

Using the Integrated Water Management Provisions of Clause 56 – Residential Subdivision

Planning Practice Note 39

December 2022

This practice note explains how the requirements of clause 56.07 can be met

Clause 56.07 provides sustainable water management provisions that aim to conserve, reuse and recycle water and manage the quality of stormwater run-off.

What does Clause 56.07 require?

Clause 56.07 requires the provision of drinking water systems, reused and recycled water systems, wastewater systems and urban stormwater management systems as specified by and to the satisfaction of the relevant authority.

These systems can influence the layout and land allocation of a residential subdivision and must be submitted as part of the design response.

The responsible authority will require written evidence that the requirements of the water authority, sewerage authority, Environment Protection Authority, drainage authority or floodplain management authority, as relevant, have been met.

Detailed design may be appropriately deferred until later in the process using permit conditions. This would assist in avoiding unnecessary delays and costs.

Clause 56.07 comprises the following provisions:

- 56.07-1 Drinking Water Supply objectives and Standard C22
- 56.07-2 Reused and Recycled Water objective and Standard C23
- 56.07-3 Wastewater Management objective and Standard C24
- 56.07-4 Stormwater Management objectives and Standard C25.

The provisions cannot be applied to introduce water management measures for the construction of dwellings and other buildings, water efficiency of fixtures or fittings, or provision of site works on proposed lots. These are matters for the building or plumbing regulations.

Further information

See Planning Practice Note 40: Using the Residential Subdivision Provisions of Clause 56 for more information about when clause 56 applies and how the clause operates.



Who are the relevant authorities?

- **The water authority** is responsible for delivering some or all of the following services to towns and cities across Victoria: potable water storage, treatment and supply; sewerage reticulation and wastewater treatment; recycled water supply; diversion of water from waterways; and extraction of groundwater.
- **The drainage authority** may be local government and/or Melbourne Water and is responsible for managing drainage assets and ensuring that the quality of stormwater meets river health objectives and satisfies broad community aesthetic and amenity values. Councils are generally responsible for catchments of less than 60 hectares within the Melbourne Water region.
- **Councils** are responsible for assessing installation of and maintenance / operation of on-site wastewater management systems (OWMS).
- **Catchment Management Authorities (CMAs)** manage river health; are responsible for regional and catchment planning and coordination and waterway, floodplain, salinity and water quality management. Melbourne Water is the CMA for Melbourne.
- **Floodplain Management Authorities** control development proposed for land adjoining waterways and provide advice about flooding and controls on development to councils and the community. The main floodplain management authorities include Melbourne Water and regional catchment management authorities.
- **Environment Protection Authority Victoria (EPA)** aims to protect human health and the environment by reducing the harmful effects of pollution and waste. It administers the Environment Protection Act 2017 and the Environment Protection Regulations 2021. Under these laws, an EPA permission may be required for wastewater treatment activities and reclaimed wastewater schemes.

Council can provide advice on the relevant authorities for a particular site and their contact details.

Policy context

Integrated water management includes measures to address stormwater, wastewater, drainage, water supply, water treatment and water re-use. It also seeks to achieve broader outcomes that integrate water into the landscape to facilitate cooling, local habitat improvements and provision of attractive and enjoyable spaces for community use.

Clause 19.03-3 sets out Victoria's integrated water management policies.

Climate change

Planning scheme clause 19.03-3 seeks to provide urban environments that are more resilient to the effects of climate change. Drainage authorities can provide guidance on how to account for climate change, including through responses additional to those set out under clause 56.07.

The *Australian Rainfall and Runoff: A Guide to Flood Estimation* (Commonwealth of Australia, 2019) publication also provides information on how to address risks from climate change in the design of infrastructure (including measures outlined in Book 1 - Chapter 6, Book 8 - Chapter 7.7 and Book 9).

Understanding the integrated water management provisions of clause 56

Where does clause 56.07 apply?

The provisions of clause 56.07 apply to an application to subdivide land in the Neighbourhood Residential Zone, General Residential Zone, Residential Growth Zone, Mixed Use Zone or Township Zone and any Comprehensive Development Zone or Priority Development Zone that provides for residential development.

