



PO Box 70
TERRANORA 2486
Ph/fax 0755 904399
Mobile: 0412 369459 - 0412 644523

LANDSCAPE STRATEGY

Walmsley's Road and Stott Street, Bilambil Heights

Prepared 2008

LANDSCAPE STRATEGY

Table of Contents

LANDSCAPE STRATEGY	1
1. INTRODUCTION	2
2. RECOMMENDATIONS	3
2.1 Roundabout– Landscape treatment	3
2.1.1 Major Tree Planting	3
2.1.2 Understorey planting	3
2.2 Constructed batter planting	3
2.3 Street planting	3
2.4 Turf to Kerb and Street Planting	4
3.1 Planting	5
3.2.1 Ground Preparation	5
3.2.2 Imported Materials	5
3.2.3 Plant material.....	6
3.2.4 Substitution of Plants.....	6
3.2.4 Installation of Plants	6
3.2.5 Mulch.....	7
3.2.6 Staking.....	7
3.2.7 Post Installation establishment	8
3.2.8 Long term maintenance	8
.....	8
3.3 Timber edging	8
3.4 Turfing.....	9
4. PLANT SPECIES	10
4.1 Roundabout	10
4.1.1 Large specimen tree.....	10
4.1.2 Understorey planting	10
4.2 Sloping areas of 17o or greater	10
4.3 Street Planting	10
4.3.1 Street Tree.....	10
4.3.2 Understorey planting	10
5. PLANT SCHEDULE.....	11

1. INTRODUCTION

A landscaping strategy is required to fulfill the requirements of the Director General regarding the proposed subdivision of Messrs Dickinson and Walmsley at Walmsley's Road and Stott Street, Bilambil Heights

This strategy addresses the following requirements of the Director General '*Landscape Concept Plan.....basic detail of planting design and plant species to be used, mature height and spread, number of plants to be utilised and surface treatments....*' (page 6).

2. RECOMMENDATIONS

2.1 Roundabout– Landscape treatment

2.1.1 Major Tree Planting

A large specimen tree, *Araucaria cunninghamii*, will be planted to the centre of the constructed roundabout. This will provide an aesthetic vegetative focal point in the roundabout, that is indigenous to the area. The *Araucaria cunninghamii* has spatial foliage and will not impede vision through traffic. The *Araucaria cunninghamii* has an appropriate mature size for the roundabout (50 metres in a natural habitat and approximately 20 metres in cultivation) and is an extremely hardy specimen that will require virtually no post establishment maintenance.

2.1.2 Understorey planting

A mass planting of *Diannela caerulea* will be installed to the understorey of the roundabout. This strappy leafed plant is indigenous to the area. It is low growing and will not impede vision and will require virtually no post establishment maintenance.

2.2 Constructed batter planting

Battered areas with a slope of 17o or more, that arise due to construction and earthworks, should have installed a densely planted vegetative area of hardy, native plants to suppress weeds and undesirable vegetation and provide erosion control.

2.3 Street planting

The ecological consultants' report identifies the *Lepiderema pulchella* as a threatened species, indigenous to this location. This tree is suitable as a street planting. A *Lepiderema pulchella* should be installed at the front of each allotment of the proposed subdivision, on the nature strip, one metre from the street kerb and centrally positioned to the street frontage, having regard to the size of the allotment, as follows:

Allotments 14, 71 and 81 will have 2 street plantings

Allotment 13 will have 3 street plantings

Allotments 16 and 17 will share one street planting

Battle axe allotments will have no street planting

All other allotments will have one street planting

A mass planting of *Lomandra* "Little Joey" will be installed to the base of each street tree.

Each street planting should be surrounded by 1m x 2m timber edging, as detailed in Appendix 2, and mulched.

2.4 Turf to Kerb and Street Planting

Turfgrass strips shall be installed to the kerbside, and to the perimeter of the timber edging surround of the street planting, to provide stability to the earthworks of each allotment and prevent pollution to the stormwater system.

