BP Submission For

Private/Public Building Developments

NParks

CONTENTS

PART 1 INFORMATION REQUIREMENTS

1. Plans, Application Form and Checklist

A registered architect / professional engineer is required to submit and sign all layers of drawing digitally, a completed NParks' application form, and relevant checklist and enclose the letter of authorization from the developer:

The plans should comprise of:

(a) Key and location plans of the development site (scale 1 : 10000 or 1 : 5000) with access to the site from a street or road
(b) Site plan showing the development proposal (scale 1 : 500, 1 : 200 or 1 : 100)
(c) Lot and/or plot number of the lots on both sides of the development site
(d) Address of the development site (if applicable)
(e) 1st storey plan (scale 1 : 500, 1 : 200 or 1 : 100)
(f) Basement plan (scale 1 : 500, 1 : 200 or 1 : 100)

2. Site Information (if applicable)

		Layout Plan	Cross Sectional Drawing
(a)	Development boundary verged in red.	Indicate	
(b)	Proposed development layout..	Indicate	
(c)	Existing and proposed road reserve line verged in red.	Indicate	
(d)	Category of existing and proposed roads.	Indicate	
(e)	Width of the proposed roads.	Indicate	
(f)	Existing and proposed levels of the development site.	Indicate	
(g)	Basement line highlighted in brown dotted line.	Indicate	
(h)	Boundary / retaining wall is to be highlighted in orange.	Indicate	
(i)	Fire engine access and hardstanding areas.	Indicate	
(j)	Schematic engineering drawing with dimensions of retaining / boundary wall and foundation.		Indicate

3. Existing Trees / Palms / Shrubs

		Layout Plan	Cross Sectional Drawing
(a)	All existing trees / palms / shrubs, with species, girth, height and the numbering indicated on the building plan, should be the same as those shown on the plan submitted to NParks at DC stage.	Indicate	
(b)	The colour code for existing trees / palms / shrubs is as follows:	Indicate	

Table 3b – Colour Code for existing trees/palms/shrubs

Status of existing trees/Palms / shrubs	Outline in colour
To be retained	Green
To be removed	Yellow
Removed without written approval	Red
Removed with written approval	*Yellow (indicate approval date in the tree schedule)
Non-existence after inspection	Indicate a 'cross' on tree symbol

		Layout Plan	Cross Sectional Drawing
(c)	Any changes on the status of the existing trees/palms/shrubs approved at DC stage are to be reflected in Annexes 1, 2 and 3.		

4. Photographs

Photographs of additional trees and single-stem palm approved for retention within development site in Tree Conservation Area or on vacant land are submitted.

Photographs of the trees numbered according to numbering shown on plan.

5. Planting Provision

		Layout Plan	Cross Sectional Drawing
(a)	All proposed green buffer/planting verges/roadside planting verges as stated in DC stage are coloured green on the site plan and 1st storey plan.	Indicate	
(b)	Widths of all proposed planting provisions provided in 5(a) are indicated.	Indicate	
(c)	All slopes are shown on plan with standard symbols. The gradients of all proposed slope are shown.	Indicate	Indicate

6. Planting Scheme

(only applicable to Public building, Good Class Bungalows, Apartment and Condominium developments)

	Layout Plan	Cross Sectional Drawing
Location and species of proposed and existing trees/single stem palms are shown.	Indicate	
A legend for proposed trees is to be provided (Please use colours other than green, red and yellow.		

