CASE HISTORY

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REINFORCED SOIL WALL USING TECHGRID UNIAXIAL GEOGRID FOR RESIDENTIAL SITE DEVELOPMENT AT APPLEWOOD SUBDIVISION, SAN ANTONIO, TX

SAN ANTONIO, TX, UNITED STATES

TECHFAB USA

REINFORCED SOIL WALL

Client:	Products used:
BEST BLOCK	TECHGRID UNIAXIAL GEOGRID : TGU 60 & TGU 80
Contractors:	
DNT CONSTRUCTION	
Manufacturer & Supplier:	Year of Construction:
TECHFAB USA	2025

Project brief & Problem description:

The Applewood Subdivision is a multi-phase residential site development designed to create a modern, well-planned living community in San Antonio, Texas.

The project required extensive grading and retaining walls to optimize the use of available space for homes across the development. To achieve this, retaining walls were required for lot separation and support, roadway support and stormwater infrastructure.

One of the key challenges in the project was the integration of a detention pond with a maintenance access road, requiring engineered walls that could handle both structural loads and drainage requirements. The retaining wall system had to be cost-effective, durable, and aesthetically compatible with other phases of the residential development. Given the variable elevations and site constraints, the project team sought an innovative geosynthetic-based solution that could provide design flexibility, ease of installation, and long-term performance while minimizing environmental disturbance during construction.



Photo 1 : View of Reinforced Soil Wall

Solution Proposed:

A segmental block wall system utilizing Keystone Compac III concrete units combined with TechGrid TGU 60 and TGU 80 Uniaxial Geogrids supplied by TechFab distribution partner Best Block was selected for the project. The proven performance of SRW's for residential site development made it the ideal choice for this application.

The TGU 60 and 80 ensured structural stability for the Compac III walls totaling over 2,300 lineal feet and heights up to 17 feet. The Keystone Compac III and TechGrid combination successfully addressed multiple site needs, including lot separation walls, site retaining walls, and a detention pond wall. All which provided functionality and visual appeal in a cost - effective solution for the ongoing residential development. The detention pond wall incorporated a maintenance road along with supporting the adjacent site development roads at the basin location. The u-shaped basin walls allowed for right blend of structural support and basin water volume capacity during storm events.



Photo 2 : TechGrid Geogrid Installation in Progress





Photo 3 & 4 : Reinforced Soil Wall Execution in Progress



Photo 5 : View of Completed Reinforced Soil Wall

Conclusion:

The reinforced soil wall system using TechGrid uniaxial geogrid offers a durable, flexible, and sustainable solution for modern residential site development, ensuring structural stability, aesthetic appeal, and long-term performance for the on-going Applewood Residential Development in San Antonio, TX.

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