Design guidelines.

1. If a geogrid is being considered as part of the construction profile please ensure that at least 25% of the particle size of the sub-base is bigger than the mesh size used to ensure good shearing / locking.
2. Sub-base particle size should ideally not exceed 60mm and should be less than 5% fine material of the content as a whole.
3. Please refer to tables 1 & 2 for guidance on depth of sub-base for specific design profile to suit site needs.
4. It is always good practice to confine PP50 plastic pavers on the site edges. The type of vehicles, frequency of traffic and circulation routes should all be considered when choosing the confinement method for PP50 in the design. The types of confinement often used are 150 x 50mm concrete pin kerbs, treated timber boards, sleepers and metal edging.
5. PP50 has been designed to work within stated guidelines on a slope of 5% or less. The PP50 can be used on steeper slopes in some cases.
6. Ideally the sub-base should extend out further than the surface area of the PP50. This is so lateral pressures caused by the traffic loading does not displace the PP50 on the edge. The extension of the sub-base outwards should be the same as the depth of the sub-base.
7. The aggregate for the bedding and filling of the cells should ideally be specified as 5 to 20mm sharp angular gravel to BS EN13242. This gives the best results for providing a long term very low maintenance wearing surface. The gravel pieces interlock / shear with each other and, more importantly, with the specially designed PP50 plastic paver. Smaller angular gravel / particles fill the voids providing a secure, stable and sustainable finish.Single size gravel or rounded gravel / pea shingle will, in due course, lead to issues and failure. The more rounded and single sized the gravel the quicker problems are likely to happen.
8. PP50 when filled with 5-20mm aggregate to BS EN13242 conforms to BS8300:2001 for disabled access.
9. Any sub-base used in the construction profile should be permeable - for example MOT type 3. It should be predominantly fine material free and able to compact well without losing integrity, stability and permeability / porosity. MOT type 1 can be used but drainage channels need to be considered - please see schematic.
10. The geotextile fabric should be nonwoven or similar, available from Suregreen.
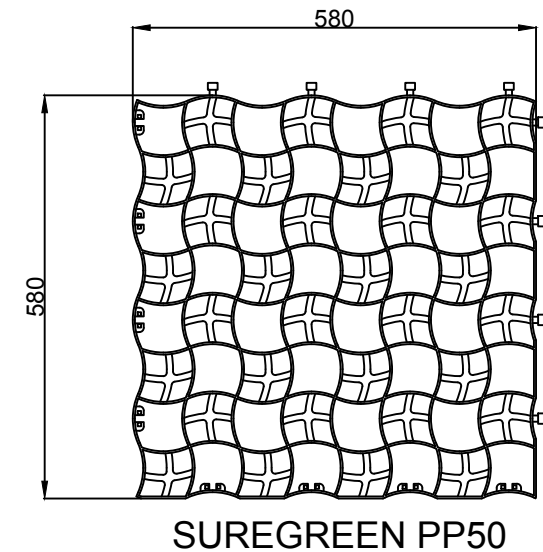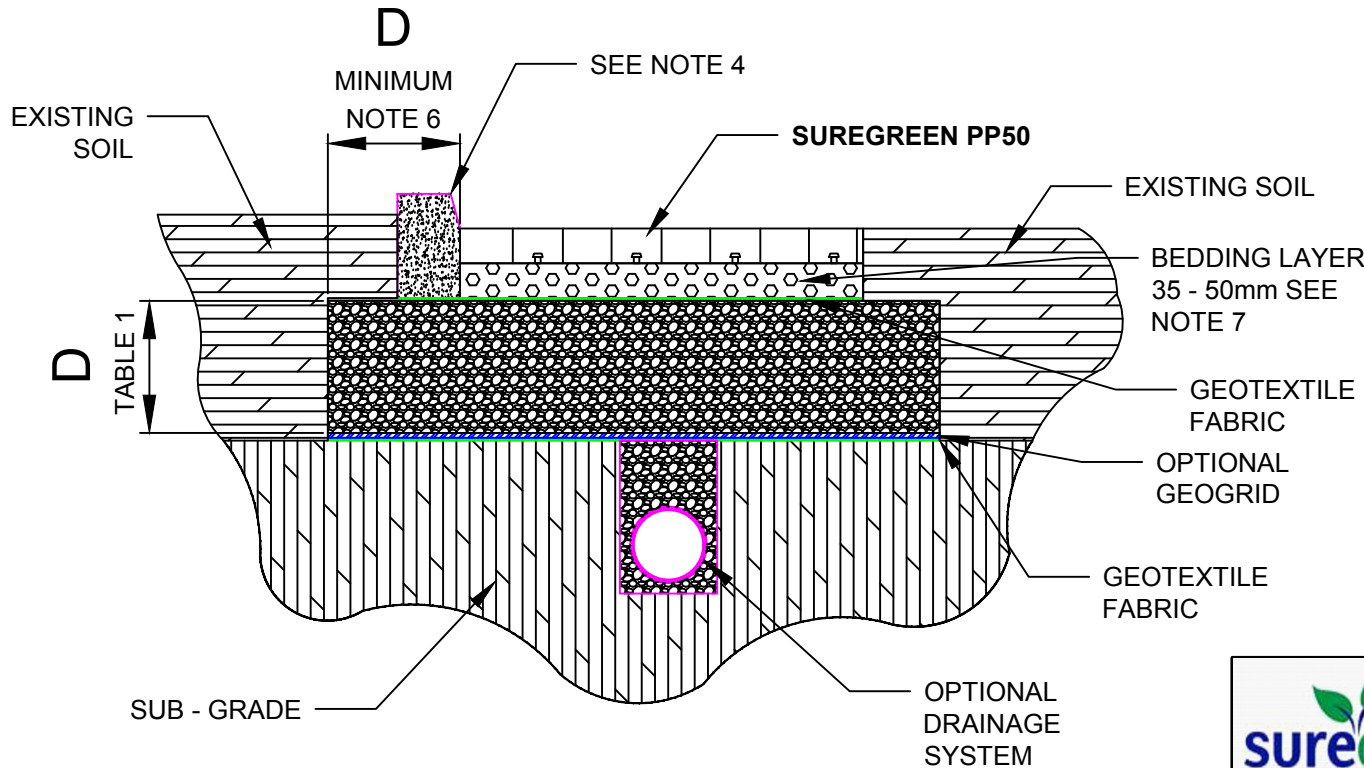
All of our design guidelines are written with best practice in mind. If you have any questions or require further detail please contact our technical team.