The provisions also apply to the Urban Growth Zone (Part B) where relevant applied zones are specified in a schedule to the Urban Growth Zone or the precinct structure plan.

Clause 56.07-1 Drinking water supply - standard C22

In most areas, reticulated drinking water supply will be available within or adjacent to established urban areas. In some cases, an extension of the reticulated water supply system will be required to service the proposed subdivision.

Contact the local water authority for:

- the location of the nearest reticulated drinking water supply of appropriate capacity to serve the proposed subdivision
- extension and connection requirements
- the design and construction standards for the proposed reticulated drinking water supply system
- any requirement for an owner to enter into a separate agreement with the water authority relating to the works.



The reticulated drinking water supply must be provided to the boundary of all lots, maximising use of shared trenching (as provided for in clause 56.09-1 and standard C27).

An applicant should contact the relevant water authority before applying for a planning permit to obtain a letter from the water authority confirming compliance with standard C22.

56.07-2 Reused and recycled water - standard C23

Substituting drinking water usage for reused and recycled water wherever possible enables high levels of water savings.

Sources of reused and recycled water include wastewater when properly treated, and urban run-off which is principally stormwater.

The appropriateness of reused and recycled water supply systems or 'dual water reticulation systems' is determined by the water authority. They are not suitable everywhere.

A water authority may specify an area for mandatory installation of a dual water reticulation system.

Provision of dual water reticulation systems must be approved by the water authority.

Recycled water must meet high quality standards and is managed and controlled by the water authority within the regulatory framework of EPA Victoria and Department of Health.

An applicant should contact the relevant water authority before applying for a planning permit to obtain advice on:

- whether the subdivision site is in an area identified for dual water reticulation systems.
- design and construction requirements.

A detailed plan must be prepared by a suitably qualified person in accordance with guidance from EPA Victoria, showing how the recycled water system will be implemented and managed. This must be approved by EPA Victoria and the water authority and, where necessary, endorsed by the Department of Health prior to a recycled water scheme proceeding.

Further information:

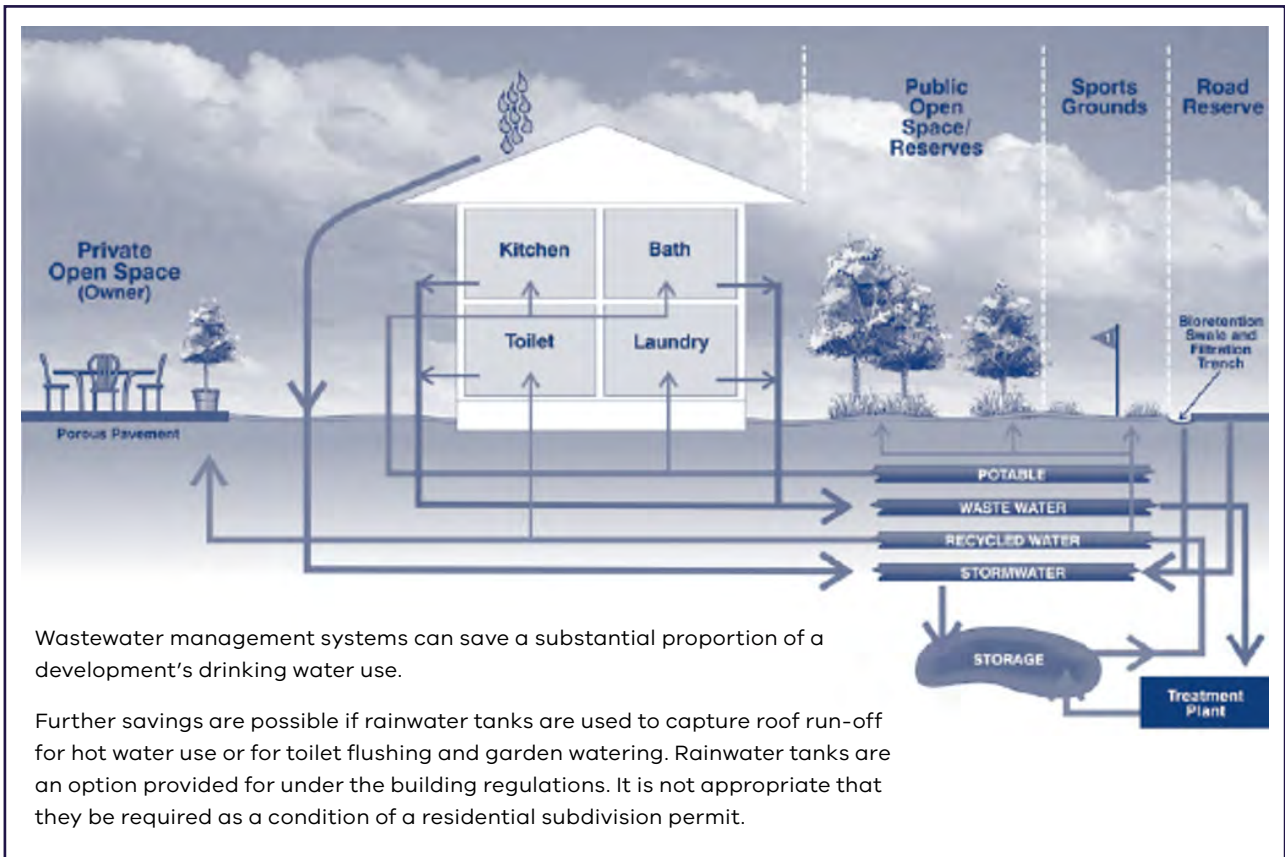
See [EPA Victoria's website](#) for more information, including:

- *Publication 1910.2: Victorian Guideline for Water Recycling* (EPA, 2021)
- *Publication 1911: Technical Information for the Victorian Guideline for Water Recycling* (EPA, 2021)

The dual water reticulation system must be provided to the boundary of all lots. Associated considerations include the use of shared trenching (as provided for in clause 56.09-1 and standard C27) and provision of areas for water treatment and storage (as provided for in clause 56.05-2 Public open space provision and standard C13).



Conceptual Diagram: Recycled Water System



56.07- 3 Wastewater management - standard C24

Councils are responsible under the *Environment Protection Act 2017* (section 28) for ensuring the provision of appropriate wastewater management systems on all lots in a subdivision. Appropriate systems minimise the risk of harm to human health and the environment.

In most cases, reticulated sewerage systems for wastewater disposal will be available within or adjacent to urban areas. Connection to the sewerage network is arranged through the relevant water authority.

It may be necessary to extend the existing network to service the subdivision. In these cases, advice and the approval of the water authority to extend the service will be required.

Where reticulated systems are not available, council will require on-site wastewater treatment that takes account of land capability and meets the requirements of the relevant council under the Environment Protection Regulations 2021 and the water authority. In some circumstances, such as

where reticulated sewerage is unavailable on land in the Township Zone, an application must include a land capability assessment addressing the risks to human health and the environment of an on-site wastewater management system. Equivalent provisions apply in other zones and overlays as well as under certain particular provisions.

Reticulated wastewater management systems

These systems:

- are generally the most effective method for removing and treating wastewater in an urban area
- convey wastewater to centralised or local treatment facilities
- must meet the requirements of the water authority
- are provided to all lots within a subdivision where access to a sewerage system is available.



On-site wastewater management systems

These systems:

- are generally provided where wastewater can be safely and sustainably managed and retained onsite and where reticulated systems are not available
- collect, treat and reuse; or dispose of wastewater on-site
- must meet the requirements of the council
- must be consistent with any relevant approved council on-site wastewater management plan (previously called a domestic wastewater management plan).

Approvals:

- Less than 5000 litres per day - Council-issued permit under the *Environment Protection Act 2017* and the *Environment Protection Regulations 2021*.
- Greater than 5000 litres per day - EPA development licence and operating licence.