3. SPECIFICATIONS

3.1 Planting

3.2.1 Ground Preparation

- (i) Cultivation and upgrading of the soil will be required, both to the sloping planted areas and the street plantings.
- (ii) Cultivation shall not be carried out when the soil is wet.
- (iii) Cultivation shall take place by ripping the surface of the larger sloping planting areas to a depth of 150mm to engage the planted areas with the introduced planting media.
- (iv) Larger planting stock ground preparation shall be treated individually. A hole to the depth of the root ball and twice as wide as the root ball shall be excavated. The sides of the hole shall be shattered to ensure good root penetration.
- (v) Gypsum is to be incorporated into the cultivated areas and the individual planting holes at a nominal rate of 150gm/m², or according to the manufacturer's instructions, and shall be incorporated to the extent of the cultivation (150mm). Gypsum shall be from a natural source.
- (vi) Planting media shall be installed to the cultivated area to a depth of 300mm. Planting media shall be either from site soil that has been stock piled, or imported planting media.
- (vii) Planting media shall not contain any clods larger than 50mm, stones, weeds, roots, sticks or other deleterious material.
- (viii) The planting media shall be pH tested and the results should fall within the range of pH 5.5 to 6.5, and if it should fall above or below this range, it should be treated with a soil additive, agricultural lime (to increase the pH) or copper sulphate (to reduce the pH), applied at the manufacturer's rate.
- (ix) The finished grade of the cultivation shall be trimmed to a level, even grade that incorporates a worked depth of 450mm for planting.
- (x) Should the planting area be subject to weed infestation prior to planting, herbicide shall be applied to the area no later than 14 days and no earlier than 28 days prior to plant installation.
- (xi) The herbicide shall be a non residual systemic herbicide such as ROUNDUP or its equivalent, applied at the manufacturer's rate.

3.2.2 Imported Materials

- (i) Imported planting media shall be introduced only where there is a shortfall of site soil, or the site soil is unsuitable for cultivation or as a planting media.

- (ii) Imported planting media shall include 80% sandy loam and 20% organic matter and soil conditioners and should comply with Australian Standard AS4419.
- (iii) All imported materials shall be free of matter toxic to plant growth.
- (iv) Imported planting media shall be free of clods larger than 50mm, stones, weeds, weed seed, propogule material, pests, diseases, pathogens, roots and stocks or other deleterious material.
- (v) All components of any imported planting media and soil conditioners shall be well composted and not prone to shrinkage.
- (vi) The acidity range of any imported planting material and soil conditions shall lie within the pH range of 5.5 to 6.5.

3.2.3 Plant material

- (i) The plant species and size are as specified in the *Plant Schedule*.
- (ii) Plant material shall be of good quality and structurally sound and of a size with an appropriate root to shoot ratio, with no evidence of root curl, restriction or damage.
- (iii) Plant material shall not be root bound, but should show sufficient root growth so the soil does not separate from the root ball when removed from the container.
- (iv) Plants in pot size of less than 300mm should have sufficient root ball to support plants without being staked.
- (v) Plant material shall be free of pests and diseases.
- (vi) Plant material should be grown in open areas that are exposed to the sun and wind to promote vigorous plant growth and to harden plants off.
- (vii) Plants should be delivered to the site on a day to day basis and planted as soon as possible after delivery. Plant material should not be held.

3.2.4 Substitution of Plants

Plant species should be those nominated in this strategy. If any plant material is unavailable, an appropriate substitute may be approved by Tweed Shire Council, Burringbar Rainforest Nursery or the horticultural consultant.

3.2.4 Installation of Plants

- (i) Layout of the plants shall be in accordance with the *Planting detail* in Appendix 1 and 2.
- (ii) Mulch shall be installed prior to planting.
- (iii) Planting media moisture should be at an optimum level to ensure a high standard of vegetative growth and should be moist to at least a depth of 300mm prior to planting.
- (iv) Plants should be watered immediately prior to planting.