7. Hedge Planting Around Proposed Bin Centre And Substation

(only applicable to Public building development)

	Layout Plan	Cross Sectional Drawing
Hedge planting to be indicated on plan with a wavy green line.	Indicate	

8. Proposed SWA Section 18 Road (if applicable)

	Layout Plan	Cross Sectional Drawing
Width of the proposed roads	Indicate	

PART II Division 1B Regulatory Requirements

1 Conservation Of Trees / Single-Stem Palms Within Development Site

(only applicable if the development is within the gazetted Tree Conservation Area or on vacant land)

	Layout Plan	Cross Sectional / Detail Plan
The Tree Protection Zone (TPZ) provided from centre of retained tree / single-stem palm as approved by NParks at DC stage is indicated.	Indicate	

2 Retention Of Existing Roadside Trees

	Layout Plan	Cross Sectional / Detail Plan
The clearance between an existing tree / a single stem palm and the proposed elements approved by NParks at DC stage should be indicated.	Indicate	

3 Planting Provision

		Layout Plan	Cross Sectional / Detail Plan
3.1	The planting verges and green buffer should be in accordance with the NParks DC approved plan.		
3.2	Other than those listed in Annex 10 and structures approved by URA, all green buffers must be free from encroachment above and below planting levels.	Indicate/ endorse	
3.3	All proposed planting verges should be generally flat (gradient not steeper than 1:40). Proposed slope, if any, should not be steeper than 1:2.5.	Indicate	
3.4	Locations of proposed fire engine access and fire engine hardstanding area are to be accordance with NParks DC approved plan.	Indicate	

4 Planting Provision For At-Grade Open Surface Vehicular Parking Area

		Layout Plan	Cross Sectional / Detail Plan
4.1	Planting provisions are to be provided in accordance to NParks DC approved plan. They are also be free from any encroachment above and below planting levels.	Indicate	
4.2	All car parking lots are to be fully laid with aeration slabs, if applicable. Each piece of slab should have at least 35% aeration with all the void areas turfed.	Indicate	
4.3	Drawing of the perforated slab and calculation of the aeration areas are to be shown on plan.	Indicate	

5 Hedge Planting

(only applicable to government school project)

		Layout Plan	Cross Sectional / Detail Plan
5.1	Hedges are to be planted within the approved 1.0m wide planting verges around bin centre and substation as approved by NParks at DC stage	Indicate	
5.2	For school sites, hedges are to be planted along the perimeter fence.	Indicate	
5.3	For hedge planting, each stem should have a height of 1m and planted at 0.5m c/c.	Indicate	

6 Tree / Palm Planting Requirements

(only applicable to Public building developments)

6.1 Size and planting hole of a sapling tree / single stem palm / cluster palm

		Layout Plan	Cross Sectional / Detail Plan
(a)	A sapling tree should have:	Endorse	
	i) total overall height 2.5m with clear trunk height 1.5m (measured from soil level)		
	ii) girth at least 0.1m		
	iii) upright and in good form		
	iv) staking provided as and when required		
	v) terminal shoot		
(b)	A single stem palm should have	Endorse	
	i) total overall height 2.0m (measured from soil level)		
	ii) upright and in good form		
	iii) spear must be intact		
	iv) staking provided as and when required		
(c)	A cluster palm should have :	Endorse	
	i) total overall height 2.0m (measured from soil level)		
	ii) upright and in good form		
	iii) minimum 4 suckers		
(d)	A planting hole for a sapling tree / single stem palm / cluster palm should be 1m x 1m x 1m and backfilled with 3 parts of loamy soil and 1 part of organic matters (processed woodchips or compost)	Endorse	

6.2 Planting Distance

	Layout Plan	Cross Sectional / Detail Plan
Planting distance for proposed trees / palms to be in accordance as shown in Annex 11.	Indicate	

7 Proposed SWA Section 18 Roads (if applicable)

	Layout Plan	Cross Sectional / Detail Plan
Width of proposed road.	Indicate	

Annex 1 Existing Tree / Single Stem Palms within Site Boundary

Serial No.	Tree / Palm No.	Botanical Name of Trees / Single Stem Palms	Girth Size (m)		Height (m)	Proposed to remove		Proposed to retain		*Reasons for removal / retention
			=< 1.0m (a)	> 1.0m (b)		DC (c)	BP (d)	DC (e)	BP (f)	
Total Nos. of Trees / Single Stem Palms										

Annex 2 Existing Tree / Single Stem Palms On Neighbouring Lot

(Up to a distance of 5.0m from the site boundary)

