



ROTORUA DISTRICT COUNCIL PARKS & RECREATION

ROTORUA DISTRICT TREE PLAN



April 2014

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ROTORUA DISTRICT TREE PLAN

RATIONALE

Rotorua District Tree Plan specifies those principles and policies regarding Council's ongoing protection and management of the District's tree resources and an ongoing active planting programme.

The plan:

- Outlines the Council's commitment to managing trees as a valued asset of the District
- Defines the benefits of trees both to the environment and to people
- Recognises the ecological and amenity benefits of remnant and regenerating native vegetation on Council owned lands, as well as exotic plantings
- Makes a commitment to encouraging widespread planting which defines and enhances the District's unique landscape character
- Ensures trees, both new and existing are a high priority in the changing landscapes of the urban areas
- Recognises the increasing importance of the public tree resource with increasing urban intensification
- Provides a mandate for the District Council's involvement in the direct management of and indirect advocacy for trees as an integral component of the urban and rural environments which comprise the District.

COMPOSITION OF THE DISTRICT TREE PLAN

The **District Tree Plan** - is a public plan document, specifying those principles, policies and rules which guide the Council's ongoing protection and management of the District's tree resources.

FORMAT FOR DISTRICT TREE PLAN - PART I

The District Tree Plan comprises six sections:

Section **1.0 PLAN GUIDE** explains the layout and format of the Rotorua District Council District Tree Plan.

Section **2.0 INTRODUCTION** describes the Rotorua District Council rationale in preparing the District Tree Plan.

Section **3.0 TREES - A VALUABLE ASSET** discusses aspects of tree management which the Council considers to be important. It covers:

- 3.1 Council's guardianship role
- 3.2 Trees in the landscape
- 3.3 The benefits derived from trees
- 3.4 The difficulties with trees in the urban environment.

Section **4.0 POLICIES AND PROCEDURES FOR MANAGEMENT OF TREES** sets out all the Council policies in relation to tree management. It covers:

- 4.1 Tree Planting
- 4.2 Maintenance of Trees
- 4.3 Tree Removal
- 4.4 Consultation
- 4.5 Reserve Neighbours
- 4.6 Promotion and Education
- 4.7 Tree Valuation and Assessment
- 4.8 Tree Protection and the District Plan.
- 4.9 Vandalism to Trees

Section **5.0 GLOSSARY** provides easily understood definitions of the technical or specific terms used in this document.

Section **6.0 APPENDIX** contains appendices which support and clarify the plan text (please note that Appendix IF, IH, IJ are condensed forms of the method).

PLAN GUIDE

Each paragraph throughout sections **2.0 INTRODUCTION** and **3.0 TREES - A VALUABLE ASSET** is numbered, for ease of reference.

A standard format has been adopted throughout section **4.0 POLICIES AND PLAN** of the District Tree Plan text, using the following framework:

Title of Section

This text indicates the general topic.

Title of Sub-section

This text indicates the specific topic.

Policy subtitle

This text indicates the particular subject the policy covers. The objective envisaged to be achieved is also stipulated under this heading.

Plan

This text clarifies the way in which the Council will achieve its management aims or which policies it will consider in achieving its objective.

Explanation

This text explains the necessity for the policies and plans.

INTRODUCTION

- 2.1 Rotorua District Council's (RDC) District Tree Plan addresses issues relating to the recognition, strategic planning, management and long-term continuity including planting of the tree resource within Rotorua District. The Plan relates directly to tree protection provisions defined within the Rotorua District Plan (includes Lake A zone).
- 2.2 The District Tree Plan has an important role to play in raising the awareness of the community in relation to the benefits of trees, their multiple functions and the ways in which they contribute to improving the condition of our environment.
- 2.3 The District Tree Plan applies to individual trees, groups of trees and areas of existing and regenerating bush on Council administered reserves, civic open spaces, district roads and state highways (< 70k) and other Council owned land that falls within the jurisdiction of the Parks and Recreation Department. In addition the plan supports the regulatory provisions of the District Plan by establishing the Council's policies for the maintenance, management and advocacy of protecting trees.
- 2.4 Management of plantation forests is covered in an additional plan.
- 2.5 The District Tree Plan complements other reserve management plans (i.e. the Rotorua Township Reserves Management Plan, the Rotorua Urban Reserves Management Plan, and the Rotorua Rural Reserves Management Plan).
- 2.6 Any contentious issues of the District Tree Plan will be reviewed after twelve months from the date of adoption, thereafter on a 3 yearly basis.

TREES – A VALUABLE ASSET

3.1 Council's Guardianship Role

3.1.1 Rotorua District Council, as guardian and steward of the district's public tree resource, currently maintains some 7000 street trees and a number of specimen trees in parks, reserves and on other Council-owned land. The Council takes a proactive approach, by regularly planting new trees on public land - primarily to maintain and replenish the numbers of street trees and specimen trees in parks and reserves. Large-scale in-house contracts cover the care and maintenance of trees in the public domain, including arboriculture works related to the clearance of trees in close proximity to power lines and electrical assets and other structural features.

3.1.2 Rotorua District Council will provide advice to private land owners on issues relating to trees.

Rotorua District Council also provides for the protection of trees on public and private land through tree protection rules and provisions within its District Plan.

A tree or trees can be protected by:

- Rotorua District Plan provisions:
 - Objectives, policies, and rules;
 - Identification as a Significant Tree that is listed in the District Plan schedule;
 - Conditions of resource consent;
 - Development incentives;
- Reserve Management Plans;
- Heritage Orders;
- Education.

3.2 Trees in the Landscape

3.2.1 Trees are an essential, distinctive component within the landscape. Their dynamic, organic nature gives them an ephemeral character when considered against the overall long-term life of the city. The living nature of trees - and the need for continuity - makes the processes of replacement planting and ongoing planned renewal a critically important aspect of landscape management.

3.2.2 Whilst protecting trees is paramount to the principle of maintaining the quality of the present day landscape it should be recognised that trees are not everlasting, permanent features. In order to avoid significant degradation of urban and rural tree cover it is necessary to maintain trees across a range of age classes.

3.2.3 Tree planting and management in streets, parks, reserves and Council-owned land throughout the district is vital to counterbalance the changes occurring every day as a result of urban intensification, building development and roading improvements. Without such a cycle of replacement and renewal the incremental loss of trees will create temporary gaps and/or serious long-term reductions in tree cover. Such circumstances inevitably lead to the degradation of landscapes.

3.2.4 Planting and replenishment of trees by private citizens is valuable, resulting in constantly changing and improving private landscapes. The district's existing private property tree resource should not be relied upon to maintain the appearance of Rotorua District Council urban and rural landscapes - only to augment it. A significant benefit in broadscale landscape improvements arises from well planned and co-ordinated

public planting. Public and private plantings together combine to create tangible and enduring environmental and amenity benefits for the District.

- 3.2.5 Trees are a living, growing organism that require regular ongoing maintenance and from time to time replacement to prevent them becoming an unacceptable security, safety or maintenance issue for the public and/or the utility services.
- 3.2.6 Urban trees require specialised ongoing management in order to assist their survival in the highly-modified built environment. Towns and cities are often high stress environments for trees, which have generally evolved in the more conducive natural growing environments of the forest, wetland or open plains. Trees under stress - be it from water deficit, soil compaction, low nutrient levels, air pollution, elevated air temperatures, altered light levels or physical damage - are more susceptible to pests and diseases and will frequently exhibit a shortened life span. The costs associated with maintaining an existing mature urban tree in healthy condition are economically preferable when compared to those of establishing new trees in the same location.

3.3 The Benefits Derived from Trees

- 3.3.1 Trees provide multiple benefits. These are generally summarised as aesthetic, environmental, climatologically, ecological, economic and social. Trees can be used in urban and rural landscapes to achieve substantial positive outcomes for the community and visitors alike.
- 3.3.2 The ability of trees to reinforce the local identity and character of a place and to provide visual unity, softening the often harsh and sometimes visually chaotic built character of urban environments, makes them an important tool for good urban design. In addition the natural and cultural heritage values of significant old trees provide an important depth of meaning and history within the landscape.
- 3.3.3 Trees also assist in modifying and ameliorating some of the less desirable aspects of urban environments - such as air pollution (Kyoto Agreement), noise, degraded water quality, water run-off, convected or reflected heat and wind exposure, and soil erosion.
- 3.3.4 Trees provide substantial benefits in relation to the ecological health and sustainability of an urban built environment. They provide habitat for our important indigenous insects and bird life. The air, water and nutrient exchange processes undertaken by trees are fundamental to human existence and the continuity of the food web which supports all life on earth. Urban trees improve the environment by absorbing, filtering and purifying the basic elements of air and water. Their continuous metabolic processes ameliorate the adverse effects of sun, wind, rain, dust, noise and pollution - softening the harshness of the urban environment, providing shade and reducing the energy needs of the city.

3.4 The Difficulties with Trees in the urban Environment

- 3.4.1 Trees are sometimes incompatible with the structural elements of the city and can be considered to cause 'more trouble than they are worth'. Such opinions can place little weight on the wide ranging values and benefits of urban trees, being more concerned with potential restrictions or constraints on infrastructure construction or property development.
- 3.4.2 It is undeniable that trees in urban locations can create problems of a physical nature, most commonly seen in the limitation of development potential, interference with underground and overhead services, disruption to foundations, difficulty of access, difficulty of essential road maintenance such as kerbs, channel, sweeping & re-sealing, large trees causing root lift on footpaths and kerbing, leaf fall blocking drains and storm water channels, traffic safety issues related to reduced visibility, excessive shading and obstruction of views. Additionally, problems more of a social nature, such as safety at night and disputes

between neighbours are also issues related to the effects of urban trees. In such circumstances it will be necessary to explore ways in which people and plants can co-exist.

- 3.4.3 Occasionally, trees in close association with buildings and services can cause difficulties. However, with good planning, creative development design and the selection of appropriate species these perceived 'problems' are largely avoidable. Many of the adverse effects generated by trees are more than mitigated by the substantial environmental and aesthetic benefits they provide.
- 3.4.4 Wherever street trees exist, or are proposed, the potential conflict with utilities and roading assets is assessed prior to any decision to retain, maintain, remove or replant.
- 3.4.5 Strong community interest in environmental issues and general support for the provision of "green" residential and urban amenity means that, more than ever, Rotorua District Council must strike the appropriate balance between the management and protection of valuable vegetation and the avoidance of any detrimental effects associated with trees.

POLICIES AND PROCEDURES FOR MANAGEMENT OF TREES

4.1 Tree Planting

This section contains policies relating to tree planting principles and specific policies regarding Council tree planting on streets and Council reserves. It applies to all trees planted on recreation reserves, civic open space and other Council land.

4.1.1 Tree Planting Principles

Policy 4.1.1.1 Distinctive Landscape Characters Reinforced

Council tree planting will ensure the existing distinctive landscape characters of the District are re-enforced.

Plan 4.1.1.1 (a)

Existing district-wide planting themes established for the urban areas of the District shall be implemented. The long-term cost impacts associated with ongoing maintenance shall be considered. See Appendix D: Request For Service For District Tree Plan Planting Of Street Trees and Appendix L: Suitable Street Trees For Rotorua Urban and Lakes.

Plan 4.1.1.1(b)

Selected exotic species shall be planted, which respond well to Rotorua's unique climatic and soil conditions e.g. Acer species (maples) for brilliant autumn colours and Rhododendrons for spring flowering.

Plan 4.1.1.1(c)

Local character species shall be used to provide a backdrop and framework for the planting of a range of selected species, while enhancing open space. Appropriate species may be those associated with Rotorua ecological lakes vegetation

Plan 4.1.1.1(d)

Planting numbers adopted by Council need to consider ongoing maintenance requirements which will provide high quality maintenance for every tree planted. Council will undertake to plant as minimum per annum;
100 new street trees
350 new reserve trees

Explanation

Within the District there are distinctive landscape character areas that are reflected by the nature of their vegetation. Appropriate plant selection will build on these unique identities by using the most appropriate plant associations for the site. Plantings need to be about enhancing the environment, not merely achieving planting numbers.

Policy 4.1.1.2 Establishing the Treescape

A long term tree framework of substance and value shall be maintained throughout the District, using both local native and appropriate exotic species.

Plan 4.1.1.2(a)

Parks and Recreation shall plant potentially large trees wherever space permits, except where there are other influencing factors which may prevent such plantings.

Plan 4.1.1.2(b)

Parks and Recreation shall plant trees of longevity and heritage value incorporating, where possible, nursery stock material specially propagated from existing notable and/or character trees such as Mokoia Island, (Pohutukawa) and the Arawa Oak.

Explanation

There is a trend towards smaller residential lots as a result of infill subdivision and cross-leasing. This has resulted in a reduction in numbers of large trees in urban areas of the District, as residential sections are not large enough to contain substantial trees. Therefore, planting of trees which grow to ultimately large proportions will be implemented, wherever space permits, to ensure that the urban areas still contain substantial trees of long term value.

Policy 4.1.1.3 Treescape

The distinctive landscapes of mature trees throughout urban areas (other than in areas specifically acknowledged as tree-less open space landscapes) shall be maintained and where opportunity arises, enhanced.

Plan 4.1.1.3(a)

Plantings shall be established on reserves that are difficult to manage through mowing.

Plan 4.1.1.3(b)

Parks and Recreation shall develop urban tree planting, using tree species chosen for their suitability, measured against factors such as:

- ***Longevity***
- ***Heritage value (natural and built)***
- ***Local character (natural and built)***
- ***Low maintenance***
- ***Fast establishing species***

Explanation

Currently, the Council has numerous and diverse types of reserves such as drainage reserves which are difficult to maintain by conventional mowing making them difficult to manage. Those suited to planting will be scheduled for conversion to urban tree collections. A strategy will be developed that identifies priorities, funding and ensures local consultation. Opportunities exist to develop these sites by integrating a high value tree framework with open space to create the potential for passive recreational values in the future. Those particular open space areas deemed to be characterised as primarily tree-less landscapes will not be considered for tree planting.

Policy 4.1.1.4 Minimising Tree Maintenance

Species to be planted will be chosen for their low maintenance characteristics.

