Water Sensitive Urban Design Report

7 Lawton Street, Braybrook
Two Unit Development

FEBRUARY 2025

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Consultant: V-Star Energy
Contact: info@vstarenergy.com.au
Written by: Stephen Burgum
Architect: AD Design & Drafting

V-STAR ENERGY

Contents

Introduction

This report has been prepared to address Maribyrnong City Council's Water Sensitive Urban Design (WSUD) requirements.

The report includes the following information:

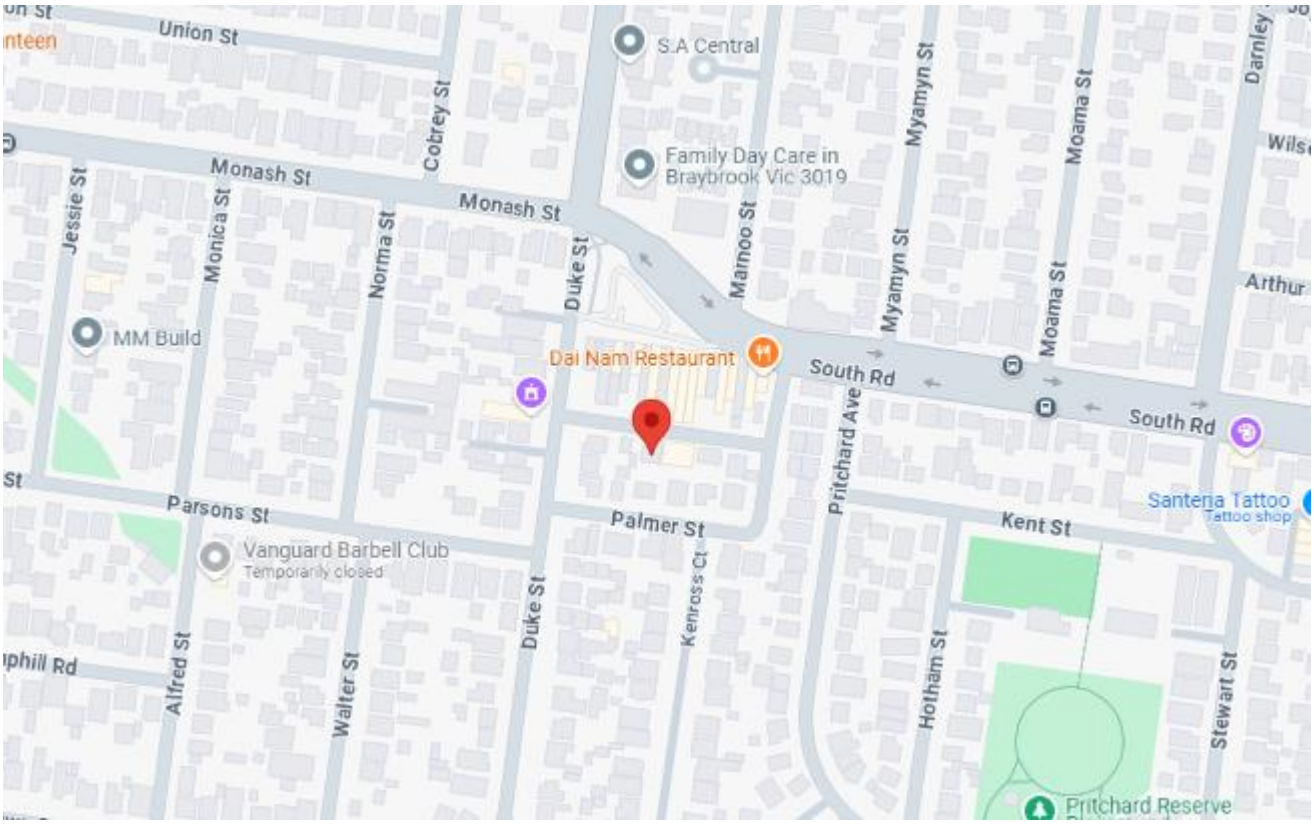
- Shaded areas and notations to indicate which sections of the site will be diverted to the legal point of discharge or the nominated WSUD treatments.
- Proposed WSUD treatment measures for the proposed Units.
- Maintenance details for the proposed WSUD treatment measures to be provided for WSUD treatment measures including maintenance tasks, timeframe and who is responsible for the maintenance.