- (v) Larger plant stock shall be planted first. See *Planting Details*.
- (vi) Plants should not be installed during unfavourable weather conditions, such as extreme heat or cold or during excessive wind or rainfall.
- (vii) A planting hole should be excavated as detailed, twice the width of the root ball and to the same depth as the root ball. The sides and bottom of the hole should be shattered to allow root penetration and penetration of water as set out in the *Planting Details*.
- (viii) Plant stock less than 200mm shall have *Rainsaver* water crystals or equivalent, incorporating fertiliser, installed at the bottom of the planting hole at the manufacturer's recommended rate.
- (ix) Plant stock 300mm or larger shall have *Rainsaver* and *Agriform 20mg slow release* fertiliser tablets, or equivalent, placed in the bottom of the planting hole at the manufacturer's recommended rate.
- (x) Plants should be installed vertically in the centre of the planting hole, as set out in the *Planting detail*, ensuring the soil level of the plant root ball is maintained and the stem of the plant is not in contact with the planting media.
- (xi) The planting hole should be backfilled with the planting media, shaping a water retention dish with the planting media and mulch, as detailed.
- (xii) Water the planting hole thoroughly to ensure no air spaces remain and the planting media is wet to at least the depth of the root ball.
- (xiii) Care should be taken that during planting the structure of the soils is not destroyed or compacted, but is maintained with optimum tilth for good plant growth.

3.2.5 Mulch

- (i) Mulch shall be well composted and leached in the open for at least two months after milling and turned once every two weeks, and will be of either of the following types:
 - 1. chip or forest mulch produced by the 'mulching' of native or other approved vegetation harvested by removal of extraneous vegetation on site.
 - 2. hoop pine bark with pieces of approximate size 25mm or approved substitute.
- (ii) Mulch shall be applied at a depth 300mm in accordance with the Tweed Shire Council requirements, this is not a compacted depth. The mulch shall be graded to an even smooth level.
- (iii) Mulch shall not be placed closer than 25 mm from the stem of any plant.
- (iv) Mulch shall be free of matter toxic to the growth of plants. Mulch shall be free from stones, soil, clay, dust, weeds, seeds, roots, sticks, rubbish, vermin, insects, pests, fungus, disease, pathogens and other deleterious material.

3.2.6 Staking

- (i) Staking shall not be required for plant stock in containers smaller than 300mm.

- (ii) Stakes shall be of straight rough sawn hardwood free of knots or twists 38mm x 38mm x 1.6m, pointed at one end and embedded a minimum of 1/3 of the length of the stake into the ground.
- (iii) Plants shall be secured to the stakes with a hession tie, as detailed, or other approved tie such as used by Landplan or Gecko.
- (iv) Stakes should be removed after the first growing season to ensure plants form appropriate tension wood.

3.2.7 Post Installation establishment

- (i) Plants shall be watered immediately after planting and thereafter with a frequency to maintain moisture at least to the depth of the root ball during the first six months of establishment.
- (ii) The vegetation area shall be maintained free from weeds as competition to the planted material during the first six months of establishment by the use of a herbicide as specified, or by manual removal where appropriate to avoid non target damage.
- (iii) During the first six months of establishment staking and tying should be checked regularly to ensure the stakes are not hindering proper plant development.
- (iv) Where possible, stakes should be removed after the first season's growth of the plant.
- (v) Damaged or failed plants shall be replaced with plants of the same type and size as soon as possible to ensure the uniform growth of the buffer zone.

3.2.8 Long term maintenance

- (i) The species have been selected for their suitability for low maintenance and the region in which they are planted. It is intended that the plants acclimatise to the site and become self sufficient after the initial post establishment period. No specific regular maintenance should be required after six months.
- (ii) The dense planting is designed to encourage competition in growth and the plants should not be pruned to avoid contact.

3.3 Timber edging

Timber edging is to be installed around the base of the street plantings using CCA treated pine lengths 100mm x 20mm x 1m in width and 2m in length, and to be affixed to treated pine pegs

50mm x 50mm x 300mm with appropriate coated screws recommended for CCA treated pine and the uppermost surface of the edging shall be level with the surrounding turf, and should not present a trip hazard.

3.4 Turfing

Turfgrass to be used should be *Cynodon dactylon* 'Green couch' in cover grass grade and should be laid in staggered rows, adjoining but not overlapping, to a level, graded surface free from weeds and other deleterious material. The turfgrass should be a minimum of 800mm in width adjacent to the kerb and a minimum of 400mm in width adjacent to the street planting. Turfgrass should be installed with *Rainsaver* water crystals incorporating fertiliser, or the equivalent, suitable for including under turfgrass.

