

**JEZ PARTRIDGE – ADDITIONAL NOTES TO ACCOMPANY
SUBMITTER PRESENTATION**

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1.1 Qualifications and Experience

1. My full name is Jeremy Thomas Elliston Partridge. I currently run my own business Treecology Tree Consultancy where I am the Senior Consulting Arborist. Treecology provides planning advice, tree management advice, safety and risk assessments, STEM assessments, Plan Changes and all types of expert arboricultural advice to a wide range of clients including councils, businesses, colleges, and schools.
2. I have around 25 years of experience working in the arboricultural sector as a Climbing Arborist, Council Tree Officer, and Consultant Arborist. I worked as a Climbing Arborist in the UK for Brighton and Hove Council, and then an Arboricultural Officer and Senior Arboricultural Officer for Anglesey County Council, Poole Borough Council, and North Dorset District Council. My duties at these Councils included management and determination of protected tree planning applications, making Tree Preservation Orders, and assessing applications to undertake construction and development in proximity to protected trees.
3. I hold a Level 6 Diploma in Arboriculture at Wintec College, Hamilton, a Level 4 Arboriculture Award from Myerscough College, UK (2020). I am an International Society of Arboriculture (ISA) Certified Tree Risk Assessor (TRAQ Certified). I have been trained in Quantified Tree Risk Assessment though my certification is not current. I hold the Craftsman's Certificate in Tree Surgery from Merrist Wood Agricultural College, UK (1991), a Higher National Diploma (degree) in Environmental Protection from Farnborough College of Technology, UK (1995), and a Master of Science degree in Rural Resource Management from Bangor University in Wales (1997). I have also attended a large number of workshops, training events and seminars on professional arboriculture. I am a member of NZ Arboricultural Associations and have sat on two of its sub-committees.

2 EXECUTIVE SUMMARY

4. I concur with Council that the Notable Trees and their root system require a high level of protection via District Plan Rules. Council has proposed to use the 'dripline or half height method' to determine the area of important structural and feeding roots where the District Plan should control the extent or type of works or activities which can be undertaken to a tree's roots. This method was first used by British Standard 5837 Trees in Relation to Construction in 1991. However, in the 2005 BS5837 the method was withdrawn and replaced by the '12 times stem diameter' method.

5. The 'dripline half tree height' method proposed to be used by Council to determine the extent of a Notable Tree's Root Protection Area (RPA) was withdrawn by BS5837 in 2005 as it contained inherent faults which made it unreliable. It has the potential to lead to loss of important feeding or structural roots, encourage inappropriate tree-building relationships which threaten trees. Within the BS5837 method the half height root protection area method should be used for all trees and not just columnar trees in respect of the size of an RPA. The proposed WCC method is therefore not only not recognised by any International Standard or Arboricultural Association, it is also not even in accordance with the 1991 British Standard 5837 from which it is copied. I am therefore of the opinion that the most appropriate RPA definition for Council to use is the '12 times stem diameter' method as recommended by the NZ Arboricultural Association, and also the British, American, and Australian trees and construction National Standards.
6. Council has proposed allowing excavation within the RPA of Notable Trees using the hydrovac soil extraction method. The 'hydro-excavations can strip the bark from roots, causing damage to the cambium and therefore the flow of water and nutrients between the roots and the canopy'. Airvac soil extraction methods on the other hand are benign to roots, and do not cause significant damage to them. I am therefore of the opinion that the most appropriate soil extraction method for Council to allow within RPAs is the Airvac method, and that consequently reference to the hydrovac method should be removed from the District Plan.
7. The term 'terminal decline' is not defined and is not an accepted arboricultural term. Trees eventually do die but can live for hundreds of years in a state of decay and retrenchment. Veteran older trees often have the most important ecological and cultural value. Such trees should not be allowed to be removed as a permitted activity just because an arborist subjectively decides that such a tree is in 'terminal decline'. The removal of older trees in declining condition should be a Discretionary Activity to ensure that important older trees are not deliberately removed if they do not threaten safety. Take an example of Notable Trees in Wellington's Parliament grounds, if these trees develop heartwood decay which could eventually lead to the trees' demise, should they be allowed to be removed as a Permitted activity even if they could live for another 400 years? There are relatively few Notable Trees in the WCC District Plan as compared to other large urban Councils and therefore we should not risk having permitted rules which allow mischievous bypassing of the Resource Consent process to get rid of trees which may be limiting development of a site with Notable Trees.
8. Mr Mc Crutcheon states in regard to allowing a tree in terminal decline to be removed as a permitted activity that 'the proposed approach is a pragmatic solution to this issue which

