



# NEW CORNICHE ROAD ABU DHABI - UAE DYNAMIC COMPACTION

Category: Infrastructure / Reclamation  
Developer: Abu Dhabi Municipality  
Engineer: De Leuw Charter  
Contractor: BM Engineering, Al Muhairy  
Area / Quantity: 1,000,000 m<sup>2</sup>



## PROJECT DESCRIPTION

The New Corniche Road was an expansion of the Abu Dhabi's existing west Corniche into the sea.

In this project, a platform measuring 5.5 km in length and with a variable width of as wide as 200 m was reclaimed from the sea by dredging.

## SOIL CONDITION / GEOTECHNICAL PROBLEM

2 to 12 m of fill was placed on the natural seabed.

The soil investigation report indicated that the young hydraulic fill was made up mainly of sandy soil, but also contained silt pockets.

Test results clearly showed the soil was much looser than the project criteria which stipulated a relative density of 80% and settlement of 25mm under a uniform load of 25 kPa.

## MENARD SOLUTION

The classification and thickness of the loose compressible soil indicated that dynamic compaction would be the optimal technical and financial solution.



Menard carried out a supplementary soil investigation and a DC calibration to optimize the project energy intensities, number of blows per print, grid size, number of phases and poulder weights. Thus, different pounders, grids, and number of blows were used in multiple phases to ensure the best results in the shortest time.



A maximum number of seven cranes were mobilized to complete this project in 9 months. Dynamic compaction was performed round the clock to produce an impressive figure of more than 200,000 m<sup>2</sup> of improved ground per month.

## QUALITY CONTROL

Tests were carried out to ensure the quality of the work. These tests clearly prove that the soil improvement was completely successful, and had improved the soil as requested in the design criteria.