Plan 4.1.1.4(a)

Parks and Recreation shall give preference to planting species that:

- ***Are pest and disease resistant;***
- ***Provide maximum environmental/ecological benefits;***
- ***Have a proven track record for establishment and sustainability;***
- ***Require less maintenance once established.***

Plan 4.1.1.4(b)

Trees listed in the RDC weed species list (Appendix K) shall be prohibited from being planted

Plan 4.1.1.4(c)

Parks and Recreation shall ensure that:

- ***Quality plant stock is used;***
- ***Standardised specifications and good horticultural techniques and practises are carried out during planting;***
- ***The correct species chosen in relation to the limitations of the site;***
- ***Extra protection shall be given during establishment of trees on adverse sites such as Reporoa, Rerewhakaaitu and where stock maybe a problem.***

Explanation

Choosing the most appropriate species for the conditions and particular aspects of the site can reduce long term maintenance problems. Inappropriate species (as listed in Councils weed list) Appendix IH, have the potential to create problems. By using quality plant stocks, planted effectively and appropriately for the site, many long term maintenance liabilities can be avoided.

Policy 4.1.1.5 Local Flora

Local native species shall be featured where there is opportunity to do this well.

Explanation

The Rotorua District has many natural areas such as lakes, bush and geothermal features. Plantings carried out within these areas should duplicate and enhance the natural character of such areas. Exotic plantings would be out of character detracting from the natural features.

Policy 4.1.1.6 Lakeside Plantings

Council shall ensure that future tree plantings enhance the lakes environment while ensuring the lake views of the existing immediate residents are taken into account.

Plan 4.1.1.6(a)

Public plantings in Lake areas shall be designed to enhance lakeside environments and relate to views in general, while fulfilling the requirements of the Lakes A Zone section of the District Plan and relevant urban and rural reserve management plans, except where this will interfere with the safe navigation of vessels or undermine flood protection or erosion control measures, fishing spots and other water activities.

Explanation

There continues to be active public debate on issues relating to trees and lake views. Future public plantings shall take this into account and design new plantings that enhance the lakeside environments without adversely affecting lake views. Trees will be integrated into the landform to provide vistas and scale appropriate to the lake side landscape. The time scale of tree growth and form will be considered prior to planting - as these factors will affect whether a tree obscures views only temporarily. Tree planting will not occur where it may compromise or adversely affect the safety, efficiency and integrity of community facilities such as flood protection and river control works or water based activities.

Policy 4.1.1.7 Cost Effective Planning

The lifecycle costs of tree planting establishment and ongoing maintenance will be considered in the specification of species to be planted.

Plan 4.1.1.7(a)

The designs for new tree planting shall be based on:

- ***The relationship of trees with their surroundings in terms of character, form, amenity and ecological value.***
- ***The foreseeable effects of trees in relation to shade, views, services, road safety and potential damage to built structures.***
- ***The scale of trees in terms of built structures in relation to potential size and numbers of trees used in the design.***
- ***The outcome, where applicable, of any request for service relating to street tree planting which is accepted by Parks and Recreation, according to the process given in Appendix I D.***
- ***The cost of successfully establishing new planted areas and the ongoing costs associated with maintenance.***
- ***The Rotorua District Council has taken on board the principle community outcome which is "A Safer Caring Community". Therefore all future plantings will consider Crime Prevention Through Environmental Design (CPTED) principles where ever possible at planting design and implementation.***

Explanation

Trees are dynamic - they naturally change and develop over time. There are a many inter-related factors which must be considered for all plantings. The design and planning of plantings creates a range of opportunities to address the constantly changing characteristics of plantings and the needs of potential new planting sites. CPTED principles have been adopted by Rotorua District Council to meet the ratepayers' aspirations of a safer caring community.

4.1.2 Street Tree Planting

Policy 4.1.2.1 Streetscape

The visual and physical amenity of street trees are recognised in contributing towards an alternative urban environment.

Plan 4.1.2.1(a)

All planting on road reserve will be subject to Council's Road Sharing agreement and will require a road opening permit.

Plan 4.1.2.1(b)

Future tree plantings shall be concentrated in streets where:

- *There is sufficient public support;*
- *There is sufficient space to accommodate root zone development (the minimum requirement is 1.2m wide);*
- *Street trees are unlikely to cause significant long term management problems (such as potential conflict with overhead wires, underground services, traffic visibility and alternative road plans);*
- *Trees will enhance the quality of the streetscape.*

Plan 4.1.2.1(c)

The actual placement of individual street trees shall be based on the following matters:

- *The overall design of the street planting;*
- *The proximity to and likely effect on overhead wires and street lighting;*
- *The proximity to and likely effect on underground services;*
- *The effect on vehicular and pedestrian access and sight visibility;*
- *Known plans based on roading hierarchy, such as road widening and intersection improvements;*
- *Transit's requirements.*

Plan 4.1.2.1(d)

Consultation with local residents and property owners will be undertaken, wherever this is appropriate, before any major street tree planting is undertaken. In commercial areas wider public consultation, with business owners for instance, will be undertaken if necessary.

Consideration will be given to written requests from residents not to have a street tree outside their property, and a decision will be based on how critical the tree is to the overall design for the street.

Plan 4.1.2.1(e)

Where street planting is impractical or inappropriate Council shall encourage residents to plant appropriate trees on private land adjoining the street frontage by providing suitable plant material and advice. The responsibility for the maintenance of these trees remains with the landowner.

Plan 4.1.2.1(f)

Street trees plantings shall be regularly reviewed, through standard contract management procedures and programmed inspections.

Plan 4.1.2.1(g)

The Rotorua District Council Planning team including Engineers shall liaise with Parks and Recreation with regard to the creation of tree planting opportunities during the subdivision/land use process. Considerations will include:

- ***Centre islands or median strips wide enough for tree planting;***
- ***Wider grass berms (specific tree space);***
- ***Variations in road alignment;***
- ***The use of “set backs”, especially in commercial zones;***
- ***Maintaining road safety and activity clearance.***

Plan 4.1.2.1(h)

The species listed in Appendix L: High Profile and Street Tree Selection Criteria will be used as the basis for tree selection for street tree planting

Plan 4.1.2.1(i)

Unauthorised planting of trees by residents on street berms shall be discouraged.

Explanation

Street trees contribute significantly to the improvement of the urban environment and enhance residential development but they are also the cause of regular public objection and may be expensive to maintain. It is essential to only carry out new plantings where there is sufficient local support and then to ensure that trees are chosen and placed where there is a high chance of success with limited long term management problems.

The current trend of rationalising low value high maintenance trees and redirecting the funding to developing high value low maintenance plantings will be a priority.

Parks and Recreation will also seek to enhance streetscapes through encouraging private landowners to plant trees on their properties and by liaising with developers to create improved planting opportunities through alternative street designs.

4.1.3 Bush Remnants and Geothermal Vegetation**Policy 4.1.3.1 Endemic Flora Remnants**

The natural landscape character of the District will be maintained and enhanced through the appropriate management of bush remnants and geothermal vegetation.

Plan 4.1.3.1(a)

No climax vegetation shall be planted within bush remnants unless it is eco-sourced from the Central Plateau Ecological District.

Plan 4.1.3.1(b)

Native material that does not naturally occur in the district shall only be planted in already developed landscapes.

Plan 4.1.3.1(c)

Local pioneer species shall be planted to speed up regeneration and reduce weed control costs.

Explanation

The Council administers bush remnants and geothermal vegetation with ecological values that contribute to the local native vegetation of the district. It is important that these values are not compromised or modified by inappropriate planting. The above policies will ensure that the integrity of the vegetation within these sites is retained.

4.2 Maintenance of Trees

This section covers general tree maintenance policies and specific policies regarding maintenance of trees growing upon lands as defined in Section 2.3

4.2.1 Acceptable pruning and maintenance practices**Policy 4.2.1.1 Arboriculture**

A tree maintenance programme will be undertaken to maintain the trees in a safe, healthy and natural form.

Plan 4.2.1.1(a)

The Council shall generally not carry out topping of trees.

EXCEPTIONS

There are circumstances where it shall be necessary to remove the top growth of trees in the following circumstances:

- (a) Where trees are near power lines, trees may be topped in preference to removing them altogether. However, if identified as low value and high maintenance (refer Plan 4.3.1.1a, 9th bullet point) some consideration may be given to removal.***
- (b) Where trees are considered a safety hazard and removal of the upper crown is deemed acceptable in order to alleviate the hazard and retain the tree(s).***
- (c) Where trees are undermining a flood protection or erosion control structure.***
- (d) Where a group of trees constitutes a shelterbelt or hedge.***
- (e) Where trees are within an identified flight path of the Rotorua Airport.***

Plan 4.2.1.1(b)

Acceptable pruning methods, such as natural target pruning, crown lifting, crown thinning, crown reduction where necessary shall be used to maintain trees in as natural a form as possible and to maintain and enhance their amenity values.

Plan 4.2.1.1(d)

Parks and Recreation will develop a list of approved arborists. Only approved arborists shall be contracted to carry out tree maintenance work on Council trees in order to maintain industry acceptable standards of workmanship. An approved arborist must have completed a nationally recognised Certificate in Arboriculture and be competent in the

field of amenity trees. An ongoing training programme must be included for arborist staff involved with the Rotorua District Council tree maintenance programme.

Plan 4.2.1.1(e)

Plant pest and disease control measures shall focus on known aggressive decay organisms which have the capacity to debilitate or kill trees.

Plan 4.2.1.1(f)

Poor tree health shall be minimised by the application of sound arboriculture practices and appropriate care strategies to prevent pest and disease establishment.

Plan 4.2.1.1(g)

Priority for work shall be based on:

- (a) Health and safety consideration;**
- (b) Essential service clearance;**
- (c) Form pruning for desirable clearance and amenity effects.**

Explanation

The Council will maintain trees in accordance with internationally recognised standards. Appropriate tree care maintenance programmes and strategies will be applied wherever necessary.

All pruning operations will be undertaken using principles defined as CODIT, Natural Target Pruning and other recognised pruning methods.

Topping is internationally recognised as unsound arboriculture practice for the following reasons:

- (a) Vigorous re-growth from adventitious shoots at the site of each pruning cut results in a denser canopy developing in a short space of time. This causes excessive shading, often greater than that previously experienced.
- (b) The points of attachment of new sucker growth have an inherent weakness and, therefore, a tendency to "break out" as they develop in size. A safety issue is created through this type of pruning.
- (c) Topping cuts are more prone to decay forming at the wound site. This significantly reduces the health, stability and longevity of the tree.
- (d) Pollarding in some situations is the most appropriate pruning method and will continue as a pruning practise where these situations can justified, e.g. Government Gardens Plane Trees.

Only Council approved arborists shall be used to ensure that all work on trees is carried out to recognised arboriculture standards. This approach will promote the health and natural form of trees.

4.2.2 Bush Remnants

Policy 4.2.2.1 Bush Remnants

Bush remnants on lands administered by the Council will be managed so as to encourage natural re-generation.

Plan 4.2.2.1(a)

Regularly maintain and upgrade fencing around Council owned bush remnants to prevent stock entry.

Plan 4.2.2.1(b)

Control adventive weed and tree species, with priority on those that suppress the natural regeneration process.

Explanation

The Council recognises the benefits of maintaining native bush remnants as an essential component of the natural landscape. Generally, bush remnants are self-sustaining, providing that they have the ability to regenerate naturally. Maintaining the condition of remnant vegetation by controlling plant and animal pests and mitigating potential effects of nearby development and inappropriate use, minimises the need for re-vegetation style plantings. See Policy 4.1.3.1

4.2.3 Commemorative Trees

Trees have been planted on public lands throughout the district to commemorate specific people and events. Commemorative plantings are often undertaken in the memory of someone that has recently passed away. Visiting dignitaries may plant a tree to provide a lasting memento of their visit. Trees have also been donated by groups and organisations as a contribution to the district. The Council regularly receives requests for new plantings. Commemorative trees hold a special significance to people and their management is, therefore, particularly sensitive. In addition to managing the physical needs of the tree, the history of the tree also needs to be recorded and preserved.

Once planted, commemorative trees become a Council asset and are maintained to Council standards. As with all Council managed trees, plantings need to be appropriate to the site and area, maintenance must be according to best arboriculture practice, and tree removals may be necessary on occasion. All of these matters will be dealt with according to the District Tree Plan.

The Rotorua District Council has had a number of commemorative plantings over the years. Of particular significance is the Rotorua Tree Trust plantings and the Family Trees 2000.

Policy 4.2.3.1 Commemorative Trees (existing)

Council will undertake to identify, map and maintain existing donated and commemorative trees on Council land recognizing their special significance.

Plan 4.2.3.1(a)

An up-to-date record of commemorative trees in the District shall be maintained. The purpose of the planting and sponsoring individuals or groups will be included in the record.

Plan 4.2.3.1(b)

Commemorative trees shall be maintained to Council standards.

Plan 4.2.3.1(c)

Relocation or removal of a commemorative tree may be undertaken where necessary, based on an assessment of the value of the tree, the ability to replace or relocate it to

another site, and the costs and benefits to community well-being of various tree management options.

Plan 4.2.3.1(d)

Where practicable, commemorative trees that have died or need to be removed may be replaced, although a more suitable species and/or site may be selected for the replacement tree.

Plan 4.2.3.1(e)

Where appropriate and feasible, the sponsors of a commemorative planting will be informed if a tree(s) needs to be removed or relocated.

Plan 4.2.3.1(f)

Council will not place plaques on commemorative trees. However on some sites Council may approve the installation of plaques providing all costs of installation and maintenance is borne by the sponsor

Policy 4.2.3.2 Commemorative Trees (future)

Council will undertake to strategically plan and manage location and species of future commemorative plantings

Plan 4.2.3.2(a)

It is recommended that the Council prepare a strategy for future commemorative plantings, identifying specific locations within the Tree Trust for the plantings and a set of criteria for site and species choice. Policies will be developed as an outcome of the strategy. Plan 4.2.3.3(d)

Explanation

Commemorative plantings are a special category of the Council tree in that they have a special meaning for some individuals and their history is important. Policies on future plantings cannot be developed until a strategy is completed to address issues such as:

- *Location of future plantings (e.g., commemorative tree parks).*
- *Species that should be planted.*
- *Criteria for acceptance of donated/commemorative trees.*
- *Process for seeking permission to plant a commemorative tree.*
- *Processes relating to tree death, removal or replacement.*
- *How to cover costs for planting and long-term maintenance.*

The council has a policy of not placing plaques on commemorative trees because they are a challenge to manage and they can be unsightly, interrupting the natural line of the tree.

