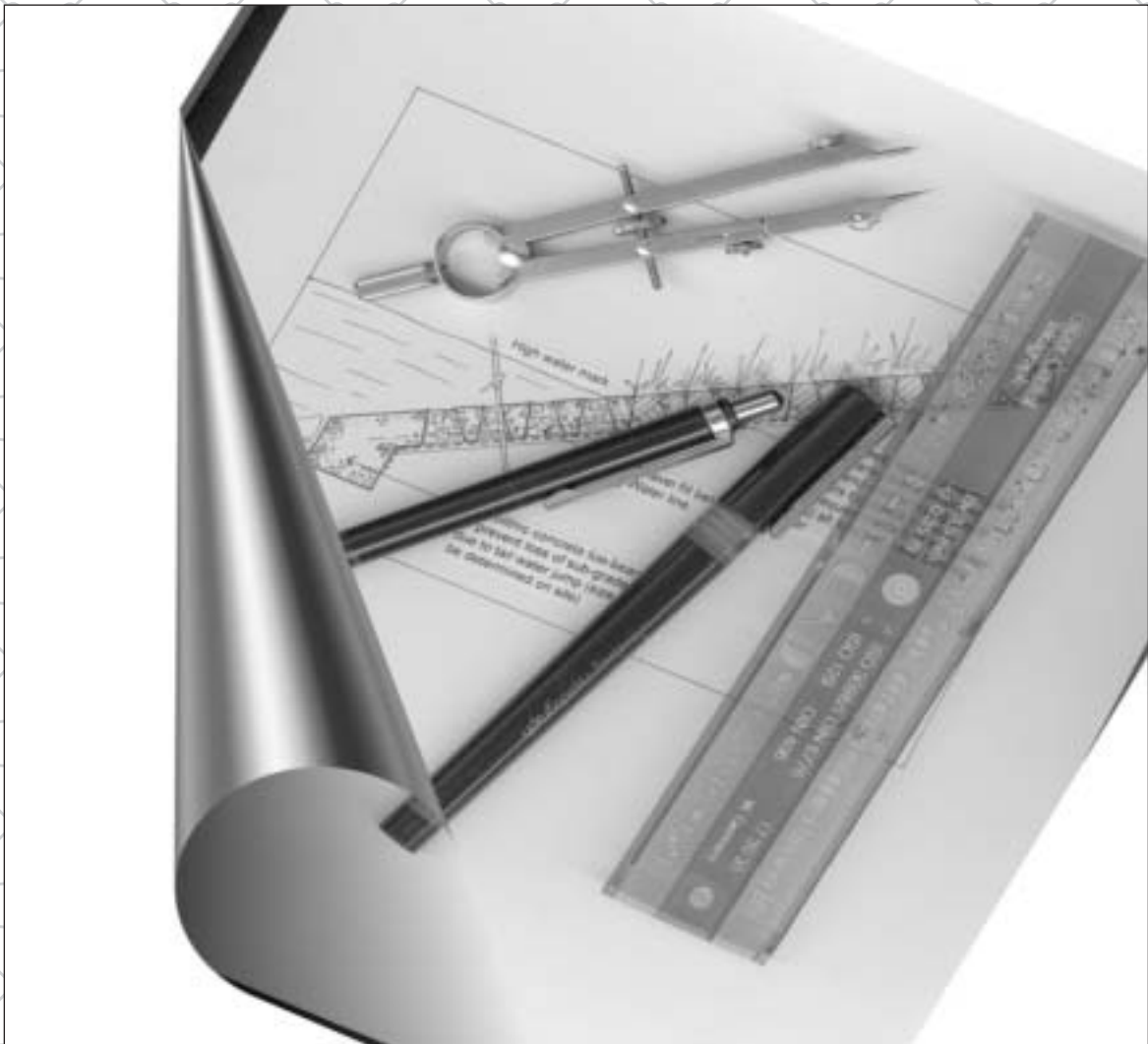


GRASSCRETE®

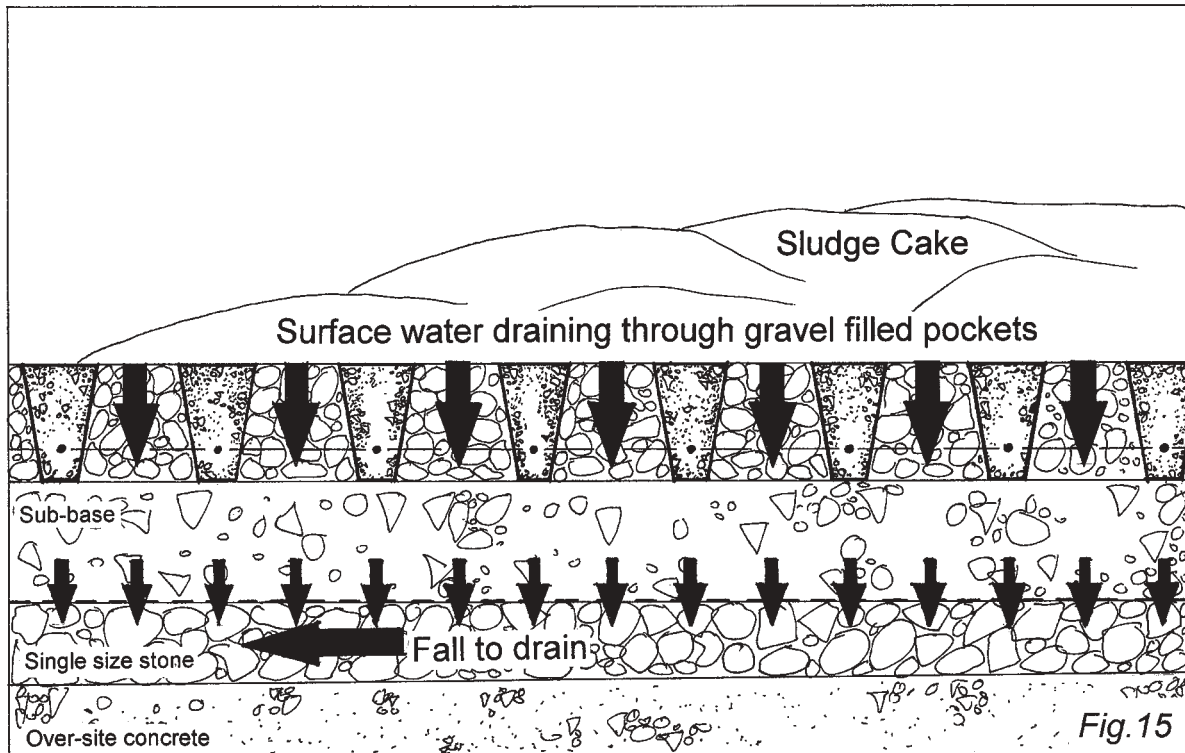
CAST INSITU PAVING SYSTEM

DESIGN AND SPECIFICATION GUIDE



**G R A S S
C O N C R E T E
L I M I T E D**

PART OF THE GC GROUP OF COMPANIES



CHAPTER FIVE – USE AND MAINTENANCE

PART 1 ~ USE

A question often asked is one relating to the ease of use for both vehicles and pedestrians. Often the questions are influenced by previous experiences with other forms of grass reinforcement.

Vehicular Use

With a flat upper profile and a pocket shape designed to prevent tyre intrusion, vehicles have little difficulty in using the surface. The tyre rumble encountered is perhaps the lowest found amongst concrete systems and is in marked contrast to castellated precast units where the studded upstands cause discomfort in use and block displacement under vibration.

The integral solid edge margins to each bay prove a subtle definition for the user and is particularly important for fire access routes. This detail, together with the optional car bay markers, enables a fully delineated car park to be constructed without the need for painted lines.

Pedestrian Use

It cannot be expected that a grass and concrete surface will be as easy to walk on as a solid pavement system, particularly for high heel users. That said, the GRASSCRETE system is probably the easiest grass reinforcement system to walk on. The same advantages that hold for vehicles apply equally to pedestrian use, the plan shape of the pocket allowing feet to sit predominantly on concrete. The optional use of bay divisions also aids the process of disembarking from vehicles where the first foot is placed on a solid concrete surface.

PART 2 ~ MAINTENANCE

GRASSCRETE is not a miracle system – it grows natural grass. Just as a grassed lawn requires maintenance, then so will GRASSCRETE albeit to a lesser degree.

