

Tree Management Framework

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Introduction

Trees are the largest living things in the urban environment and are the biggest contributors to vital green infrastructure, a city's natural life support system. Their environmental, social, cultural, and economic benefits are well established making them essential infrastructure in cities.

Trees improve mental and physical health from reducing blood pressure and risk of getting diabetes, improving our cardiovascular and metabolic health, improving the quality of sleep as well as reducing depression and loneliness. They shade and cool our streets, parks, and homes. They increase biodiversity and enhance economic activity and property values. All of these benefits make investment and management of trees a cost-effective, nature-based solution for building more resilient and climate adapted cities.

The return on investment in urban forests far exceeds the cost of installation and maintenance, particularly when compared with grey infrastructure, again proving that trees and the urban forest are a worthwhile investment.

The Framework is to be read in conjunction with the Tree Management – Specifications document ([Appendix – Tree Management Specifications](#)). The Service Standards provides the details for timelines, measurements, qualifications, and other technical elements that explain the Framework. The Service Standards is a contemporary document to be updated continuously by the Urban Forestry Unit.

Scope and Purpose

This framework applies to all street and park trees, and trees located on council properties, such as libraries and childcare centres within the Local Government Area of Banyule. It provides the basis for how Council recognise and manage these trees as essential infrastructure.

Relevant Legislation

The Framework adheres to the following legislative guidelines:

- Local Government Act 2020.
- Road Management Act 2004.
- Electricity Safety (Electric Line Clearance) Regulations 2020.

Objectives

The objectives of the Tree Management Framework are to:

- Formally recognise that Council managed trees are an essential asset.
- Formally document the decision-making processes of tree management that reflect best/good practice in particular around tree risk management obligations and structure.
- Provide the technical detail to support actions in the Urban Forest Strategy.
- Replace the management plan of the Banyule Street Tree Strategy (1998).
- Replace the Service Objectives and Quality & Cost Standards for Parks & Gardens (2012).

Framework Principles

Principle	Statement
Trees are essential infrastructure	Banyule will manage trees as valuable long-term assets. Council will prioritise the protection, retention, and planting of trees as part of its delivery of core services.
Best practice tree maintenance	Banyule will maximise the benefits and reduce the risks of our public urban tree assets through the delivery of high quality, appropriately resourced tree maintenance programs. This includes appropriately managing pests and diseases.
Asset Planning	Banyule will undertake appropriate asset planning to ensure the ongoing protection of existing trees and planting of new trees within all Council works and asset upgrades in streets and open space.
Tree Asset Database	Banyule will maintain a fit for purpose ledger of tree assets within an asset management system that records key attributes about each tree to inform evidence-based planning and programs.

Strategic Context

The Tree Management Framework is guided and informed by existing strategic and community priorities as below:

Community Vision 2041

Banyule City Council worked with the community to set out the below vision for the community's aspirations over the next 20 years by expressing what is important to the community:

We in Banyule are a thriving, sustainable, inclusive, and connected community. We are engaged. We belong, and we value and protect our environment.

Urban Forest Strategy 2023

Banyule's community vision is reflected and refined through Banyule's Urban Forest Strategy (UFS) 2023-2033. It is understood that this vision may not be fully realised for 50 years or more and describes the far future state of the Banyule urban forest. It was developed collaboratively with the community and guides the strategic areas of focus, and actions to take over the next 10 years. The UFS vision is:

Banyule's Urban Forest is resilient. It is thriving and people are aware and value the role of the Urban Forest for health and wellbeing and in making Banyule a great place to live. The Urban Forest is managed as an essential asset for Banyule and decisions about the Urban Forest are fit for place, and purpose and space is provided to support greening and larger tree canopy. People work with Council and are active in the protection, management, and maintenance of the Urban Forest.

The vision and principles for the Banyule's urban forest were endorsed by Council in February 2022. The principles are:

- We believe the urban forest is an essential asset for Banyule, shared by all and crucial for the health and wellbeing of the community and natural environment.
- We believe a healthy urban forest is the result of strong partnerships between Council and community.
- We act today to respond to the changing climate and to leave a positive legacy for the future community, and we act responsibly, using evidence-based practice in our leadership and management of the urban forest.
- We plan, design, and deliver for the people, places and natural environments of Banyule including:
 - Climate change and reduction of the urban heat island effect.
 - Liveability, amenity, and neighbourhood character.
 - Banyule's ecosystems and biodiversity.
- We protect and enhance the Banyule's natural environment to care for flora and fauna.

Specific, achievable, and timely KPIs have been set for:

- Canopy cover across all suburbs (30% by 2050 with no loss in suburbs exceeding the target).
- Canopy cover across the footpath and local road network (45% by 2040 with no loss in suburbs exceeding the target).
- Canopy cover across the open space shared path network and surrounding playgrounds (50% by 2050).

The UFS has six areas of strategic focus to organise the actions:

- Prioritise urban forest improvements in the most vulnerable suburbs and places across Banyule.
- Increase the diversity of the urban forest for biodiversity and habitat with ground cover and shrub layer plantings.
- Manage the urban forest across public and private land for resilience to climate change.
- Take a long term, asset management approach to the urban forest.

- Build and maintain partnerships with others in the protection and management of the urban forest.
- Integrate urban forest principles in all parts of Council services.

The UFS includes 58 actions which prescribe the immediate and ongoing work required to respond to the challenges faced by the urban forest, including impacts of climate change and increasing urban development.

One action in particular will be met through the delivery of this TMF, the development of a Tree Risk Management Framework (UFS action S4.10):

An asset, risk and customer-focused framework to tree management that includes a documented method for the controls for tree risk. The framework will include a proactive inspection regime in streets, facilities and open space for all trees Banyule is responsible for and that is consistent with Banyule's risk management framework and risk appetite.

Clear and transparent process, procedure, and application for managing tree removal and tree planting customer workflows from requests to completion or complaints and disputes that recognises risk profiles for person and property.

The Trees of Banyule

Age, Useful Life Expectancy and Size Diversity

The detail within the current tree dataset is limited, making the analysis of diversity trends and gaps difficult. The lack of detailed data means that Council cannot accurately develop proactive plans to account for these trends or gaps.

Of the 93,423 trees recorded within Banyule’s tree database, 83% are recorded as “Semi-mature” or “Mature”, which is a significant proportion of a tree’s lifespan. Planting year has been recorded since 2016 so a more nuanced calculation of age spread of the established population is not possible.

Further to this, 95% of the tree population has a recorded Useful Life Expectancy (ULE) of 30+ years which does not provide insight on how many trees will require removal and replacement in the short to medium term.

Improving the level of detail in the tree management system remains an ongoing focus.

However, it is worth noting that 11.5% of the tree population was planted over a five-year period between 2018-2023. With this sizeable proportion of newly planted trees and the increased planting rate envisaged by the Urban Forest Strategy, the management of trees in Banyule needs to increasingly focus on caring for and maintaining the emerging tree population, in addition to managing the established population.

Figure 1 (below) shows the distribution of larger trees (DBH over 31cm) across management areas and therefore where greater management attention may be required to manage risk. 43.5% of Park trees are large, whereas 26% of street trees are large.

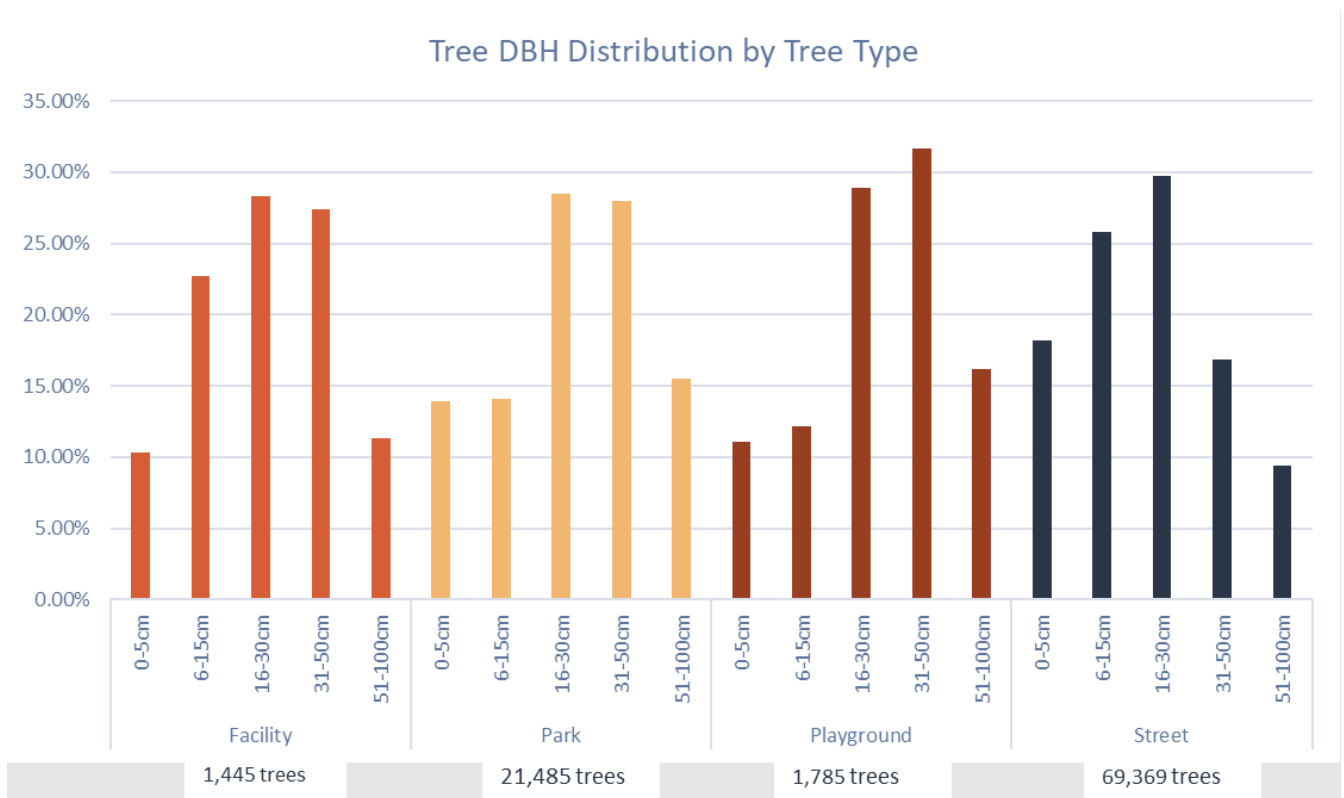


Figure 1 - Tree DBH Distribution by Tree Location Type

Proportion of Trees Pruned Under Wires/Powerlines

35,000 Council owned trees are recorded as being under wires. Of these, 95% are street trees. Height banding indicates that 45% of the trees under wires are over, 6m so potentially require cyclic clearance pruning.

12,000 trees are currently pruned for line clearance, with an additional 23,000 under or near wires but not yet at a size where they require pruning.

Correct species selection of future trees being planted under powerlines will seek to minimise clearance pruning by choosing species that are smaller in stature or have a naturally open vase form. Multiple small trees may be planted to replace single large trees to achieve the same canopy coverage with reduced pruning.

Open Space Trees

Banyule has approximately 29,000 trees recorded in managed open space. Large sections of conservation reserves and bushland areas do not have trees identified and recorded. Trees in open space may be of the *tree type* Street Tree, Park Tree, or Playground, depending on where they are located in the open space.

There is 92km of open space paths. The UFS sets a KPI of achieving 50% canopy cover over the path network by 2040. In 2020 there was 43% canopy cover of the path network.

There are 8,900 trees within target buffers of open space assets (within 20m of playgrounds and BBQs, 10m of picnic shelters, bins, and paths).

Open Space Classification	No. of Parks	Area	No. Trees
Regional Park	29	216	8,399
Neighbourhood Park	24	182	6,080
Local Park	74	148	6,951
Pocket Park	94	34	2,731
Conservation Reserve	18	19	644
Roadside Reserve	37	4	2,365
Shared Trail	3	5	206
Walkway	48	4	1,436
Grand Total	327	612	28,812

Precincts

Banyule City Council is undertaking a transition to a Place Based Framework of precincts for managing many aspects of council planning and operations.

From 2024, the tree maintenance program will transition from a system of Work Zones and Planting Zones to the new Precincts. The spread of trees by precinct are shown in Figure 2. The tree management system currently has limited inventory data for open space trees (discussed further in Open Space Trees below).

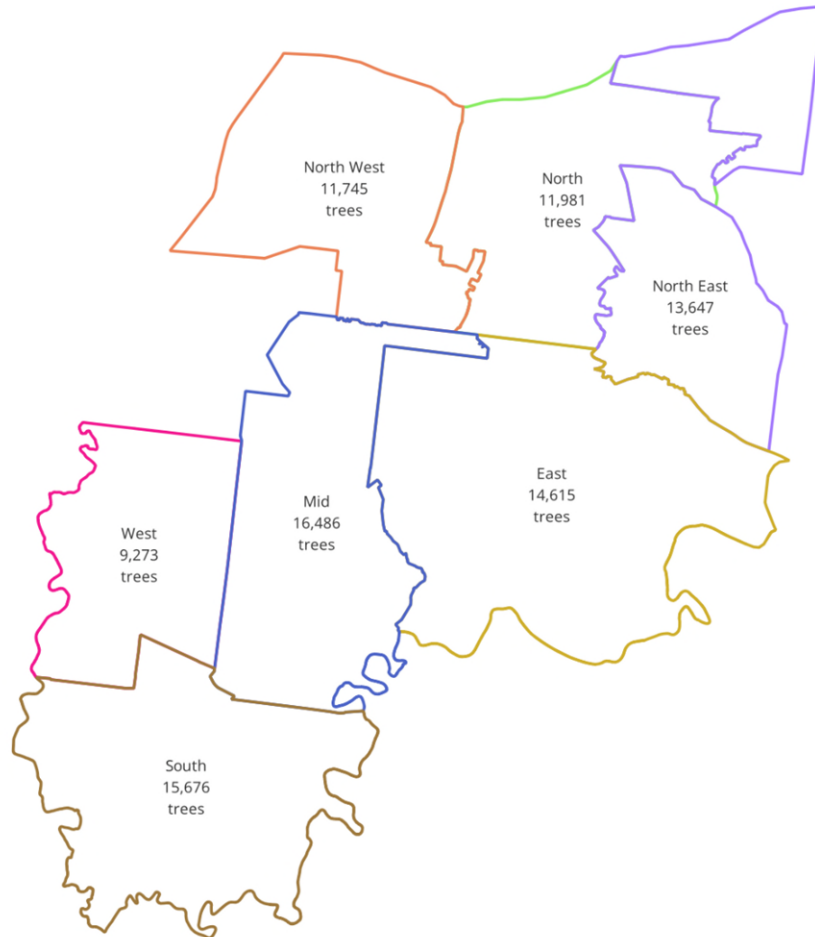


Figure 2 - Banyule Precincts with their number of trees

Table 1 - Precincts and Tree Types

Precinct	Tree Types				Grand Total
	Street Tree	Playground Tree	Park Tree	Facility Tree	
Mid	10,379	245	5,595	267	16,486
South	12,932	237	2,083	425	15,677
East	11,158	227	3,079	151	14,615
North East	10,702	329	2,545	71	13,647
North	8,073	301	3,377	230	11,981
North West	8,764	217	2,647	117	11,745
West	7,237	157	1,696	182	9,272
Grand Total	69,245	1,713	21,022	1,443	93,423

Precincts and Tree Types

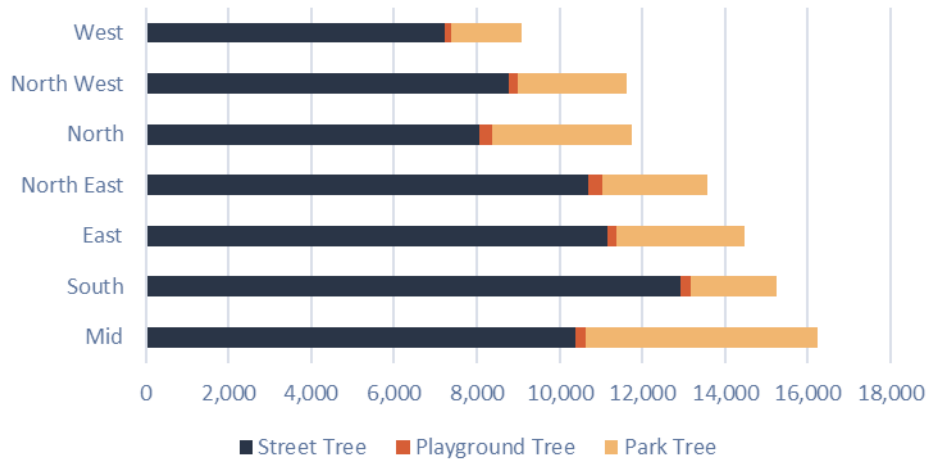
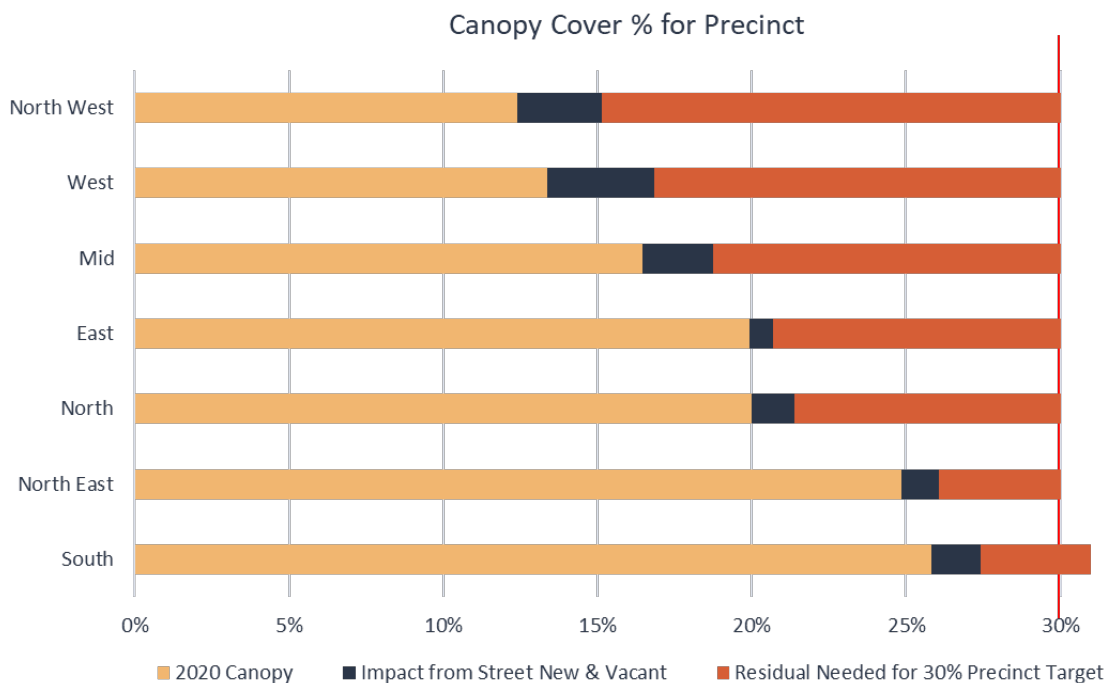


Figure 3 - Precincts and Tree Types

The West, Northwest and some suburbs of the South and North Precincts have fewer trees and less than tree canopy cover than the others. To counter this, the UFS commits Council to achieving a 30% tree canopy cover across all suburbs by 2050. It further makes the case for Council and the community to improve canopy as a priority in the most vulnerable areas where canopy and tree numbers are low. This priority is articulated in actions:

- S1.1 Develop an agreed urban forest prioritisation method that is based on the Urban Forest Principles to identify areas in most need of planning and intervention.
- S1.4 Program annual planting in areas with highest priority. It is likely that the west and northwest areas will within the most vulnerable areas.

Figure 4 (below) highlights the current canopy levels as at 2020 and the predicted increase required from planting vacant sites in the short term. The residual canopy required from non-council land is shown in dark



orange.

Figure 4 - Precinct canopy cover - gap to 30% Target (yellow bars indicate current canopy, blue bars indicate projected canopy increase from street tree planting, orange bars indicate the gap between projected canopy cover and needed canopy cover)

The Tree Management Framework will be an important tool for managing the existing trees and guiding the growth of the urban forest on council land.

Tree Risk Management

Obligations

Council is committed to taking an integrated, common-sense approach to risk management with a view to achieving our strategic objectives. Council's overall aim is to embed a culture of risk management throughout the organisation, both at a corporate level and within operational and service delivery areas.

Adopted by the Audit and Risk Committee in 2020, Council has in place a Risk Management Policy and Framework that outlines Council's approach to the identification, analysis, management, scrutiny, and reporting of risk to support the delivery of our strategic objectives. Council has aligned our risk management methodology to the ISO31000 (2018) risk management guidelines, particularly in relation to the ongoing process of assessing, treating, recording, and reporting risk.

Council has agreed a set of risk appetite statements that address key risk areas and specific business operations. Each risk appetite statement provides guidance on the nature and extent of risk the group is prepared to take. Risk appetite is assessed in terms of "willingness to accept risk" and is defined below.