Policy 4.2.3.3 Rotorua Tree Trust

The tree plantings within the Tihi-O-Tonga reserve will be managed appropriately to ultimately create a forest park.

Plan 4.2.3.3(a)

These trees have a special attachment to their sponsor and should be managed appropriately. Many of the trees are in close proximity to each other and therefore need to be managed to ensure they co-exist successfully (refer to Plan 4.2.3.1(b)).

Plan 4.2.3.3(b)

Ensure the signage relating to the tree sites (i.e. tree markers) is accurate and kept to a high standard so that the sponsors can easily locate their tree/s

Plan 4.2.3.3(c)

The site is grazed and the trees need to be protected accordingly from the grazing animals Policy 4.1.1.5.

Plan 4.2.3.3(d)

There is only five years of planting and sponsorship remaining and it is estimated by 2011 that all available planting spaces at the Tree Trust will have been filled.

Explanation

The Tree Trust is located on the slopes of Tihi-o-Tonga at the southern side of the city. The reserve is being established as a rural reserve forest park. Trees planted are predominately sponsored by individuals with sponsorship consisting of a one off fee to the sponsor, with RDC picking up the ongoing maintenance of the trees.

4.2.4 Interference of Trees to Property & Services

Policy 4.2.4.1 Arboriculture Care

A tree maintenance programme that endeavours to avoid potential damage to property or services shall be implemented.

Plan 4.2.4.1(a)

When notified of damage caused by a public tree to property or services, practical steps shall be taken to mitigate these effects.

Plan 4.2.4.1(b)

Where trees are overhanging private property appropriate pruning shall be carried out by the Council to reduce the encroachment, as far as practicably and aesthetically possible.

Plan 4.2.4.1(c)

Trees on arterial routes shall be maintained to provide clearance where they impede or obstruct access for pedestrian and vehicular traffic or present other safety issues.

Plan 4.2.4.1(d)

Trees shall not be significantly altered for unique activities such as building removal, if such pruning severely compromises the landscape character of the trees. Costs for any work carried out beyond normal maintenance to accommodate such activities shall be recovered from the applicant.

Plan 4.2.4.1(e)

All reasonable effort shall be taken to clear street/reserve lights and minimise any reduction in light penetration resulting from obstruction by trees.

If accepted arboriculture practices cannot resolve light/shadow areas the affected parties shall be encouraged to investigate street light relocations with the appropriate authority without bearing associated costs.

Plan 4.2.4.1(f)

A programme shall be initiated to ensure that tree growth is maintained away from power wires and electrical assets in accordance with the requirements of the Approved Code Of Practice For Safety And Health In Tree Work, Part 2: Maintenance Of Trees Around Power Lines and the Electricity (Hazards from Trees) Regulations 2003.

Plan 4.2.4.1(g)

Pruning in the vicinity of overhead wires shall only be carried out by Parks and Recreation approved contractors who are certified to carry out line clearance work.

Explanation

These policies seek to avoid damage to property and services. Particularly within the street environments there will always be ongoing commitments to ensure that trees do not conflict with services such as wiring, drainage systems, footpaths, kerbing, vehicle and pedestrian movement and property security.

Trees planted beside or under power lines will be trimmed in order to comply with the safe clearance requirements of the Electricity (Hazards from Trees) Regulations 2003. Wherever possible, directional pruning methods will be used to remove branches growing towards power lines and to promote growth away from the lines. Trees undermining a flood protection or erosion control structure will be pruned or removed as deemed necessary. It should be noted that all trees specified as Protected Trees are subject to the provisions of the District Plan, regardless of whether or not they are owned, administered or maintained by the Council.

Policy 4.2.5.1 Physical/Development Work Around Trees

Council will endeavour to ensure that any physical work around trees does not unduly impact on the health, well being and form of the tree/s.

Plan 4.2.5.1(a)

Parks staff must be notified of any proposed public work sites where there are trees. An onsite meeting must be arranged between the development/maintenance manager and Parks representative prior to any contractor being awarded the work.

Plan 4.2.5.1(b)

Should a stale mate occur then the meeting will focus on the various options and alternatives which will have the least impact on the tree.

Plan 4.2.5.1(c)

Once an option has been agreed upon the development/maintenance manager must give written instructions to the contractor of the conditions set out by the Parks representative.

Explanation

Trees are living organisms and any changes to their immediate environment will affect tree health. Damage to the tree generally occurs within the drip line from mechanical activity, storage of materials (spillage of fuel etc), soil compaction and changes in surface levels. These things need to be avoided to ensure that the long term prognosis of the tree is assured.

Policy 4.2.6.1 Hedges on Reserve Boundaries

Council will not be responsible for maintenance incurred on reserve boundary line hedges and will discourage the planting of such.

Plan 4.2.6.1(a)

Council will encourage the removal and replacement of reserve boundary hedges with an acceptable boundary fence.

Plan 4.2.6.1(b)

There will be some situations where hedging is required on reserve boundary's for screening and/or shelter purposes, level of maintenance in these situations will be determined by the Parks representative.

Explanation

There is an expectation from property owners that Council maintain the hedge at the same standard on the reserve side as their own property side. This is a high continuing maintenance cost.

4.3 TREE REMOVAL

This section covers general tree removal policies and specific tree removal policies regarding shading and loss of views and applies to all trees growing upon lands as defined in section 2.3.

4.3.1 General Tree Removal**Policy 4.3.1.1 Tree Removal**

A consistent criteria will be applied when considering removal of trees. Processes for the removal of trees which arise from requests for service are shown in Appendix A and Appendix B.

Plan 4.3.1.1(a)

Trees shall only be removed if pruning or other remedial work is not practically possible and for one of the following reasons:

The tree:

- ***Is dead, dying, diseased, decayed or disfigured with no realistic chance of recovery;***
- ***Presents an immediate or potential danger to people or property, or is shown to be potentially a severe health or safety risk to neighbouring residents as identified by the ISA Tree Hazard Evaluation Method (refer to Appendix H);***

- *Is causing or is expected to cause uncontrollable structural damage to any street or utility service and remedial work to prevent further damage is impractical or greater than the value of the tree;*
- *Is encroaching into the carriageway in such a way that visibility is reduced or clearly causing a significant hazard and remedial work cannot mitigate the hazard without severely compromising or disfiguring the tree;*
- *Is inhibiting the growth, development or health of other trees of greater value;*
- *Was planted for revenue producing purposes as identified in the current Production Forest Schedule and is, as a result, being harvested;*
- *Is inhibiting the proper management or maintenance of the reserve or other Council land;*
- *Is covered by the provisions given in Policy 4.3.2.1;*
- *Is deemed to be of low amenity value and is poorly sited or requires unduly high maintenance (such as in a location which conflicts with services);*
- *Is clearly unsuitable for the site due to its long term potential to cause problems or the inappropriateness of the species in relation to the site;*
- *Is the subject of approval following a request for service in accordance with the processes shown in Appendix A or Appendix B (where either is applied);*
- *Trees that are identified in the Council's weed tree list (Appendix K). These are trees that are causing problems and/or may have the potential to become pests. This list may vary from area to area(i.e. Lake Tarawera will be different from the Lake Rotorua area);*
- *Trees clearly identified constantly causing shade on roads resulting in dangerous icy conditions.*

Note: *Unless a tree (or trees) is assessed as immediately hazardous any significant tree removals shall require notification to the local community (see 4.4.1.2 (a)).*

EXCLUSIONS

The following trees are excluded from Plan 4.3.1.1(a) above:

- *Trees that fall into the category of Protected Trees in the District Plan*
- *Trees identified in a Reserve Management Plan for retention, as they represent an integral part of the reserve*
- *Trees that have been requested by private property owners to be assessed as Notable trees but have not yet been included in the District Plan.*

Plan 4.3.1.1(b)

“Trade-offs” that provide for long term quality replacement trees at the expense of more short term or lower value trees are to be encouraged, where such action will resolve tree related issues. Trade-offs may include replacement trees elsewhere on the site, at the agreement of the Parks and Recreation Manager or his/her representative.

Plan 4.3.1.1(c)

Trees shall not generally be removed for the following reasons (other than as stated in Plan 4.3.2.1(a))

- *preservation of views*
- *shade*
- *leaf litter*
- *minor root growth damage, eg: lifting cobbles, etc.*

Explanation

Parks and Recreation receive requests to remove trees due to perceived nuisance created by trees. These policies provide a set of criteria that will be applied when requests for tree removal are received or tree removal is considered. Leaf litter will always be a problem, inherent with any trees in the urban landscape, but is not sufficient reason for the removal of a tree. However, as

far as practicably possible, acceptable arboriculture pruning work may be carried out to mitigate the loss of views, shade and leaf litter experienced by adjoining property owners, provided that the health and value of the tree is not compromised.

4.3.2 Removal of trees growing on Council property causing shading or loss of views

Policy 4.3.2.1 Trees causing shading or loss of views

Council trees which result in shading or loss of views will only be removed in circumstances where it can be demonstrated that planting occurred after the current property owner purchased the property and all reasonable efforts to mitigate these effects of the tree have been unsuccessful.

Plan 4.3.2.1(a)

Where Council trees are planted which, subsequently and unreasonably affect the views of a long term resident or significantly shade their property the Council shall:

- ***Consider Plan 4.1.1.7(a);***
- ***Manage the trees to reduce its impact on views and solar access but without compromising the value or integrity of the trees (i.e. crown thinning/ crown lifting, stem thinning).***

Views:

Requests regarding the retention and re-establishment of views will be considered on a case by case basis and effort will be made to retain a 'reasonable view.'

Shade:

Shade has a greater impact on quality of life of an individual than any other complaint against trees. As with views these will be looked at on a case by case basis and every endeavour will be made to reduce the impact that shade has on property owners whilst acknowledging the positive value of shade to reserve users. As a final option the tree/s may be removed.

Exclusions

The following trees are excluded from Plan 4.3.2.1(a);

- ***Trees that fall into the category of Protected Trees in the District Plan***
- ***Trees identified in a Reserve Management Plan for retention as they represent an integral part of the reserve***
- ***Trees with a value equivalent to the Category of Notable Protection (public consultation required).***
- ***Specific view shafts e.g. Kuirau Park, shall be retained wherever possible but at no stage should viewshafts be created at or retained to the detriment of any specimen tree that is considered to provide an important feature on the reserve.***

Plan 4.3.2.1(b)

Where a mature tree, or stand of mature trees, existed prior to the arrival of a new resident in an adjoining property there is no requirement for Council to either remove or prune the tree(s) for views or shade on request. The tree(s) were a pre-existing condition before the new resident's occupation of the property. However Council will try to accommodate the neighbours request if this is able to be done without compromise to the tree/s.

Explanation

As with leaf litter, reductions in views and shading may be outcomes associated with maturing tree plantings. Council's challenge is to manage these issues consistently and fairly, without compromising the District's tree resource. Approaches such as the careful placement of new trees, the ongoing maintenance pruning of trees and the consideration of removal of secondary trees may be carried out to attempt to resolve effects of shading and loss of views.

4.4 Consultation

This section covers the Council's approach to consultation relating to tree management and maintenance, together with the process for handling enquiries regarding appeals concerning decisions relating to Council trees. It outlines the mechanisms that Council shall use to address enquiries and the process for resolving appeals.

Exclusion

- ***Trees that are protected through District Plan provisions.***

Policy 4.4.1.1 Consultation (tree planting)

Council shall consult with affected parties with regard to proposed tree planting.

Plan 4.4.1.1(a)

Consultation with local residents and property owners will be undertaken, wherever this is appropriate, before any major street tree or major reserve planting is undertaken. In commercial areas wider public consultation, with business owners for instance, will be undertaken. Refer to Plan 4.1.1.7 (a) and Plan 4.1.2.1(c).

Explanation

Consultation when tree planting is necessary to ensure residents have opportunity for input into various aspects of planting thus avoiding future problems, i.e. tree sites, species choice.

Policy 4.4.1.2 Consultation (tree removal)

Council shall consult with affected parties in regard to proposed tree removal.

Plan 4.4.1.2(a)

Consultation with local residents and property owners will be undertaken, wherever this is appropriate, before any major tree removal is undertaken. In commercial areas wider public consultation, with business owners for instance, will be undertaken if necessary (refer to Plan 4.3.1.1).

Explanation

Consultation with the community is advantageous as they often know of aspects relating to the trees that Council staff would be unaware of therefore making the final decision a more informed one.

Policy 4.4.1.3 Consultation (cultural)

Council shall ensure that consultation and observance of cultural protocols is undertaken where advised by tangata whenua on sites that contain waahi tapu.

Plan 4.4.1.3(a)

Waahi tapu sites include those sites identified in the District Plan.

Plan 4.4.1.3(b)

For each, site observance will be given to the protocols of the corresponding tangata whenua.

Plan 4.4.1.3(c)

Consideration will be given on waahi tapu sites to the operations of tree planting, tree maintenance and tree removal including any ground works. This may include guidance of how work may be conducted, karakia, disposal of trimmings, and induction and access to the site.

Explanation

Cultural protocol is often not widely known and/or understood. Therefore it is necessary to consult with those chosen to represent tangata whenua when carrying out work on waahi tapu sites.

Policy 4.4.1.4 Consultation (enquiries/complaints)

Enquiries and appeals concerning trees will be dealt with through established processes that are consistently applied. See Appendix A, Appendix B, Appendix C and Appendix D.

Plan 4.4.1.4(a)

All external enquiries relating to trees under Parks and Recreation jurisdiction shall be directed to the Parks and Recreation division of Council. The specific processes for dealing with any enquiry are given in Appendix A, Appendix B, Appendix C and Appendix D.

Plan 4.4.1.4(b)

Contractors undertaking works for Parks and Recreation are not authorised to directly represent the Council for public enquiries relating to trees, unless specifically delegated to do so by the Parks and Recreation Manager or his/her representative.

