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23rd November 2022

RAIN HARVESTING
by Blue Mountain Co

Helping you find your water balance

We empower people to engage and participate in their own water journey.

Each water journey is unique, and by combining our knowledge, expertise and education with smart, simple products, we help people create safe, independent, sustainable water systems and find their water balance.

By finding your water balance, you are contributing to the water sustainability within your community and across the world.

Water is a unique and indispensable resource, and we are driven to ensure that clean abundant water is available for each person in the world.

Water Journey : Water Balance

RAIN HARVESTING
by Blue Mountain Co

Blue Mountain Co
GUTTER MESH

Blue Mountain Co
PLUMBING

Property details

- Looking for a new rainwater system which will be used for drinking water.
- Roof Area is 400m² (Multi roof sections)
- Downpipe size is 90mm, routed to a single tank



Your Rain Harvesting System Design

Our 12 Steps of Rain Harvesting informs how we have created your new Rain Harvesting system. No matter where you live or what you use your rainwater for, these steps and our design will empower you to engage with your Rain Harvesting system. A system that will now provide you with cleaner water and more of it. These steps and the design we have prepared for you are your foundation, giving you a helping hand on your journey to water balance.

Thank you for answering the questions we asked about your Rain Harvesting system and for any photos or plans you provided. These helped us to understand your unique water journey. This document outlines our recommendations for your Rain Harvesting system – you will find sketches of, and instructions for, creating your Rain Harvesting system.

To balance,

Gareth Horton
Managing Director

*Please note that this proposal is a recommendation.
Consider local council requirements and have a plumber complete installation where required.*

Our 12 Steps to Designing a Rain Harvesting System

Collect better quality rainwater and get more of it.

A common misconception about collecting rainwater is that all you need is a tank, gutters, a few downpipes, and some rain.

However, this alone cannot be relied upon to deliver the volume and quality of water you need.

Follow our 12 Steps to ensure your rainwater harvesting success. This approach has been built from over 25 years of knowledge and experience, cultivated from a devotion to the craft of rain harvesting and rigorously testing the process in the harshest environments.

Each step addresses a specific need, principle, and piece of the system so you can get the most out of your system.

Whatever your needs, location, or situation, our steps will set you up for success. While every system and set of requirements are unique, understanding our thinking will help you on your journey to finding water balance.

Step 1 - Understand your rainwater needs

How much do you need, and what do you need it for?

Step 2 - Storing your rainwater

Choose the appropriate storage vessel for your needs.

Step 3 - Assess your collection area

Audit your roof, gutters and surrounding environment to prepare your property for rainwater collection.

Step 4 - Filter out leaves and debris

Limit the risk of rainwater contamination and obstructed water flow to your tank by introducing rain heads, screens, and filters.

Step 5 - Divert the first flush

Channel, capture, and isolate the most contaminated rainwater from your roof to divert it away from your tank.

Step 6 - Secure your stored rainwater

By securing the entry and exit points of your system, you can preserve your rainwater quality by keeping out animals, insects, sunlight and dirty water.

Step 7 - Decide on a pump or gravity system

Find the best way to draw water from your tank depending on what your end use is.

Step 8 - Manage standing water

By looking after the water sitting in your tank and pipework, you're ensured great quality water.

Step 9 - Filter the final stage before use

Reduce sediment, colour, and odour from rainwater before use.