Further information:

- **EPA** - epa.vic.gov.au:
 - *Regulatory Framework for On-Site Wastewater Management Systems* webpage
 - *Publication 891.4 – Code of Practice – Onsite Wastewater Management (EPA, 2016)*
 - *Publication 1974 – Regulating Onsite Wastewater Management Systems: Local Government Toolkit (EPA, 2021)*
 - *Publication 1976 – Guidance for Owners and Occupiers of Land with an OWMS ≤ 5000 Litres on Any Day (Including Septic Tank Systems) (EPA, 2021)*
 - *General Environmental Duty (GED)* webpage
- **Municipal Association of Victoria (MAV)** - mav.asn.au:
 - *Victorian Land Capability Assessment Framework (MAV, DEPI and EPA, 2014)*

56.07-4 Stormwater management - standard C25

Surface run-off (stormwater) occurs when the capacity of the land to retain water is exceeded. This run-off can be produced by rainfall or other means such as irrigation or car washing. As the density of urban development in an area intensifies, so does the proportion of impervious areas, which in turn increases the volume of surface run-off from a rainfall event. Run-off rates become much higher and concentrated over shorter periods of time. These peak flows may be evident even after small, frequent rainfalls and have the potential to cause flooding and significant erosion in downstream waterways.

Urban development is also a significant generator of stormwater pollutants such as sediments, hydrocarbons, heavy metals, nutrients, pathogens and litter. Stormwater pollutants and peak flows can threaten the health of waterways by degrading aquatic habitats, disturbing riparian vegetation or modifying their physical form.

Urban run-off needs to be managed to minimise the risk of flooding and protect receiving waters and the environment. The receiving waters can be either surface water (creeks, rivers, bays) or groundwater (water found underground in the cracks and spaces in soil, sand and rock).

Standard C25 provides that urban stormwater management systems must be designed and managed to the requirements of the relevant drainage authority. In Melbourne, this is either Melbourne Water (the water authority) or the local council where a catchment is 60 ha or less. In regional areas council is the local drainage authority.

Where reuse of urban stormwater is proposed, the urban run-off system must be designed and managed to the satisfaction of the water authority and/or drainage authority.

Stormwater and residential subdivision

Stormwater run-off must meet the *Urban Stormwater – Best Practice Environmental Management Guidelines* (CSIRO, 1999).

The current water quality objectives are:

- 80 per cent retention of typical urban annual suspended solids load
- 45 per cent retention of typical urban annual total phosphorus load
- 45 per cent retention of typical urban annual total nitrogen load.



In addition, the CSIRO Guidelines require a 70 per cent reduction of typical urban annual litter load. Flows in waterways that are downstream of a proposed subdivision must be designed to ensure that flows downstream of the subdivision site are restricted to predevelopment levels unless increased flows are approved by the relevant drainage authority and there are no detrimental downstream impacts.

Consistent with the CSIRO Guidelines, stormwater treatment may be distributed throughout the subdivision and a range of treatment options exists. If a site is located within a drainage scheme, then additional works may not be required on-site.

A 'drainage scheme' is a drainage strategy prepared and implemented by the relevant drainage authority that:

- identifies drainage infrastructure requirements for new development and re-developments
- provides a mechanism for equitable funding of infrastructure between developers within a catchment.

Where a drainage scheme applies, a financial contribution may be made towards providing off-site urban run-off management infrastructure. The drainage authority should be contacted to obtain information about possible off-set provisions. Melbourne Water has a stormwater offset strategy for the Melbourne region. All developments are encouraged to incorporate water sensitive urban design elements.

Specialist modelling software is used to help determine the appropriate size and design configuration of stormwater treatments to meet planning requirements. The MUSIC and STORM software programs, or equivalent, are suitable to use for residential subdivisions.

STORM software

STORM (Stormwater Treatment Objective – Relative Measure) is a simplified method for rating the stormwater quality performance of a development proposal. It is most appropriate for assessing small scale subdivisions of typically less than 1 hectare in area. While it can be used for large developments, the results would be more conservative than what a more sophisticated models would deliver, such as the MUSIC software. It is intended for use by applicants without access to specialist expertise.

It allows for a stormwater quality treatment area to be provided to meet the best practice performance objectives provided in standard C25 of clause 56.07-

4. A rating of 100 per cent implies that the water quality requirements have been satisfied.

Visit storm.melbournewater.com.au to access Melbourne Water's STORM calculator.

MUSIC software

MUSIC (Model for Urban Stormwater Improvement Conceptualisation) software is used for more complex projects such as developments at a subdivision, neighbourhood or regional scale. MUSIC software can assist with modelling the stormwater solution for the development.

