Rodney DISTRICT COUNCIL

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A Guideline for Resource Consent applications on sites containing trees, bush and vegetation, protected under a District Plan

The development proposal should include the following key elements:

1. A Scaled Plan

A Scaled Plan accurately locating the position and canopy spread of all protected trees and vegetation on the site and neighbouring sites, where that vegetation may be affected by the proposal.

2. A Tree Survey

A Tree Survey undertaken by a recognised arborist. Who has – through relevant education, training and/or experience – gained expertise in the field of amenity tree management on construction and development sites. The Tree Survey must record all trees and vegetation subject to protection as identified in the District Plan, marked upon the scaled plan with a schedule or legend including the following information:

a) Species (common and scientific names, where possible).

b) Tree height, diameter at breast height (DBH) or Stem Girth (circumference at 1.4m above adjacent ground level.)

c) Actual branch canopy spread, showing the widest span.

d) Age class – e.g. juvenile, early mature, mature, post-mature.

e) A description of tree physiological and structural condition and root environment.

f) Observations (e.g. positive features such as wildlife habitat, soil retention or negative features such as structural defects etc.

N.B. The protection status of trees and vegetation will vary by District Plan rules, District Plan Zone, species, DBH or Stem Girth – which may be a cumulative measurement based on stem girths for multi-stemmed trees. Protected trees also have a protected "drip-line" or "root-zone" (see back page).

3. Tree Protection Plan

Damage to trees is often caused because of a failure to appreciate their vulnerability, particularly the root system which can decline in health following detrimental alterations to the soil environment. A tree protection plan including a works methodology must be supplied with every development application and will require the following information to be covered:

a) The tree works may need to be monitored by an experienced and qualified Arborist, to oversee operations undertaken within the defined Tree Protection Zone (TPZ)

b) Tree protective measures such as fencing and ground protection are intended to isolate the rooting areas of vegetation from potentially damaging construction activities. The position of barriers and ground protection zones around the retained trees must be established on the tree protection plan.

c) Trees selected for retention, clearly identified (e.g. by number) and marked on a plan with an accurate continuous canopy outline.

d) Trees to be removed, also clearly identified (e.g. by number) and marked on a plan with a dashed outline or hatching.

e) The precise location for erection of protective fencing and any other relevant physical protection measures including ground protection, marked as an exclusion zone on a plan.

f) Design details of the proposed physical means of protection, indicated through drawings and/or descriptive text.

g) The extent and limitations of any canopy and/or root pruning required to facilitate the development.

h) The precise location for any root barrier systems that may be utilised for the proposed development or proposed structure, with consideration to current engineering standards.

i) Design details of the proposed physical means of protection, indicated through drawings and/or descriptive text.

N.B. Tree Protection fencing should be constructed on a vertical and horizontal framework, and be well braced to resist impacts. Either mesh panels can be welded to this or preferably 2 metre high shuttering board can be securely fixed with wire or scaffold clamps. Weld-mesh panels on rubber or concrete feet without ground anchors are easily repositioned, while flexible hi-visibility plastic mesh and warratah fencing are not resistant to impact. Therefore these types of construction methods are not generally acceptable as adequate tree protection.

4. Works Methodology

Any intrusion within the area defined as a tree protection zone for demolition, construction or other work activity such as driveway construction, installation of utility services, vehicle or pedestrian access is potentially damaging to tree health. A works methodology should take into account the following factors:

a) The tolerance of the species to root disturbance or damage, taking into account tree age and condition.

b) The morphology of the roots, where known to be influenced by past or existing site conditions (e.g. the presence of paths, wall or structures).

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c) The potential for root damage caused by soil compaction and any ground protection measures necessary to minimise damage such as the laying of mulch and or wooden or metal sheeting should be detailed.

d) Topography, soil moisture and drainage and whether this could be altered by the development.

e) Type of construction activities being undertaken and any alternative construction techniques available that would have a lesser adverse impact on the root system and health of the trees or vegetation.

f) The quality of the rooting environment directly after development and for the foreseeable future.

g) Considerations given to permeable surfaces to be used around any retained trees in accordance with current Building Act standards.

h) The space needed for all foundation excavations, including the amount of over-excavation, the operation of machinery, working space, scaffolding, etc.

i) The location and space needed for all service runs including foul and surface water drains, soakage drains, gas, water, electricity, telephone, television or other communication cables.

j) All changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and backfilling.

k) Space for site huts, temporary latrines (including their drainage) and other temporary structures.

l) Space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete.