Plan 4.4.1.4(c)

The process by which a resident can appeal a decision concerning the maintenance of trees under Parks and Recreation jurisdiction is:

- (i) The resident should raise the matter, in writing, with the Parks and Recreation Manager. Where tree maintenance issues involve significant local or community interest the Council may enter into a consultation process to ensure that the wider community interest is considered***
- (ii) If the resident is not satisfied with the Parks and Recreation Manager's decision they may then take the matter in writing to the appropriate level which in this case will be the Chief Executive Officer (CEO). The CEO will determine a response in line with Councils adopted Policy.***

- (iii) **As a final appeal the complainant may take the matter again in writing to the appropriate committee of Council, who will ultimately make the final decision and determine the outcome of the appeal.**

Explanation

There will always be differences of opinion when dealing with tree issues - between those who support and enjoy the benefits of trees and those who do not. This Plan (Rotorua District Council Tree Plan) provides a consistent approach to dealing with such issues and allows for the provision of a high value tree resource. Consultation with individuals and/or groups in the community will be undertaken wherever it is required, in order to provide information, advice and an opportunity to comment or participate. The observance of cultural protocols relating to trees on waahi tapu sites enable local tangata whenua to determine appropriate actions and responses by Council officers.

Processes for dealing with appeals are outlined, as in some instances applications for service delivery may be declined where they are inconsistent with approved Plan.

4.5 Neighbours

Policy 4.5.1.1 Reserve Neighbours

Council will minimise the adverse effects, generated by trees on reserves, on the amenity of adjacent properties.

Plan 4.5.1.1(a)

Parks and Recreation shall take all reasonable steps to maintain a good neighbour relationship with adjacent landowners. However, where appropriate, the demands of neighbours shall not take precedence over the desires of the local community.

Plan 4.5.1.1(b)

To obtain a clearer local picture of significant issues, local opinion may be canvassed before the Parks and Recreation Manager makes the final decision on a course of action. Potentially controversial or significant works shall be reported to Councillors via the "Friday Bulletin", newsletter and/or internal memo.

Plan 4.5.1.1(c)

Leaves

- **Protected Trees**
 - **Arawa Oak: Rotorua District Council will continue to collect leaves under the current arrangement (Building RDC pay up to a maximum of \$3,000.00 p/a to the property owner to keep the roof and drainage channels clear of leaves/debris. Surrounds: RDC do a regular sweep of the carpark area during autumn leaf fall).**
- **In regard to all other trees (street and reserve) leaf fall is a natural occurrence; however, Council will continue to sweep the leaves from urban roads as and when required during autumn periods of heavy leaf drop.**

Explanation

Neighbouring property owners often raise issues regarding adverse effects of trees in reserves. Parks and Recreation seek to maintain good neighbour relationships with landowners by minimising adverse effects of trees in reserves on neighbours. However, a wider public consultation process will be considered if necessary.

Policy 4.5.1.2 Road reserve Neighbours

Council will work towards minimising the adverse affect generated by trees on private property interfering with use of the adjacent public space.

Plan 4.5.1.2(a)

Channel complaints through the inspectorate department of council who will instruct the property owner to prune off the offending vegetation (refer to Local Government Act 1974, Clause 355). Should the property owner fail to complete the work the council may action the required work and charge the property owner accordingly.

Explanation

Overhanging vegetation from private property can restrict pedestrian access and cause traffic visibility problems and in the first instance needs to be dealt with under the current Local Government Act.

4.6 Promotion and Education

Policy 4.6.1.1 Education

Council will foster public interest, awareness and guardianship of the value of trees in reserves.

Plan 4.6.1.1(a)

Encourage the community to become involved in tree planting and maintenance in selected reserves, through consultation.

Plan 4.6.1.1(b)

Promote the benefits of trees and the added importance of 'the right tree planted in the right place'.

Plan 4.6.1.1(c)

Promote the Council's trees during regional and national events (such as the Garden Festival, Arbor Day, and Conservation Week)

Explanation

The value of the Council's tree resource is often taken for granted by those who are routinely amidst it. However, it is a very significant landscape feature which gives an immediate impression to visitors to the District. A healthy and well maintained treescape is a reflection of a caring community. It is also a natural asset which is easily lost through poor management and lack of appropriate planning.

Many of the issues relating to people's dissatisfaction with trees are attributable to a lack of awareness regarding the overall value of trees and their benefits. Policies that educate and inform the public about the positive attributes of trees are an important component of Parks and Recreation policies.

4.7 Tree Valuation and Assessment

Policy 4.7.1.1 Valuation and Assessment

Consistent standards will be used to assess the health, condition and monetary value of trees.

Plan 4.7.1.1(a)

The International Society of Arboriculture (ISA) Tree Appraisal System (Trunk Formula Method) (refer to Appendix J) shall be used as the standard for assessing monetary value of trees, unless superseded by a more appropriate method.

The ISA Tree Hazard Assessment Method (plus Australian and NZ Standard for Risk Management) (refer to Appendix H) shall be used as the standard for assessing the health and condition of any tree that is potentially hazardous or unsafe, unless superseded by a more appropriate method.

Explanation

There are situations where it is necessary to attribute a monetary value to a tree. These situations usually arise when the removal of a tree is proposed. It is important that in these situations the monetary value of the tree is assessed using a consistent valuation system. The ISA Tree Appraisal System is currently the most appropriate.

Money collected from the valuation process will be used solely for the purpose of relocating tree/s, replacement planting/s, enhancing further plantings within the District.

Where trees are considered unsafe and represent a hazard to people or property a consistent evaluation system will be used. The ISA Tree Hazard Evaluation Method is currently the most appropriate internationally recognised hazard tree assessment system.

4.8 TREE PROTECTION

Trees are an important part of the heritage of the Rotorua landscape and some are worthy of protection. Protected Trees contribute to our sense of place, add to the quality of the environment, preserve botanical values, and enhance the visual quality of the landscape.

Rotorua District Council provides for the protection of trees on public and private land through the provisions of the Rotorua District Plan and other methods.

Criteria for protection under the District Plan includes:

- a) ***Cultural value***
- b) ***Ecological value***
- c) ***Amenity value***
- d) ***Scientific***

Methods of protection include:

- ***Rotorua District Plan provisions:***
 - ***Objectives, policies, and rules;***
 - ***Identification as a Protected Tree that is listed in the District Plan schedule;***
 - ***Conditions of resource consent;***
 - ***Development incentives;***
- ***Reserve Management Plans;***

- *Heritage Orders;*
- *Education.*

4.8.1 Preservation of trees within development sites

Policy 4.8.1.1

Council will, where possible, preserve Noteworthy Trees affected by activities requiring resource consent or building consent on public and private land.

Plan 4.8.1.1(a)

To ensure that issues involving Noteworthy Trees likely to be affected by subdivisions, new roading layouts and other developments are taken into account at the conceptual design stage.

Plan 4.8.1.1(b)

To ensure the Rotorua District Council Landscape Architect (at no cost to the developer) has input into the project at the design stage and that the appropriate staff of the Parks and Recreation Department have input into the specifications for implementation of landscaping.

Plan 4.8.1.1(c)

Council shall assess trees on development sites to identify trees that meet the criteria for notable status. If the tree(s) meet the criteria, they shall be listed in the district plan and protected by the appropriate rules. Such trees shall also be protected as a condition of consent in addition to the District Plan provisions.

Plan 4.8.1.1(d)

Where there is clearly (as reported by the RDC Landscape Architect) trees that do not meet the criteria for notable status but are worthy of retention or mitigate the loss of other trees, these shall be protected as a condition of consent.

Plan 4.8.1.1(e)

Council may relax other controls on development in order to provide a trade-off and incentivise the protection or retention of trees on development sites. Primarily, controls on landscaping and the visual effects of development shall be relaxed.

Explanation

Resource consent and building consent processes provide opportunities to assess trees on development sites and to retain or work around Protected Trees. In many cases an assessment will identify trees of little significance that may be removed in exchange for retention of any Noteworthy Trees on the site, or mitigation by replacement trees. The intention is not to place unrealistic expectations on the developer to retain trees of little value, but to provide assistance on how best to integrate the development with Noteworthy Trees.

4.8.2 Protected Trees

Policy 4.8.2

Trees that meet the criteria for notable status in accordance with Appendix E of the Rotorua District Tree Plan will be included in the list of Protected Trees and protected by the provisions of the District Plan and other methods. Such trees shall be monitored by Council.

Plan 4.8.2.1(a) Monitoring

(i) **Notable Trees**

Desired monitoring programme to include:

- ***Annual visual inspection by Rotorua District Council.***
- ***A three-yearly condition assessment by a consultant arborist who will provide a written condition report on the tree with a three-year maintenance programme. The notable status of a tree may be reviewed at this time.***

Explanation

Currently, there is no monitoring of Notable Trees. As part of this plan, some monitoring of Protected Trees will be undertaken so that Council is aware of any significant changes to the resource. Parks and Recreation Department staff will endeavour to undertake a visual inspection of Protected Trees annually as part of their duties and a more comprehensive monitoring exercise of Notable Trees will be undertaken by an arborist as part of the State of the Environment monitoring programme.

Plan 4.8.2.1(b) Maintenance

(i) **Notable Trees**

- ***The Rotorua District Council will fund all arboricultural work on RDC land required to secure the life of the tree recommended by the three-yearly consultant arborist's maintenance report. Tree work on private land will be met by the land owner.***

Plan 4.8.2.1(c) New Listings

- ***New listings will be considered upon application as set out in Appendix C.***

Explanation

Currently, there is no method to add or remove trees from the list of Notable Trees. Therefore, this plan includes a methodology for putting trees on the list of Protected Trees and also for their removal.

Plan 4.8.2.1(d) Other work in / or around Notable Trees

- ***This includes all work within the dripline of the tree. (The dripline of the tree outer most limit of any branch). In exceptional circumstances, an area larger or smaller than the dripline may be imposed where the dripline is not a suitable reflection of the root zone of the tree or is impractical. This will be assessed when the STEM evaluation is carried out.***
- ***Any work required to be carried out within this area must comply with the rules of the district plan.***

Explanation

Currently, activities within the dripline of a Notable Tree require discretionary resource consent. Firstly, this plan anticipates that the protected area around a Protected Tree could, in rare circumstances, be different to the dripline. Secondly, that the rules regarding activities within the dripline are changed to enable proactive management of the trees.

Plan 4.8.2.1(e) Other Matters

All Protected Trees will be:

- ***Listed on property files.***
- ***Identified on Land Information Memorandums and Project Information Memorandums.***
- ***Recorded on Geyserview with TPA shown.***
- ***Identified on the Rotorua District Plan maps.***

Explanation

It is essential to raise and maintain the general public and the tree owners' awareness of trees as a community asset and this will be achieved through education.

Currently, Notable Trees are recorded on Geyserview.

4.9 TREE VANDALISM

(Wilful damage to all or part of a tree and/or any unauthorised pruning or removal of branches which is considered to be detrimental to the form or health of the tree, also poisoning and/or removal of tree(s)).

Policy 4.9.1.1 Vandalism

Council will endeavour to locate the offender and hold that person(s) accountable for the damage to the community asset.

Plan 4.9.1.1(a)

To carry out any necessary pruning to make the site safe and mitigate damage.

Plan 4.9.1.1(b)

To use the ISA Tree Appraisal Method to determine the value of the damage (in accordance with Policy 4.7.1.1).

Plan 4.9.1.1(c)

Where there is clear evidence of the offender, RDC will pursue prosecution.

Plan 4.9.1.1(d)

Compensation sought will generally be monetary, costs will be based on loss of aesthetics (ISA Tree Appraisal Method) 'Policy 4.7.1.1', and any arboriculture work required.

Explanation

Trees are a community asset and the community have, over the years, contributed to the maintenance of the tree(s). Also the tree has appreciated in value to the community therefore wilful damage to trees must be followed through and compensation sought to deter such acts and to assist in re-establishing the damage or lost tree asset.

GLOSSARY

The following definitions are given for words and terms found within the texts and appendices of the District Tree Plan Part I and Part II.

<i>Adventitious (adventives)</i>	Growth that arises from (normally) suppressed buds, or from those plants which invade or inhabit a site first.
<i>Amenity value</i>	Provides positive features and qualities in the landscape.
<i>Approved arborist</i>	A suitably qualified person who can demonstrate proven experience, competency and ability in the field of arboriculture.
<i>Arboriculture</i>	The planting and care of amenity trees.
<i>Arterial routes</i>	Route or road of regional or district strategic importance as identified on the RDC District Plan Maps.
<i>Bollards</i>	Post or fixture that serves to protect trees from vehicle and environmental damage.
<i>Branch collar</i>	The raised rim of bark tissue at the connection point between a branch or stem.
<i>Cambium zone</i>	The area of dividing tissue within a tree found between the outer bark and the woody stem.
<i>Canopy</i>	The extent of the foliage cover of any tree or plant.
<i>Carriageway</i>	Area designated for vehicular movement.
<i>Circumferential</i>	The area within a circumference.
<i>Climax vegetation</i>	Vegetation which will ultimately form the canopy of the forest area or final stage of succession.
<i>CODIT</i>	An acronym for the term Compartmentalisation Of Decay In Trees, meaning a two part descriptive model on the process of decay in trees.
<i>Co-dominant stems</i>	Stems of similar size originating from the same position on the main stem.
<i>Soil Compaction</i>	Ground that has hardened/compressed as a result of constant wear by environmental or mechanical means.
<i>Containerised plants</i>	Plants that have been grown in pots or receptacles in a nursery environment.
<i>Covenant</i>	Legal mechanism that provides agreement to protect a feature.
<i>CPTED</i>	Crime Prevention Through Environmental Design
<i>Crown lifting</i>	Removing the lower branches of a tree to provide clearance for buildings, vehicles, pedestrians, services and vistas. Lifting is carried out to no greater extent than 1/3 the overall height of the tree in proportion to the tree's canopy.