includes sufficient safeguards to validate the view of the arborist. To be a permitted activity, Council must be advised at least 10 working days prior to the work commencing. This could enable the opportunity for a conversation between Council and the applicant on whether the permitted activity status can be met'. This justification makes little practical sense. The ten days notice period would be difficult or impossible for Council to enforce if not provided, and cannot be meaningfully enforced. An \$300 Infringement Fine would not compensate for the removal of an iconic veteran tree. The tree would be lost forever. Council is often very busy and even if it were given 10 days notice, it may not be able to respond in time to assess a tree's condition by an expert. Much better to make the activity Discretionary so that a L6 Arborist undertakes a full condition and risk assessment which is then peer reviewed by Council to determine if the tree is actually in terminal decline. Terminal decline is not included in the WCC Definitions and therefore nobody know what this term means, neither arborist or planners.

3 NOTABLE TREE ROOT PROTECTION

3.1 Background to root protection, issues, methods, and standards

9. Roots are vital for viability and stability of trees and if roots are torn, fungal spores can get in through the wounds, some of which have the potential to severely weaken or kill a tree. Roots not only take up water, minerals, and nutrients but also absorb oxygen, and if soil is sufficiently compacted tree roots may die. For all these reasons and more it is important for root systems to be preserved and protected where possible. Trees can cling to life despite wounds, damage, and inhospitable conditions, but their health and condition will decline to the point that they will eventually die prematurely and their aesthetic values will be gone forever. I therefore concur with Council on the need to protect the roots of Notable Trees.
10. Trees are frequently damaged when construction or development occurs too close to them through activities such as new footpaths and roads, vehicles compacting soils over roots, underground services trenches, and building foundations. The need to protect the canopies, stems (trunks), and roots of protected trees has long been understood. One of the first National Standards which aimed to guide industry and developers on the protection of trees on construction sites was British Standard 5837 first published in 1980.
11. In 1991 the second edition of BS5837 - Trees in Relation to Construction was published and this provided detailed guidance on the critical area of a root system where roots should ideally be preserved. The area of roots to be protected were referred to as the 'exclusion zone' and guidance was provided as to how the extent of these zones should be determined (see Appendix 1). Two methods were promoted in this Standard, in the first method (table 1) a

circular exclusion zone was calculated around a tree (based on a radius generated by the table) dependent on its age class, vigour class, and which stem diameter group it was in. Guidance in Table 1 also states '*other considerations particularly the need to provide adequate space around the tree including allowances for future growth and also working space will usually indicate that structures should be further away*'. This consideration is important as it indicates that the extent of the Exclusion Zone is the starting point for determining where construction should be allowed and not the limit. The second method shown in Figure 2 of BS5837 1991 (Appendix 1) was an alternative truncated method which used either the extent of a tree's spread/dripline of a tree or half of its height (whichever was greater) to determine the extent of the tree and root protection radius/exclusion zone where protective fencing should be positioned.

12. During my time as a Council Arboricultural Officer in the UK up to 2005 I used the BS5837 Figure 2 'dripline half height' method to determine tree exclusion zones for protected trees. It is no surprise then that it migrated to New Zealand in the early to mid-1990's due to many arborists moving back and forth for work and study between the two countries. In NZ the 'dripline half height' method was gradually adopted into District Plans to determine an area around a Notable Tree where certain activities were not considered a permitted activity under an RMA District Plan. Whilst District Plan rules were used to restrict certain types of tree work, the dripline or half height method was used to inform as to where works to tree roots were not a permitted activity.
13. The original BS5837 1991 figure 2 illustration is still found in a number of District Plans today, or an updated copy of the original. For example, Wellington City Council's Operative District Plan contains the original illustration and the Operative Combined Wairarapa Councils District Plans contains a faithful copy of the original. The BS5837 1991 alternative Figure 2 method can be summarised as follows: The Tree Exclusion Zone where protective fencing should be positioned should be located at the extent of a tree's branch spread or at a distance equal to half the height of the tree, whichever is the greater distance.

