

THE DAILY

Cape Town, South Africa



Project Facts

Product

Lateral Support

Market

Commercial

Client

Kahts & Sparks Quantity Surveyors

Consultant

EKCON Consulting Engineers

Scope of Works

2 040m² Lateral Support
21 550 m³ Bulk Earthworks



About the project

The Daily is a multi-storey residential development located in Green Point, Cape Town, beneath Signal Hill. The project includes three basement parking levels and is situated in a densely built urban area along the Atlantic Seaboard. Excavation for the deep basements required navigating complex geotechnical conditions and tight spatial constraints.

Geotechnical investigations revealed a subsurface profile of fine-grained gravelly colluvium (8 - 12m deep) overlying Malmesbury Group shale bedrock. The colluvium consisted of stiff, sandy silt with weathered shale gravels and cobbles, while the shale bedrock ranged from highly weathered near the surface to hard rock at depth.

Challenges

Original plans to found on colluvium or weathered shale were revised due to high column loads and potential settlement risks. Excavation had to be deepened to reach competent bedrock.

The proximity to roads, erf boundaries and existing services restricted lateral support options. CFA soldier piles could not penetrate hard rock, which required careful toe inspections and additional support where needed.

Groundwater was detected during drilling but not during excavation, likely due to seasonal or drainage factors. Excavating through jointed bedrock caused localised overbreak, requiring stabilisation with shotcrete.



• Solution

Excavation was extended to reach competent bedrock, allowing for conventional pad footings to safely support the structure.

CFA soldier piles were installed with one to three rows of temporary grouted anchors, tailored to excavation depth. Additional support was added below the pile toes where necessary.

Heavy machinery and hydraulic breakers were used to excavate bedrock. Overbreak areas were stabilised with shotcrete to maintain clean-cut faces.

Weekly visual inspections and survey monitoring of external wall points ensured lateral movements remained within safe limits. The maximum displacement recorded was 16mm, which is well within the SAICE Code of Practice thresholds.

Site-specific controls were implemented to mitigate dust, water ingress, and overbreak risks, ensuring minimal disruption to surrounding infrastructure.