4. PLANT SPECIES

4.1 Roundabout

4.1.1 Large specimen tree

<i>Araucaria cunninghamii</i>	Hoop Pine	50m x 6m
-------------------------------	-----------	----------

4.1.2 Understorey planting

<i>Dianella caerulea</i>	Flax/Paroo Lilly	0.6m x 1m
--------------------------	------------------	-----------

4.2 Sloping areas of 17o or greater

<i>Lomandra hystrix</i>	Slender Mat rush	1m x 0.9m
<i>Melaleuca thymifolia</i>	Honey Myrtle	1.5m x 3m
<i>Westringia fruticosa</i>	Coastal rosemary	0.6m x 1.5m
<i>Hovea acutifolia</i>	Pointed Leaf hovea	1.5m x 1m
<i>Austromyrtus dulcis</i>	Midyim	1m x 2m

4.3 Street Planting

4.3.1 Street Tree

<i>Lepiderema pulchella</i>	Fine Leaved Tuckeroo	15m x 2m
-----------------------------	----------------------	----------

4.3.2 Understorey planting

<i>Lomandra</i> "Little Joey"	Dwarf Lomandra	0.4m x 0.3m
-------------------------------	----------------	-------------

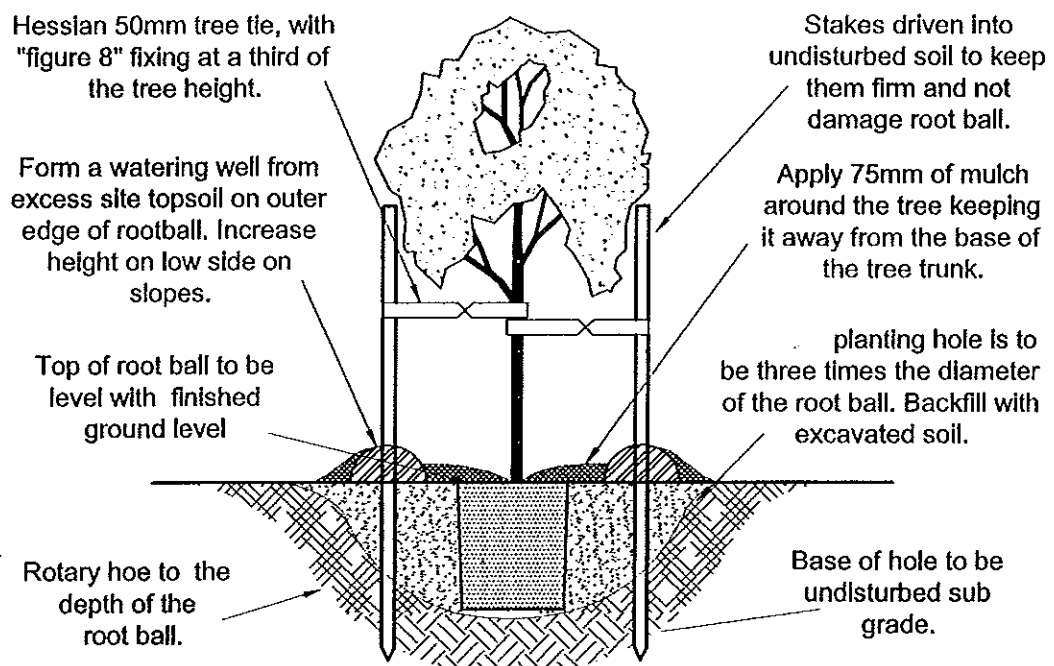
5. PLANT SCHEDULE

ROUNDAABOUT – Large specimen	Key	Size
<i>Araucaria cunninghamii</i>	Ac	200L
ROUNDAABOUT - Understorey		
<i>Dianella caerulea</i>	Dn	Tube
CONSTRUCTED BATTER PLANTING		
<i>Lomandra hystrix</i>	Lh	Tube
<i>Melaleuca thymifolia</i>	Mt	Tube
<i>Westringia fruticosa</i>	Wf	Tube
<i>Austromyrtus dulcis</i>	Ad	Tube
<i>Hovea acutifolia</i>	Hv	Tube
STREET PLANTING – Street Tree		
<i>Lepiderema pulchella</i>	Lp	45L
STREET PLANTING - Understorey		
<i>Lomandra</i> “Little Joey”	L “LJ”	Tube

Appendix 1.