3.2 Removal of the 'whichever is the greater' caveat

14. It is important to note that the original BS5837 Figure 2 illustration includes the caveat 'whichever is the greater' when it refers to application of either the half height or canopy extent of a tree to determine the location of important roots that should be preserved. The caveat is a very important part of the method and applies to both columnar and spreading trees. If only columnar trees can have the half height method to determine their root protection area they receive disproportionately large protection areas as compared to a

spreading tree of a similar height. For example, if a Norfolk Island Pine tree has a height of 30 metres and a widest canopy spread on one side of 8 metres, it is given a 15m RPA radius using the 'dripline half height' method (Council's proposed RPA definition). The Norfolk Island Pine therefore has an RPA which extends 7 metres beyond the furthest extent of its canopy. This is a very large RPA which encompasses places where there may be no tree roots, and within the 15m RPA development could potentially be declined. However, for a 30 metre high spreading eucalyptus tree with a widest crown extent of 10 metres, its RPA radius extent would only extend to the canopy edge at 10 metres. In this case construction could proceed without the need for a resource consent to the point where a building could almost be almost touching the tree's canopy. In this scenario important roots could potentially be damaged, there is no allowance for any future growth, and if a dwelling is allowed right up against the canopy edge this could lead to applications to fell the tree or to regularly restrict its growth.

15. The proposed definition of a Root protection Area (RPA) as part of Wellington Council's proposed District Plan is an example of a plan where the 'whichever the greater' caveat has been unintentionally removed. This causes perverse outcomes and will often reduce the root protection area for a spreading tree to its canopy extent, but give a Lombardy Poplar (for example) a huge root protection area. This makes no logical sense and was not intended by the original method. It is also the case, as far as I can tell, that no columnar trees are listed as Notable in the District Plan and therefore the 'half tree height' RPA applies to no Notable Trees in the District Plan. Within the District Plan maps there is an overlay for RPAs for Notable Trees. As far as I can tell all the RPAs in this GIS layer more or less follow a tree's dripline and none are equal to half the tree's height. Council is effectively then using a 'dripline only' method to determine the extent of an RPA. This method is even less effective than 'drip line or half height' for establishing a RPA, and way less effective than '12x stem diameter' method.
16. I believe it is possible that Council has made a genuine mistake and has not realised it has no listed columnar trees in its plan, or that the 'whichever is greater' caveat has been inadvertently omitted from the RPA description. Either way these errors point to a failure to understand the technical history, science and implications for tree root damage in their RPA definition. In any case the 'dripline half height method' has not been supported by any country since 2005.

3.3 Broader problems with the 'dripline half height' method

17. In the UK BS5837 is often used and/or required to be adhered to in a Planning Condition, and therefore the standard's wider recommendations regarding the potential for retaining roots

beyond a nominal root protection area can be specified by a Council. In NZ District Plans, root protection is generally much more prescribed. For example permitted activities which have the potential to significantly harm the root system of a tree are allowed regardless of whether a root system is restricted or modified.

