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## 1. PREAMBLE

The City of Holdfast Bay (Council) has overarching objectives of progressing towards becoming a 'Water Sensitive City', to minimise flooding and nuisance and to improve stormwater quality prior to discharge to our stormwater system and the marine environment.

### 1.1 Background

Local Government has a responsibility to the community to manage stormwater drainage and run off to minimise damage and inconvenience while complying with sound environmental practice.

The *Environment Protection (Water Quality) Policy 2015* specifies that uncontaminated storm may discharge to the stormwater system which includes kerbs, drains and water courses.

Building and construction activities have the potential for significant storm water pollution and impacts to receiving waters. Pollutants may include soil, gravel, and building works wash water and are described in the *Environment Protection (Water Quality) Policy 2015*.

### 1.2 Purpose

This document provides the principles that Council will apply when assessing applications for stormwater disposal from private property to the Council road or drainage system.

### 1.3 Scope

This document applies to all applications for stormwater disposal but is not intended to be applied retrospectively to override approvals issued previously, including any requirements or conditions imposed under other Acts and Regulations including the Planning and Design Code (created under the *Planning, Development and Infrastructure Act 2016*) when implemented.

# STORMWATER DRAINAGE – BUILDING AND CONSTRUCTION

## 1.4 Definitions

*Average Recurrence Interval (ARI)* and *Annual Exceedance Probability (AEP)* – is a statistical likelihood of a storm event of at least a designated average rainfall intensity occurring. The probability is a long term average, and not a period between events (e.g. 10 year ARI is similar to 10% AEP and indicates 10 events over 100 years or a 10% chance of exceedance in any one year).

*Hydrology* is the estimation of the runoff and flow rates of rainfall once on the ground.

*Hydraulic*-refers to calculating the capacity or characteristics of flow control devices and conduits (Pipes).

*On-site Stormwater Detention (OSD) Storage* – temporary storage of stormwater, restricting the flow rate of stormwater runoff from a site by draining collected surface flows from paved and roof areas through a storage with an outflow control device.

*Pollutant Traps* are devices for the removal of pollutants in the stormwater system. They may include Gross Pollutant Traps (GPTs) which are designed to trap solids (typically litter and vegetative material) conveyed by runoff that are typically greater than 5 millimetres. There is a variety of GPTs currently suitable for use in urban catchments including gully baskets, in-ground GPTs, trash racks and pipe nets. Other *Pollutant Traps* (Secondary treatments) are inline devices or basins designed to remove hydrocarbons, nutrients and suspended solids from stormwater runoff.

*Retention* – Reducing the **volume** of stormwater outflow through reuse and infiltration

*Water Sensitive Urban Design- (WSUD)* is an approach to planning and designing urban areas to make use of water as a valuable resource and stopping it from reaching our waterways and marine environment by mimicking the natural water cycle as closely as possible.

*Planning and Design Code (P&D Code)* is the cornerstone of South Australia's new planning system. The Code will replace all development plans to become the single source of planning policy for assessing development applications across the state.

