

# Transforming Al Lesaili Community's Stormwater Infrastructure for a Sustainable Future.

## CASE STUDY

### Project

Roads in Al Lesaili Community, Phase 1

### Client

RTA

### Lead Consultant

AQLEH (Design), Khatib & Alami (Supervision)

### Main Contractor

National Contracting & Transport Company (NCTC)

### Application

Infiltration

### Product

Polystorm (PSM1)



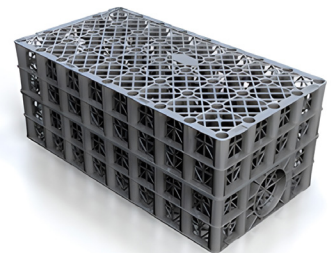
## The road to sustainability starts with flood mitigation.

The Roads Transport and Authority, a department of the government of Dubai, views mobility as an essential element of society and puts great importance on developing environmentally friendly transportation systems. The 'RTA Sustainability Framework' and its sustainability practices drive positive change in environmental, social, and economic domains, and solidify the RTA's position as a leading government body in sustainability within the United Arab Emirates.

Given the RTA's sustainability focus, Polypipe Middle East emerged as the ideal partner to implement a comprehensive stormwater management system. This system goes beyond mere flood prevention and includes the installation of multiple stormwater tanks at four locations along the Al Lesaili community's internal roads during construction. This is phase one of an internal roads project that additionally includes Margham, Lehabab, Nazwa, and Hatta.

The entirety of the project spans 35 km, with 18 km dedicated to road-works. Additionally, the RTA initiated

further road works at both Lehabab and Al Lesaili to cater to the needs of residents. The first phase of this project included a 7 km stretch of road at Al Lesaili, incorporating existing roads at Saih Assalam near the Last Exit and Al Qudra Lakes to improve the entry and exit points for the 2,900 residents currently residing there.



Given the issue of limited space, the Polystorm solution allowed for flexible dimensions, enabling the tanks to be designed according to individual site conditions. It leverages the modular arrangement of Polystorm cells, which can be combined to construct a robust, flexible tank perfectly tailored to fit the available space. Furthermore, since the area is adjacent to the road, the geocellular solution was deemed ideal for such site conditions due to its high load-bearing capacity of 40 tonnes/m<sup>2</sup>. The tank effectively mitigates flooding with its 95% void ratio, enabling maximum water capture, retention, and controlled discharge. A comparable project, undertaken by Polypipe Middle East, was the Al Khawanej Road in Mirdif.

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Renowned and trusted as a water management solution provider within the GCC region, Polypipe Middle East worked closely alongside the design consultant on this project. To reassure the client that the Polystorm tank would perform as promised, evidence was provided prior to implementation. This evidence demonstrated that the tanks, when filled with certain backfill, could overcome the loading challenge and ensure that stormwater runoff wouldn't pose a problem for traffic on the main roads.

To further add value to the project, support was provided to the design consultant through the early stages of engineering the tanks by providing technical and commercial comparisons with other solutions, as well as conducting a risk assessment. Once the project was awarded, the ideal tank allocation, loading capacity and risk assessment of where backfill was required to avoid future failures had been considered and completed. This ensured a smooth process for the design consultant when obtaining an NOC letter from the Dubai Municipality and winning the project.



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At Polypipe Middle East, our commitment goes beyond providing locally sourced sustainable solutions, we are there from design to installation and beyond, working strategically and collaboratively to ensure a smooth process and lasting partnerships.

