

21.05 ENVIRONMENTAL RISKS

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This Clause provides local content to support Clause 13 (Environmental Risks) and Clause 14 (Natural Resource Management) of the State Planning Policy Framework.

21.05-1 Flooding & Stormwater

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Overview

As Bayside is located at the receiving end of the Port Phillip catchment system, drainage and stormwater from the municipality is received directly by Port Phillip Bay. Development within Bayside can therefore have a direct impact on water quality within the bay.

With increased urban consolidation, drainage services are being placed under increased pressure, affecting the quality, quantity and rate of flow of water emanating from new or intensified development into the bay, and potentially causing flooding.

Council’s drainage system is designed for the 1 in 5 year flood and any excess flood water flows overland along roads and parks. Properties within areas that have limited or no overland flow paths are more prone to flooding.

Sustainable development that uses the principles of integrated water management can help address these issues. Integrated water management has three aims: reduce reliance on potable water supplies; reduce the amount of wastewater and stormwater generated; and improve water quality in water catchment ecosystems.

Key Issues

- The quality, quantity and rate of flow of water emanating from new or intensified development can impact on potential flooding issues, erosion of downstream areas and water quality in Port Phillip Bay.
- Untreated stormwater from urban development has adverse effects on the ecological, amenity, recreational and economic values of receiving waterways.
- Development associated with urban consolidation will increase the impacts of drainage on water quality within the bay and may result in flooding.
- Development increases pollutant loads (eg litter, sediment, nitrogen, phosphorus, hydrocarbons and heavy metals) in the stormwater drainage system, and also increases the magnitude of peak stormwater flows. This can damage aquatic and marine environments and reduce the quality of water available to the environment or harvested for reuse.
- Integrated water management requires an environmentally sensitive approach to urban design, infrastructure design, open space planning, land development and building design.
- There is a shared responsibility between the private and public sector for the effective management of stormwater.
- Significant sea level rises, tidal and storm surges, greater rainfall and temperature variation are anticipated and will need to be accommodated, while also maintaining environmental quality.

Objective 1

To protect the surface waters and ground waters in the Port Phillip catchment from stormwater pollutants and the impacts of peak stormwater flows.

Strategies

- Ensure environmental best practice is adopted to manage stormwater.
- Minimise stormwater pollutants and peak stormwater flows at the source in accordance with environmental best practice.

Objective 2

To provide a drainage system that promotes the on-site retention and re-use of stormwater run-off, regulates overland flow to prevent flooding and improves water quality, particularly in terms of run-off to the Bay.

Strategies

- Incorporate water sensitive urban design, including stormwater reuse into development in accordance with environmental best practice.
- Restrict site coverage and hard surface area where the drainage capacity is limited and the area is subject to flooding.
- Encourage recycling of stormwater for use on gardens and nature strips.
- Improve the quality of water entering the bay through the installation of litter traps in appropriate locations, including private property.

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Climate Change

Overview

A changing global climate will magnify some of the natural processes that shape and impact on the coast. Sea level rise, more frequent storm events, temperature and rainfall changes are expected to increase the risk of erosion, inundation, infrastructure damage, drought conditions and ecological change. These changes will need to be accommodated while maintaining environmental quality.

Key Issues

- Manage the impact of climate change on the coastal environment.

Objective 1

Assess the potential risks to infrastructure and the environment from extreme storm tide levels associated with climate change.

Strategies

- Prioritise the maintenance of recreation areas, protection of assets and reduction of offshore cliff erosion based on the degree of vulnerability to coastal processes and sea level rise.

- Maintain beach areas with regular renourishment programs to assist in mitigating the impact of climate change.
- Ensure that potential climate change impacts are taken into account in the design and construction of foreshore infrastructure.

Implementation

The strategies contained in this clause will be implemented through the planning scheme through the following:-

Policy guidelines

Flooding & Stormwater

- Use the Water Sensitive Urban Design (Stormwater Management) Local Planning Policy - Clause 22.08 to guide identified development within the municipality.

Application of zones and overlays

Flooding & Stormwater

- Apply the Land Subject to Inundation Overlay to land subject to inundation to avoid intensifying the impacts of flooding through inappropriately located uses and developments.
- Apply the Special Building Overlay to land affected by overland flows in storm events that exceed the capacity of underground drainage systems.

Further strategic work

Flooding & Stormwater

- Develop a stormwater management plan to enhance water conservation and quality control of surface run-off from Activity Centres, employment areas and new development sites.
- Identify areas with environmental and infrastructure constraints with a view to introducing appropriate planning provisions.
- Develop a strategy for the management of Council's drainage assets.
- Identify areas which may be liable to inundation by surcharge flows from the urban drainage system and may have limited capacity for higher density development.

Climate Change

- Undertake coastal vulnerability assessment in relation to future sea level rise, storm surge and erosion impacts associated with climate change.

Reference Documents

Flooding & Stormwater

Bayside Stormwater Quality Management Plan, Fisher Stewart, September 2009

State Environment Protection Policy (Waters of Victoria), Environment Protection Authority, 2003.

Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO Publishing, 1999.

Water Sensitive Urban Design - Engineering Procedures: Stormwater, Melbourne Water, 2005.

Construction Techniques for Sediment Pollution Control, EPA 1991

Port Phillip and Westernport Regional Catchment Strategy, August 1997

Climate Change

Bayside Coastal Management Plan 2014