

## Ensuring Tranquil Living for the Residents of Arabian Ranches III

### CASE STUDY

#### Project

Arabian Ranches III -  
Phase 4C & 4D

#### Client

Emaar Properties

#### Lead Consultant

Parsons

#### Main Contractor

Arabian Coast Contracting

#### Products

Polystorm

#### Application

Infiltration

A Polystorm tank with a capacity of 17 million litres is being installed beneath Arabian Ranches III to fortify the area against flooding.

Arabian Ranches III, a suburban haven amidst the bustling city of Dubai, is a world-class gated community, developed by Emaar Properties - one of the Middle East's largest developers. The off-plan project is unfolding in four phases and, when finished, it will feature over 4,000 villas and townhouses. Residents will be immersed in beautiful Middle Eastern-inspired architecture and premium amenities such as tennis courts, a cricket field and even a lazy river. Every aspect of comfort is considered to elevate the lifestyle of its residents, including the water management solutions implemented



throughout the community.

Although Dubai has an arid climate, on the fair and few days when it does rain, it floods. To mitigate this, the expertise of Polypipe Middle East was enlisted by lead consultant, Parsons, and main contractor, Arabian Coast Contracting, to install its signature stormwater management solution, Polystorm, throughout the area.

Polystorm will be installed underground to enhance the infiltration of stormwater run-off into the surrounding soil, thereby minimising flood risk. Initially considering

the use of aggregate, Parsons and Arabian Coast Contracting pivoted to Polystorm due to the constrained timeframe and unavailability of the previously sought material. They needed a solution that could be delivered and installed promptly, fully complying with the specifications.



The main reason why aggregate was originally selected is due to its cost effectiveness. However, its ability to store water is limited. Each Polystorm geocell, on the other hand, features an impressive 95% void ratio, enabling it to store up to 190 litres of stormwater. In fact, the tank installed in Arabian Ranches III is capable of holding a staggering 17 Million litres!

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What's more, we were even able to reduce the cost of this more advanced solution through value engineering. In order to ensure that the Polystorm geocell could withstand heavy load capacities, the tank had to be installed deep underground. As a result, it was originally thought that PSM5 would be required, however our technical team assured them that PSM1, with its 40 tonnes/m<sup>2</sup> compressive strength, was more than adequate for

the application.

Emaar Properties' strategic investment underscores the shared commitment of both Polypipe and Arabian Ranches III to deliver a living environment that surpasses industry standards. Ultimately, Polypipe Middle East played a pivotal role in the development of Arabian Ranches III, delivering a reliable, compliant, and nature-inspired solution that will effectively reduce

flood risk and keep property and occupants safe. With technical expertise and its industry-leading solution, Polypipe contributed significantly to the safety of this one-of-a-kind development.