PLANTING DETAIL

Large Plants and Trees

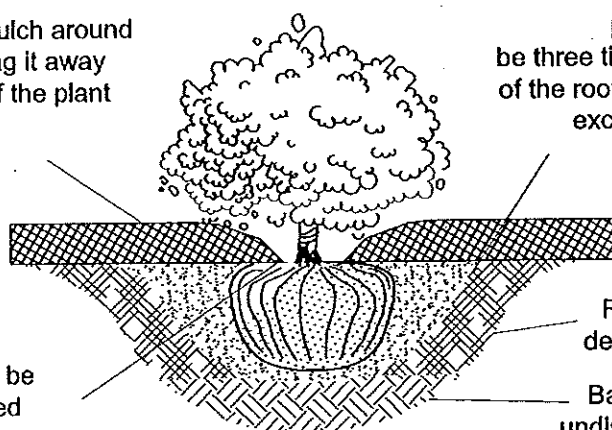


Small Plants and Shrubs

Apply 75mm of mulch around the plant keeping it away from the base of the plant stem.

planting hole is to be three times the diameter of the root ball. Backfill with excavated soil.

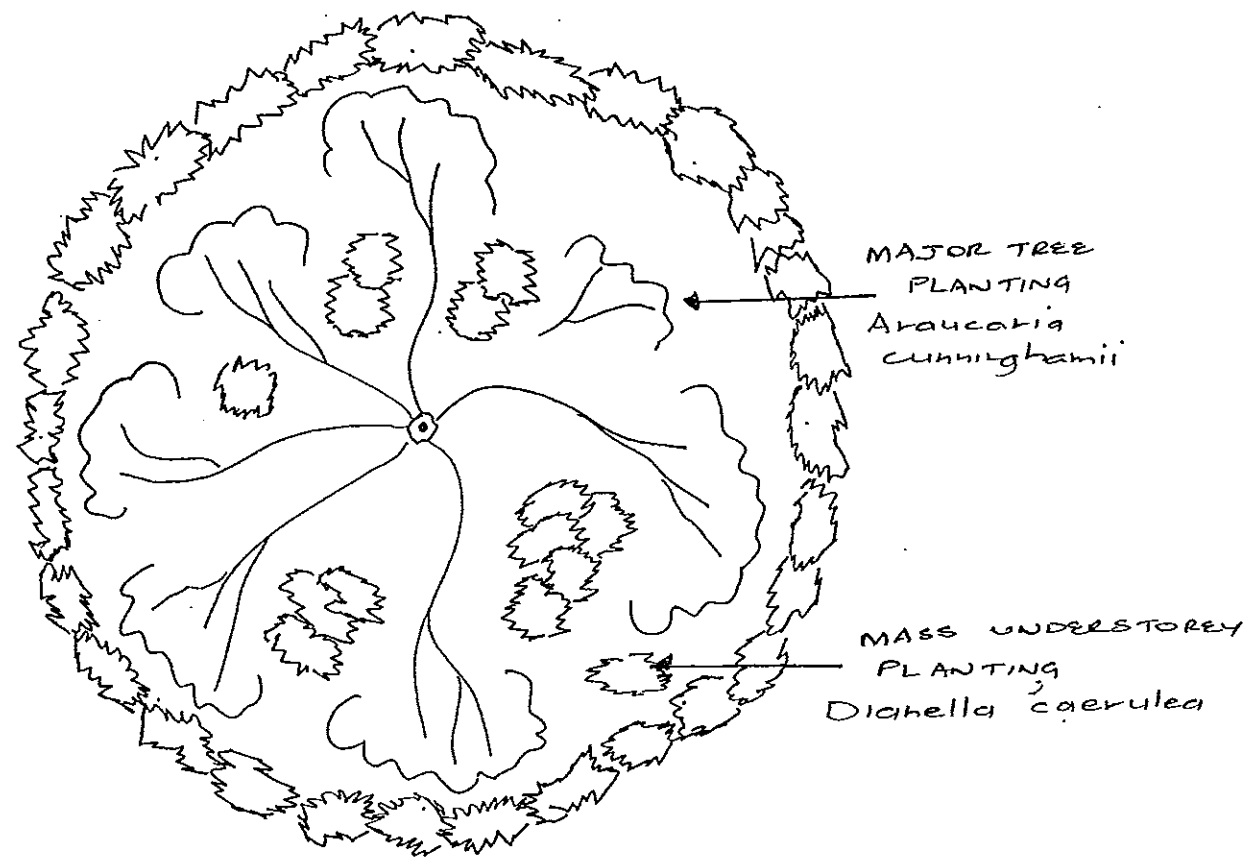
Top of root ball to be level with finished ground level



