

Ecosol™ Tree Pit Maintenance Guide



environmentally engineered
for a better future

CONTENTS

1.0 Introduction

2.0 Establishment Phase Maintenance

3.0 Monitoring

4.0 Maintenance Procedures

5.0 Reporting

6.0 Monitoring, Cleaning and Maintenance Services

7.0 Life Expectancy

8.0 Warranty

9.0 Supplier and Technical Product Contact Details



1.0 Introduction

Tree pits provide a great alternative design for planting street trees in our built environment. They reduce demand on potable water and intercept and treat stormwater runoff that would otherwise flow directly into the stormwater drains.

Today Tree Pits are an integral part of a total treatment train approach and are incorporated into most street scape designs. As they are applied at a street scale to capture and treat stormwater runoff close to its source, they not only provide us with a compact, efficient stormwater treatment solution they also help to enhance street scape aesthetics.

Tree Pits, also commonly referred to as Tree Filter Boxes are configured as vegetated filtration systems with a collection pit and are designed to remove fine suspended solids and dissolved pollutants. The system operates by filtering stormwater runoff through a carefully selected media and tree. The Ecosol™ Tree Pit has been designed specifically for easy on site maintenance.



2.0 Establishment Phase Maintenance

During the establishment phase there are some important steps to follow to ensure your tree pit system continues to thrive and operate as intended beyond construction activities.

1. It is recommended whilst construction activities are occurring within the catchment that the Tree Pit should be off-line to prevent stormwater contaminated with heavy sedimentation loads from entering the system.
2. Implementation of sediment control measures should occur to prevent sedimentation from accumulating within the system during construction activities.
3. Newly planted trees will likely require some irrigation during the establishment phase. This period is typically 18 – 24 months. Irrigation should be applied directly to the surface of the filter media.
4. The use of tree stakes is also necessary to support young trees until they are adequately established. It is also important to remember when removing these tree stakes to fill in the holes otherwise this may result in creation of preferential flow paths with stormwater bypassing the filter media draining directly into the drainage layer at the base of the Tree Pit.



3.0 Monitoring

Under normal weather and operating conditions, your Ecosol™ Tree Pit should be checked, every three months during the establishment phase. Once the unit has been in operation for an extended period of time (say, 18 months) then the monitoring schedule can be adjusted to reflect the actual operating conditions specific to the catchment.

4.0 Maintenance Procedures

Water Sensitive Urban Design (WSUD) assets require regular scheduled maintenance to ensure they remain healthy and perform as intended. It is important to regularly inspect the filter media to monitor sediment, gross pollutant and leaf litter accumulation. Additionally any weeds should be removed, plant health and detention zones monitored and periodic flushing out of the under drain system is necessary to ensure the system continues to perform to its designed specification. The Ecosol™ Tree Pit simple design makes access for cleaning and maintenance easy using standard equipment.

Catchment Size and Recommended Cleaning Frequency

Ecosol Product Code	Optimal Catchment size (Ha)	Recommended cleaning frequency based on optimal catchment sizes and typical pollutant loads (per annum)		
		Residential	Commercial	Light Industrial
Ecosol Tree Pit	Up to 0.35	4	4	4

Regular inspection and maintenance is necessary to maintain the performance of your Ecosol™ Tree Pit. The table below provides a guide of key activities for maintenance of your system.

Item	Activity	Reccomended Frequency
Mulch	Ensure you have adequate mulch cover to prevent scouring.	Every 3 months or immediately after a storm event.
Filter Media	Remove leaf litter and gross Polutants	Every 3 months or immediately after a storm event.
	Monitor ponding depths to ensure soil media is providing adequate infiltration rates.	Every 3 months or immediately after a storm event.
	If necessary remove excess sediment or replace the top layer of soil media and remulch.	Every 3 months or immediately after a storm event.
Vegetation	Ensure plant life is healthy.	Every 3 months or immediately after a storm event.
	Remove all weeds.	Every 3 months or immediately after a storm event.
	Water as necessary.	Seasonal Activity.
Structural Components	Inspect all structural elements to ensure structural integrity.	Annually.
	Flush underdrain pipe systems.	Annually.
	Ensure all inlets and outlets from the system are free of any debris.	Annually.