This report should be read in conjunction with planning drawings provided by AD Design & Drafting and the Melbourne Water STORM report.

Project Information

Site Address	7 Lawton Street, Braybrook VIC 3019
Site Area	442m^2
Project Description	Two Unit Development
Council	Maribyrnong City Council

Site Map Location



Source: Google Maps

Site Current Image

Proposed Site Image

Source: AD Design & Drafting plans

Stormwater Management Systems

Stormwater Assessment Tool:

The stormwater assessment tool used for this proposed development is Melbourne Water's Stormwater Treatment Objective – Relative Measure (STORM) calculator.

Melbourne Water STORM calculator is an industry recognised stormwater tool.

Type of WSUD Stormwater Treatment Measures:

The type of water-sensitive urban design (WSUD) stormwater treatment measures to be used for this proposed dwelling are rainwater tanks.

Rainwater collected from 112m^2 of roof space from Dwelling 1 and 112m^2 from Dwelling 2 will be discharged via a charged system to rainwater tanks with a capacity of 2,500L. The rainwater tank system will include gutter guards, first flush diverters, and water tank filters.

The rainwater tanks will be connected to toilets to reuse rainwater for flushing via a mechanical pump system.

As area of 81m^2 of will not be treated and will discharge directly to the stormwater system. The untreated areas include, front roof space, driveway area, and garden sheds.

A STORM score of **104%** was achieved for the above WSUD measures for the proposed development. A STORM rating of 100% or greater indicates that the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater – Best Practice Environmental Management Guidelines have been met.

See STORM assessment in Appendix B for further details.

A plan illustrating where the impervious surfaces will be treated and drained is shown in figure 1, below.

