

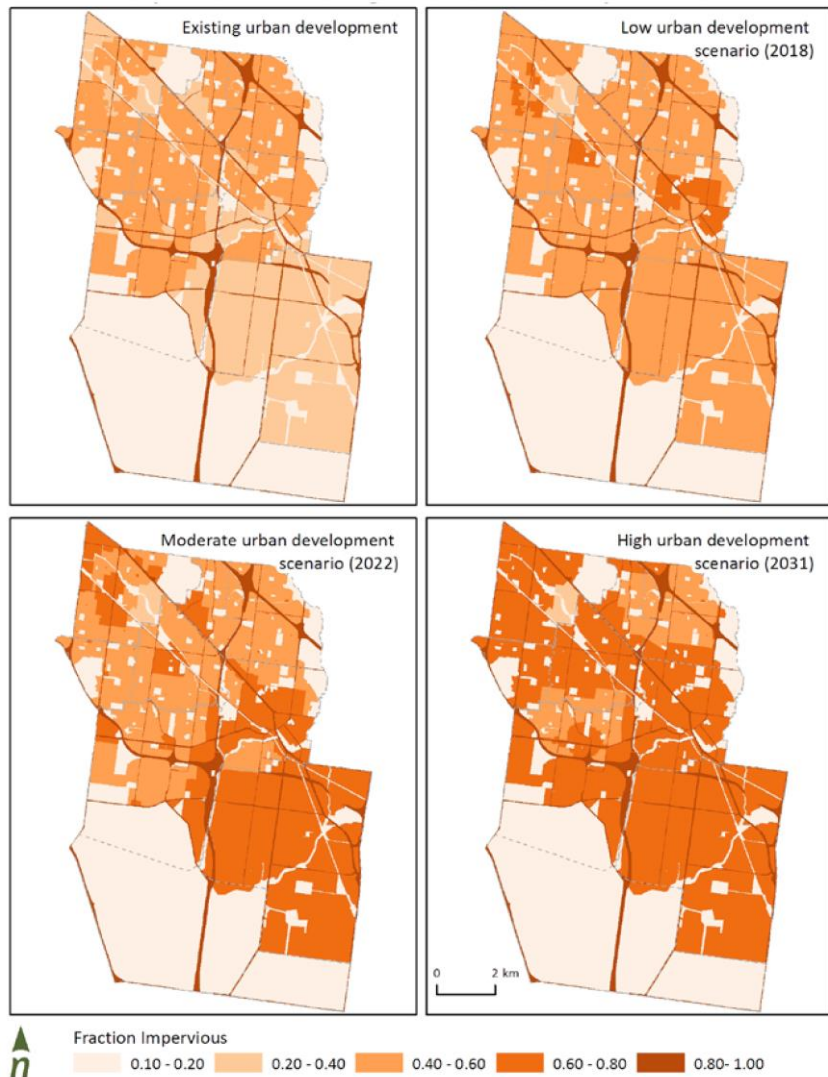
Implementing the Integrated Water Management Victorian Planning Provisions - Case studies from Melbourne Councils

Ian Adams
Director, Organica
Engineering



Sustainable Stormwater Strategy

Figure 3. Future forecasts of imperviousness within Greater Dandenong⁴



Sustainable Stormwater Strategy 9

Infill development



<http://www.greaterdandenong.com/document/29220/water-and-stormwater>

Business as usual will deliver this.....



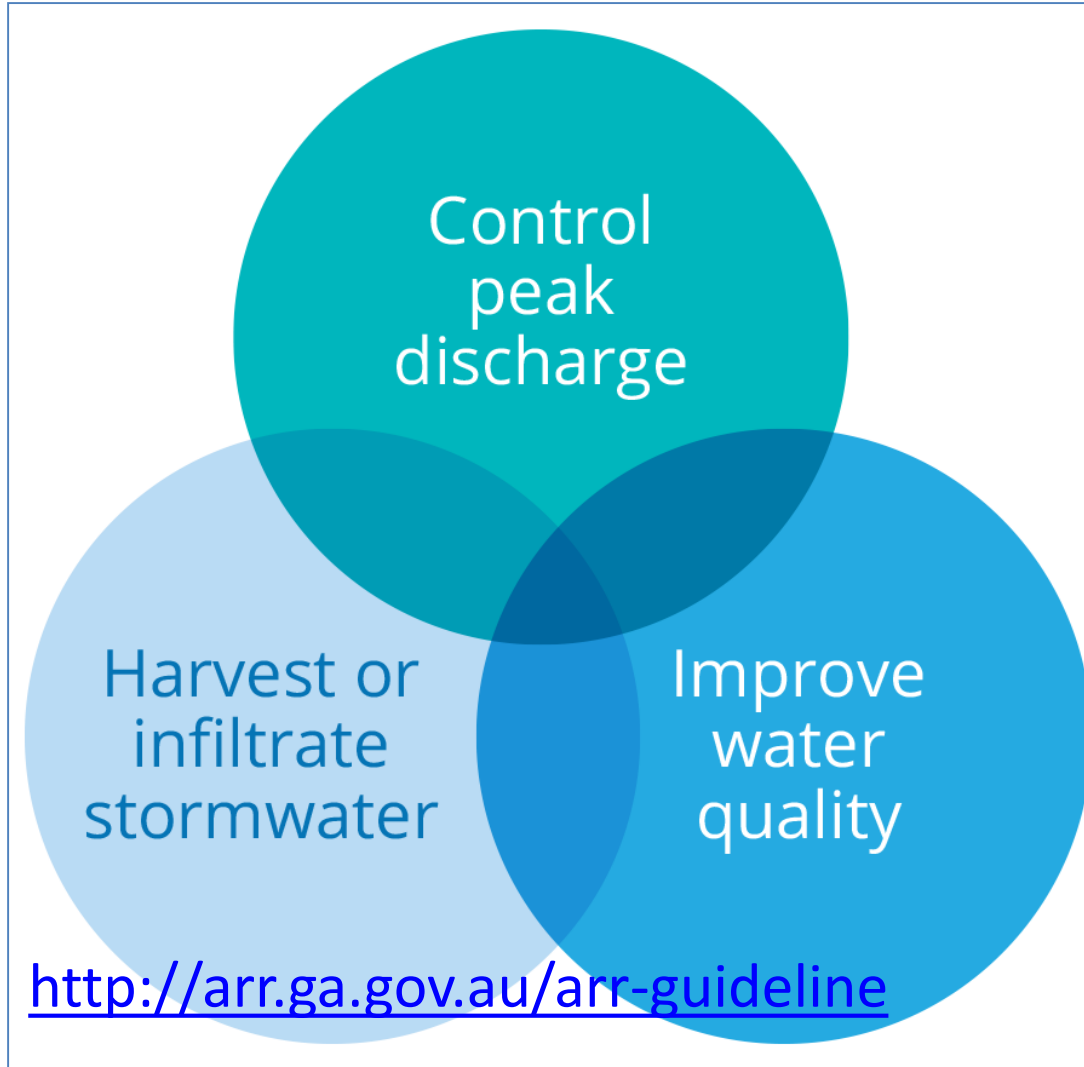
Business as usual Underperforming Asphalt