<i>Crown thinning</i>	Removal of dead, declining and secondary growth to increase air movement and light through the crown. Thinning is carried out to no greater extent than 20% of the canopy in proportion to its size.
<i>Cultivar</i>	Variations of plant species specifically selected and produced by people.
<i>Directional pruning</i>	Removal of branches at the stem to encourage overall growth away from a feature or fixture.
<i>Ecological</i>	Modes of life, habits and relationships of living organisms and their environment.
<i>Eco-sourcing</i>	Replanting with only locally occurring natural genetic plants materials.
<i>Encroachment</i>	A situation where the public recreational use or appreciation of the reserve is reduced or obstructed by the private use of the reserve. Alternatively when roots or branches of a tree grow over or into neighbouring property.
<i>Endemic</i>	Refers to a plant found only in a particular area.
<i>Environment</i>	The physical and biological factors within a given site.
<i>Exotic</i>	Plant or animal introduced from another country.
<i>Formative pruning</i>	Pruning a tree to enhance the branch structure in relation to a tree's long term shape and structural strength.
<i>Gro-tubes</i>	Tree shelter designed to protect plants from stock.
<i>Growth points</i>	The position from which growth occurs.
<i>Guardianship</i>	Providing for the fostering and care of a feature or entity.
<i>Hazardous tree</i>	A tree which has physical, structural and/or biological defects that has been identified or evaluated as representing danger to life or property.
<i>Indigenous</i>	Plant or animal that occurs naturally to an area.
<i>ISA</i>	International Society of Arboriculture. A world-wide organisation representing professional arborists.
<i>ISA Tree Hazard Valuation Method</i>	Standard evaluation method that identifies the hazard rating of trees, to be carried out by a qualified arborist familiar with the evaluation system
<i>ISA Tree Appraisal Method</i>	A standard method that uses a formula to value trees in a consistent manner
<i>Landscape values</i>	Those features of the land that make up the wider visual appreciation of an area when viewed as a whole, such as trees, vegetation, water, landform.
<i>Local character species</i>	Those species that define the local character of the district.
<i>Local pioneer species</i>	Plants that establish easily and provide the first tree cover, occurring naturally in the district.

Long term value	Providing positive and useful effects over a long period. Usually over 50 years.
Loss of enjoyment	Term of the Property Law Amendment Act 1975 that refers to an adverse effect on property and enjoyment of it.
Mitigate	Moderate or neutralise the effects of an activity.
Mulch	The woody debris arising from the chipping of trees and plants that can be used to suppress weed growth and enhance nutrient and micro organism activity around desirable plantings.
Non endemic native plants	Native plants that are not found naturally in the Central Plateau Ecological Region.
Notable tree	A tree or group of trees that are considered significant for their historical, botanical, landscape, amenity or cultural values and are identified as such in the Rotorua District Plan.
Arboriculture Operations Manual	The operational instruction manual that sets out the standard method for contractors to follow when commissioned to carry out arboriculture work.
NTP	An abbreviation for the term Natural Target Pruning - a model demonstrating the proper position and sequence of cuts to be made when pruning.
NZAA	New Zealand Arboriculture Association. A national organisation representing professional arborists.
Photosynthate	A substance (usually sugars and carbohydrates) derived from photosynthesis - the complex process of conversion of light energy to chemical energy.
Pioneer species	One of the first naturally arising plant species to appear on any landscape.
Pollarding	A pruning method of training branches, used on some large-growing trees, where the tree is pruned to the same growth points (annually or regularly), to maintain the crown to a particular size.
Proactive	Activity carried out before it becomes a necessity.
Protected trees	A protected tree is either: - Nominated through the permitted standards in the District Plan - A notable tree that is listed in the District Plan schedule - Nominated as a condition of resource consent. -
Reactive	Activity that is carried out in direct response to an enquiry or observation.
Reduction pruning	The shortening and/or removal of select branches within a tree to reduce the overall size of the tree canopy.
Regenerative pruning	The removal and/or pruning of branches or stems to encourage a plant's recovery from damage or stress.
Remedial pruning	Pruning to correct imbalances or deformities in tree shape and form, to reduce duplication in branch formations, to remove damaged tissue (includes deadwood).

Remnant	The natural vegetation remaining from an original tree stand or plant colony which has been modified.
Root ball	The mass of roots surrounding and from a tree or plant, usually x10-12 the trunk diameter (measured outwards from the trunk) and to a depth determined by root density.
Root grafting	The inter-connected growth of roots from two or more trees, that allows potential sharing of water and nutrients.
Root zone	The area covered by the full extent to which roots spread from a tree(s).
Secondary growth branches	All growth arising within a plant or tree that is secondary to the main branch/stem framework.
Short term value	The limited contribution, in terms of lifespan and/or beneficial attributes, of a tree or plant within any landscape. The time scale is usually less than 50 years duration.
Significant tree	A tree identified as having long term life expectancy and/or high amenity value.
Soil conditioners	Additives (synthetic or organic) that increase the capacity of soils to function as a healthy medium for plant growth.
Soil pan	A layer(s) within the soil which is impervious, inhibiting the movement of water and air.
Solar access	The availability or penetration of sunlight.
STEM	Standard Tree Evaluation System. A NZ developed Tree Evaluation system which scores the attributes of trees in a consistent manner. To be carried by a qualified arborist and Landscape Architect.
Structural safety	The inherent capacity of a tree or plant, observed by examination of its structure, shape and form, to withstand wind loading and/or other physical force in order to resist failure, breakage or collapse.
Sucker growth	Fleshy shoots and growth arising from below a graft union or from the base of a tree or plant.
Suppressed growth/branches	Branches or stems under severe stress due to competition for light or nutrient. Usually these branches or stems will die in the short term.
Sustainability	The capacity to endure or maintain any given level of activity or appearance.
Topping	A lay person's term meaning the removal of the head or top most section of a tree or plant. Topping is not an accepted professional arboriculture practice.
Trade-off	A negotiated outcome that provides benefit to all parties and may mean limited compromise.
Tree	Tree means a perennial woody plant at least 5 metres in height at maturity, having an erect stem/s or trunk/s and a well-developed crown or leaf canopy.
Environment Hearings Sub-Committee	An elected representation of Council to consider matters of District Council Tree Plan and items of appeal on tree related issues.

Trees isolation systems

Built structures or a manufactured product that isolates a tree from potential damage (such as a protective cage or ground-level surround that prevent damage from stock or mechanical damage.

Urban tree collection

A formal planting of specialised botanical or feature interest. Usually designed, recorded and maintained as a long term permanent asset.

Vista

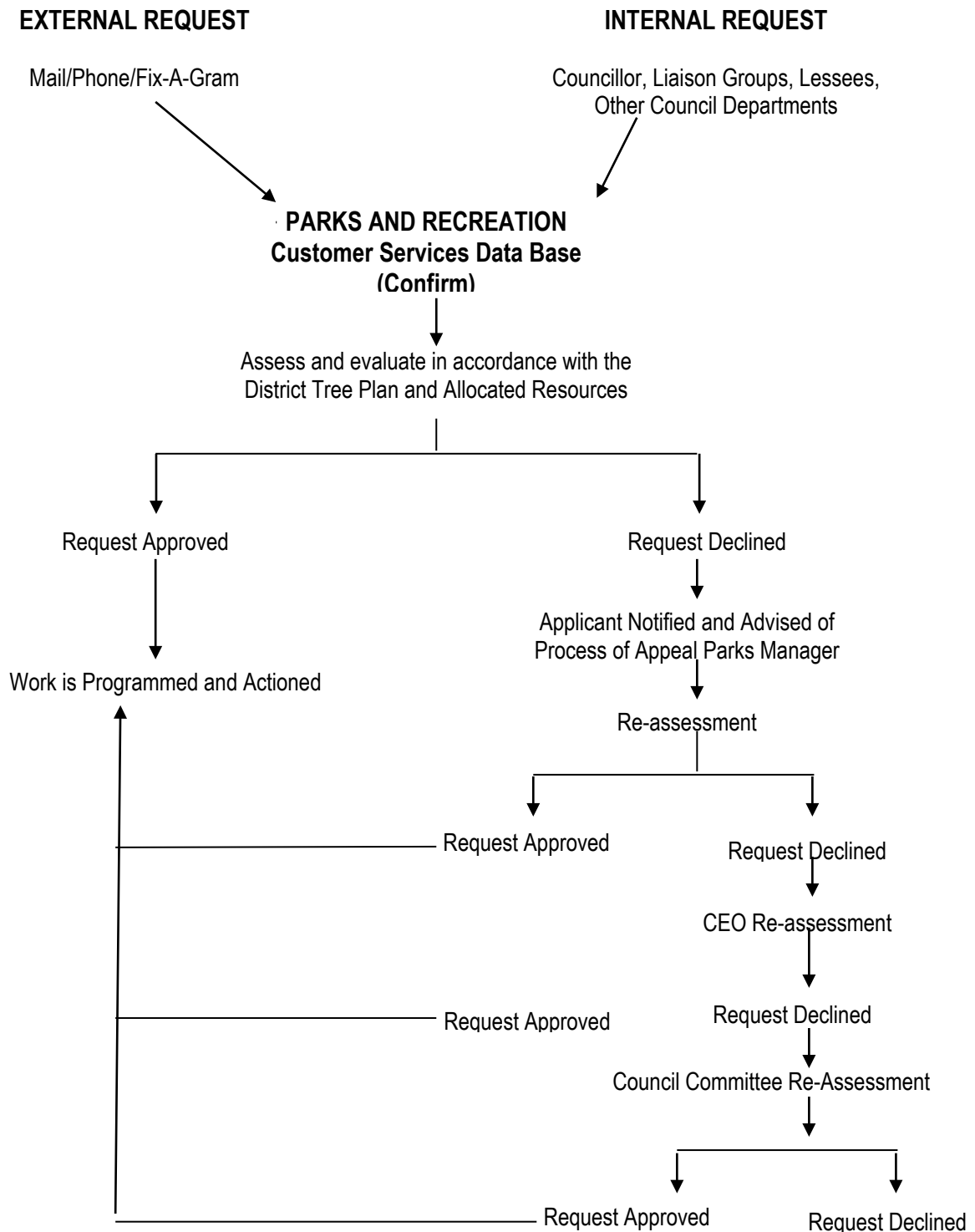
A view, view shaft or framed view point.

APPENDICES

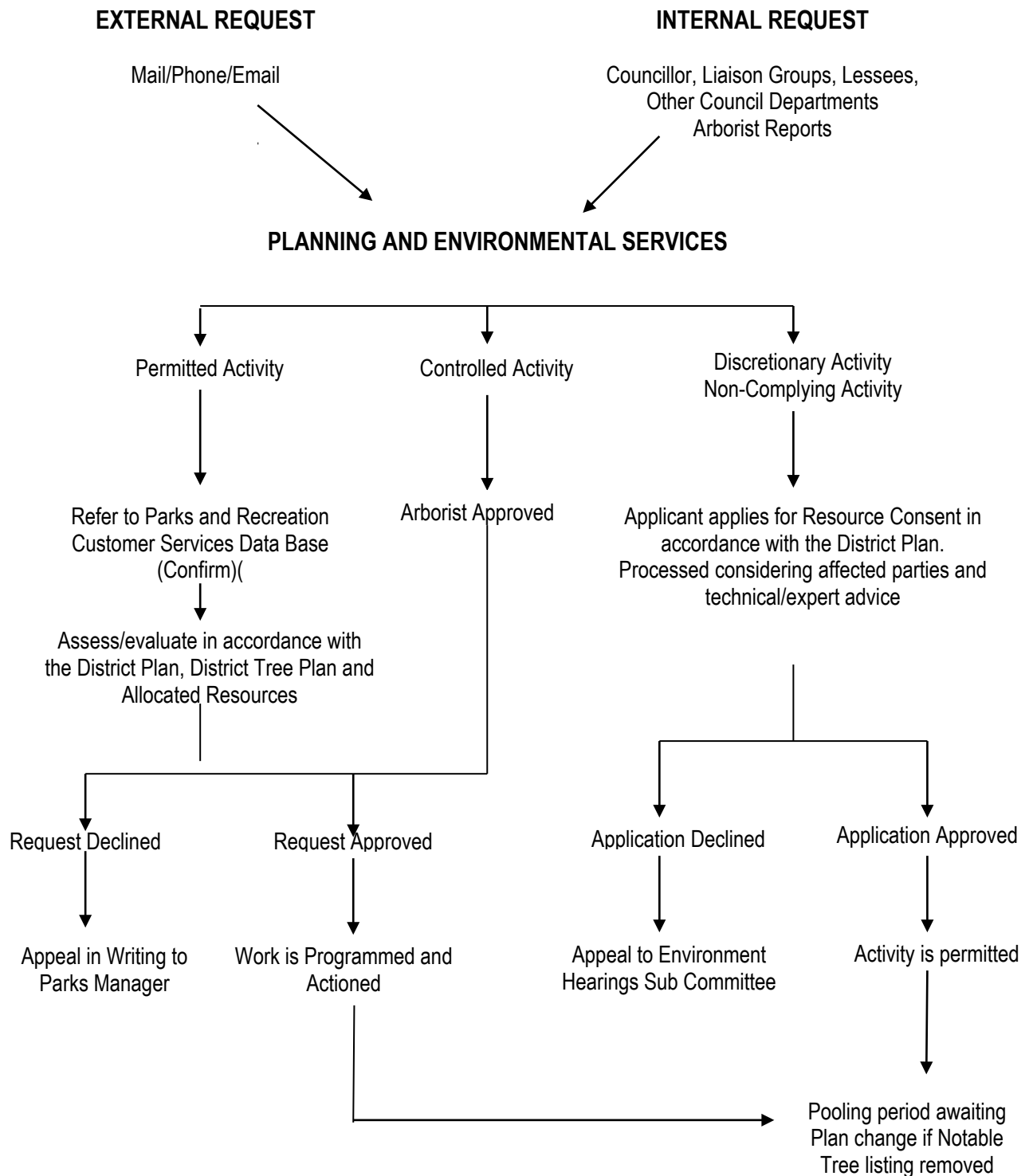
This section contains appendices which support and clarify the District Tree Plan text.

