PENRITH

STREET AND PARK TREE MANAGEMENT PLAN

APPENDIX

PENRITH
CITY COUNCIL

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TREE PLANTING SPECIFICATION

1. Introduction

For trees to provide maximum benefit to the community, the right tree must be planted in the right place, the planting environment (both above and below ground) must be sufficient to enable the tree to grow to its full mature size, the tree must be maintained during an establishment period after planting and the tree must be planted correctly. This specification sets out Council requirements for planting trees in the City.

2. Responsibilities

2.1. All tree planting work must be carried out in a safe manner.

2.2. The Contractor/ Council Staff must carry out the works in a manner that prevents root damage and compaction of the ground within the tree protection zone of any tree being retained in close proximity to the planting works.

2.3. All planting works must be carried out by a horticulturalist with a minimum qualification of AQF level 3 in Horticulture.

2.4. The Contractor/ Council Staff must carry out all tree planting in accordance with:

- Safe Work Australia Code of Practice *Guide to Managing Risks of Tree Trimming and Removal Work*
- AS 4373-2007 - *Pruning of amenity trees*
- AS 4419-2003 - *Soils for landscaping and garden use*
- AS 4454-2012 - *Compost, soil conditioners and mulches*
- AS 2303-2018 - Tree stock for landscape use

3. Hold Points

The Contractor must seek approval from Council's Arborist (AQF 5) at the following hold points prior to proceeding:

- planting pit dimensions and the size of the pit opening;
- plant material and root pruning prior to planting (as specified in clause 5.3 below or as otherwise directed by Council's Arborist);
- pit excavation prior to planting and back-filling;
- SOIL TYPE A plus the excavated site soil for use in SOIL TYPE B mix prior to backfilling

4. Plant material

All plant material must be as specified. Trees must be grown to AS 2303-2018.

5. Handling and preparation of Plant materials

5.1. The Contractor / Council Staff must handle all trees carefully during the planting process. Trees must be lifted and carried by the container or root ball and not the stem. Where this is not practicable, the tree stem must be wrapped in soft padding and only handled at this point.

5.2. The tree must be placed in the centre of the planting pit and orientated in the same direction as it was grown in the nursery

5.3. Unless otherwise specified by Council, the Contractor must carry out root pruning immediately before planting to:

- remove any roots circling around the container or matted at the bottom of the container; and

- remove the outer edge of the root ball vertically from top to bottom of the root ball with a clean sharp knife, handsaw, spade or secateurs to stimulate root growth into the surrounding soil.

5.4. The tree should be planted immediately after root trimming. If this is not possible, the root ball must be covered in moist hessian and kept moist until the tree is planted.

6. Planting Pit Design

6.1 Four Typical Tree Planting Details are included in Figures 1,2,3 and 4. These relate to planting in paving, mass planted areas, turf and in the road carriageway. The tree planting details are not site specific. They have been created to ensure that consistent methodology is used when planting street trees within the Penrith local government area. In all cases the largest planting space possible should be provided and, because of this, the typical planting details included are indicative only and do not include root zone dimensions. The actual dimensions of the tree pit will be dependent on the species of the tree being planted, site and soil conditions, topography and drainage. The dimensions and design of the planting pit must consider the requirement for oxygen in the root ball, water, room to grow, root anchorage and stability.

6.2 Planting pit openings must be large enough to provide space for the mature size of the stem.

6.3 Where there is only a small space available in the nature strip or road reserve the planting pit should be designed to provide space for tree roots beneath the pavement or road. To increase the soil volume Council may specify the use of structural soils, structural cells, suspended surfaces/vaulted soil zones, flexible permeable paving or the use of interconnected planting pits.

6.4 The Contractor/ Council Staff must ensure that:

- all tree planting pits are at least three times as wide as the width of the root ball and no deeper than the height of the root ball; and

- the top of the root ball after planting is flush with the finished soil level in the pit.

6.5 Planting pit dimensions, the size of the pit opening and any changes to the planting methodology must be agreed with Council before any work is commenced

7. Planting Conditions

Trees must not be planted during unsuitable weather conditions such as extremes of heat, cold, wind or rain or saturated soils.

8. Excavation

8.1 The Contractor must verify the location of all services prior to commencement of works. **DIAL 1100 BEFORE YOU DIG**

8.2 Underground services must be located prior to any digging so they can be avoided.

8.3 All excavation close to existing services must be carried out by hand

9. Drainage

Subsoil drainage should be installed to all trees planted in paved areas and the road carriageway. Subsoil drainage may also be required in low lying areas and sites with poorly draining soils. Council may specify that subsoil drainage must be installed

10. Planting Pit Cultivation

The Contractor/ Council Staff must roughen or break up the sides of the planting pit to 150mm to prevent confinement of root growth. The base of the planting pit must not be cultivated.

11. Backfilling

11.1 The planting pit must be backfilled with the appropriate soil determined for each location. Unless otherwise specified, the following materials will be used:

- **SOIL TYPE A:** Benedict's Sand & Gravel premium 'Organic Garden Mix - BS133' or equivalent & tested to AS4419. (Benedict's ph.: 9986 3500).

- **SOIL TYPE B:** 50% (max) excavated site soil & 50% fine washed sand with less than 1% organic matter by weight and tested to AS4419. If insufficient quantities of excavated site soil are available fine washed sand equivalent to Benedict's fine washed sand may be used in its place.

11.2 The Contractor/ Council Staff must loosen or break up large clods of soil before backfilling.

11.3 The Contractor / Council Staff must backfill the planting pit in layers, with each layer lightly tamped down and thoroughly watered, to eliminate any air pockets

12. Fertilising

Unless otherwise specified by Council, at the time of planting the Contractor/ Council Staff must apply the following fertiliser into SOIL TYPE A at rates recommended by the manufacturer:

- Terracottem.
- Slow release fertiliser equivalent to Osmocote and suitable for species.

13. Watering

The Contractor must thoroughly water trees in the container prior to planting; during backfilling; and immediately after planting.

14. Mulching

A layer of coarse mulch applied over a tree planting pit will enhance root growth and prevent weed or turf growth. The Contractor/ Council Staff must apply mulch in accordance with the Typical Tree Planting Details set out below and in Section 4 of the Penrith CBD Public Domain Technical Manual

15. Staking

15.1 Good quality plants should be self-supporting and should not require staking. STAKE FOR PROTECTION - NOT SUPPORT.

15.2 The following materials will be used:

- Stakes**:** 50 X 50 X 1800mm hardwood stakes (3 per tree) driven securely into the subgrade and clear of the root ball.

