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Walsh Bay Arts Precinct

Operational Plan of Management

NSW GOVERNMENT | Create NSW
Arts, Screen & Culture

Water management plan

Version control

Version	Issue date	Content contributors	Nature of change(s)
1.0	21/07/2020	LCI Consultants	Issued to INSW for comments

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1 INTRODUCTION

Objective of this plan

This **Water management plan** was prepared by LCI Consulting and outlines the proposed measures for managing water supply, water usage and flooding for the precinct.

This document sets out operational requirements for the precinct, including the following:

- Water supply.
- Wastewater management.
- Stormwater.
- Groundwater.
- Monitoring of water consumption.

Relationship to other documents

Read this plan in conjunction with:

- Other sections of the Operational Plan of Management (OPM).
- Current building codes, regulations and standards cited in this document.
- Any other document cited in this plan.

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1 Water Management

1.1 Water Supply

1.1.1 Potable Water

Potable water will be supplied to the site for domestic hot and cold water, sewerage, fire services and mechanical services. The Walsh Bay Arts Cultural Precinct is aiming to reduce onsite potable water consumption. This will be achieved through:

- Water efficient sanitary fixtures with WELS ratings
    - All Toilets – 3L/half flush; 4/5 L/full flush
    - All Urinals – 1L/flush
    - All Indoor taps – 4.5 L/min
    - All Showerheads – 7.5 L//min
- Rainwater collection and reuse onsite
- Water sub-metering to track the efficiency use of potable water
- Provision of a harbour heat rejection system in lieu of water-based heat rejection

1.1.2 Non-Potable Water

Non-potable water will be supplied to the Wharf 4/5 toilets and urinals using a rainwater harvesting and reuse system. Rainwater is captured on the Wharf 4/5 roof and is stored in a 58kL tank below the wharf. The rainwater is passed through a filtration system before being pumped to its end-use. Any excess rainwater capture is discharged into Sydney Harbour.

1.2 Wastewater Management

A sanitary drainage system will be provided to both Wharf 4/5 and Pier 2/3 in accordance with the Plumbing code of Australia, AS3500.2. All bathroom amenities and sanitary fixtures will be drained to the Sydney Water sewer in Hickson Road.

Due to both buildings extending into the water, not all wastewater will gravitate to sewer. Therefore, a combination of gravity sanitary drainage systems and sewer pump stations beneath Wharf 4/5 and Pier 2/3 will be employed.

1.3 Stormwater

1.3.1 Flooding Risks

The flooding risks of the site have been assessed by the Sydney City Area Catchment Flood Study (BTM WBM, 2014). The study models all sources of flooding while considering the impact of potential climate change on design flood conditions.

The outcome of the study has concluded that:

- The Walsh Bay Art Precinct is not subject to mainstream flooding
- Sections of Hickson Road adjacent to the Shore Sheds are identified as problem areas in relation to flood inundation

The Walsh Bay Art Precinct should not be affected by potential flood inundation at Hickson Road due to construction and operational activities undertaken away from the affected area.

1.4 Groundwater

A marine and groundwater assessment of the Walsh Bay Arts Cultural Precinct was complete by Jacobs SKM in 2014 (SKM, 2014). The assessment concluded:

- Groundwater impacts are expected to be minimal provided the appropriate standard controls are in place to contain spills and leakages during construction.
- The project does not include the extraction of groundwater. The impact on groundwater due to the installation of additional and replacement pilings is considered negligible in context of the overall hydrogeological regime.
- Due to the unlikelihood of impacts on groundwater, sampling of groundwater is considered unnecessary. It is also considered unnecessary for a Groundwater Environmental Management Plan to be prepared due to the low risk nature of the proposed activities to be undertaken.

1.5 Monitoring Consumption of Water Supply

Water sub-metering will be installed to monitor the following:

- Amenities
- Rainwater tanks

The water sub-meters will be connected within a network that is capable of monitoring and displaying the building's energy performance on at least a monthly basis. Tenancies can be provided access to their own consumption data through automatic emailed reports by the system.

The BMCS monitors trends in consumption from each water meter to detect anomalies that are indicative of water leaks. Any leak detected will raise an alarm through the system to the building manager.