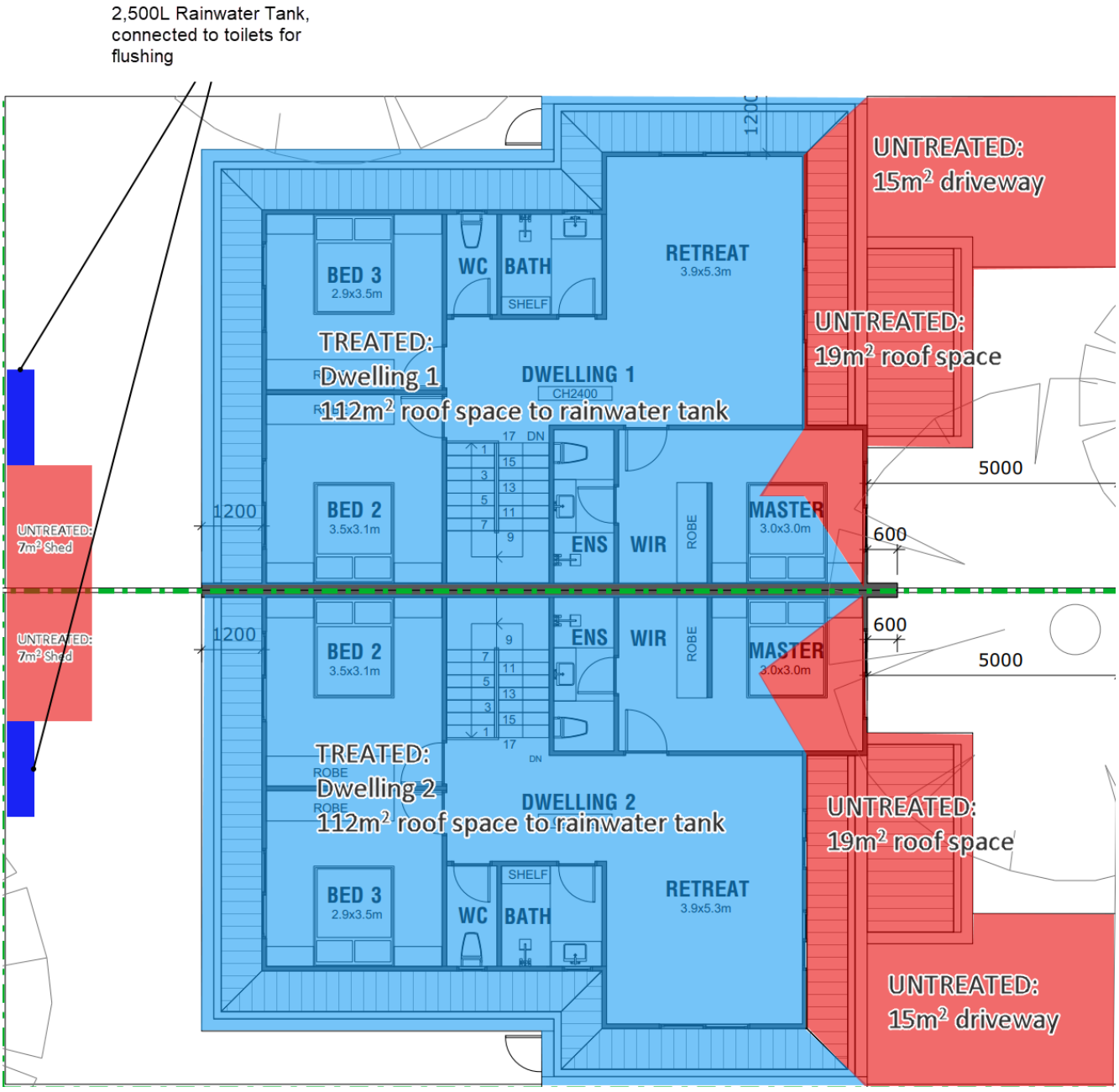


Figure 1: Plan showing the impervious areas to be treated or untreated

Design, construction, and maintenance details of the above WSUD treatment types are outlined in Appendix A.

Benefits of the Stormwater Management Systems

Rain tanks used to collect rainwater can reduce potable water usage to reduce water bills, provide an alternative supply during water restrictions and help maintain a green, healthy garden.

Rainwater harvesting also decreases stormwater runoff, thereby helping to reduce local flooding and scouring of creeks.

Generally, the above WSUD initiatives have the following benefits for the local environment:

- Improves water quality in streams and groundwater
- Protect habitats for native plants and animals
- Prevent erosion of banks along local waterways
- Reduce flooding risk
- Protect the scenic and recreational values of natural waterways

Construction Site Management Plan

A guide for stormwater management during construction "Keeping our stormwater clean – A builder's guide" has been published by Melbourne Water, the EPA of Victoria and the Victorian government. This will be followed during the construction phase of the development.

A copy of the guide can be found at
https://www.clearwatervic.com.au/user-data/resource-files/Keeping_Our_Stormwater_Clean-A_Builders_Guide%5b1%5d.pdf

Figure 2 shows a schematic overview of the on-site practices for stormwater management during construction.