18. Terms used to describe an area of protected roots in a District Plan vary considerably and include Root Protection Area, Tree Protection Zone, and Protected Root Area. The type and extent of works that can be undertaken to tree roots within RPAs/TPZs/PRA's also vary considerably from being fully discretionary, non-complying, restricted discretionary, or permitted. For example, in the Taupo District Plan activities within 5 metres of the base of a Notable Tree are a non-complying activity. The absence of an NZ Trees and Construction Standard in NZ and the differing advice of arborists to Councils on this matter has led to a wide range of often conflicting root protection requirements between Councils. The NZ Arboricultural Association supports the use of three International Trees and Construction Standards on its website (<https://www.nzarb.org.nz/safety-and-guidelines>).
19. For columnar trees and spreading trees use of the 'dripline half height' method to determine a Root Protection Area radius is essentially a rule of thumb as to where important roots may be located. For tall columnar trees a huge RPA could be generated as large as 20 metres or more for trees with a height of 40 metres plus, and within this RPA there may be few or any roots towards the RPA outer edge. For wide spreading trees critical roots have the potential to exist beyond the canopy spread of a tree, and the '12 times stem diameter' method more frequently places the RPA extent outside the canopy extent.
20. The term 'spreading tree' is not used commonly in arboriculture and the term columnar tree is commonly used. However, in my experience very few columnar trees are protected as Notable Trees in NZ. For trees which are not considered columnar such as lime, ash, totara, and gum their height often exceeds their spread up to maturity (or earlier) when their spread may then meet or exceed their height. This can create a problem when an aged 'spreading tree' is wider than it is tall as in this scenario the RPA extent will extend only as far as the dripline. This can cause problems because important roots may be removed or torn outside the canopy, and because buildings can be positioned very close to trees. Another issue is that for some tree species, deciding whether they are columnar or spreading is not straightforward especially when a variety of a particular tree species is being assessed.
21. Both BS5837 2012 and AS4970 2009 have a cap on the extent of the maximum RPA or TPZ. AS4970 advises that the maximum extent of the TPZ radius is 15 metres, and BS5837 advises

that the maximum area of the RPA is 707m² (equal to a circle with a radius of 15m). The 'dripline half height' method has no cap and therefore circular radii have the potential to be much larger than actually required. Trees grow larger year on year until mature and consequently the extent of the RPA whether determined by the extent of its canopy, height, or stem diameter will increase regardless of the method used to calculate the RPA, and a RPA calculation will only be needed if a an activity requiring consent is proposed within its RPA.

22. In my opinion, the 'dripline half height' method has many faults which means that it doesn't work well consistently, and these problems are made considerably worse if the 'whichever is the greater' caveat is removed. All these issues are essentially the reason why the 'dripline half height' method was abandoned internationally from the late 1990's, and superseded by the improved '12 times stem diameter' method.

3.4 Root Protection Areas and modified root systems

23. For trees which have modified root systems (not equally spread in all directions) in urban areas the project arborist may want to recommend a change the shape of the circular root protection area to protect important roots, and this is allowed using BS5837 2012. Council's RPA definition only extends as far as the dripline for a spreading tree and so extending the RPA beyond the dripline to take account of a modified RPA is not possible. The '12 times stem diameter' method which often extends beyond a tree's dripline would provide for more flexibility to protect the location of actual roots as opposed to the assumed location of roots. BS5837 2012 provides the following advice on this issue in paragraph 4.6.2: *The RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.*

3.5 An improved method for estimating the location of important roots

24. In 2005 the third version of BS5837 was issued which included improved guidance on calculating root protection areas, and I used this method in the UK as an Arboricultural Officer from 2005 onwards. BS5837 2005 introduced the '12 times stem diameter' method to determine a 'Root Protection Area' which should normally should be preserved when construction occurs close to a tree. This updated root protection guidance was based on an improvement of the BS5837 1991 Table 2 stem diameter method, and upon research undertaken by two internationally respected arborists from the USA, Matheny N., and Clark J.

25. From the late 1990's onwards the '12 times stem diameter method' became accepted internationally as the best practice method to determine where the most important roots of a tree can be found, and which should be protected. The current International Trees and Construction Standards in which this method is recommended include British Standard 5837 2012, Australian Standard 4970 2009, and American National Standard: ANSI A300 (Part 5)-2012: Management of Trees and Shrubs During Site Planning. Each Standard has its own term for an area of protected roots. These being the *Root Protection Area (RPA)* for BS5837, the *Tree Protection Zone (TPZ)* in AS4970, and the *Critical Root Zone (CRZ)* in ANSI300. Regardless of the different terminology the Standards all recommend use of the '12 times stem diameter' method.
26. The NZ Arb Association states the following on its website: NZ Arb also supports and states the following on its website: *NZ Arb also supports and recommends the following international tree protection zones as: The Tree Protection Zone (TPZ) which is a circle taken from the centre of the trunk with a radius equal to 12 times the diameter of the trunk measured at 1.4m (DBH) above ground level.* It also lists acceptance of the following International Standards: *Australian Standard: AS 4970 - 2009 Protection of Trees on Development Sites, British Standard: BS 5837:2012 Trees in relation to design, demolition and construction, and American National Standard: ANSI A300 (Part 5)-2012: Management of Trees and Shrubs During Site Planning, Site Development, and Construction.* The NZ Arb Association's endorsement of the '12 times stem diameter' method to calculate the RPA is unequivocal.
27. In my opinion the endorsement of the 12 times stem diameter method for root protection by USA, UK, and Australian Standards, and the NZ Arboricultural Association should be sufficient evidence for Wellington City Council to adopt this method to define the RPA of a Notable Tree, and to my best knowledge there is no current scientific basis or accepted arboricultural best practice evidence for Wellington City Council to adopt an RPA definition based a withdrawn version of BS5837 1991.
28. The '12 times stem diameter' method provides a reliable method for determining the area and location of important roots around a tree according to three International arboricultural standards. It is relatively simple method to use as by measuring a tree's diameter multiplying that diameter by 12, the radius of the root protection area is determined. The method could therefore easily be undertaken by a layperson using a tape measure and calculator. The 'dripline or half height' method is more difficult to use and apply because accurate assessment of tree height is required for which an arborist would require a clinometer or tree laser, and complicated mathematics may be needed for example if the tree is on the side of a hill. It also