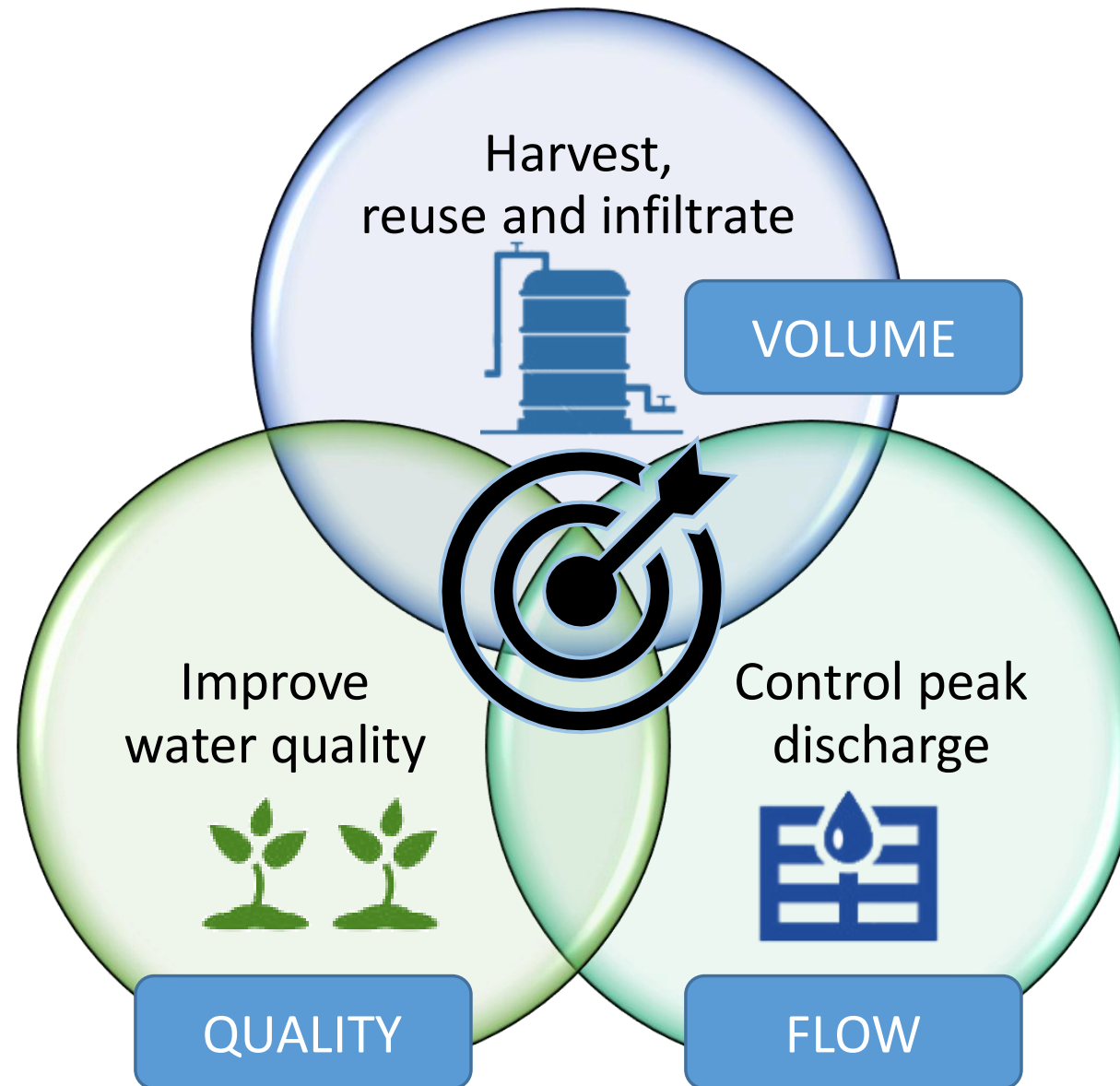
Source: AKing



Australian Rainfall and Runoff (ARR 2019 figure 9.4.1.)

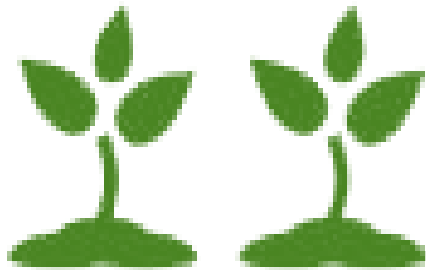


An 'at source' management strategy: This employs small facilities, widely distributed across the catchment, many of which will only service a small catchment or single property. Strategies of this type are most commonly part of a more comprehensive and integrated urban water strategy.

