CITY OF CAPE TOWN
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Urban Forest Policy

2021

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DEFINITIONS AND ABBREVIATIONS

For the purpose of this policy:

Term	Definition
Adaptation	In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities; in natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.
Aftercare	The tree maintenance regime, which is implemented once the tree has been planted.
Arboriculture	The planting, management and care of trees and shrubs, and the study thereof.
Arborist	A professional with experience and training who has the technical and theoretical knowledge to manage and care for trees and shrubs.
Blanking	The replacement planting of trees in gaps where trees have been lost or died. Infill planting has the same meaning.
Canopy	The upper layer or habitat zone formed by mature tree crowns. Also, the extent of the outer layer of leaves of an individual tree or group of trees.
Champion tree	Extraordinary single trees and groups of trees assigned "champion" status by the national Department of Forestry, Fisheries and the Environment (DFFE). Champion status is assigned according to trees' biological attributes, age or heritage significance and enjoy protected status under section 12 of the National Forests Act 84 of 1998.
City	The City of Cape Town, a municipality established by the City of Cape Town Establishment Notice Provincial Notice 479 of 2000 issued in terms of section 12 of the Municipal Structures Act, 1998, or any structure or employee of the City acting in terms of delegated authority.
city	The greater Cape metropolitan area in which the City of Cape Town municipality has jurisdiction.
Climate change	A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.
Council	The Municipal Council of the City.
Cultural landscape	Landscapes that include both natural and man-made aspects and that have been affected, influenced, or shaped by human involvement. This is expressed in various ways, patterns and elements, the relationship between these, and the meaning they have for people.
Development	In relation to a place, means any process initiated by a person to change the use, physical nature or appearance of that place, and includes— (a) the construction, erection, alteration, demolition or removal of a structure or building; (b) a process to enhance rights (e.g. rezone, subdivide or consolidate land) (c) changes to the existing or natural topography or slopes; (d) the destruction or removal of indigenous or protected vegetation; or (e) submission of a building plan.
Endemic tree	A tree that is native to a certain region and is not found anywhere else. (Compare "indigenous tree".)
Environment	Means the surroundings within which humans exist and that are made up of: (a) the land, water and atmosphere of the earth; (b) micro-organisms, plant and animal life; (c) any part or combination of (a) and (b) and the interrelationships among and between them; and (d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Exotic tree	Trees introduced to South Africa from other countries [1]
Felling	Tree removal.
Green space	Open spaces that are generally semi-natural or which have been planted with vegetation.
Green Infrastructure Programme (GIP	A City programme to protect and enhance Cape Town's existing natural environmental assets, as well as promote and create new green infrastructure assets.
Heat island effect	Occurs when a city or built up area experiences much warmer temperatures than nearby rural or natural areas. The difference in temperature is to do with how the surfaces in each environment absorb and hold heat.
Indigenous tree	A tree originating or occurring naturally in a certain geographical area or country. (Compare "endemic tree".)
Invasive alien species	Collectively refers to a species included in the 2016 list of alien and invasive species in terms of the National Environmental Management Biodiversity: Act 10 of 2004 (NEMBA) as well as any invader plant and weed declared in terms of the Conservation of Agricultural Resources Act: Act 43 of 1983 (CARA), which are difficult to control, and may be harmful to indigenous habitats.
Landscape plan	A plan, or set of plans, with supporting drawings that shows how you will be designing the visual appearance of a site around existing natural features, built structures and infrastructure services.
Lopping	The indiscriminate cutting off of lateral tree branches or limbs.
Maintenance Standards	Minimum maintenance standards document, revised regularly by the Recreation and Parks Department, for all land managed by the Department.
Mature tree	Any tree whether located on public or private land, that has reached a desired size or age for its intended use, completed its natural development or growth and has a well-developed canopy.
Mitigation	In the context of climate change, a human intervention to reduce emissions or enhance the sinks of greenhouse gases.
Planting	The placing of sapling trees or seeds of trees in the ground or container in order for them to grow.
Public Open Space and Public Space	(a) a public road, parking area, square, park, recreation ground, sports ground, sanitary lane, open space, beach, shopping centre on municipal land, unused or vacant municipal land or cemetery which has – (i) been provided, reserved or set apart for use by the public; or (ii) been dedicated to the public.
Protected tree	A tree protected in terms of the National Forests Act 84 of 1998.
Pruning	The removal of tree parts to control or enhance their performance or function in the landscape, including crown lifting, reduction and cleaning.
Resilience	The capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or re-organising in ways that maintain their essential function, identity and structure, where appropriate, while also maintaining the capacity for adaptation, learning, and transformation.
Riparian	Adjacent to, or within the floodplain, of a watercourse or wetland.
Road reserves	The municipal land set aside and zoned for the development of roadways and related engineering services.
Root ball	The main base mass of roots of a plant and the soil surrounding them.
Significant tree	A tree that is considered exceptional in terms of cultural, historical, scientific or aesthetic value.

[1] Exotic trees that are not declared as invasive species, especially mature exotic trees, can offer immense benefits without posing a threat to ecological resources. Such trees should be retained and incorporated into proposed developments in urban areas in order to add to the cultural landscapes and play a distinctive role in place making. When managing such trees, consideration should be given to the Toolkit on Trees: Best practice guidelines developed as part of the City of Cape Town's Green Infrastructure Programme.

Skilled tree worker	A person who, through training and experience, has sound tree knowledge, and is familiar with maintaining and removing trees, and the equipment used for such, and has demonstrated ability in the specialised techniques involved.
Specimen tree	A tree that is particularly beautiful, interesting or unusual, and which is a focus of attention.
Toolkit on Trees	Best practice guidelines developed as part of the City of Cape Town's Green Infrastructure Programme. These guidelines are not intended to be prescriptive. Instead, the principles contained in this document are meant to guide property owners, City officials, designers, developers, architects, planners and community members in managing and improving our green infrastructure collectively and sustainably to create safe, contextually-appropriate environments
Topping	Also "heading", "tipping", "hat-racking", "rounding over". The indiscriminate cutting of tree branches on the main limb and all lateral branches to the same height
Transplanting	The digging out of a tree in one location and replanting it in another.
Tree	A woody perennial plant with an elongated stem, or trunk, supporting branches and leaves in most species, also includes the critical root zone.
Tree health	All factors (biotic and abiotic) that affect the vigour and productivity of a tree.
Tree management	The protection and maintenance of the existing tree asset base in the city, as well as the planning, planting and maintenance of trees.
Tree Work Procedures	A document developed to ensure uniform standards for all aspects of tree management on City-owned land
Urban forest	The sum of all trees growing within an urban area
Way leave	An approved right of way given for working over or under another ground or property.

