

## CASE HISTORY

Rev:01, Date : 22.05.2020

### REINFORCED SOIL WALL AT BUNGALOW VILLA PREMISES, LONAVALA, MAHARASHTRA

LONAVALA, MAHARASHTRA, INDIA



#### Earth Retention

Client:	Products used & Quantity supplied:
	TECHGRID GEOGRID
Main contractor:	TECHGEO NONWOVEN GEOTEXTILE
	TECHFAB METAL GABIONS & WELD MESH
Manufacturer & Supplier:	Year of construction:
TECHFAB (INDIA) INDUSTRIES LTD.	2013

#### Project description:

There is a construction of a hill top villa at Kumne village Lonavala with an interest of application of geosynthetics to their property which has natural mountain terrain, mark able elevated plinth to existing road level, heavy precipitation and deep valley at rare end side, with touch of natural green aesthetic and state of the art design & architecture.

The reinforced soil wall & Gabion retaining wall has been proposed to slope elevated terrain in concurrence to consultant & architect. Their joint views has taken into many revisions before arriving at practicable solution which encircles the entrance front view with open patio cum parking having staircase and jogging lawn promenade as a final outcome at rare deep valley portion.

Keeping the above perspective, the scope work of Techfab India Industries Ltd., was to meet:

- Detailed engineering of reinforced soil walls & Gabion retaining walls, including design, material specification, engineering drawing and construction methodology;
- Supply of Techgrid Geogrids, Metal gabion, Geo-bags, Nonwoven Geo textile;
- Supervision of Construction.

#### Project challenges :

- The Entrance front Weld mesh wall (RSW) to be design in staircase form ( New dimension to RS Wall);
- Protect the differential level of natural terrain height ranging from 2m to 11 m;
- To prepare design with parameters of fill ,stone etc., as per locally available resources;
- To consider The dead, Live moving Loading in conjunction to seismic activity ;
- To create lush green aesthetic touch to the property as per naturally existing area.

#### Solution :

After identifying best technically feasible solutions in line to project requirement and site conditions a Techgrid - Geogrid reinforced soil wall with steel wire mesh (Weld Mesh) facing is provided to accommodate staircase within the facing, at the entrance front. PVC coated galvanised Metal gabion wall with nailing, at deep valley portion was finalized, as the solution.



**RSW with Weld Mesh - Under Construction**



**RSW with Weld Mesh - Staircase Completed**



**Techfab Metal Gabion Wall – Top View**



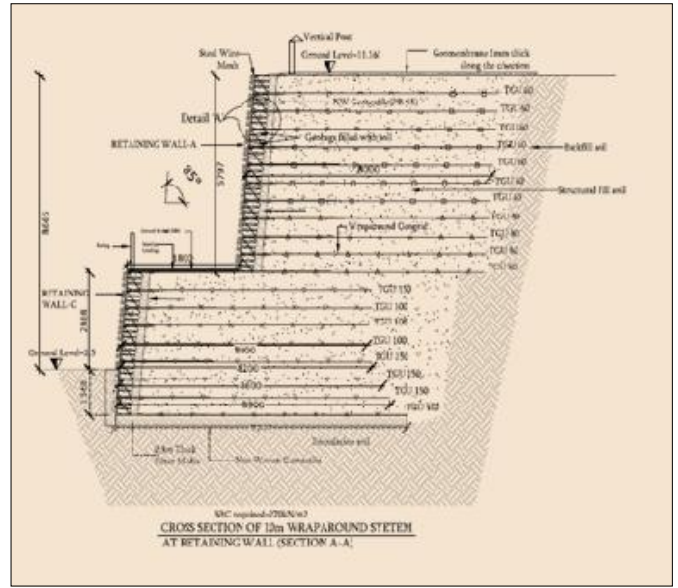
**Techfab Metal Gabion Wall - Completed**

### **Salient Features of the Reinforced Soil Walls :**

- Wall Height & Length : Height is 2m to 11m, total 120m length
- Soil Reinforcement: : TechGrid Geogrid
- Facing: : Weld Meshes (Steel Mesh) as front facing for RSW. Techfab Metal Gabion, TechGeo Nonwoven Geotextile bags inside the weld mesh
- Design Methodology : BS 8006 & FHWA Guidelines for RSW
- Techfab India Scope : Detailed design & drawing, supply of Geogrids, Metal Gabion, Nonwoven Geotextile & Geotextile bags & supervision of construction



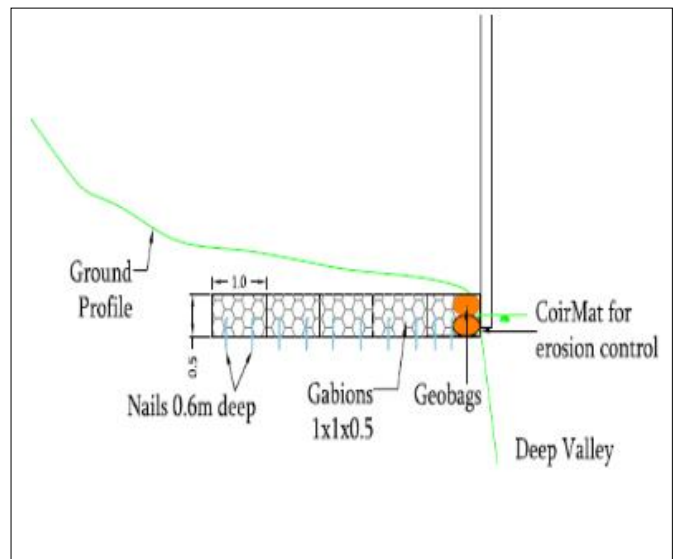
**RSW with Weld Mesh - Entrance**



**RSW with Weld Mesh - Typical Cross Section**



**Techfab Metal Gabion Wall - Valley Portion**



**Techfab Metal Gabion Wall - Typical Design Consideration**

The supplied materials, Techgrid - Geogrid, Geotextile bags and PVC coated galvanized gabions are the in house manufactured products of Techfab India Ltd., in their state of the ISO 9001:2000 certified factory under the proven and tested qualified experienced faculties having edge of national globally accredited QTP & QTC.



After Completion of Project with full vegetation

**Conclusion :**

The Project was successfully completed.

**For further details kindly contact :**

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