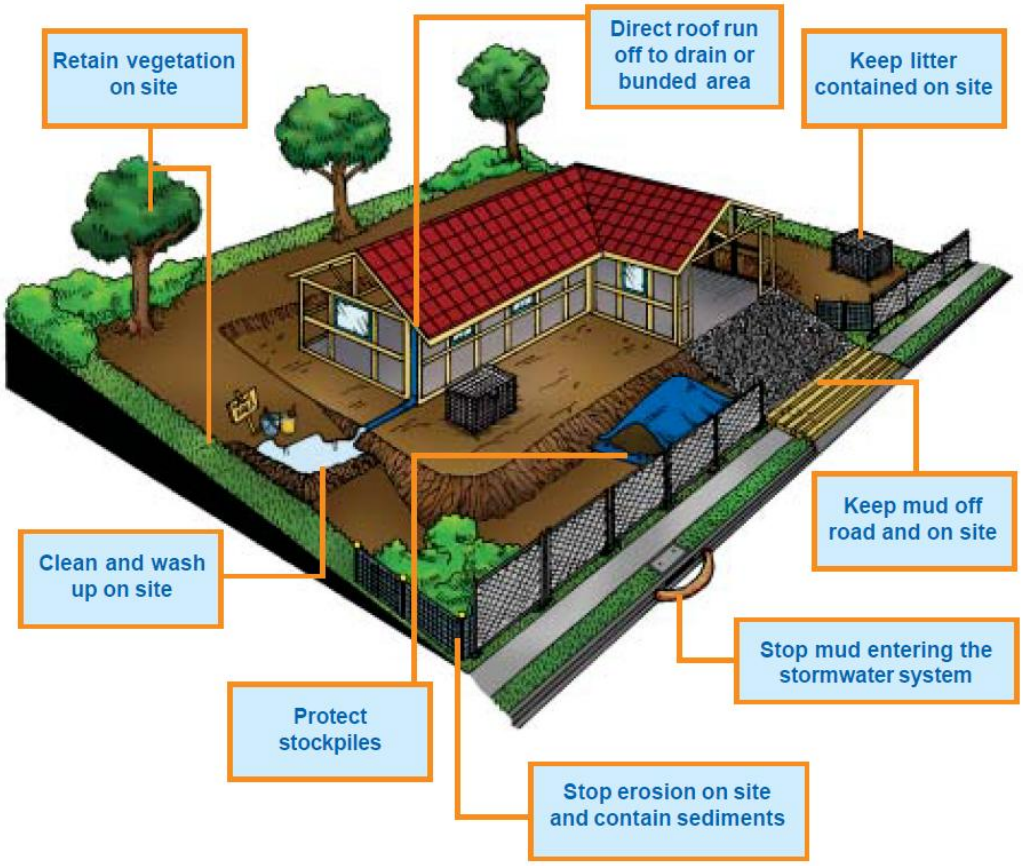


Figure 2: Schematic overview of the on-site stormwater management practices during construction

The guide contains 6 key rules to keep stormwater clean. These are:

- Check with Council requirements and plan before work is started on site
- Stop erosion onsite and contain sediment
- Protect stockpiles
- Keep mud off road and on site
- Keep litter contained on site
- Clean and wash up on site

Appendix A: Design, construction, and maintenance of the proposed WSUD treatment types

Rain Tank

Rain tank construction schedule

The placement of the rain tank is proposed during the planning phase and shown on the drawings to be approved by Council. Fall of the roof space to be collected by the rain tanks and collection mechanism will be planned and approved by the building surveyor prior to commencement of construction.

Installation of the rain tank will be done by an approved plumber and in accordance with the manufacturer's guidelines towards the end of the construction phase. See Figure 3 below for a typical rainwater tank installation setup.