Table 3: Risk appetite statement descriptors

Assessment	Description
High risk appetite (4)	Council is willing to accept a large negative consequence to pursue our strategic objectives. Council will take a more aggressive approach to taking risk.
Moderate risk appetite (3)	Council is willing to accept some negative consequence in pursuit of our strategic objectives. Council will seek to take risk in key areas.
Modest risk appetite (2)	Council takes a measured approach to pursuit of strategic objectives against potential negative consequences. Council will take a balanced and informed approach to taking risk.
Low risk appetite (1)	Council is willing to accept a small negative consequence in pursuit of our strategic objectives. Council will take a cautious approach towards taking risk.

Council has identified eight principal risk categories, and each has been assigned a qualitative risk appetite statement supplemented by various principal risk metrics:



Figure 5 - Banyule Council's Risk Management Process

While the overall risk to public safety and properties from trees is typically low, there are some more common risks that affect more vulnerable members of our community requiring safe and unhindered passage through public open spaces. Council aims to proactively identify and mitigate all risks to public safety, accessibility, and potential property conflicts from current and future trees.

Tree Risk Management System

To ensure appropriate risk is identified and risk priorities are assessed in a timely manner, Council maintains the following components of a tree risk management framework:

- A clear, documented procedure for proactive inspection of Council managed trees with information on location, species, size, health and structure.
- A documented system of logging complaints or notification of problems with respect to Council managed trees.
- A documented system for assessing the risk posed by Council managed trees and prioritising the risk posed by such trees and allocating priority to situations and locations with a high probability of tree failure and high potential for damage or injury.
- A documented maintenance system for abating the identified risk.
- Systematic allocation of tree maintenance resources to undertake the required maintenance actions.
- A documented service system that logs all abatement treatments undertaken.
- The methodical selection, placement, planting, and establishment of trees to minimise long-term risk.
- Employing qualified and experienced arboriculture staff and contractors that have sound knowledge of tree physiology and tree failure patterns.
- Continual review, evaluation and improvements made to the tree risk management system and databases.

Tree Risk Identification

Council inspects all trees in varying timeframes to identify existing or potential risks. Council has low appetite for safety risk exposure that could result in mental or physical injury or loss of life to public, contractors and/or employees. Due to the inherent nature of the work conducted by Council, it is not possible to eliminate exposure to injury/loss of life entirely.

Risk zones are based on the assessed targets, what could be harmed by the tree falling or dropping a major branch, and how often is that target there. The way that locations are viewed for classifying into risk zones is informed by the typologies in Banyule's Place Based Framework. Generally, trees in higher risk zones are inspected more frequently than those in low-risk zones. However, there are instances where high risk trees are identified that are situated within low or moderate risk zones or where typologies move between risk categories if there are changes to their usage patterns or pedestrian activity/targets.

By assessing every Council tree at least every one to three years and utilising the tree risk management system, Council ensures that identifiable risk is recorded, categorised and appropriately managed.

All inspectors for tree risk will hold both an appropriate level of Arboriculture qualification (Australian Qualification Framework 3 or above) and an industry tree risk assessment qualification (e.g. TRAQ, QTRA, VALID).

Risk zone categories, the types of places within those categories and their inspection frequencies are listed below:

Risk Zone Category	Example Risk Zones/Place Based Typologies	Inspection Frequency
Very High Risk	Activity centres, playgrounds, regional parks, early years facilities, near HV lines, major arterial roads	Annual
High Risk	Secondary streets, neighbourhood parks, civic areas, public carparks, bus stops, pedestrian laneway	Annual
Moderate Risk	Local roads, local parks, pocket parks, railway interface, walking trail, cycle lanes	Every two years
Low Risk	Vacant land, conservation reserves, parklets	Every three years

Council will also undertake reactive tree inspections resulting from customer requests.

The type of inspection varies depending on the purpose and risk level as below:

Inspection Level	Explanation
Level 1 - Limited Visual Assessment	These inspections are undertaken when a large number of trees have to be inspected and managed – as is the case for a municipality wide tree population. These are usually done from a car or walking. Information may not be recorded about each tree; however if a defect is noticed a Level 2 inspection is programmed or undertaken.
Level 2 - Basic Tree Assessment	This is the industry standard for assessing individual trees. A tree or group of trees is inspected from the ground, which can be with the use of tools such as measuring tapes/equipment, binoculars, mallet, probe or handheld digging tools. This information is retained in Council's Tree Management System and reports can be generated from this information. When the Arborist identifies an unacceptable level work is scheduled that can range from pruning, cabling, habitat tree creation or complete tree removal and replacement.
Level 3 - Advanced Assessment	If considered to be required from a Level 2 assessment, more detailed assessments are undertaken. Methods may include aerial inspection of the upper crown of a tree, stability monitoring or assess the extent of wood decay. These require specialised tools such as resistance drills, tilt sensors and aerial access equipment or drone imagery. Testing for tree diseases is also included under Level 3, with information added to the tree details of Council's database.

Tree Risk Priorities

The prioritised response for risk management work depends on the allocated risk rating of the tree. The risk rating is consequence of the risk, the likelihood of it occurring and its acceptability within the landscape. This is determined by Council's qualified arborist on a tree-by-tree basis through the following procedure:

- Allocate risk rating.
- Determine acceptability of risk.
- Determine appropriate service level to mitigate the risk.
- Rank remedial works based on threat or impact to public safety and property and identify required timeframe for service.
- Undertake remedial work.
- Report on the outcome.

Common service levels for tree risk reduction include tree pruning, cabling, or bracing or tree removal and replacement if the risk is deemed unacceptable.

Customers and Trees

Community Consultation and Engagement

Council values the community's opinion and encourages consultation and communication about tree management and the urban forest.

As a result, Council commits to undertaking the following regarding community consultation and engagement:

- Notify residents likely to be impacted by a planned removal of a council tree confirming the reason for removal and the replacement planting proposed.
- Consult with residents about proposed removals of council trees that are part of major tree renewal projects or other specialised projects impacting on council trees.
- Provide information about newly planted street trees to residents located adjacent to the planting.

The UFS has specific actions for building community engagement and partnerships in Strategic Area 5 "Build and maintain partnerships with others in the protection and management of the urban forest."

Council provides detailed information about the benefits of trees and the urban forest on our website, as well as the various strategies, policies, and master plans that Council uses for tree management. Development of communication plans and web-map based reporting on trees are actions in Strategic Area 4 of the UFS. Council will utilise online mapping, graphical storytelling, and other media to showcase urban forest data for the community.

Service Level Agreements

The service levels and agreements have consideration and recognise that residents living adjacent to trees have both most of the benefit and most of the nuisance or risk. This is why, in relation to customer service, a clear and transparent process for inspections and appointments, pruning and removal request and tree disputes are presented.

Where a request is lodged by a Customer, the Urban Forestry unit will:

- Ensure that upon receipt of a maintenance request, the request is:
- Acknowledged to the customer.
- Investigated.
- Appropriate action programmed/ performed.
- The customer informed of the action to be taken.
- The Unit is to respond to a customer request within 72 hours of receipt of the request.
- Investigate urgent requests **within 4 hours** of receipt and non-urgent requests within 72 hours.
- Ensure that after completion of each reactive maintenance request, details of work performed is to be sent to the customer. In the event of no work being required this is also to be communicated to the customer.

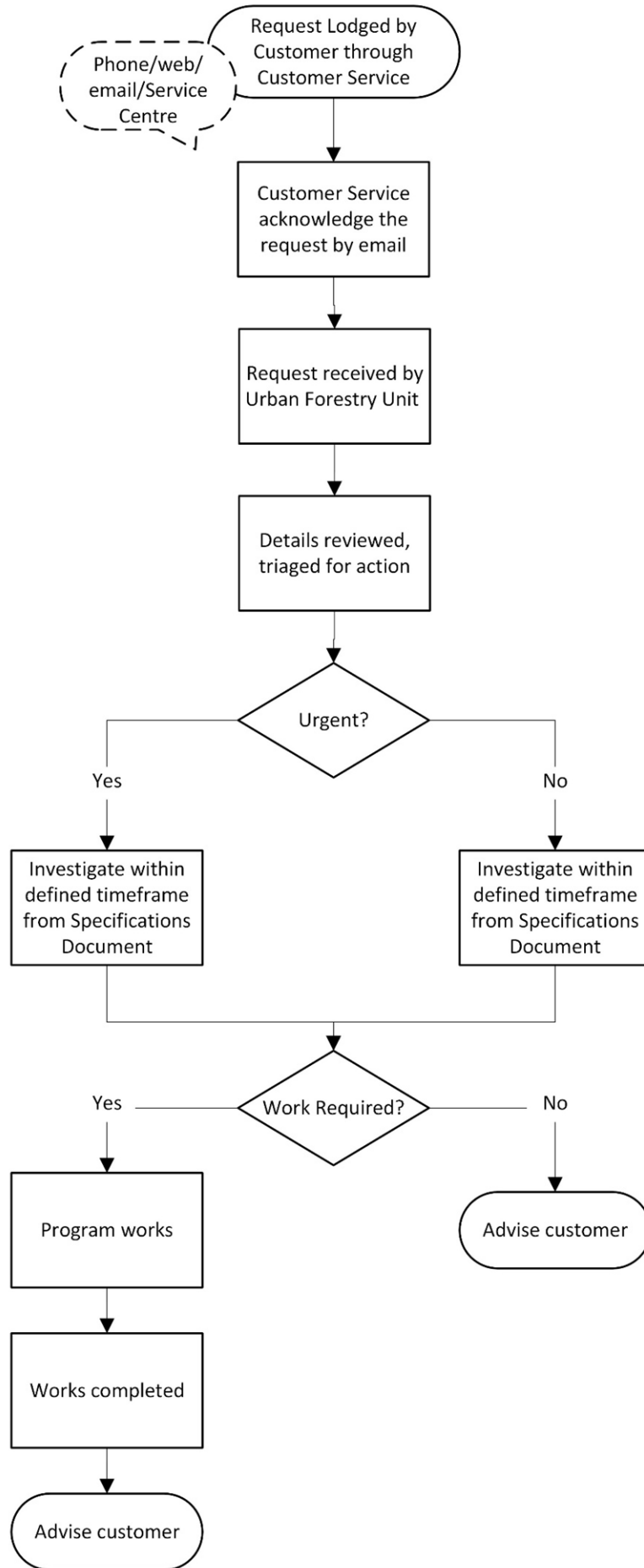


Figure 6 - Customer Request Process Flow

Banyule Service Promise

Council has developed a Service Promise¹ detailing the types and levels services that customers can expect. It also includes a range of principles guiding service delivery as follows:

	We will	We will achieve this by
<p>Respectful We have respectful relationships with all people.</p>	<ul style="list-style-type: none"> • Listen and work to understand the individual needs of each customer • Help customers understand their rights, entitlements and obligations • Be empathetic and helpful, even if we have to say “no” 	<ul style="list-style-type: none"> • Personalising each experience • Explaining options for review • Making information clear and easy to understand
<p>Accessible We provide customer service that is accessible to all</p>	<ul style="list-style-type: none"> • Assist all individuals equally • Ensure our facilities and buildings are more accessible • Have a range of options to contact council 	<ul style="list-style-type: none"> • Making our services accessible and inclusive for all groups and communities • Having a range of ways of contacting and transacting with us
<p>Proactive We proactively communicate and seek feedback</p>	<ul style="list-style-type: none"> • Provide a timely response to each request • Inform customers of service disruptions or schedule changes • Seek feedback to improve our service 	<ul style="list-style-type: none"> • Keeping customers informed of the progress of their request • Use a range of communication methods to cater for all demographics • Provide easy ways for customers to provide feedback so we can continue to improve our service
<p>Accountable We are transparent & deliver on our commitments</p>	<ul style="list-style-type: none"> • Be honest, open and accountable for our actions • Communicate clearly, accurately, in plain language and within appropriate time frames • Meet reasonable expectations wherever possible and explain when we cannot 	<ul style="list-style-type: none"> • Working with customers to resolve their issue • Publishing our service levels and indicative timeframes • Providing details of how we met our service timeframes annually
<p>Consistent We provide a consistent high quality customer experience across our services</p>	<ul style="list-style-type: none"> • Provide consistent service regardless of how people contact us • Provide accurate information • Provide a contact name and number of the person handling the matter 	<ul style="list-style-type: none"> • Making decisions that are consistent, fair and in line with Council policies and relevant legislation • Ensuring customer service training is part of the ongoing training for all staff

¹ <https://www.banyule.vic.gov.au/files/assets/public/about-us/documents-reports-plans/service-promise.pdf>

Tree Pruning

Council Commitments

Council will provide adequate resources to carry out tree pruning in streets, parks and reserves and other Council-managed land.

It will do this by:

- Undertaking tree maintenance works as required to protect, enhance, and preserve existing trees to a high standard.
- Undertaking tree pruning in line with relevant legislative requirements, such as Electricity Safety under the Electricity Safety (Electric Line Clearance) Regulations 2020, Road Management Act 2004, strategic policies, and accepted tree care practices.
- Our pruning aims to comply with Australian Standard – AS 4373 – 2007 Pruning of amenity trees.
- Integrating latest technology to ensure tree maintenance programs continue to meet best tree care practices.

Any operation known to be detrimental to long-term tree health is not appropriate therefore Council managed trees will always be pruned by qualified arborists.

Tree selection will consider a tree's ability to be pruned to meet the above ground site constraints and will endeavour to utilise tree size and form (shape of the canopy) to reduce pruning requirements.

Maintenance work on trees will also occur in response to unexpected events or emergencies, such as tree or branch failure resulting from severe storms.

Current Tree Maintenance Programs

The street trees within Banyule are maintained according to the specification of the precinct pruning contract.

A program of precinct pruning of predominately street trees is implemented, which focuses on the formation of well-structured trees that are aesthetically pleasing while meeting safety standards and prescribed electrical clearance requirements.

Banyule has seven precincts, with each precincts being pruned at least once over a minimum two-year period. 1,500 large trees across 39 streets with HV wires are pruned annually.

Trees are pruned to meet the legislative requirements of the Electricity Safety under the Electric Line Clearance Regulations (2015) - Code of Practice for Electric Line Clearance.

Trees may also be pruned in response to customer requests or storm damage.

Pruning Requirements

Properly maintained trees develop fewer hazardous defects and pose less risk to public safety.

Any pruning that is required must be carried out by trained and competent arborists, as stipulated within specifications of the external contract, who have a thorough knowledge of tree physiology and pruning methods and carry out pruning to the AS 4373-2007.

The Australian standard **AS 4373 - 2007 - Pruning of amenity trees** provides the principles of tree pruning to encourage practices that reduce the risk of hazard development, branch failure, pathogen infection and premature tree death.

To ensure that pruning is appropriate for the species and tree/site conditions, it is important to have a clear understanding of the specific needs of the tree and the objectives for pruning.

Pruning objectives include the following:

- Improve structural strength and reduce failure potential (including dead branch removal).
- Prevent or mitigate a pest problem.
- Improve aesthetic characteristics.
- Provide clearance for pedestrians, vehicles, overhead services and structures.
- Improve safety (visibility) and security for road users.
- Repair structural damage from wind loading.
- Reduce maintenance costs (i.e., when applied to young trees).

Council undertakes pruning programs on publicly managed trees to:

- Reduce the risk to public safety.
- Decrease potential damage to property and infrastructure.
- Provide clearances for pedestrians, vehicles and sight lines.
- Provide clearances around services and electric power lines.
- Manage tree health.
- To formatively shape young trees.

Public trees will be assessed by a qualified arborist prior to the implementation of pruning to ascertain the pruning needs and objectives.

Pruning will endeavour to retain the natural form of the tree, while allowing for the necessary electric line, pedestrian, and vehicle clearances required. No pruning beyond the requirements of the Contract shall be undertaken without approval. The least possible reduction of foliage cover and change to the natural form of trees are the aim of all pruning works.

Trees may be pruned away from properties upon request. Such works will be completed with sensitivity to the trees shape and only in an arboriculturally appropriate manner. The heights and clearances that trees will be pruned from roofs and walls are detailed in the Tree Management Specifications.

Trees will not be lopped or indiscriminately pruned.

Pruning for electrical line clearances requires trees to be pruned in a way that may deviate from the natural form of the tree. Typically, larger trees under electric lines are shaped around lines to provide the adequate clearances. Branches are to be pruned with reduction or removal cuts to encourage growth away from the wires to a certain extent. This is called directional or lateral pruning. Fewer epicormic growth and shoots develop from directionally pruned trees as this type of pruning conserves terminal buds on lateral branches. **Pruning for clearance from wires and allowances for regrowth are detailed in the Tree Management Specifications.**

Roads and Paths

Trees over roads and paths are pruned to comply with the definitions of hazards in the Department of Transport Road Management Plan 2021. Sightlines to traffic lanes, intersections and road signals are to be maintained to recommended standards detailed in Austroads Guide to Road Design².

The objective of pruning near roads and paths is to ensure safe passage of road and path users while managing the health and amenity of trees. Management of risk is the imperative.

Heights for canopy pruning is detailed in the **Tree Management Specifications**.

Private trees and vegetation obstructing road and pathway users, including visibility of traffic signals, signs and street lights, are not a Council responsibility. Notification for rectification will be sent to the property owners by the Municipal Laws & Public Assets team as a requirement of the General Local Law No. 1 (2015). If a private tree obstructs a piece of infrastructure that results in a safety hazard (i.e., blocking traffic lights), Council may choose to rectify.

² <https://austroads.com.au/safety-and-design/road-design/guide-to-road-design>

Street Lighting

Trees will be pruned to support illumination of the road below streetlights. Clearance distances detailed in the Tree Management Specifications.

Where additional pruning is requested for pedestrian and cycling illumination, the following steps are recommended:

- A nighttime on-site analysis utilising a high-quality light metre to determine the existing levels of lighting 40m on either side of the tree and below the canopy.
- An assessment of existing lighting levels, in line with Australian Standards.
- The development of reporting detailing the outcomes of the analysis including advice on whether tree pruning or tree/light relocation should be investigated further.

The process described above is typically carried out by a suitably trained member of staff or a lighting designer/consultant.

Council does not support lighting including fairy or festoon or other attachments being attached to or placed within Council trees and will therefore not prune any trees for such circumstances.

Powerlines

Council has regulatory obligations under the Victorian Electricity Safety Act to comply with the Energy Safe Victoria (ESV) Electricity Safety (Electric Line Clearance) Regulations 2020. As a result, each year Council must prepare, submit, and advertise on its website, its Electrical Line Clearance Management Plan (ELCMP)³. Council advocates to ESV, with neighbouring councils, for decreased pruning requirements around low voltage powerlines in low bushfire risk areas.

The ELCMP specifies the distances trees must be pruned from electrical assets.

Council makes the following commitments in the ELCMP which are in line with the regulations. Each year, Council must ensure that these tasks are being completed to a reasonable standard.

Contractor Skills and Qualifications

Council's Line Clearance and pruning contractors must have:

- Formal training that incorporates modern tree pruning practices, including awareness of AS 4373-2007 Pruning of amenity trees and natural target pruning principles⁴.
- Project induction, including awareness training in Banyule's ELCMP (including pruning quality requirements).
- Experience in assessing trees to ensure only appropriately qualified and experienced contractor personnel are employed on the Banyule City Council Line Clearing Contract:
 - Pruning contractors must have a minimum a ESI2. Recommended is National Certificate III in Arboriculture⁵.
 - Assessors must have ESI2, Certificate III in Arboriculture and an industry tree risk assessment qualification (e.g. TRAQ, QTRA, VALID).

Induction meetings are to be held with contractors at the inception of their contract, annual meetings held during the length of the contract and weekly safety meetings are held. Qualifications for all personnel working on the contract are checked at each of these meetings and awareness training provided on the Code of Practice and the ELCMP.

³ <https://www.banyule.vic.gov.au/files/assets/public/about-us/documents-reports-plans/electric-line-clearance-management-plan.pdf>

⁴ Section 9.4 (j) Management procedures to ensure compliance with the Code

⁵ Regulation 9(4)(p): Qualifications and experience

Council Inspections

The Pruning Contract requires the successful contractors to:

- Inspect the trees.
- Create a scope of works.
- Conduct the pruning works.
- Audit the pruning works.

Council may elect to instead engage an independent contractor for scoping (inspecting and preparing works) and for post cut audit.

Council must inspect any tree that the contractor reports as being unsuitable in accordance with the Code of Practice for Electrical Line Clearance⁶. Council will inspect those trees and if in agreement will investigate and implement alternative that does not pose a risk to electrical line assets.

After the initial scoping inspections, Council's Arborist will approve/direct the pruning contractor to prune each tree in accordance with the work instructions.

Any hazardous tree identified by the Contractor must be inspected by Council arborist and appropriate work undertaken.

Emergency Works

Council maintains a 24-hour reactive/emergency service to manage emergency pruning if a Council managed tree:

- Has fallen or become damaged and requires removal to provide safe passage.
- Has wholly or partially failed with potential to damage people or property.
- Has been identified by suitably qualified arborist is likely to fall or come into contact with electrical line.

Council will endeavour to notify all persons who are directly affected by emergency works. All emergency works will be recorded: where, when, why, date of last inspection.

Contractor Specifications

To fulfil our obligations for the management of public trees, Council engages contractors to undertake works through the Cyclic Pruning contract. These works seek to:

- Prune trees near electrical assets in line with Banyule's ELCMP.
- Prune trees near roadways and paths to remove hazards of for the users of the road and path. Trees are lifted (clearance pruned) to remove lower branches to provide vertical clearance and clear sight lines.
- Prune trees near public and private buildings to prevent damage to the building.
- Remove necessary branches from trees that are at risk of falling and striking a target. The nature of the branches removed is determined by the tree's location and the targets at risk.
- Maintain the trees through removal of regrowth (for example suckers and epicormic growth) that are detrimental to the long-term structure of the tree.

