



02.9 - Detention Systems

02.9.1 - On-site detention system may be designed to restrict peak outflows for selected design storms to either pre-development conditions, or to the maximum capacity of the existing downstream drainage network.

02.9.2 - If stormwater cannot be disposed of on-site due to adverse site conditions then connection to the City's street stormwater system may be considered. Approval of the proposed connection may require the installation of large on-site holding tanks to retain the critical storm. These on-site detention systems shall be designed to reduce the peak runoff from the developed sites for a once in a hundred (1:100) year storm to the runoff which would have occurred in a natural state of a once in twenty (1:20) storm of a duration equal to the natural time of concentration. The maximum allowable discharge to the City's system is 120litres/second/hectare of site and the minimum storage requirement is 185 cubic metres/hectare of site. In designing the storage tank allowance should be made for the additional area that may be created by high rise buildings on the site. A detailed design must be submitted to the City of Perth's Engineering Section before any drainage connection approval will be considered.

02.10 - Retention Systems

02.10.1 - Stormwater retention systems can be designed to reduce the total annual runoff volume and reduce the runoff volume from a specified design storm.

02.10.2 - Grassed and Vegetated Drainage Channels:

The application of ground channels is genuinely limited by the design standards and site conditions. Consideration should be given to the incorporation of the principles of natural channel design for the design of such drainage channels. All drainage channels of this design should have a natural appearance and fit with its surroundings.

Refer *Stormwater Management Manual for Western Australia (WA 2004-2007)*.

02.11 - Free Board

The Free Board level required is 300mm, this is the level between a flooded road reserve and the floor level of commercial/residential properties or carparks. Where the level of a property or carpark is below the level of the top of kerb it is required that in between is a raised footpath that is 100mm higher than the top of kerb. This requirement minimises the risk of flooding to private properties and carparks. See drawing below.

