Border Roads works from BP No-1822/21-S to 1825/M at Panisagar Sector Along the Indo Bangladesh Border in Tripura-Package-5

Tripura



TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Consolidation By Drainage Systems	**2021**	**Ministry Of Home Affairs, Govt. Of India**	**Mohan Lal Singh (Local Contractor Tripura)/(Engineering Projects India Ltd.)**	**MESPL**

PROD. RELATED

Drainage Geocomposites (PVD- 72600 RM), MonoAxial GeoGrids (ParaLink 200- 8550 Sqm), PP/PE Woven Geotextiles (Mactex N 30.2- 6750 Sqm), Drainage Geocomposites (MacDrain W 1091- 6727 Sqm), Biaxial Geogrids (MacGrid EG 30s- 3160 Sqm)

Challenge

The subsoil underneath the roadway alignment consisted of soft clay up to a depth of 8.0m. The soil was not having sufficient bearing capacity and large settlements were expected.

Designing structures on soft, compressible soils like clay has presented challenges because of the uncertain nature of long-term settlement. Construction is typically impracticable without some type of soil treatment. Settlement in clayey soil can take a very long time- often years, because the water cannot easily escape the soil.

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PVD Installation



Placement of GeoTextile

Solution

Fine-grained, compressible saturated soils need a very long time to consolidate because of their poor permeability. Prefabricated vertical drains were used to shorten the time needed to complete the consolidation by providing shorter and easier drainage path for water to escape.

The purpose of providing high strength flexible geogrids (ParaLink) as soil reinforcement/basal reinforcement (as per MORTH 3100 and IRC 113), is to ensure proper distribution of the load from the superstructure to the subsoil and reduce differential settlements and to improve the global stability of the foundation as the stresses on the foundation is taken care of by the reinforcement that is provided.

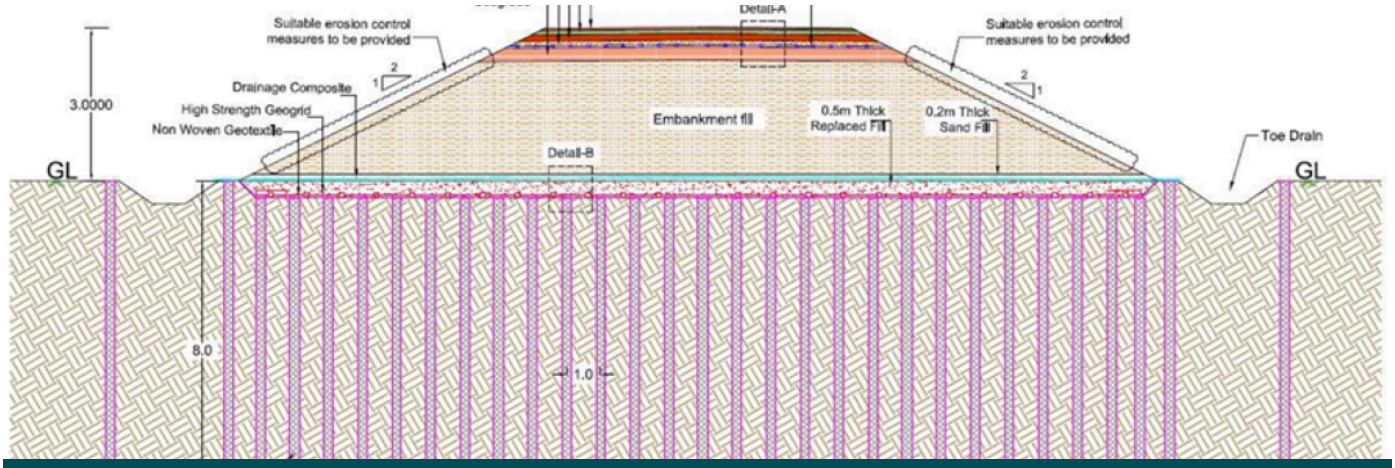
The idea behind providing extruded biaxial polypropylene geogrid (MacGrid EG) as soil reinforcement in pavement layers (as per IRC: SP: 59-2019), is to ensure better resistance to rutting and deformation, reduce the unbound layer thickness and to reduces the carbon footprint of the solution by reducing the requirement of quarried aggregates.



Placement of Drainage Geocomposite



Completed project site



Typical Cross Section

OPEN GOOGLE MAPS

OPEN GOOGLE EARTH

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