- Ties**:** 50mm Hessian webbing stapled to outside of stakes at approximately two thirds the height of stake above ground level

16. Root barriers

Unless specified by Council, root barriers must not be installed.

17. Maintenance /Establishment

17.1 The tree establishment period is three years from the date of planting.

17.2 During the tree establishment period the Contractor/ Council Staff must:

- as a minimum water trees:

  - once a week in the first 4 weeks after planting;
  - once every 2 weeks for the next 8 weeks; and
  - after the first 12 weeks, once every month until the trees are 3 years old;

- water to thoroughly wet the root system;

- water in both the cooler and hotter months;

- not water trees during the hottest part of the day. Watering will preferably be carried out early in the morning;

- if specified by Council, fertilise trees yearly for the first 3 years after planting;

- provide protection (such as tree stakes or tree guards) as shown in the Typical Tree Planting Details;

- regularly top up mulch to keep the mulch depth at 75mm;

- keep the area around the tree stem weed free by manually removing all weeds from the planting pit. Herbicides must not be applied;

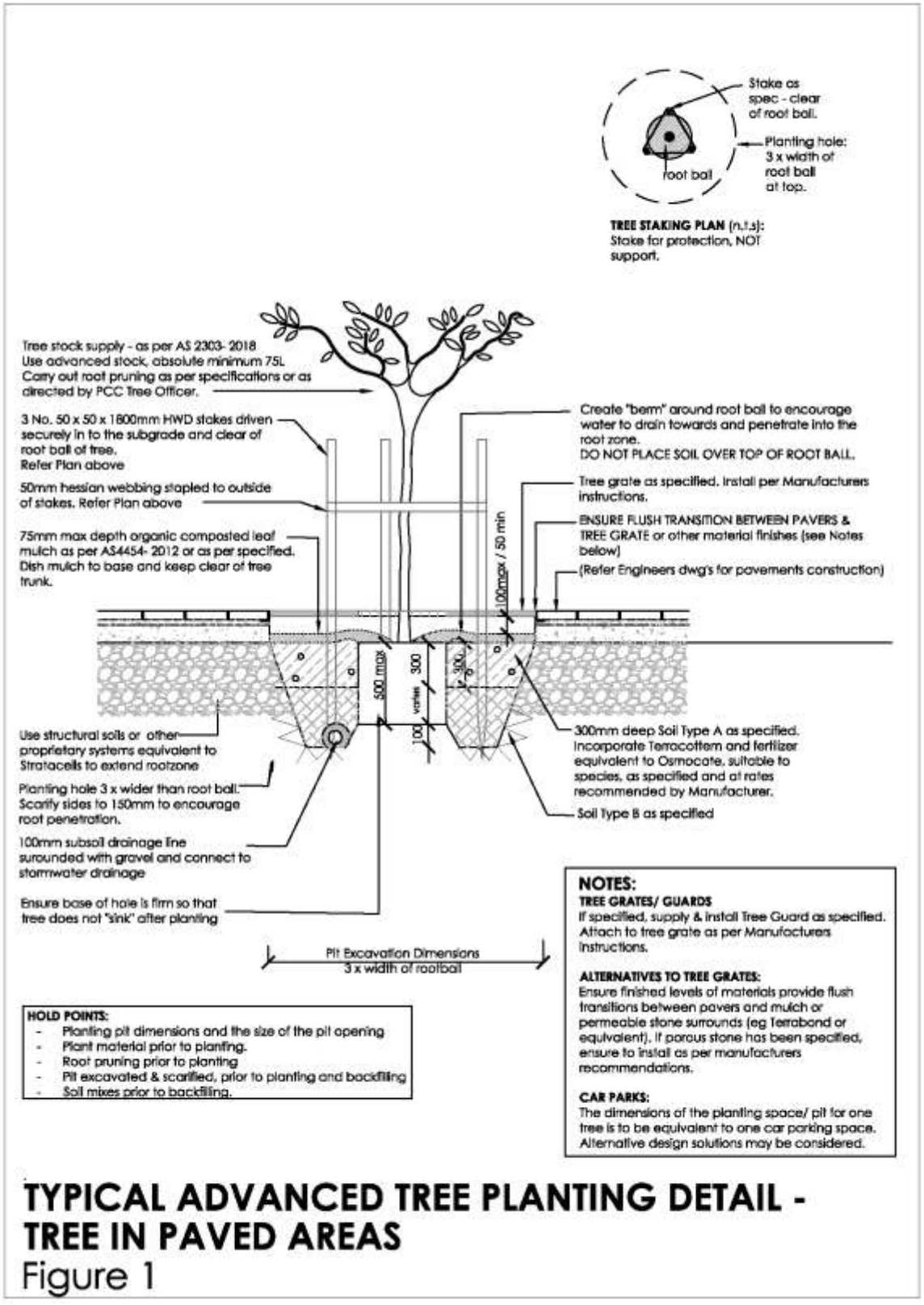
- remove and dispose of safely away from the site all rubbish, unwanted materials and or objects found within any planting pit;

- regularly inspect trees for pests and diseases. Any pests or diseases found must be treated immediately (and not during the next scheduled inspection or maintenance visit) using appropriate products in accordance with the manufacturer's guidelines;

- if a tree is staked at the time of planting, remove the stakes as the tree grows. Two years after planting, trees must be inspected and, if appropriate, stakes removed;

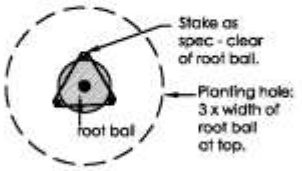
- carry out formative pruning if required. All pruning must comply with AS 4373-2007 - Pruning of amenity trees; and

- immediately inform Council of all dead, dying, injured and missing plants and replace these plants. The replacement tree species and size must be agreed with Council prior to any replanting.