ABBREVIATIONS

Abbreviation	Term
CARA	Conservation of Agricultural Resources Act 43 of 1998
CDS	City Development Strategy
CCT	City of Cape Town
CSI	Corporate Social Investment
CTSDF	Cape Town Spatial Development Framework
DALRRD	Department of Agriculture, Land Reform and Rural Development
DFFE	Department of Forestry, Fisheries and the Environment
DW&S	Department of Water and Sanitation
ECD	Early Childhood Development
EDRR	early detection and rapid response
EGS	Economic Growth Strategy
ERM	Environmental Resource Management
HPOZ	Heritage Protection Overlay Zone
IDP	Integrated Development Plan
IMEP	Integrated Metropolitan Environmental Plan
IRT	Integrated Rapid Transit

ISA	International Society of Arboriculture
NEMBA	National Environmental Management Biodiversity Act 10 of 2004
NHRA	National Heritage Resources Act 25 of 1999
NMT	Non-motorised Transport
POS	Public Open Space
PSHB	Polyphagous Shot Hole Borer
SAHRA	South African Heritage Resource Agency
SDS	Social Development Strategy

1. INTRODUCTION

Planning for and providing trees and parks is important to create a sense of place and to enhance the social and public environment. During the Covid-19 pandemic, the importance of green spaces on the physical and mental health of humans was rediscovered. Trees transform neighbourhoods into desirable areas to live, work, and play. They can be used to transform underutilised spaces in destination sites, change roadways into scenic drives, demarcate community gateways and become symbols as part of City landscapes. In the built environment, trees add beauty, form and structure to urban design, shield undesirable sights, make buildings more "human" in scale, and serve to buffer noise, sun, and wind. In the absence of built structures, trees are tangible and aesthetic features in the historic and cultural landscape. Trees also support wildlife by providing food and habitat as well as providing other essential ecosystem services.

Trees are important for climate change adaptation and mitigation by improving air quality, regulating microclimate, combatting urban heat island effect, assisting with flood mitigation, contributing to carbon sequestration, and optimizing thermal comfort by shading and cooling, thereby decreasing urban energy consumption.

2. PROBLEM STATEMENT

The City of Cape Town's strategic frameworks and policies emphasise sustainable development, environmental protection and the creation of quality living and work environments. Trees play a critical role in achieving these objectives and therefore these valuable environmental assets need to be retained, provided and managed in a manner that will optimise the outcomes of key City strategies.

However, the retention, provision and management of trees within the urban environment is an on-going challenge because the protection and survival of trees is threatened due to:

- An increasing demand on land for development;
- Densification and the right to 3 dwellings per erf, with subdivision of existing properties, trees (often mature trees) are at risk of removal;
- Competing societal needs and demands resulting in trees being considered a nuisance and messy, rather than a benefit in some instances;
- An increased need for tree-related produce for cultural and medicinal need (e.g. bark stripping of certain species);
- Climate change is disrupting weather patterns, leading to unpredictable water availability affecting tree planting due to water restrictions during drought periods, as well as tree survival due to water stress;
- Increasing occurrence of pests and diseases impact greatly on the loss of trees in the urban forest canopy. Examples include: Polyphagous Shot Hole Borer (PSHB) that attack a wide range of living exotic and indigenous trees and various fungi, often targeting oak trees;
- Unlawful land occupation; and
- Expansion of infrastructure; road widening and construction.

Due to increasing urbanisation demands, tree management must be carefully approached to ensure acceptable tree survival rates, whilst reducing potential risks, which trees can pose to people, property, infrastructure and the environment in the event of poor selection of planting sites, tree placements, inappropriate choices of species or lack of tree pruning and maintenance.

The City of Cape Town's current Tree Management Policy was adopted by Council in 2015. Over time the applicability and relevance of the existing policy has diminished and it has become incumbent to undertake a revision of the existing policy and develop an Urban Forest Policy that is responsive to the changing social, legislative and environmental context of the city and can be adopted across City, public and private land. The existing policy lacks sufficient recognition of trees as a network, which compromises on the holistic approach to tree management and the benefits derived from an abundance of trees forming an urban forest.

The current Tree Management Policy was applied and utilised predominantly within the operational environment of the Recreation and Parks Department. This review (the Urban Forest Policy) aims to develop a transversal policy that applies to the management of all trees growing in the city, including City, state and privately owned land, and can be utilised by all City departments and give guidance to the general public and owners of state land. As a result, this policy also aims to widen its scope by addressing the roles and responsibilities of private landowners, providing guidance in relation to tree management, as well as providing decision-making criteria to ensure informed decision-making, transversally, by all City departments.

Cape Town is one of hundreds of cities across the world affected by water scarcity brought on by climate change, and we face an even drier future. We can no longer rely on potable water to irrigate trees. This is why this policy also promotes efficient watering methods and alternative solutions to watering with potable water, such as groundwater, rainwater, reclaimed effluent or other non-potable water, to ensure trees are watered and maintained to reach maturity.

Currently compliance and enforcement measures for destruction of trees is very limited due to the City's own operations and that of other user groups, landowners etc. To manage a reduction in the current tree canopy cover, proactive compliance, enforcement and best practice measures are needed.

3. DESIRED OUTCOMES

The aim of this policy is to —

a) ensure the retention, enhancement and management of the city's urban forest
b) ensure that the city's trees contribute positively to the quality of the local environment;
c) ensure that trees do not pose a risk to the health and safety of people, or of damage to property;
d) ensure that trees are protected from unnecessary harm; and
e) provide for a uniform approach to the management of trees.

This will be accomplished by providing or referring to standards, guidelines, and recommended practices that result in a safe, healthy urban forest that contributes to a quality environment.

The outcome of the implementation of a uniform and transversal policy for the management of trees within the boundaries of the city will be clustered around the following four key components:

3.1. Promote sustainable new tree planting

3.1.1. Suitable species selection that prioritise the planting of indigenous and drought resistant non-invasive trees in Public Open Spaces, Road Reserves, Parks, Sport fields and within new developments.
3.1.2. Selection of Polyphagous Shot Hole Borer resistant tree species.
3.1.3. Integrated greening and tree planting programmes in new housing developments as well as other suitable areas, as identified through service level agreements between City departments for the planting of new trees.
3.1.4. Engagement with all stakeholders and role-players responsible for planting trees on City land to ensure alignment and integration of tree planting initiatives.
3.1.5. Ensuring that sustainable irrigation with non-potable water is available, where possible, to establish and maintain trees.
3.1.6. Focus on high profile locations such as major through routes, intersections, relevant areas identified for Green Infrastructure Network corridors and areas highlighted as being particularly vulnerable to urban heat stress.
3.1.7. Plant large trees rather than many small trees to reduce maintenance, depending on circumstances. In windy areas sometimes better to plant smaller, bushier trees.
3.1.8. A diversity of species to withstand future pests and diseases.
3.1.9. Greening of townships.

3.2. Ensure the sustainable management of current trees

3.2.1. Establish guiding principles, standards, and practices for Recreation and Parks staff, other departments, agencies and contractors.
3.2.2. Reduce risks related to ad hoc approaches to tree maintenance by various internal and external role-players.
3.2.3. Mitigate tree loss due to insufficient watering programmes and tree damage caused by construction activities, improper pruning practices, and tree diseases and pests.
3.2.4. Regulate the protection, planting, pruning and removal of trees by ensuring an integrated City-wide approach based on sound arboriculture practices.
3.2.5. Implement integrated management frameworks and service level agreements between City departments in order to prevent unnecessary damage to trees during construction or maintenance works or related activities.