The details for the works are set out in the **Tree Management Specifications** document.

Auditing the Contractor

Council must audit the contractor and does so through four main touchpoints:

- Weekly reports and meeting with the contractor listing works conducted, areas visited and any occupational health and safety concerns, or complaints reports. Contractor work is audited by Council or a third-party contractor.
- Post work audit likely conducted by another contractor. Audits based on five criteria: statutory clearance of vegetation, local outcomes and requirements, pruning techniques, site condition.

⁶ Electricity Safety (Electric Line Clearance) Regulations 2020 - Schedule 1 Code of Practice for Electric Line Clearance https://www.austlii.edu.au/cgi-bin/viewdoc/au/legis/vic/consol_reg/eslcr2020474/sch1.html

- Issue of a Return service Notification for any trees that did not meet the Code.
- Re-auditing of non-conformances.
- All auditing data is logged in Banyule’s tree management system.

For further information regarding the Audit process see [Audit Procedure for Contracted Works](#) in the **Tree Management Specifications** document.

As per ESV Works Practice Observation Summary in 2023, contractors need to be checked that pruning envelope allows for two years growth as per the ELCMP. The decision-making process for auditing pruning works is detailed Figure 6 below.

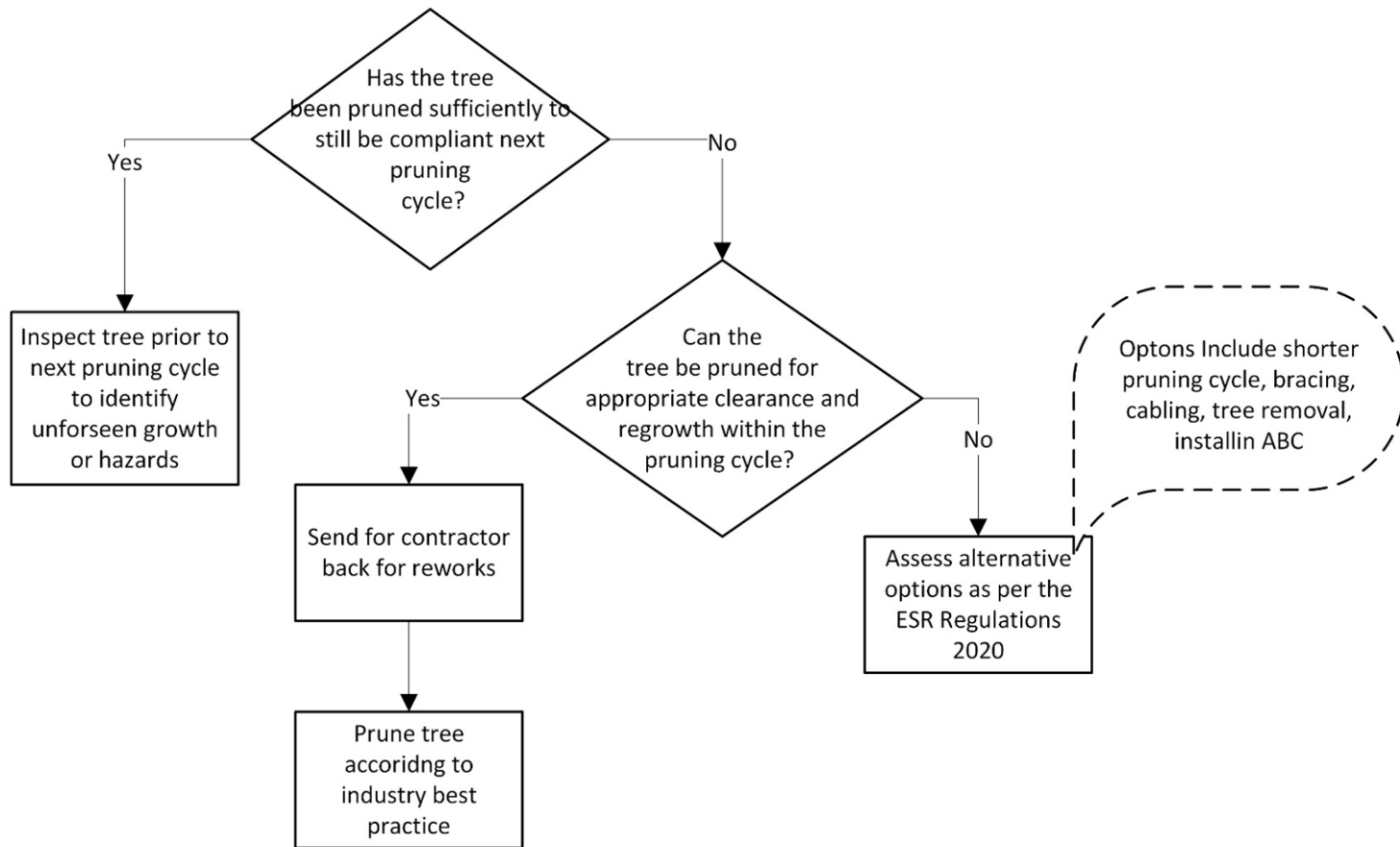


Figure 7 - Flow-chart of decision-making process regarding pruning to maintain line clearance.

Communications

On its website, Council must include the most recent ELCMP and publish the annual tree pruning program for residents within 14-60 days of the prior to commencement of line clearance works.

Council need to record all communications with relevant businesses and authorities in relation to Electrical Line Clearance obligations.

Road Management Regulations

Council has an obligation under the Road Management Act 2004 and as stipulated in the Victorian Government Department of Transport Road Management Plan to have a Road Management Plan. The Banyule Road Management Plan 2021-2025 sets obligation for vegetation management as follows:

- Council must inspect every street tree within its annual pruning program to ensure road reserve trees are not obstructing road, shared bicycle paths and pathway users. Any identified defects must be rectified within 2 years.
- Further to this, Council must also include as part of cyclic pruning, any branches that impact road signage.

Formative Pruning

Formative pruning is a method generally performed on young and establishing trees, which influences the orientation and spacing of branches to enhance form and improve structure, or directionally shape trees. The objective of the formative pruning program is to develop good branch architecture that enhances and anticipates future form and improves structure.

Reasons for implementing a formative pruning program:

- Reduction in tree failures due to the removal of structural defects, early in the life of a tree.
- Formative pruning assists in sustaining long-lived trees of all sizes in many urban landscape locations.
- It is more efficient to prune trees early and often with small cuts than to delay pruning until trees have serious structural problems.
- More hours and higher debris disposal costs will be incurred when pruning larger, neglected trees.
- Develops anticipated future form and function by training and directional pruning early, particularly important for larger tree species growing under electric lines.
- Younger trees can sustain a larger pruning dose which is the amount removed.

Formative pruning is undertaken by the production nursery and in the council nursery before planting. Formative pruning is undertaken at the end of the 2-year maintenance cycle and also through the cyclic pruning program. Formative pruning will be undertaken on younger street trees within the cyclic urban area pruning program. Dedicated specialist contractors and staff will also be engaged.

Topiary

Topiaries and other specific form (shaped) trees are often used in commercial precincts. Topiary trees must be maintained under the awnings and verandas of shops, clear of traffic signs and any other infrastructure.

This applies to plants grown on short, straight trunk with a small, dense, rounded crown in limited space environments such as shopping strips and walkways.

All topiary (Standard) trees, such as Hills Fig (*Ficus macrocarpa* var. *hillii*) trees, should be pruned quarterly each year to ensure they maintain a healthy compact growth and that the size and shape of each tree is only allowed to develop slowly. Clipping is usually undertaken with power shears to form a smooth surface of foliage on the outside of the crown.

The majority of immature topiary trees exhibit a typical standard spherical shape, however, to provide the best amenity to commercial precincts they may need to be developed into a more upright oval shape as they continue to grow and develop to achieve an optimum size.

Clipping must consider that trees must be shaped to ensure that they don't impede or create a hazard for vehicular or pedestrian traffic.

The use of topiary for greening of streetscapes should be limited and phased out due to high input costs and limited environmental benefits, with preference to instead use for appropriately sized tree species that require less maintenance inputs.

Removal of Debris

All debris resulting from provision of the services shall be made safe immediately and removed from the worksite as soon as practical.

Woodchips excluding material taken from *Lagunaria*, *Salix* and *Fraxinus* species will be deposited in an area for reuse or when unavailable, a green waste facility. Woodchips and other plant material derived from *Lagunaria*, *Salix* and *Fraxinus* species, and trees removed for disease control, will be disposed as directed by the Coordinator.

Waste and debris generated from tree removal activities will be removed and, in most situations reused by Council as mulch to improve weed control and tree health in garden beds and/or logs placed to provide nature play or habitat opportunities for local fauna. Opportunities to retain a dead tree and maintain it as a 'habitat' tree will be considered as part of the decision-making process. Habitat trees provide an important function by providing homes for local fauna.

Removal of Stumps

- Stump removals are to be completed within 30 days of notification.
- Stumps are ground to a depth of 300 millimetres below the existing grade. Large surface roots, extending beyond the main stump are to be removed along with the stump.
- After each stump is grubbed, the grindings are removed from the hole and the work site.
- Holes are not to be left open overnight. Backfill the hole and level above the existing lawn grade.

Notification of Pruning

The up-to-date timetable for pruning of street trees by precinct will be maintained on Banyule's website.

Pruning Requests from Residents

The Unit is to ensure that maintenance works are performed as if the tree meets **one** of the following criteria:

- Trees that have been deemed to be of immediate or developing hazard to the public health or property.
- Trees that cannot be dealt with adequately under the routine maintenance program or the next period of routine maintenance being more than of three-months after the request.
- Trees that are causing or are likely to cause significant damage to public, Council or service authority assets.
- Trees that display pest or disease that may endanger the health and well-being of other trees.
- Where the tree is of significant historical or botanical value and failure to prune will affect the amenity and value of the tree.

The process for pruning requests was shown in Figure 6 - Customer Request Process Flow.

Pruning of Private Trees

Neighbours have the right to prune the branches of a private tree overhanging from a neighbouring property. This pruning can only occur to the boundary line and should occur without crossing the boundary to undertake the pruning. It is advised to approach the neighbour prior to pruning.

Council does not have the regulatory powers to compel neighbours to prune or remove trees that may be causing damage or a nuisance to their neighbour, nor can Council mediate in disputes. Conflict over the management of private trees on neighbouring properties is the responsibility of both neighbours to discuss and resolve. Information and support, to assist with resolving neighbour disputes is provided by the Dispute Settlement Centre of Victoria⁷.

Private Trees Falling on Council Land

If a tree from a private property falls onto public roads and land under the Council's care and control, Council may act in the interests of public safety to clear part of the fallen tree. Any part of the tree made safe by Council may be returned to the landowner for disposal. Total removal may be required and will remain the responsibility of the landowner.

⁷ <https://www.disputes.vic.gov.au/information-and-advice/trees-0>

Open Space Tree Planting Program

Open space tree planting will occur to establish or reinforce tree canopy cover within Banyule's managed open space.

Tree planting in open space is required for the following reasons:

- Replacement tree for one removed as part of normal maintenance.
- A customer, council officers or community group request to plant trees.
- As part of a park upgrade or Master Plan of the individual park.
- To enhance canopy over walking paths to support connectivity for pedestrians. Increasing this canopy is set as a KPI of the Urban Forest Strategy, to of achieve 50% canopy over open space walking paths and playgrounds by 2050.

The program will utilise good design principles and consider the multiple functions required of open space so that trees and the shade they provide complement the intended use and function of the park.

Tree selection will be based upon the requirements of the Council managed park and the required characteristics of the tree species as determined by the Parks and Natural Environment department. Given that there are important areas of indigenous vegetation throughout Banyule, Indigenous species will be planted in nominated biodiversity corridors.

Pest and Disease Management

Pest and diseases are a component of the urban landscape and Council commits to undertaking appropriate control measures to maintain healthy and resilient landscapes with a high level of amenity. Constant monitoring of the urban forest will allow timely and appropriate responses.

If problems do occur, multiple management options will be used.

A range of methods will be utilised in the management of pest and disease outbreaks and the identification of damage thresholds will initiate the implementation of a pest and disease control program. Specifically, Council will approach pest and disease management as follows:

- Council officers will have a thorough understanding of the biology of the plants and key pests in relation to the ecosystems they are managing. On-going training and education will be undertaken by Council officers to maintain current best practice approach to pest management.
- As outlined in the UFS, Council recognises the key role of biodiversity in providing natural control of insect pests and diseases. Enhancing low and mid story vegetation will continue to be an important part of long-term tree health management.
- Council will support research into biological controls for pests and diseases that pose a threat.
- If a pest outbreak is identified and damage thresholds exceed accepted levels and other trees are at risk, all possible action will be taken to effectively reduce the risk to other trees from the pest outbreak.
- An integrated approach to pest management will be adopted that employs methods and materials that preserve and augment the ecosystem while facilitating permanent control of the pest.
- Advice and management programs will be sought from other agencies or pest control regulator, for example Department of Primary Industries, to ensure the best approach is adopted for any pest outbreak.
- Trees will be removed when they are infected with an epidemic insect or disease where the recommended control is not applicable and removal is the recommended practice to prevent further transmission.

- Species of tree will be selected that are known to be generally pest and disease resistant.
- Monitoring systems will be developed to check pests and tree health regularly.
- Trees that are recognised woody weed species will be removed on a case-by-case basis when removal is required through the normal management of the Banyule's tree population.
- Provide proactive Elm leaf beetle and Dutch elm disease (DED) control. Timing of application and notification is to be provided to affected residents. Banyule has currently over 800 elm trees in streets, parks, and reserves. While DED is not yet present in Australia the Elm Leaf Beetle is a vector for the disease, the beetle also reduces the amenity and vitality of elms through heavy defoliation. Renewal planting will strategically replace vulnerable elm species with DED resistant species or alternative genus that are compatible with the neighbourhood character.

Tree Planting

Council commits to planting trees across streets, in open space, along pathways and on other council land in a programmed manner to meet a range of priorities set by the Urban Forest Strategy. Trees are planted primarily to increase canopy cover which helps to combat the UHI effect, encourage active transport, preserve, and enhance neighbourhood character and to support greater biodiversity across Banyule.

Council will utilise a formalised tree planting prioritisation methodology in line with the Urban Forest Strategy's strategic focus areas to determine the most important areas to target to ensure equity across neighbourhoods (UFS Action S1.1). This methodology prioritises areas of low tree canopy cover, high socio-economic disadvantage, high urban heat impacts, localised flooding, existing and potential wildlife corridors, and areas with high pedestrian activity that are exposed to heat.

This prioritisation information will then be considered alongside the available funding, functional landscape requirements, environmental constraints, site and seasonal conditions and availability of stock and community expectations to plan for and implement the tree planting program. Council's tree planting program encompasses:

- The Annual Street Tree Planting Program.
- The Street Tree Renewal Program.
- Community/resident requests.
- Trees planted as part of other Council projects and programs such as infrastructure improvement works program for roads, drainage, facilities upgrades or for major community facility developments.

Annual Street Tree Program

The annual street tree and open space planting programs will be the primary vehicles for achieving the UFS action to fill all vacant street tree sites in the medium to long term. The Annual Street Tree Program plants trees within vacant roadside verge spaces and in locations along the road network where more trees can be accommodated. As a minimum, all residential properties in Banyule will have at least one street tree planted in the front nature strip.

Council is responsible for the planting and maintenance of street trees and seeks to develop appropriate streetscapes that complement landscape and neighbourhood character, meet design standards and are not onerous to maintain. The Urban Forest Strategy encourages residents to plant vegetation on nature strips where appropriate, however residents are not permitted to plant trees or large shrubs within the nature strip or other sites within the road reserve without council approval.

The objective of the annual street tree planting program is to create or reinforce an existing consistent street tree theme within a street or main road. When determining the suitability of the existing street tree theme, consideration will be given to the site limitations that exist within the street and the appropriateness of continuing with this theme. If the existing theme is inappropriate and an alternative tree species can

satisfactorily maintain the street's character, it shall be planted as the preferred street tree species. In most cases species selection will be derived from the street tree species selection matrix.

Individual street tree plantings occur throughout the municipality for the following reasons:

- A replacement for a tree that has been removed.
- A resident request to have an individual tree planted outside their property where sufficient space permits.
- Council officer or resident request to plant available sites within a street to fill vacant sites.

When street trees are removed, they are replaced as soon as practical, ideally in the following planting season. Trees will be replaced if the site still supports a tree, and the species and the number of trees to be planted will be reviewed in line with the decision-making process **Tree Management Specifications**.

Where residents have planted trees and large shrubs, Council may remove such plantings if they are deemed inappropriate or pose any identified risk. No compensation will be available to residents for the removal of these trees or shrubs.

Street Tree Renewal Program

A Street Tree Renewal Program Plan encompasses the opportunistic (determined by budgets) removal of trees to be replaced with more appropriate species. The objective of the program is to manage the public urban forest for resilience to climate change, replace poor amenity streetscapes, improve biodiversity corridors, reduce infrastructure conflicts, and enhance neighbourhood character throughout the municipality.

Decisions to renew street trees will be based on the:

- Condition of existing trees.
- Suitability of existing trees with a view of avoiding infrastructure conflicts.
- Suitability of trees in the medium to long term with a view to a changing climate.
- Appropriateness of adding more trees to the location.
- Percentage of vacant tree sites and percentage of existing trees with low useful life expectancies.
- Design considerations e.g. proximity to open space, walking or cycling route, existing private tree canopy cover, street typology.

Council will consult with the community to:

- Identify the evidence-based reasons for any tree removals.
- Determine the selection of appropriate replacement species.

In engaging with the community on replacement species Council may make a determination as to the broad type of trees to be placed and offer a range of species that would be suitable under the selection criteria for the site. Selection criteria are detailed in the **Tree Management Specifications**.

Community Requests

The community may request trees to be planted outside their property or where they see opportunities to enhance canopy cover and the urban forest. Community planting requests are assessed for appropriateness and timing for planting is set by a priority matrix. Support of community members is important to the success of the tree planting program and for increasing canopy cover. The need for an appropriate allocation of resources for planting and maintaining trees to meet these targets is an annual consideration.

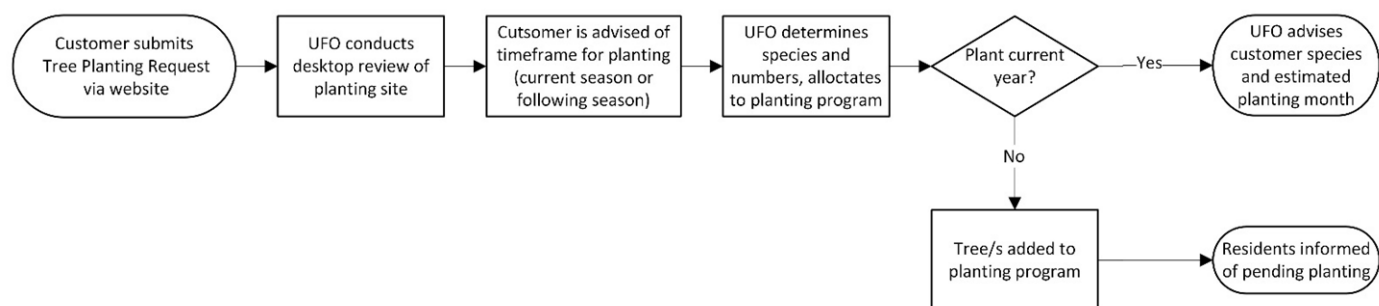


Figure 8 - Customer Tree Planting Request flow

Species Selection & Tree Placement

The urban landscape is highly altered by human activity and often does not reflect the natural environment where indigenous trees originally thrived. The further threat of changing climatic conditions means that a firm understanding of the environmental and management needs of street trees is required for them to flourish.

Council aims to have 45% canopy cover over roads and footpaths by 2040. To achieve this, selected trees must maximise their canopies for the site, be resilient to the impacts of climate change, maintain good structure and provide the many benefits required in urban environments. Council will seek to either plant the largest practical tree for a site or multiple small trees planted at close spacing to avoid conflict with infrastructure. Wider sites or the sides of properties that have two street frontages will often be planted with multiple trees.

Council does not have a fixed list of tree species to be planted in given locations throughout the municipality. It is however developing a recommended species list that are appropriate for planting in Banyule and the context of sites where they could be used and in line with the Urban Forest Strategy strategic focus areas. The decision-making process for species selection across different council sites is detailed in the **Tree Management Specifications**.

Tree Removal

Given that trees are considered as essential assets, Council commits to retaining trees as a priority where feasible. Unnecessary tree removal impacts our ability to reach tree canopy cover levels required for healthy communities and the environment, so trees will only be removed under the documented circumstances below.

Removal Criteria

Tree removal within the public realm will be approved if the tree meets one or more of the criteria set out below. The tree removal criteria is used to prevent indiscriminate removal. Safety is the priority, however, aesthetic, and ecological factors, including wildlife habitat will be considered when making all tree management and removal decisions.

The tree will be inspected and assessed by a qualified arborist. Tree health (vigour), structure, useful life expectancy (ULE), and hazard potential must all be assessed.

Trees may be removed only when one or more of the following criteria are met:

- The tree is dead or the value of the tree is less than the inputs required to maintain it.
- Exceptions considered where tree or tree group is located in indigenous vegetation conservation sites and the tree can be safely managed for habitat.
- The tree is infected with a disease where treatment and retention is not feasible and removal is the recommended practice to prevent transmission.
- The tree poses a safety hazard that cannot be corrected by pruning, transplanting, target exclusion or other treatments.
- The tree severely interferes with a neighbouring tree or tree group to the extent that neither tree can develop to its full potential. The more desirable tree will be preserved.
- The tree's aesthetic values are low and the site would be visually enhanced by the tree removal.