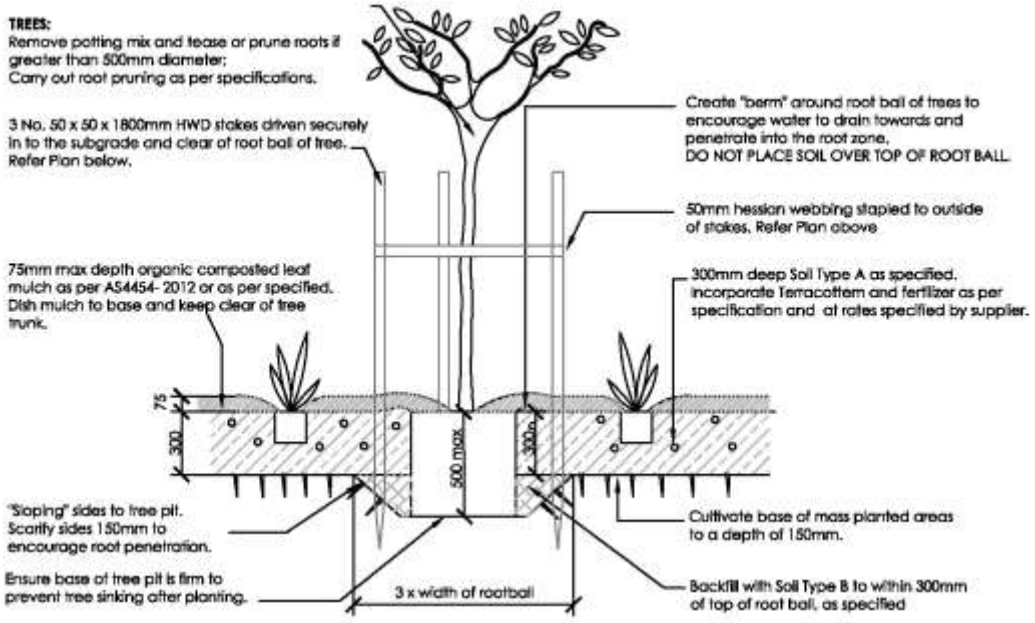


TYPICAL ADVANCED TREE PLANTING DETAIL - TREE IN PAVED AREAS

Figure 1

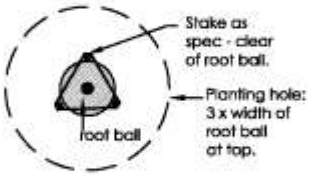


TREE STAKING PLAN (n.t.s):
Stake for protection, NOT support.



HOLD POINTS:
- Planting pit dimensions and the size of the pit opening
- Plant material prior to planting.
- Root pruning prior to planting
- Pit excavated & scarified, prior to planting and backfilling
- Soil mixes prior to backfilling.

TYPICAL TREE PLANTING DETAIL - TREE IN MASS PLANTED AREAS
Figure 2



TREE STAKING PLAN (n.t.s):
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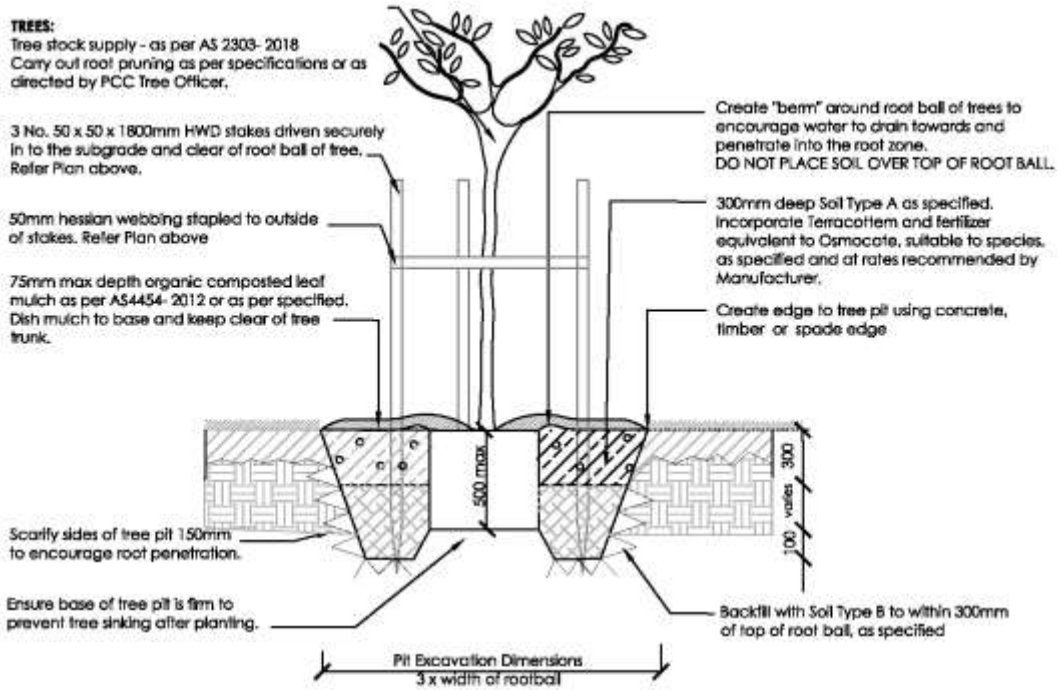
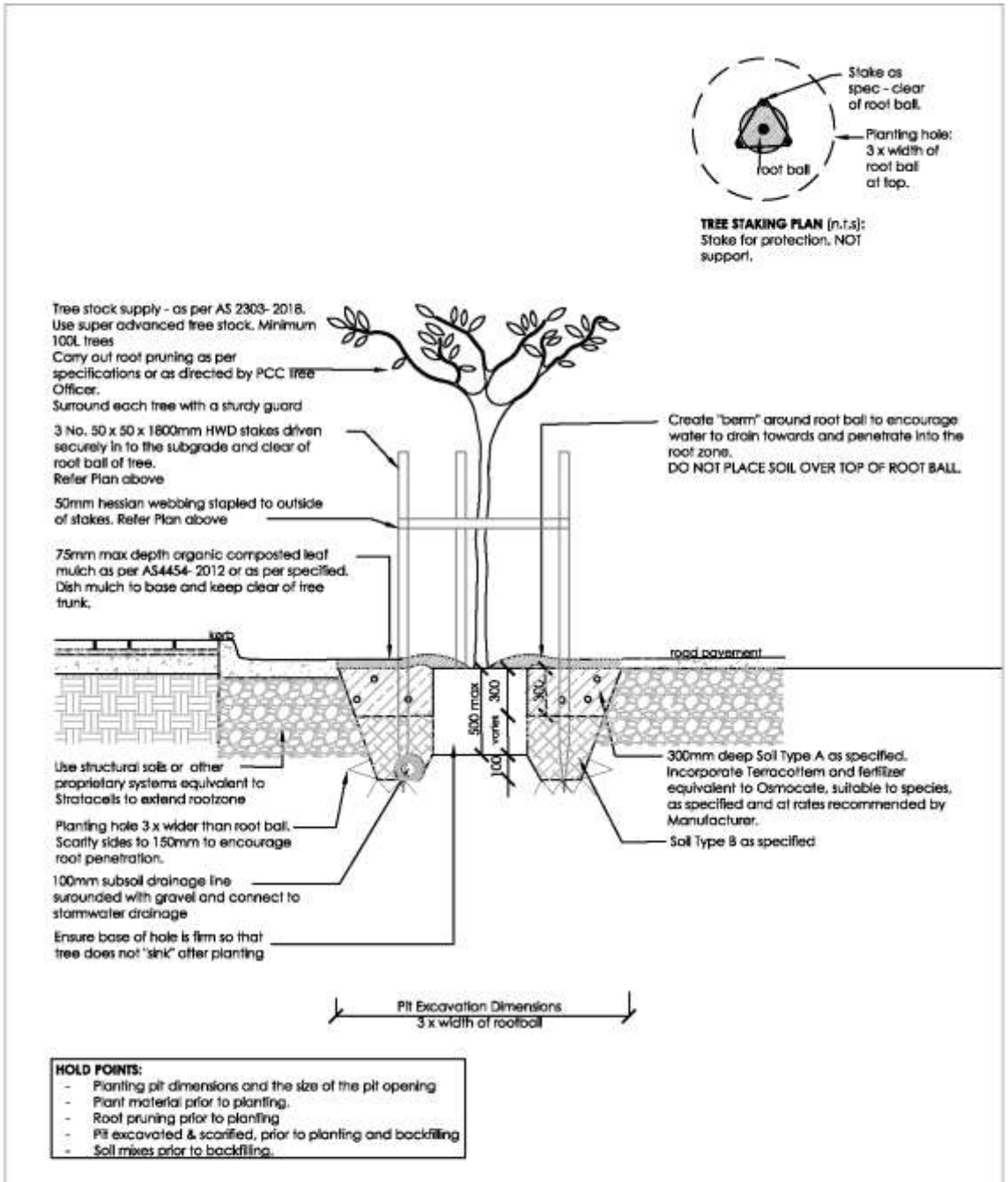