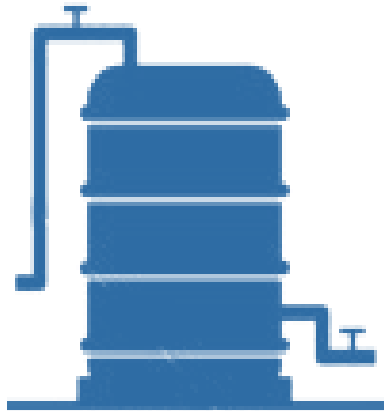


Multiple Criteria Analysis

STORMWATER MANAGEMENT OBJECTIVES MET



QUALITY



VOLUME

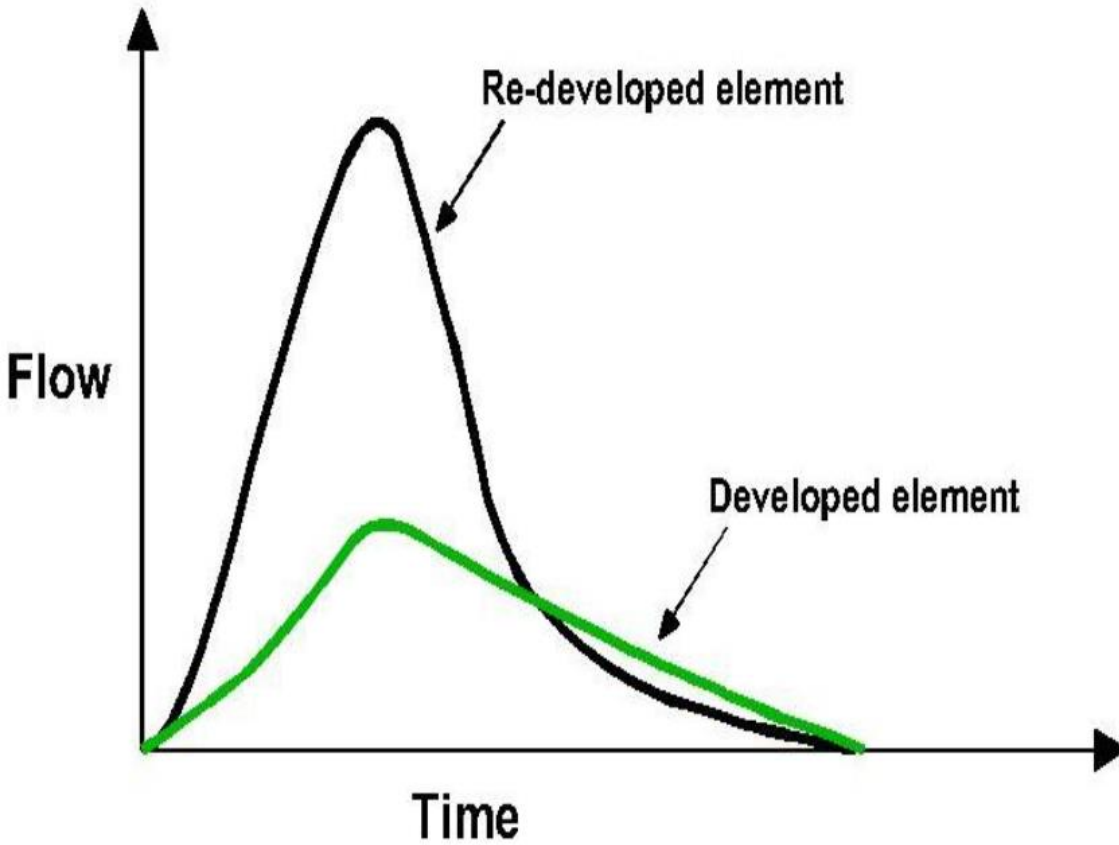


FLOW



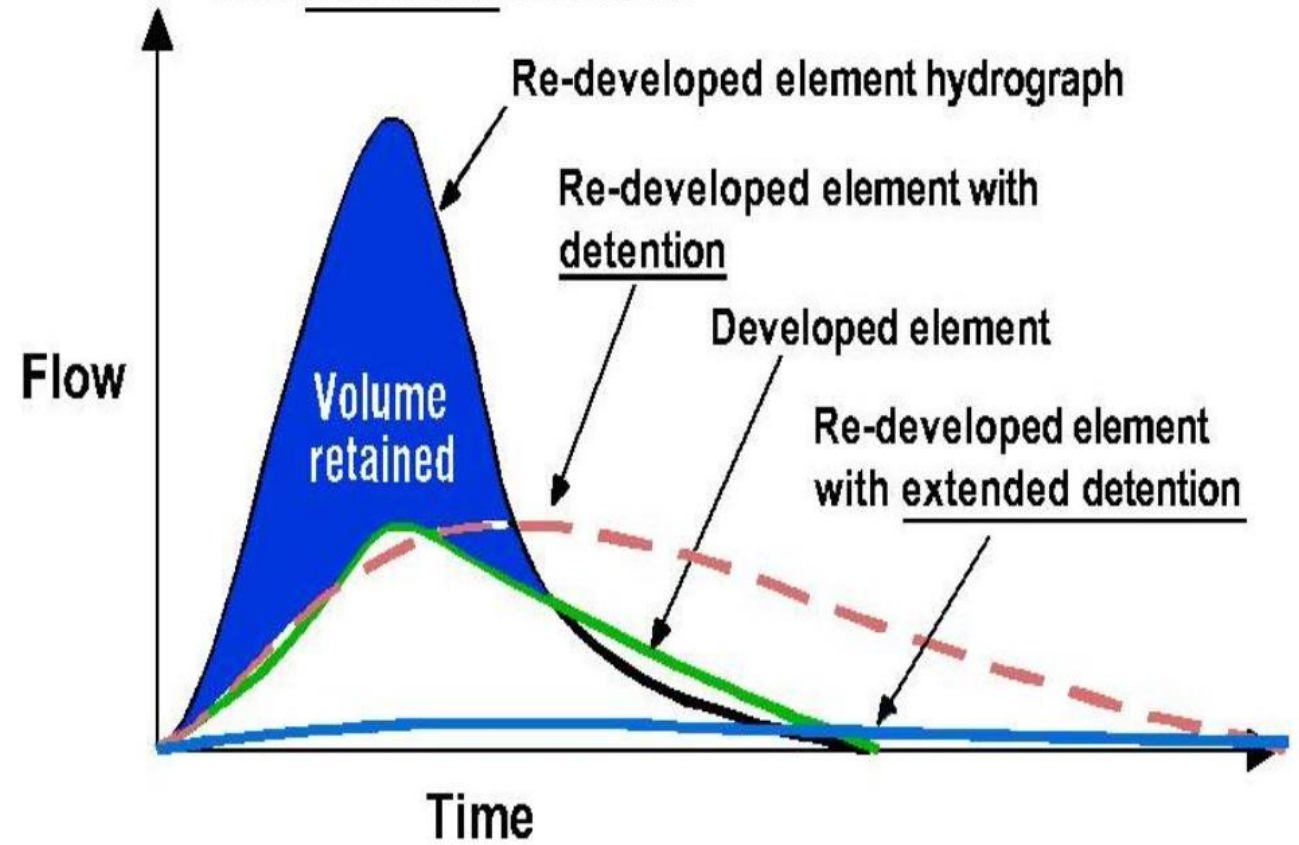
EFFICIENCY

"Developed" catchment with re-development



(a) Developed and re-developed element hydrographs

The retention solution



(b) Regime - in - balance: Volume retained

Annual average volume reduction targets

- *No increase – pre vs post development (regime in balance)*
- *30% reduction (best practice target)*
- *90% reduction (yield minimum for high sensitivity sites or for disconnecting sites)*



Stormwater Management Advisory Committee



- <https://www.water.vic.gov.au/liveable/stormwater>
- The short-term planning reforms were announced on 19 October 2018
- came into effect when they were gazetted on Friday 26 October 2018.