- Appendix A: Request for Service: District Tree Plan - Trees other than Protected Trees
- Appendix B: Request for Service: District Plan - Protected Trees - All Enquiries
- Appendix C: Request for Service: District Plan - Protected Trees - New Listing
- Appendix D: Request for Service: District Tree Plan - Planting of Street Trees
- Appendix E: District Plan: Protected Trees
- Appendix F: Protected Tree List
- Appendix G: Standard Tree Evaluation Method (STEM)
- Appendix H: ISA Tree Hazard Evaluation Method
- Appendix J: ISA Tree Appraisal Method (Trunk Formula Method)
- Appendix K: Rotorua District Council Weed List
- Appendix L: Suitable Street Trees For Rotorua Urban and Lakes

REQUEST FOR SERVICE FOR DISTRICT TREE PLAN TREES OTHER THAN PROTECTED TREES

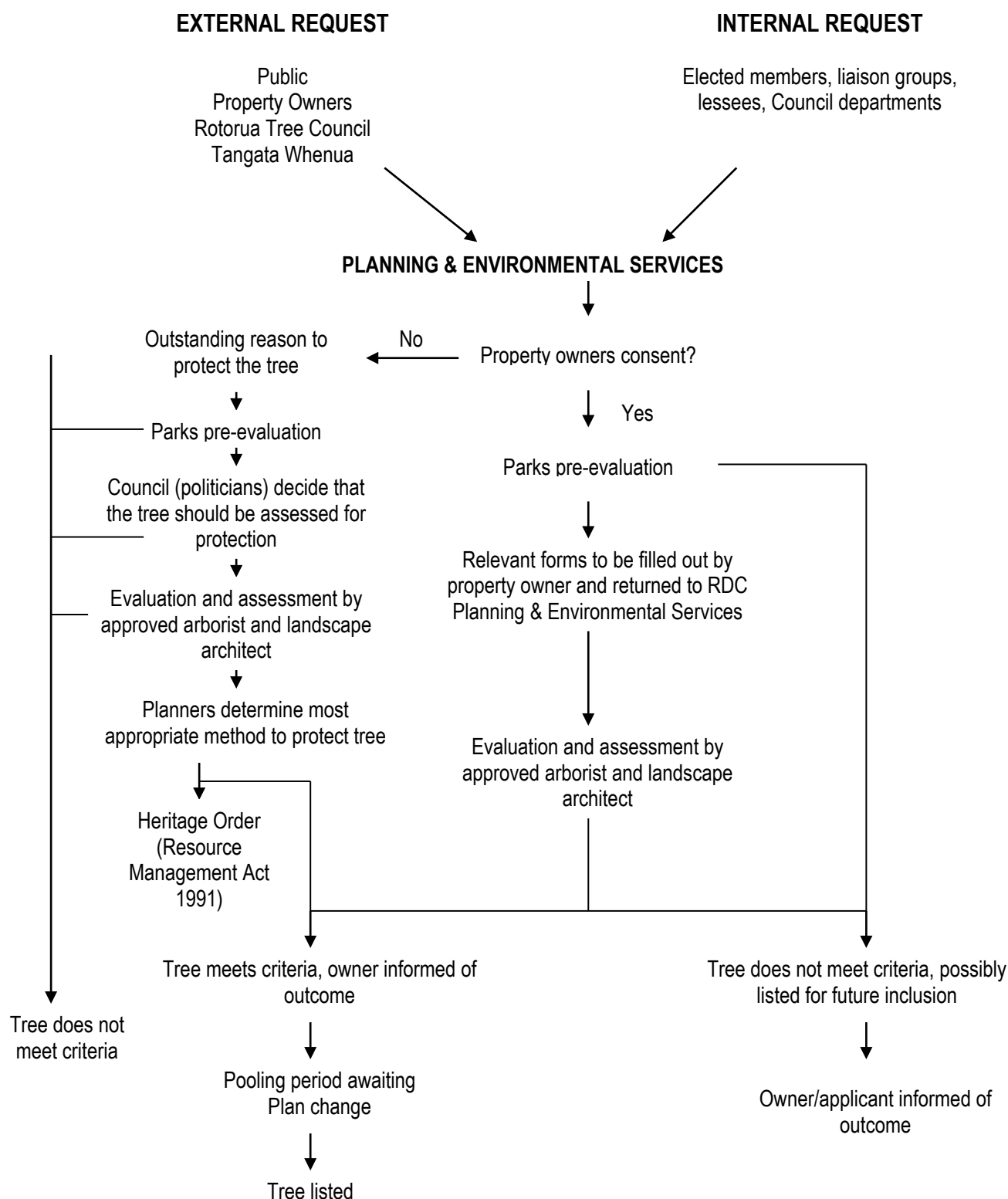


REQUEST FOR SERVICE FOR DISTRICT PLAN PROTECTED TREES - ALL ENQUIRIES

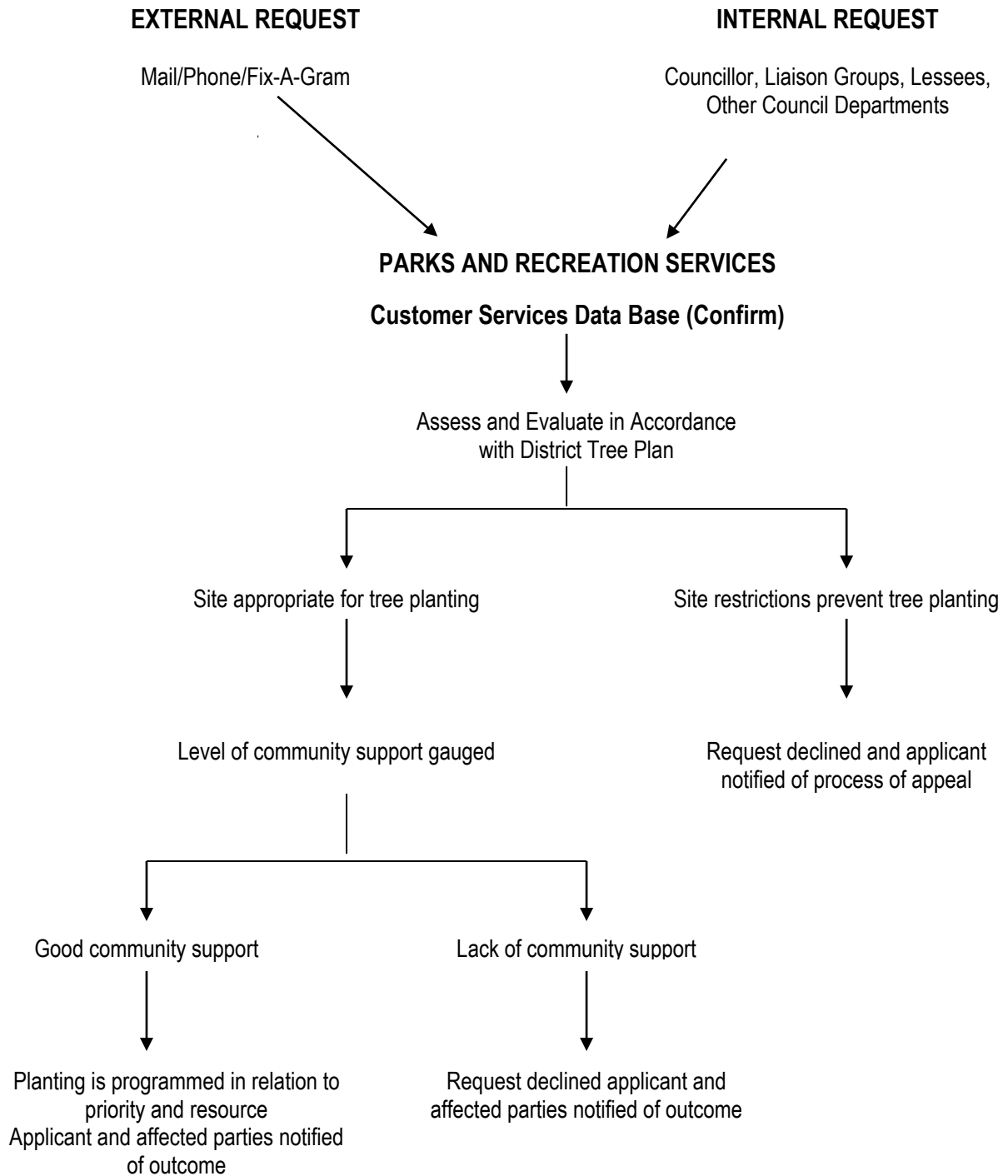


Note: District Plan is subject to full Rotorua District Council approval (District Plan Hearings)

REQUEST FOR SERVICE FOR TREES TO BE PROTECTED BY THE ROTORUA DISTRICT PLAN – NEW LISTING



REQUEST FOR SERVICE FOR DISTRICT TREE PLAN - PLANTING STREET TREES



PROTECTED TREES

1. Current Protection

Appendix A of the District Plan lists 35 exotic and indigenous trees throughout the District which are protected. The majority of these trees are located on private property. 1.5 of the District Plan identifies the criteria used to identify these trees, and a1.5.1-3 lists the trees themselves (this list is included in the Rotorua District Tree Plan, (refer to Appendix F).

The number of trees listed is a small proportion of the total number of trees within the district that could be listed, but includes those that at the time were noted as having one or more of the features in a1.5.

The Plan protects these trees through a series of rules that vary slightly according to the zone. In general any activity within the dripline of a listed tree requires a discretionary consent, but there are other more general rules regulating interference with trees. As an example, the relevant rules for the residential zones are provided below.

Where there are trees that have amenity values, but not high enough to be listed on the District Plan it offers other opportunities to protect them by, for example, placing conditions on subdivision or development. Remnant areas of bush over a certain size and area are subject to rules of the District Plan. This provides an opportunity to maintain or enhance amenities of existing areas.

2. Protected Tree Evaluation

Since the trees in the District Plan were identified, a new national system of evaluating trees has been developed. This is set out in the STEM Manual (Standard Tree Evaluation Method, Ron Flook, 1996, ISBN: 0-473-04039.5), and has been adopted by this plan (refer to Appendix G.)

STEM was developed by the RNZIH (Royal New Zealand Institute of Horticulture) and adopted by the NZAA (New Zealand Arborists Association). It assesses a number of criteria, giving each a score. The criteria are as follows:

- Condition evaluation
- Amenity evaluation
- Notable evaluation
 - Stature
 - Historic
 - Scientific

The points from each criterion are added to give a total evaluation score.

3. Values of Trees

(a) All growing trees have a value. This value will vary greatly, being dependent upon a range of variables, such as:-

- Species
- Age
- Condition
- Rarity
- Position
- Function

- Historic or cultural associations

Refer to Section 4.7 for the policy for determining the monetary value of a tree and Appendix J for method.

4. Classification Levels of Protected Trees

The STEM system (Appendix F) will be used to identify important trees and to assign three classification levels to them. This will identify trees that are of particular importance and to ensure there is a continuity of trees coming up through the 'ranks', i.e. trees with the potential to be significant to the District.

(a) Notable Tree

These trees are recognised by all or some of the following:

Stature, Historic, Amenity, Scientific Values and are therefore of importance to the local, regional, national, or even possibly, the international community.

Protection of notable trees is highly desirable.

(b) Listed Trees

These are trees that are nominated usually by the landowner, but are not up to "Notable". They would need to have the potential to make Notable Tree status.

5. Method of Implementation

Evaluations will be carried out in response to requests from the public and organisations such as the Rotorua Tree Council (RTC) and RDC (Appendix C). All nominations of trees on private property will require the property owners consent before evaluation is considered.

Parks Asset staff in association with members of the RTC will inspect, pre-evaluate, and recommend individual trees or groups of trees using STEM to determine if trees have the potential to accumulate enough points to be included as Landscape or Notable Trees.

(a) Protected Trees

- (i) Selected from existing scheduled list of trees.
- (ii) By nominations.

For a tree to be included as a 'Notable Tree' it must score a minimum 140 points. Final evaluation will be carried out by an arborist and a landscape architect.

Example of Rules Within The Existing District Plan Concerning Trees:

D	Discretionary (need a consent)
P	Permitted as of right provided conditions are met
Appendix A	Included as Attachment a1.5 (current list of Protected Trees)

ACTIVITIES	RESIDENTIAL ZONES				
	A	B	C	D	TD
30. Activities otherwise permitted or controlled: (a) on sites which contain an historic building, historic church, historic structure, historic site, archaeological site, Marae or natural heritage site listed in Appendix A (District Plan) ; or (b) within the Tree Protection Area (Rotorua Tree Plan section 4.8.2.5) of a significant tree listed in Appendix A (District Plan)	D	D	D	D	D
38. Felling or destruction of any (remnant) indigenous tree with a height of less than 6m, and having a trunk circumference of less than 90cm at a height of 1.4m above ground level. Where a tree has multiple trunks, the trunk circumference shall be the aggregate measurement of all trunks	P	P	P	P	P
39. Felling or destruction of any exotic tree (except those listed in Appendix A (District Plan))	P	P	P	P	P
40. The regular maintenance of trees, removal of trees suffering from any untreatable disease, work immediately necessary to avoid injury to persons or damage to property, and the actions of any statutory authority in carrying out work authorised by statute	P	P	P	P	P
41. Activities involving the clearance or modification of indigenous vegetation, the drainage or infilling of wetlands, the felling or destruction of any (remnant) indigenous tree, other than provided for as a Permitted Activity	D	D	D	D	D

Appendix F

ROTORUA DISTRICT PLAN SCHEDULE OF PROTECTED TREES

District Plan Number	Botanical Name	Location	Notes
H3.1	<i>Ginkgo biloba</i>	Government Gardens	Planted circa 1892. Located near totem pole.
H3.2	<i>Sequoia sempervirens</i> 'Pendula'	Government Gardens	Planted circa 1892
H3.3	<i>Thuja occidentalis</i>	Government Gardens	Planted circa 1890. Largest of this species in New Zealand.
H3.4	<i>Ginkgo biloba</i>	Kuirau Park	
H3.5	<i>Quercus</i> species	Pererika Street Reserve	
H3.6	<i>Liriodendron tulipifera</i>	Pererika Street Reserve and Rotorua Boys High School	Planted on Arbor Day, 19 July 1933.
H3.7	<i>Dacrydium cupressinum</i>	Rotorua Boys High School	Largest of three trees planted in 1934 by Taiporutu Mitchell.
H3.8	<i>Liriodendron tulipifera</i>	Rotorua Boys High School	One in a row of trees planted on Arbor Day, 19 July 1933.
H3.9	<i>Podocarpus totara</i>	Rotorua Boys High School	Planted by Mrs. Peter Fraser, the wife of the Prime Minister on 12 September 1944 in honour of Taiporutu Mitchell.
H3.10	<i>Populus yunnanensis</i>	Rotorua Boys High School	
H3.11	<i>Quercus borealis rubra</i>	Rotorua Boys High School	
H3.12	<i>Quercus ilex</i>	Rotorua Boys High School	
H3.13	<i>Quercus robur</i>	Rotorua Boys High School	
H3.14	<i>Sequoia</i>	Rotorua Boys High	