HOLD POINTS:
- Planting pit dimensions and the size of the pit opening
- Plant material prior to planting.
- Root pruning prior to planting
- Pit excavated & scarified, prior to planting and backfilling
- Soil mixes prior to backfilling.

NOTE:
Concrete edging to tree pit.
Concrete edging to tree pit must be a max 150mm wide and is only to be used when the tree pit dimensions are a minimum of 1.5m square or diam.

TYPICAL TREE PLANTING DETAIL - TREE IN TURF
Figure 3



TYPICAL SUPER ADVANCED TREE PLANTING DETAIL - TREE PLANTING IN CARRIAGEWAY

Figure 4.

SMALL TREE SPECIES

Council plants a mix of natives, and exotic evergreen and deciduous trees as street trees. For a tree to provide the most benefits, it must be healthy and vigorous. This means the right tree must be planted in the right place. The choice of tree to be planted on each occasion depends on many factors including the mature size and shape of the tree, the site constraints (such as soil type and the size of available rooting space), the function of the tree in that setting and tree availability. More information is provided in Section 6 (Tree selection) of the Plan.

Tree sizes shown in the table are indicative only. Tree size depends on site conditions (for example, soil, climate and available rooting space) and the size of the same species of tree is likely to vary between planting sites.

A list of tree and plant species that can grow in the Penrith area is available on councils website.

Botanical Name	Common Name	Origin	Mature Height	Spread	Comments, Characteristics
Acer buergeranum	Trident maple	Exotic	6m	6m	Deciduous, Small tree with small tri-lobed leaves. Rich bronzy-red new foliage in spring and attractive autumn foliage colour.
Acer freemannii ‘ Autumn Blaze’	Autumn Blaze Freeman Maple	Exotic	13m	10m	Deciduous, Medium-sized tree with ascending branches, an upright shape and attractive autumn foliage colour.
Acer negundo ‘Sensation’	Sensation Maple	Exotic	8m	8m	Deciduous, Tree with an upright shape, reddish new growth and attractive autumn foliage colour
Acmena smithii	Lilly pilly	Native	9m	5m	Hardy dense evergreen tree, cream-white flowers in summer and a pink berry.
Angophora hispida	Dwarf Apple	Native	5-7m	5-6m	Small evergreen tree with twisted, gnarled branches and clusters of white flowers in late spring.
Arbutus andrachnoides	Grecian Strawberry tree	Exotic	7m	7m	Red flaky bark, White flowers spring. Red Fruit.

Arbutus unedo	Irish Strawberry tree	Exotic	7m	7m	Brown flaky bark, White flowers with pink tinge in autumn and winter. Red fruit
Backhousia citriodora	Lemon scented myrtle	Native	5m	4m	Small evergreen rainforest tree with heavily scented leaves and masses of creamy-white flowers in summer.
Backhousia myrtifolia	Grey Myrtle	Native	7m	4m	Evergreen rainforest tree with cinnamon scented leaves and clusters of cream flowers.
Banksia integrifolia	Coast Banksia	Native	7 – 10m	3 – 7m	Evergreen tree with rough bark, dark green leaves with a silvery underside and pale green-yellow flower spikes in summer.
Bauhinia variegata	Butterfly Tree	Exotic	5 - 8m	5 – 8m	Semi-deciduous small tree with twin lobed leaves and purplish fragrant flowers.
Bauhinia variegata 'Alba'	Butterfly Tree	Exotic	5 – 8m	5 – 8m	Semi-deciduous small tree with twin lobed leaves and white fragrant flowers.
Brachychiton populneus	Kurrajong	Native	12m	5m	Attractive medium-sized tree with a broad-form that provides good shade coverage. Sometimes semi-deciduous in early summer. Creamy-white speckled flowers in spring and clusters of woody seedpods in summer.
Buckinghamia celsissima	Ivory Curl Flower	Native	4 – 10m	1.5 – 8m	Small evergreen tree with a compact rounded form, creamy white long flower heads in later spring to summer. May be slow growing.
Callistemon salignus	Willow Bottlebrush	Native	4 – 10m	2 – 7m	Small evergreen tree with a weeping crown, white bottlebrush flowers in spring to summer.
Callistemon viminalis 'Dawson River'	Weeping Bottlebrush	Native	5 – 10m	3 – 5m	Small evergreen tree with a weeping habit, crimson bottlebrush flowers in spring to summer. Hardy.
Callistemon viminalis 'Kings Park Special'	Weeping Bottlebrush	Native	5 – 6m	3 – 5m	Small evergreen tree with a weeping habit, crimson bottlebrush flowers in spring to summer. Hardy.
Calodendrum capense	Cape chestnut	Exotic	10m	10m	African tree with Pink flowers in early summer.
Ceratonia siliqua	Carob bean	Exotic	9m	4m	Small red flower summer

