

Atlantis®
GREEN CITIES FOR LIFE

Zayed University

Project Location
Abu Dhabi
United Arab Emirates

Atlantis Application

Stormwater Infiltration Channel

Project Overview

The new Zayed University campus at New Khalifa City was developed across a 75-hectare site, with a planned built-up area of 200,000 m² and facilities for 6,000 students. Atlantis modular infiltration channels formed part of the campus stormwater system, managing runoff from impervious surfaces through underground storage and infiltration.

More than 6.1 km of infiltration channels or soakaways were installed alongside roads and pathways, providing over 4 million litres of stormwater storage. The channels incorporated Atlantis Flo-Tank® Double Modules arranged two modules wide and wrapped in geotextile.

Technical Summary

Project	Zayed University
Location	Abu Dhabi, United Arab Emirates
Application	Stormwater Infiltration Channel
Completion	--
Size	Over 6.1 km of infiltration channels; over 4 million litres of storage
Surface Use	Roads and pathways
Atlantis System	Flo-Tank® Double

Design Challenge

The 75-hectare university development required stormwater infrastructure capable of managing runoff from impervious surfaces distributed across a large campus. The infiltration system needed to provide sufficient storage during severe storm events while allowing captured water to dissipate effectively into the surrounding soil.

The required infiltration infrastructure extended alongside the campus roads and pathways, resulting in a network exceeding 6.1 km in total length. With more than 4 million litres of storage distributed through this network, the design also needed to address the entry of sand and vegetation matter into the infiltration channels.

01 Manage stormwater runoff from impervious surfaces across the university campus.

02 Provide over 4 million litres of storage capacity.

03 Incorporate more than 6.1 km of infiltration channels or soakaways.

04 Size the channels to prevent overflow during severe storm events.

05 Allow stored stormwater to gradually percolate into the surrounding soil.

06 Allow stored stormwater to gradually percolate into the surrounding soil.

Solution

The stormwater system incorporated more than 6.1 km of Atlantis infiltration channels or soakaways positioned alongside roads and pathways. The system provided over 4 million litres of storage using thousands of Flo-Tank® Double Modules.

The modules were installed two modules wide and wrapped in geotextile. Stormwater from impervious surfaces is stored within the modular system and gradually allowed to percolate into the surrounding soil. The channels were sized to prevent overflow during severe storm events and to enable the stored water to dissipate effectively into the surrounding area.

Concrete sumps positioned at regular intervals prevent sand and vegetation matter from entering the infiltration channels, providing pretreatment within the wider stormwater system.

Benefits

- More than 6.1 km of distributed infiltration infrastructure incorporated throughout the campus.
- Over 4 million litres of stormwater storage provided within the infiltration channel network.
- Captured runoff from impervious surfaces stored before gradual percolation into the surrounding soil.
- Infiltration channels sized to prevent overflow during severe storm events.
- Geotextile-wrapped modular configuration used throughout the channel system.
- Concrete sumps at regular intervals limit sand and vegetation matter entering the infiltration channels.

Considerations

The infiltration channel network was constructed using thousands of Flo-Tank® Double Modules, installed in a configuration two modules wide. The modules were wrapped in geotextile as part of the infiltration channel assembly.

The system extended for more than 6.1 km alongside roads and pathways, requiring the modular infiltration infrastructure to be distributed throughout the campus stormwater network. Concrete sumps were incorporated at regular intervals to control the entry of sand and vegetation matter into the infiltration channels.