	<i>sempervirens</i>	School	
H3.15	<i>Sequoiadendron gigantea</i>	Rotorua Boys High School	Planted by H.A. Goldie, Arbor Day 19 July 1933.
H3.16	<i>Cryptomeria japonica</i>	Scion campus	Largest examples of this species in New Zealand.
H3.17	<i>Pinus echinata</i>	Scion campus	Planted circa 1908.
H3.18	<i>Pinus leiophylla</i>	Scion campus	Planted circa 1903.
H3.19	<i>Pinus taeda</i>	Scion campus	Planted circa 1903.
H3.20	<i>Pinus montezumae</i>	Whakarewarewa School	
H3.21	<i>Quercus x heterophylla</i>	Whakarewarewa School	Rarely seen in New Zealand.
H3.22	<i>Acer palmatum</i>	22 Vista Place	
H3.23	<i>Cryptomeria japonica</i>	2 Ford Road	The one remaining survivor of the once two trees which stood either side of the gateway to Ford's farm.
H3.24	<i>Cunninghamia lanceolata</i>	3 Riverholm Drive	Planted circa 1892.
H3.25	<i>Dacrycarpus dacrydioides</i>	1105 State Highway 30	Refer SNA 43.
H3.26	<i>Dacrycarpus dacrydioides</i>	380 Ngongotaha Rd	Refer SNA 9.
H3.27	<i>Dacrycarpus dacrydioides</i>	5a / 110 Curtis Road	Planted by Sir Frank and Lady Mappin. Located north of Moose Lodge.
H3.28	<i>Juglans cordiformis</i> var. <i>ailantiflora</i>	19e Te Mu Road	Planted by Rev. Spencer in 1860 on the Old Te Mu Mission site.
H3.29	<i>Metrosideros excelsa</i>	205 Kawaha Pt Road	
H3.30	<i>Prumnopity taxifolia</i>	Hongi's Track, State Highway 30	The track was founded by Chieftainess Hinehopu, who planted the Matai beside the track.
H3.31	<i>Quercus palustris</i>	401 Old Taupo Road	
H3.32	<i>Quercus robur</i>	Corner. Of Arawa Street and Amohia Street	Planted in the 1880s by the Rev. F. Spencer with an acorn which came from New Zealand's

			original oak tree which had itself been brought as an acorn from Goat Hill, Dorset, England by the Rev. E. Davis in 1824.
H3.33	<i>Quercus robur</i>	North side of Pukeroa Hill (Hospital)	Planted by Jean Michel Camille Malfroy on 20 January 1884.
H3.34	<i>Sequoia sempervirens</i>	Hamurana Lakeshore Reserve	
H3.35	<i>Sequoia sempervirens</i>	Long Mile Road	Grove planted in 1901.

Figure 1: Boys High Notable Trees



Standard Tree Evaluation Method (condensed form)

CONDITION (HEALTH)

This section would be assessed by a member of the New Zealand Arboriculture Association or by a qualified horticulturalist. (The arborist or horticulturalist for convenience in this section will be referred to as an arborist). All professionals have to establish their credentials in evidence for court cases.

Note: it is vital when evaluating a tree that each of the criteria is assessed separately. For example you should not be thinking about the occurrences of species when assessing the form of the tree.

FORM OF TREE

Botanical assessments need to be made about the tree. To obtain the most points, the tree should be reliable in structure and be a good example of the species. The evaluation process must be objective and assess trees which are worthy. A comparison by the arboriculture assessor of known examples of local trees within a district of the same species would be the reference for awarding points under this section. This would also help resolve geographical differences in tree form.

OCCURRENCE OF THE SPECIES

This criterion is an assessment of botanical detail and prompts the recognition of native species. The range for assessing the occurrence of a species would be based on the number of trees within the local district boundary. The local district boundary also establishes the area of community interest. This can also apply in a wider sense, depending on the experience of the evaluator to the town, city, district, region or nation. Experienced arborists would have a practical knowledge of the occurrence of tree species and cultivates within the district or districts in which they work.

VIGOUR AND VITALITY

The meaning of vigour and vitality in the evaluation process is the assessment of the health of the tree. Trees in maturity can display vitality while younger trees can show greater vigour in their growth rates. A trained observer would be able to detect vitality and vigour and so diagnose the apparent health of the tree being assessed. Many notable trees in national importance may not display vigour, but can have vitality, so proving their continued survival potential.

The security of a tree's tenure of a site is also important. Constant threats to trees in urban and rural situations are caused by human actions, car smashes, power lines, new roads, subdivisions, leaking mains, etc. Changes in the water table levels through site works or damage caused by storms also play a part. Trees do shed branches but this often is to enable the tree to sustain its natural balance. The cause of this natural balancing effort by the tree would be detectable in most cases by an experienced arborist. Observations made of the tree's condition such as wounds or

fractures of bark and limb would indicate to the arborist the potential survival period of a tree in its location.

FUNCTION

Trees provide products in flowers, fruit, foliage and timber. There are many other good things tree offer such as pollution filters of fumes, dust and noise. The following are some examples of usefulness. These factors should be taken into account as less obvious examples of the broader functions trees fulfil within ecosystems:

Physical

- Recycling of nutrients
- Absorbing toxins
- Neutralising sewage
- Screening noise
- Soil stabilisation and erosion protection
- Salinity control

Conservation

- Acting as a wildlife corridor
- Providing a refuge/shelter or food source for wildlife whether urban or rural
- Providing consumer products such as food, medicine and building materials
- Representative of the native vegetation now depleted in the wild
- Critical habitat for threatened fauna
- Critical habitat for indigenous flora and fauna

AGE

The loss of a mature tree due to human actions leaves a time lapse before another tree will fulfil similar functions. Therefore age plays an important part in assessing the merits of a tree. A judgement on age can only be done by an arborist who is familiar with tree biology and history. Some tree species are short lived and in many cases there are no records to establish longevity for indigenous or exotic species in New Zealand. The RNZIH Notable tree Register is the only reference to amenity trees and their durability at present.

CONDITION EVALUATION SCORE SHEET

To achieve an easily understood point system it is necessary to have at the outset low numbers to work with. The score points for the criteria should also be numerically sound by relating to numerical precedents. Ideally these points should be able to be expressed as a percentage which, under certain circumstances, is more readily understood. This system uses a starting figure of 3 points minimum rising to 30 points maximum. Perfection in an organic object such as a tree would be unnatural. Therefore the maximum points awarded would be 27 or 90%.

Score Sheet

Points	3	9	15	21	27	Score
Form	Poor	Moderate	Good	Very Good	Specimen	
Occurrence	Predominant	Common	Infrequent	Rare	Very Rare	
Vigour & Vitality	Poor	Some	Good	Very Good	Excellent	
Function	Minor	Useful	Important	Significant	Major	
Age (Yr)	10yrs +	20yrs +	40yrs +	80yrs +	100yrs +	
Subtotal Points						

AMENITY (COMMUNITY BENEFIT)

This section would be assessed by qualified persons trained in the inter-relationships and aesthetics of the community environment eg: Landscape Architects, Planners, Parks & Recreation professionals, etc. An amenity section is also important because it can relate to property evaluations leading on to valuations, the prerogative of real estate professionals and valuers. This would not exclude other professionals with proven experience from amenity evaluation assessments. These merits are less tangible than those in the Condition Evaluation but can still be assessed. These professionals will be referred to as “amenity assessors” in this section and will need to be able to establish their credentials in evidence in court cases.

STATURE

Height or width is used to describe a tree's size for the purposes of this evaluation method. For this reason, stature is included under the amenity section. It is a factor that is understood by all, whether tree lovers or not. Methods for measuring height and width are well tried and readily available for use as a convenient step. To assess stature it is recommended that either the height or the width, whichever is the greater is recorded in the Amenity Evaluation worksheet.

VISIBILITY OF TREE

The importance of the position of a tree is used to identify trees which contribute as a visual feature in both urban and rural situations. They often provide an orientation device for the community especially in cities where at times few landmarks exist. Importance of position is established by finding the viewpoints from which a tree can be seen. To do this, a measurement is made of the furthest distance that the tree can be seen from any observation point of 0.5km – 1km – 2kms – 4kms – 8kms plus. These distances were set in the Nelson region where the terrain is very hilly. In flatter regions, the distances would be extended to suit the terrain.

PROXIMITY OF OTHER TREES

This criterion recognises the potential significance of a lone tree in an urban situation. The rationale in the broadest terms is that one tree in a street or in a bare field draws attention to itself, meaning the fewer trees the more they are valued. A stand or group makes a block. A tree could be lost in the block without dramatically changing the overall impact in the composition of a vista.

However it follows that continued losses of trees on a regular basis would ultimately deplete the block. This fact assists in an incremental way, meaning the fewer the trees the higher the points given. Blocks of trees are given higher values in other criteria and should not cloud a judgement in this part of the assessment.

Should a situation arise where a single tree dominates its many smaller neighbours, this tree would lose merit points in this section but would gain high points in eg, stature, visibility, role in setting and climatic influence as well as possibly in the section on notable criteria.

ROLE IN SETTING

This criterion assesses a tree or trees' value in a setting or as part of a composition. The word "role" provides the key. The question is posed by asking how a particular scene or place would look without the tree. A positive role conveys a meaning of a harmonious relationship or the identification of a particular place. Role expresses the visual and amenity contribution made by a tree in a location.

The tree may also be a component in a landscape, view or street or relate to a building. This could be a churchyard Yew for example, which may have cultural significance as would a tree on a Marae. A tree may be a special feature in it's location. It could also be a natural focus in an urban situation devoid of organic objects.

The questions are asked:

- Does it contribute to the setting?
- Does it have an association with a tradition?
- Does it revive cultural images or serve commemorative purposes?
- Is its purpose to enhance or conceal a view desirable or undesirable?
- It is attractive to fauna whether in the urban or rural situation?
- Does it lend serenity to an urban or rural open space?
- Does it contribute to property valuates.

The role in setting describes a tree's streetscape or open space merit which can be the bookmark of the local community's point of interest. Its role being regarded as a "Signature of Place".

CLIMATIC INFLUENCE

Formulae can be applied to demonstrate their effectiveness for example, as windbreaks. While belts of trees can be effective, windbreaks it will be essential to have an elementary grasp of the principles of windflow patterns around trees in groups or lines.

Scientific assessments for normal purposes would be unduly arduous. The point is made that a tree or trees noticeably affect the assessor's physical or observational experience of the site. Experienced professional amenity assessors would be able to give a fair view on climatic influences caused by a tree or trees.

THE AMENITY EVALUATION SCORE SHEET

To achieve an easily understood point system it is necessary to have, at the outset, low numbers to work with. The score points for the criteria should also be numerically sound by relating to numerical precedents. Ideally these points should be able to be expressed as a percentage. This system uses a starting figure of 3 points minimum rising to 30 points maximum. Perfection in an organic object such as a tree would be unnatural. Therefore the maximum award would be 90%. By taking the minimum and expressing it as a fraction of the maximum a percentage figure can be arrived at. This occurs with all the incremental scores of 6 as follows:

Points	3	9	15	21	27	Score
Stature (m)	3-8	9-14	15-20	21-26	27+	
Visibility (km)	0.5	1.0	2.0	4.0	8.0	
Proximity	Forest	Parkland	Group10+	Group3+	Solitary	
Role	Minor	Moderate	Important	Significant	Major	
Climate	Minor	Moderate	Important	Significant	Major	
Subtotal Points						

NOTABILITY (DISTINCTION)

This section is only used to qualify trees of major importance and usually over 50 years old. Otherwise it is left blank. Both condition and amenity criteria can be combined to give supporting evidence for a tree deserving special merit. Several assessors can be used in cases of doubt and conclusive proof is catered for by having an assessment table for Notable Criteria. These criteria are based on local, regional or national recognition or specialist understanding of the particular merits of a tree. These criteria reinforce the previous ratings and give weight to the argument for the significance of a particular tree or group of trees. (See Appendix 3, RNZIH Notable Trees Procedure for Registering and Labelling of Trees).

This section details the overriding major factors used in describing the notable qualities of a significant tree, group or stand of trees. These notable qualities are awarded for stature, historic or scientific merit. Often quite diminutive trees or those less shapely in maturity can have values recognised by a specialist's knowledge of the tree's background. Also many trees would be irreplaceable due to their growing under extraordinary circumstances where replacements would be unlikely to survive. For example, some Pohutukawa's cling spectacularly to cliff faces and could never be replanted, eg: North Shore, Auckland. Many other trees survive in narrow spaces between buildings often to great visual effect. Thought should be given here to relict, remnant or endangered species which may never be able to regenerate due to changed environmental circumstances. There is the need to consider the intrinsic value of certain trees to some ecosystems. Additional merit points awarded in this category must be supported by written research evidence.

The evaluation form for this section is divided into five column headings: Local District, Regional, National and International. The individual merits are then allocated points against the following criteria.

Notable Criteria

Stature

- Feature – a dominant
- Form – a specimen

Historic

- Age over 100 years
- Association
- Commemoration
- Remnant
- Relict

Scientific

- Source
- Rarity
- Endangered

STATURE

Feature

Trees that qualify in this section are those that can be verified as having exceptionally large proportions. They would be of special visual interest due to their height, spread, trunk dimensions, unusual or sculptural shape, eg: windswept.

Form

The tree would have to be recognised as an outstanding example of the species. This can also apply to groups of trees.

HISTORIC

The Royal New Zealand Institute of Horticulture has a set of criteria for Notable and Historic Trees which has been developed since 1977.

The NZ Historic Places Act 1993, clause 23, defines the *Criteria for the Registration of Historic Places and Historic Areas*. 1993. It should be noted that any of the following attributes, if proven with written evidence, can qualify the tree for some legal protection. This is possible in cases where tree protection needs to be invoked for the reasons set out below.

Age

To qualify under this sub-heading the tree would need to have an authoritative and well documented age of over 50 years.

Association

Trees must have a well recorded association with a major natural or planned event, an eminent person or perhaps be known and revered for traditional or cultural significance.

Commemoration

Trees that have been planted to commemorate an occasion would qualify under this criterion. This is particularly the case with early Arbor Day plantings or links with occasions of importance in New Zealand's history such as battles or treaties.

Remnant

'..... a trace or vestige'.

This applies to remnants of native forest or exotic tree plantations, eg: some areas of Cornwall Park (One Tree Hill), Auckland. This section may give added weight to the outstanding merits of a tree because of its intrinsic value to a particular ecosystem. Points for proven importance to flora or fauna can also be awarded.