Corymbia eximia & Corymbia eximia 'nana'	Yellow bloodwood	Native	12m 9m	8m 6m	Upright hardy evergreen tree, with flaky yellow-brown bark and creamy-yellow flowers in late spring to summer.
Cupaniopsis anacaroides	Tuckeroo	Native	8m	6m	Rounded canopy, Cream flowers in autumn ,bright orange bird attacking berries in spring.
Fraxinus griffithii	Evergreen Ash	Exotic	6m	4m	Fragrant white flowers in spring, small brown seed pods in autumn
Fraxinus pennsylvanica 'Cimmzam' Cimmaron	Ash	Exotic	13m	8m	Deciduous, Autumn burgundy & fiery red foliage.
Fraxinus pennsylvanica 'Urbdell' Urbanite	Ash	Exotic	11m	8m	Deciduous, conical and upright branching tree with lustrous dark green leaves. Autumn foliage colour.
Fraxinus pennsylvanica 'Wasky' Skyward	Ash	Exotic	10m	6m	Deciduous tree with dense green foliage and autumn foliage colour.
Geijera parviflora	Wilga	Native	5-9m	5-9m	Small evergreen tree with a rounded crown and weeping grey foliage. Small white flowers in winter.
Gingko biloba 'Princeton Sentry'.	Gingko	Exotic	11m	5m	Deciduous, Slow growing, leaves turn yellow in autumn.
Gleditsia triacanthos 'Shademaster'	Honey Locust	Exotic	10m	8m	Deciduous, Pendulous habit, leaves turn yellow in autumn.
Gleditsia triacanthos 'Sunburst'	Honey Locust	Exotic	8m	8m	Deciduous, Pendulous habit leaves turn yellow in autumn.
Harpullia pendula	Tulipwood	Native	6-9m	5-8m	Evergreen rainforest tree with a dense crown, greenish-yellow flowers in summer and attractive 2-lobed orange-red capsules
Koelreuteria paniculata	Golden Rain Tree	Exotic	7m	7m	Small deciduous tree with a broadly conical crown, and clusters of bright yellow flowers followed by inflated pinkish-brown pods.
Lagerstroemia hybrids 'Indian Summer' range	Crepe myrtle Lipan, Biloxi,	Exotic	small Varies with	Small Varies with	Deciduous, Late summer prolific flowers, colour varies with cultivar (Reds,

	Natchez, Tuscarora, Sioux		each cultivar less than 8m	each cultivar.	Purple, Pinks white). Autumn leaf colour.
Lophostemon confertus	Brush Box	Native	12m	8m	Medium to large evergreen tree with a densely spreading domed crown. Small white fragrant flowers in spring followed by small woody capsules. Attractive bark.
Magnolia grandiflora ‘Exmouth’	Bull Bay Magnolia	Exotic	7-10m	5-8m	Medium evergreen tree with a dense spreading crown, large fragrant cream cup-shaped flowers in summer followed by woody pods.
Malus floribunda	Japanese Crab-apple	Exotic	5m	5m	Small deciduous tree with a broadly domed crown, prolific pink coloured buds opening as pale pink to white flowers in spring and followed by yellow or reddish fruit.
Malus ionensis ‘Plena’	Bechtel Crab-apple	Exotic	5m	4m	Small deciduous tree with a rounded crown, prolific fragrant double pink flowers in spring.
Melaleuca bracteata	Black Tea tree	Native	8m	6m	White Flowers in spring. Dark fissured bark. Golden and bright green “revolution” cultivars are available. The names refer to the foliage colour.
Melaleuca linariifolia	Snow in Summer	Native	6 – 8m	4 – 6m	Small evergreen tree with dense foliage, masses of small white-cream fluffy bottlebrush-like flowers in summer.
Melaleuca styphelioides	Prickly Paperbark	Native	6-10m	4m	Medium evergreen tree with papery bark, and small white bottlebrush-like flowers in summer.
Pistachia chinensis	Chinese Pistachio	Exotic	7-8m	5m	Small to medium-sized deciduous tree with a rounded crown, insignificant flowers followed by small blue to red berries. Good autumn foliage colour.
Pittosporum rhombifolium (syn.	Queensland Pittosporum	Native	10 – 15m	6 – 8m	Medium to large evergreen tree with dense crown, clusters of cream

Auranticarpa rhombifolia)					star-shaped flowers in spring followed by showy bunches of orange berries.
Pyrus calleryana ‘Aristocrat’	Ornamental Pear	Exotic	11m	7m	Medium deciduous tree with a broadly pyramidal crown and clusters of white flowers in spring and variable autumn foliage colour.
Pyrus calleryana ‘Bradford’	Pear	Exotic	11m	8m	Deciduous, White flowers in spring, prolific depending on area. Autumn red/orange/, purple/ yellow foliage
Pyrus calleryana ‘Capital’	Pear	Exotic	11m	3m	Deciduous, Prolific white flowers in spring. Autumn foliage, burgundy to scarlet
Pyrus calleryana ‘Glens Form’ Chanticleer Also sometimes called ‘Cleveland Select’ (Flemings name)	Pear	Exotic	11m	5m	Deciduous, Prolific white flowers in spring. Autumn foliage, gold, plum & burgundy
Pyrus ussuriensis	Manchurian Pear	Exotic	8-12m	7-10m	Medium deciduous tree with a dense and spreading habit. Clusters of white flowers in spring and good autumn colour.
Quercus palustris ‘Pringreen’ green Pillar	Pin Oak	Exotic	14m	3m	Deciduous, Medium tree with a conical shape, distinctive leaves and good autumn deep red to bronze foliage colour.
Tristaniopsis laurina	Water Gum	Native	8 – 12m	6 – 8m	Medium evergreen tree with a dense crown, small yellow flowers in summer followed by small round green fleshy berries.
Waterhousea floribunda and cultivars	Weeping Lilly Pilly	Native	8 – 15m	3 – 10m	Medium to large evergreen tree with a dense pendulous crown, small white flowers in summer followed by small green berries.
Syzygium leuhmannii	Riberry, Small leafed lilly pilly	Native	6m	4m	Small evergreen rainforest tree with gently weeping branches and small white flowers in spring followed by fleshy pink-red berries.