Step 10 - Optimise your overflow

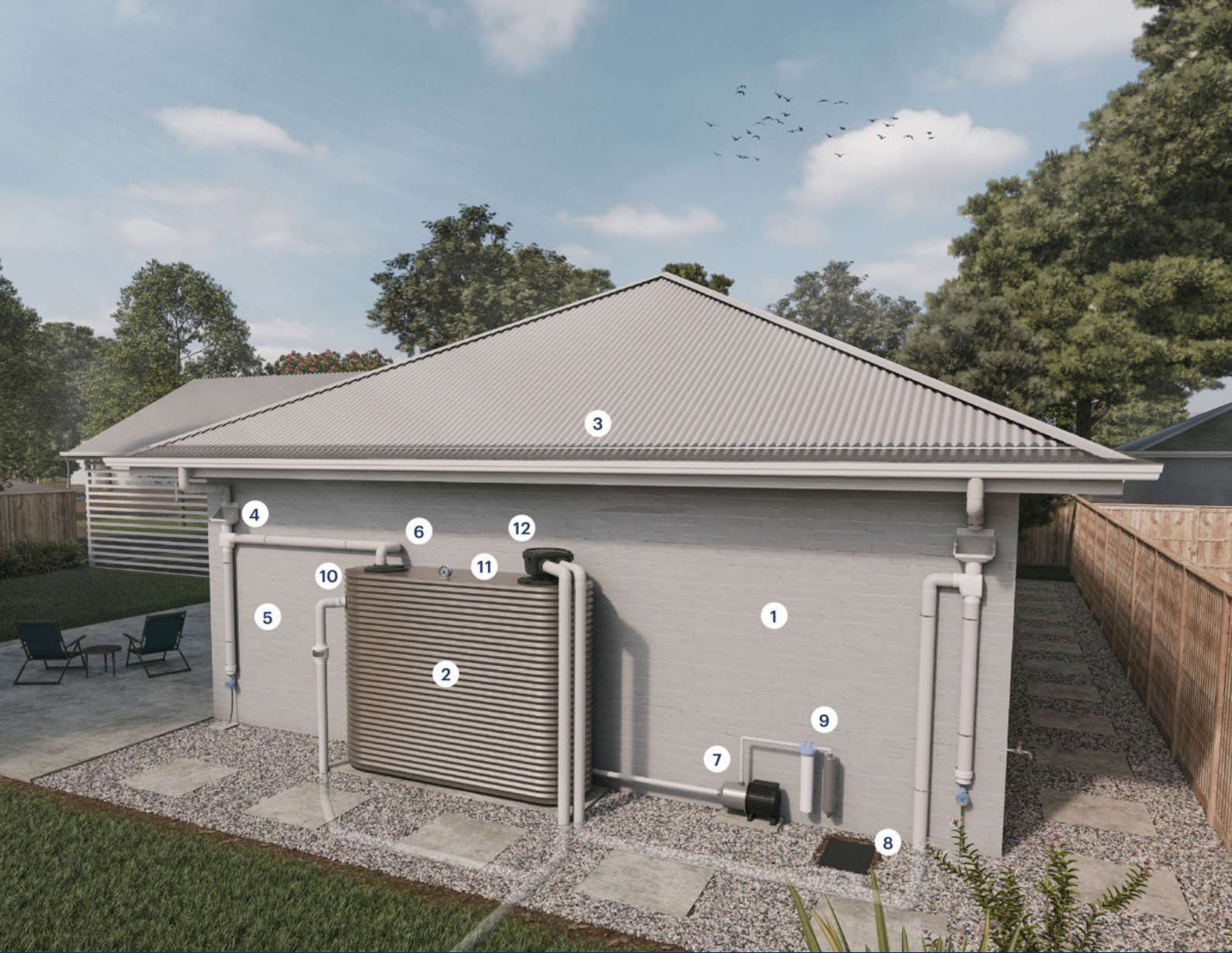
Ensure your tank is always performing at its best, even during high rainfall events.

Step 11 - Monitor your water level

Record your usage to optimise your rainwater use.

Step 12 - Care for your system

Inspect your system intermittently to keep it running at its best.



