4.3.12 Water

Scope of the system

This system relates to bodies of water in and around Callan Park, both natural and man-made, activities that require a supply of water or are based on water and the treatment of water that passes through Callan Park as part of the local urban catchment.

Existing condition and situation

Sydney Water and Leichhardt Council have water and drainage infrastructure located within Callan Park. This infrastructure conveys stormwater from the upstream catchment (in addition to untreated site-generated stormwater runoff) to Sydney Harbour.

It is estimated that the newest portions of the drainage systems in Callan Park are 40 years old, and may not comply with current standards for capacity.

Master Plan objectives and targets

The overarching target for water use on Callan Park is for the site to have zero water use and become a net water exporter to the surrounding neighbourhood. To meet this objective a range of Water Sensitive Urban Design (WSUD) initiatives are proposed both a stand-alone initiatives and as part of the required infrastructure upgrades on Callan Park.

Additionally the 2011 Master Plan will provide better access to the foreshore of Iron Cove for passive recreation and water based active recreational uses. In the implementation of the Master Plan must also factor the potential impacts of climate change and sea level rise into any foreshore restoration and renewal works. The Master Plan also sets out a series of proposals to restore the site's aquatic habitats and systems.

Implementation

Figure 4.14 Water in Callan Park

WATER OVERLAY

WATER REUSE
- potable water infrastructure
- water storage tank

WATERWAY RESTORATION
- salt marsh
- water feature
- locations for restored creeklines
- pipes

STORMWATER TREATMENT
- recycled water infraestructure
- bioswale
- biorention area
- wetland
- irrigated area
- subcatchment area

- Wastewater treatment plant: indicative 100m2 footprint
- Salt marsh along foreshore reinstated - integrated into seawall works and subject to further studies
- 1600kl underground storage tank - Final design and location subject to further studies
- 50m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- 180m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- Proposed water mirror in Veteran's Field
- 260m2 fringe wetland around storage pound
- 210m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- 260m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- Repair plumbing, drainage and water pumping systems of the gardens [Policy 5.55 CMP 2002]
- Preserve rainforest gully and remove infill planting [Policy 5.61 CMP 2002]
- Bioswales for stormwater treatment integrated into street as part of road upgrade projects
- 150m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- Bioswales in car park for stormwater treatment integrated into street as part of road upgrade projects
- 260m2 bioretention system to treat sub catchment - Final design and location subject to further studies

- Pumping station used in blackwater harvesting for onsite reuse
- Bioswales for stormwater treatment integrated into down graded pedestrian cycle path between military drive and the north circuit to treat sub catchment incorporating 180m2 of bioretention
- 1550m2 wetland - Final design and location subject to further studies
- 500m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- Stormwater treatment and pump station to facilitate onsite reuse
- 300kl storage in open pond - Final design and location subject to further studies
- 300kl storage in converted swimming pool
- Proposed water mirror
- Proposed water mirror
- 650kl treated water storage tank
- 1250m2 bioretention system to treat sub catchment - Final design and location subject to further studies
- Bioswales in car park for stormwater treatment integrated into street as part of road upgrade projects

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CALLAN PARK MASTER PLAN

WATER

REVISION A
1:300 @ A2

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Table 4.13 Water actions in Callan Park

No.	Action	Staging	Responsibility	Performance target	Method of measurement
12.1	Develop a strategy to meet the objective of Callan Park as a zero water development in the next twenty years.	Initiation	PA/PP	Development and agreement of the zero water plan for Callan Park.	Zero water plan for Callan Park.
12.2	Construct the proposed water mirror in Veteran's Field.	Short term	PA/PP	Integration of design into Veteran's Field Project.	Construction report.
12.3	Construct stormwater treatment and pump station to facilitate onsite reuse in vicinity of the Veteran's Field.	Short term	PA/PP	Integration of design into Veteran's Field Project.	Testing of whether water quality is suitable for reuse.
12.4	Use Sydney Water pumping station for black water mining for non-potable water reuse supply to Callan Park buildings.	Medium term	PP/PA	Coordinate work with Sydney Water. Co-ordination with other public domain based projects and strategies.	Testing of whether water quality is suitable for reuse.
12.5	Construct wastewater treatment plant with an indicative 100m2 footprint.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies.	Quality of water treated.
12.6	Reinstate saltmarsh along foreshore. Integrate saltmarsh into seawall works and subject to further studies.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies.	Observations and flora surveys.
12.7	Construct a1600kl underground storage tank. Final design and location subject to further studies.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies.	Testing of whether water quality is suitable for reuse.
12.8	Install several bioretention systems (50m^2, 150m^2, 210m^2, 2 x 260m^2, 500m^2, 1250m^2) to treat the sub catchment. Final design and location subject to further studies.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies.	Drainage investigations to measure water runoff and quality.

No.	Action	Staging	Responsibility	Performance target	Method of measurement
12.9	Establish a 260m^2 fringe wetland around storage pond.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies.	Drainage investigations to measure water runoff and quality.
12.10	Repair plumbing, drainage and water pumping systems of the gardens.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Consistent with Conservation Management Plan Policy.
12.11	Preserve the rainforest gully and remove infill planting.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Consistent with Conservation Management Plan Policy.
12.12	Integrate bioswales for stormwater treatment into the street as part of road/parking upgrade projects.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.
12.13	Integrate bioswales in Wharf Road East and West car parks for stormwater treatment into street as part of road upgrade projects.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.
12.14	Integrate bioswales for stormwater treatment into downgraded pedestrian cycle path between Military Drive and the north circuit to treat sub-catchment	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.
12.15	Construct a 1550m^2 wetland. Final design and location subject to further studies.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.
12.16	Install 300kl storage in open pond. Final design and location subject to further studies.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.
12.17	Construct 300kl storage in converted swimming pool.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Drainage investigations to measure water runoff and quality.

No.	Action	Staging	Responsibility	Performance target	Method of measurement
12.18	Implement proposed water mirror in Ward 18 in Cultural Cluster.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Water quality testing.
12.19	Install a 650kl treated water storage tank.	Medium term	PA/PP	Co-ordination with other public domain based projects and strategies	Testing of whether water quality is suitable for reuse.