Ulmus parvifolia (cult)	Chinese elm	Exotic	9m	9m	Partially deciduous with a domed spreading habit, reddish-brown scaly bark, small yellow-green papery flowers and small winged seeds. Hardy, Foliage turns bronze yellow in autumn & often persists on tree over winter.
Zelkova serrata 'Green Vase'	Japanese Zelkova	Exotic	11m	9m	Deciduous, A medium tree with a spreading crown, small greenish flowers in spring and good autumn yellow to red foliage colour.

Trees are evergreen unless noted as deciduous in comments.

Tree size	**Planting spacing distance**
Small trees: 6-8m high x 5m spread	Small trees at 5 – 7 m centres
Medium trees: 10- 12m high x 8m spread	Medium trees at 7 – 10m centres
Larger trees: 16 – 20m high x 16m spread	Large trees at 10- 15m centres

This is not a comprehensive list of trees that can grow in the Penrith area. The use of species not on this list that grow in a similar climate and soils is encouraged.

LARGER TREE SPECIES

For a tree to provide the most benefits, it must be healthy and vigorous. This means the right tree must be planted in the right place. The choice of tree to be planted on each occasion depends on many factors including the mature size and shape of the tree, the site constraints (such as soil type and the size of available rooting space), the function of the tree in that setting and tree availability. More information is provided in Section 6 (Tree selection) of the Plan. The trees listed in the table below will only be planted on sites where there is a large area both above and below ground to support the growth of the tree to its mature size. The listed size is approximate only.

See Councils website for other tree species lists.

Botanical Name	Common Name	Origin	Height	Width	Comments
Acacia melanoxylon	Blackwood	Native	15m	8m	Long lived wattle, Dark green grey foliage. Late winter flowering yellow balls , Dark furrowed bark.
Alphitonia excelsa	Red Ash	Native	10m	5m	Profuse cream flowers early winter. Semi -deciduous
Araucaria columnaris and *A. heterophylla*	Cook Pine and Norfolk Island Pine	Native	30m	8m	Feature tree plantings. Statement tall evergreen trees with a distinctive columnar form.
Angophora floribunda	Rough-barked Apple	Native	25m	15m	An attractive tall evergreen tree with twisted branches, rough bark and white flowers in spring followed by ribbed capsules.
Angophora subvelutina	Broad-leaved Apple	Native	20m	12m	An attractive tall evergreen tree with twisted branches, rough bark and clusters of creamy-white flowers in summer followed by ribbed capsules.
Castanospermum australe	Blackbean	Exotic	12m	8m	Dark glossy green leaves. Yellow /orange flowers in early Summer with

					large pods in late summer.
Casuarina glauca and C. cunninghamiana	She-oak	Native	20m	10m	leaves look like pine needles but are very different. Small oval cones Shallow adventurous roots.
Cedrus deodara	Deodar Cedar	Exotic	20m	10m	Pyramidal evergreen conifer.
Corymbia maculata	Spotted Gum	Native	25m	16m	Attractive mottled bark, flowers and fruit. A large evergreen tree which can be used effectively as an avenue planting on wide verges free from above and below ground services and in large planting pits. Can be frost tender when young.
Eucalyptus species.	Eucalypts/ Gum tree	Native	10 - 35m	10 - 20m	Usually medium to large attractive evergreen trees often providing habitat to local fauna. Can be used effectively in group plantings and an avenue planting on wide verges free from above and below ground services. Endemic species are detailed in a separate list.
Ficus species F. microphylla. F.microcarpa var. hillii.	Fig	Exotic	20m	20m	Usually large evergreen trees that provide dense shade under a wide crown. Can be used as specimen plants or avenue plantings on wide verges free from above and below ground services. Infrastructure damage can be minimised by providing a large

					space to accommodate root growth.
Jacaranda mimosifolia	Jacaranda	Exotic	12m	12m	Purple flowers. Deciduous in Spring.
Liquidambar styraciflua	Liquidambar, Sweetgum	Exotic	16m	8m	Deciduous tree. Red/ yellow leaves in autumn, Spikey ball shaped seed pods.
Liriodendron tulipifera	Tulip Tree	Exotic	20m	7m	Deciduous tree. Golden yellow leaves in autumn
Melaleuca quinquenervia	Broad-leaved Paperbark	Native	15m	8m	An attractive tree providing foliage, flower and bark interest. Hardy. Can be used on wide verges free from above and below ground services and in large planting pits and adequate space.
Quercus ilex	Holm Oak	Exotic	20m,	12m	Slow growing, Evergreen.
Pinus species. P. canariensis. P. patula. P.pinea.	Pine	Exotic	25 - 30m	20m	Needle like foliage.
Phoenix canariensis	Canary Island Date Palm	Exotic			Stately palm. Can self-propagate.
Plantanus species	Plane tree	Exotic			A tall deciduous tree. Hardy in most situations but currently over planted. Best in parks and wide avenues free from above and below ground services.
Schinus molle (var. areira)	Peppercorn tree	Exotic	10m	10m	Drooping foliage. Can naturalise.
Taxodium distichum	Bald Cypress	Exotic	15m	6m	Deciduous. Pyramidal form. Leaves turn orange in autumn
Tipuana tipu	Pride of Bolivia	Exotic	12m	10m	Semi-deciduous. Yellow flowers in Spring.

Washingtonia filifera & W. robusta	Fan palm	Exotic	12m	4m	Tall palm, hardy.

Tree size	**Planting spacing distance**
Small trees: 6-8m high x 5m spread	Small trees at 5 – 7 m centres
Medium trees: 10- 12m high x 8m spread	Medium trees at 7 – 10m centres
Larger trees: 16 – 20m high x 16m spread	Large trees at 10- 15m centres

This is not a comprehensive list of trees that can grow in the Penrith area. The use of species not on this list that grow in a similar climate and soils is encouraged.

NATIVE PLANT SPECIES

These plants are endemic to the Penrith City Council area. This is not a comprehensive list. These species may be found in a range of different soil and environmental conditions.

The use of these species in any context should be considered using site specific selection criteria. These species may not be suitable for all situations and some may no longer grow in the area. Some Endemic species may be unsuitable or considered weeds.

Endemic species sourced from local provenance seed or propagating material are preferable.