The 12 Rain Harvesting Steps

1 Understand your rainwater needs

2 Store your rainwater

3 Assess your rainwater collection area

4 Clean your rainwater: Filter leaves and debris

5 Clean your rainwater: Divert the First Flush of rainwater

6 Secure your stored rainwater

7 Decide on a pump or gravity fed system

8 Manage standing water

9 Final stage rainwater filtration

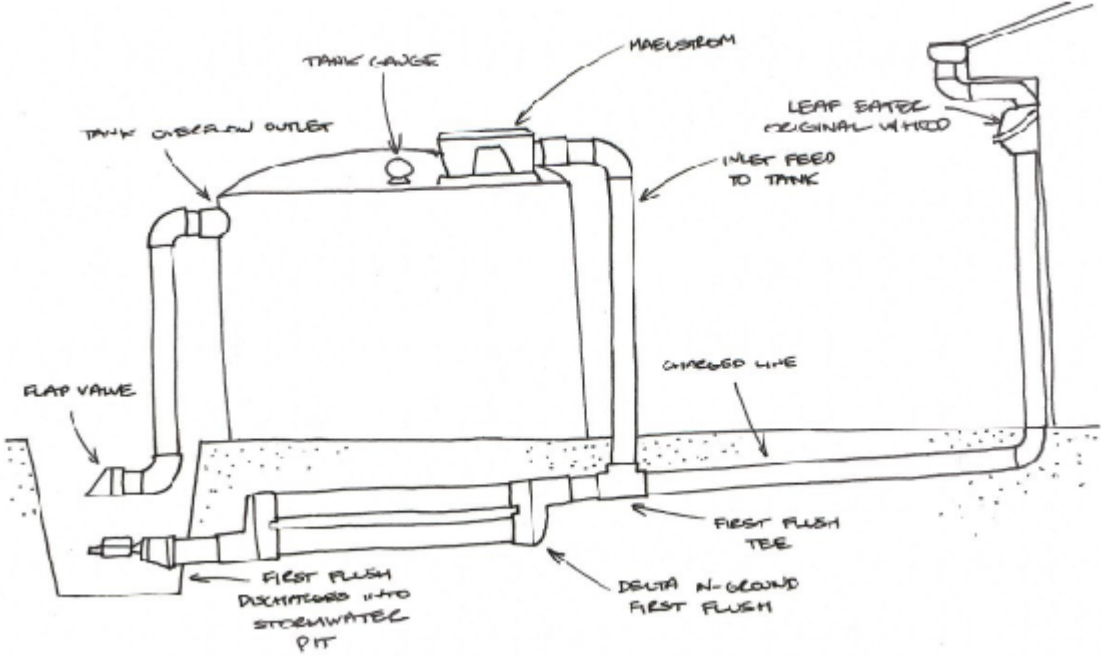
10 Optimise your overflow

11 Monitor your water level

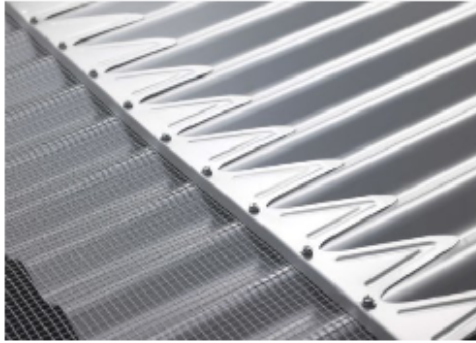
12 Care for your system

Proposed Rain Harvesting System

Based on the details you provided for your property, we are recommending the following system set up.



STEP 1 – Install Gutter Mesh



Install 2mm Steel Blue Mountain Mesh to comply with BAL rating of property. It keeps small leaves, pests and bushfire embers out of your gutters and roof.

For superior bushfire and ember guard protection, our 2mm steel mesh is ember guard compliant to all BALs (12.5, 19, 29, 40 and FZ), and its fine aperture keeps small leaves and pests out of your gutters.

STEP 2 – Install Rain Heads



Install Rain Heads on each of the downpipes which will feed the rainwater tank. This is to prohibit the ingress of leaves and debris entering the system as early as possible.

The screens also secure the system from mosquitos and other pest which may enter via downpipe connections, particularly in "wet system" installations.

If downpipes from multiple sections of the house are connected, the downpipes will run underground to the new tank. These pipes will become charged and become a 'wet system', as they will need to go underground, and then come back up to enter the tank.

If a wet system is created, be sure to install the rain heads at least 500mm higher than the inlet to the tank, to give enough head pressure for the water to push through to the tank effectively. 500mm is the minimum height difference (more is better), as long as the rain heads can still be maintained easily.

STEP 3 – Install First Flush Diverter



First flush diversion will improve water quality and reduce maintenance on pumps and filters post tank by reducing roof contaminants from entering the tank.

Since the water is being used for drinking.

If it's an area of relatively *low pollution*, we recommend that you divert the first 0.5L / m² of roof area. Since your roof is 412m², the ideal volume of water to divert will be around 206L.

The ideal setup for this will be a First Flush Delta In-Ground (the big multi chamber one shown at left), installed with six 3.6m length of 100mm pipe (giving a diversion volume of 206L).

STEP 4 – Install a Maelstrom



The Maelstrom will filter water entering your tank 5 times finer than a rain head due to the secondary ultra-fine filter bag (180µm/ 0.18mm).

This will also improve performance and service intervals for any downstream filtration systems installed on the water supply to the building fixtures.

The overflow can be run to the same location as the first flush outlet allowing any discharge to flow away from the tank. This will only discharge water during high flow conditions or when the chamber requires servicing.

STEP 5 – Install tank overflow and Mozzie Stoppa



Consideration should be given to the size and number of your tank overflow outlets. The overflow outlets should be equal to or greater than the number and size of inlets in the tank.

The overflow to the tank requires protection and can be done in a variety of ways dependant on your project and local authority requirements.

A Mozzie-Stoppa (left) can be fitted directly to the overflow outlet of your tank or if the overflow discharges above ground or into a pit you could also use a High Flow Flap Valve.

Alternatively, a high flow flap valve (right) can also be installed on the end of the overflow pipe in a stormwater pit below ground.