5.0 Reporting

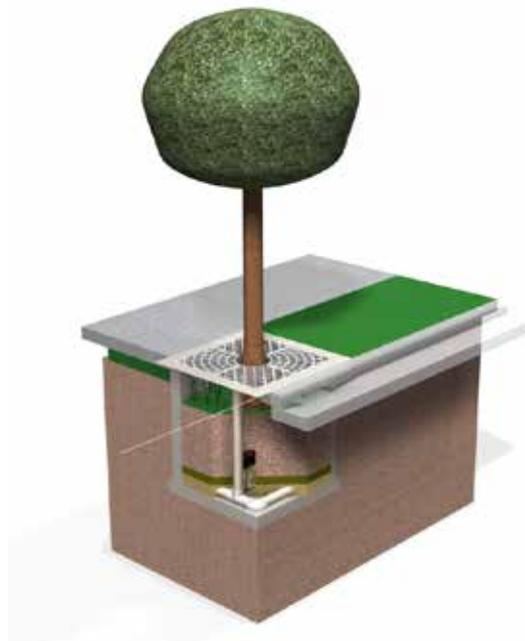
After each scheduled maintenance activity or asset inspection it is important that all data is recorded for use in ongoing asset management activities. A comprehensive report should be prepared that details as a minimum the following information:

- Site location
- Date and time of the inspection or maintenance activity;
- Duration of the maintenance works and details of the works undertaken;
- Volume or weight of material removed and composition (eg. sediment, vegetation, litter etc.)
- Filter media condition (ponding, accumulation of silts and sedimentation, preferential flow path etc.)
- Tree Health (signs of disease/pests/poor growth etc.)
- Condition report on the inflow areas, pit and grate conditions and if possible inspect under drain pipes for blockages and flush out as necessary.
- Record details of any remedial work undertaken or required at a later stage.

Reporting of the above information is included in the cost of any scheduled maintenance undertaken by Urban Asset Solutions Pty Ltd - please refer to the next section for more details.

6.0 Monitoring, Cleaning and Maintenance Services

Urban Asset Solutions Pty Ltd has a very competitive and experienced stormwater asset maintenance service. We believe that it is in your best interest for Urban Asset Solutions Pty Ltd staff maintain your Tree Pits not only because we are specialists, but also because proper monitoring and maintenance activities enhances the system life and operation significantly.



7.0 Life Expectancy

The Ecosol™ Tree Pit has a one-year warranty covering all components and workmanship. Urban Asset Solutions Pty Ltd will rectify any defects that fall within the warranty period. The warranty does not cover damage caused by vandalism and may be invalidated by inappropriate cleaning and maintenance procedures or where the unit is not maintained within the recommended frequency. The Ecosol™ Tree Pit is designed to meet strict engineering guidelines and manufacturers guarantees and is one of the most durable stormwater treatment systems available. All PVC components have a life expectancy of 25 years while the pre-cast concrete pit has a life expectancy of 50 years providing appropriate maintenance practices are employed.

8.0 Warranty

All Ecosol™ Tree Pit are covered by a twelve-month warranty provided the unit is maintained with the frequency, and using the method recommended in this maintenance guide.

9.0 Supplier and Technical Product Contact Details

For any maintenance or technical product enquiries please contact:
Urban Asset Solutions Pty Ltd
Tel: 1300 706 624
Fax: 1300 706 634
Email: info@urbanassetsolutions.com.au



Urban Asset Solutions Pty Ltd
ABN 73 627 354 830
Telephone: 1300 706 624
Fax: 1300 706 634
Website: www.urbanassetsolutions.com.au



©Urban Asset Solutions Pty Ltd ABN 73 627 354 830 - 2020
This document is copyright. No part may be reproduced,
stored in a retrieval system, or transmitted in any form
or by any means, electronic, mechanical photocopying,
recording or otherwise without prior written permission
of Urban Asset Solutions Pty Ltd.



URBAN[®]
ASSET SOLUTIONS