

On Site Drainage Requirements

The City of Joondalup requires all stormwater falling within the lot boundaries to be contained on site, either through soakwell, drainage cells, sumps or other approved methods.

Property owners also have a statutory obligation under common law precedents and the *Local Government Act* to confine stormwater within their boundaries.

For commercial and large multi residential sites, the City requires the onsite storage capacity to be designed to contain the 1 in 100 year storm of 24 hours duration.

For small residential developments, the design criteria used is the 20 year 5 minute storm event, as stated in the B.C.A.

Hydraulic Engineers and Designers should design the system to comply with these standards, taking into account the existing ground conditions. A geotechnical report may be required.

Other general information

- All soakwells should be located away from adjacent structures by a distance at least equal to the depth of the bottom of the soakwell, unless certified by a Practising Structural Engineer that the structure will not be adversely affected by the soakwell location.
- An above ground overflow path should be provided to prevent flooding of the premises, should the system overflow in times of prolonged heavy storms.
- Grated inlets should be installed at the base of all downpipes.
- Soakwells located under driveways should have trafficable lids and bases.

Although details are not generally required by the City for Development Approval, thought should be given to the method of stormwater disposal at an early stage, as details will need to be shown on the Building Permit application.

The chart overleaf illustrates the areas served by different-size soakwells for both residential and commercial sites. It should be noted these areas are a guide only.

Stormwater Runoff

This information sheet has been created for residential property owners to provide information relating to effectively containing storm water runoff on their properties.

What is storm water runoff?

- Rainwater that is collected from roof and paved areas on and around the dwelling on the property.
- Swimming pool and Spa water discharged from overflowing or empties swimming pools.

Property owners have a statutory obligation under common law precedents and the *Local Government Act 1995* to prevent water from dripping or running from a building on the land onto any other land.

The most effective way to achieve this objective is to provide catchment areas such as soakwells, spoon drains or similar methods to disperse the rainwater collected from gutter and downpipes from roof and paved areas.

Note: One downpipe is required for approximately 15 square metres of roof area. The distance between downpipes should not exceed 12 metres in accordance with the Building Codes of Australia.

It is necessary to design and install a system so that when overflowing occurs any water is directed away in a manner which ensure it does not pond against, or enter into, the building or adjacent properties.

Clearances for soakwells away from buildings and boundaries

As a general guide the setbacks from soakwells should be a minimum of the width of the soakwell away from buildings and boundaries, providing that the width is greater or equal to the depth of the soakwell.

The purpose of this procedure is so that when the soakwells are being placed in the ground, the excavation does not cause undermining of fencing and retaining walls or other adjacent buildings on boundaries or footings to buildings within the property.

It is not recommended to install soakwells where there are narrow clearances between building and boundaries as there would not be sufficient drainage area for water to be drained into the soil.

Please find below a table indicating some common sizes of concrete soakwells for rainwater dispersion. The soakwell sizes required for the area of roof or paved areas are also provided as guide.

Capacity

Internal diameter (mm)	600	900	900	1200	1800	1800
Length (mm)	600	600	900	1200	600	1200
Weight (kg)	185	350	540	1100	900	1800
Capacity (ltrs)	180	385	580	1300	1550	3100
Approx surface area drained	14	31	47	111	125	250

Note: The calculations provided above are recommended based on normal rainfall conditions. Excessive stormwater conditions can cause overflow depending on the soil type, eg: clay, limestone etc

Disclaimer: this information sheet is produced by the City of Joondalup in good faith and the City accepts no responsibility for any ramifications or repercussions for providing this information. This information sheet is correct as at July 2016.