may be difficult for a layperson to determine what does or doesn't constitute a columnar or spreading tree and this may lead to mistakes.

29. Council has included a GIS layer which shows RPA extents for all Notable Trees on its website. These RPAs all follow the canopy extent/dripline of all Notable Trees. It would be a straightforward to change this to a 12xstem diameter RPA method on this website. All the stem diameters were collected when the trees were assessed. If these are loaded into the GIS and multiplied by 12 the RPA extent would be automatically generated on the District Plan Maps Layer. This would enable tree owners, neighbour and anybody else to have immediate access to RPAs without the need to have to measure the tree.
30. BS5837 2012 paragraph 4.6.3 provides the following advice for trees in the situation where their root systems have been modified by below ground obstructions: *Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system: a) the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus); b) topography and drainage; c) the soil type and structure; d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.* In situations where Notable Tree root systems are modified, a Resource Consent application would likely require a report from an expert arborist who would consider this in their arboricultural impact assessment report.

3.6 Construction and development within the RPA

31. It is important to note that development may be acceptable within an RPA/TPZ and it is not necessarily a no-go zone unless the District Plan defines an activity as non-complying. For example, it may be possible to build an above ground permeable road which does not require a deep base course or soil compaction, and which therefore does not damage or impair the ability of tree roots to function. Cantilevered foundations or mini piles may also allow development within an RPA. Development within the RPA/TPZ therefore may be acceptable in some circumstances, especially where special engineering solutions to avoid damage to tree roots are proposed.

3.7 Analysis of Section 32 Report references to root protection methods

32. The Section 32 Report makes no reference to evaluating an appropriate method to determine an area of roots of a Notable Tree where activities which may harm roots. There is also no evaluation of the costs and benefits of different root protection methods similar to the way in which options are discussed and compared for deciding on the most appropriate method used

to decide whether trees should be made Notable. In my opinion, the Section 32 evaluation report did not examine whether the proposed Notable Tree protected root area method was the most appropriate way to achieve the Plan's objectives in relation to Notable Trees and the purpose of the RMA.

33. In my opinion, if the '12 times stem diameter' method had been robustly compared against the 'dripline half height' method in the Section 32 Report, the '12 times stem diameter' method should have been found to be the most appropriate method. The 'dripline half height' method chosen by Wellington Council is not supported by any International Arboricultural Trees and Development Standard, or recommended by the NZ Arboricultural Association.

