22.18 STORMWATER MANAGEMENT (WATER SENSITIVE URBAN DESIGN)

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This policy applies to applications for:

- New buildings
- Extensions to existing buildings which are 50 square metres in floor area or greater.
- A subdivision in a commercial zone

This policy does not apply to an application for:

- A subdivision of an existing building.

22.18-1 Policy Basis

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Increased development can result in greater hard surface area and changes to the volume, velocity and quality of stormwater drainage into natural waterways.

Achieving improved stormwater quality is a key objective in reducing the environmental impact of urban development on waterways and receiving water bodies in the Port Phillip catchment, this policy implements the best practice performance objective outlined in the *Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999* (or as amended) to achieve the objectives of the State Environment Protection Policy (Water of Victoria).

Waterways are an important environmental asset and measures that protect, or improve, water quality will be of significant benefit environmentally, socially and economically.

Incorporating stormwater treatment measure into the design of development, including wetlands, bio-retention systems and porous pavements to filter pollutants, will help to protect and improve the condition of the natural waterways and passively irrigate urban vegetation.

Water sensitive urban design (WSUD) is the design of buildings, subdivisions and works to minimise the hydrological impact of urban development on the surrounding environment. WSUD provides the means for treating stormwater run-off in a variety of ways so that the flow is reduced, and the quality of run-off is improved. Stormwater management can take various forms in the urban environment including infrastructure upgrades, streetscape layout changes, piping reconfigurations, storage tanks, and the use of different paving.

22.18-2 Objectives

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- To achieve the best practice water quality performance objectives set out in the Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999 (or as amended). Currently, these water quality performance objectives are:
  - Suspended Solids - 80% retention of typical urban annual load
  - Total Nitrogen - 45% retention of typical urban annual load
  - Total Phosphorus - 45% retention of typical urban annual load
  - Litter - 70% reduction of typical urban annual load.
- To promote the use of water sensitive urban design, including stormwater re-use.
- To mitigate the detrimental effect of development on downstream waterways, by the application of best practice stormwater management through water sensitive urban design for new development.
- To minimise peak stormwater flows and stormwater pollutants to improve the health of water bodies, including creeks, rivers and bays.

- To reintegrate urban water into the landscape to facilitate a range of benefits including microclimate cooling, local habitat and provision of attractive spaces for community use and well being.

22.18-3 Policy

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It is policy to:

Require that development applications provide for the achievement of the best practice performance objectives for suspended solids, total phosphorus and total nitrogen, as set out in the Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999 (or as amended).

- Require the use of stormwater treatment measures that improve the quality and reduce the flow of water discharged to waterways. This can include but is not limited to:
  - collection and reuse of rainwater and stormwater on site
  - vegetated swales and buffer strips
  - rain gardens
  - installation of water recycling systems
  - multiple uses of water within a single manufacturing site
  - direction of flow from impervious ground surfaces to landscaped areas.
- Encourage the use of measures to prevent litter being carried off-site in stormwater flows, including:
  - appropriately designed waste enclosures and storage bins, and
  - the use of litter traps for developments with the potential to generate significant amounts of litter.
- Encourage the use of green roofs, walls and facades on buildings where practicable (to be irrigated with rainwater/stormwater) to enhance the role of vegetation on buildings in managing the quality and quantity of stormwater.

22.18-4 Application requirements

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An application must be accompanied by a Water Sensitive Urban Design Response including, as appropriate:

Requirement	Detail Required
A site layout plan showing the location of proposed stormwater treatment measures.	Show location, area draining to a treatment measure, and the connection points, of any: 1. Harvesting and Reuse Measures: such as raingarden tanks (must identify what the tank is connected to; toilets, gardens etc). 2. Water Quality Treatment Measures: such as raingardens, wetlands, buffers and swales. 3. Infiltration Measures: such as porous paving and infiltration trenches/sumps. 4. Passive Irrigation Measures: such as directing runoff into gardens.
A report outlining how the application achieves the objectives of this policy.	A report including an assessment from an industry accepted performance measurement tool such as STORM or MUSIC (or equivalent).
Design details, such as cross	Design details as appropriate to the stormwater

Requirement	Detail Required
sections, to assess the technical effectiveness of the proposed stormwater treatment measures.	treatment measure proposed.
A **site management plan** which details how the site will be managed through construction.	A statement is required outlining construction measures to prevent litter, sediments and pollution entering stormwater systems.
A **maintenance program** which sets out future operational and maintenance arrangements.	A statement is required outlining operational and maintenance measures to check the effective operation of all systems.

If the water quality performance objectives set out in the *Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO 1999* (or as amended) are not met, an application must include justification for how the development meets the objectives of this policy.

22.18-5 Decision guidelines

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Before deciding on an application, the responsible authority will consider, as appropriate:

- The extent to which the development meets the objectives and requirements of this policy.
- The Water Sensitive Urban Design Response.
- Whether the application meets the best practice performance objective and treatment measures.
- Whether the proposal is designed and incorporates works to maintain, or improve, the quality of stormwater within or exiting the site.
- Whether the proposal will significantly add to the stormwater discharge or adversely affect water quality entering the drainage system.
- Opportunities for water conservation and reuse that influence the use of water sensitive urban design.
- The level of ongoing management required to achieve and maintain the desired stormwater quality measures that will be used during the construction phase to prevent a loss of stormwater quality as a result of building activities, such as silt traps.

22.18-6 Reference documents

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City of Stonnington Water Sensitive Urban Design Guidelines, 2009.

State Environment Protection Policy (Waters of Victoria), Environment Protection Authority, 2003 (as amended from time to time).

Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO, 1999 (as amended from time to time).

Water Sensitive Urban Design – Engineering Procedures: Stormwater, Melbourne Water, CSIRO Publishing, 2005 (as amended from time to time).

STORM calculator (as amended from time to time).

MUSIC – model for urban stormwater improvement conceptualisation tool (as amended from time to time).

22.18-7 Expiry

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This policy will expire when superseded (as determined by the Minister for Planning) by Water Sensitive Urban Design provisions in the Victoria Planning Provisions or the Building Code of Australia Regulations, whichever happens first.