Relict

'a plant or animal species living in an environment which has changed from that which is typical for it...'

This description applies when a tree exists in an environment which has changed from that which is typical for that tree species.

SCIENTIFIC

Source

Trees that gain special recognition under 'source' documentary evidence of their rarity.

Endangered

Trees in this category are assessed as threatened under the criteria developed by the International Union for the Conservation of Nature (IUCN).

- locally threatened
- rare
- endangered
- threatened
- critical

THE NOTABLE EVALUATION SCORE SHEET

To achieve an easily understood point system, it is necessary to have, at the outset, low numbers to work with. The score points for the criteria should also be numerically sound by relating to numerical precedents. Ideally these points should be able to be expressed as a percentage. This system uses a starting figure of 3 points minimum rising to 30 points maximum. Perfection in an organic object such as a tree would be unnatural. Therefore, the maximum award would be 90%.

This occurs with all the incremental scores of 6 as follows:

Recognition Points	Local 3	District 9	Regional 15	National 21	International 27	Score
Stature						
* Feature						
* Form						
Historic						
* Age 100+						
* Association						
* Commemoration						
* Remnant						
* Relict						
Scientific						
* Source						
* Rarity						
* Endangered						
Subtotal Points						
Total Points						

Appendix H

ISA Tree Hazard Evaluation Method (condensed form)

A hazard rating method has been developed by the International Society of Arboriculture that awards points from 1 to 4 for each of three criteria:

- I Failure Potential
 - 1. Low: Defects are minor
 - 2. Medium Defects are present and obvious
 - 3. High: Numerous and/or significant defects present
 - 4. Sever: Defects are very severe

- II. Size of defective part most likely to fail
 - 1. <150mm
 - 2. 150 - 450mm
 - 3. 450 – 750mm
 - 4. >750mm

- III Target rating
 - 1. Occasional use
 - 2. Intermittent use
 - 3. Frequent use
 - 4. Constant use

These are then added to give a rating between 3 and 12 that can then be used to aid decisions on any hazard abatement works required.

The Australian/New Zealand Standard for Risk Management

As/Nz 4360:1999 contains a six step process:

1. Establish the context. Significance, protection, etc
2. Risk identification, what is the potential for the tree to fail
3. Risk assessment, what is the degree of risk
4. Risk evaluation, what risks should be treated
5. Risk treatment, what treatments can be used
6. Monitoring and reviewing, communication and consultation

Steps 3 and 4 can be carried out with the aid of the risk priority matrix.

The risk priority matrix:

Impact		Negligible	Minor	Major	Catastrophic
Likelihood		1	2	3	4
Likely	1	Moderate	High	High	Extreme
Possible	2	Moderate	Moderate	High	Extreme
Unlikely	3	Low	Low	Moderate	High
Rare	4	Low	Low	Moderate	Moderate

The likelihood descriptor can be substituted for the failure potential from the ISA hazard evaluation form. The impact descriptors are as follows:

*	Negligible	No injuries, no damage
*	Minor	First aid treatment, small damage to property
*	Major	Medical treatment required, major damage to property
*	Catastrophic	Extensive injuries or death, extensive damage to property

The action required can then be taken from the matrix as follows:

*	Low	Take no action
*	Moderate	Review, monitor
*	High	Take some remedial action
*	Extreme	Take immediate action

ISA Tree Appraisal Method (Trunk Formula Method) (Condensed Form)

The Trunk Formula Method is recommended for appraising tree values considered to large to be replaced with nursery or field stock. This method determines the Appraised Value of a tree by using a Basic Tree Value to give a Basic Price for an appraised tree and then adjusting that price depending on the appraised tree's Location, Condition and Species rating.

The following summarises the procedure of calculating the Appraised Value of a Tree;

Basic Tree Value

The basic value of a tree is the sum (based on current costs) of transplanting the largest normally available(used) tree of a comparable species in the region

Basic Price of Appraised Tree

Is the difference in trunk size between the transplanted tree and the appraised tree and this difference in cm² is used to multiply the Basic Value which gives a Basic Price for the appraised tree. Once a basic price has been obtained this price is then adjusted using percentage ratings of; Condition, Location and Species.

Condition of Appraised Tree

The Condition of a plant is determined by evaluating its present structural integrity and state of health, and if necessary, its structure and health prior to being damaged. The many factors involved in assessing the condition of a plant require the skill of qualified plant diagnostician.

Each of the following is given a points rating;

Roots (1-5)

Trunk (1-5)

Major Branches (1-5)

Minor Branches (1-5)

Foliage and/or Buds (1-5)

These points are added and multiplied by 4 to give a percentage rating for the Appraised trees condition

Location of Appraised Tree

Location involves the Site of a property or landscape, a plants unique functional and aesthetic Contributions and the Placement of the individual plant in a specific landscape.

Each of the following has a percentage rating;

Site (10-100%)

Contribution (10-100%)

Placement (10-100%)

These percentages are added together and divided by 3 to give an average percentage rating for the Appraised trees location.

Species Suitability of Appraised Tree

An unlimited number of plant species and cultivars grow in landscapes and field plantings. Even within a species individuals and cultivars have wide ranges of aesthetic, architectural, functional, environmentally adaptive and maintenance characteristics and/or requirements.

The Species rating often varies geographically, depending on the species relationship with its environment. A characteristic of a species may be an asset in one region and a liability in another region.

Each of the following points are considered when determining species suitability for a region;

Climatic Adaptability

Growth Characteristics

Soil Adaptability

Resistance or Tolerance

Maintenance Requirements

Allergenic Properties

Aesthetic Values

On consideration of the above points a percentage is given for the Appraised trees species suitability.

The Trunk Formula method is summarised mathematically as;

Transplantable tree cost = **Basic Value**

(Appraised Tree Trunk size divided by transplantable tree trunk size) in cm² x **Basic Value** =
Basic Price of Appraised Tree

Basic Price in \$ x Condition% x Location% x Species% = Appraised Tree Value in \$.

ROTORUA DISTRICT COUNCIL TREE WEED LIST

Plant Pests EBOP,
Environmental Pest Plants in Rotorua Lakes Area (DOC)
More particular the following trees;

- *Acer negundo*
- *Albizzia lophantha* 'Wattle'
- *Cornus capitata* 'Strawberry Tree'
- *Fraxinus ornus* 'Manna Ash'
- *Juglans ailantifolia* 'Japanese Walnut'
- *Ligustrum lucidum* 'Tree Privet'
- *Ligustrum sinensis* 'Chinese Privet'
- *Prunus serulata* 'Japanese Cherry'
- *Robina pseudoaccia*
- *Salix cinerea* 'Grey Willow'
- *Salix fragilis* 'Crack Willow'

Appendix L

SUITABLE STREET TREES FOR ROTORUA DISTRICT URBAN AREAS AND LAKES

Botanical name	Common name	Growth	Size	Form	Type	Comments
Acer Palmatum 'Bloodgood'	Japanese Maple	S	S	S	D	Protect from wind, particularly when young.
Acer palmatum 'Fireglow'	Japanese Maple	S	S	S	D	(as above)
Acer palmatum 'Katsura'	Japanese Maple	S	S	S	D	(as above)
Acer palmatum 'Osakazuki'	Japanese Maple	S	S	R	D	(as above)
Acer palmatum 'Senkaki'	Japanese Maple	S	S	S	D	(as above)
Acer palmatum 'O'Kagami'	Japanese Maple	S	S	S	D	(as above)
Amelanchier canadensis	Shad Bush	M	S	V	D	Does sucker
Arbutus unedo	Strawberry tree	S	M	R	E	Fruit drop may stain hard surfaces. Rather inclined to be wide and spreading.
<i>Alectryon excelsus</i>	Ti Toki	S	S	R	E*	Borderline in Rotorua. Susceptible to frost damage when young. Has a very low and dense crown unsuited to street planting. Poor unions
<i>Banksia integrifolia</i>	Coastal Banksia	M	M	C	E	Good source of nectar to native birds.
<i>Cercidiphyllum japonicum</i>	Katsura tree	M	M	P	D	Needs summer moisture. Marvellous autumn colour, vanilla smell.
<i>Cordyline australis</i>	Cabbage tree	S	M	E	E*	Leaves may cause problem to mower operations
Cordyline 'Green Goddess'	-	S	S	E	E*	Leaves may cause problem to mower operations. Smaller than type.
Cordyline Purple Tower	Purple Cabbage Tree	S	M	E	E*	Leaves may cause problem to mower operations. Inclined to die at a young age.
Camellia reticulata	-	S	S	R	E	
Cornus Eddies White Wonder	Dogwood	S	S	C	D	Good spring flowers and brilliant autumn foliage
Cornus florida 'Cherokee Chief'	Dogwood	S	S	R	D	Good spring flowers and brilliant autumn foliage
Cornus florida 'Daybreak'	Dogwood	S	S	S	D	Good spring flowers and brilliant autumn foliage
Cornus florida Cloud No.9	Dogwood	S	S	R	D	Good spring flowers and brilliant autumn foliage
Cornus florida 'Stokes Pink'	Dogwood	S	S	R	D	Good spring flowers and brilliant autumn foliage
Cornus kousa Satomi	Dogwood	S	S	R	D	Good spring flowers and brilliant autumn foliage
Cornus kousa National	Dogwood	S	S	R	D	Good spring flowers and brilliant autumn foliage

Botanical name	Common name	Growth	Size	Form	Type	Comments
<i>Cornus nuttallii</i>	Dogwood	S	S	S	D	Good spring flowers and brilliant autumn foliage
<i>Callistemon 'Citrinus Splendens'</i>	Bottlebrush	M	S	S	E	Advantage is flowers produced during summer. Slow to make a tree stature.
<i>Chamaecyparis obtusa 'Crippsii'</i>	Golden Hinoki	S	M	P	E	
<i>Dacrydium cupressinum</i>	Rimu	S	L	P	E*	Shelter when young
<i>Dodonea viscosa</i>	Ake Ake	F	S	O	E*	Can be temperamental and die at a young age.
<i>Fagus sylvatica 'Dawycks Gold'</i>	Upright Beech	S	M	C	D	
<i>Fagus sylvatica 'Dawycks Purple'</i>	Upright Beech	S	M	C	D	Neither of these are very pleasant to look at.
<i>Ginkgo biloba 'Autumn Gold'</i>	Maidenhair Tree	S	M	P	D	
<i>Gleditsia tricanthus 'Sunburst'</i>	Honeylocust	F	M	S	D	A very unstable and fast growing tree. Not recommended – <i>Gleditsia</i> spp. not recommended.
<i>Knightia excelsa</i>	Rewarewa	M	L	C	E*	Tulip may be a problem particularly when young. The tree is a very good specimen in dry, harsh conditions
<i>Kunzea ericoides</i>	Kanuka	S	S	O	E*	Once considered scrub now considered an excellent street or specimen tree. Hear, hear!
<i>Lagerstroemia</i>	Crepe Myrtle	S	S	S	D	Grown for its bark and colourful autumn flowers
<i>Leptospermum scoparium</i>	Manuka	M	S	S	E*	Not very good as a specimen, excellent as a backdrop or a filler.
<i>Leptospermum 'Copper Sheen'</i>	Australian tea tree	M	S	S	E	Copper toned leaves. Very poor form inclined to fall down at a small size. But attractive and wide spreading and thrives in harsh, dry conditions.
<i>Liriodendron tulipifera 'Arnold'</i>	Upright Tulip Tree	M	M	C	D	Attractive shape, light branches, quite stable for many years. Never seen a very large specimen.
<i>Malus</i> spp and cvs???	Various shapes and forms	s-M	M	C	D	A wide variety of shapes and mostly healthy and hardy
<i>Melia azedarach</i>	Indian Bead	M	M	S	D	Fine tree many attractive features =flowers, fruit, foliage, autumn colour. Fast growing and generally stable, needs careful form pruning.
<i>Metrosideros excelsa</i>	Pohutukawa	M	M	S	E*	For this area, it is

Botanical name	Common name	Growth	Size	Form	Type	Comments
(Mokoia Island form)						preferable to use the Mokoia Island form. never will be a better species than Pohutukawa
<i>Metrosideros robusta</i>	Rata					Lovely tree
<i>Plagianthus regius</i>	Ribbonwood	M	M	C	D/E*	Upright while juvenile. Rounded when mature.
<i>Pseudopanax crassifolius</i>	Lancewood	M	S	R	E*	Upright, then rounded.
<i>Pistacia chinensis</i>		M	S	S	D	Erect at first then spreading. Not always the most stable of trees. Is there a heritage of these trees?
<i>Prunus serrulata</i> 'Shirotae'	Flowering Cherry	M	S	S	D	15-20 year life span, subject to disease problems like Silverleaf
<i>Prunus serrulata</i> 'Shimidsu-Sakura'	Flowering Cherry	M	S	R	D	15-20 year life span, subject to disease problems like Silverleaf
<i>Prunus</i> 'Pearly Shadows'	Flowering Cherry	M	S	S	D	15-20 year life span, subject to disease problems like Silverleaf
<i>Pyrus</i> Spp.???	Ornamental pear	M	S	C	D	
<i>Quercus palustris</i>	Pin Oak	F	L	S	D	Retains the brown/dead foliage of autumn, shedding it in spring as new growth commences
<i>Quercus coccinea</i>	Scarlet Oak	M	L	S	D	
<i>Quercus rubra</i>	Red Oak	M	L	S	D	
<i>Quercus robur</i> ???	English oak	m	L	S	D	
<i>Stewartia pseudocamellia</i>		S	S	C	D	Broadly columnar
<i>Styrax obassia</i>		S	S	C	D	
<i>Sorbus aria</i> 'Lutescens'	Golden Whitebeam	M	S	C	D	Broadly columnar
<i>Sophora tetraptera</i> 'Te Atatu Gold'	Kowhai	S	S	S	D/E*	
<i>Toronia toru</i>	Toru	S	S	C	E*	
<i>Rhododendron</i> (in variety)	Rhododendron	S	S	R	E	

KEY

Size	Growth	Type	*
S – Small up to 10m	S = slow	E = Evergreen	N.Z. Native
M – Medium 10m to 20m	M = Medium	D = Deciduous	
L – Large 20m plus	F = Fast		

FORM

S = Spreading
 R = Rounded
 O = Oval
 C = Columnar
 P = Pyramidal
 V = Vase shape
 E = Erect / Palm shape