TREES

Botanical Name	**Common Name**
Acacia decurrens	Green Wattle
Acacia elata	Cedar Wattle
Acacia falcata	Sickle Wattle
Acacia floribunda	White Sally
Acacia implexa	Hickory Wattle
Acacia longifolia	Sydney Golden wattle
Acacia parramattensis	Parramatta Wattle
Acmena smithii	Lilly Pilly
Allocasuarina littoralis	Black She oak
Alphitonia excelsa	Red Ash
Angophora bakeri	Narrow Leaved Apple
Angophora floribunda	Rough Barked Apple
Angophora subvelutina	Broad Leaved Apple
Backhousia myrtifolia	Grey Myrtle
Brachychiton populneus	Kurrajong-
Callicoma serratifolia	Black Wattle
Casuarina cunninghamiana	River She Oak
Casuarina glauca	Swamp Oak
Commersonia fraseri	Brush Kurrajong
Corymbia eximia	Yellow Bloodwood
Eucalyptus agglomerata	Blue-leaved Stringybark
Eucalyptus amplifolia	Cabbage Gum
Eucalyptus benthami	Camden White Gum
Eucalyptus crebra	Narrow Leaved Ironbark
Eucalyptus deanei	Mountain Blue Gum
Eucalyptus elata	River Peppermint
Eucalyptus eugenoides	Thin Leaved Stringbark
Eucalyptus fibrosa	Broad Leaved Ironbark
Eucalyptus longifolia	Woolybutt
Eucalyptus moluccana	Grey Box
Eucalyptus parramattensis	Parramatta Red Gum

Botanical Name	Common Name
Eucalyptus punctata	Grey Gum
Eucalyptus saligna	Sydney Blue Gum
Eucalyptus sclerophylla	Scribbly Gum
Eucalyptus tereticornis	Forest Red Gum
Exocarpus cuppressiformis	Cherry Ballart
Ficus coronata	Creek Sandpaper Fig
Glochidion ferdinandi	Cheese Tree
Leptospermum polygalifolium	Yellow Tea-tree
Melaleuca decora	White Feather Honeymyrtle
Melaleuca linariifolia	Snow-in-Summer
Melaleuca styphelioides	Prickly-leaved Paperbark
Melia azedarach	White Cedar
Pittosporum revolutum	Rough Fruit Pittosporum
Syncarpia glomulifera	Turpentine
Toona ciliata	Red Cedar
Tristaniopsis laurina	Water Gum

SHRUBS

Botanical Name	Common Name
Acacia binervia	Coast Myall
Acacia implexa	Hickory
Acacia ulicifolia	-
Banksia serrata	Old Man Banksia
Breynia oblongifolia	Common Breynia
Bursaria spinosa	Blackthorn
Callistemon salignus	Willow Bottlebrush
Callistemon sp	-
Clerodendrum tomentosum	Hairy Clerodendrum
Croton verreauxii	Native Cascarilla
Daviesia genistifolia	-
Daviesia ulicifolia	-
Dillwynia juniperina	Prickly Parrot-pea
Dodonaea triquetra	-
Dodonaea viscosa	Wedge-leaf Hop Bush
Duboisia myoporoides	Corkwood
Gonocarpus longifolius	-
Goodenia hederacea	-
Goodenia ovata	-
Grevillea juniperina	-
Hakea sericea	-
Hibbertia diffusa	-
Hibiscus heterophyllus	Native Rosella
Hymenanthera dentata	Tree Violet

Botanical Name	Common Name
Leptospermum trinervium	Paperbark Tea Tree
Notelaea longifolia	-
Ozothamnus diosmifolium	-
Persoonia nutans	-
Phyllanthus similis	-
Senna odorata	-
Trema aspera	-

GROUND COVERS, FERNS, HEDGES, GRASSES & CLIMBERS

Botanical Name	Common Name
Adiantum aethiopicum	Maidenhair Fern
Adiantum formosum	Giant Maidenhair Fern
Agrostis avenacea	Blown Grass
Agrostis parviflora	-
Alisma plantago-aquatica	-
Alternanthera denticulata	Lesser Joyweed
Aristida vagans	Three-awned Spear Grass
Arthropodium milleflorum	-
Austrostipa ramosissima	Bamboo Grass
Asperula conferta	Common Woodruff
Asterolasia correifolia	Star-bush
Azolla pinnata	-
Baumea articulata	Bare Twig-rush
Bolboschienus fluviatilis	March Club-rush
Bothriochloa decipiens	
Bothriochloa macra	Red-leg Grass
Brunoniella australis	Blue Trumpet
Calochlaenia dubia	False Bracken Fern
Capillipedium spicigerum	Scented-top Grass
Carex appressa	Tall Sedge
Carex inversa	-
Cayratia clematidea	Slender Grape
Centella asiatica	Swamp Pennywork
Centipeda minima	-
Cheilanthes sieberi	Mulga Fern
Chloris truncata	Windmill Grass
Chloris ventricosa	Tall Chloris
Cissus antarctica	Native Grape
Clematis aristata	Old Man's Beard
Clematis glycinoides	Old Man's Beard
Commelina cyanea	Scurvy Weed
Convolvulus erubescens	Australian Bindweed
Cotula coronopifolia	-
Cyclosorus interruptus	-

Botanical Name	**Common Name**
Cymbopogon refractus	Barbed Wire Grass
Cyperus difformis	-
Cyperus exaltatus	-
Cyperus laevis	-
Danthonia racemosa	Wallaby Grass
Danthonia tenuior	Wallaby Grass
Desmodium varians	Slender Tick-trefoil
Dichelachne micrantha	Plume Grass
Dichelachne rara	-
Dianella longifolia	Flax Lily
Dianella revoluta	-
Dichondra repens	Kidney Weed
Doodia aspera	Rasp Fern
Echinopogon caespitosus	Tufted Hedgehog Grass
Echinopogon ovatus	Forest Hedgehog Grass
Einadia hastata	Berry Saltbush
Eleocharis sphacelata	Tall Spike Rush
Elymus scaber	-
Entolasia stricta	Wiry Panic
Eragrostis brownii	Brown's Lovegrass
Eragrostis leptostachya	Paddock Lovegrass
Eremophila debilis	Amulla
Eriochloa pseudoacrotricha	-
Eustrephus latifolius	Wombat Berry
Fimbristylis dichotoma	Common Fringe-rush
Fimbristylis velata	-
Geitonoplesium cymosum	Scrambling Lily
Geranium homeanum	-
Geranium solanderi	-
Glyceria australis	-
Glycine clandestina	Twining Glycine
Glycine tabacina	-
Goodenia hederacea	Violet Leaved Goodenia
Hardenbergia violacea	Purple Twining-pea
Helichrysum scorpioides	Button Everlasting
Hydrocotyle geraniifolia	Pennywort
Hydrocotyle peduncularis	Pennywort
Hypolepis muelleri	Harsh Ground Fern
Imperata cylindrica	Blady Grass
Juncus planifolius	-
Juncus usitatus	Common Rush
Kennedia rubicunda	Dusky Coral Pea
Lomandra filiformis	-

