



Green Square Town Centre – Town Core Sites Water Sensitive Urban Design

Please find below a Statement of Commitments for the Town Core Sites within Green Square Town Centre prepared by Mirvac Design on behalf of the Green Square Consortium (GSC) / Landcom.

Overview

The site's water management strategy is to meet 'best-practice' Water Sensitive Urban Design (WSUD) benchmarks and commitments in terms of water consumption and re-use targets for the planning proposal.

The GSC / Landcom make the following commitments for the planning proposal:

Urban Stream Ecological Engine

- Treatment of stormwater from the Town Core Sites within Green Square Town Centre sources to reduce pollutant loads and improve water quality in Shea's Creek and Alexandria Canal
- Provision of treated stormwater suitable for reuse to meet the public domain non-potable water demands

Plaza Section of New Stream

- The GSC/Landcom proposes a dry stream bed of suitable design which in less than 20yr rain event would flow at low flow and treat stormwater runoff from the civic plaza area's in the Town Core Sites within Green Square Town Centre.
- The GSC/Landcom proposal has an interactive water feature running through the plaza in the Town Core Sites within Green Square Town Centre which is grade separated from the dry stream bed and the plaza level suitable for human contact supplied with treated water from rain water capture from the plaza buildings with potable water standby top up.

Water Play Area's within the Plaza

- The GSC/Landcom proposed scheme is to have a water play area's which would be grade separated or graded to exclude plaza runoff from entering the catchment area of the treated water and in such a position that they are above the flood level in the plaza.

Water Storage Capacity

- The GSC/Landcom proposal includes public domain WSUD measures within the Town Core Sites within Green Square Town Centre such as street tree bio-retention and rain water capture from the public domain buildings for reuse within the public domain. Rain water will be captured at source on the private domain and used within each lot for non-potable purposes (higher uses such as hot water for human immersion if approved by NSW Health) along with stormwater detention and treatment prior to discharge to the public stormwater system to improve general water quality within the public system.

Recycled Water Supply

- The GSC/Landcom scheme proposes to further reduce the Town Core Sites within Green Square Town Centre potable water demand further by utilising the proposed Sydney Water Liverpool to Ashfield Recycled Water Pipeline.

Licensing, Operation, Treatment Monitoring of Recycled Water System

- The GSC/Landcom scheme eliminates the need for the operator of the local recycled water system to have a water licence to retail water to private domain lots and also removes the onus of treating, monitoring, maintaining and operating a water treatment plant that is supplying to areas outside the CoS control. Water quality from onsite retention for use in public domain for irrigation and toilet flushing is much more manageable on a local area basis.

Public Domain WSUD Strategy

- In the public domain beyond the public plaza the concept scheme allows for bioswales in public parks, bio-detention devices in the urban stream and tree bio-retention pits for street trees throughout the Town Core Sites within Green Square Town Centre.

Carbon Emission versus Water Quality

- The GSC/Landcom scheme does not harvest water from the channel therefore does not have the costs or CO2 emissions associated with the pumping of harvested stormwater from the through site channel to the surface to allow it to gravity feed back down through the bio treatment system either for storage and reuse or back into the channel as cleaner water for discharge to the Alexandria Canal.