New definition of Stormwater

73.01 General terms

Stormwater: The net increase in run-off from urban development due to water not being able to seep into the ground because of impervious surfaces, such as roofs and roads.

NEW PPFs



- New Integrated water management clause in the state's Planning Policy framework (PPF) to embed IWM objectives and strategies into urban land-use planning.

NEW VPPs

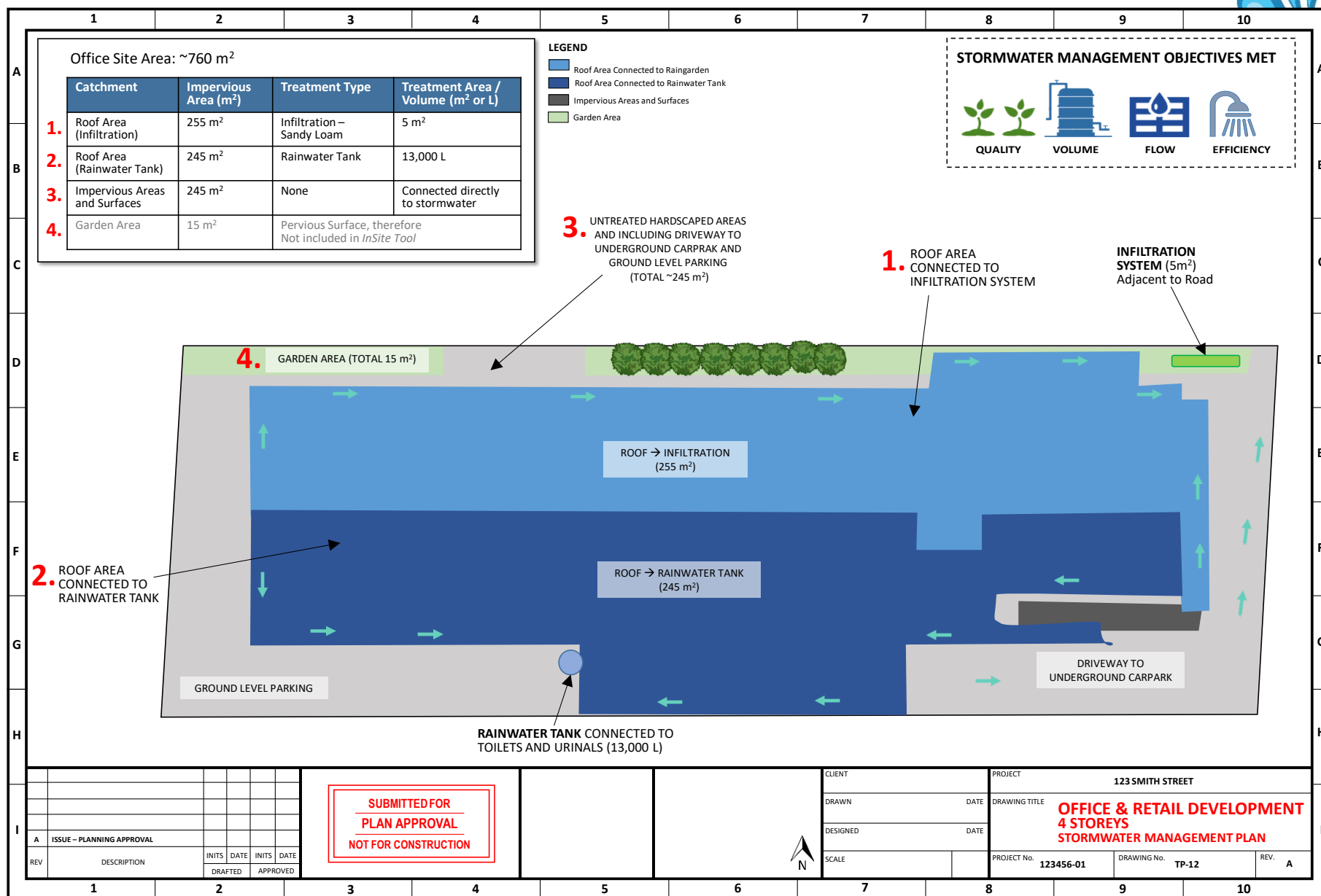
New provisions, under the Victoria Planning Provisions (VPP), to expand the current stormwater management requirements to:

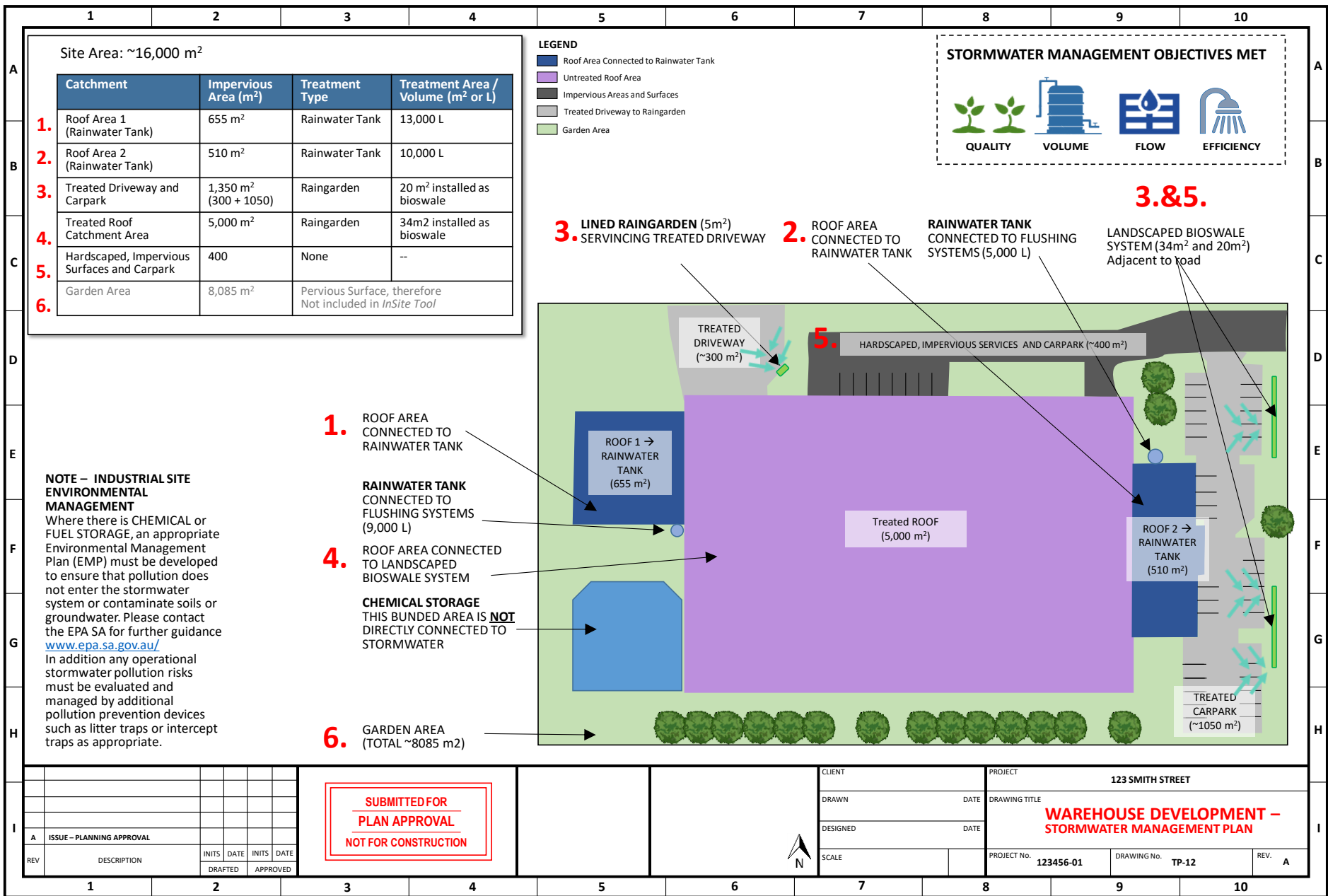
- commercial subdivisions and developments
- industrial subdivisions and developments
- public use developments
- residential multi-dwelling subdivisions and developments