3.2.6. Undertake research on international examples of best management practices.

3.3. Reinforce the importance and value of trees (ecological, social, economic, health)

3.3.1. Improve understanding and awareness of the importance of trees and the tree lifecycle within a given habitat or environment, including their contribution to climate change adaptation and mitigation, building resilience and contributing to a more liveable city.

3.3.2. Develop partnerships with suppliers, property development companies, ratepayers' organizations and environmental groups, amongst others, to promote tree planting and management on both public and private land. Emphasise the importance of trees within the urban context, and promote the protection of cultural landscapes, qualifying individual trees, tree lanes and tree avenues of heritage significance and trees in general. Give special attention to site species matching.

3.3.3. Develop specific programmes with ECDs and youth organisations in collaboration with Arts and Culture and Social Development and Early Childhood Development, and other stakeholders.

3.3.4. Highlight the traffic calming effect of trees, as well as the benefits of roadside tree planting on the health and well-being of communities, such as stress relief and shelter from the elements when commuting. Pollution assimilation, the amenity value and recreational benefits of such trees, also needs to be emphasised.

3.4. Encourage adequate tree management on private land

3.4.1. Facilitate and encourage the planting and maintenance of trees by residents and other stakeholders wherever and whenever possible.

3.4.2. Ensure clear guidelines for any development and construction near trees - no disturbance: trenching, building, excavation or compaction too close to trees.

3.4.3. Encourage protection of existing trees, especially mature and significant trees.

3.4.4. Allow qualifying indigent[2] occupants to request assistance from Recreation and Parks, through appointed contractors, where trees pose a risk of damages or injury on private property, to trim, cut down and remove trees on their property.

4. IDP AND STRATEGIC PRIORITY ALIGNMENT

Reviewing the Tree Management Policy is necessary to incorporate the strategic vision for the City of Cape Town as outlined in the Five-Year Integrated Development Plan 2017 -2022 (IDP). The diverse value of trees makes it a contributor to all of the strategic pillars of the IDP but in particular to:

[2] As prescribed by the Credit Control and Debt Collection Policy.

The Opportunity City – trees contribute to creating quality living and work environments which in turn attracts businesses and skills to the region. Trees as part of urban landscapes and streetscapes contribute significantly to the aesthetic beauty of the city and play a role in the socioeconomics of the urban environment, which is important for the tourism industry. Trees can also reduce the heat island effect and provide shade through focused tree planting programs.

The Caring City – the management of trees in the urban environment is pivotal to creating liveable communities and improving the quality of life of people within the urban context. There has also historically been an unfair distribution of trees based on socio-economic lines, which needs to be addressed to create greater equity.

The Inclusive City –addressing the lack of trees in certain areas of the city will reduce the stark contrast between the areas that have and those that do not have the benefit of trees, and contribute towards an environment where people feel included and have a sense of belonging. Trees are an important feature in place making, and can thus be used to enhance social cohesion.

Alignment to Strategic Priorities:

- Forward-looking, globally competitive city
- Resource efficiency and security
- Safe communities
- Excellence in basic service delivery
- Mainstreaming basic service delivery to informal settlements and backyard dwellers
- Building integrated communities
- Operational sustainability

Explanation of how it addresses climate resilience:

Tree planting will form an important part of the City's Climate Change Action Plan. The more man-made the surface is, the hotter it is. Trees, therefore, play an important role in adapting to climate change by reducing the effect of heat on the city through shading and evapotranspiration. This also reduces the heat island effect, which affects densely urbanised, and inner city areas and can cause temperature disparities of around 5°C. Urban trees also have a role, although smaller, to play in climate change mitigation, due to their ability to sequester carbon. However, due to the large scale of Cape Town's carbon emissions, tree planting and other types of carbon sequestration projects will only have a limited impact.

To give effect to the Resilience Strategy of the City a baseline for tree canopy cover is important. This will enable the implementation of a comprehensive city-wide plan to prioritise tree planting. Stresses due to climate change on trees needs to be incorporated in a tree management plan.

5. POLICY PARAMETERS

The focus of this policy is the protection and management of all trees that grow within the city. This includes City-owned land, City-owned land that is leased to individuals, groups or organisations state-owned and private land.

Goals of this policy is to grow the urban forest through new planting, to protect the urban forest from threats and loss by preserving the city's existing trees, to manage and maintain the urban forest to ensure sustainability, to engage with stakeholders and implement awareness campaigns and to monitor and valuate trees.

This policy will take into account the management requirement related to the full life-cycle of a tree, the conditions for tree removals, trees growing within the urban environment and the appropriateness of the selection of species, planting locations and local contexts.

This policy deals with trees, forest and arboriculture elements, but it does not deal with other horticultural elements such as shrubs, groundcovers and other flowering plants.

6. TRANSVERSAL IMPLICATIONS

Due to the large number of trees on City land, the total management responsibility cannot practically reside only with one City department. It is accepted that Recreation and Parks is the lead department responsible for tree management including streetscapes and avenue planting, cluster planting, historic trees and all other occurrences of trees within the city. However, trees occur in various places and therefore the respective land "owner" departments in the City must manage the trees within their areas of responsibility in accordance with this policy.

The Recreation and Parks Department will play an advisory and consultative role to other departments with regards to the management of trees, although it remains the responsibility of each department to ensure that they carefully consider the Toolkit on Trees: Best practice guidelines developed as part of the City of Cape Town's Green Infrastructure Programme.

Recreation and Parks may conclude Service Level Agreements with relevant departments should they need assistance with the management of trees on their properties.

The following internal directorates and departments are affected:

- Electricity Generation and Distribution - Maintenance of trees under overhead electrical cables or street lights;

- Urban Mobility - Planting and maintenance of trees at transport interchanges and along transport routes such as NMT and IRT networks; Service level agreements with respect to trees planted in road reserves;

- Water and Sanitation - Management of trees in rivers and other storm water infrastructure; Regulation of the use of water for the management and maintenance of trees;

- Environmental Management - Planting and maintenance of trees in nature reserves and other nature conservation areas. Inputs into landscape plans submitted by developers and other stakeholders for City approval. Protection and conservation of trees with heritage, cultural and environmental value, including significant or mature trees. Input into the management and control of alien and invasive trees on City land as required by the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004) (NEMBA). Promoting the importance of trees as green infrastructure assets and for climate change adaptation.

- Human Settlements - Opportunity to plant trees and create landscapes in human settlements, inclusive of road reserves;

The following departments play an important role in the enhancement and management of the city's urban forest.

- Metropolitan Police Services - Enforcement of City by-laws and other legislation;

- Law Enforcement - Enforcement of City by-laws and other legislation;

- Solid Waste Management - To protect the environment by providing reasonable measures for reducing, re-using, recycling and recovering of waste as per the National Environment Management Waste Act, 2008 (Act 59 of 2008).

- Urban Planning and Design – ensuring that trees are properly considered during the urban planning and design process, including the retention, planting and maintenance of trees.

- Resilience and Climate Change – in terms of a comprehensive city-wide heat plan make recommendations on green infrastructure and tree coverage to mitigate heat waves.

- Development Management – can assist with ensuring proper management and protection of trees within developments, especially protected, significant or mature trees, during the planning or building plan approval process.

- Property Management – planting and maintenance of trees on land purchased by the City for municipal purposes and residents who need to lease or buy City-owned buildings and land.