Where work improvements, infrastructure repair, or maintenance required to be made around the tree will kill or render the tree a hazard or significantly impact on the trees condition and useful life expectancy. Removal will only be considered after all reasonable design changes have been explored. The value of the tree will be considered against the cost of retention along with the following:

- Public Removal for Development.
- The tree is currently or has future potential to substantially contribute to damages or nuisance to public or private property and no other viable means are available to mitigate the situation.
- The tree is included in the street tree rejuvenation program as identified by Council.

Properties in Banyule, like other municipalities, can be subject to redevelopment. Some development requires trees to be removed as the only feasible means to install infrastructure. In some redevelopments it is desired by the property owner to remove a public tree to facilitate temporary or a new permanent access to their property, such as in the form of a new vehicle crossing.

Recognising that trees are an essential asset to the community, and that once space in the streetscape is lost to a new vehicle crossing, tree removals for private development in Banyule are uncommon.

Public tree removal may be considered after all reasonable design alternatives have been explored. In considering the removal the amenity and ecological value of the tree will be considered. Value thresholds determine the officer to make the decision on removal, recognising that:

- Removal for development is not a tree health and condition consideration, it is a question of council, community and developer desires.
- With increased amenity and ecological value there is greater community awareness of the removal and greater pressure on balancing pragmatic approaches to development and protection of the community asset.

The thresholds for decisions are detailed in the **Tree Management Specifications**.

Where a council tree removal is approved by Council's Urban Forestry unit to facilitate private development, the full amenity value associated cost of the tree, its removal and replacement shall be paid by the project owner or representative prior to its removal. The amenity value will be received as income for direct re-investment into tree management activities such as planting and establishment of replacement and/or additional trees.

Assigning a monetary value to a tree is based on cost of repairs and/or removal and replacement are based on real economic costs, the amenity value and the ecological value.

The costs to be calculated in determining the value of a tree will include:

- Costs of any report or opinion given on a subject tree. Includes consulting arborist's fees or other professional opinions, tests and investigations needed to establish the condition of the tree and recommend appropriate remedial works.
- Costs incurred to repair any damage to the tree. This would include pruning, tree surgery, soil amelioration, and cultural maintenance programs, for example watering programs, fertilising, or de-compaction works.
- Costs to remove a tree and dispose of debris including the stump.

- Costs of any associated works to undertake remedial tree works, for example community consultation, traffic control, power shutdowns, or underground utility identification.
- Costs for tree replacement with largest available specimen (advanced tree) of same or mutually agreed similar species to the removed tree. Costs to include all transport costs and any associated works to undertake planting of tree, for example community consultation, traffic control, or underground utility identification.
- Cost to establish tree for 2-5 years. Council's Urban Forestry officer(s) will determine the duration of the tree establishment period based upon the size of the advanced tree. Includes watering programs, formative pruning, pest and disease control, re-mulching and fertilising. Also includes associated costs for re-assessment and monitoring of newly planted tree.

The costs assigned to the value of a tree will be established by Council, based on current suppliers of such goods and services.

The amenity and ecological value of council trees is detailed in the **Tree Management Specifications**.

Property Damage by Council Trees

Public Property Damage by Council Trees

Should public infrastructure damage be attributed to roots of a Council tree, an appropriate remedial solution will be sought. Such remedial solutions may include:

- Realignment of path.
- Selective root pruning.
- Casting concrete kerbs in situ.
- Ramping and bridging over existing tree roots.
- Increasing the tree planting/ plot area.
- The installation of tree root barriers.
- Replacing current infrastructure with material more tolerant to tree roots i.e.: asphalt rather than concrete.

Tree Removal Notification

When trees are removed, the Urban Forestry unit will inform the community. Tree removal includes staged significant size reduction and other operations necessary to safely remove the tree.

The Urban Forestry unit is to ensure that notifications are performed as follows:

- Normal Removal – Inform the property owner directly affected in writing of the intention to remove the tree. A tree is to be removed only after a tree removal notice has been sent to the residents. If written objections to the removal of the tree are received within 14 days, a meeting is to be arranged between the objectors, to resolve the issue. If no objections are received, or the concerns of the residents have been addressed/resolved the tree will be listed for removal and prioritised according to the level of urgency.
- Large Removal – Additional to normal property owner notification where street and park trees over 40cm DBH are to be removed a notice will be posted on the tree for 14 days advising the reason for removal.
- Emergency Removal – The immediate removal of a tree is occasionally necessary due to danger to life or property or due to virulent disease or pest infestation. In these circumstances commence works within 2 hours of receipt of the approval from the co-ordinator. Where possible the Unit is to drop courtesy notes to the immediately affected properties giving the reasons for the immediate removal of the tree.

The process is shown in Figure 9 below.

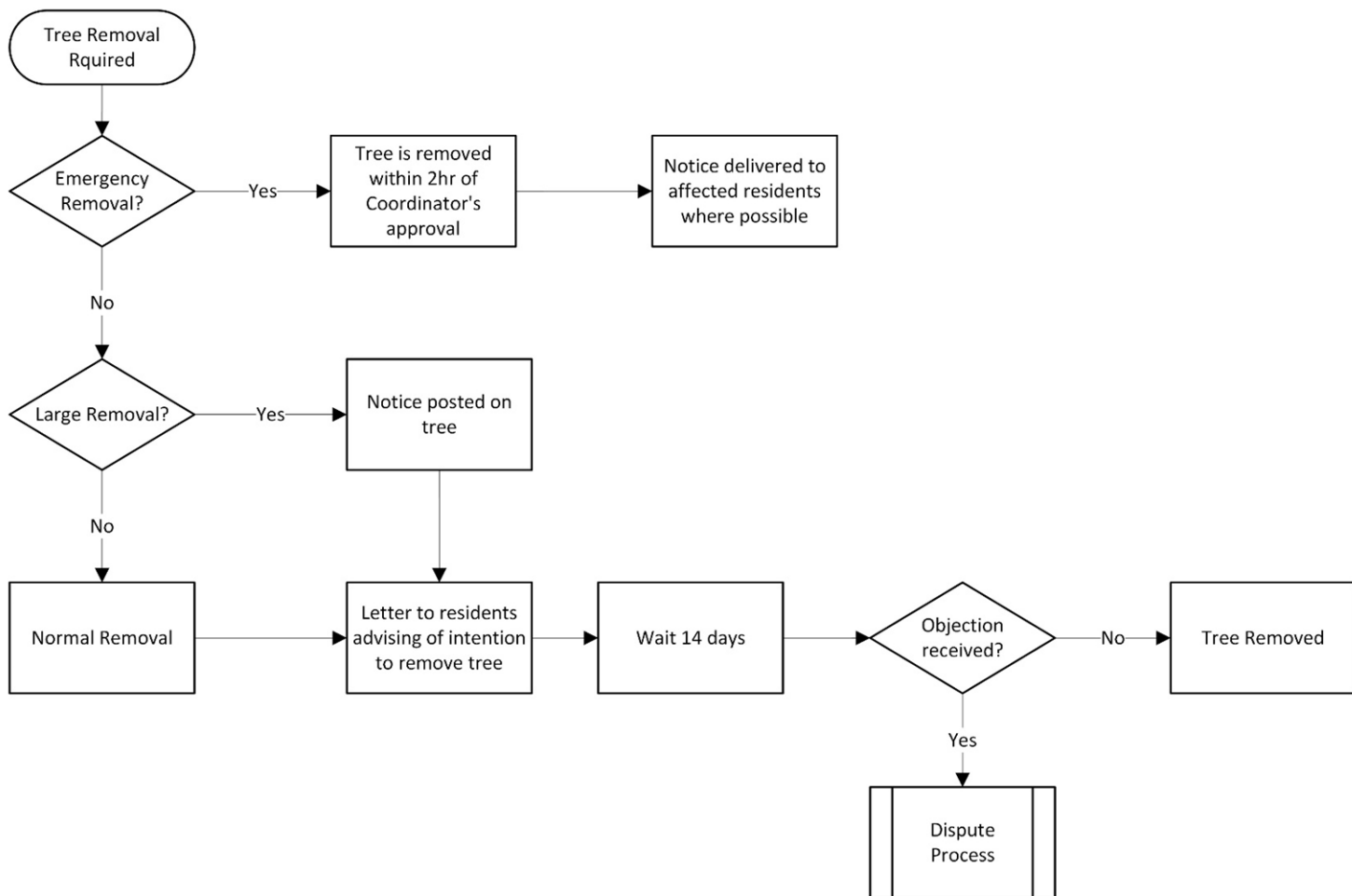


Figure 9 – Notification Process for Tree Removals

Removal Requests from Residents

The service levels and agreements have consideration and recognise that residents living adjacent to trees have both most of the benefit and most of the nuisance or risk. This is why, in relation to customer service, a clear and transparent process for inspections and appointments, pruning and removal request and tree disputes is presented.

Reasons to Refuse Removal Requests

Tree removal will not be considered for the following reasons:

- If the tree is perceived by the resident as unsafe or a risk to safety, when arboricultural assessment finds the risk acceptable.
- For solar access including to solar panels.
- To reduce tree litter and debris including fruit, leaves, berries, and nuts (see Debris Complaint Removal Requests below).
- For causing minor allergenic and irritant responses (see Medical Consideration below).
- To minimise obstructions of advertising signage.
- To minimise obstructions of desired views.
- To reduce the impact from any bird/ bat/other animal waste or noise.
- For superficial bush fire risk.
- For personal aesthetic preference.
- The tree variety is disliked.
- For minor property overhang.

Medical Consideration

Plant allergies, hay fever and asthma attacks impact the quality of life for many people in the community. Airborne allergies are known as allergic rhinitis and are often caused by pollen from grasses and other plants, particularly during spring. Such causes are complex and seasonal and daily levels of airborne pollen are influenced by a range of natural factors such as weather, wind direction, pollution, land cover and ecology.

Trees are usually not a significant cause of such allergies as most street trees have limited flowering seasons when there may be potential for issues. As a general rule, street trees will not be removed on the grounds of allergic reactions. Any residents concerned about allergies should undertake allergy testing with a qualified medical practitioner to identify the cause. Council requires a medical certificate from an allergist or immunology specialist identifying the cause of the allergy before any further consideration will be given.

Debris Complaint Removal Requests

Council acknowledges that some residents have concerns with the leaf litter, fruit, bark, or other debris that a tree may shed over the seasons. However, tree removals will not be authorised based on this reason alone. When a resident requests removal of a tree for reason of debris the tree will be inspected according to the normal request process and assessed against the removal decision making process. However, if the debris are an unacceptable public risk that cannot be managed through street cleansing operations the tree may be considered for removal.

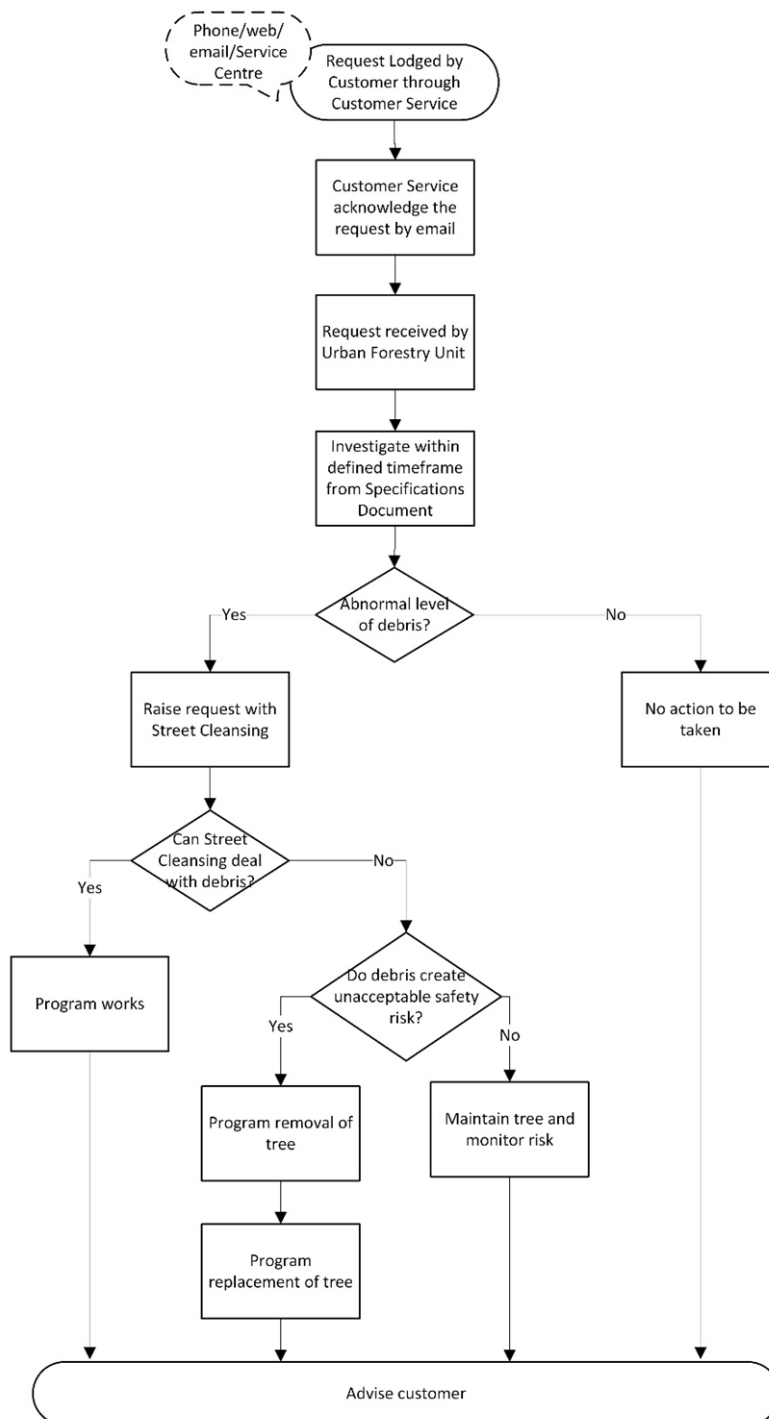


Figure 10 - Process for Debris Removal Requests

Public Removal for Development

Properties in Banyule City Council, like other councils in Melbourne, can be subject to redevelopment. Some development requires trees to be removed as the only feasible means to install infrastructure. In some redevelopments it is desired by the property owner to remove a public tree to facilitate temporary or a new permanent access to their property, such as in the form of a new vehicle crossing.

Recognising that trees are an essential asset to the community, and that once space in the streetscape is lost to a new vehicle crossing, tree removals for private development in Banyule are uncommon⁸.

⁸ https://www.banyule.vic.gov.au/files/assets/public/_operating-images-amp-docs/documents/planning-documents/residential-vehicle-crossing-policy-updated-21-october-2013.pdf

Public tree removal may be considered after all reasonable design alternatives have been explored. In considering the removal the amenity and ecological value of the tree will be considered. Value thresholds determine the officer to make the decision on removal, recognising that:

- Removal for development is not a tree health and condition consideration, it is a question of council, community and developer desires.
- With increased amenity and ecological value there is greater community awareness of the removal and greater pressure on balancing pragmatic approaches to development and protection of the community asset.

The thresholds for decisions are detailed in the **Tree Management Specifications**.

Where a council tree removal is approved by Banyule's Urban Forestry unit to facilitate private development, the full amenity value associated cost of the tree, its removal and replacement shall be paid by the project owner or representative prior to its removal. The amenity value will be received as income for direct re-investment into tree management activities such as planting and establishment of replacement and/or additional trees.

Assigning a monetary value to a tree is based on cost of repairs and/or removal and replacement are based on real economic costs, the amenity value and the ecological value.

The costs to be calculated in determining the value of a tree will include:

- Costs of any report or opinion given on a subject tree. Includes consulting arborist's fees or other professional opinions, tests and investigations needed to establish the condition of the tree and recommend appropriate remedial works.
- Costs incurred to repair any damage to the tree. This would include pruning, tree surgery, soil amelioration, and cultural maintenance programs, for example watering programs, fertilising, or de-compaction works.
- Costs to remove a tree and dispose of debris including the stump.
- Costs of any associated works to undertake remedial tree works, for example community consultation, traffic control, power shutdowns, or underground utility identification.
- Costs for tree replacement with largest available specimen (advanced tree) of same or mutually agreed similar species to the removed tree. Costs to include all transport costs and any associated works to undertake planting of tree, for example community consultation, traffic control, or underground utility identification.
- Cost to establish tree for 2-5 years. Council's Urban Forestry officer(s) will determine the duration of the tree establishment period based upon the size of the advanced tree. Includes watering programs, formative pruning, pest and disease control, re-mulching and fertilising. Also includes associated costs for re-assessment and monitoring of newly planted tree.

The costs assigned to the value of a tree will be established by Council, based on current suppliers of such goods and services. The amenity and ecological value of council trees is detailed in the **Technical Specifications Document**.

Property Damage by Council Trees

Public Property Damage by Council Trees

Should public infrastructure damage be attributed to roots of a Council tree, an appropriate remedial solution will be sought. Such remedial solutions may include:

- Realignment of path.
- Selective root pruning.
- Casting concrete kerbs in situ.
- Ramping and bridging over existing tree roots.

- Increasing the tree planting/ plot area.
- The installation of tree root barriers.
- Replacing current infrastructure with material more tolerant to tree roots i.e.: asphalt rather than concrete.
- As a last resort and after all other solutions have been explored, a tree may require removal in order to replace essential infrastructure.

Complaints of Private Property Damage by Council Trees

Council commits to investigating complaints from members of the public, who allege that damage to their property has been caused by a Council tree.

When such complaints have been received, they will be acknowledged by Council without prejudice, and the member of the public will be advised that investigations into the complaint are routine.

If the complainant alleges that Council is liable for the damage, and advises that they are seeking compensation for damages, the request will be immediately forwarded to the Risk and Assurance Team for assessment and management and referred to Council's insurers (if required). If, at any point, the complainant advises that they are seeking compensation from damage, all correspondence will be immediately forwarded to the Risk and Assurance Team for further management.

If the complainant alleges that a Council tree is responsible for damage to their property, but they are **not** seeking compensation, the complaint will be investigated and responded to by the Urban Forestry Team. In these circumstances, complainants often request Council to manage the risk of further alleged damage to their property by the tree.

In such cases, the Urban Forestry team may request evidence from the complainant to support their assertion that the damage is caused by a Council tree. This will be considered on a case-by-case basis and **may** include:

- Plan of all vegetation existing and that has been removed around the site in the past 10 years.
- Identification and assessment of adjacent vegetation to species level. Tree/vegetation dimensions including height, average canopy spread and trunk diameter (measured at 1.4 m above ground level). Condition of trees / vegetation, particularly in relation to health and vigour (growth indicators). Distance of vegetation to alleged damage.
- Root sympathetic investigation of soil at the base of the buildings to determine the presence, condition (alive or dead), size, depth, and amount of roots present, particularly adjacent to footings.
- Identification to genus level of any roots found as a result of the root investigation (seek advice from horticulturist/arborist).
- Structural engineers' investigation of the buildings determining:
 - Recent history of patterns of movement in the affected buildings.
 - The type, classification (AS 2870) and extent of damage to external and internal components of the building.
 - Age and condition of building.
 - Depth and condition of building footings.
 - Crack measurement and monitoring - should extend for several months after undertaking a 'Present condition survey' (preferably over a year or more).
- A geotechnical investigation of the site to determine:
 - The soil class, type and geology of the area.
 - History of site usage / soil conditions in the past.
 - Soil moisture levels around the site and the building.
 - Soil moisture tension, soil bulk density, and soil load bearing capacity.
 - Conditions and discharge points for storm water on site and other site drainage characteristics.
 - How the above soil conditions have contributed to the alleged building damage.

In order to maintain documentation on roots Banyule will utilise the MAV Insurance Guidance Document - Tree Root Risk Assessment Tool December 2014. This process assists in the evaluation and investigation of complaints of infrastructure damage caused by tree roots.

Where it accepted that a Council tree has caused property damage or is likely to cause damage in the future selective root pruning and or installation of a root barrier may be undertaken. Removal of the tree is the option of last resort.

Dispute Appeal Process

The process for assessing removal requests and managing disputed outcomes is to ensure:

- Consistency of approach with the Parks and Natural Environment Department.
- Delivery of service to the customer in keeping with Council's Service Promise.

Removal requests are received through the Customer Request Management system. They are assessed by the Inspecting Arborist; tree health and structure are the primary considerations for their assessment.

If a customer does not accept the outcome of the tree being retained, they are able to escalate as an appeal to the Coordinator of Urban Forestry. This is received and recorded in line with Banyule Customer Complaint Management Policy⁹ (as an Investigation).

The Coordinator will review the report or notes of the Inspecting Arborist.

The Coordinator may request a Level 3 inspection of the tree by an independent consulting arborist, seeking more detail on internal structure using diagnostic tools, laboratory sampling health assessment, exploratory root investigation or other means. The purpose of the reassessment is to explore whether the availability of more detail changes the health and structure assessment of the Inspecting Arborist.

The Coordinator may apply consideration of the tree in the context of the strategic aims of the Urban Forest Strategy. Discretion for removal is possible where the medium to long term benefit to the community is removal of the tree.