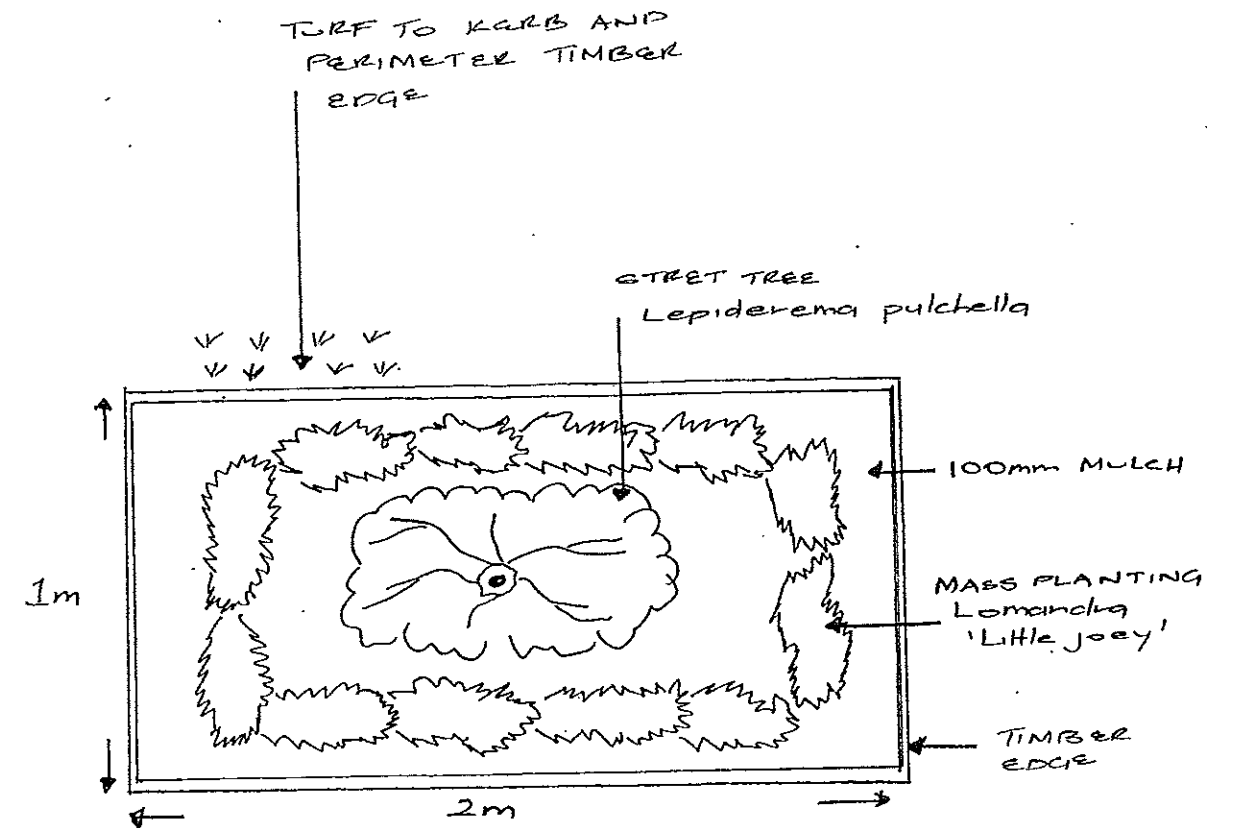
Rotary hoe to the depth of the root ball.