- Sustainable Energy Markets – promoting importance of trees for climate change adaptation and mitigation.

To ensure retention of existing trees, all departments to consider trees and undertake to mitigate loss. Where not possible, to seek ways to compensate for loss or damage.

7. EXTERNAL STAKEHOLDERS

There are many external stakeholders and role-players, most of who are interested in the provision, availability and benefits of trees and not necessarily in the management and maintenance thereof. The following lists some of the stakeholders and role-players that the City will engage with regarding tree management:

- National, Provincial and Local Government
- General public
- Developers and private companies
- Environmental groups
- NGOs and community organisations
- Schools and other education institutions
- Nursery traders
- Landscaping industry
- Residents associations
- Homeowners associations
- Academic institutions
- Professional bodies

8. LEGISLATIVE AND POLICY FRAMEWORKS

8.1. LEGISLATION:

- Constitution of the Republic of South Africa, 1996
- Conservation of Agricultural Resources Act 43 of 1983
- National Building Regulations and Building Standards Act 103 of 1977
- National Environmental Management Act, 1998 (Act 107 of 1998)

- National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) and its associated regulations, and 2016 Alien and Invasive Species list
- National Forests Act 84 of 1998 and its associated regulations
- National Heritage Resources Act 25 of 1999
- Water Services Act, 1997 (Act 108 of 1997)
- Local Government: Municipal Finance Management Act, 2003, (Act 56 of 2003)
- Public Parks By-law, 2010
- By-law relating to Streets, Public Places and the Prevention of Noise Nuisances, 2007
- Spatial Planning and Land Use Management Act (Act 16 of 2013) (SPLUMA)
- Municipal Planning Bylaw, 2015
- Water Act, 1998 (Act 36 of 1998)
- Water By-law, 2010

8.2. POLICY FRAMEWORKS AND GUIDELINES:

- Climate Change Strategy 2021
- Cultural Heritage Strategy, 2005
- Design and Management Guidelines for a Safer City (Best practice guidelines for the creation of sustainable, safe and lively neighbourhoods in Cape Town), undated
- Environmental Strategy for the City of Cape Town, 2017
- Green Infrastructure Programme: Trees 2020 (Best Practice Guidelines)
- Greening the City, 1982
- Landscape Plans (booklet 8), Development Management Information Guideline Series, 2018
- Polyphagous Shot-Hole Borer Protocol, version 1: 28 May 2019
- Safe Use of Greywater, undated
- Tree Management Policy, 2014
- Tree Works Procedure, 2015
- Water Strategy, 2020
- Resilience Strategy 2019
- Floodplain and River Corridor Management Policy, 2009
- Boundaries Walls and Fences Policy, 2009
- Urban Design Policy, 2013
- Parks Development Policy, 2015

9. THE VALUE AND BENEFITS OF TREES

Trees are an essential part of our natural landscape and form part of Cape Town's cultural and aesthetic backdrop. Trees have a large part to play in making Cape Town a resilient city that can adapt to climate

change. Whether trees are indigenous or exotic, collectively, they form part of our urban forest, and offer valuable social, ecological and economic benefits.

Trees offer a number of environmental, social and economic benefits. The most notable under these sections are as follows:

Environmental	Social	Economic
Provide shade and cool the cities. Through the process of transpiration and the provision of shade, trees help reduce day and night time temperatures, especially during summer when temperatures are high.	Improving community cohesion. Green open space provides places for events, festivals and celebrations throughout the city. These can bring diverse groups of people together within a public realm that is available for everyone to enjoy	Reducing energy costs. Restoring natural systems is often more cost-effective than technological substitutes or building new infrastructure. Major economic benefits come through shading buildings in summer, reducing the need for air conditioning, in turn cutting energy costs. Increasing tree cover by 10%, or strategically planting about three shade trees per building lot, saves annual heating and cooling costs.
Reduce stormwater flows and nutrient loads. Tree canopies intercept and mitigate the impact of heavy rainfalls. Healthy tree roots help reduce the nitrogen, phosphorus and heavy metal content in stormwater.	Reducing heat related illnesses. The shade provided by trees on hot summer days helps to reduce localised temperatures by up to 2 degrees Celsius.	Decreasing health costs. Research suggests that a healthy green city helps alleviate the burden on national health systems.
Reduce air pollution, airborne particulates and greenhouse gas emissions. Vegetation ameliorates air pollution and reduces greenhouse gases. Through the process of photosynthesis trees remove carbon dioxide, nitrous oxides, sulphur dioxide, carbon monoxide and ozone from the atmosphere	Improving mental wellbeing. Access to, and views of, green spaces and trees have positive effects on people's wellbeing. Many studies have explored relationships between greenery in the landscape and levels of depression and wellbeing	Marketing the city green spaces play a role in defining the culture and image of a city. A better image makes a city more competitive, thus expanding its political and economic influence. Tourism is of increasing importance to many cities, and green space can help to promote tourism, as main attractions or more commonly as attractive 'settings' or various types of events

		and activities that boost the local economy.

10. POLICY DIRECTIVES

The following are the key elements of this policy and must be considered as a single Tree Management System, namely:

1. Grow the urban forest through new planting to maximize benefits of trees and urban greening
2. Protect the urban forest from threats and loss by preserving the city's existing trees
3. Manage and maintain the urban forest to ensure sustainability
4. Stakeholder engagements and awareness campaigns
5. Tree monitoring and valuation

10.1 GROW THE URBAN FOREST THROUGH NEW PLANTING TO MAXIMIZE BENEFITS OF TREES AND URBAN GREENING

The City aims to maximise sustainable planting of trees in order to increase percentage canopy cover and address disparity between leafy areas vs non-leafy areas.

The City of Cape Town has a low tree canopy percentage cover; this was determined at only 6% during a 2020 survey using infrared imagery. The world norm to qualify as an "urban forest" is 10%. It is therefore imperative to expand the number of trees; and thereby the canopy over.

Planting new trees that are appropriate will contribute to increasing biodiversity, greening and adding aesthetic value throughout Cape Town, softening and lending a 'human scale' to buildings, creating tree avenues that encourage non-motorised transport, serve as a traffic-calming measure and provide shade and reduce heat.

10.1.1. NEW TREE PLANTING

The City shall plan for the planting of new trees and encourage the planting of new trees by private landowners.

10.1.1.1. When choosing tree species consideration should be given to the following:

a) available planting space and the size of the mature tree;
b) the planting distance between trees to be based on species selected, services encountered, taking all local factors and context into consideration;
c) diversification of species planted to increase biodiversity value that will serve as an effective buffer against the impacts of climate change, droughts, pests and other shocks;

d) planting of appropriate local indigenous, water-wise or resilient tree species dependant on local conditions such as wind tolerance, sun and water table, as well as cultural landscapes; and
e) planting of new trees need not exclude the use of appropriate exotic species provided that they are non-invasive and are suited to local conditions.

10.1.1.2. The Recreation and Parks Department will promote the planting of new trees by any other department and residents of Cape Town.

10.1.1.3. Areas prioritised for planting by the City, will be based on urban planning proposals, new areas for human settlement, road upgrade projects, existing residential and business areas where the tree canopy is very limited or non-existent, programs to reduce the heat-island effect, green infrastructure network corridors and climate change adaptation imperatives.