Serial No.	Tree / Palm No.	Botanical Name of Trees / Single Stem Palms	Girth Size (m)		Height (m)	Proposed to remove		Proposed to retain		*Reasons for removal / retention
			=< 1.0m (a)	> 1.0m (b)		DC (c)	BP (d)	DC (e)	BP (f)	
Total Nos. of Trees / Single Stem Palms										

Annex 3 Existing Roadside Trees/ Palms/ Shrubs

Abutting The Development Boundary And Up To A Distance Of 10m On Both Sides Of Boundary

Serial No.	Tree / No.	Botanical Name of Trees / Single Stem Palms	Girth Size (m)		Trees proposed to remove		Trees proposed to retain		*Reasons for removal / retention
			=< 1.0m (a)	> 1.0m (b)	DC (c)	BP (d)	DC (e)	BP (f)	
Total Nos. of Trees / Single Stem Palms									

Serial No.	Palm / Shrub	Botanical Name of Cluster Palms and Shrubs	Height (m)	Nos	Trees proposed to remove		Trees proposed to retain		*Reasons for removal / retention
					DC (c)	BP (d)	DC (e)	BP (f)	
Total Nos. of Cluster Palms / Shrubs									

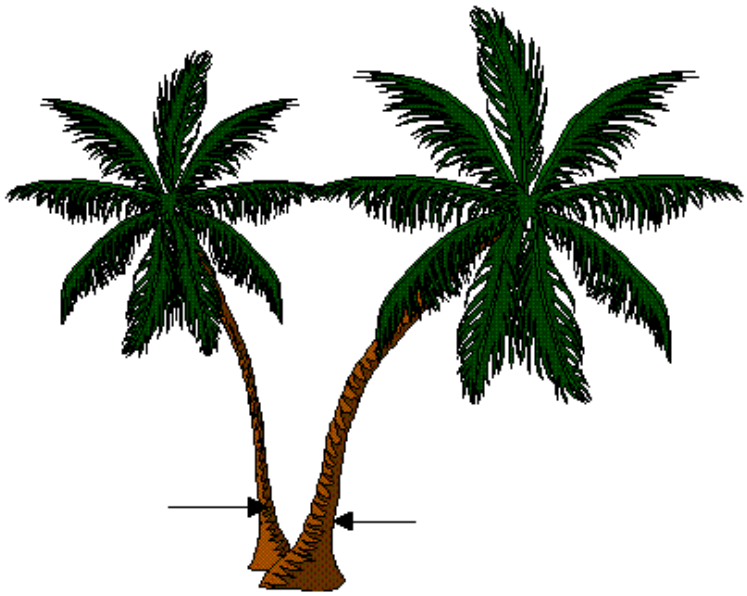
* Please refer to Annex 3-1 for list of reasons

Annex 3-1 Reasons for Removal/Retention

Reasons for Removal		Reasons for Retention
main covered structure (ms)		good/rare species (gs) within the buffer zone (bz) uncovered structures (us) within road widening plot (wp)
Ancillary buildings		
e.g substation guard house bin centre	ss	
Outdoor recreational facilities		
e.g swimming pool tennis courts playground car park	ou	
Vehicular access		
driveway, fire engine access access to bin centre, substation footpath fire hardstanding area (fa)	va	
Other construction activities		
roadside drain, surface drain (dn) boundary wall (bw) retaining wall (rw) basement encroachment into green verges (bv) basement outside green verges (bo) construction (temp) activities (ca) sewer line & manhole (sw) soil profile change in height (sc)		
Health of tree		
strike by lightning, wind throw (sl) unhealthy (decay, rot) (uh) poor form (pf) hazard (hz)		