STEP 6 – Manage standing water



If you choose to connect the majority of the downpipes and create a charged / wet system, it is important to manage the standing water which will sit in the pipes between rainfall events.

Installing a wet/dry valve or sliding gate valve at the lowest point of the system will allow for periodic draining of the charged water line.

Draining this (relatively poorly oxygenated) water from the pipes is good practice and it will give the best quality water.

STEP 7 – Install a Tank Monitoring Gauge



Installing a gauge will allow you to easily know how much water is in your tank.

Ensure the gauge is installed in an easily viewable location.

STEP 8 – Install a Filtration System



Install a whole house filtration system. A plumber will be able to advise the best location for this.

Our post-tank filters provide additional quality control to ensure you get cleaner rainwater for use in and around your property.

By reducing colour, odour and particles in your rainwater immediately before use, they protect internal appliances, toilets and more from sediment damage and tannin stains.

A water treatment safety net will help ensure your rainwater is fit-for-purpose and appropriate for your needs.

Product Recommendation List

The products recommended can be purchased directly from our [Marketplace](#) or through your local hardware or plumbing store. If you need any help at all please reach out to our team on (07) 3248 9600 or via email at info@bmco.com.au.

First Flush Delta In-Ground



Protect your rainwater quality by diverting the most contaminated water that washes off your roof with the first few millimetres of rainfall with a First Flush Delta In-ground

WDIG10 - 100mm

2mm Steel Blue Mountain Mesh Kit



Keep small leaves, pests, and bushfire embers out of your gutters and roof with our ember compliant 2mm Steel gutter mesh. For superior bushfire and ember guard protection our 2mm steel mesh is ember guard compliant to all BALs (12.5, 19,29,40 and FZ).

BM112-300

Maelstrom



The Maelstrom Filter's advanced design combines super-fine filtration and super-high water catchment efficiency to give you cleaner rainwater and more of it.

RHML01

Leaf Eater Advanced with The Hood



A small and mighty rain head which filters out leaves and debris - the Leaf Eater Advanced with The Hood completely eliminates splashing. This ensures you collect 100% of the water flowing through your downpipe, and prevents leaves from falling onto the area below.

RHAD10 - 90mm

Mozzie Stoppa w/ Removable Screen



Keep mosquitoes and other pests out of your tank with this removable, easily maintained, mosquito-proof screen.

TATO71 - 100mm

Wet/Dry Valve



Automatically drain your charged lines to improve the water quality in your pipework by reducing the opportunity of anaerobic fermentation.

WDRV01



Tank Gauge Plus

Wireless and remote monitoring of your tank levels with your smart device. Always know your tank level. Easy to install in water tanks of all shapes and types of up to 4m (13 feet) in height.

MGTG1RC4



Flap Valve w/ Vented Screen

Keep mosquitoes, frogs and other pests out of your pipework while allowing water to flow out unimpeded with this plastic flap valve.

TAFV04 - 100mm



Sliding Gate Valve

This simple to use sliding gate valve with a plastic paddle allows you to easily drain changed lines.

HW0903



Triple Action Filtration System (Slim)

Large capacity, dual-stage filter perfect for all applications. The first stage reduces sediment. The second stage improves colour, taste and odour, and reduces chlorine levels.

WFRW22 - 20"

Rain Harvesting Maintenance Checklist

Regular maintenance will keep your Rain Harvesting system functioning optimally so it continues to deliver cleaner rainwater and lots of it for use in and around your property.

This Rain Harvesting Maintenance Checklist outlines basic maintenance tasks and timelines to help you organise your maintenance schedule.

For detailed, product-specific maintenance instructions refer to the product section on our website or speak to one of our Rain Harvesting Specialists today.

After every rainfall event		
Inspect	Maintain	
Wet system pipes (aka "charged lines")	Manually or automatically drain to prevent anaerobic fermentation, tannin leaching and freezing in colder climates.	<input type="checkbox"/>

Every 3 rainfall events		
Inspect	Maintain	
First flush diverters with flow control washers (e.g. First Flush Downpipe, First Flush In-Ground, etc.)	Remove and clean the outlet, filter screen and flow control washer to prevent blockages and ensure the unit empties after each rainfall event. Important note/s: If your first flush diverter is full, take care as the water empties.	<input type="checkbox"/>