Trigger levels for VC154

Separate Clauses for:

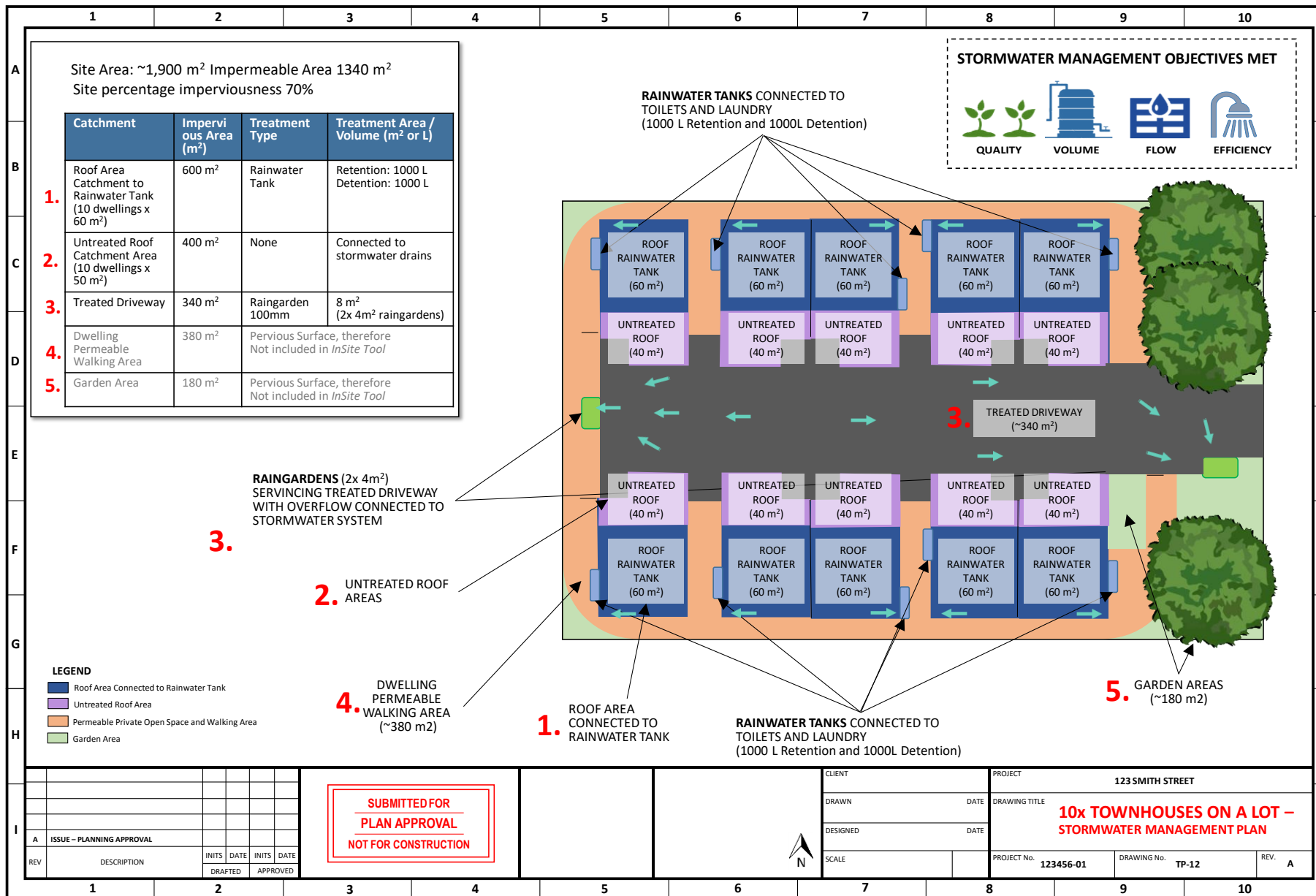
- 53 General Requirements and Performance Standards - 53.18 Stormwater Management in Urban Development (26/10/18 VC154)
- Applies to buildings and subdivisions and to general infrastructure
 - Appears to exclude:
 - residential subdivision (dealt with in other clauses)
 - Single lot residential
 - Buildings and extensions less than 50m²
 - Applications before gazettal
 - Some Zones





NEW VPPs

- **55 Two or More Dwellings on a Lot and Residential Buildings**
- **55.03 Site Layout and Building Mass**
- **55.03-4 Permeability and stormwater management objectives (26/10/18 VC154)**
- **55.07 Apartment Developments**
- **55.07-5 Integrated water and stormwater management objectives (26/10/18 VC154)**



55.03-4 Permeability and stormwater management objectives (26/10/18 VC154)