Regular vehicular use will trim the grass level down flush to the upper level of the concrete. In a typical car park application, the access routes may show a greater level of grass wear. It is advisable therefore to apply a routine maintenance programme, particularly to the access locations.

A simple maintenance programme can be described as –

1. Routinely cut areas subjected to infrequent use to even out growth levels
2. Apply liquid based fertilisers as follows – Spring : nitrogen based formula
Autumn : phosphate based formula

Powder or granule based fertilisers should be avoided due to potential for wind drift and build up on the concrete ribs which can result in scorching of the grass.

3. Regular trafficking may result in the soil levels falling slightly in the pockets. It is advisable to top up levels which are a potential trip hazard. Over filling should be avoided however as should compaction of the pocket fill which can injure grass growth.
4. After the construction of the pavement layer and if the surface is not to be used immediately, there is benefit to be gained from placing a fine layer of topsoil over the surface of the concrete. This will enable soil levels to be naturally replenished after settlement as well as providing a barrier against solar gain over the newly cast concrete.

PART 3 ~ GRASS TYPES

The actual grass seed specification will depend upon the climatic location or intended use. As GRASSCRETE is laid throughout the world, the type of indigenous grass will therefore vary with both rhizome or stolon growth types being encountered.

Grass types can be individually tailored for individual projects according to climate, use and aspect. For temperate climates, three amenity based mixes can be utilised to provide flexibility and economy.

Regularly Trafficked Areas

Such applications are generally associated with car parks where the grass will be required to grow under aggressive wear conditions. Normally, the concrete ribs are required to be visible to provide a surface which is less likely to slurry under use. The combination of these two factors suggests the specification of a ryegrass based mix which offers erect growth and excellent wear resistance. Our Mix No 1 suits this purpose.

Infrequently Trafficked Areas

The principle types of use under this category are fire access routes and road verges.

A typical fire access may be located around a high rise building which could place the roadway in shade. The seed mix should therefore be shade tolerant

A road verge for European applications will be subjected to surface water run off containing rock salt treatment applied to carriageway in winter months. The mix should therefore be saline tolerant.

Such applications call for minimal maintenance with a carpet of cover generally being required. The combination of these factors suggests the use of a mix with a high proportion of creeping red fescue. Our Mix No 2 is such a type.

Embankment/Slope Protection

A number of different variations upon a common theme can be considered. The mix should generally provide good root anchorage to prevent pull out.

A dry slope may call for a more manicured approach with a closer grass mix provided by creeping red fescues. Consideration should be given however to the potential for the surface to become slippery under wet conditions.

In waterborne slopes the grass will be required to perform a functional role. Our earlier chapters have described how a stemmed grass can form a protective thatch when laid prostrate by heavy water flow. Such a mix will therefore call for a higher proportion of smooth stalked meadow grass. Maintenance of this type should be geared towards the period of maximum impounding, to achieve the maximum thatching effect, the grass should be left long during the wet season, our Mix No 3 is designed for such applications.

SEED SPECIFICATIONS

MIX	SOWING RATE	SPECIFICATION	APPLICATION
No 1	50gms/m ²	45% Creeping Red Fescue 5% Browntop Bent 50% Perennial Ryegrass	Vehicular Parking Amenity Areas
No 2	50gms/m ²	20% Chewing Red Fescue 45% Creeping Red Fescue 5% Browntop Bent 30% Hard Fescue	Fire Access Shaded low maintenance areas
No 3	50gms/m ²	52% Creeping Red Fescue 5% Smooth Stalked Meadow Grass 3% Browntop Bent 40% Perennial Ryegrass	Embankments

The difference between a good mix and a poor one is likely to be pence per m² on sowing but a much greater cost on failure. We would therefore recommend the selection of quality cultivars selected from the upper levels of the Sports Turf Research Institute’s tables relative to the required function.

PART 4 ~ REMEDIAL WORKS

Occasionally it may be necessary to cut out sections of GRASSCRETE to allow for example, a new service trench to be constructed. Very occasionally, damage may occur due to inappropriate use. Under such circumstances, a remedial repair can be easily accommodated as shown in fig.16.



G R A S S
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