10.1.1.4. New tree planting can also take place when developers, residents or other parties request to plant trees on City land. These requests will be processed via the Recreation and Parks Department using Tree Planting Request forms or way-leaves for the planting of new trees.

10.1.1.5. Tree planting is generally undertaken during the rainy season from May to August of each year. Planting during warmer summer months is not encouraged, unless a sustainable water source is available.

10.1.1.6. Trees shall not be planted in these circumstances (see detail in Tree Work Procedures):

a) where ground space is insufficient to provide for tree planting;
b) where sustainable water sources are not available;
c) where it may interfere with any underground or overhead services;
d) close to a driveway or road intersection where it is likely to impair sightlines of motorists, cyclists or pedestrians;
e) where it will may obstruct sightlines to traffic signs, signals or direction signs;
f) where pedestrian paths may be obstructed in such a way to cause people to walk in the street, or which makes passage by wheelchairs or pushcarts difficult.

10.1.1.7. Existing streetlights and lighting shall be taken into consideration whilst planting is undertaken. Private planting is not permitted on City-owned or leased land without prior consultation with the Director: Recreation and Parks or his/her delegated authority.

10.1.2. REPLACEMENT (OR BLANKING) PLANTING

Blanking is the filling in or replacement of trees where previous trees have died. This typically takes place in rows, avenues and groups of tree.

10.1.2.1. Where trees have died or are damaged due to drought, vandalism, lightning or the impact of human activity the individual tree may be removed and replaced with an appropriate tree, to ensure continuity of the planned tree planting programme remains in place.

10.1.2.2. Replacement planting can also take place where existing streetscapes or avenues of trees are ageing and new trees are inter-planted to ensure that as a tree comes to the end of its natural lifecycle the aesthetic view of the streetscape or avenue is not negatively impacted on.

10.1.2.3. Existing trees identified to be unsuitable may, after being authorised by the Director: Recreation and Parks or his/her delegated authority, be removed and replanted with a suitable species. Removal of trees, will only, after all reasonable measures have been considered, such as pruning, be authorised.

10.1.2.4. Replacement planting will take place when problematic trees have to be removed due to the damage caused to public and/or private property, in line with the policy.

10.1.2.5. Replacement planting can also be a requirement where trees are lost due to construction works on private land. If replacement trees cannot be planted elsewhere on the private land where construction works occur, consideration is to be given for the construction company or landowner to plant trees on City land.

10.1.3. APPLICATIONS MADE BY PUBLIC FOR TREE PLANTING

10.1.3.1. Applications by the public for individual tree planting on sidewalks must be in writing and addressed to the local relevant Area Head: Horticultural. Residents may indicate their preference for tree species to be planted but local circumstances will determine the final choice.

10.1.3.2. In the event of the applicant not being able to read or write, provision must be made for such applications to be presented verbally at the local or district office or depot.

10.1.3.3. Residents requesting individual tree planting must undertake to water the tree for a specified period until it becomes established, and the use of non-potable water is encouraged.

10.1.3.4. Unless verbal applications are presented at the local or district office or depot, then signed applications will be a requirement. Such applications to be made on a prescribed form from individual property owners to ensure adequate aftercare of trees. The prescribed form must include instructions about after care and a maintenance agreement. The contents of this form must be communicated verbally in the event of the applicant not being able to read.

10.1.3.5. The property owner must be informed that such trees, once planted on municipal land, becomes the property of the City.

10.1.3.6. In the event of trees being planted on public land without authority, the Recreation and Parks Department will only have the tree removed if absolutely required and if, in its opinion, the tree will cause danger to persons or property in the future and all reasonable measures have been taken to avoid unmanageable risk, or violates the conditions mentioned under the chapter “Tree Pruning and Removal”.

10.1.3.7. Trees that are planted on City land that cause damage to private property must be reported to Recreation and Parks Department. Any claims that may arise should be lodged with the City Insurance Section for investigation.

10.1.4. WATERING

Trees should preferably be planted in the higher rainfall months of the year (May to August). Due to the hot, windy and dry summer season in the city, irrigation is crucial for successful tree establishment. To ensure establishment of trees, a watering program is needed for at least 3 years after planting. Effective watering methods may include the use of groundwater, rainwater, reclaimed effluent or other non-potable water. Refer to the Tree Work Procedures and the GIP: Best Practice Guidelines: Trees.

10.1.5. TREES DONATED BY THE CITY

10.1.5.1. Trees may be donated to institutions and community facilities such as schools and community greening projects where trees are required as part of a project, according to the City's policy regarding donations and in accordance with the Local Government: Municipal Finance Management Act, 2003 (Act 56 of 2003).

10.1.5.2. Trees may be donated as part of a City initiative, project or campaign such as Arbor Month. For donations to be considered maintenance agreements need to be in place.

10.1.5.3. On pavements not wide enough to accommodate trees (less than 1.2 meters wide); or where the pavement is not suitable for planting due to impenetrable surface, traffic sightlines or municipal services, a tree / trees may be donated for the adjacent private property at the discretion of the Director: Recreation and Parks or his/her delegated authority.

10.1.6. MEMORIALISATION AND COMMEMORATIVE TREE PLANTING

The Recreation and Parks Department has developed a standard operating procedure (SOP) for memorialisation and commemorative tree planting in line with the City of Cape Town's Memorialisation Policy.

A prescribed application form for memorial tree planting in a cemetery or park is available from the local Recreation and Parks Office or online.

10.2 PRESERVE THE CITY'S EXISTING TREES

Trees enhance the natural and built environment and the cultural landscape. Moreover, trees are becoming increasingly important in the fight against climate change. Therefore, all trees must be protected and maintained to increase their vigour and lifespan.

It is important to recognise trees for their special contribution to the city's landscape and in preserving this asset, strive towards net zero canopy cover loss. Owners of land, with trees on, especially protected, significant or mature trees, are encouraged to carefully consider the City's Green Infrastructure Programme (GIP) Best Practice Guidelines for the management of the trees. The guidelines provide a better understanding of the important role played by trees, and offers reasonable and practical guidelines to ensure the longevity of the urban tree population and good tree health. Promoting the benefits of preserving, maintaining and planting trees by providing standards, guidelines and recommended practices ensures an urban forest that contributes to the quality of life for all.

Some special categories of trees exist that deserve a higher level of protection.

10.2.1. SPECIAL CATEGORIES OF TREES

10.2.1.1. Champion trees:

These are trees of exceptional importance that deserves national protection because of their remarkable size, age, aesthetic, cultural, historic or tourism value. In line with the DFFE Champion Trees Project, the Recreation and Parks Department will establish and maintain a database of Champion Trees within the City of Cape Town municipal boundaries.

a) Any person or organisation can nominate trees for Champion status and submit the said nomination the City's Recreation and Parks Department to consider or to the to the DFFE for consideration. Nominated trees may be indigenous or exotic. Selected trees that comply with the national criteria will be gazetted as Champion Trees and will then have to be managed and maintained as such.
b) Champion trees will have special protected status in terms of the National Forests Act of 1998. No such trees may be cut, disturbed or damaged without a license. A strict approach will be taken to protection, and licenses will be issued only under exceptional circumstances, such as a tree posing a danger to life or property. Licences for the removal or pruning of champion trees are only obtainable from the DFFE and not from the City.
c) Additional protective measures may be necessary for some trees, such as the erection of fencing enclosures.