5. Assessment of Environmental effects (AEE)

Where a development is proposed on a site containing protected trees and vegetation the AEE must address the effects on that vegetation. The arboricultural component of this AEE should be prepared by a suitably qualified and experienced Arborist and include the following:

a) An assessment of the site's trees and vegetation in respect to their visual contribution to the amenity value of the local area. The structure and health of individual trees or groups of vegetation should also be provided.

b) An arboricultural justification for tree removals and works in the root-zone or dripline of retained trees, including management options and maintenance recommendations.

c) An arboricultural assessment of the effects of the proposal upon the long-term health and structural stability of the trees to be retained.

d) Mitigation planting for removal of protected trees, vegetation and/or areas of habitat where appropriate, including a landscape plan which provides details on species, plant sizes, ground preparation, plan implementation, weed control and a maintenance schedule.

6. Additional Precautions outside The Tree Protection Zone (TPZ)

Once the tree protection zone has been established by barriers and/or ground protection, any works on the remainder of the site can be carried out – provided such activities do not impinge on the protected area. Notices should be erected on the tree protection fences with wording such as: *"Tree Protection Zone – No Operations within Exclusion Zone"*

In particular, causing damage in the following ways must be avoided:

a) Oil, bitumen, paint, cement or other material likely to be injurious to a tree should not be stacked or discharged within 10 m of a TPZ.

b) Concrete mixing should not be carried out within 10m of the TPZ. Allowance should be made for the ground slope so that materials such as concrete washings, mortar or diesel oil cannot run towards trees.

c) Notice boards, telephone cables, or other services should not be attached to any part of a tree.

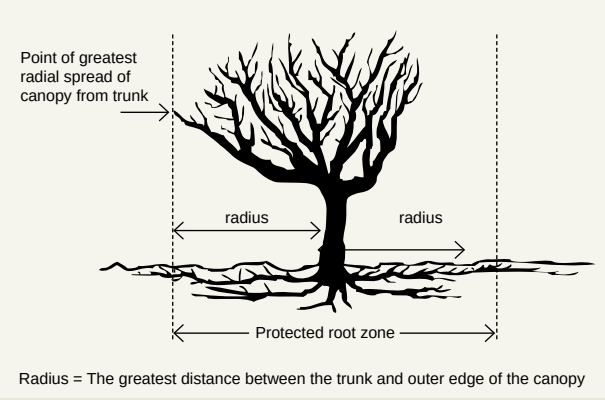
d) Trees to be felled that are adjacent to, or that lie within a continuous canopy of trees to be retained, should be removed with particular care.

e) On sites where working space is constrained the mixing, storage and site hut locations should be indicated on the tree protection plan

ADDENDUM

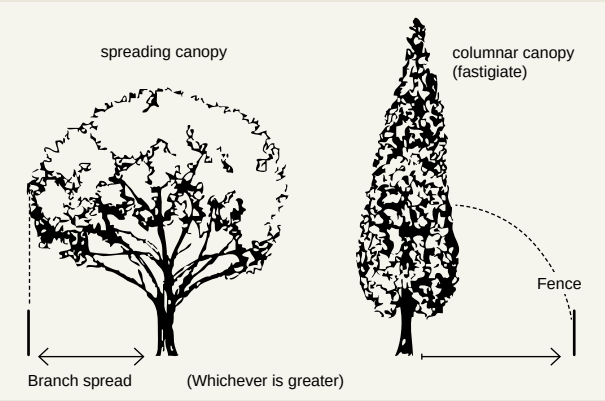
The diagrams below indicate some methods used to calculate the area of a Tree Protection Zone (TPZ):

Protected Root-Zone



Radius = The greatest distance between the trunk and outer edge of the canopy

Protected Drip-line



N.B. For excurrent (fastigiate) species the TPZ = half the height of the tree.