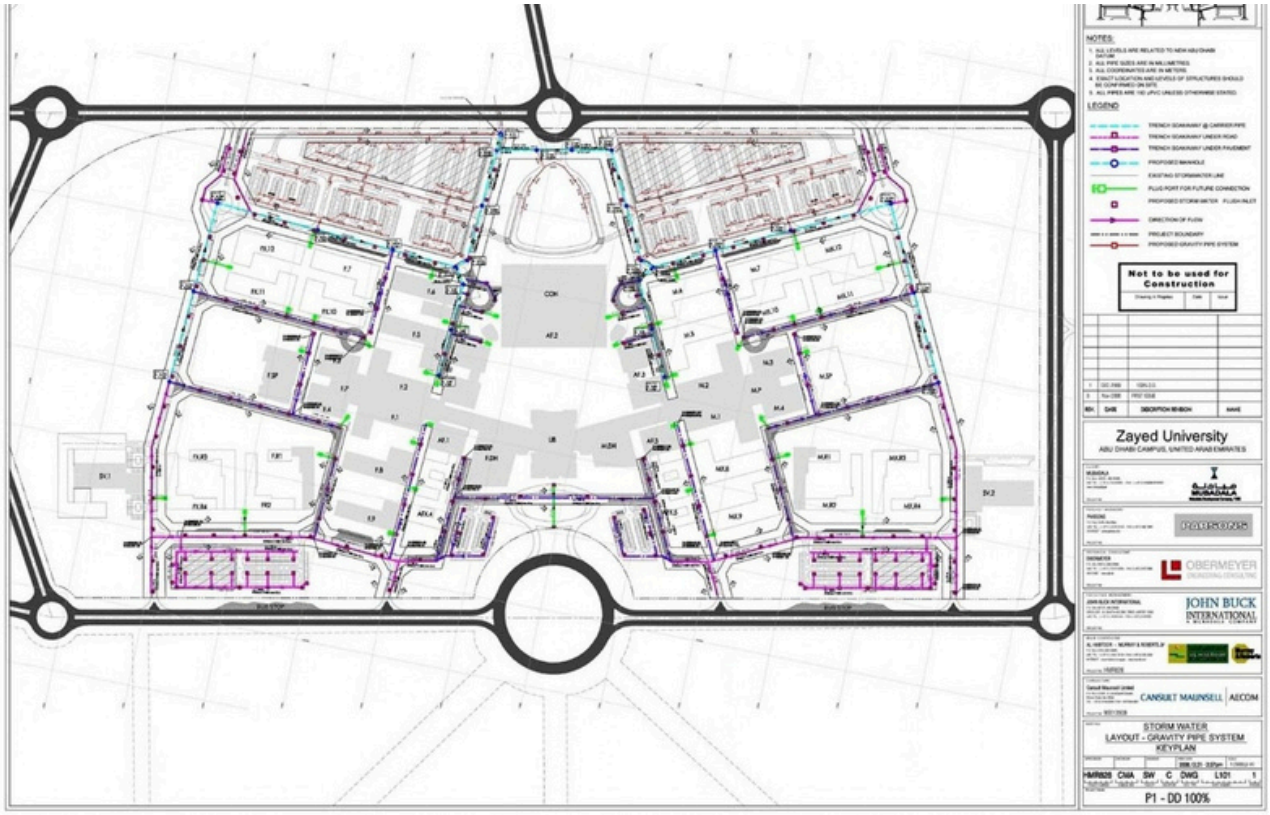
Project Outcomes

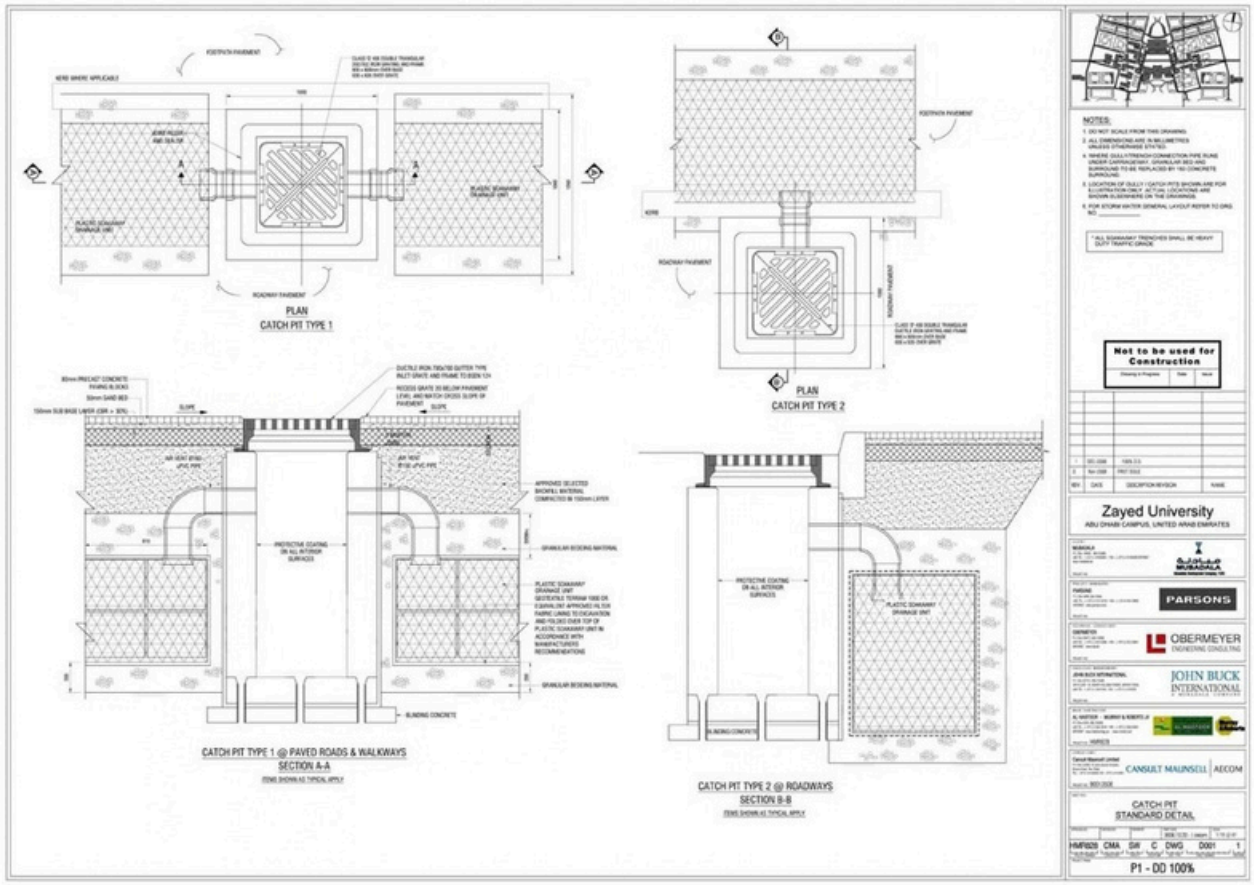
- More than 6.1 km of infiltration channels or soakaways installed alongside campus roads and pathways.
- Over 4 million litres of stormwater storage capacity provided.
- Thousands of Atlantis Matrix® / D-Raintank® Double Modules incorporated into the infiltration network.
- Modules configured two units wide and wrapped in geotextile.
- Stormwater from impervious surfaces stored and gradually infiltrated into the surrounding soil.
- Concrete sumps installed at regular intervals to limit sand and vegetation matter entering the infiltration channels.

The Zayed University project demonstrates a distributed infiltration strategy at campus scale, with more than 6.1 km of modular channels providing over 4 million litres of storage alongside roads and pathways. The two-module-wide configuration combined underground storage with gradual infiltration, while regularly spaced concrete sumps addressed sediment and vegetation matter before it could enter the infiltration network.

Did You Know?

The Zayed University stormwater system incorporates more than 6.1 km of infiltration channels, providing over 4 million litres of underground stormwater storage across the campus.


NOTES:
LEGEND:
Not to be used for Construction
Zayed University
ABU DHABI CAMPUS, UNITED ARAB EMIRATES
PARSONS
OBERMEYER
JOHN BUCK INTERNATIONAL
CANSULT MAUNSELL
AECOM
STORM WATER LAYOUT - GRAVITY PIPE SYSTEM KEYPLAN
P1 - DD 100%


PLAN
CATCH PIT TYPE 1
PLAN
CATCH PIT TYPE 2
CATCH PIT TYPE 1 @ PAVED ROADS & WALKWAYS
SECTION A-A
CATCH PIT TYPE 2 @ ROADWAYS
SECTION B-B
NOTES:
Not to be used for Construction
Zayed University
ABU DHABI CAMPUS, UNITED ARAB EMIRATES
PARSONS
OBERMEYER
JOHN BUCK INTERNATIONAL
CANSULT MAUNSELL
AECOM
CATCH PIT STANDARD DETAIL
P1 - DD 100%









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Thank You For Your Attention



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