- The Coordinator will contact the customer to acknowledge the complaint and provide a timeframe for progressing and/or completing the enquiry where relevant.
- Council will aim to resolve all complaints within 28 days.
- If it takes longer than 28 days to resolve a complaint, the Officer handling the complaint will contact the customer prior to this time and provide an explanation and revised timeframe.
- Complaints that are not resolved within 28 days may be escalated if necessary to ensure that a resolution is expedited.
- The Coordinator will write to the customer to advise them of the outcome. The outcome correspondence will contain reasons for the decision made and the contact information for the Coordinator.
- The Coordinator may contact the customer to discuss the outcome of their complaint prior to sending the outcome letter.

If the customer is not satisfied with the response or the way in which their feedback or complaint has been handled, they can ask for their complaint to be referred for an Internal Review.

Internal Reviews are undertaken by the Director of Assets and City Services. The determination response has clear and transparent information about avenues for further review from the Victorian Ombudsman.

⁹ <https://www.banyule.vic.gov.au/files/assets/public/about-us/documents-reports-plans/complaints-handling-policy-guidelines.pdf>

The process with timeframes is shown in *Figure 12* below.

Tree Removal Request and Dispute Process

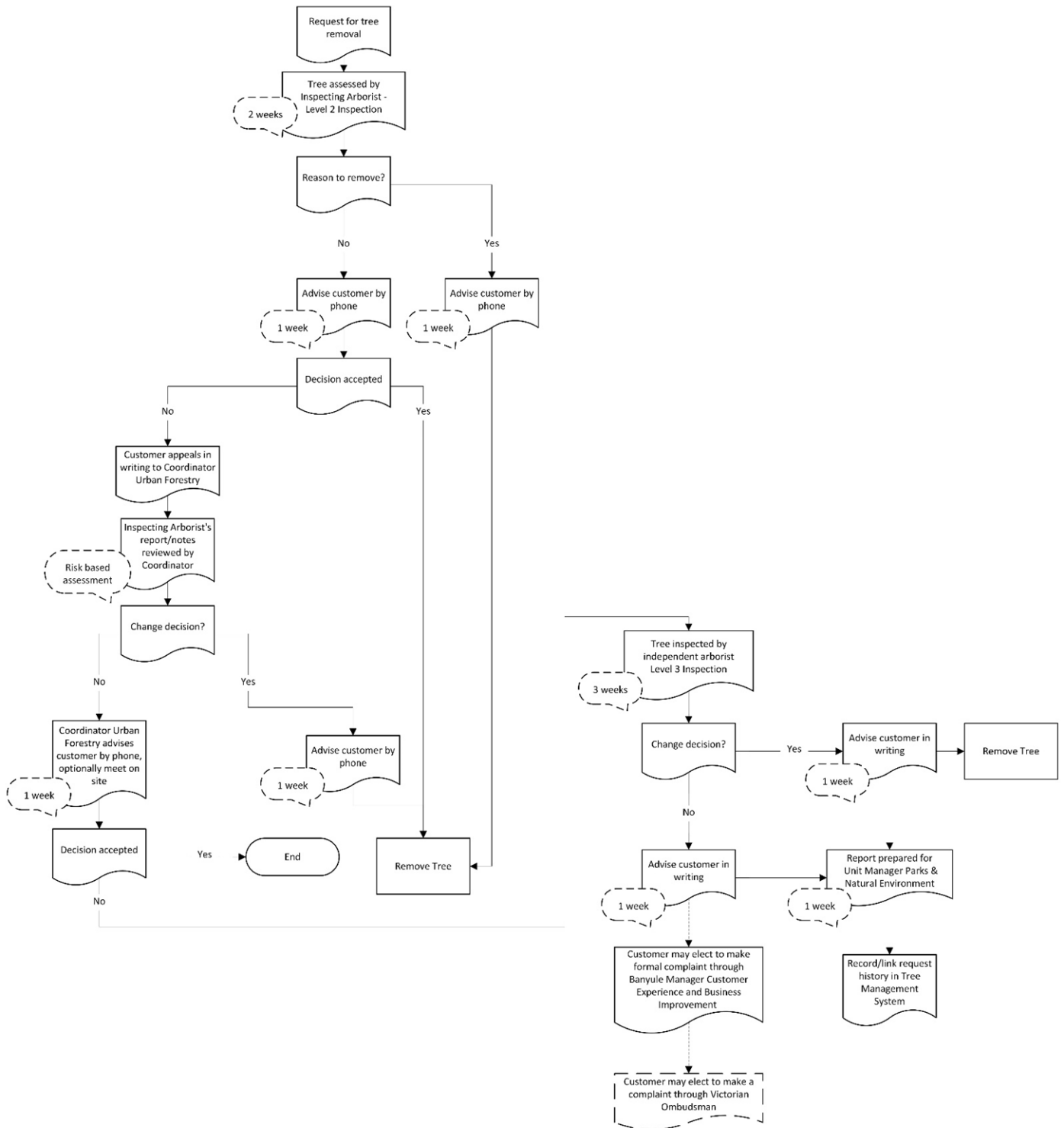


Figure 11 - Tree Removal and Request Dispute Process

Tree Protection

Council commits to protecting public trees as essential civic assets. Trees are however subject to a variety of pressures and conflicts due to development, competition for space and the multi-functional uses of our public spaces. As a result, Council must actively apply and audit tree protection measures to guard against damage or mortality from these pressures.

While Council's Parks & Natural Environment Department drives the protection of trees, tree protection is also the responsibility of other Council departments such as Delivery & Assets, Operations, City Futures and Planning, Building and Laws, as well as residents and the community.

Trees on Council managed land shall be protected at all times to reduce the negative impacts of construction and maintenance activities on Council managed trees. The conflicting requirements of trees and construction works will be minimised where possible. Residents are also not permitted to prune, remove, or plant any trees within a nature strip.

Council Regulation

General Local Law 1 was adopted by Council 23rd March 2015, specifically Part 3 Council Asset Protection, states "A person must not, without a permit, destroy, damage, deface, interfere with, excavate or tap into any: ...grass, plant, tree, tree band/guard ... vested in, controlled or owned by Council."

Additionally, many trees in Banyule are protected through the planning scheme overlays for Environmental Significance (ESO), Vegetation Protection (VPO) or Significant Landscape (SLO). Provisions of the overlays can require planning permits to lop or remove trees and make it an offence to destroy trees and vegetation. As such some public trees are protected by the planning scheme. Permits may not be required for Council's operations to manage their street tree population according to this Framework or in accordance with other Council management plans.

Tree Protection Measures

Maintaining the structural integrity of Council managed trees is paramount in the risk management process. All Council trees will be protected from construction and works activities in accordance with Australian Standard AS 4970-2009 Protection of trees on development sites.

All proposed construction/excavation works within the root zones of Council-managed trees must be approved by the Urban Forestry unit, even for Council managed construction/maintenance works.

The following should be considered during the planning and design phase of any development or civic works undertaken within the vicinity of a Council managed tree:

- Minimise or avoid potential conflict between trees and structures – on site and on any neighbouring properties.
- Existing trees should be retained and their Tree Protection Zones fenced off from any impacts.
- Existing and future tree growth both above and below ground must be a consideration when building close to a tree.
- Building construction methods that will minimize the impact on trees and their root systems.
- Trees identified to be retained on the site and on adjoining land are to be protected in accordance with Australia Standard AS 4970-2009 Protection of Trees on Development Sites.
- Preliminary impact inspections are required for trees of value that may be impacted by a proposed development.
- Council trees to be retained and protected must be clearly identified on all submitted landscape plans. The plan must include:
 - The exact location of all trees with each tree numbered.

- For each tree: the common and botanical name, height, canopy spread, trunk diameter at 450mm and 1.4m above ground level and number of trunks if more than one.
- Which trees will be retained, removed, pruned or transplanted.
- The Tree Protection Zone (TPZ).
- The Structural Root Zone (SRZ).

A TPZ will be established for the duration of any works in proximity to any Council managed tree or tree shown on an endorsed plan to be retained.

TPZs will be calculated in accordance with the methodology outlined in Australian Standard AS 4970-2009 Protection of trees on development sites.

The TPZ will be a restricted area delineated by sturdy fencing and the relevant signage, as specified in AS 4970-2009, which will isolate the tree from disturbance so that it remains viable.

The TPZ must be established prior to the commencement of any works and signed off by Council's planning arborist. Council will inspect trees that are subject to TPZ measures to ensure the protection stipulations/ conditions in the building permit are being adhered to. Any failures will be issued a notice to comply.

The following are not permitted within the TPZ without written permission from a Council arborist:

- Machine excavation including trenching.
- Stockpiling of building materials, debris or soil.
- Vehicular traffic except on existing paved surfaces.
- Parking of vehicles and plant except on existing paved surfaces.
- Preparation of chemicals, including preparation of cement products.
- Refuelling.
- Wash down and cleaning of equipment.
- Placement of fill.
- Alteration of soil levels or structure.
- Temporary or permanent installation of utilities and signs.
- Severing of roots greater than 25mm.
- Installation of service pits or hatches.
- Permanent or temporary vehicular crossings.
- Physical damage to the tree, including any pruning works.

Care will be taken at all times to ensure no damage is sustained to tree stems, crowns and roots.

Costs associated with private works that impact on Council trees will be borne by the person/s undertaking the works.

Council managed construction or maintenance works require formal approval from the Urban Forestry Unit and tree management plans are required for Council projects around trees with DBH >40cm. An external consulting arborist may need to be engaged by the department undertaking the works in order to carry out the planning and project supervision of the management plan.

Tree Protection Fencing will be inspected by:

- The Asset Protection unit for all building sites and utility works with asset protection permits. Absence of TPZ fencing or potentially inadequate fencing will be reported to the Urban Forestry unit. The Asset Protection pursue Asset Protection the permit holder to install the TPZ fencing.
- Planning Arborists for all sites with Tree Management Plans or Tree Protection clauses as part of planning permits.

Post works inspections will be conducted at the completion of work when the release of the asset protection bond is requested. Asset Protection officers will photograph or video trees outside the works sites and send to Urban Forestry unit for assessment and onsite inspection if required.

Vandalism

The act of vandalising or poisoning trees breaches Banyule's General Local Law 1 (Local Law) and undermines Council's efforts to sustain trees in the public realm in a safe and aesthetically pleasing manner.

The illegal action of tree vandalism has led to the destruction of many valuable public trees and requires intensive management regimes that impact on Council's time and resources. The management of the urban green space to ensure it is of a high standard can help to reduce the prevalence of crime and vandalism.

To address the wider issue of tree vandalism, Council will take the following steps:

- Educating the public and enhancing public perceptions of trees, which include:
- Encouraging individuals to promptly report any instances of vandalism they witness.
- Reminding people that vandalising Council trees is illegal.
- Where street trees are suspected of vandalism, erect signs to inform the public as to what has happened to the tree and reinforce Council's commitment to trees.
- Promptly replace younger vandalised trees, as soon as is practicable to reinforce Council's commitment to trees.
- Large trees that have been vandalised resulting in tree death will be assessed for safety and pruned as required. Large dead trees may be retained for habitat benefit, with permanent signage affixed to draw attention to the vandalism and Council's response.
- In circumstances at the discretion of the Manager Parks and Natural Environment CCTV may be installed at locations where repeated vandalism is considered a high risk. Management of CCTV will be in line with Banyule's Surveillance in Public Spaces Policy¹⁰. The policy includes requirements for Standard Operating Procedures Manual for each CCTV system managed or monitored by Council.

¹⁰ https://www.banyule.vic.gov.au/files/assets/public/_operating-images-amp-docs/documents/surveillance-in-public-places-policy.pdf

Vandalism Process

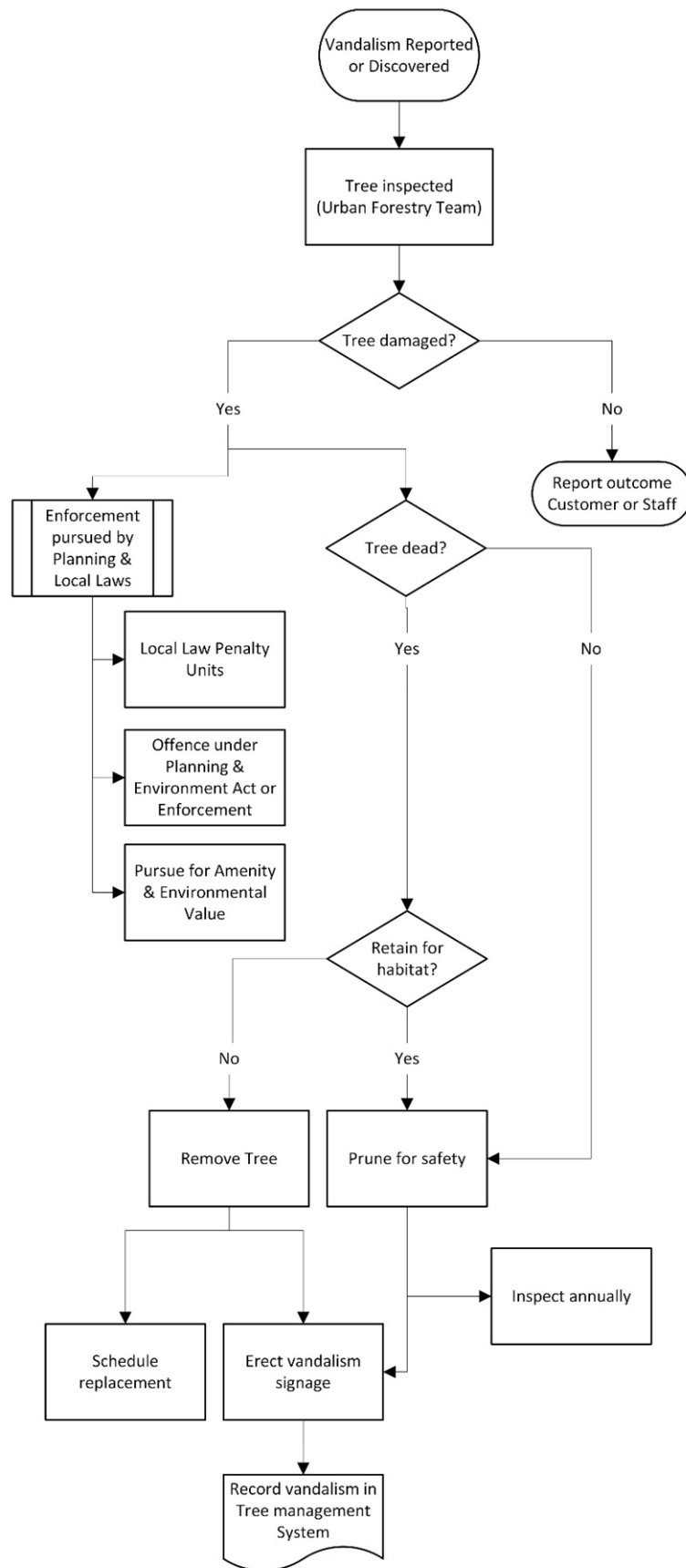


Figure 122 - Vandalism process flow

Related Policies

	Banyule Doc ID	
Electricity Safety (Electric Line Clearance) Regulations 2020		https://www.legislation.vic.gov.au/as-made/statutory-rules/electricity-safety-electric-line-clearance-regulations-2020
Banyule Electrical Line Clearance Plan 2023-2024	D23/242474	https://www.banyule.vic.gov.au/files/assets/public/about-us/documents-reports-plans/electric-line-clearance-management-plan.pdf
Residential Vehicle Crossing Policy 2012	15369	https://www.banyule.vic.gov.au/files/assets/public/_operating-images-amp-docs/documents/planning-documents/residential-vehicle-crossing-policy-updated-21-october-2013.pdf
Road Management Act 2004		https://www.legislation.vic.gov.au/in-force/acts/road-management-act-2004/064
Road Management Plan 2021	D21/196712	https://www.vicroads.vic.gov.au/about-vicroads/acts-and-regulations/road-management-plan
General Local Law No. 1 (2015)	CD16130	https://www.banyule.vic.gov.au/About-us/Local-laws/Local-law-1
Road Management Plan 2021-2025		https://www.banyule.vic.gov.au/files/assets/public/_operating-images-amp-docs/documents/road-management-plan-2017-2021.pdf
Place Based Framework	D23/207953	

Glossary

Term	Meaning
Canopy	The uppermost branches of the trees in a forest, forming a more or less continuous layer of foliage.
Canopy cover	The area of land covered by tree canopy when viewed from above.
Climate Change	Changes to the Earth's climate caused by human activity including burning fossil fuels (coal, gas, petrol and diesel) and clearing vegetation. Impacts include a global temperature increase as well as local droughts, floods, extreme hot and cold spells, and more intense rainfall.
Green Infrastructure	The green spaces and water systems that intersperse, connect and provide life support for humans and other species in urban environments. Green infrastructure ranges in scale from residential gardens to local parks and housing estates, streetscapes and highway verges, services and communications corridors, waterways and regional recreation areas. Green infrastructure has many benefits for society and the environment.
Habitat structures	In an urban environment, these can be nesting boxes, created hollows or suitably placed logs.
Hazard	A source of potential harm or damage, or a situation with potential for harm or damage.

Facility tree	A tree located in a Council property such as a library or located in a leased property such as a sporting facility or kindergarten.
Resilience	The ability of the urban forest to adapt, survive and thrive in a changing climate.
Risk Rating	The assessed risk of a tree based on a recognised rating methodology
Risk	A possible event or incident that, if it occurs, will have an impact on Council's objectives. Risk is measured as a combination of the likelihood of a perceived threat or opportunity occurring and the magnitude of its consequence on objectives.
Risk Zone	Based on the typologies from Banyule's Place Based Framework, the classification of the location that assumes a usage profile and target type.
Risk Zone Category	The grouping of Risk Zones into different levels of risk.
Socio-Economic Indexes for Areas (SEIFA)	A product developed by the Australian Bureau of Statistics that ranks areas in Australia according to relative socio-economic advantage and disadvantage based on people's access to material and social resources, and their ability to participate in society.
Social vulnerability	Social vulnerability is a widely recognised way of assessing the sensitivity of a population to natural hazards and its ability to respond to and recover from them.
Tree	<p>A tree includes any woody perennial plant, any plant resembling a tree in form and size – with the potential to grow to five metres or more in height, and any other plant prescribed by the City's regulations.</p> <p>This definition relates to this Policy only, and other tree definitions may also be used by Banyule City Council.</p>
Tree Species List	A specific list of tree species that are considered suitable for planting within the local government area.
Useful Life Expectancy (ULE)	ULE is the (safe with an acceptable level of risk) life expectancy of each tree modified by economic considerations. In simple terms how long can the tree be kept with reasonable levels of inputs appropriate for the situation.
Urban forest	Banyule's urban forest is the trees and green assets (such as vines and climbers, shrubs, groundcovers, and grasses) that exist in an urban area, that are strategically planned, designed, and managed as well as the ecosystems, soils and water that support them.
Water sensitive urban design (WSUD)	The approach to planning and designing urban areas and buildings that considers how to make use of the valuable resource of stormwater, make places cooler and reduce harm to waterways, rivers and creeks.

Tree Management Specifications

D24/139931 Detail to support the Tree Management Framework

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Introduction

This document supports the Tree Management Framework (Doc ID D24/8279). The Specifications are technical details for implementing tree management that are determined by relevant laws and guidelines, operational changes and scientific developments in arboriculture and urban forestry.

These Specifications should be reviewed when the following acts, regulations and documents are updated:

- Road Management Act 2004.
- Wildlife Act 1975.
- Department of Transport Road Management Plan 2021.
- Banyule Road Management Plan 2021-2025.
- Electricity Safety (Electric Line Clearance) Regulations 2020.
- Banyule Electrical Line Clearance Plan 2023-2024.
- Precinct Pruning Contract.
- Tree Planting and Establishment Contract.
- Banyule Public Realm Strategy (in draft 2023).
- Banyule Weed Management Strategy 2022.
- Banyule Biodiversity Plan 2019-2022 (revision in development 2024).
- Banyule Tree Repurposing Guidelines (in draft 2023).

Tree Pruning

Line Clearance Pruning

Specification for clearance pruning regrowth allowances and exceptions are detailed in the appendix of the Banyule Electrical Line Clearance Plan 2023-2024, and are replicated in the following tables. They are based on the specification of the Electricity Safety (Electric Line Clearance) Regulations 2020 (ESELCR 2020).

