



Reinforcing NH 4 with smoother journeys

Project brief

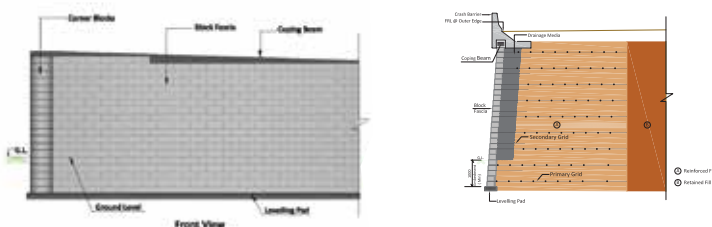
The section of NH 4 from km 75.00 to km 189.00 connects the thickly-populated regions of Tumkur and Chitradurga in Karnataka. The National Highway Authority of India, under NHDP Phase V, adopted this section for widening to six lanes.

The challenge

Considering the terrain and sub-soil conditions, it was necessary to design and construct the approaches on filled-up/raised foundations. The conventional solution of RCC retaining walls was costlier and time consuming, besides the possible disruption of traffic. Reinforced Soil (RS) walls to support the approaches proved to be the optimum solution.

Strata solution

RS walls were constructed using non-plastic soils available in the region, StrataGrid™ PET knitted geogrid soil reinforcement and StrataBlock™ precast segmental concrete blocks as fascia. The founding levels of these walls had to be raised to meet technical requirements, and to economise on the cost of construction. Berms were provided 1 to 2 metres above the existing ground levels. The reinforced soil material was also used for these berms. Construction of both, RS walls and berms was carried out with stringent quality control. The schematic of the RS system is shown below.



RS Wall with precast concrete StrataBlock™ fascia

Project title: Tumkur-Chitradurga section NH 4

Client: NHAI

Contractor: Modern Road Makers Pvt. Ltd.

Project size: 78,640 sqm

Max. height: 9.74 m

Location: Tumkur-Chitradurga Section from km75.00 to km189.00 of NH 4, Karnataka

System offered: Construction of RS Wall using StrataGrid™ as soil reinforcement + StrataBlock™

Design consultant: ICT Pvt. Ltd.

Completion year: 2013

Benefits to clients

Use of StrataGrid™ geogrids and StrataBlock™ fascia resulted in cost reduction as compared to the conventional RCC retaining walls. The system also facilitated easy construction of the roads within minimum time.

About Strata



Established
2004



Manufacturing Facility
StrataGrid™ geogrid, StrataWeb® geocells at Daman, India.



Joint Venture
Strata Systems Inc. USA
(Division of Glen Raven group)



Project Track Record
Timely & infallible installation



Global Presence
USA, Brazil & Ireland



Certification
CE TUV

Strata India offers a comprehensive range of high-quality geosynthetic and geotechnical solutions to India's civil engineering and construction industry. Strata India provides turnkey solutions for various applications like reinforced soil structures, slope protection and stabilization, erosion control, precast arch bridges, foundation improvement for structures and embankments, steep slope embankments, strengthening of paved/unpaved roads, storage/container yards etc.



01 Work in progress



02 Completed structure



HO: Sabnam House, Plot No. A – 15/16, Central Cross Road B, MIDC, Andheri (East), Mumbai – 400093, India

T: +91 22 4063 5100 | **w:** www.strataindia.com | **e:** info@strataindia.com | Daman, Delhi, Hyderabad

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