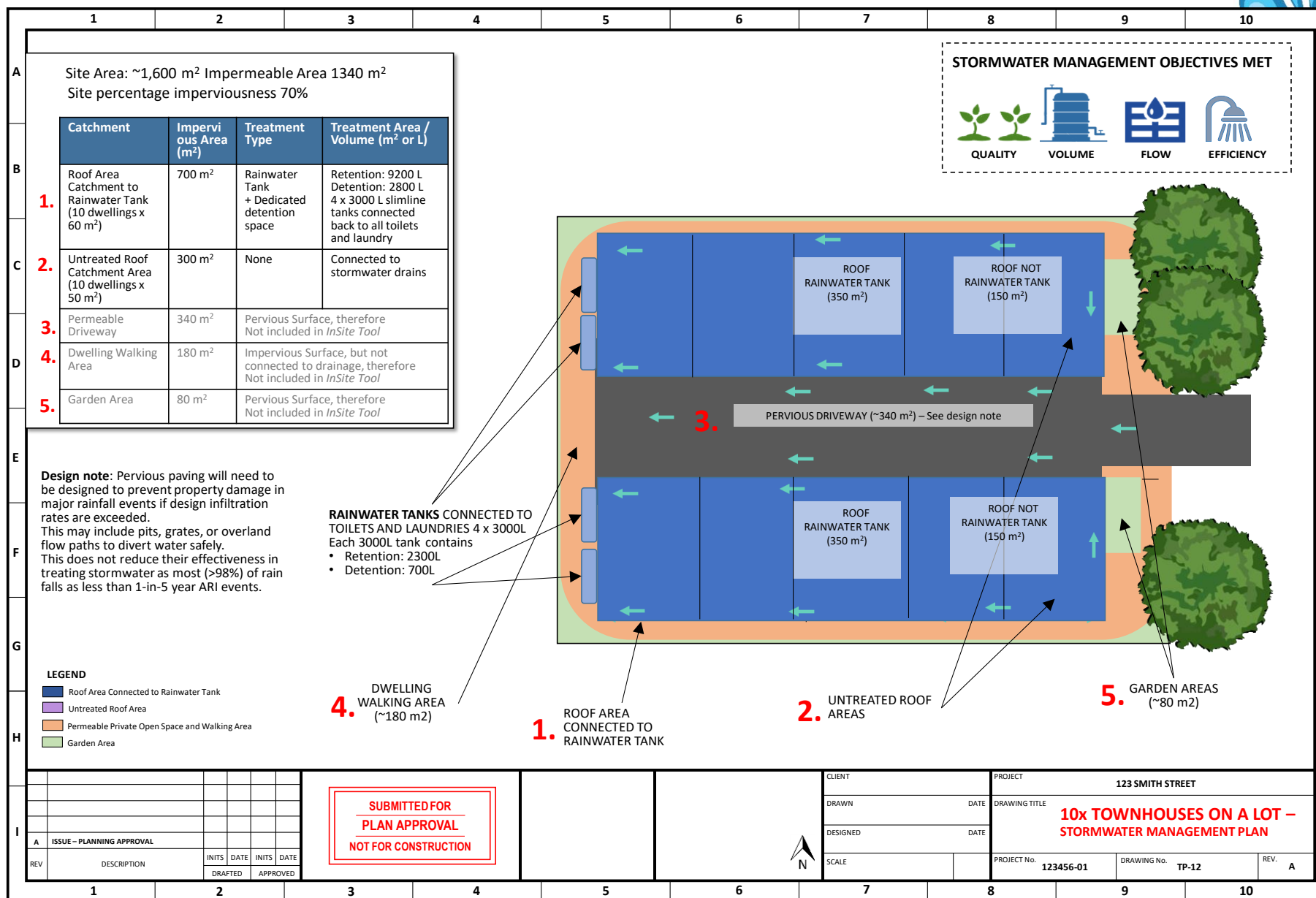
Standard B9

- The site area covered by the pervious surfaces should be at least:
 - The minimum area specified in a schedule to the zone, or
 - If no minimum is specified in a schedule to the zone, 20 percent of the site.
- The stormwater management system should be designed to:
 - Meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater - Best Practice Environmental Management Guidelines (Victorian Stormwater Committee, 1999).
 - Contribute to cooling, improving local habitat and providing attractive and enjoyable spaces.

55 Planning Clauses

The stormwater management system should be:

- Designed to meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater – Best Practice Environmental Management Guidelines (Victorian Stormwater Committee 1999) as amended.
- Designed to maximise infiltration of stormwater, water and drainage of residual flows into permeable surfaces, tree pits and treatment areas.
- **Contribute to cooling, improving local habitat and providing attractive and enjoyable spaces.**



Clause 56 changes

56 Residential Subdivision

- **56.07 Integrated Water Management**
- **56.07-4 Stormwater Management Objectives (26/10/18 VC154)**
 - To encourage stormwater management that maximises the retention and reuse of stormwater.
 - To encourage stormwater management that contributes to cooling, local habitat improvements and provision of attractive and enjoyable spaces.

Clause 58 Apartments

- **58 Apartment Developments**
- **58.03 Site Layout**
- **58.03-8 Integrated water and stormwater management objectives
(26/10/18 VC154)**

Site Area: ~1,650 m²

| Catchment | Impervious Area (m ²) | Treatment Type | Treatment Area / Volume (m ² or L) |
|--|-----------------------------------|---|---|
| 1. Roof Area Catchment to Rainwater Tank | 780 m ² | Rainwater Tank in underground carpark | 25,000 L |
| 2. Rooftop Terrace | 200 m ² | None | Connected directly to stormwater |
| 3. Balconies | 125 m ² | None | Connected directly to stormwater |
| 4. Hardscaped Area and Driveways | 55 m ² | None | Connected directly to stormwater |
| 5. Terraces and Garden Area | 490 m ² | Pervious Surface, therefore Not included in InSite Tool | |

LEGEND

- Roof Area Connected to Rainwater Tank
- Balcony
- Rooftop Terrace
- Hardscaped Area and Driveways
- Terraces and Garden Area

STORMWATER MANAGEMENT OBJECTIVES MET

QUALITY VOLUME FLOW EFFICIENCY

1. RAINWATER TANK CONNECTED TO 50% OF TOILETS (25,000 L)
NOTE: RAINWATER TANK LOCATION IN UNDERGROUND CAR PARK WITH ADEQUATE ACCESS PROVIDED

2. ROOFTOP TERRACE (TOTAL ~198 m²)

3. UNTREATED BALCONIES (TOTAL ~225 m²)

4. UNTREATED HARDSCAPED AREAS AND DRIVEWAY TO UNDERGROUND CARPARK (TOTAL ~55 m²)

5. TERRACES AND GARDEN AREA (TOTAL ~490 m²)

APARTMENT DEVELOPMENT 5 STOREYS (~45 DWELLINGS) – STORMWATER MANAGEMENT PLAN

PROJECT No. 123456-01
DRAWING No. TP-12
REV. A

Offsets (Clauses 53, 55, 58)



- Whether the owner has entered into an agreement to contribute to off-site stormwater management in lieu of providing an on-site stormwater management system.