3.8 Analysis of Section 42a Report references to root protection methods

34. It is somewhat counterintuitive that in his evidence Mr McCrutcheon accepts that the 12xstem diameter method to determine the area of protected roots is the best method available, and is recommended by the WCC Parks Manager, and yet still will not support adoption of an inferior method.
35. Mr McCrutcheon argues that the method isn't used anywhere else in the Wellington Region. However many Councils are switching to the 12xstem method as District Plans are reviewed. For example both Porirua District Council and Manawatu District Council are planning to use this method in their District Plans and many other Councils around the country use the 12xstem diameter.
36. Mr McCrutcheon is not an arborist and ignores the support for the 12xstem diameter method from the WCC Parks Manager who is a qualified arborist and former President of the NZ Arboricultural Association. In my opinion the District Plan team should generally adopt best practice and apply these recommendations. Council includes noise limit thresholds in its Plan which are highly technical and arboriculture is similarly a technical matter. The WCC parks team generally asks for the 12xstem diameter method to be used when assessing tree impacts on Council owned trees and thus there is an inconsistency between different Council Departments. The Parks Team and other departments use 12xstem method whereas the District Plan proposes a dripline only method. This inconsistency should be removed and the 12xstem diameter method adopted across Council as it is best practice.
37. Mr McCrutcheon says that his reasons include that devising the root protection area using the 12 times stem diameter method necessarily requires measurement of the stem diameter and in the case of a tree located on a neighbouring property would require access to private property to do so. In the case of the notified definition, neighbouring landowners can

essentially eyeball the root protection area (especially for spreading canopies) and offers a more efficient methodology overall. Notified decisions for Notable Trees are very rare and so the likelihood of a neighbour attempting to 'eyeball' a canopy dripline are remote. But even if a neighbour were to want to do this then how do they 'eyeball' half the tree's height to work out its protected root area? The answer is they could not, both the measurement of tree height and tree girth requires a specific tree tool used usually by an arborist. So even with the proposed rules, 'eyeballing' a root protection area is not really possible.

38. The 'drip line/half height method' proposed by Council in its District Plan to determine the area of protected roots requires an accurate measurement of tree height to determine the half height distance. This requires an accurate measurement using a Clinometer as otherwise the measurement would not be precise.
39. The time when estimation of the Root Protection Area is required is generally when development occurs close to a Notable Tree where a Resource Consent is required. In these situations a Consultant Arborist would normally be engaged by the developer or applicant and that consultant would write a Tree impact Assessment which could cover matters such as the size of the root protection area using the 12xstem diameter method or tree height. The point is that the protection of Notable Tree roots is generally assessed and undertaken by experts and not the public. WCC should follow best practice and the guidance of Consultant Arborists, its own expert Council arborists, and the NZ Arboricultural Association, and not the advice of non arborists in deciding on the most appropriate root protection method.
40. Poor practice and entrenched methods in the District Plans around NZ based on a method to determine an area of protected roots from the UK dating from 1991 should not become the go to method in the WCC District Plan just because 'its simpler and everyone else does it'.

4 SOIL EXTRACTION METHODS WITHIN THE ROOT PROTECTION AREA

41. Council has proposed allowing excavation within the RPA of Notable Trees using the hydrovac soil extraction method. I concur with Council's expert arboricultural consultant that 'hydro-excavations can strip the bark from roots, causing damage to the cambium and therefore the flow of water and nutrients between the roots and the canopy'. Airvac soil extraction methods on the other hand are benign to roots and in my experience do not cause significant damage to them. Council mentions no concerns around the use of airvac around roots and I therefore conclude that he agrees that this is a benign method of soil extraction as regards the potential

for root damage. Auckland Council which has the most arborists employed at a management level of all NZ Councils, only allows use of airvac in the rooting areas of protected trees.

42. Council recognises that use of hydrovac to excavate around roots can cause significant root damage and therefore proposes to limit the area where a hydrovac can be used within a tree's root protection area to 1m square. Although this may seem to be an elegant solution all trees have a Structural Root Zone (SRZ) where roots critical for a tree's stability are found and these roots should never be severed or removed under any circumstances. I would support the 1m square limit to use of hydrovac if it was stated that this could only take place outside a Notable Tree's SRZ.
43. I am therefore of the opinion that the most appropriate soil extraction method for Council to allow within RPAs is the Airvac or Airspade method, and that consequently reference to the hydrovac method should be removed from the District Plan. The proposed wording is that directional drilling is only permitted below a depth of 1 metre, and a compromise relief would be to also allow hydrovac below 1m depth. If there is any risk to roots as a result of use of a mechanised tool within the RPA then on a precautionary basis that method should not be used, if other suitable methods are available which will accomplish the job as efficiently. I attach in Appendix 4 some more information on hydrovac and airvac and their potential for damaging tree roots. I would therefore recommend all references to hydrovac are removed from the District Plan Notable Trees Chapter.