ESELCR 2020 Clause	Line Type	Area Type	Minimum Clearance Space	Applicable Distance (AD)
24	Insulated	All	The space extending away from the line in all directions perpendicular to its axis for the applicable distance Graph in Figure 1, diagrams in Figure 7 and Figure 8 below.	For the first & last sixths of the span: <ul style="list-style-type: none"> • 300 mm For the middle 2/3rds of the span (Graph 1 of the Code): <ul style="list-style-type: none"> • if the span is ≤ 40 m: 300 mm • if the span is > 40 m & ≤ 100 m: $300 + (\text{span distance} - 40) \times 10 = \text{AD}$ • if the span is > 100 m: 900 mm
25	Uninsulated, low voltage	LBRA	The space extending away from the line in all directions perpendicular to its axis for the applicable distance and if the span is greater than 100 m, additional distance to allow for sag & sway. Graph in Figure 2, diagrams in Figure 7 and Figure 10.	For the first & last sixths of the span: <ul style="list-style-type: none"> • 1000 mm For the middle 2/3rds of the span (Graph 2 of the Code): <ul style="list-style-type: none"> • if the span is > 45 m & ≤ 100 m: $1000 + (\text{span distance} - 45) \times (1500 \div 55)$ • if the span is > 100 m: 2500 mm
26	Uninsulated, High voltage (other than 66 000 V line)	LBRA	The space extending away from the line in all directions perpendicular to its axis for the applicable distance and if the span is greater than 100 m, additional distance to allow for sag & sway Graph in Figure 3, diagrams in Figure 7 and Figure 11.	For the first & last sixths of the span: <ul style="list-style-type: none"> • 1500 mm For the middle 2/3rds of the span (Graph 3 of the Code): <ul style="list-style-type: none"> • if the span is > 45 m & ≤ 100 m: $1500 + (\text{span distance} - 45) \times (1000 \div 55)$ • if the span is > 100 m: 2500 mm
27	Uninsulated, 66 000 V	LBRA	The space extending away from the line in all directions perpendicular to its axis for the applicable distance and if the span is greater than 100 m, additional distance to allow for sag & sway. The space above these spaces must also remain clear. Graph in Figure 4, diagrams in Figure 7 and Figure 11.	For the first & last sixths of the span: <ul style="list-style-type: none"> • 2250 mm For the middle 2/3rds of the span (Graph 4 of the Code): <ul style="list-style-type: none"> • if the span is ≤ 45 m: 2250 • if the span is > 45 m & ≤ 100 m: $(2500 + (\text{span distance} - 45) \times (1250 \div 55))$ • if the span distance is > 100 m: 3500 mm

28	Uninsulated, low & high voltage (other than 66 000 V)	HBRA	The space extending away from the line in all directions perpendicular to its axis for the applicable distance and additional distance that allows for conductor sag and sway. The space above these spaces must also remain clear. Graph in Figure 5, diagrams in Figure 7 and Figure 11.	For the first & last sixths of the span: • 1500 mm For the middle 2/3rds of the span (Graph 5 of the Code): • if the span is ≤ 45 m: 1500 mm • if the span is > 45 m & ≤ 500 m: (1500 + (span distance - 45) x (500 ÷ 303)) • if the span is > 500 m: 2250 mm
29	Uninsulated 66 000 V	HBRA	The space extending away from the line in all directions perpendicular to its axis for the applicable distance and an additional distance that allows for conductor sag and sway. The space above these spaces must also remain clear. Graph in Figure 6, diagram in Figure 7 and Figure 11.	For the first & last sixths of the span: • 2250 mm For the middle 2/3rds of the span (Graph 6 of the Code): • if the span is ≤ 45 m: 2250mm • if the span is > 45 m & ≤ 350 m: (2250 + (span distance - 45) x (750 ÷ 305)) • if the span is > 350 m: 3000 mm

ESELCR 2020 Clause	Line Type	Applicable Areas	Tree Part	Condition for Exception
4 [†]	Insulated, low voltage	All Areas	Structural branches around lines	The branch is > 130 mm wide at the point it enters the minimum clearance space; AND the branch is: • > 150 mm from the line if the span distance is ≤ 40 m OR • > 300 mm from the line if the span is > 40 m; AND In the last 14 months: • a suitably qualified arborist (Regulation 9(4)(p)) has inspected the tree and advised that it has no visible defects that could cause the branch to fail and contact the electric line, and • Council has completed a risk assessment of the branch and implemented mitigation measures for any identified risks.

5	Insulated, low voltage	All Areas	Small branches under lines	<p>The branch is less than 10 mm wide at the minimum clearance space entry point and is no more than 500 mm inside the minimum clearance space;</p> <p>AND the branch originates at a point below the height of the electric line;</p> <p>AND if the branch is within the minimum clearance space around the middle two-thirds of the span, the span is fitted with:</p> <ul style="list-style-type: none"> • 1 conductor spreader if the span is ≤ 45 m <p>OR</p> <ul style="list-style-type: none"> • 2 conductor spreaders if the span is > 45 m. <p>*Spreader not required if the branch comes within the minimum clearance space around the first or last sixth of the span.</p> <p>AND In the last 14 months:</p> <ul style="list-style-type: none"> • a suitably qualified arborist (Regulation 9(4)(p)) has inspected the tree, and • Council has completed a risk assessment of the branch and implemented mitigation measures for any identified risks.
6 [†]	Uninsulated, low voltage	LBRA	Small branches under lines	<p>The branch is less than 10 mm wide at the minimum clearance space entry point and is no more than 500 mm inside the minimum clearance space;</p> <p>AND the branch originates at a point below the height of the electric line;</p> <p>AND if the branch is within the minimum clearance space around the middle two-thirds of the span, the span is fitted with:</p> <ul style="list-style-type: none"> • 1 conductor spreader if the span is ≤ 45 m <p>OR</p> <ul style="list-style-type: none"> • 2 conductor spreaders if the span is > 45 m. <p>*Spreader not required if the branch comes within the minimum clearance space around the first or last sixth of the span.</p> <p>AND In the last 14 months:</p> <ul style="list-style-type: none"> • a suitably qualified arborist (Regulation 9(4)(p)) has inspected the tree, and • Council has completed a risk assessment of the branch and implemented mitigation measures for any identified risks.

7 [†]	Uninsulated, low voltage	LBRA	Structural branches around lines	<p>if the branch is within the minimum clearance space around the middle two-thirds of the span, the span is fitted with:</p> <ul style="list-style-type: none"> • 1 conductor spreader if the span is ≤ 45 m <p>OR</p> <ul style="list-style-type: none"> • 2 conductor spreaders if the span is > 45 m. <p>*Spreader not required if the branch comes within the minimum clearance space around the first or last sixth of the span.</p> <p>AND the branch is > 130 mm wide at the point it enters the minimum clearance space</p> <p>AND The branch is no more than 500 mm inside the minimum clearance space</p> <p>AND In the last 14 months:</p> <ul style="list-style-type: none"> • a suitably qualified arborist (Regulation 9(4)(p)) has inspected the tree and advised that it has no visible defects that could cause the branch to fail and contact the electric line, and • Council has completed a risk assessment of the branch and implemented mitigation measures for any identified risks.
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† If Council leaves a branch within the minimum clearance space for an electric line under Clauses 4, 6, and 7, it will retain records in its asset management and GIS systems for at least five years on:

- Each inspection
- All advice referred to regarding the branch identified as having no structural defects
- Each risk assessment on any risks posed by the branch
- The mitigation measures to effectively mitigate any identified risks posed by the branch.

All trees on the Exception register will be re-assessed annually.

Graphs of Applicable Clearance Distance for Span Distances

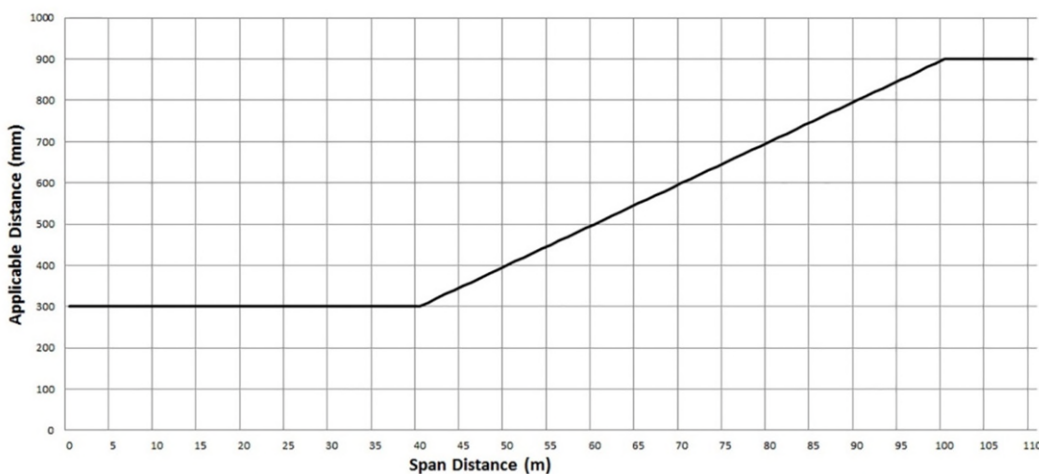


Figure 13 – Clearance distances for electrical lines in all areas (from ESELCR 2020)

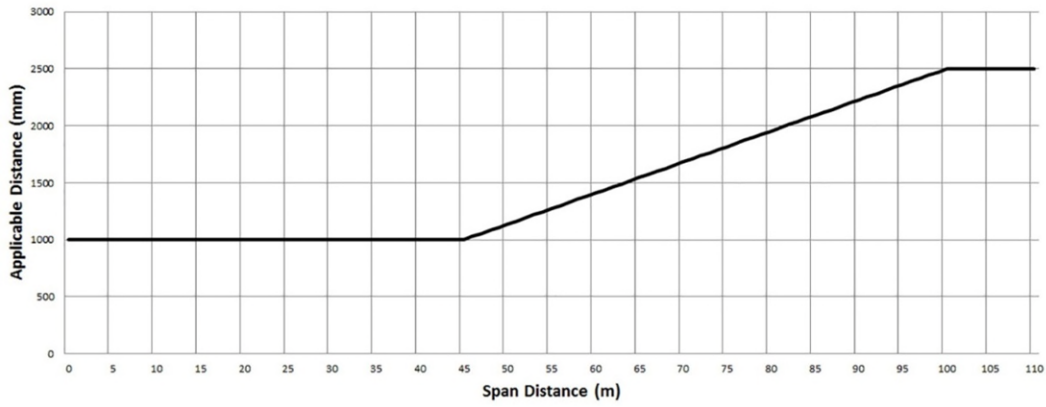


Figure 14 - Uninsulated low voltage electric line in low bushfire risk area (from ESELCR 2020)

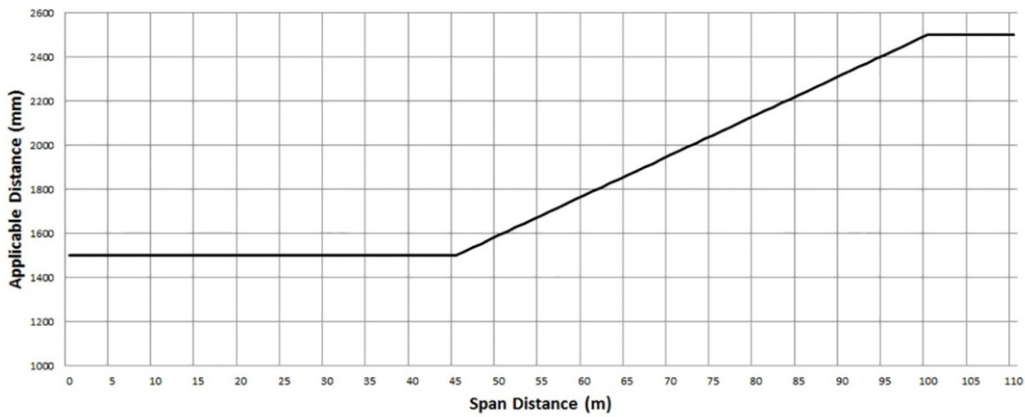


Figure 15 - Uninsulated high voltage electric line (other than a 66000-volt electric line) in low bushfire risk area (from ESELCR 2020)

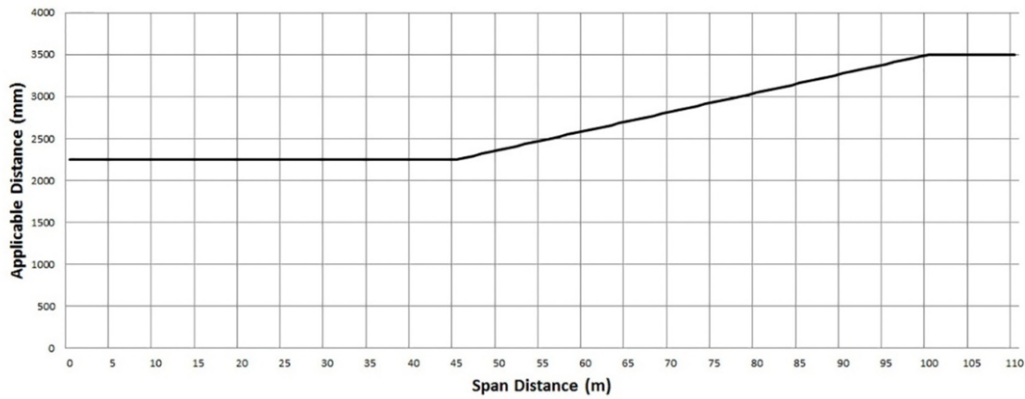


Figure 16 – Uninsulated 66000-volt electric line in low bushfire risk area (from ESELCR 2020)

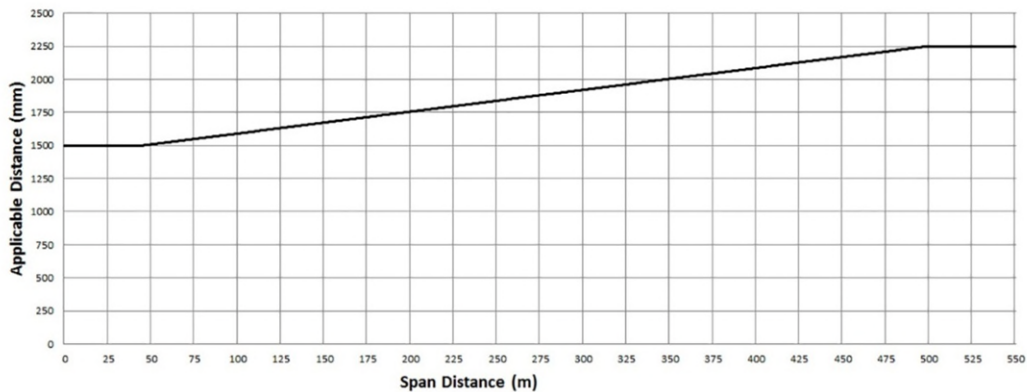


Figure 17 - Uninsulated low voltage and high voltage electric line (other than a 66 000 volt electric line) in hazardous bushfire risk area (from ESELGR 2020)

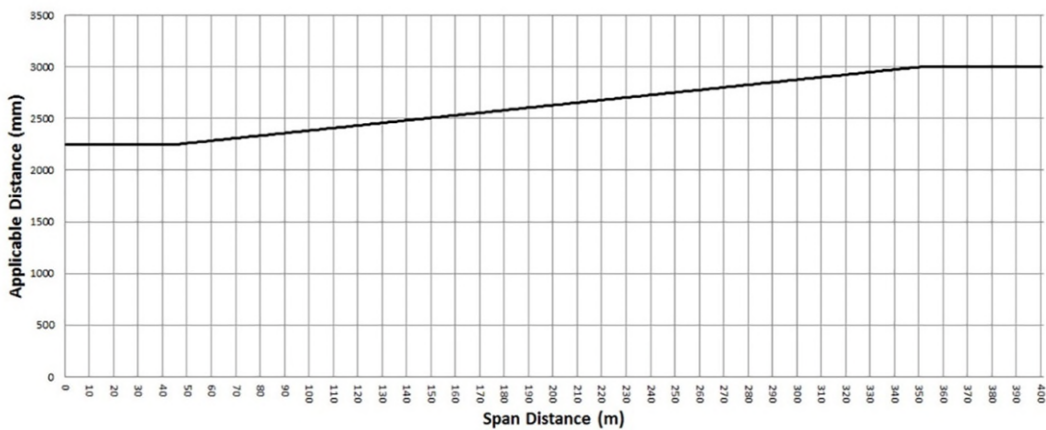


Figure 18 - Uninsulated 66 000 volt electric line in hazardous bushfire risk area (from ESELGR 2020)

Diagrams of Clearance Spaces

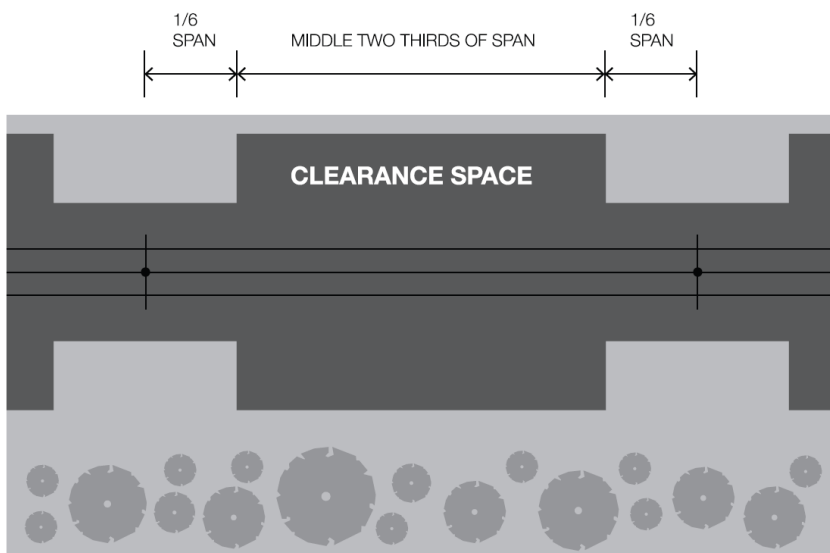


Figure 19 - Plan view of electric lines in all areas (from ESELGR 2020)

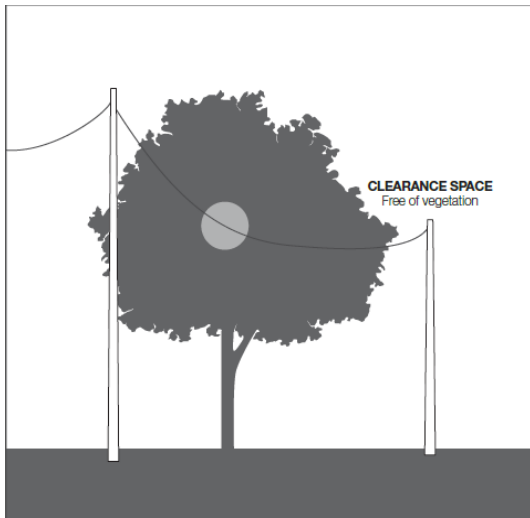


Figure 20 - Clearance space for insulated electric lines in all areas (from ESELCR 2020)

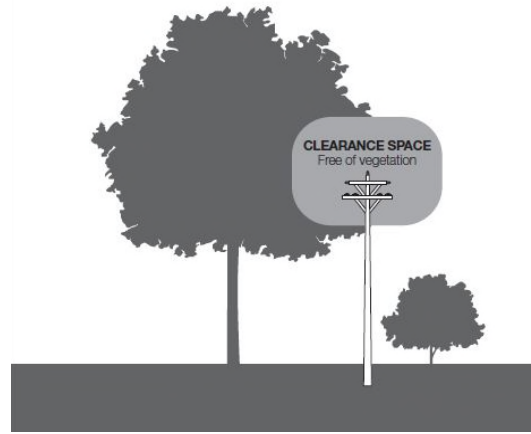


Figure 21 - Insulated electric lines in all areas and uninsulated high voltage electric lines (other than 66 000 volt electric lines) in low bushfire risk areas (from ESELCR 2020)

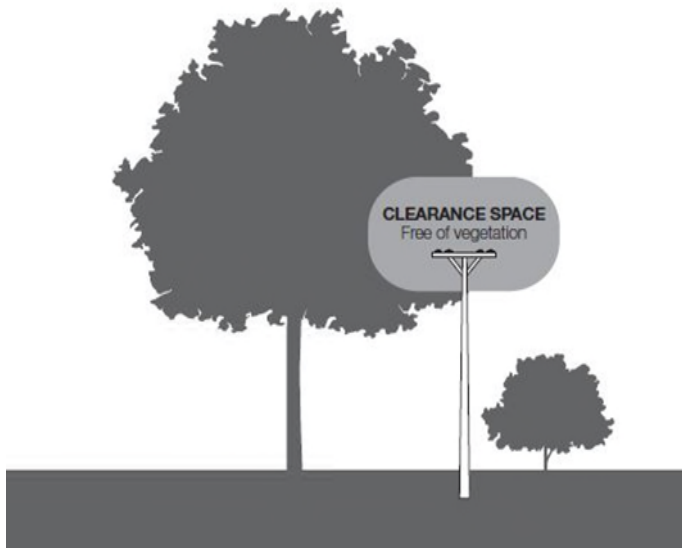


Figure 22 – Uninsulated low voltage electric line in a low bushfire risk area (from ESELCR 2020)



Figure 23 - Uninsulated 66 000 volt electric line in a low bushfire risk area and uninsulated electric line in a hazardous bushfire risk area (from ESELCR 2020)

Roads and Paths

Trees over roads and paths are pruned to comply with the definitions of hazards in the Department of Transport Road Management Plan 2021 and Banyule's Road Management Plan 2021-2025:

- Height of 4.5m over traffic lanes and trafficable portion of shoulders.
- Height of 1.5m along road user sightlines.
- Sufficient to maintain visibility of road signs and traffic control devices.
- Height of 2.5m over footpath, driveways, walkways and nature strips.
- Banyule specifies contractors to prune to higher level of 3m over cycling paths.

Pruning heights are shown in Figure 12.

Properties

Where requested council trees will be pruned to a height of 2m over private property roofs and 1m away from buildings.

Pruning heights are shown in Figure 12.