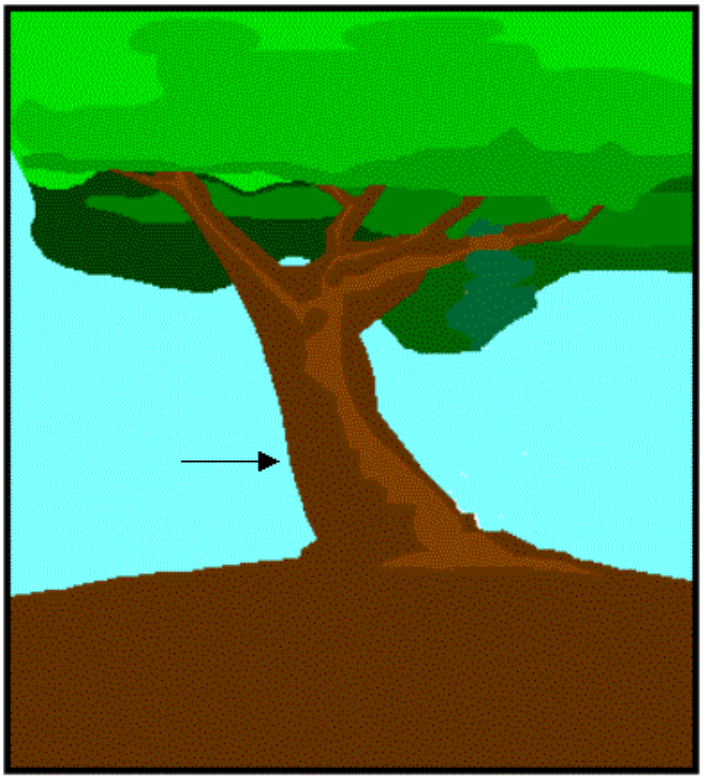
Annex 4-1 Girth Measurement for Multi-leader Tree (leaders sprout from collar)

For this type of multi-leader tree where the leaders sprout from the collar, measure the girth of each individual stem, and treat each stem as a separate tree. (arrowed)



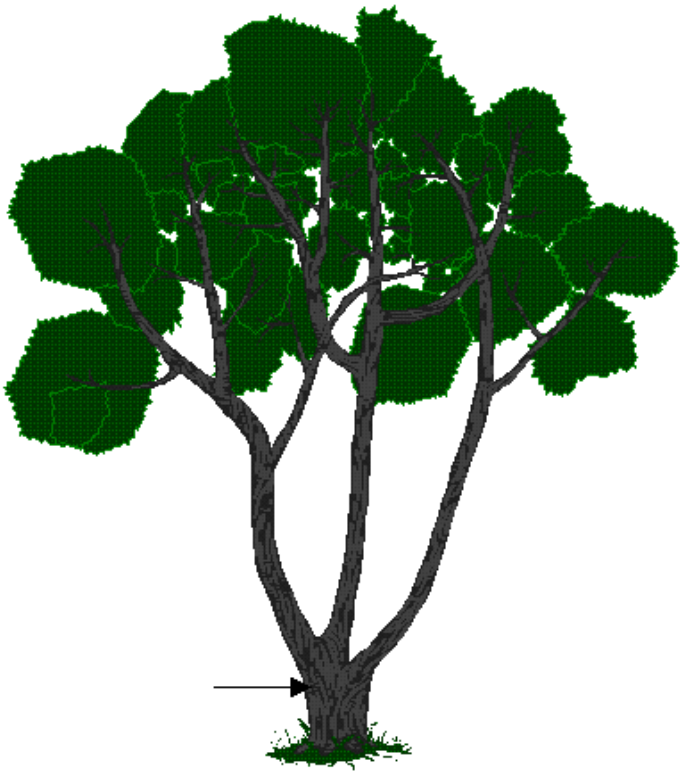
Annex 4-2 Girth Measurement for Buttressed Tree

For this type of buttressed tree, measure the girth at 0.5 metres height above the ground (arrowed)