Base of hole to be undisturbed sub grade.

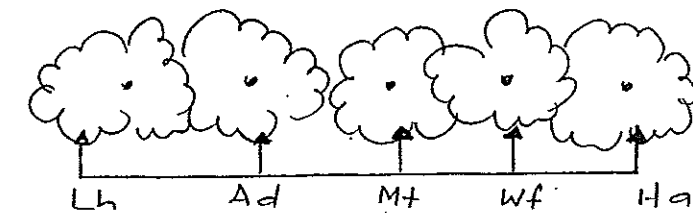
APPENDIX 1



ROUNABOUT - Planting arrangement

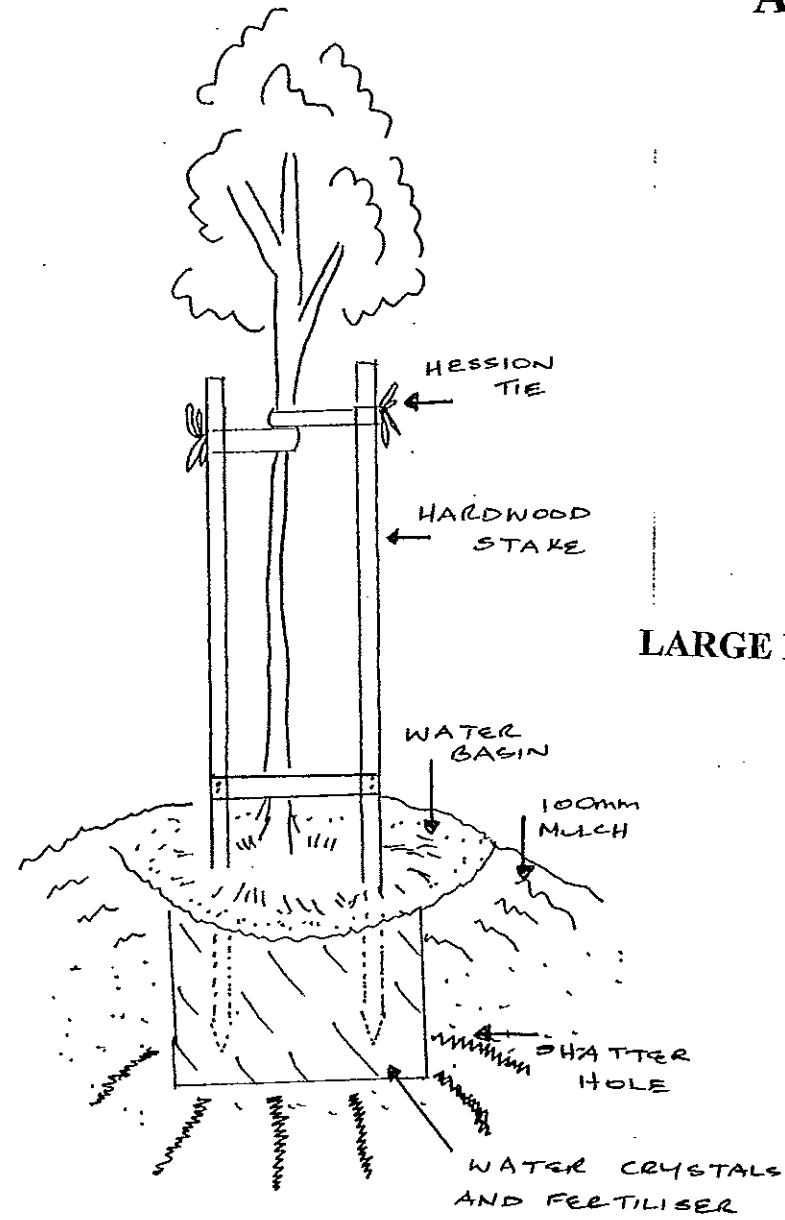


**STREET TREE
Planting detail**

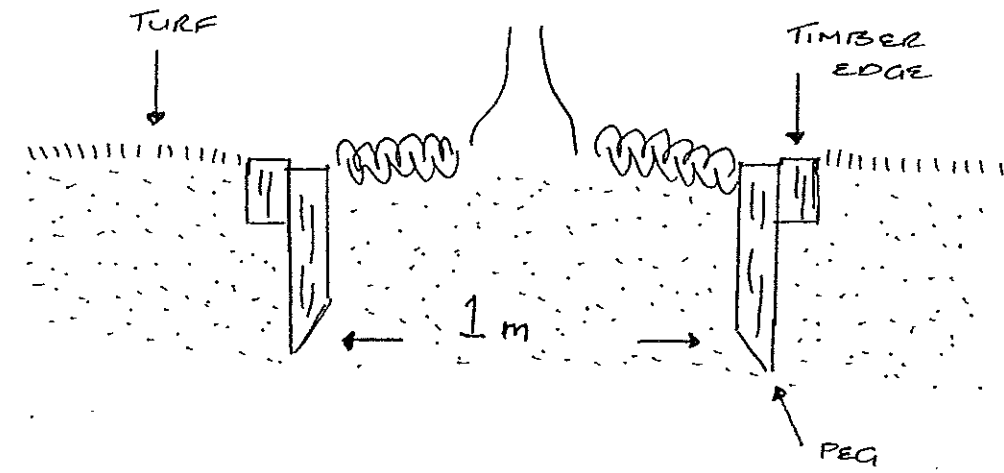