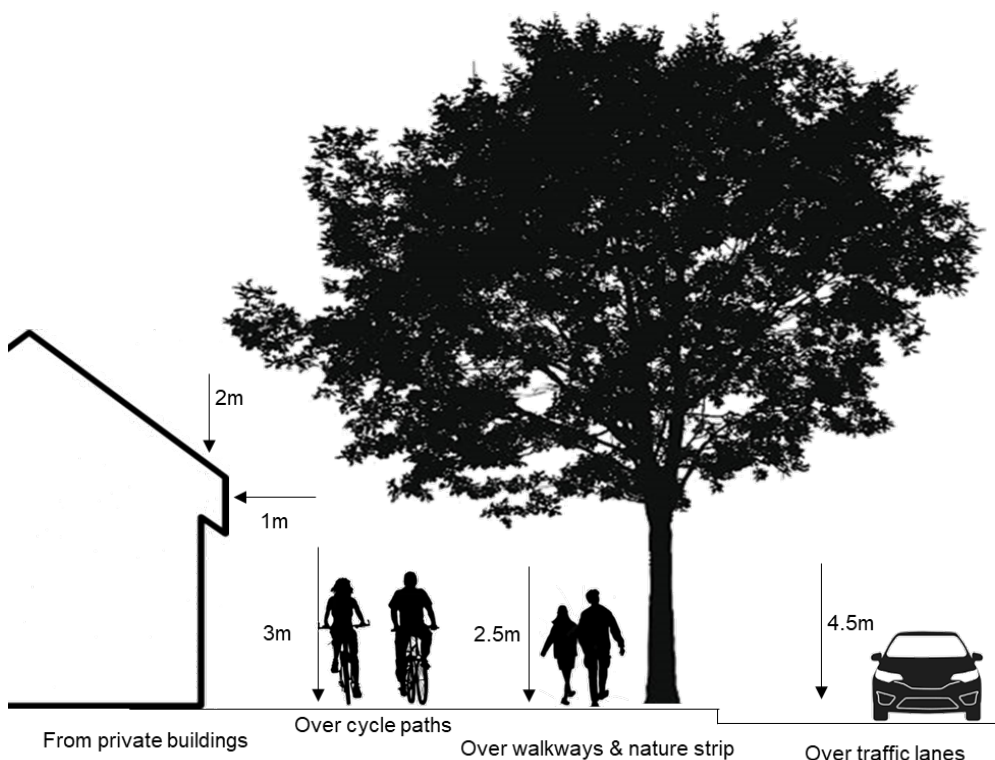


Figure 24 - Pruning clearance heights

Street and Path Lighting

Canopy will be pruned to a distance of 1m above and either side of light sources.

In addition, the tree will be sufficiently pruned to allow illumination of the road or path below the light pole. The extent of pruning will depend on the form of the tree, leaf density and shape.

Description of adequate lighting is set out in the Austroad *Guide to Road Design Part 6E Roadside Environment*¹¹. AS/NZS 1158.3.1.2020 *Lighting for roads and public spaces Pedestrian area (Category P) lighting - Performance and design requirements* requires that the minimum illumination for pedestrian and cycling paths is 5 lux. This concept is illustrated in Figure 13.

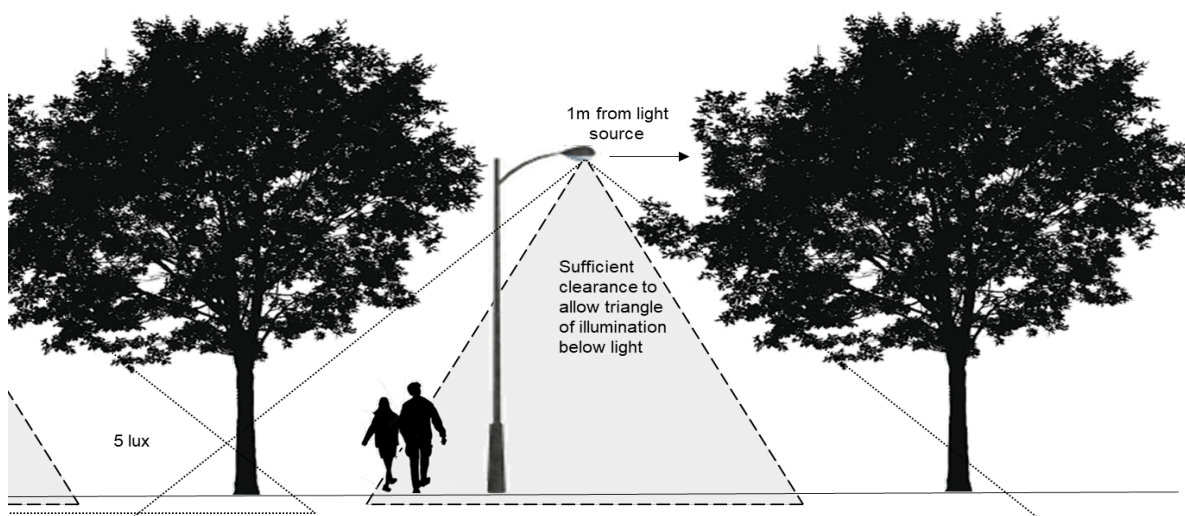


Figure 25 - Tree clearance from street and path lighting

Contractor Specifications

Council sets the current specifications for the Cyclic Pruning contracts:

- Crown lift/Clearance Pruning: removal of lower branches to provide vertical clearance for vehicles, pedestrians and sight lines.
- Vehicles: 4.5 m over roadways.
- Pedestrians/footpath: 2.5 m.
- Motorist/pedestrian visibility: 1.5 m for road-user sightlines.
- Removal of deadwood over 20cm diameter that poses a risk.
- Crown cleanout for hangers, epicormics and suckers and prune stubs.
- Broken, hanging, damaged, or cracked branches are to be removed.
- Epicormic growth on trunk and root buttress must be removed to structural branch.
- Minimum 1m clearance to buildings, 2m over roofs.

Audit Procedure for Contracted Works

Council will conduct audits of completed tree works to ensure compliance to relevant legations, regulations, standards and specifications. Non-conformance will be identified and remediated by the contractor following an audit escalation process.

100% Audit by Council

All trees pruned for powerline and road clearance will undergo a 100% audit by the Council. This audit ensures compliance with:

- Electricity Safety (Electric Line Clearance) Regulations

¹¹ <https://austroads.com.au/publications/road-design/agrd06b>

- Road Management Act

Sample Audit by Council

For tasks outside powerline and road clearance, the Council will initially conduct a sample audit.

General Requirements: Quality and Compliance Standards

All completed tasks must meet quality and clearance specifications. Pruning quality must conform to Australian Standards AS4373-2017 Pruning of Amenity Trees.

Audit Failure Protocol

If an audit identifies non-conformance (audit failure), the Contractor will be notified in writing within 2 days.

For electric line clearance and road clearance tasks, non-compliant trees will be logged in Konect (or other tree management system). A package of reworks will be sent to the Contractor.

Rectification and Rework

The Contractor must prepare and submit to Council a plan for rectification within seven (7) business days.

Rework Completion

Non-complying tasks must be rectified within 14 working days.

Exceptions are allowed for delays due to Department of Transport and Planning permits.

Re-Audit

All non-conforming reworks will be audited again using the same criteria.

Records will be updated in Konect (or other tree management system).

Consequences of Non-Compliance

Show Cause Notice

Any non-conforming works that still do not meet the required criteria may trigger a **Show Cause Notice**.

Increased Sample Size Audit

All failed audits will trigger an increased sample size audit undertaken by the Contractor for non-powerline or road clearance tasks.

This process continues until a 100% audit is conducted again, with the potential for a **Show Cause Notice**.

Removal of Stumps

- Stump removals are to be completed within 60 days of notification in line with SLA timeframes. May be removed in shorter timeframe depending on risk assessment.
- Stumps are ground to a depth of 300 millimetres below the existing grade. Large surface roots, extending beyond the main stump are to be removed along with the stump.

Tree Timber Repurposing

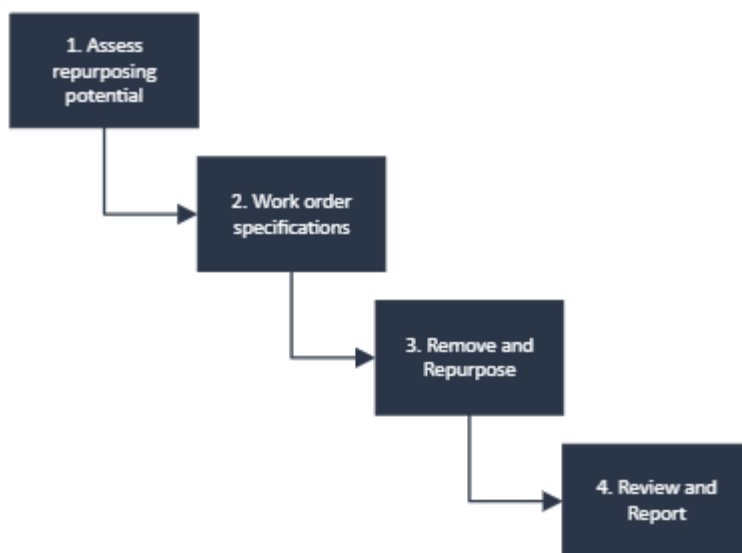
Council seeks to repurpose appropriate timber felled as part of the tree removal program. Once a tree has been approved for removal, it is assessed for repurposing potential such as:

- Milling for fence posts, tree stakes, bollards, park furniture or showcase items such as reception or meeting desks.
- For reuse as habitat, hollows or nature play.
- Recreated into art pieces or sculptures.
- To storage for future use.

Council maintains a list of potential repurposing projects with types of timber and lengths required. This list is live and ever changing and should be referred to in the first instance.

Council also has a dedicated log storage area along Liberty Parade Bellfield, opposite the Parks and Gardens Service Centre. This area is regularly assessed for log storage space and reorganised to group logs by type and purpose for easy access.

The decision-making process for timber repurposing is summarised as follows:



Details for each step are as follows:

1. Tree Removal Request Assessment

Any public tree that is approved for removal by Council's arborist is then assessed for repurposing potential prior to removal. The main priorities for repurposing include:

- Retaining or repurposing existing hollows.
- Long singular trunks for milling, nature play, fence posts, bollards.
- Other as determined by Council staff.

Logs with significant decay or juvenile trees are not likely to warrant repurposing.

Any logs deemed unsuitable for repurposing and all associated green waste from public tree removal is to be mulched as a minimum standard.

2. Work Order specifications

Once deemed suitable for repurposing, specifications of the repurposing process are to be included in the removal work order as follows and where relevant:

- Intended purpose: milling, art/sculpture, habitat, nature play or storage.
- Cut specifications: minimum log lengths.
- Specialist machinery required to cut or manoeuvre log.
- Logistics details: contractor required to pick up log and when.
- Destination for re-purposed log: depot, storage area or recipient such as artist studio.
- Confirm post cutting and pre storage care requirements e.g. sealing ends to stop decay.

3. Tree removal and repurposing

Council's arborist will ensure contractor complies with work order specifications to fell, cut and transport log to appropriate end point. If there is any uncertainty, log should be transported to Banyule depot log storage area as last resort. Include hold points in contractors work order if necessary to conduct checks and compliance.

Remove tree, ensuring tree protection for surrounding trees and fauna relocation if necessary.

Document works conducted including as a minimum the tree IDs of repurposed trees and repurposed outcome.

4. Reviewing and Reporting

Conduct an annual review of number of trees removed, numbers of trees repurposed and for what purpose. If possible, estimate the m3 of timber repurposed. Take photos of each repurposing project and label with date, tree species used and repurposing outcome.

Conduct an assessment of storage area and capabilities for storing additional logs/timber.

Tree Removals

Determining Tree Removal Costs

When the removal of a public tree is deemed necessary for construction, development or works, all costs associated with its removal and replacement must be paid by the property owner, utility or developer prior to removal.

To carry out the method the Urban Forestry Officer must:

- Measure DBH.
- Identify species and typical lifespan.
- Assess a number of attributes in line with the method's requirements (see below), ULE, structure, crown form and vitality and location as per the categories.
- Use the base value based on DBH.
- Calculate the Ecological Services Value derived from i-Tree and corresponding modifiers to carbon and other pollutant values.

The costs associated with removal of a public tree include:

A - Removal Costs	Amounting to the fees incurred by Council for physically removing the tree
B - Amenity Value	Calculated in accordance with Council's Amenity Formula
C - Ecological Services Value	Calculated in accordance with the i-Tree valuation tool
D - Reinstatement Costs	Calculated in accordance with the greening required to replace the loss to the landscape incurred by the removal

A - Removal Costs

Costs will be based on the current costs of tree removal. It includes the physical removal of the tree and the stump. Cost determination may be by contractor Schedule of Rates or contractor quotation.

Where trees are >40cm diameter the trunks must be transported to the storage location designated by Council for milling or reuse. Cost of removal is borne by the applicant.

Removal costs may be waived where the applicant agrees to undertake the removal. This may be beneficial where the timing of the removal can be coordinated with excavation for the project such as for a vehicle crossing construction.

B - Amenity Value

The following formula has been prepared to assist with calculating the monetary amenity value of a Banyule City Council tree.

- When young trees with a 6cm trunk diameter or less will be replaced by another tree, there will be a fixed value tied to the current tree planting fee used by Planning.
- The Amenity Value Formula used by Banyule City Council is based on the method derived by the City of Melbourne from the formula by Dr. Peter Yau, 1990 of the Maurer-Hoffman Formula.
- The basic monetary value of the tree was taken from the internationally accepted table of values devised by the American Council of Tree and Landscape Appraisers and the International Society of Arboriculture, which in the base year 1988 was \$US27 per square inch trunk basal area. When converted to a value corresponding to centimetres in trunk diameter at breast height (DBH) the Basic Monetary Value table, updated in 2022 to reflect more current monetary values.

$$\textbf{Amenity Value (V) = Basic Value ($) x Species (S) x Aesthetics (A) x Locality (L) x Condition (C)}$$

Where:

- \$ = Base value in AUD.
- S = Species modifier.
- A = Aesthetics modifier.
- L = Locality modifier.
- C = Condition modifier.

These variables are calculated as follows:

- $\$ = \pi \times (\text{DBH}/2)^2 \times \text{AUD } 13.62/\text{cm}^2$.
- ($\pi \times r^2$ is the formula of the area of a circle – trunk area is being estimated. DBH must be in cm).
- AUD \$13.62 is the 2022 price of a juvenile tree/cm² of trunk ¹².

¹² City of Melbourne Tree Valuation and Manningham Tree Amenity Value 2022

Basic Value (\$)

The basic monetary value of a tree is determined by matching the trunk diameter at breast height (DBH) with its corresponding base value in the following table. These 2022 values must be increased by CPI each year.

DBH cm	Base Value	DBH cm	Base Value	DBH cm	Base Value	DBH cm	Base Value
<6	\$ 380.00 ¹³	42	\$19,926.85	79	\$ 70,500.85	116	\$152,004.40
6	\$ 406.67	43	\$20,887.05	80	\$ 72,296.98	117	\$154,636.46
7	\$ 553.53	44	\$21,869.83	81	\$ 74,115.70	118	\$157,291.11
8	\$ 722.97	45	\$22,875.22	82	\$ 75,957.01	119	\$159,968.35
9	\$ 915.00	46	\$23,903.19	83	\$ 77,820.91	120	\$162,668.20
10	\$ 1,129.64	47	\$24,953.75	84	\$ 79,707.41	121	\$165,390.63
11	\$ 1,366.86	48	\$26,026.92	85	\$ 81,616.51	122	\$168,135.66
12	\$ 1,626.69	49	\$27,122.66	86	\$ 83,548.19	123	\$170,903.27
13	\$ 1,909.09	50	\$28,241.01	87	\$ 85,502.47	124	\$173,693.49
14	\$ 2,214.09	51	\$29,381.95	88	\$ 87,479.34	125	\$176,506.29
15	\$ 2,541.69	52	\$30,545.48	89	\$ 89,478.81	126	\$179,341.69
16	\$ 2,891.88	53	\$31,731.59	90	\$ 91,500.87	127	\$182,199.68
17	\$ 3,264.66	54	\$32,940.31	91	\$ 93,545.51	128	\$185,080.27
18	\$ 3,660.04	55	\$34,171.62	92	\$ 95,612.75	129	\$187,983.44
19	\$ 4,078.00	56	\$35,425.52	93	\$ 97,702.58	130	\$190,909.21
20	\$ 4,518.56	57	\$36,702.01	94	\$ 99,815.02	131	\$193,857.56
21	\$ 4,981.72	58	\$38,001.10	95	\$101,950.04	132	\$196,828.52
22	\$ 5,467.46	59	\$39,322.77	96	\$104,107.64	133	\$199,822.07
23	\$ 5,975.79	60	\$40,667.05	97	\$106,287.86	134	\$202,838.20
24	\$ 6,506.73	61	\$42,033.92	98	\$108,490.65	135	\$205,876.94
25	\$ 7,060.25	62	\$43,423.38	99	\$110,716.05	136	\$208,938.27
26	\$ 7,636.37	63	\$44,835.42	100	\$112,964.03	137	\$212,022.19
27	\$ 8,235.08	64	\$46,270.06	101	\$115,234.61	138	\$215,128.69
28	\$ 8,856.38	65	\$47,727.30	102	\$117,527.77	139	\$218,257.79
29	\$ 9,500.28	66	\$49,207.13	103	\$119,843.54	140	\$221,409.49
30	\$10,166.76	67	\$50,709.55	104	\$122,181.89	141	\$224,583.78
31	\$10,855.84	68	\$52,234.56	105	\$124,542.84	142	\$227,780.66
32	\$11,567.52	69	\$53,782.18	106	\$126,926.38	143	\$231,000.14
33	\$12,301.78	70	\$55,352.37	107	\$129,332.52	144	\$234,242.20
34	\$13,058.64	71	\$56,945.17	108	\$131,761.24	145	\$237,506.86
35	\$13,838.10	72	\$58,560.55	109	\$134,212.56	146	\$240,794.12
36	\$14,640.14	73	\$60,198.53	110	\$136,686.47	147	\$244,103.97
37	\$15,464.77	74	\$61,859.10	111	\$139,182.98	148	\$247,436.41
38	\$16,312.00	75	\$63,542.26	112	\$141,702.08	149	\$250,791.44
39	\$17,181.83	76	\$65,248.03	113	\$144,243.77	150	\$254,169.06
40	\$18,074.24	77	\$66,976.37	114	\$146,808.05	>150	TBD
41	\$18,989.26	78	\$68,727.31	115	\$149,394.93		

¹³ This fixed figure is tied to the tree planting fee used by Planning

Species Modifier (S)

A tree is assessed according to its known natural life span and its rate of growth in a particular environment. For example, a long-lived tree will be scored higher than a short-lived tree. Significant features to the tree will also modify how the tree is scored. Judgment regarding species factor must be made by a qualified Arborist.

Group	Characteristics	Example Species	Score
1	Trees of short life span	<i>Prunus, Pyrus, Acacia, Hakea</i>	0.6
2	Trees of medium lifespan (40 - 100 years)	<i>Callistemon, Populus, Liquidambar, Grevillea, Melaleuca, Casuarina, Pinus, Syzygium</i>	0.8
3	Trees of long life span (>100 years)	<i>Platanus, Ficus, Eucalyptus, Corymbia, Angophora, Celtis, Ulmus, Quercus, Ginkgo</i>	1.0
Modifiers			
1	Declared Noxious Weeds [†]	Note that Declared Noxious Weeds should be identified according to the list provided by Agriculture Victoria ¹⁴ or by the Banyule Weed Management Strategy ¹⁵	-0.3
2	Positive Attributes	<ul style="list-style-type: none"> A rare species in the locality A special, precious or cultivated variety A 'significant tree' registered by the National Trust Has special historical or other significance, such as Aboriginal heritage value A tree that is being evaluated as a trial species or is the subject of specific research 	+0.1
3	Climate Suitability	Species not well suited to current or future climates, or species without climate suitability rating	0
		Species suited to current climate	+0.1
		Species moderately suited to future climate	+0.2
		Species well suited to future climate	+0.3
4	Habitat Characteristics	Species indigenous to the local region or ecosystem	+0.2
		Species native to Australia	+0.1
		Species a host to native mistletoe	+0.1
		Visible hollow/s wider than 5 cm	+0.2
Species Factor (S)			

[†] Trees that are formal listed weeds (e.g. *Fraxinus angustifolia* subsp. *angustifolia*, *Pittosporum undulatum*) receive a discount modifier, however they still have amenity value. The Banyule Weed Management Strategy recognised that all trees provide ecosystem services, and the disservices depend on the context of the location.

¹⁴ <https://agriculture.vic.gov.au/biosecurity/protecting-victoria/legislation-policy-and-permits/consolidated-lists-of-declared-noxious-weeds-and-pest-animals>

¹⁵ https://www.banyule.vic.gov.au/files/assets/public/_operating-images-amp-docs/documents/weed-management-strategy.pdf

Aesthetics Modifier (A)

The aesthetic value of a tree is determined by the impact on the landscape if the tree were removed. This category is closely tied to the locality factor (L).

Aesthetic Factor	Score
Contributes little to the landscape	0.5
One of a group of close plantings	0.6
Wide plantings	0.7
Irregular spacing between trees; regular spacing one side	0.8
Street or pathway plantings, regular spacing both sides	0.9
Solitary feature specimen tree	1.0
Aesthetics (A)	

Locality (L)

The locality factor is determined by the tree's geographical situation. Trees in a main street or boulevard score highest because of the stressful growing environment in which the tree must survive. As the location becomes lower density, the significance of the tree diminishes.