## 1.5 Strategic Reference

Environment: Building an environmentally resilient city

Environment: Using resource efficiently

Environment: Fostering an environmentally connected community

Environment: Protecting Biodiversity

# STORMWATER DRAINAGE – BUILDING AND CONSTRUCTION

## 2. PRINCIPLES

### 2.1 General Provisions

- 2.1.1 All developments/building works within the City of Holdfast Bay area shall incorporate stormwater drainage facilities to collect and convey uncontaminated stormwater runoff to Council's system, minimising adverse impact on the proposed property as well as surrounding environment. Water Sensitive Urban Design is strongly encouraged to meet this provision.
- 2.1.2 Property owners, builders or contractors are required to apply for a permit to be issued by Council for stormwater pipe installations or changes on Council land.
- 2.1.3 Stormwater that is permitted to be discharged into Council's drainage system shall be installed at the developer's expense in accordance with Council specification for stormwater pipe construction.
- 2.1.4 Information on desirable ground Finished Floor Levels can be obtained by reference to Council's 100 year Average Recurrence Interval flood maps (Long Term Scenario). Developers may need to undertake Hydrology and Hydraulic assessments to confirm levels specific to a site. All dwellings and buildings are to be a minimum of 200 mm above the 100 year ARI flood level based on the Long Term Scenario.
- 2.1.5 Builders and developers must ensure buildings and surface levels are set and constructed to an adequate height to allow stormwater to drain freely into Council's drainage system. A minimum of 300 mm above top of kerb is recommended.
- 2.1.6 Where the P&D Code applies, all stormwater management shall be provided in accordance with the Code. Otherwise, all new developments shall provide detention and / or retention with post-development flows from the site in a 100 year ARI event not to exceed pre-development flows for a 5 year ARI event.
- 2.1.7 On site infiltration of the first 15 mm of rainfall from impervious areas is strongly encouraged for all sites where site conditions are suitable.
- 2.1.8 The maximum allowable discharge of stormwater to the road kerb or approved location in a 10 year ARI rainfall event, is not to exceed 10 litres per second per outlet with a maximum of one outlet per 10 metres of frontage. Any excess above this flow is to be detained on site. Flows from multi story developments (roof level exceeding 10 metres above kerb height) shall not discharge direct to a road without reducing velocities to an acceptable level. Stormwater natural flow from upstream of the development site needs to be accommodated within the stormwater system.

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- 2.1.9 Stormwater discharge to reserves, open space or private land is not permitted without specific approvals. Stormwater should be piped to the water table, and concentrated surface discharge or discharge onto the footpaths or verge is not permitted. If there is no water table an alternative solution is to be agreed with Council staff.
- 2.1.10 Stormwater shall only be connected directly into underground drainage or side entry pits except where prior approval has been given. Where flows from a site exceed 50 litres per second in a 10 year ARI event, the developer shall provide a direct connection to an underground drainage system.
- 2.1.11 Adequate provision shall be made for the disposal of stormwater to the reasonable satisfaction of Council. Where possible, stormwater should be retained on site for beneficial reuse. Surface water from commercial, industrial or large carpark areas will require a GPT / Oil and silt separator prior to discharge into the stormwater system.
- 2.1.12 Detention and retention tanks in accordance with Australian Building Codes and development conditions shall be provided and maintained in good working condition.
- 2.1.13 All stormwater from the building and the site shall be collected and disposed of in a manner that does not adversely affect any properties adjoining the site or the stability of any building on adjacent sites.
- 2.1.14 Stormwater shall not be disposed of over a vehicle crossing place and any connection to the street water table, including remedial works to footpaths, verges or other Council infrastructure, is subject to any necessary approvals from Council and will be at the applicant's cost.
- 2.1.15 In cases where properties fall to the rear or are below the road and gravity discharge to the road is not possible, the applicant shall provide and maintain a pump system with a duty and standby pump, an alarm in event of failure and on site storage for a minimum of 2 hours in the event of a power failure. Alternatively a private easement and gravity drainage to the rear properties could be considered.
- 2.1.16 Development activities must not cause an adverse impact on adjoining or any other properties. This includes preserving surface flow paths and not increasing water levels for all events up to a 100 year ARI event.

### **2.2 Construction Requirements**

- 2.2.1 To fulfil the obligations of the EPA Water Quality Policy and ensure the pollutants do not move off site, all building or construction sites shall undertake erosion, sediment and drainage control management practices in accordance with the EPA Code of Practice for the Building and Construction Industry.

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- 2.2.2 Where a direct connection to Councils underground stormwater system is approved, an inspection pit must be installed on the private property immediately upstream of the drainage system. Any infrastructure in public road reserve shall be designed and constructed in accordance with the current version of the IPWEA Infrastructure Guidelines and standard drawings.

### 2.3 Disclaimer

- 2.3.1 Council will make available information on its drainage system where it is available, on the express understanding that Council is not liable for the accuracy of the information or the consequences of it being used. Results and information provided to Council by other parties may be released at the discretion of Council's Engineer subject to copyright and privacy restrictions, and on the understanding Council makes no guarantees as to its validity.

## 3. REFERENCES

### 3.1 Legislation

- *Development Act 1993*
- *Environment Protection (Water Quality) Policy 2015*
- *Local Government Act 1999*
- *Planning Development and infrastructure (PDI) Act 2016*

### 3.2 Other References

- Stormwater Management Plan, Coastal Catchments Between Glenelg and Marino 2014
- City of Marion and City of Holdfast Bay WSUD Master Plan 2015
- Code of Practice for the Building and Construction Industry, EPA 1999.