Visit ewater.org.au for further information about MUSIC and to purchase the current version of the software.

What if the stormwater quality requirements cannot be achieved?

Where a residential subdivision site is less than 1 ha in area, site conditions may make it difficult to meet the stormwater quality treatment requirements. Where all reasonable actions have been taken to achieve the performance objectives within the development site and 100 per cent treatment is not achieved, the following options apply:

- the developer may achieve water quality objectives through works on adjoining land with the agreement of the drainage authority
- a charge may be sought for off-site works where:
 - the drainage authority applies an off-set provision under a drainage scheme
 - a relevant development contribution plan is specified in the planning scheme
- the drainage authority may exercise discretion to accept a lesser level of stormwater treatment
- the drainage authority may conclude that objective 56.07-4 has not been met and determine to not issue a permit.

Minor or local drainage system

The minor drainage system will generally consist of a gutter and pipe network or a swale system to contain run-off from minor storms to prevent nuisance flooding of pavements. standard C25 sets out provisions for minor drainage systems.

Major drainage system

The objective of the major drainage system is to provide for the safe and effective passage of stormwater flows and minimise damage to property.

The system should operate when capacity of the minor drainage system is exceeded. This will usually



consist of overland flow paths via roadways or drainage reserves. Standard C25 sets out provisions for major drainage systems.

Water sensitive urban design (WSUD)

WSUD provides an alternative to the traditional approach of conveying stormwater to a downstream destination for disposal into the environment. It integrates urban planning and development with the management, protection and conservation of available water sources including urban run-off.

WSUD can be applied at a site, neighbourhood or regional scale.

The aim of WSUD is to:

- protect downstream aquatic ecosystems and remove contaminants
- integrate stormwater elements as part of the urban form
- recognise stormwater as a resource
- provide a conveyance system for the safe passage of stormwater run-off to avoid nuisance flooding and damage to public and private property.

WSUD treatment measures include:

- gross pollutant traps
- bio-retention systems; vegetated swales, rain gardens, tree planters and basins
- buffer strips
- infiltration measures
- porous paving / surfaces
- rainwater tanks
- sediment ponds
- integrated public open space and stormwater systems
- wetlands.

Should any WSUD treatment measures be required on proposed lots to meet urban run-off objectives as assessed through a STORM/MUSIC assessment, this may be provided by agreement. It is not appropriate to prescribe these measures through a planning permit for a residential subdivision.

WSUD treatment measures on lots are appropriately addressed under the Building Regulations and clauses 54.03-4 or 55.03-4 of the planning scheme.

Further information:

- **Clearwater** - clearwatervic.com.au:
 - See the wide range of tools and background information regarding stormwater and wastewater management on the clearwater website.
- **CSIRO** - publish.csiro.au:
 - *Urban Stormwater - Best Practice Environmental Management Guidelines* (CSIRO, 1999)
 - *WSUD Engineering Procedures: Stormwater* (CSIRO, 2005) (available for purchase)
- **DELWP** - water.vic.gov.au:
 - *Stormwater Management for Urban Development* webpage
 - *Green-Blue Infrastructure Guidelines* (DELWP, 2017)
 - *Trees for Cooler and Greener Streetscapes* (DELWP, 2019)
- **Engineers Australia**
 - *Australian Run-off Quality - A Guide to Water Sensitive Urban Design* (Engineers Australia, 2006)
- **EPA** - epa.vic.gov.au:
 - *Urban Stormwater Management Guidance* webpage
 - *Publication - 1739.1: Urban Stormwater Management Guidance* (EPA, 2021)
- **Geoscience Australia** - arr.ga.gov.au:
 - *Australian Rainfall and Runoff - A Guide to Flood Estimation* (Commonwealth of Australia, 2019)
- **Melbourne Water** - melbournewater.com.au:
 - *Stormwater Management* webpage
 - *Developer Guides and Resources* webpage
- **Victorian Planning Authority** - vpa.vic.gov.au:
 - *Engineering Design and Construction Manual for Subdivision in Growth Areas* (VPA, 2019)
 - *Precinct Structure Planning Guidelines: New Communities in Victoria* (VPA, 2021)



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