Locality Factor	Score	
In undeveloped bushland area, Conservation Reserve [†]	0.5	
Unsealed roads	1.0	
Local Road [†] , Pocket Park [†] , adjacent to Links [†] and Open space paths	1.5	
Local Park [†] , Neighbourhood Park [†] , industrial precincts	1.75	
Regional Park [†] , Parklet [†] , Secondary Street [†] , Major Arterial Road [†]	2.0	
Secondary Street [†] , Public Car park [†] , Arcade [†]	2.25	
Activity Centre [†] , Civic Area/Plaza [†]	2.5	
Modifiers	Tree in identified priority planting street	+1.0
	Tree situated with 100m of locally or regionally significant ridgeline ^{††}	+0.5
	Tree occurs in known biodiversity corridor	+0.5
Locality (L)		

[†] Denotes Locality type defined in the Banyule Public Realm Strategy

^{††} As defined in the Banyule Development Planning Controls

Tree Condition (C)

The tree condition value is determined by the corresponding total score of the assessment criteria.

Assessment Criteria	Criteria Condition	Score
Crown Vitality	Crown and/or live bud density:	
Relates to the health of the tree and is measured in density of foliage and/or live buds, with respect to what is typical of the species in the location	81-100%	10
	61-80%	8
	41-60%	6
	21-40%	4
	0-20%	2
Crown Form	Percentage Crown Missing:	
Crown form relates to the shape and form of the tree canopy	0-20%	10
	21-40%	8
	41-60%	6
	61-80%	4
	81-100%	2

Structure	Description	Score
Good	No obvious damage, disease, decay or structural defect. Stable in the ground, obvious basal flare and no history of branch failure.	4
Fair	May display evidence of previous branch failure but has generally well-attached, spaced and tapered branches. Tree displays at least one of the following: minor damage, decay or structural deficiencies, minor end-weight or over-extension	3
Poor	Displays one or more of the following: major damage; disease or decay exceeding recognised thresholds; numerous fungal fruiting bodies present; a lean placing pressure on root plate; stump re-sprout; acute branch attachments with included bark; excessive compression flaring; foreseeable limb failure; major branch end-weight over-extension.	2
Very Poor	Displays one or more of the following: excessive damage, disease or decay, unstable or loose in the ground, excessive lean, altered exposure, branch or trunk failure probable/imminent, branch attachments with active split, excessive branch end-weight or over-extension, history of major limb/stem failures with loss of holding wood.	1
ULE	Useful Life Expectancy:	
ULE is an estimate of how long a tree is likely to remain in the landscape based on health, amenity and risk:	>60 years	7
	31-60 years	6
	21-20 years	5
	11-20 years	4
	6-10 years	3
	1-5 years	2
	<1 year	1

The points are summed, and the Condition score taken from this table:

Scores for Crown Vitality + Crown Form + Structure + ULE

Condition Factor	Summed Scores		Condition Factor	Summed Scores
0.1	4-5		0.6	18-20
0.2	6-8		0.7	21-23
0.3	9-11		0.8	24-26
0.4	12-14		0.9	27-29
0.5	15-17		1.0	30-31

C – Ecological Services Value

The ecological service benefits a tree provides are calculated in accordance with the i-Tree valuation tool. This is peer-reviewed software from the USDA Forest Service that enables urban forest analysis and assessment and has been adapted for local conditions. By collecting only two attributes, DBH and species, I-Tree Eco can determine annual dollar values for:

- Carbon stored and sequestered
- Air pollution sequestered
- Stormwater intercepted

Ecological Services Value is not calculated for trees <6cm DBH.

If more detailed site information can be collected e.g. distance and direction to nearest building, live crown height, live crown ratio, then energy savings benefits of that tree can also be calculated as a dollar value. This is an option for significant or exceptional trees where Council want to demonstrate the full environmental benefits lost if the tree is removed.

D – Reinstatement Costs

Reinstatement costs will include Soil and site preparation, sourcing, purchasing and planting the replacement tree, establishment costs i.e. – maintenance for 24 months and any treatment or Water Sensitive Urban Design (WSUD) measure deemed to be required to establish suitable replacement trees.

The base figure for 2023 is \$500.14 and will be renewed annually in line with inflation and rising council costs.

Examples of Applying the Amenity Valuation

The following examples demonstrate how to calculate the amenity value.

Study 1- *Hakea bucculenta* in Carwarp Street Macleod



The DBH is <6cm so the amenity and ecological value is not calculated. The minimum tree replacement planting fee of \$500.14 is the valuation.

Study 2 - *Photinia glabra* in Redwood Street Heidelberg West



- The DBH is estimated at 20cm for this example.
- *Photinia glabra* are a moderately long-lived species.
- *Photinia glabra* are suited to current climate, but not well suited to future Melbourne climate of 18 degrees Mean Annual Temperature.
- The street is made up of wide plantings of mixed species, there is no dominant character.
- The street is a suburban street, but Heidelberg West is a high priority planting area under the priority matrix.
- This tree is estimated to have a crown of 50% of what could be possible for the DBH. This will be typical of trees under wires. The tree is otherwise demonstrating excellent vitality and structure. The ULE is 30 years.

The values and calculations are:

DBH	20cm	Base Value (B)	\$ 4,518.56
Species	Medium Lifespan + .8 Suited to current climate +0.01	Species (S)	0.81
Aesthetics	Wide plantings +0.7	Aesthetics (A)	0.7
Locality	On Local Road +1.5 In priority planting street +1	Locality (L)	2.5
Tree Condition	Crown Vitality 100% = 10 Crown Missing 50% = 6 Good Structure = 4 ULE 30 years = 6 Sums to 26	Condition (C)	0.8
Amenity Value (B x S x A x L x C)			
(\$4,518.56 x 0.81 x 0.7 x 2.5 x 0.8)			\$ 5,124.05

Study 3 - *Eucalyptus sideroxylon* in Were Street Montmorency



- The DBH is estimated at 70cm for this example.
- *Eucalyptus sideroxylon* are long-lived species, native to Australia.
- *Eucalyptus sideroxylon* are well suited to future Melbourne climate of 18degrees Mean Annual Temperature given their natural range of central Victoria to north to southern QLD.
- The tree is considered as a solitary specimen in the location of the shopping strip, it dominates the location.
- The locality is an Activity Area. The suburb is not a high priority area for planting relative to other areas of Banyule.
- This tree is estimated to have a crown of 80% so receives the full score. The structure is fair as there are minor defects, wounds and shed secondary limbs. The ULE is 30-60 years.

DBH	70cm		
		Base Value (B)	55,352.37
Species	Long Lifespan + 1 Well suited to future climate +0.3 Species native to Australia +0.1	Species (S)	1.4
Aesthetics	Solitary Feature Tree = 1	Aesthetics (A)	1
Locality	Activity Centre = 2.5	Locality (L)	2.5
Tree Condition	Crown Vitality 80-100% = 10 Crown Missing 20-40% = 8 Fair Structure = 3 ULE 30-60 years = 7 Sums to 28	Condition (C)	0.9
Amenity Value (B x S x A x L x C)			\$174,358.80
(\$55,352.37 x 1.4 x 1 x 2.5 x 0.9)			

The valuation of \$174k is significant, a reflection of what a major tree this is for the community. The high value already reflects the importance to Banyule for keeping the tree and the extent that development around the tree should be modified to accommodate retention.

Administration of Amenity Valuations

Determination of amenity valuation is the responsibility of the Urban Forestry Unit. When determining and communicating a valuation there must be a written record of:

- The list of parameters and their values.
- Discussion notes supporting any qualitative parameters.
- The name of the assessor and their position.
- All measurements taken and any limitations of the measurements or the circumstances under which they were taken (e.g. traffic hazards).
- Date of the valuation being the date that the first subject tree(s) specific measurement data was acquired.

Dispute of valuations will be managed as for complaints, outlined in the **Tree Management Framework** document.

Invoicing of costs for tree removal will be managed by the Urban Forestry Unit.

Trees will be removed within 14 days of amenity, removal and replacement costs being paid by the applicant, subject to external approvals.

Public Tree Removal Decision Authority Thresholds

Public tree removal may be considered after all reasonable design alternatives have been explored. In considering the removal the amenity and ecological value of the tree will be considered. Value thresholds determine the officer to make the decision on removal:

- Under \$3,000 amenity value tree removal can be assumed to be approved. This provides simplicity for Planning Officers to not delay planning decisions on unnecessary referrals. Trees with low amenity are typically juvenile that can be replaced following completion of development works. This often provides the opportunity to change the species and placement to match the changes site conditions. Planning Officers will be advised the value by the Urban Forestry Unit.
- \$3,000-\$20,000 amenity and ecological value the Coordinator Urban Forestry may make the decision or delegate authority to an appropriate Urban Forestry Officer.
- \$20,000-\$50,000 amenity and ecological value the Manager Parks and Natural Environment may make the decision.
- Above \$50,000 amenity and ecological value removal will be refused. Appeal of the decision would need to be managed as an Internal Review through the Customer Complaints process or through VCAT in the case of planning permit decisions.

The value thresholds apply combined values of the removals, i.e. a request to remove 10 trees at \$2,500 value each would be elevated to the Manager Parks and Natural Environment.

Tree Planting

Planting Site Prioritisation

The Urban Forest Strategy Strategic Area 1 is to “Prioritise urban forest improvements in the most vulnerable suburbs and places”. Action S1.1 of the Strategy is to

Develop an agreed urban forest prioritisation method that is based on the Urban Forest Principles to identify areas in most need of planning and intervention.

Determine a weighting for combining spatial factors of canopy cover, socio-economic disadvantage, UHI priority, flooding, wildlife corridors, intersectional gender equity, etc. The output is a map to allocate the relative priority of acting in different locations.

The prioritisation of planting sites is undertaken when there is a limit on resources to place trees in all the locations they are being requested.

Prioritisation is based on:

- Higher priority in locations that are low canopy, based on proportion of canopy cover in a 100mx100m grid.
- Use canopy mapping from Victorian Government data or Banyule’s canopy cover assessments.
- Socio-economic disadvantage measured through mesh-block SEIFA scores.
- Higher priority in lower decile SEIFA areas.
- SEIFA scores are obtained from ABS data and should be reviewed as census data is released.
- Urban Heat Island areas.
- Use 2018 mesh-block based measurement from DELWP Cooling and Greening until it is replaced by an updated mapping from Victorian Government or Banyule.
- Biodiversity corridors and 100m buffers of the biodiversity corridors.
- An intersectional gender impact assessment of where urban forest changes are required.
- Banyule’s Public Realm Typology, priority areas are typologies with more people and where people stay longer.
- High pedestrian areas, determined through a buffer around schools, kindergartens, health services and transport nodes.
- Proximity to open space path network and open space assets such as playgrounds and exercise equipment.

Each of the prioritisation factors and are assigned scores. The classification of scores within each factor are in the following table.

Factor	Classification	Score
Canopy cover	<10% in grid tile	3
	10% to 20% in grid tile	1
	>20% in grid tile	0
Mesh block SEIFA	1-3 decile	2
	4-5 decile	1
	Deciles 6 and above	0
UHI Polygons [†]	>8.5 above baseline	2
	6.7-8.5 above baseline	1
	Below 6.7 above baseline	0
Biodiversity corridors	Inside biodiversity polygon	2
	Inside 100m buffer around biodiversity polygon	1
	Outside 100m buffer around biodiversity polygon	0
Public Realm Typology	Activity Centre, Civic Area/Plaza, Regional Park, Neighbourhood Park	3
	Secondary Street, Parklet, Local Park, Pocket Park	2
	Local Road, Major Arterial	1
	Other open space types ^{††}	0
Open Space Assets	Within 5m buffer around open space path network and open space assets	1
Pedestrian Intensity	Inside 100m buffer around schools, kindergartens, health care and aged care facilities	3
	Inside 100m buffer around transport nodes (bus stops, train stations)	2
Total		

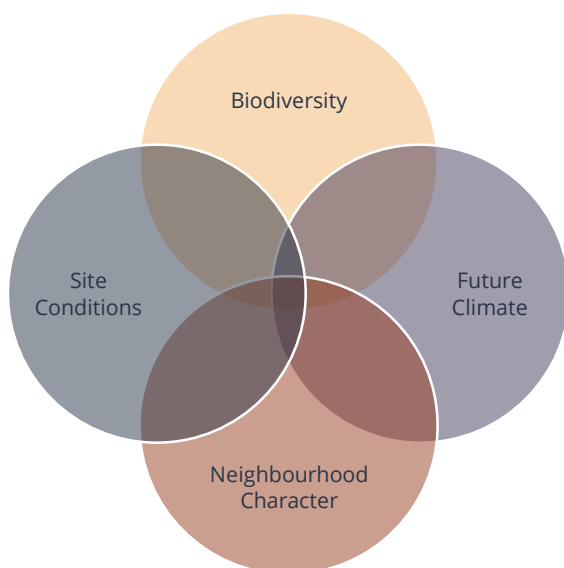
[†] Thresholds determined by the data to create three Jenks natural breaks groups.

^{††} Public realm typologies for Opens Space including Conservation Reserve, Bushland and Walkway receive scores from other factors such as Biodiversity Corridors and Open Space path network.

Using GIS tools, the factors are overlaid to accumulate the scores, giving a final range of scores up to 20. The higher priority score areas should be planted first, with some consideration for locations close to them being included to form an efficient planting program.

Tree Selection Decision Matrix

The Urban Forest Strategy has principles that place importance on selecting trees that benefit biodiversity, are suitable for future climate, that maintain and enhance neighbourhood character, and that are the best tree for the site conditions.



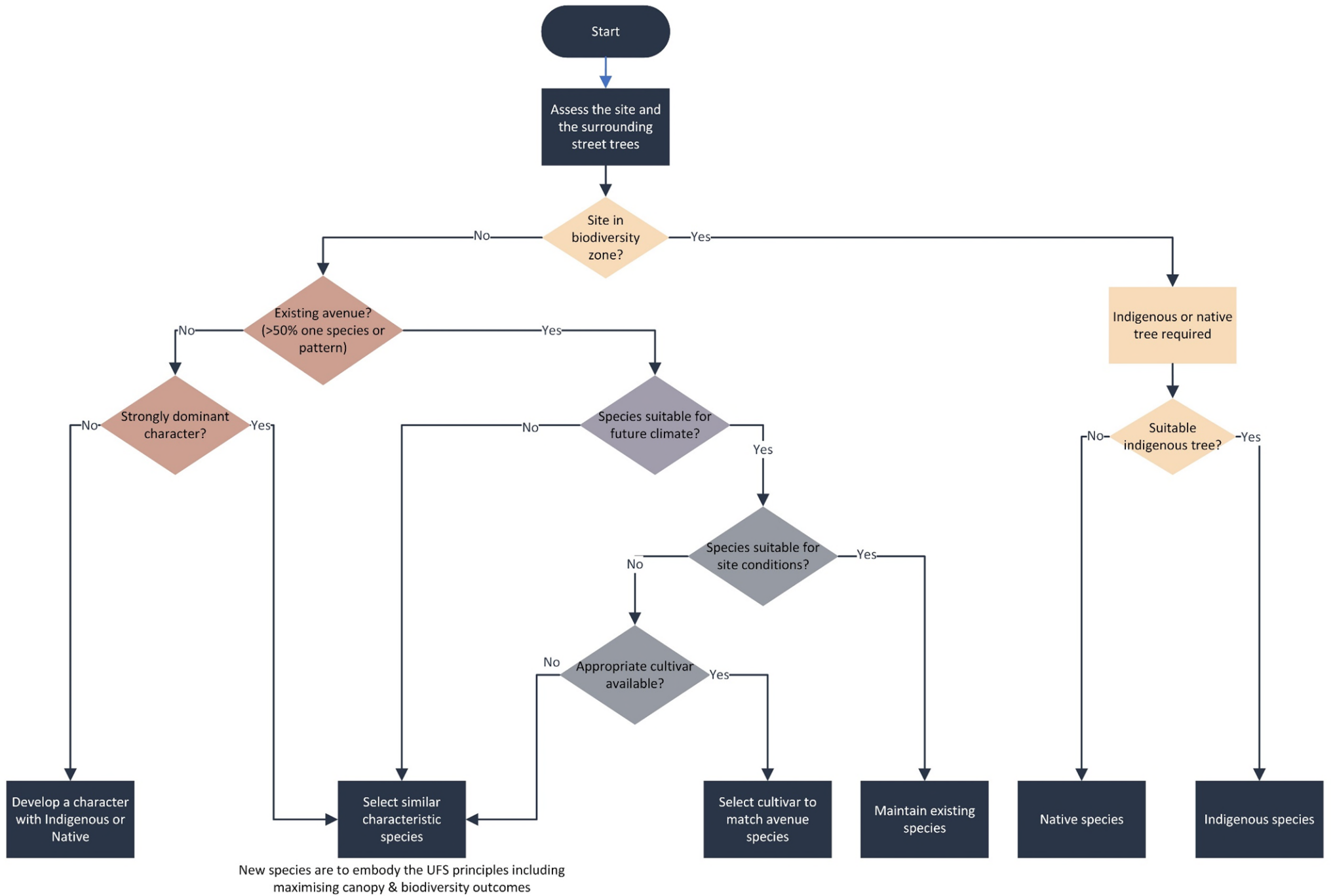
Selecting the species to replace a removed tree or to establish a new planting in a street or park is approached as a hierarchy of decisions.

1. When assessing the site, the Public Realm Strategy provides guidance on the aims for trees and landscaping in different typologies. Masterplans may be in place for areas of open space.
2. In formalised (mapped) biodiversity corridors and locations the trees will be of indigenous provenance, or a compatible native if there is not an appropriate indigenous species for the site conditions.
3. In locations that are not biodiversity corridors the existing planting of the street section (cross-street to cross streets) will be assessed.
 - Avenues are plantings of >50% of one species.
 - Existing character is >75% of either exotic or native. Then look at the appearance of the species, their form and leaf type.
4. Where there is an avenue, the species needs to be considered for future climate. If it isn't appropriate, then a similar appearance species should be planted.
5. If the species is appropriate for the future climate, then the appropriateness for the site should be considered. Considerations include:
 - Is the species the best use of the space, the biggest tree that could be planted?
 - Is the species appropriate when assessing the site through an intersectional gender impact assessment?
 - Are the maintenance inputs appropriate?
 - Are there conflicts with infrastructure, is the species too large?
 - Have site conditions changed since the species was planted, such as taller buildings now shading the street or powerlines being bundled or removed meaning a bigger tree is possible?

If the species isn't suited is there a cultivar available that would be more appropriate?

- Changing to a dwarf form to avoid infrastructure damage.
 - Changing to a low or non-fruiting cultivar to avoid debris.
 - Changing to a clonal cultivar for a reliable form to reduce pruning burden.
6. If there is no avenue species then character of the street should dictate the type of trees to be added. The character is firstly assessed as either native or exotic.
 - Preference is to maintain the species selection of recent years if they are appropriate, i.e. support an emerging avenue.
 - Maintain the native character of streets that have mixed natives, and choose species that are a similar appearance native. E.g. if the street is mixed natives with a large proportion of shrubs like Callistemon, Leptospermum and Melaleuca then similar native shrubs are the preference – not a change to Eucalypts or Brachychiton.
 - Maintain the exotic character of streets by choosing species of similar appearance and properties, e.g. deciduous/evergreen, upright or broad, small or large leaf, colour of foliage or flowers.

The process for guiding decisions is in the following diagram.



The selection of species for a site is not a fixed process. There will always be the discretion of the Urban Forestry Unit to choose the best species for a given location, to support the many outcomes of the Urban Forest Strategy. This includes scenarios such as:

- Changing species to improve the amenity of a street, such as introducing deciduous trees on the south side of a street to reduce winter shading of houses.
- Selecting large growing species to be placed in opportunistic sites like large setbacks at road junctions or pocket parks.
- Establishing new biodiversity plantings in exotic dominated areas that are not currently mapped as biodiversity plantings.
- Placing feature trees in prominent locations like roundabouts and large traffic islands that become way finding points for the future.

Tree Stock

Banyule plants trees at a range of sizes to best suit the project and achieve the aims of the Urban Forest Strategy with limited budget. For street tree planting pot sizes of 30cm-45cm are typically used, or bare root stock at the equivalent size of 45cm container stock. Higher priority sites may involve planting of more advanced stock. Some locations such as biodiversity planting or grouped planting in prepared beds may use smaller container sizes.

All stock planted will be compliant with AS2303:2018 Tree Stock for Landscape Use. Stock being received from growers to be planted in the season it is received will be inspected prior to accepting the delivery and non-compliant stock will not be accepted.

Stock being received for growing-on in the Banyule nursery for a later planting season will be inspected to ensure it is of sufficient quality to develop further. Trees that are grown-on in the Banyule nursery will be inspected for compliance with AS2303:2018 before being dispatched for planting.

Weed Tree Management

The Banyule Weed Management Strategy 2022 notes that widespread removal of weed tree species would be:

- Detrimental to canopy and urban heat island.
- Not feasible due to resources required.
- Not appropriate in all circumstances as some listed weed species pose little risk to conservation areas when they are located far away.

Up to 20 mature weed trees or clusters of juvenile weed trees will be removed each financial year within operational budgets.

The community and council staff can lodge requests for weed tree removal. When they do:

- The tree will be assessed for the priority of the location. <100m proximity to conservation areas will be approved, subject to budget.
- Sites >100m from conservation areas are reviewed at the end of April to ensure budget remains.
- The adjoining properties will be contacted and given the opportunity (14 days) to oppose the removal.
- If the removal is not opposed the tree will be programmed for removal by the end of the financial year by Banyule crew or contractors.
- Replacement tree/s will be programmed in the same planting season, by the end of September.