Sustainable Design Assessment (SDAPP)



- Council routinely asks developments for a Sustainable Design Assessment report outlining how Council Sustainability targets are to be met for applicants.
- Stormwater standard is to *“Exceed Victoria’s best practice stormwater performance targets. Set in the Urban Stormwater Best Practice Environmental Management Guidelines (BEPMG)”*

NEW EPA SEPP (Waters)

- SEPP (Waters) formally commenced on 19 October 2018.
- SEPPs outline the uses and values of the environment that the community want to protect (these are called beneficial uses) and define the quality of the environment required to protect these.
- SEPPs also identify the rules for decision makers and obligations on industry in order to protect water environments.

SEPP 34. Management of urban stormwater

- (1) Stormwater must be managed to minimise the risks to beneficial uses of receiving waters, so far as reasonably practicable, by reducing the impacts of flow, sediment, nutrients, pathogens, toxicants, litter and other pollutants on those receiving waters.
- (2) Councils, as the responsible authority, must ensure all new development meet the objectives for environmental management of stormwater as set out in the Best Practice Environmental Management Guidelines for Urban Stormwater to minimise
 - (a) the quantity of stormwater leaving the property boundary and to hold or use it as close to where it is generated as possible; and
 - (b) the pollution of stormwater.
- (3) Owners and managers of assets created to protect water quality, including constructed sediment ponds and wetlands, must ensure those assets are
 - (a) designed and managed so that – (i) they are not harmful to humans or animals; and (ii) their risks to beneficial uses of receiving waters are minimised, so far as reasonably practicable; and
 - (b) maintained for the purposes for which they were constructed.

SEPP 34. Develop and implement stormwater management plans



- (4) Councils must, in consultation with the Authority, Catchment Management Authorities established under the Catchment and Land Protection Act 1994, water corporations (other than in respect of irrigation functions, if any), landowners and the community, **develop and implement stormwater management or equivalent plans** that
 - (a) identify potential risks to beneficial uses posed by stormwater and ways to minimise those risks and, in particular, that identify preferred options
 - (i) to prevent the generation and transport of pollutants in stormwater; and
 - (ii) to minimise the generation, velocity and volume of stormwater flows; and
 - (iii) for stormwater reuse; and
 - (iv) the costs, funding needs, timelines and priorities for the preferred options; and
 - (b) outline a monitoring, reporting and evaluation program of the plan.

Planning and Environment Act 1987 and Victorian Planning Provisions

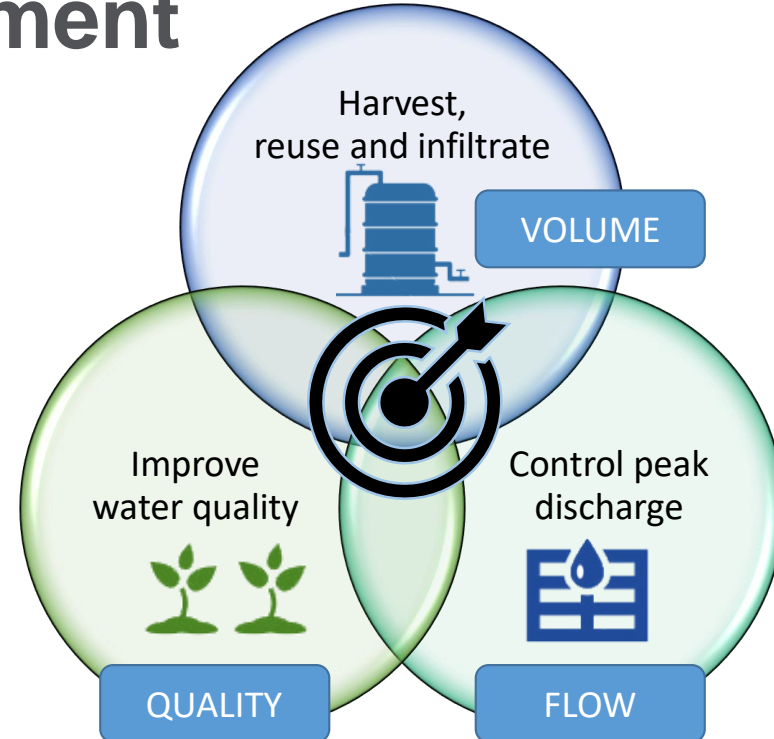


- Municipal councils plan for and approve land use activities through the VPP, Municipal Strategic Statements (MSSs) and planning permits.
- The SEPP recognises and supports the provisions of the VPP, which require municipal councils to ensure that their strategic and statutory planning tools and permits are consistent with the SEPP.
- **Section 60 requires a responsible authority** (where responsible authority includes local government) to consider any relevant SEPP before deciding on an application.
- **Section 84B requires VCAT** to take account of and give effect to any relevant SEPP in determining an application for review of a decision.

