

Highway Drainage

Concrete Channel Drainage, Fildrain Type 10, A1 Leeming to Barton Scheme, North Yorkshire, UK



Case Study

Project Description

The A1 Leeming to Barton upgrade has replaced the existing 12 mile stretch of dual carriageway with a new three lane motorway. It will also include the provision of a new local access road alongside the new motorway, improving safety for local traffic from the surrounding communities. Access to the strategic road network is via a new grade separated junction at Catterick and an improved junction at Scotch Corner.

The Challenge

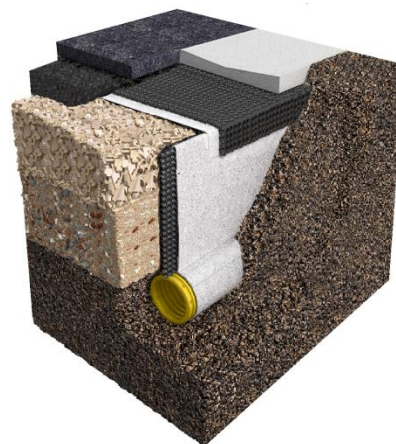
Highway drainage has two objectives: safety of the road user and longevity of the pavement. Trapezoidal channels are the preferred choice to remove surface water. Provision of effective sub-surface drainage will maximise longevity for the pavement avoiding softening of the road sub layers. The consultant chose the Fin and Narrow subdrainage system detailed in the standard Highways Construction Details (HCD) F Series. This uses a shallow V channel to drain surface water and a Type 10 findrain (HCD F21) combined with a Type 6 findrain (HCD F18) to drain sub surface water. The challenge for the contractor was to find the required BBA approved, cost effective, combined solution which gave additional benefits to the client, minimising potential maintenance in the future and maximising the long term asset value.

The Solution

The **ABG Fildrain Type 10**, a BBA certified system, was selected due to its optimised design which met and exceeded all the criteria specified by the consultant.

Project Information

Client	Highways England
Contractor	Carillion – Morgan Sindall JV
Consultant	AECOM/Grontmij
Products	Fildrain Type 10 / Fildrain Type 6
Quantity	7,000 lin metres
Benefits	<ul style="list-style-type: none">• High strength, keying effect• Excellent flexibility• Bespoke dimensions• BBA Approved



Fildrain Type 10 (horizontal)
Fildrain Type 6 (vertical)

Highway Drainage

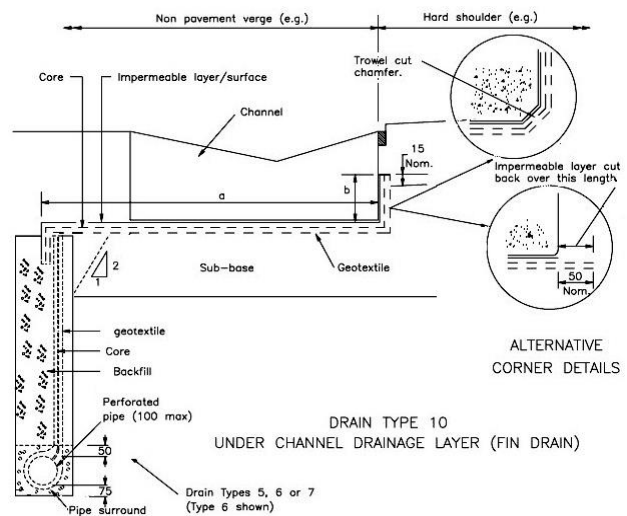
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Additional benefits include the strong but flexible HDPE cusped core creating a regulated surface which includes a keying effect to the concrete to aid slip forming. The well bonded geotextile and dimpled surface gave a high friction surface to the underside. The **ABG Fildrain Type 10** is compatible with the **ABG Fildrain Type 6** edge drain on one side of the channel and allows the choice of the two alternative corner details as illustrated in HCD F21, as shown opposite.

The ABG Service

ABG provided technical and practical support from all stages of design to the logistics of supply. The **ABG Fildrain Type 10** was manufactured in site specific widths at our factory in West Yorkshire which saved installation time on site.

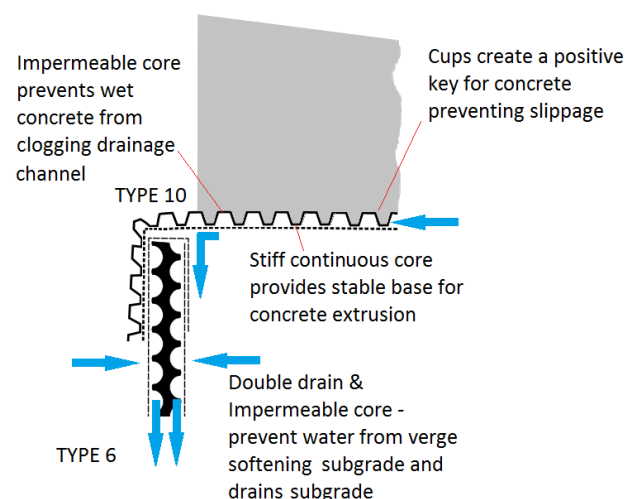


Highway Construction Detail F21

Type 10 Under Channel Drainage combined with Type 6



Channel extruded directly onto ABG Fildrain Type 10



ABG Fildrain Type 10 and ABG Fildrain Type 6 integrated under channel drainage

Contact ABG today to ask for ABG specification clauses in line with SHW Clause 514 and other project specific requirements using ABG's experience and innovation on your project.