10.2.1.2. Significant Trees:

10.2.1.2.1. The City identified the need to elevate the status of certain individual or groups of trees, occurring on City land, that have significant qualities in order to ensure a higher level of maintenance and protection. This will allow for trees nominated for Champion tree status to still receive an additional layer of protection, by the City, if Champion status is not given at a national level.

The criteria used to identify Significant trees are:

a) Outstanding aesthetic quality;
b) exceptional height;
c) stem circumference or canopy spread;
d) commemoration or association with particular historical or cultural events;
e) association with a well-known public figure or ethnic group;
f) tree/s of great age;
g) outstanding example of a specific species, rare or unusual species; or
h) likely to be a remnant or regrowth of a historical avenue.

10.2.1.2.2. Nominations for Significant trees status will be invited by the Recreation and Parks Department and considered on an annual basis. A register of Significant trees will be kept and revised annually. Significant trees will deserve special attention in terms of management and protection. Significant and mature trees should be protected as per the Toolkit on Trees: Best practice guidelines. Removal of Significant trees may only be authorised by the City Arborist, and when no other management options are feasible.

10.2.1.3. Protected Trees:

In terms of the National Forests Act (Act 84 of 1998) forest trees or protected tree species may not be cut, disturbed, damaged, destroyed and their products may not be possessed, collected, removed, transported, exported, donated, purchased or sold, except under license granted by the DFFE.

10.2.1.3.1. The criteria used to select tree species for inclusion in the protected tree list are:

a) Red List Status (rare or threatened species);
b) Keystone Species Value (whether species play a dominant role in an ecosystem's functioning);
c) Sustainability of Use (whether a species is threatened by heavy use of its products such as timber, bark etc.);
d) Cultural or Spiritual Importance (outstanding landscape value or spiritual meaning attached to certain tree species); or
e) Legislation (whether a species is already adequately protected by other legislation).

Protected species commonly occurring in the City:

- *Podocarpus elongatus* (Breede River Yellowwood)
- *Podocarpus henkelii* (Henkel's Yellowwood)
- *Afrocarpus falcatus* (Outeniqua Yellowwood)
- *Podocarpus latifolius* (Real Yellowwood)
- *Sideroxylon inerme subsp inerme* (White Milkwood)
- *Leucadendron argenteum* (Silvertree)
- *Ocotea bullata* (Stinkwood)

10.2.1.1.2. Trees declared as a protected species in terms of the National Forests Act (Act 84 of 1998), may not be pruned or removed without the permission from the DFFE.

10.2.1.4. Trees in Heritage Protection Overlay Zone and Heritage areas:

In terms of section 162(1)(b)(v) and 1(e) of the City of Cape Town Development Management Scheme (schedule 3 to the City's Municipal Planning By-law, 2015), no one may destroy or remove a tree, boundary hedge or mature plantings in a heritage protection overlay zone (HPOZ) without prior City approval.

In terms of section 38(1) of the National Heritage Resources Act (NHRA), any person who intends to undertake a development, which by definition in the NHRA includes "any removal or destruction of trees", must submit a Notification of Intent to Develop (NID) to, and receive approval from, Heritage Western Cape.

Any area designated as a heritage area in terms of the NHRA (which includes the Bakoven, Clifton and Glen Beach Bungalow Area), requires special consent from the responsible authority (refer City of Cape Town Environment and Heritage Management) for any proposed alteration or development that affects such heritage area. This includes the removal or destruction of trees.

10.2.1.5. Trees impacted on by Development:

Trees may also be protected through title deeds, planning approval conditions or town planning schemes. The City's requirements for building plan submission, in terms of section A6(g)(ii) of the National Building Regulations and Buildings Standards Act, require that trees on City land that could be affected by proposed vehicular access routes be shown. The applicant would also have to show if any protected trees or City trees on the property and the neighbouring property, whose root zone extends onto such property, would be affected by development proposals. An omission of relevant information in this regard could constitute fraud/misrepresentation on the part of the applicant, as it could cause the City to approve a plan that does not comply with all other legislation.

10.2.3. IMPACT STREETSCAPES AND TREE AVENUES

Recreation and Parks Department will continue to strive for the development and protection of special streetscapes and tree avenues, which have historic significance, positive visual impact and economic benefits such as impact on tourism, amenity value and recreational benefits.

Existing tree avenues are to be categorised and management plans developed.

Replacement planting and blanking to be done proactively to maintain the impact of the streetscape or avenue.

10.2.4. THREATS TO DAMAGE AND LOSS OF TREES

It is prohibited to mark, paint or attach any advertisements to a tree in a public park or public road. In addition, no one may break or damage a tree.

Where trees occur on Public Open Space, developers and utility companies/contractors are required to obtain permission from the Recreation and Parks Department prior to commencing construction work, in order to prevent unnecessary damage to trees. Consideration should be given to the GIP Toolkit: Best practice guidelines for trees prior to commencing construction work.

This includes, amongst other measures:

10.2.4.1. ensuring protective hoarding (fencing) for trees to be retained,
10.2.4.2. to ensure trees are watered before construction begins and after completion,
10.2.4.3. preventing root exposure to sun and air,
10.2.4.4. not storing heavy equipment under trees and placing unnecessary stress on tree roots,
10.2.4.5. not rinsing harmful chemicals near tree roots and not trenching near roots.

10.3 MANAGE AND MAINTAIN THE URBAN FOREST TO ENSURE SUSTAINABILITY

In order to ensure that trees remain a part of the City's asset base, and continue to provide social, economic and environmental benefits, efficient tree management and maintenance is critical. As buildings, public spaces and other assets and infrastructure require maintenance, so does the urban forest.

The driving principles of management and maintenance are sustainability and preservations. Through these practices, the City aims to achieve zero net loss of tree canopy cover, and with planting ensure substantial increase in the urban forest cover.

These outcomes will be undertaken according to accepted best practice in urban forest management and maintenance. This includes skill and competency development of staff and service providers.

10.3.1. TREE MANAGEMENT

Key aspects of tree management and maintenance, including pruning and removal, are discussed below.

10.3.1.1. Tree Pruning and Removal:

10.3.1.1.1. Circumstances for Pruning and Removal

The premise that underpins the management of trees in the city is that all trees are valuable and therefore any request or decisions for removal of trees needs to be carefully considered on a case-by-case basis by the Recreation and Parks Department. Trees will only be removed if absolutely necessary.

Removal of a tree on a Public Open Space or road reserves will only be considered if it presents an unmanageable threat to human life or property, or if the tree has died.

I. The City may undertake planned **tree removals** for purposes of legislative compliance or public safety and where it is in the interest of the environment.

