

SPECIFICATION FOR FORMPAVE PERMEABLE PAVEMENT CONSTRUCTION

SUBGRADE/FORMATION PREPARATION:

THE SUBGRADE SHALL BE COMPACTED WITH A VIBRATING PLATE OR ROLLER TO THE REQUIREMENTS OF CLAUSE 813 OF THE SPECIFICATION FOR HIGHWAY WORKS (SHW). PRIOR TO COMPACTION ALL SOFT AREAS SHALL BE REMOVED AND FILLED WITH A GRANULAR REPLACEMENT MATERIAL TO PROVIDE A STABLE SUBGRADE. WHERE PAVEMENTS ARE TO BE OVERRUN BY HEAVY VEHICLES THE SUBGRADE SHOULD HAVE, OR BE IMPROVED TO HAVE, A CBR OF AT LEAST 15%.

SUB-BASE GENERALLY:

THE SUB-BASE MATERIAL SHALL BE TO BS7533-13 AND CONSIST OF ROUGH ANGULAR PARTICLES TO GIVE GOOD INTERLOCK. CLEAN CRUSHED ROCK (EG GRANITE, BASALT, GABBRO ETC) OR CONCRETE WITH GREATER THAN 90% FRACTURE FACES OR BLAST FURNACE SLAG IS REQUIRED TO ACHIEVE THIS. **SAND AND GRAVEL WITH ROUNDED PARTICLES SHALL NOT BE USED IN PERMEABLE PAVEMENT SUB-BASE CONSTRUCTION.** SUB-BASE MATERIAL MUST BE SOUND, NON-FRIABLE AND FREE FROM CLAY OR OTHER DELETERIOUS MATTER. THERE MUST BE A MINIMUM 10% FINES VALUE OF 150µm WHEN TESTED IN ACCORDANCE WITH BSEN1097-2 (PREVIOUSLY BS812 PART 111). THE SUB-BASE SHALL BE PLACED IN TWO SEPARATE LAYERS (LOWER SUB-BASE AND UPPER SUB-BASE), EACH BEING COMPACTED WITH A VIBRATING ROLLER OR HEAVY DUTY VIBRATING PLATE TO THE REQUIREMENTS OF CLAUSE 802 OF 'SHW'. THE FINAL PASS SHOULD BE UNDERTAKEN WITH NO VIBRATION. COMPACTION SHALL CONTINUE UNTIL 97% OF THE COMPACTED BULK DENSITY ACHIEVABLE UNDER LABORATORY CONDITIONS HAS BEEN REACHED. THIS CAN BE MEASURED WITH A NUCLEAR DENSITY GAUGE.

LOWER SUB-BASE:

CLEAN CRUSHED STONE OF 10-63mm NOMINAL SIZE COMPLYING WITH BSEN13242:2002 AND CONFORMING TO THE FOLLOWING SIEVE ANALYSIS:-

BSEN SIEVE SIZE	% PASSING
100mm	100
63mm	90-100
40mm	60-80
20mm	15-30
10mm	0-5

UPPER SUB-BASE:

CLEAN CRUSHED STONE OF 5-20mm NOMINAL SIZE COMPLYING WITH BSEN13242:2002 AND CONFORMING TO THE FOLLOWING SIEVE ANALYSIS:-

BSEN SIEVE SIZE	% PASSING
40mm	100
20mm	90-100
10mm	25-70
4mm	0-15
2mm	0-5

LAYING COURSE:

CLEAN CRUSHED STONE OF 2-6mm NOMINAL SIZE COMPLYING WITH BSEN13242:2002 AND CONFORMING TO THE FOLLOWING SIEVE ANALYSIS:-

BSEN SIEVE SIZE	% PASSING
10mm	98-100
6.3mm	80-100
2mm	0-20
1mm	0-5

SURFACE DRESSING:

CLEAN QUARTZITE/GRITSTONE OF 2-4mm NOMINAL SIZE COMPLYING WITH BSEN1097-2:1998 AND BSEN1091-8:2000-Annex A, AND CONFORMING TO THE FOLLOWING SIEVE ANALYSIS:-