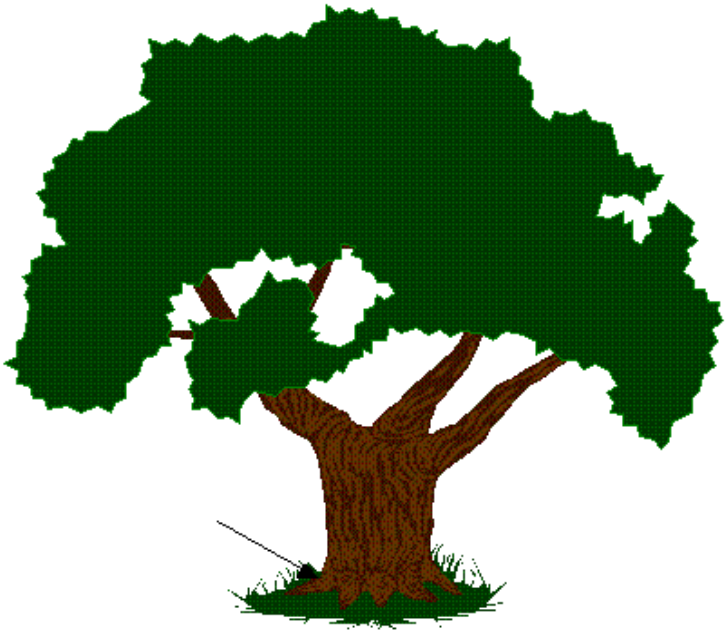
Annex 4-3 Girth Measurement for Multi-leader Tree (at a point between collar)

For this type of multi-leader tree, measure the girth at a point between the collar and 0.5 metres height above the ground. (arrowed)



Annex 4-4 Girth Measurement for Tree Growing On A Mound

For this type of tree growing on a mound, measure the 0.5 metres height above the ground next to the collar (arrowed), and **not** at the base of the mound.



Annex 10 – Structure In Green Buffer & Peripheral Planting Verge

(I)MINOR ANCILLARY STRUCTURES ALLOWED WITHIN GREEN BUFFER & PERIPHERAL PLANTING VERGES

S/N0	Structures	REMARKS
1	Flag poles	
2	Lamp posts and landscape light fittings	
3	Guard house & Bin centre	
4	OG Boxes	
5	Inspection chamber & minor sewer lines	Minor sewer line must be laid at least 2.0m below planting level
6	Water bulk meter	
7	Industrial water pipes	Water pipes must be laid at least 2.0m below planting level
8	Fire hydrant	
9	Entrance gate/post	
10	Metering compartment	
11	Vehicular impact guardrails.	

(II) STRUCTURES NOT ALLOWED WITHIN GREEN BUFFER & PERIPHERAL PLANTING VERGES

S/N0	Structures	REMARKS
1	Fire engine hardstanding areas	
2	Drain and access covers	Except for crossings running perpendicular to planting verge
3	Sign boards	

Annex 11 Recommended Planting Distance/Spacing For Trees

Annex 11-1 LARGE TREES

Generally, large trees are only recommended for planting along major roads and expressways with planting verge greater than 3 metres in width and in open spaces like in parks, big traffic islands or interchanges.

SPECIES		APPROXIMATE HEIGHT WHEN MATURE (m)	RECOMMENDED SPACING (m)	
			ROADSIDE	OPEN SPACE
1	Alstonia angustiloba (Pulai)	25	12	18
2	Azedirachta exceksa (Sentang)	20	12	18
3	Caesalpinia ferrea (Brazilian Ironwood)	20	12	18
4	Casuarina noblis (Sumatran Rhu)	20	8	12
5	Couroupita guianensis (Cannon Ball Tree)	20	8	12
6	Dalbergia latifolia	15	12	18
7	Dalbergia oliveri (Tamalan)	20	12	12
8	Dyera costulata (Jelutong)	30	12	18
9	Erythrina variegata (Variegated Coral Tree)	15	12	18
10	Erythrophloeum guineense (Ordeal Tree)	30	18	24
11	Eucalyptus camaldulensis	25	8	12
12	Eugenia grandis (Jambu Laut)	25	12	16
13	Fagraea crenulata	25	18	16
14	Fagraea fragrans (Tembusu)	30	18	20
15	Filicium decipiens (Fern Tree)	24	12	16
16	Hopea odorata	25	8	12
17	Khaya grandifoliola	30	12	16
18	Khaya senegalensis (Senegal Khaya)	30	18	18
19	Mesua ferrea (Ceylon Ironwood)	20	12	18
20	Michelia alba (White Chempaka)	22	12	18
21	Milletia atropurpurea (Purple Milletia)	30	18	24
22	Peltophorum pterocarpum (Yellow Flame)	20	12	18
23	Pterocarpus indicus (Angsana)	30	18	24
24	Samanea saman (Rain Tree)	25	18	24
25	Swietenia macrophylla (Broad leaf Mahogony)	25	12	18
26	Tabebuia rosea (Pink Poui)	18	12	18
27	Tectona grandis (Teak)	20	12	18
28	Terminalia catappa (Ketapang)	30	12	18