This includes:

a) Trees classified as "declared weeds" (Category 1) in terms of the Conservation of Agriculture Resources (Act 43 of 1983) and the National Environmental Management: Biodiversity (Act 10 of 2004;
b) Trees that are diseased beyond effective arboriculture remedial work;
c) Trees causing a traffic, electrical or health hazard;
d) Trees that interfere with essential services where no other suitable alternatives can be found;
e) Road widening projects where no alternate routes are available;
f) Trees planted by residents that are considered as being unsuitable for the area or which interfere with other services. Affected parties shall be notified in writing prior to removals;

Where trees need to be removed for reasons mentioned above, suitable replacements shall be considered by the Recreation and Parks Department where applicable.

II. **Pruning or removal** may be considered where:

a) Trees cause damage to structures;
b) Trees obstruct pedestrian or vehicular movement or impedes traffic sight lines;
c) Trees obstructing solar powered electricity and heating devices;
d) Trees known to cause long term repetitive problems for various reasons: such as aggressive roots, producing any product that my lead to irritations and allergies, based on specialist medical opinion;
e) Trees affecting security: such as sightlines of security cameras, wireless signals; electrical fences, razor wire.

Pruning or removal of trees on private property or state-owned land where these trees interfere with overhead or underground services is not the responsibility of the Recreation and Parks Department except for trees causing unmanageable risk to people, property or infrastructure, but the Recreation and Parks Department will give guidance where required. If such trees are on private land and the occupants are qualifying[3] indigent occupants, the City will cover costs of such pruning or removal. Where a private landowner (that is not a qualifying indigent occupant) refuses to prune or remove a tree that is causing unmanageable risk to people, property or infrastructure as instructed by the City, the City may choose to undertake such pruning and removal itself, and recover the costs from the landowner.

III. The City shall consider the following factors before pruning:
a) Safety (public, staff, contractors and property);
b) Legal factors- upon written request for the removal of any offending branches or roots encroaching upon the complainant's property;
c) South Africa Road Safety Manual guidelines.
d) Generally, trees are only to be pruned for sound arboricultural reasons.

[3] Only those owners/occupants that are registered as indigent as prescribed by the Credit Control and Debt Collection Policy.

IV. It is vital that residents or applicants should exhaust all other practical options before making an application for tree pruning or removal. There are a number of instances or reasons for which the City may refuse to prune or remove trees, such as:

a) interference with radio, TV and internet reception;
b) shedding of leaves, fruits, seeds or any other plant material;
c) allergic reactions without specialist medical opinion;
d) causing excessive shade;
e) view obstruction including pedestrian movement, an exception would be if pruning is required to improve visibility of traffic sightlines;
f) obscuring private advertising boards and signs;
g) causing a nuisance in respect of swimming pools;
h) hampering the growth of other plants; or
i) attracting insects, birds or bats and other creatures because of its flowers and/or fruit.

V. The pruning technique described as "topping, lopping or lobbing" shall only be applied in the following circumstances:
a) Where other conventional pruning techniques do not adequately correct the problem situation;
b) Above very busy roads and transport corridors;
c) Where previously topped and new coppice growth is dangerous; and
d) Any other circumstances considered necessary by the Director Recreation and Parks in consultation with the City Arborist.

VI. All topping instances to be approved by the Director: Recreation and Parks or his/her delegated authority in consultation with the City Arborist.

10.3.1.2. Removal of Trees On Public Open Space and Road Reserves

Trees form part of the green infrastructure asset base of the city and removal should only be considered if the tree poses an unmanageable risk.

When trees are removed it is found that the stump is often left behind and whilst this is often fine, there are instances where this could be a public safety hazard. Should the entire stump be removed; this must be disposed of at a licenced City disposal site. It is incumbent upon the City to remove a tree, which constitutes a hazard to the public or an obstruction, to a level where such hazard or obstruction is eliminated.

If the stump needs to be removed, the relevant City landowner departments must accept and execute this responsibility for removals accordingly. Where it is not on a public open space, the Recreation and Parks Department can facilitate the removals of such tree hazards on behalf of other City departments.

Trees on City land, will be considered for removal on request of adjacent property owners for vehicle access, subject to pre-approval by the Recreation and Parks Department before building plans are submitted. Approval shall not be granted if removal of the tree is not absolutely necessary, for example, if pruning is more appropriate, or if the removal will be a significant loss given the tree's maturity or contribution to local context. The cost of removal will be the applicant's responsibility.

The Manager Environment and Heritage Management, or his/her delegated authority, needs to be consulted, prior to the pruning and removal of trees that form part of:

a) an avenue;
b) an area of heritage or cultural value, specifically zoned or protected for heritage or cultural value (such as the HPOZs);
c) an area where many mature trees are located that add to the heritage or cultural context of the location.

All efforts should be made to retain the trees.

10.3.1.3. Dealing with Disputes

The decision to remove a tree lies with the Director: Recreation and Parks or his/her delegated authority. Prior permission should be given in writing (refer to Annexure H of the Tree Work Procedures) before ANY tree may be removed.

In cases where a resident or applicant is dissatisfied with an Area Head's decision regarding a tree; the dispute may be elevated to the City Arborist.

Should the dispute not be resolved it will be referred to the City Ombudsman for final decision.

10.3.1.4. Emergency Removal of Trees

10.3.1.4.1. In the event of a tree falling on City land, the Recreation and Parks Department operations or emergency teams will ensure the removal of such a tree/s.

10.3.1.4.2. The Recreation and Parks Department will respond in the event of fallen trees on public land posing a threat or endangering persons or property. Such tree/s will be removed, if necessary, by the Recreation and Parks Department.

10.3.1.4.3. In an emergency where a tree (or part of a tree) on private property has fallen or is imminent to fall or cause damage, the Recreation and Parks Department, with authorisation from the Director: Recreation and Parks or his/her delegated authority, may remove the tree (or part) in order to ensure the safety of persons and property.

10.3.1.4.4. This action may be taken in conjunction with the City of Cape Town's Disaster Risk Management Section in the Emergency Services Department.

10.3.1.4.5. Where other Service Departments need to remove trees (guideline: taller than 4 meters) to prevent damage, or repair damage, the Director: Recreation and Parks or his/her delegated authority, must be consulted. After hours: through the City's Call Centre, the Recreation & Parks duty officer needs to be consulted and his/her permission obtained.

10.3.1.4.6. Qualifying owners/occupants registered as indigent as prescribed by the Credit Control and Debt Collection Policy can apply to the Recreation and Parks Department to trim, cut down and remove trees that pose a risk of damages or injury on private property, at the cost of the Department. Qualifying owners/occupants must, in writing, indemnify the City against any damages prior to commencement of work and resulting from work being carried out.

10.3.1.4.7. Emergency work on private land will be limited to "making safe" the immediate unsafe situation.

10.3.1.4.8. Final cutting, tidying up and removal of debris will be the responsibility of the landowner. The City will not be responsible for any damages / losses caused during the operation.

10.3.2. TREE MAINTENANCE

10.3.2.1. Maintenance Standards

Trees on POS that the Recreation and Parks Department manages, are maintained according to the Departmental Minimum Maintenance Standards that is revised regularly.

Focus is on the first three years of the tree's life cycle, to ensure the successful establishment and survival of the newly planted trees.

The Tree Work Procedures document provides for uniform standards for all aspects of tree management only on City-owned land. The Toolkit on Trees best practice guideline, developed as part of the City of Cape Town's Green Infrastructure Programme provides good tree maintenance guidelines for property owners, City officials, councillors, designers, developers and community members in managing and improving our green infrastructure collectively and sustainably to create safe, contextually-appropriate environments.