BSEN SIEVE SIZE	% PASSING
6.3mm	100
5mm	95-100
3.35mm	66-90
1.18mm	0-20
µ600	0-8
µ63	0-1.5

AGGREGATE GENERALLY:

AGGREGATE SHALL HAVE A LOS ANGELES COEFFICIENT (LA), DETERMINATION OF RESISTANCE TO FRAGMENTATION, OF 20 (BSEN1097-2:1998), AND HAVE AN AGGREGATE ABRASION VALUE (AAV) OF 5 (BSEN1091-8:2000-Annex A). LOWER VALUES THAN THOSE SPECIFIED SIGNIFY BETTER RESISTANCE TO FRAGMENTATION AND ABRASION AND ARE THEREFORE ACCEPTABLE.

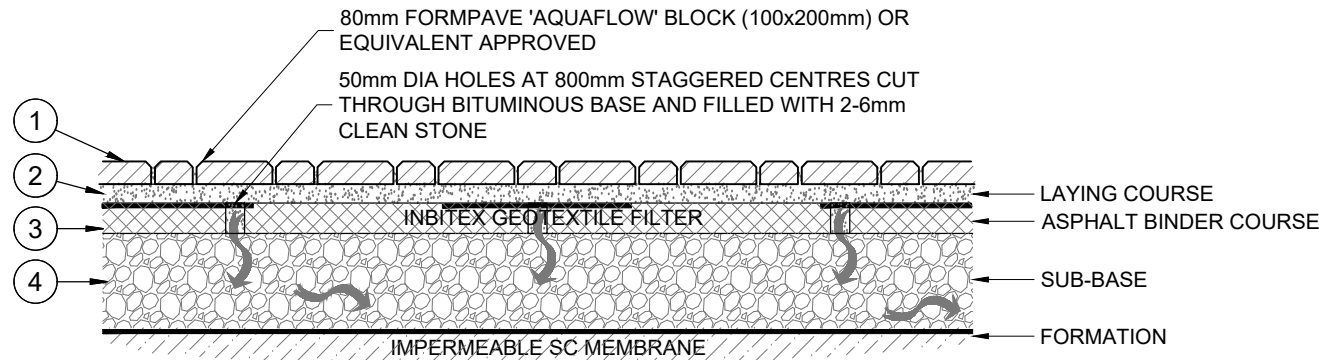
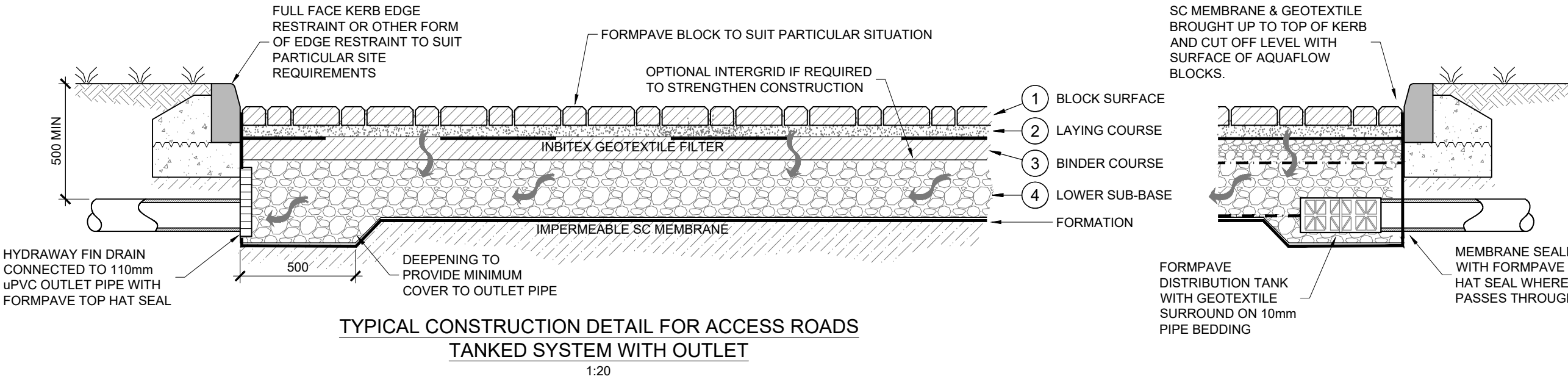
WHERE POSSIBLE SUPPLIERS OF AGGREGATE SHOULD BE REGISTERED TO BSEN ISO 9000. FOR A LIST OF SUPPLIERS CONTACT HASON FORMPAVE.

