

GEOSYNTHETICS



CASE STUDY Containment bund for land reclamation along River Ganges, India



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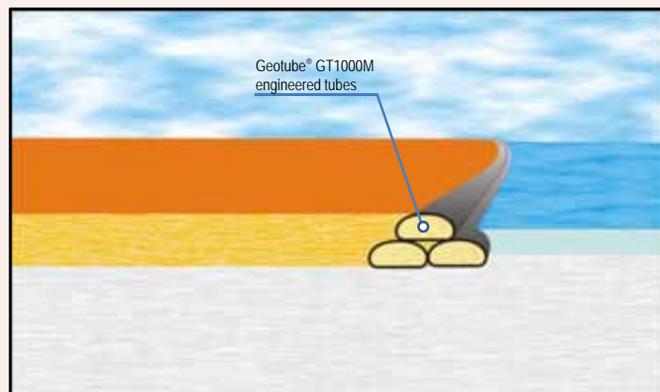
Land reclamation with Geotube® containment bund

Ambuja Realty holiday resort development, Raichak, West Bengal, India

Ambuja has envisioned building a world class holiday resort along the pristine banks of River Ganges. The project site is situated at Raichak, 50km east of Kolkata. The total length of the bank is around 500m and the highest tidal level is +4.525m and the lowest tide level is -0.89m. The large tidal variation and associated strong tidal currents caused erosion at the project site and deposition across the banks. The initial phase of the project involved reclamation of eroded land and armour protection of the newly formed bank slopes in river side to reclaim the lost land in erosion.

Geotube® System is more economical than rockfill for the construction of the containment bund at the Ambuja Realty holiday resort development project. Besides, transportation of such a huge quantity of rockfill by small boats was also a logistics nightmare. Sand is dredged from the river for the land reclamation works. Part of the dredged sand is used to fill the geotextile tube in the construction of the containment bund. An armour rock revetment was constructed later over the Geotube® bund for long term coastal protection.

The containment bund was constructed with one tube unit stacked on top of two base tube units. A standard Geotube® GT1000M unit of length 25 m and circumference 15.7 m is used. The Geotube® unit was filled to about 2.5 m in height using medium fine sand that was available at site. Sand was placed through a hopper system that feeds into a pipeline driven by a water pump to create sand slurry for the filling of the Geotube® unit. Sand filled geobag units (1 m x 0.7 m) were used to fill into gaps and for levelling of slope prior to construction of the armour rock revetment. A nonwoven geotextile to laid before the rock armour units were placed.



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