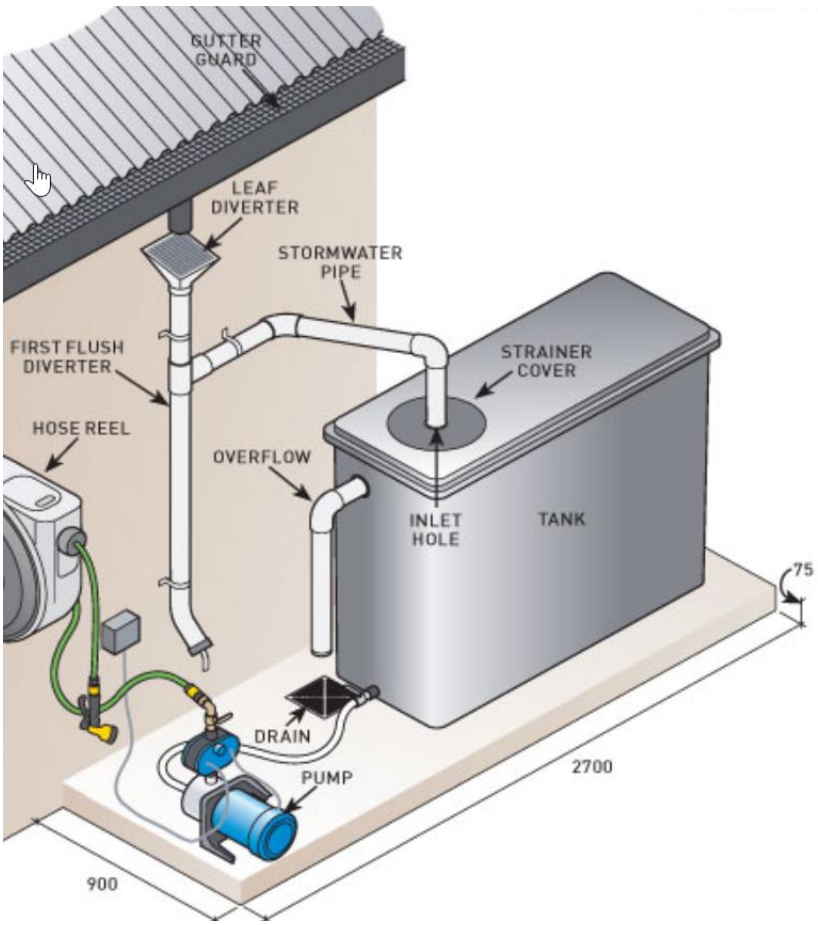


Figure 3: Typical rainwater tank installation.

Rain Tank Maintenance

The property owner is responsible for monitoring and ongoing maintenance of installed rain water tank.

Following is a typical maintenance schedule for rain tanks, as recommended by the Australian Government publication, "Your Home":

Monthly:

- Check and clean tank inlet screens, outlet screens and leaf-shedding rain-heads.
- Check and clean the first flush diverter.

Annually:

- Check roofs and gutters and remove debris.
- Check filters annually and replace if necessary.
- Remove overhanging vegetation where possible.

3–5 yearly:

- Desludge your tank.

In the longer term, rainwater pumps typically need servicing or replacing after approximately 10-15 years of use.

Regular Tank Inspection Checklist

It is important to inspect your roof or catchment area including gutters and any entry and exit points to your tank, on a regular 6 monthly basis.

Here is a list of areas that you should inspect:

- Tank and tank roof – check structural integrity of the tank including the roof and access cover. Any holes or gaps should obviously be repaired.
- Roofs – check for the presence of accumulated debris, leaves, dropping, dead insects and the like. Any material should be cleared. If you feel your roof needs a clean, ensure that your water tank is disconnected from the water flow.
- Gutters, leaf filters and first flush devices – check for and remove any built up leaves and debris. Remove water and any blockages from first flush device as necessary.
- Inflow and overflow screens – ensure screens around your tank and on any accessories are properly clean, secured and unbroken. These prevent mosquitoes, frogs and vermin from entering your tank. If broken, repair as necessary and also inspect inside your tank.
- Internal inspection – check for evidence of animals, mosquitoes, insects or algae. If present, identify and ensure any access points are properly sealed and light entry is fully blocked.
- Tank fittings, pump, mains switch and pipes – should all be inspected to ensure they are in full working order and don't need repairs.

Appendix B: STORM rating report

STORM Rating Report

TransactionID:	0
Municipality:	MARIBYRNONG
Rainfall Station:	MARIBYRNONG
Address:	7 Lawton Street
	Braybrook
	VIC 3019
Assessor:	Stephen Burgum
Development Type:	Residential - Multiunit
Allotment Site (m2):	442.00
STORM Rating %:	104

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
TREATED: Dwelling 1 roof space to rainwater tank	112.00	Rainwater Tank	2,500.00	4	141.60	84.30
TREATED: Dwelling 2 roof space to rainwater tank	112.00	Rainwater Tank	2,500.00	4	141.60	84.30
UNTREATED: Dwelling 1 roof space	19.00	None	0.00	0	0.00	0.00
UNTREATED: Dwelling 2 roof space	19.00	None	0.00	0	0.00	0.00
UNTREATED: Dwelling 1 driveway	15.00	None	0.00	0	0.00	0.00
UNTREATED: Dwelling 2 driveway	15.00	None	0.00	0	0.00	0.00
UNTREATED: Dwelling 1 shed	7.00	None	0.00	0	0.00	0.00
UNTREATED: Dwelling 2 shed	7.00	None	0.00	0	0.00	0.00