Botanical Name	**Common Name**
Lomandra fluviatilis	-
Lomandra gracilis	-
Lomandra longifolia	Spiny Mat Rush
Lomandra multiflora	
Ludwigia peploides	Water Primrose
Lycopus australis	-
Microlaena stipoides	Weeping Grass
Murdannia graminea	Murdannia
Najas tenuifolia	-
Nicotiana suaveolens	-
Opercularia aspera	Common Stinkweed
Oplismenus aemulus	Basket Grass
Oxalis chnoodes	-
Oxalis pes-caprae	Soursob
Pandorea pandorana	Wonga Vine
Parsonsia straminea	Common Silkpod
Paspalidium distans	-
Paspalidium radiatum	-
Paspalum distichum	Water Couch
Persicaria decipiens	Slender Knotweed
Persicaria hydropiper	Water Pepper
Persicaria lapathifolia	-
Persicaria orientalis	-
Phragmites australis	-
Phyllanthus virgatus	-
Plantago debilis	Native Plantain
Plectranthus parviflorus	White Root
Poa labillardieri	Tussock Grass
Polymeria calycina	Polymeria
Pomax umbillata	-
Poranthera microphylla	Small Poranthera
Potamogeton tricarinatus	-
Pratia concolor	-
Pratia purpurascens	Pratia
Pseudognaphalium luteoalbum	Jersey Cudweed
Pteridium esculentum	Hard Bracken Fern
Pteris tremula	Tender Brake
Rubus parvifolius	Native Raspberry
Rumex brownei	Dock
Sarcopetalum harveyanum	Pearl Vine
Scaevola aemula	Fan Flower
Schoenoplectus mucronatus	-
Schoenoplectus validus	River Club-rush

Botanical Name	**Common Name**
Scuttellaria humilis	
Sigesbeckia orientalis	Indian Weed
Smilax australis	Austral Sarsaparilla
Solanum prinophyllum	Forest Nightshade
Spirodela sp	Small Duckweed
Sporobolus creber	**-**
Stellaria flaccida	Forest Starwork
Stephania japonica	-
Stipa ramosissima	-
Stipa verticillata	-
Tetragonia tetragonioides	Warrigal Spinach
Themeda australis	Kangaroo Grass
Tylophora paniculata	-
Typha orientalis	Broad-leaved Cumbungi
Veronica sp	-
Viola hederacea	Ivy-leaved Violet
Vittadinia cuneata	Fuzzweed
Wahlenbergia communis	Tufted Bluebell
Wahlenbergia gracilis	Australian Bluebell
Zornia dyctiocarpa	Zornia

For more information on Native Tree Species in the Penrith City Council area see Councils website or contact Council.

STREET TREES AND DRIVEWAYS

Procedure for Removal of street trees to install driveways or other development.

A resident /property owner may propose the removal of a street or park tree to construct a driveway or otherwise develop a property.

The removal of street trees is undesirable but may be the most appropriate means to undertake the work. Generally, all other options should be considered other than tree removal. A driveway crossover application is required to be submitted and approved in con junction with approval to remove a street tree.

Consideration will be given to a request to allow the removal of a street tree using the following criteria;

- The health and condition of the tree,
- Alternatives to removal,
- The effect on the streetscape,
- If the tree is notable /significant,
- The size and age of the tree,
- Existing driveways,
- The number of existing trees in the area.

All trees on Council property are considered an asset. If approved a fee in accordance with Council current fees and charges will be imposed. The following procedure must be followed.

Procedure

- Owner /resident requests, in writing, the removal of the tree/s,
- Tree/s are assessed by Council officer,
- Applicant advised of the determination of assessment,
- If approved a letter will be sent to the applicant advising them of the process.
- The owner /applicant pays the required fee (in accordance with Council's fees and charges),
- Council's driveway engineer is notified, crossover application can be approved,
- The applicant then carries out the work including the replacement planting,
- Council is notified of completion.

New subdivisions/ Recently planted trees.

In new subdivisions and/or where the street/ park tree has been planted within the last 2 years and an infrastructure restoration bond has been paid to Council, an alternative procedure may be permitted.

The proposal must be discussed with council Asset Management Staff prior to a formal written request. The request to remove the tree is considered. Approval to remove the tree/s

may be granted. Transplanting the tree can be undertaken if possible/practical or the tree must be replaced if not. Minimum replacement pot size is 75litre.

The work must be carried out by a suitably qualified horticulturalist/ arborist. The contractors WH&S Management System must include Safe Work Method Statements for the type of work. In addition, a copy of the contractors Certificate of Currency for Public Liability Insurance, minimum of $10 million, will be required.

The replacement of the tree/s can be carried out at the end of construction to minimise possible damage. The tree/s must be maintained until established.

Council will retain the Infrastructure Restoration Bond until they are satisfied the replacement tree/s are healthy and established.

Refusal

If the trees are deemed worthy of retention and the request is refused the owner and Council's driveway engineer are notified. Any fees paid are refunded.

Notes on Procedure

- The responsibility for the approved works remains with the property owner. A dial before you dig search shall be undertaken prior to any works commencing.
- The work must be carried out by an authorised contractor.
- The Asset Management and City Presentation Departments have a list of contractors who are authorised by Council to carry out work on street trees in the Penrith City Council area.
- Should you wish to use a contractor other than those authorised a copy of the contractors WH&S Management System must include Safe Work Method Statements for the type of work. In addition, a copy of the contractors Certificate of Currency for Public Liability Insurance, minimum of $10 million, will be required.
- The tree may need to be poisoned prior to removal/grinding to prevent root sucking/regrowth,
- The stump of the tree is removed by grinding.
- Council must be notified at least 48 hours prior to removal of the tree with the contractor's details and date of work.
- Replacement tree species must be in accordance with the Council approved species list and specifications. Replacement trees must be maintained until established.