

Local Planning Policy 1.3 Stormwater Management

VERSION 2

September 2025

town planning services

Draft for Consultation

Version	Adoption	Comment
1	28 August 2018 Council Item DCS377	Final – No objections received during advertising.
2	TBC	Updated to reflect current planning framework

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1.0 CITATION

This is a local planning policy prepared under the *Planning and Development (Local Planning Schemes) Regulations 2015* and the City of Greater Geraldton Local Planning Scheme No. 1 ('the Scheme'). It may be cited as Local Planning Policy 1.3 *Stormwater Management*.

2.0 INTRODUCTION

The *Residential Design Codes Volumes 1 and 2 (the R-Codes)* includes provisions for decision-makers to prepare local planning policies to alter certain development standards of the R-Codes where a specific local need arises. The R-Codes also acknowledge that applications for proposals which do not satisfy the deemed-to-comply provisions of the R-Codes may need to rely more specifically on local housing requirements and design objectives.

This policy provides local housing objectives and varies relevant deemed-to-comply provisions of the R-Codes to assist in their implementation. It should be read in conjunction with the R-Codes.

Stormwater management is an integral part of building construction and all development is required to have water draining from roofs, driveways, communal streets and other impermeable surfaces directed to an approved stormwater disposal system.

This policy has been prepared to guide applicants, landowners and decision makers in relation to the City of Greater Geraldton's expectations for stormwater management on residential, commercial and industrial properties. It should be read in conjunction with the National Construction Code and the City of Greater Geraldton *Animals, Environment and Nuisance Local Law 2014* (Part 4, Division 4 – Stormwater management)

3.0 APPLICABLE DEVELOPMENT/POLICY SCOPE

This policy applies to all residential, commercial and industrial development in the City.

4.0 PLANNING POLICY

The objectives of this policy are to:

- a) To alter the deemed-to-comply provisions of the R-Codes for *Design Principle 5.3.9 and 6.3.8 – Stormwater management*.
- b) To ensure that sufficient information is provided with a development application (or a building permit where development approval may not be required) so that the local government can assess how stormwater will be appropriately managed.
- c) To specify the minimum standards for the effective retention of stormwater on-site for all types of development.

5.0 DEVELOPMENT REQUIREMENTS

5.1 Residential Development

- 5.1.1 The deemed-to-comply provisions for Part 5.3.9, C9 and Part 6.3.8, C8 of the R-Codes states that:

All water draining from roofs, driveways, communal streets and other impermeable surfaces shall be directed to garden areas, sumps or rainwater tanks within the development site where climatic and soil conditions allow for the effective retention of stormwater on-site.

Note: The above clause does not just apply to a residence but to all roof areas on the property, which includes sheds, carports, patios and the like. Applications for any impermeable roofed structure are required to demonstrate compliance with the deemed-to-comply provisions.

- 5.1.2 In addition to the deemed-to-comply provision (clause 5.1.1 above), the local government will allow stormwater to drain from driveways directly to the road carriageway provided:
 - a) The maximum area is 36m² (generally a double width garage driveway setback 6m from the property boundary); and
 - b) The drainage is only for the stormwater that falls directly onto the driveway (i.e. no stormwater from roofs, other impermeable surfaces or other driveways is directed onto the driveway).

Figures 1 – 3 Examples of downpipes that do not comply with clause 5.1.2



Figure 1



Figure 2



Figure 3

- 5.1.3 The amount of storage to be provided for stormwater retention is calculated for the 1 in 1 year ARI rainfall event for 1 hour duration, which is equivalent to 17mm of rainfall intensity as follows:

$$\text{Volume of storage required (m}^3\text{)} = \frac{\text{Total impermeable surface area (m}^2\text{)} \times 0.9}{60 \text{ for mostly sandy soils (A class sites)* or } 50 \text{ for slightly clay or silty soils (S or M class sites)*}}$$

* For H1, H2 or E class sites (in accordance with soil types as per AS 2870) a detailed stormwater disposal method will need to be provided.

The ratio of the volume of storage (m³) to the impermeable surface area (m²) equates to:

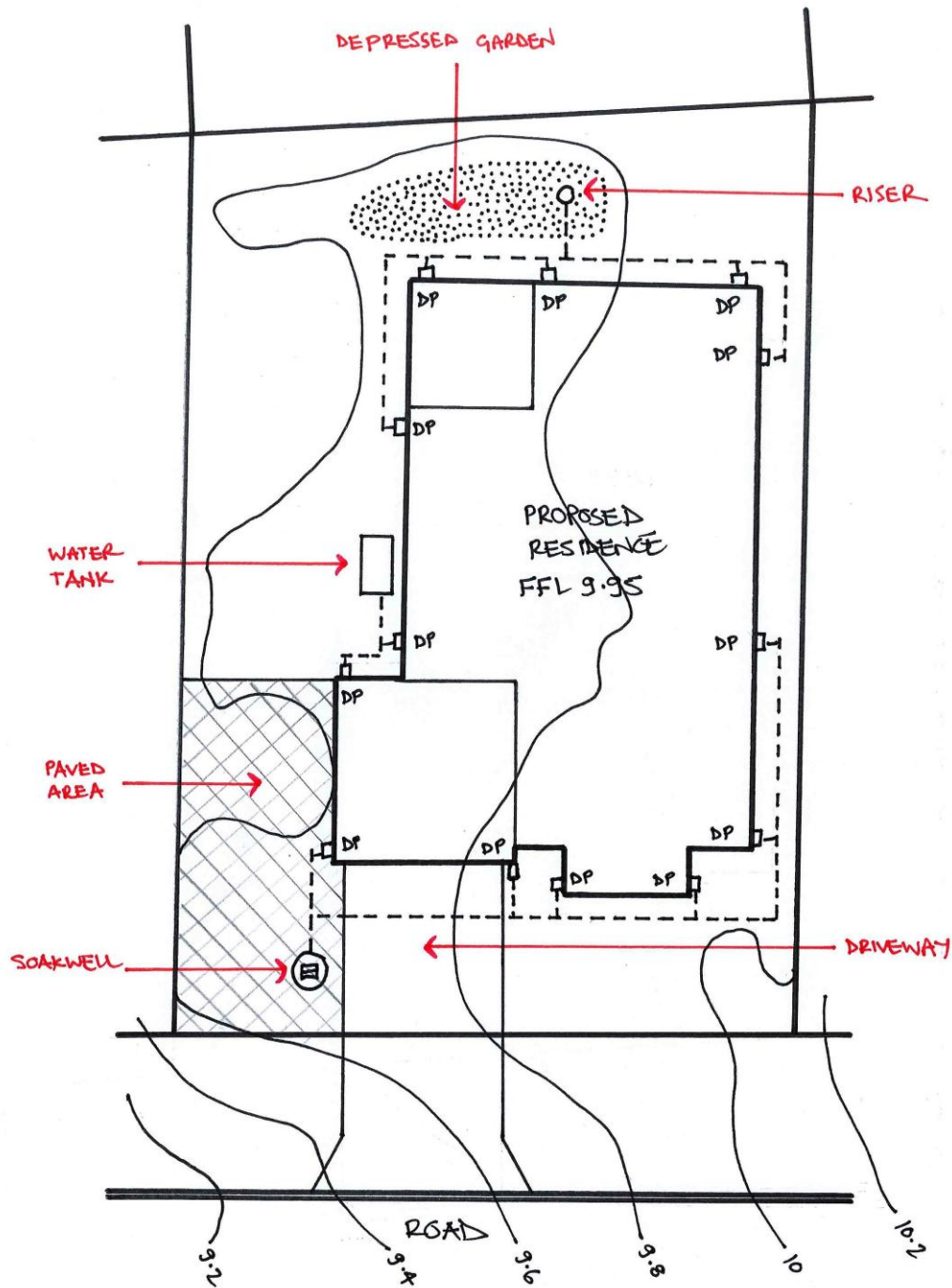
- 1m³ of storage volume for every 67m² of impervious area for sandy soils.
- 1m³ of storage volume for every 56m² of impervious area for slightly clay or silty soils.

- 5.1.4 Depressed garden or landscaped areas should be a minimum of 1m away from a boundary fence. They should have a low point 100mm below the adjacent areas to provide storage capacity.
- 5.1.5 To demonstrate that the development meets the deemed-to-comply provisions of the R-Codes the following information is required (with either the development application or the building permit):
- a) Site classification of the property (in accordance with soil types as per AS 2870);
 - b) Area of impermeable surfaces (such as roofs and paved areas);
 - c) Depressed garden areas proposed (if any) for stormwater retention with levels;
 - d) Calculations showing the amount stormwater required to be contained; and
 - e) Storage size of garden areas, soakwells or rainwater tanks to accommodate the above calculation.
- 5.1.6 A combination of rainwater tanks, soakwells, depressed gardens or other forms Water Sensitive Urban Design (WSUD) solutions are encouraged and the design should allow for an overflow pathway directing higher rainfall intensity events away from the residence and neighbouring properties and ensuring water does not pond against fences or buildings.
- 5.1.7 The use of a stormwater grate is encouraged to reduce the risk of water back flowing up into eaves.

Figure 4 Example of a stormwater grate referred to in 5.1.7



Figure 5 Stormwater Plan for an A Class site (example only and not to scale)



Stormwater volume calculations:

Roof area + 232m² Paved area + 124m² Driveway – 36m² (refer to clause 4.1.3)

Total impermeable surface area: 320m² x 0.9 / 60

Volume of storage required = 4.80m³

Stormwater management systems:

Soakwell (1500mm diameter x 1200mm depth) 2.12m³

Water tank (2,000 litres) 2m³

Depressed garden (24m² area x 0.05m average depth) 1.2m³

Total volume of storage proposed: 5.32m³

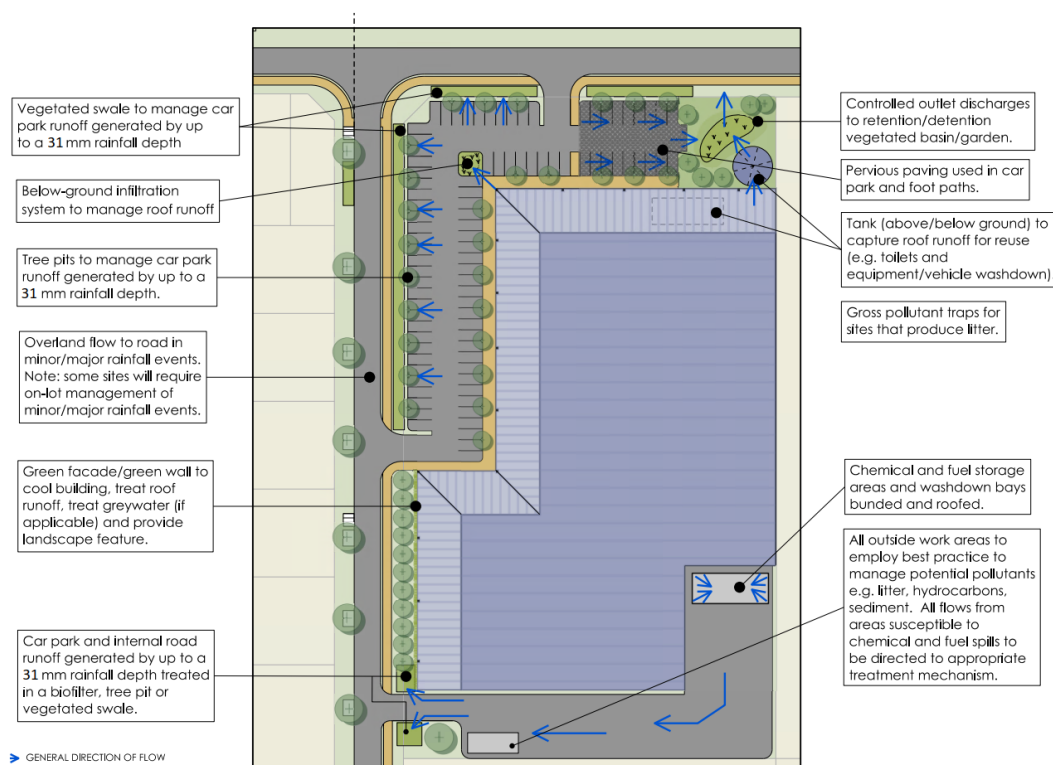
5.2 Commercial and Industrial Development

- 5.2.1 All water draining from roofs, driveways, car parking areas, hardstand areas and other impermeable surfaces shall be retained on-site.
- 5.2.2 A combination of rainwater tanks, soakwells, storage pits, landscaped drainage basins / open swales or other forms WSUD solutions are encouraged. Fenced, open earth drainage sumps will only be approved if the proponent provides evidence to the satisfaction of the local government that all other WSUD disposal options are not viable for the site.
- 5.2.3 The amount of storage to be provided for stormwater retention is calculated for the 1 in 10 year ARI rainfall event for 1 hour duration, which is equivalent to 31mm of rainfall intensity as follows:

$$\text{Volume of storage required (m}^3\text{)} = \text{Total impermeable surface area (m}^2\text{)} \times 0.9 \times 0.031$$

- 5.2.4 In addition, the method to cater for a 1 in 100 year ARI rainfall event for one hour duration is to be demonstrated. This is commonly achieved via an overland flow path.
- 5.2.5 For large-scale commercial, industrial, or residential developments, the City may consider alternative stormwater management solutions beyond those outlined in this policy. Nothing in this policy prevents an applicant from preparing a Stormwater Management Plan that demonstrates adequate drainage of the development by alternative means. The plan must be prepared by a qualified professional engineer with relevant experience in drainage design and should be developed in accordance with a brief agreed upon with the City's Infrastructure Services team. The recommendations of the Stormwater Management Plan will be subject to review and approval by an authorised officer of the City to ensure compliance with the City's design objectives and broader stormwater management principles.

Figure 6 Stormwater Plan for commercial site (example only and not to scale)



5.3 Standard Soakwell Volumes

5.3.1 The table below shows standard soakwell sizes, stormwater storage capacity and the equivalent impermeable area for A, S and M class sites (in accordance with soil types as per AS 2870).

Soakwell Sizes and Storage Capacity		
Diameter (mm)	Depth (mm)	Volume (m ³)
600	600	0.17
900	600	0.38
900	900	0.57
1200	1200	1.36
1800	600	1.53
1500	1200	2.12
1500	1500	2.65
1800	1200	3.05
1800	1500	3.81
1800	1800	4.58

5.3.2 To provide sufficient drainage area for soakwells to function effectively, they should be setback a minimum of 2m from footings and/or the property boundary.

6.0 DEFINITIONS

Impermeable Surface the ground surface area that will impede the absorption of stormwater into the natural ground surface.

R-Codes Residential Design Codes Volumes 1 and 2