MACCAFERRI

CASE HISTORY

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FLY OVER AT PUNJAGUTTA JUNCTION

HYDERABAD, TELANGANA, INDIA

Vertical Walls with Concrete Facing Panels

Problem

There was an issue of traffic congestion near Rajiv Gandhi Statue to Jubilee Hills at Panjagutta Junction (Nagarjuna Circle), Hyderabad. Therefore, Municipal Corporation Of Hyderabad decided to construct flyovers.

Two flyovers were planned comprising of 5 ramps. Each ramp consisted of 2 approach walls and 1 cross wall. The maximum height of approach walls was 6.4m. The backfill and foundation soil was granular sandy soil in nature with angle of internal friction greater than 32 degrees and unit weight 19.6kN/sqm.

In order to avoid extensive foundation improvement schemes, reinforced soil wall was selected as a solution instead of conventional reinforced concrete solution. The cost of the conventional solution was considered to be very high and the authorities wanted to have a system which was flexible and simple to construct and achieves overall economy

Solution

Reinforced soil wall (RS wall) with concrete panels as facia and ParaWeb as reinforcement was selected as the best solution for the above problem.

T-shaped panels with corrugations were used as facia and bottom panels were half panels. Some special end panels and corner panels were also used. The connection between the panels & facia was done by galvanized toggles and loops. Polypropylene dowels were used to connect different types of panels. Pure frictional soil with angle of internal friction 32 degrees were used as structural fill.

During the construction of flyover, one of the bridge span had collapsed. which was at a distance of 200m away from the RS wall. An excavation made near to the staging, led to the collapse of the structure .The heavy rain also triggered this failure. It is worthwhile to mention that, the RS wall stayed intact, without even a slightest sign of distress.

Client: Municipal Corporation of Hyderabad

Designer / Consultant: Maccaferri (Designer) /Tandon Consul. Pvt Ltd

Contractor: Gammon India Ltd

Products used (Qty.)

- MacRes 3,510 sqm

Date of construction: 04/2006 - 11/2006

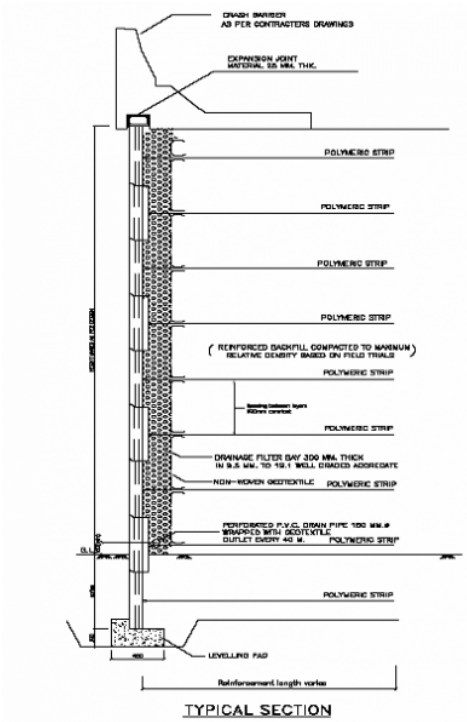
Photo 1: During construction

Photo 2: T-shaped panels

Photo 3: Construction in progress

Photo 4: Construction in progress

Photo 5: Completed construction



Typical cross sectional drawing

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