Table 1 Typical Sub-Base Thickness

Type of use	CBR % (strength of subgrade soil)	Sub-Base Thickness with Geogrid	Sub-Base Thickness without Geogrid	Geogrid
Light vehicles, Cars, Vans and Overflow Parking	= 1 < 2	260mm	390mm	30kn x 30kn
	= 2 < 4	135mm	200mm	30kn x 30kn
	= 4 < 6	100mm	150mm	30kn x 30kn
	≥ 6	100mm	150mm	30kn x 30kn
Coaches, Lorries, Fire trucks and Occasional HGV areas.	= 1 < 2	380mm	550mm	30kn x 30kn
	= 2 < 4	190mm	275mm	30kn x 30kn
	= 4 < 6	120mm	180mm	30kn x 30kn
	≥ 6	100mm	150mm	30kn x 30kn

Table 2 Estimating Sub-Grade Strengths

Consistency	Indicator			Product	
	Tactile (Feel)	Visual (Observation)	Mechanical (Test) SPT	CBR %	CU (kN/sqM)
Very Soft	Hand sample squeezes through fingers	Man standing will sink >75mm	< 2	< 1	< 25
Soft	Easily moulded by finger pressure	Man walking sinks 50 - 75mm	2 - 4	Around 1	Around 25
Medium	Moulded by moderate finger pressure	Man walking sinks 25mm	4 - 8	1 - 2	25 - 40
Firm	Moulded by strong finger pressure	Utility truck ruts 10-25mm	8 - 15	2 - 4	40 - 75
Stiff	Cannot be moulded but can be indented by thumb	Loaded construction vehicle ruts 25mm	15 - 30	4 - 6	75 - 100

SUREGREEN PP50

D
MINIMUM NOTE 6
SEE NOTE 4
SUREGREEN PP50
EXISTING SOIL
EXISTING SOIL
BEDDING LAYER 35 - 50mm SEE NOTE 7
GEOTEXTILE FABRIC
OPTIONAL GEOGRID
GEOTEXTILE FABRIC
D TABLE 1
SUB - GRADE
OPTIONAL DRAINAGE SYSTEM

580
580

SUREGREEN PP50