

REINFORCED SOIL WALL AT WATSON PHARMA, GOA VERNA, GOA, INDIA

Vertical Walls with Concrete Facing Panels

Problem

Watson Pharma Pvt. Ltd. a global pharmaceutical company proposed to build a full fledged manufacturing unit at Verna, Goa. Verna Industrial Estate is located approximately 10 km north of the South Goa district head-quarters Margoa.

The geometry in the particular area has many undulations. Therefore to have a levelled surface for the construction of plant at a certain level, the client decided to go with the reinforced soil (RS) wall to retain the filled up soil.

Solution

Maccaferri proposed RS wall with concrete panels as fascia and ParaWeb® as reinforcement for the boundary retaining wall because this system has several technical and commercial advantages over a conventional retaining wall. Murrum soil was available at site and was used as backfill material in the RS wall. Maximum wall height was 15.2m.

The key feature of this project can be noted as speed of construction. This project was successfully completed within a timespan of four months.

Advantages of RS System:

1. Settlement behavior: Due to inherent flexibility, RS wall can tolerate greater settlement as compared to normal RCC bridge abutments.
2. Speedy Construction: RS wall can be completed within a shorter time frame along with the approach embankment.
3. Aesthetics: The RS wall can be provided with a pleasing aesthetic finish using suitable rubber forms or fiber glass patterns in the molds of pre-cast panels.
4. Seismic Performance: Performance of RS walls in seismically active zones has clearly demonstrated that these structures have higher resistance to seismic loading.
5. Economy: RS wall is economical by 30% to 40% as compared to RCC.

RS wall with concrete panel fascia and Paraweb® as reinforcement is very commonly adopted system in highway and road sector. With this case study it is evident that RS wall can be adopted for developing land in industrial applications as well due to its features like speed of construction and easy adaptability by using site won fill which lead to significant cost savings.

Client: Watson Pharma Pvt. Ltd.

Designer / Consultant: Maccaferri (Designer) / Jacobs Engineering

Contractor: M/s Suroj Buildcon Pvt. Ltd.

Products used (Qty.)

- MacRes 5,182 sqm

Date of construction: 11/2015 - 02/2016



Photo 1: Site before the construction of RS wall



Photo 2: Compacted layer with cavity connector connections embedded in panels



Photo 3: During construction



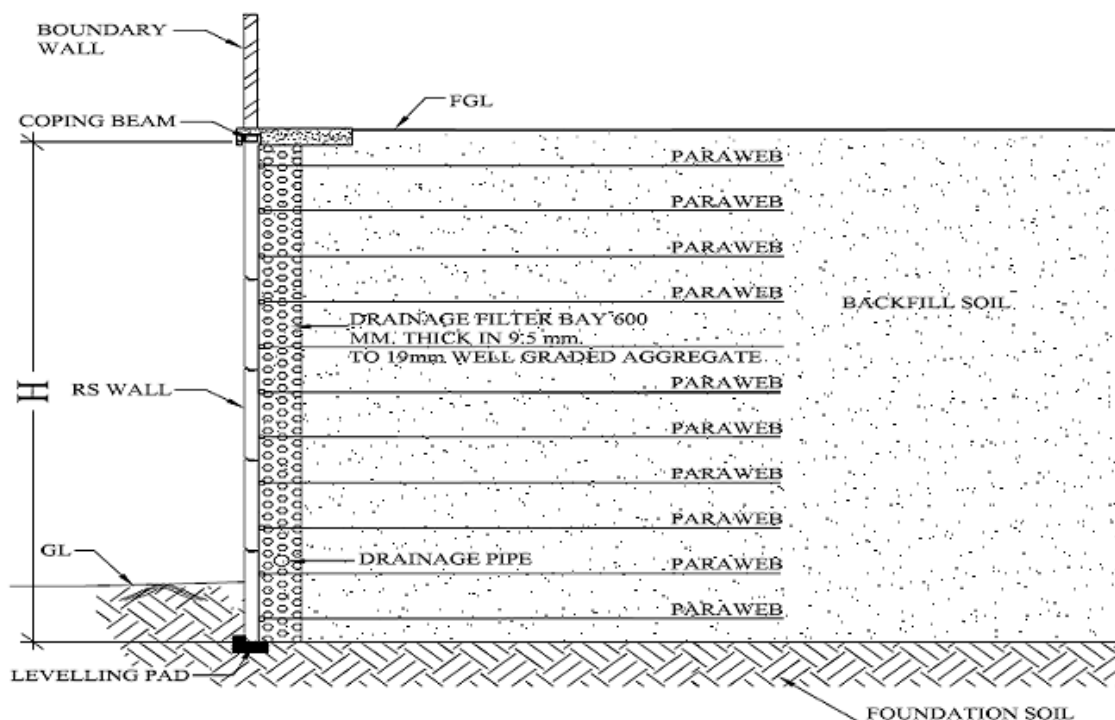
Photo 4: During construction



Photo 5: Wall being constructed along the filling side boundary of site



Photo 6: Completed structure



Typical section drawing