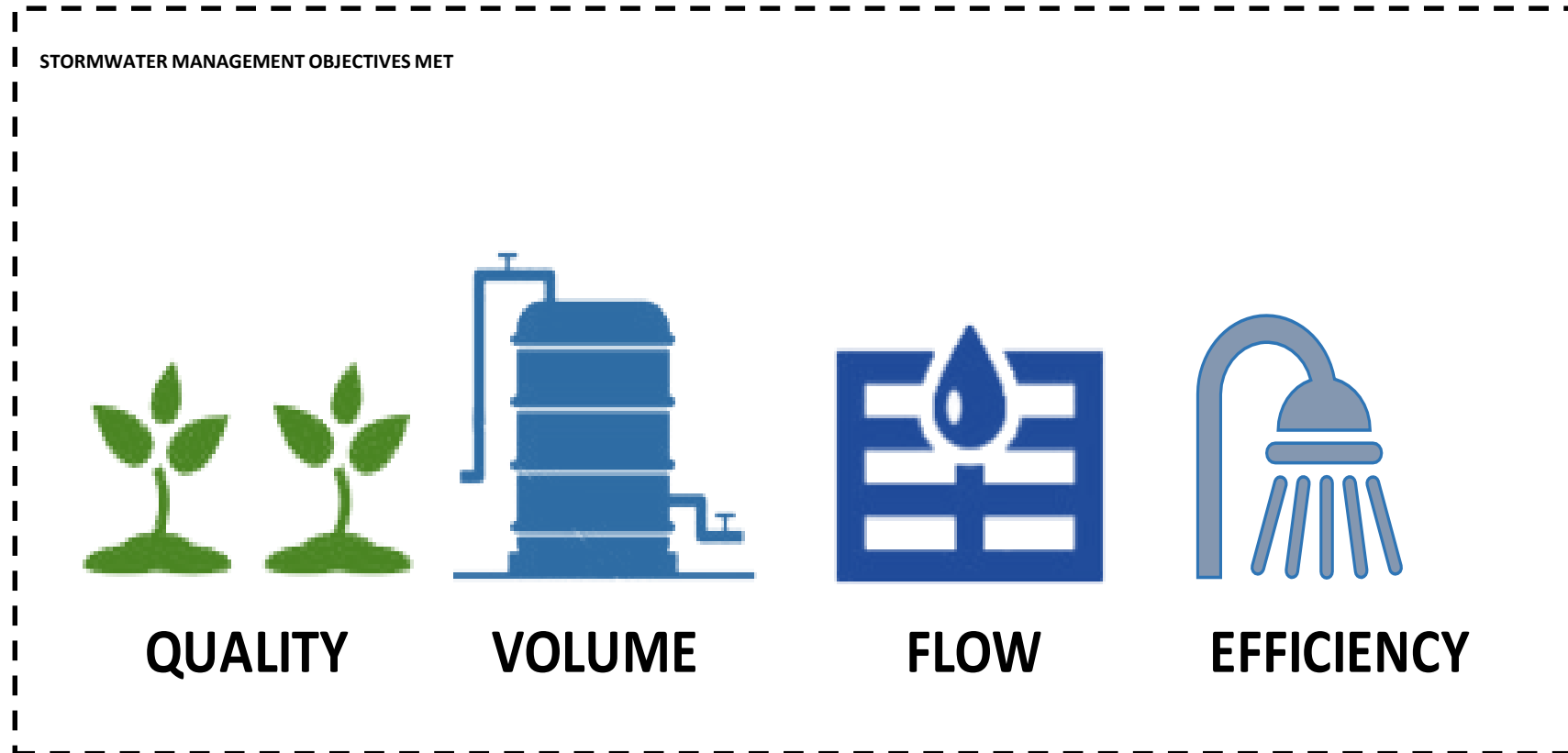
Application of the online stormwater assessment tool for small-scale development

Development website
www.insitewater.com.au

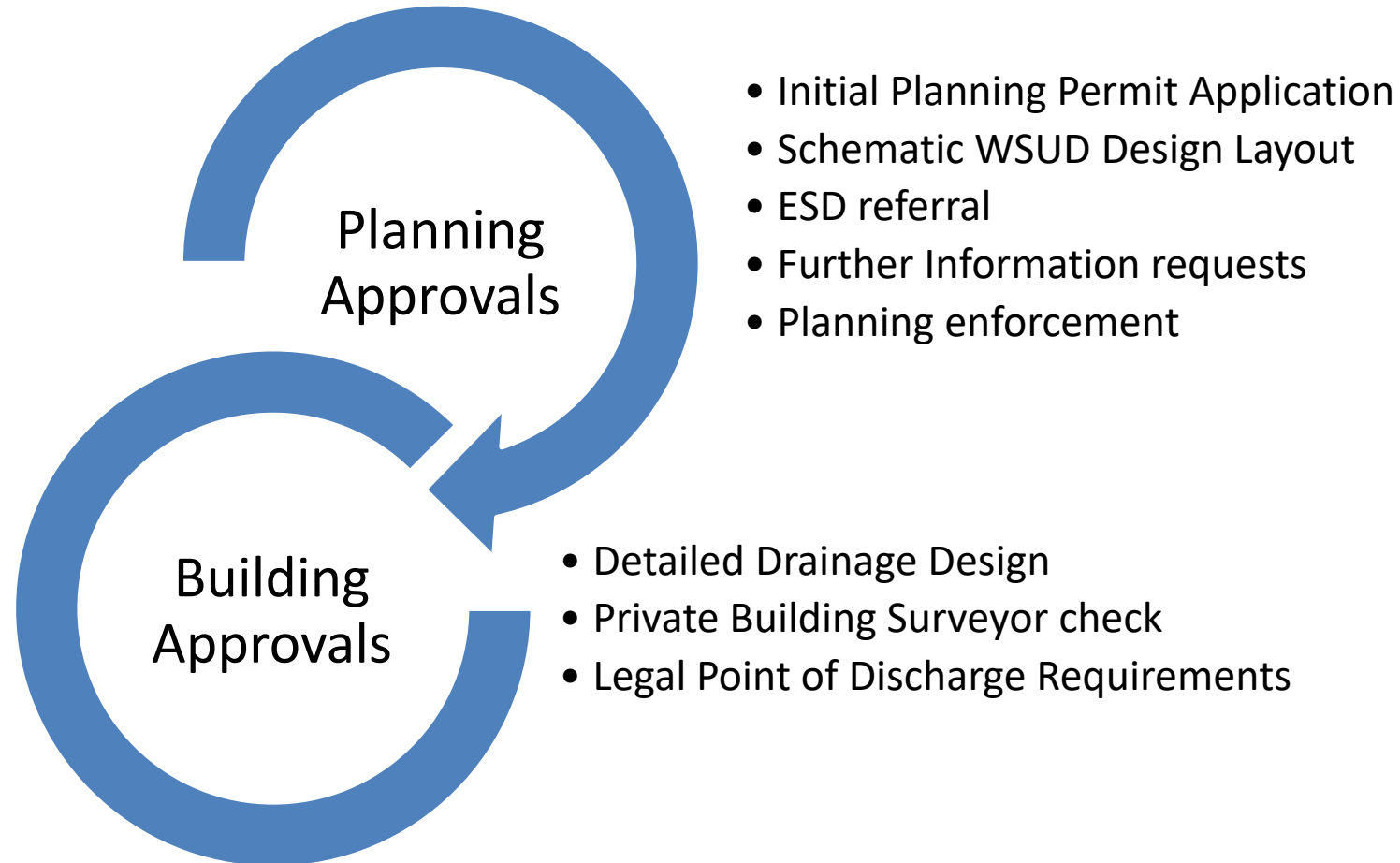
Adelaide version:
www.watersensitivesa.insitewater.com



Multiple Criteria Analysis



Optimised Referrals Process



Objectives

- Increase the efficiency of development application and approval processes;
- Increase asset life and reduce Council capital costs; and
- Achieve better outcomes for flood risk, stormwater quality, amenity and microclimate (where possible).

Thank you!

Ian Adams BEng(Env) MIEAust
Organica Engineering
0409559269
iadams@organicaeng.com.au