10.3.2.2. Control of Pests and Diseases

Cape Town trees are affected by a number of pests and diseases. Pests and diseases need to be treated in an effective, but safe and environmentally friendly and cost effective manner. Where applicable other City departments, external stakeholders, academic institutions, government departments may be involved.

It is recommended that trees be kept in healthy and vigorous condition as this increases resistance to pests.

Pest name	Target species	Action taken

Fungal diseases	Oak species, plane trees	Full canopy cover spray is possible but seldom applied due to environmental impact and cost.
Insects: Aphids (and related sooty mildew) is a particular nuisance during late months of summer and autumn.	Wide range of shrubs and trees. Common on elms and some oaks.	Systemic insecticide is recommended.
PSHB: Polyphagous shot hole borer is an invasive beetle. They carry the *Fusarium euwallacea* fungus from one tree to the next, which grows in the tunnels to serve as a 'vegetable food garden' for larvae and adult beetles. This fungus disrupts the flow of water and nutrients in the tree, causing branch dieback and, ultimately, tree death.	PSHB attacks a wide range of species	The City's Invasive Species Unit leads action. Infested trees are cut down, chipped and incinerated. There is currently no registered treatment for control of the pest.
Bats: Egyptian fruit eating bats create particular problems in some areas; mostly in leafy areas close to the mountain. The bats consume the ripe berries of the trees and then defecate against painted walls and cars causing nasty stains.	Yellowwood, cape ash, figs, palm and other fruit trees.	Various control methods exist: picking of berries, chemical treatment, illumination of trees, thinning of trees. Current manual picking of berries and thinning of the trees seems to be most efficient. The planting of male (non-fruiting) trees is encouraged.

10.3.2.3. OWNERSHIP OF TREES

10.3.2.3.1. All trees growing on City owned land are considered City property.

10.3.2.3.2. In cases where the tree is shared, ownership is determined by considering the position of the base of the tree at ground level where anything greater than 50% determines ownership.

10.3.2.3.3. Where a private owner refuses to remedy tree related problems, the City may carry out work to safeguard City infrastructure at the cost of the owner, unless he/she is registered as indigent as prescribed by the Credit Control and Debt Collection Policy.

10.3.2.3.4. Should the owner fail to execute this work, the City may trim any branches overhanging a road or footway for safety or other reasons. Tree roots may also be trimmed for safety or other reasons.

10.3.2.3.5. Similarly, any private resident may trim any part of a City owned tree overhanging his/her boundary line (cadastral boundary. This includes the root structure of a tree. It is advisable to consult with the Recreation and Parks Area Head: Horticulture. In the case of Special trees then the Recreation and Parks Department must be consulted. Refer to Categories of Special trees.

10.4 STAKEHOLDER ENGAGEMENTS AND AWARENESS CAMPAIGNS

Urban Forestry is as much about the citizens of the city as it is about the trees in the city. Through an effective public awareness and education campaign the value placed on trees and the urban forest, as an integral part of the city's sustainable infrastructure will be increased.

10.4.1. AWARENESS AND PROMOTION

The City may:

a) Develop an education and awareness programme to create greater awareness with regards to the environmental, social, economic and heritage importance of trees as green infrastructure within the urban context. Such an education and awareness programme will also highlighting the role the urban forest plays in climate change adaptation and the recreational and resilience benefits and amenity value of trees. This programme will be funded and implemented by the Recreation and Parks Department together with other relevant departments, in accordance with the City's priorities.
b) Enter into City-to-City or other multi-stakeholder partnerships in relation to trees and particularly their green infrastructure, climate change, recreational and resilience benefits as well as amenity values.
c) Create experiential opportunities by engaging with groups to establish partnerships to transfer special skills and knowledge. Encourage participation in the planting, establishment and maintenance of trees through Community Gardens, Friends Groups.
d) Campaign for private landowners and owners of state land to participate in tree planting and tree maintenance and protection of existing trees to reduce the heat-island effect within identified high-risk areas. Participate in national and international awareness campaigns relating to trees such as Arbor Month and Arbor City Awards.
e) Increase knowledge and engagement among residents, community groups, private sector, public agencies.

10.4.2. TREE REFERENCE GROUP

The policy makes provision for the establishment of a tree reference group comprising of various internal and external role-players, tasked with considering matters relating to trees and the urban forest.

10.5 TREE MONITORING AND VALUATION

Each tree and the entire urban forest is an asset to the City. In order for the City to understand the economic, heritage, environmental and social value of its tree asset base, existing trees need to be inventorised or mapped and a valuation method established.

A tree inventory (or tree census) is an important instrument in managing the urban forest. Trees in cities promote urban sustainability, resilience and is an impactful way to mitigate and adapt to climate change.

There are several possible indicators that may indicate progress with the City's urban forest process:

a) Increased canopy cover: An increase of canopy cover will be a positive indicator.
b) Increased number of trees: The current number of trees should be known.
c) Increased tree planting and survival numbers.
d) Public opinion / surveys: Public satisfaction.
e) Cooler City: Average temperature trends may be measured. Trees may play a role reducing local temperatures
f) Attractive City: Citizen surveys.
g) Reduced tree related incidents and claims. Claim related data is available from the City's insurance department. This may be analysed to determine trends. A drop in tree related claims might be an indicator of improved tree management and maintenance.

10.5.1. TREE MAPPING

A Tree Canopy Mapping project was undertaken by the City in 2019. Infrared imagery was used to determine the percentage canopy cover. The outcome was a canopy cover of 5.7%, noting that the aerial imagery used was during a time that the Western Cape faced its worst drought.

The Tree Canopy Mapping project allowed for retrieving additional information, which includes:

a) Area of vegetation (road reserves, parks, private land);
b) Leafy versus non-leafy areas suburbs for planning purpose; and
c) Percentage of tree canopy baseline to compare to future surveys and monitor canopy cover changes

10.5.2. TREE VALUATION

This is to determine the monetary value of a tree in order to recover costs for trees removed.

It is recommended that the Helliwell Method be used (until a better valuation system is found). Helliwell is an easy to use British method that gives immediate outcome.)

As an alternative: the full replacement cost of the tree may be used which, includes full cost of tree as supplied, delivered, planted and maintained until established.

A section may be included in the Tree Work Procedures to guide officials to determine the value of a tree.

10.5.3. RECORD KEEPING

10.5.3.1. Operational records must be kept in order to:

a) Report to Management.
b) To encourage good Arboriculture practices e.g. regular watering, pruning, staking, feeding and use of pesticides.
c) To be able to deal with enquiries from public in an efficient and professional manner.
d) Support for litigation where required.

10.5.3.2. The following minimum records should be kept:

a) Tree planting
b) Tree Work Register or SAP records containing similar information
c) Tree Inspection Register
d) High Risk Tree register

11. POLICY REVIEW

11.1. The monitoring and evaluation of the policy objectives will be captured within the Service Delivery Business Implementation Plan of the Recreation and Parks Department.

11.2. The Policy will be reviewed on a 5-year cycle, or if there are legislative changes requiring a review of the Policy.