

Structural Drainage

Retaining Wall Drainage, Deckdrain, Delhi-Agra Road, India



Project Description

Delhi-Agra Road commonly referred to as Delhi-Kolkata Road, runs through the states of Delhi, Haryana, Uttar Pradesh, Bihar, Jharkhand and West Bengal.

The project involves widening the road to become India's longest six lane road including construction of flyovers, rail over-bridges, pedestrian and vehicular underpasses. The project is ahead of schedule and is encouraging the development of new housing and business developments along its length.

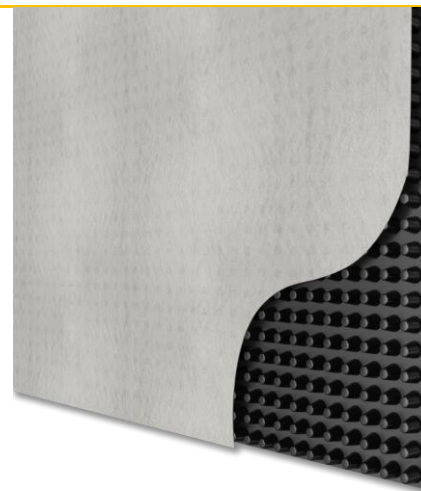
The Challenge

Providing a suitable drainage system for the many structures on the road subject to monsoon rain, especially earth retaining structures, is of paramount importance. Water must be drained away rapidly from the back of the structure to avoid additional water pressure and earth pressures due to a reduction in shear strength of the soil.

Traditionally, a 600mm gravel layer or porous concrete blocks are placed behind the earth retaining structures. But this conventional method has disadvantages: It is difficult to select the correct filter grading to match fill material and maintain consistent supply; placing of both filter stone and concrete blocks is very time consuming and invariably damages the back of the wall; clogging of filter media/concrete blocks by fine soil particles from fill material; often in the more cramped areas behind the wing walls of a structure there is little room to maintain a drainage media and general backfill operation at the same time.

Project Information

Client	National Highway Authority of India
Contractor	Larsen & Toubro Limited (L&T)
Consultant	URS Scott Wilson India Pvt Ltd
Products	Deckdrain
Quantity	50,000m ²
Benefits	<ul style="list-style-type: none">• Easy to install• Cost effective Vs traditional drainage media• Improved program time



ABG Deckdrain for vertical wall drainage

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The Solution

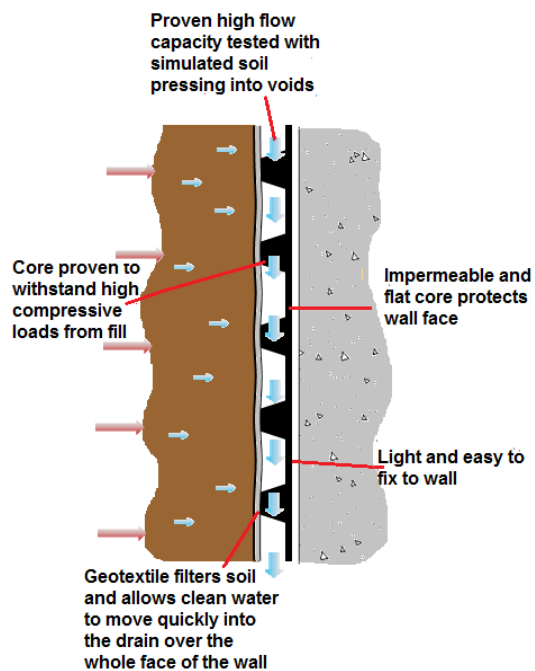
URS Scott Wilson specified a geocomposite drainage system to avoid many of the difficulties and risks in using a drainage filter stone.

L&T selected **ABG Deckdrain** drainage geocomposite to meet the specification and received approval from URS Scott Wilson. **ABG** manufactures the only BBA approved wall drainage geocomposite for use by Highways Authorities.

Deckdrain was selected for its unique features including a high density polyethylene (HDPE) cusped core on one side optimizing water flow and capable of functioning at a wide range of working temperatures. Site simulated testing showed water flows many times the capacity of typical drainage stone. The flat backed impermeable core protects the concrete face from installation damage and further waterproofs the wall. The rolls of **Deckdrain** were easy to handle and attach to the wall. The core was simply cut, shaped and sealed around any protrusions and was easy to handle in tight working conditions behind abutment walls.

The ABG Service

ABG offered assistance with cost comparisons, detailed design calculations, drawings and installation advice.



Deckdrain allows infiltration water to move easily from the fill soils through into the drainage core.



Hook bars from the RE panels carefully pierced through **Deckdrain** and later made good with geotextile



Deckdrain is easily attached to the wall with the lower end wrapped around the perforated drainage pipe.

Contact **ABG** today to discuss your project specific requirements and discover how **ABG** past experience and innovative products can help on your project.