**CONSTRUCTED BATTER
Planting arrangement**

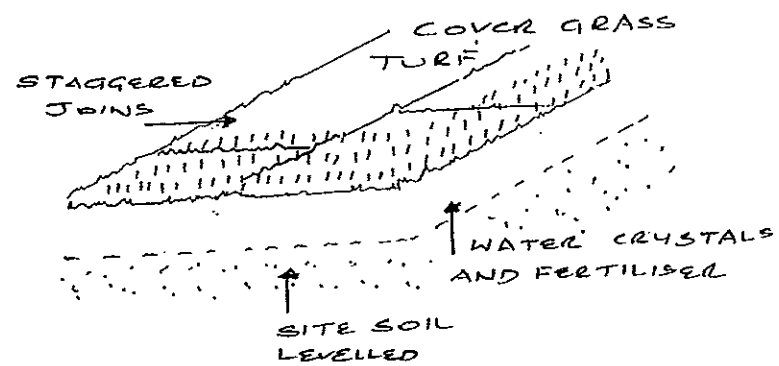
APPENDIX 2



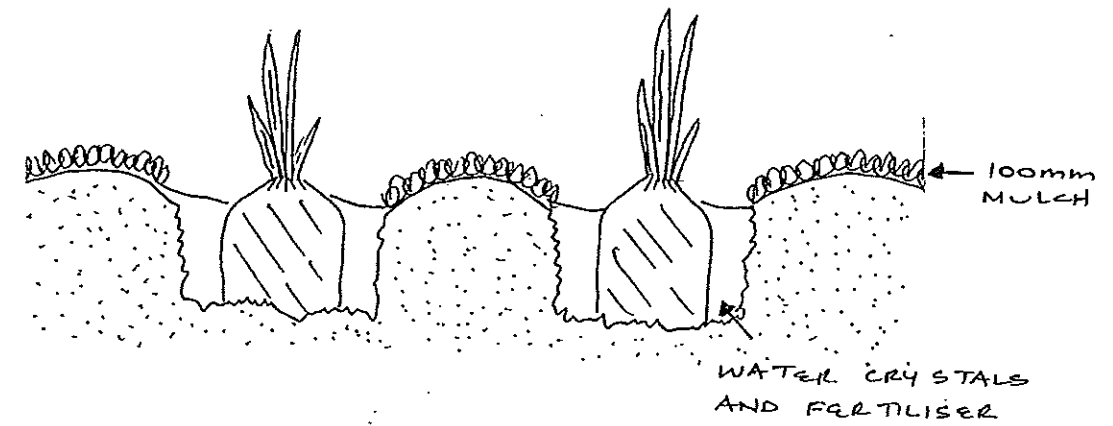
LARGE PLANT - Planting detail



TIMBER EDGE - Detail



TURFGRASS detail



TUBESTOCK - Planting detail