN ON THIS DRAWING CONTACT THE ENGINEER FOR CLARIFICATION.
- BURIED CONCRETE SULPHATE CLASS AS PER SITE INVESTIGATION REPORT.

Rev	Date	Amendment Details	Dr'n	Ch'k	App'd
P02	02.08.2022	Construction details amended	TC	TC	TC
P01	06.07.2022	FIRST ISSUE	TC	TC	TC

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Sweco  
Connect 38  
1 Dover Place  
Ashford, Kent  
TN23 1FB  
Tel: +44 (0)1233 610 530  
Web: www.sweco.co.uk



Client: **Aspire Designer Homes**

Project Title: **Vulcan Close**

Drawing Title: **Construction Details Sheet 4**

Purpose Of Issue: **PRELIMINARY**

Stage	SO	Status Description	Initial Status Or WIP
Approved	TC	TC	Concrete
Drawn	A1	N/A	SWECO Ret
Checked			Approved
Revised			P02

Drawing Number: **65203468-SWE-ZZ-00-DR-C-0008**