

## REINFORCED SOIL WALL AT MIDC CHAKAN, PUNE, MAHARASHTRA, INDIA

### Vertical Walls with Concrete Facing Panels

#### Problem

Maharashtra Industrial Development corporation (MIDC) Chakan, 34 kms from Pune city, located on NH 50 between Pune and Nashik cities in the state of Maharashtra. KSH Dristipark Pvt. Ltd. proposed to construct an industrial park building in MIDC Chakan. It was decided to construct structure on elevated ground level considering ground topography and variation in flood level of nallah passing adjacent to the boundary line of the site. The site was undulating required balance in cut and fill. Cutting involved weather basal rock to be crushed and used as fill material for retaining wall. During monsoon, water level rises up to 8-10 m. For the retention purpose of this elevated ground, boundary retaining wall was proposed.

#### Solution

Fill material for retaining wall was proposed to be crushed stone. ParaWeb was chosen as soil reinforcement in view of better resistance to installation damage because of thick polyethelene sheath. Maccaferri proposed Reinforced Soil (RS) wall with concrete panels as fascia and ParaWeb as reinforcement for the boundary retaining wall, as this system has several technical and commercial advantages over conventional retaining wall. Considering water level variation in the nallah, RS wall was designed for drawdown of 8m. As crushed stone was abundantly available, alternate layers of murrum and crushed stone have been used as a backfill material in RS wall. Presence of layers of crushed stones added advantage to dissipate any pore water pressure.

**Client:** KSH Dristipark Pvt. Ltd.

**Designer / Consultant:** Associated Consultant Engineering

**Contractor:** M/s Atharva Construction

**Products used (Qty.)**

- MacRes

6841 Sqm

**Date of construction:** 12/2014 - 06/2015



Photo 1 : Site before construction



Photo 2 : RS wall under construction adjacent to Nallah



Photo 3 :Completed Structure



Photo 4: Concrete panel with cavity connector (MacBox)



Photo 5:Complete MacRes structure