BLOCK LAYING:

IT IS RECOMMENDED TO PRE-SET THE BLOCK LEVEL BY 6mm TO ALLOW FOR THE EFFECTS OF SETTLEMENT WHEN LAID AGAINST FIXED EDGINGS. THE BLOCKS MUST BE TIGHTLY BUTT JOINTED TO ENSURE THAT A TIGHT FIT IS ACHIEVED. A SINGLE OR DOUBLE STRETCHER COURSE OF 'AQUAFLOW' BLOCKS MUST BE USED AROUND THE PERIPHERY OF THE PAVED AREAS AND ALSO AT THE EDGES OF ANY SEPARATELY RESTRAINED AREAS, SUCH AS TREE PITS. WHERE BLOCKS NEED CUTTING, THEY SHALL BE CUT TO A TIGHT FIT AND NONE ARE TO BE SMALLER THAN 30% OF THE UNIT BLOCK SIZE. WHERE 'AQUAFLOW' BLOCKS ARE CUT THEY MUST BE CUT ACROSS THE 100mm AND NOT THE 200mm DIMENSION. BLOCKS SHOULD BE CUT VERTICALLY AND NOT UNDERScoreD. ALL BLOCK CUTTING SHALL BE CARRIED OUT WITH A DISC CUTTER.

SURFACE FINISH:

THE BLOCKS SHALL BE VIBRATED WITH A VIBRATING PLATE TYPE DV775/22 OR SIMILAR, FOLLOWING THE FIRST PASS WITH A VIBRATING PLATE CLEAN QUARTZITE/GRITS TONE SHALL BE APPLIED TO THE SURFACE AND BRUSHED IN. BLOCKS SHOULD AGAIN BE VIBRATED AND ANY DEBRIS BRUSHED OFF.



NOTE:

BITUMINOUS BASE CAN BE USED AS A TEMPORARY RUNNING SURFACE DURING CONSTRUCTION WORK TO PROTECT THE UNDERLYING SUB-BASE MATERIAL FROM CONTAMINATION. TEMPORARY MEANS OF DRAINAGE WILL NEED TO BE PROVIDED. IMMEDIATELY PRIOR TO LAYING THE BLOCKS THE BITUMINOUS BASE IS PUNCTURED WITH 50mm DIA CUT HOLES, FILLED WITH 2-6mm CLEAN STONE.