Monthly		
Inspect	Maintain	
Bucket style rain heads (e.g. Leaf Catcha)	Remove leaves and debris from catchment area and brush or hose off screen as required to prevent blockages and decomposing vegetation. Important note/s: Take care when working at heights to avoid serious and life-threatening injuries.	<input type="checkbox"/>
Enclosed rain heads (e.g. Leaf Eater Slimline)	Remove leaves and debris from cover and brush or hose off screen as required to ensure optimal performance. Important note/s: Take care when working at heights to avoid serious and life-threatening injuries.	<input type="checkbox"/>
Maelstrom filters	Brush or hose off filters and screens as required to keep filters functioning optimally and ensure high water yields. Important note/s: Depending on your location and needs, your Maelstrom filter may require less frequent maintenance, so adjust your maintenance schedule as required.	<input type="checkbox"/>

Rain Harvesting Maintenance Checklist

Quarterly		
Inspect	Maintain	
Roof, gutters and gutter mesh	Clean and remove leaves and debris as required to preserve water quality and quantity; trim back overhanging branches and vegetation as required; consider installing gutter mesh for easier maintenance. Important note/s: Take care when working at heights to avoid serious and life-threatening injuries.	<input type="checkbox"/>
Rain heads with self-cleaning (e.g. Leaf Eater Original, Leaf Eater Ultra, etc.)	Brush or hose off screen/s as required to remove any leaves or debris for optimal rainwater quality and quantity. Important note/s: Take care when working at heights to avoid serious and life-threatening injuries.	<input type="checkbox"/>
Tank inlet screens	Remove any leaves and debris and clean as appropriate to prevent water bounce and ensure higher water catchment; ensure there are no holes that mosquitoes could enter through; consider replacing with a Maelstrom filter for finer filtering, improved water catchment and easier maintenance.	<input type="checkbox"/>
Filter pits	Remove any leaves and debris and clean screens as appropriate to preserve water quality and quantity; ensure there are no holes that mosquitoes could enter through.	<input type="checkbox"/>
Every 6 months		
Inspect	Maintain	
Tank overflow screens or flap valves (e.g. Leaf Eater Original, Leaf Eater Ultra, etc.)	Clean as appropriate to ensure optimal functioning; ensure there are no holes that mosquitoes could enter; ensure there are no obstructions blocking your tank outlets.	<input type="checkbox"/>
Rain heads with self-cleaning (e.g. Leaf Eater Original, Leaf Eater Ultra, etc.)	Check and clean pump filters as required to preserve longevity and function; check the maintenance guidelines for your pump and perform any required maintenance. Important note/s: Failure to follow manufacturer's instructions could void your warranty; inspect and maintain more regularly if required.	<input type="checkbox"/>
Water filters (e.g. Triple Action Filtration System)	Inspect filter components and replace cartridges as necessary.	<input type="checkbox"/>

Rain Harvesting Maintenance Checklist

Annually		
Inspect	Maintain	
Air gaps or backflow prevention	Hose or brush off screens to clean as required; test to ensure backflow prevention is working.	<input type="checkbox"/>
Stored rainwater	Complete water quality testing using appropriate testing processes.	<input type="checkbox"/>

Biennially (every 2 years)		
Inspect	Maintain	
Rainwater tank	Remove accumulated sediment and/or sludge from base of tank for improved water quality; repair any cracks, holes or gaps. Important note/s: Sediment and sludge removal is best completed while your rainwater tank is empty and should be carried out by a qualified professional.	<input type="checkbox"/>

Disclaimer

You acknowledge and agree that the information, data, advice, opinion, plan or other thing (Material) provided to you by Blue Mountain Co (Rain Harvesting Pty Ltd ABN 11 113 300 093) (we, us, our) is provided "as is" without any representation, warranty, indemnity or guarantee as to the performance, accuracy, timeliness, completeness, merchantability or fitness of the Material for any particular purpose or application. The Material may contain errors, mistakes, inaccuracies and may not be complete. We expressly exclude any liability for such performance, accuracy, timeliness, completeness, merchantability or fitness of the Material for any particular purpose or application, to the maximum extent permissible by law.

Unless we expressly specify otherwise, we disclaim all responsibility and liability for any third party provided advice or provision of services, or failure to advise or provide services.

The disclaimers above are subject to the rights, warranties, guarantees and remedies relating to the provision of services that you have under, and that cannot be excluded, restricted or modified under, the Australian Consumer Law.

For more information, please see our Services Purchase Terms at www.bluemountainco.com.au

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Thank you for contacting us

Please note that this proposal is a recommendation, consider local council requirements and have a plumber complete installation where required.

These products can be purchased through your local hardware or plumbing wholesale outlet.

For further details please contact us on
+61 (07) 3248 9600 or email us at info@bmco.com.au.