TYPICAL CONSTRUCTION DETAIL FOR PERMEABLE BLOCK PAVING TO ACCESS ROADS AND PARKING AISLES

1:20

PERMEABLE BLOCK PAVEMENT CONSTRUCTION SPECIFICATION			
	LAYER	SPECIFICATION	COMPACTED THICKNESS (mm)
PERMEABLE BLOCK PAVEMENT FOR SHARD SURFACE ACCESS AND PARKING AISLES	1	'FORMPAVE AQUAFLOW' (OR EQUIVALENT) BLOCK 100x200 TO BE LAID IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. LAYING PATTERN TO BE 90° HERRINGBONE. COLOUR TO BE AGREED WITH THE ARCHITECT.	80
	2	2-6mm SIZE CLEAN CRUSHED STONE TO BSEN13242 LAID OVER AN INBITEX NON WOVEN GEOTEXTILE FILTER MEMBRANE.	50
	3	AC 20 DENSE BIN 40/60 DENSE ASPHALT BINDER COURSE TO PD6691:2015 (TABLE B11) AND BSEN13108-1 LAID IN TWO LAYERS. NOMINAL MAX. AGGREGATE SIZE OF 20mm AND 40/60 PENETRATION GRADE BITUMEN BINDER. ASPHALT CONCRETE TO BE PUNCTURED WITH CUT HOLES ON 800MM GRID THROUGHOUT AND FILLED WITH 2-6mm CLEAN STONE.	120
	4	SUB-BASE LOWER SUB-BASE OF 10-63mm GRADED STONE (SEE SPECIFICATION), LAID AND COMPACTED OVER AN IMPERMEABLE 'SC' MEMBRANE.	350 TBC
GENERAL FILL		CLASS 1 GRANULAR FILL MATERIAL TO TABLE 6/1 ⁽¹⁾ AND CLAUSE 613 ⁽¹⁾ COMPACTED IN LAYERS IN ACCORDANCE WITH TABLE 6/4 ⁽¹⁾ .	AS REQUIRED

NOTES:

1: SPECIFICATION FOR HIGHWAY WORKS PUBLISHED BY THE DEPARTMENT FOR TRANSPORT.

PERMEABLE BLOCK PAVEMENT CONSTRUCTION SPECIFICATION			
1	LAYER	SPECIFICATION	COMPACTED THICKNESS (mm)
PERMEABLE BLOCK PAVEMENT FOR PRIVATE DRIVEWAYS	1	'FORMPAVE AQUAFLOW' BLOCK 100x200 TO BE LAID IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. LAYING PATTERN TO BE 90° HERRINGBONE. COLOUR TO BE AGREED WITH THE ARCHITECT.	60
	2	5mm SINGLE SIZE CLEAN CRUSHED STONE TO BSEN13242 LAID OVER AN INBITEX NON WOVEN GEOTEXTILE FILTER MEMBRANE.	50
	3	SUB-BASE UPPER SUB-BASE OF 5-20mm GRADED STONE TO BSEN13242, LAID AND COMPACTED OVER A 'SC INTERGRID' OVER AN INBITEX NON WOVEN GEO-TEXTILE FILTER MEMBRANE ON TRIMMED FORMATION.	350
GENERAL FILL		CLASS 1 GRANULAR FILL MATERIAL TO TABLE 6/1 ⁽¹⁾ AND CLAUSE 613 ⁽¹⁾ COMPACTED IN LAYERS IN ACCORDANCE WITH TABLE 6/4 ⁽¹⁾ .	AS REQUIRED

NOTES:

1: SPECIFICATION FOR HIGHWAY WORKS PUBLISHED BY THE DEPARTMENT FOR TRANSPORT.
2: SUBGRADE TO HAVE MINIMUM CBR OF 15%. WHERE CBR IS LESS THAN 15% SUBGRADE STRENGTH SHOULD BE IMPROVED TO GIVE A CBR VALUE OF AT LEAST 15%. CONSULT ALSO WITH MANUFACTURER OF BLOCK OF PAVEMENT.



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
NOTES: THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RISK REGISTER PRODUCED FOR INCLUSION IN THE HEALTH AND SAFETY PLAN. THE HAZARDS NOTED ARE IN ADDITION TO THE NORMAL HAZARDS AND RISKS FACED BY A COMPETENT CONTRACTOR WHEN DEALING WITH THE TYPE OF WORKS DETAILED ON THIS DRAWING.

CONSTRUCTION RISKS:

- DEEP EXCAVATIONS.
- BURIED SERVICES.

MAINTENANCE/CLEANING/IN USE RISKS:

- NO SIGNIFICANT RISKS.

DEMOLITION RISKS:

- NO SIGNIFICANT RISKS.

NOTE:

1. DO NOT SCALE, IF IN DOUBT ASK.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT STRUCTURAL ENGINEER'S DRAWINGS AND DETAILS, THE SPECIFICATION FOR THE WORKS, THE RELEVANT ARCHITECT'S DRAWINGS AND ANY OTHER SPECIALIST'S DRAWINGS.
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PROJECT

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TITLE

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