Annexe 11-2 MEDIUM SIZED TREES

Generally, medium sized trees are recommended to be planted at major roads and some minor roads with a planting verges between 1.5 to 3.0 metres.

SPECIES		APPROXIMATE HEIGHT WHEN MATURE (m)	RECOMMENDED SPACING (m)	
			ROADSIDE	OPEN SPACE
1	Acacia mangium	12	8	8
2	Amherstia nobilis (Pride of Burma)	12	10	16
3	Arfeuillea arborescens (Hop Tree)	12	8	10
4	Bauhinia blakeana (Hong Kong Bauhinia)	8	8	12
5	Cananga odorata (Kenanga)	15	8	10
6	Cassia fistula (Golden Showers)	18	8	12
7	Cinnamomum iners (Wild Cinnamomum)	12	8	10
8	Citharexylum quadrangulare (Fiddle-wood)	12	8	8
9	Cochlospermum religiosum (Buttercup Tree)	10	12	10
10	Eucalyptus botryoides (Gum Tree)	15	6	12
11	Eucalyptus viminalis (Gum Tree)	15	8	8
12	Eugenia cumini (Jambolan)	15	8	12
13	Eugenia jambos (Rose Apple)	8	8	12
14	Eugenia polyantha (Buah Salam)	15	8	12
15	Gnetum gnemom (Meninjau)	15	6	8
16	Gustavia sp	5	6	8
17	Lagerstroemia speciosa (Rose of India)	12	8	12
18	Maniltoa browneoides (Handkerchief Tree)	15	10	12
19	Melaleuca leucadendron (Gelam)	12	6	10
20	Melia indica (Nim Tree)	15	8	12
21	Mimusops elengi (Bunga Tanjong)	12	12	18
22	Plumeria spp (Frangipani)	8	8	10
23	Podocarpus rumphii	15	6	12
24	Pongamia pinnata (Mempari)	15	8	12
25	Podocarpus polystacyus (Sea teak)	15	6	8
26	Saraca indica (Sorrowless Tree)	8	8	12
27	Saraca thaipingensis (Yellow Saraca)	12	8	12
28	Tamarindus indica (Tamarind Tree/Asam)	12	8	12
29	Xanthostemon chrysanthus	12	8	12
30	Eugenia oleina	10	8	12
31	Eugenia spicata	12	8	12
32	Eugenia longifolia	12	8	12

Annexe 11-3 SMALL TREES

Generally, small trees are recommended to be planted on minor roads with narrow/ restricted planting with a width less than 1.6 metres.

SPECIES		APPROXIMATE HEIGHT WHEN MATURE (m)	RECOMMENDED SPACING (m)	
			ROADSIDE	OPEN SPACE
1	Brassaia actinophylla (Australian Ivy Palm)	10	6	6
2	Callistemon citrinus (Bottle Brush Tree)	6	6	8
3	Callistemon viminalis	8	6	8
4	Carallia brachiata	8	6	6
5	Cratoxylum formosum (Pink Mempat)	10	6	8
6	Crotoxylon cochinchinense	12	6	8
7	Erythrina glauca (Coral Tree)	8	6	10
8	Kopsia flavida (Penang Sloe)	8	6	8
9	Kopsia singaporensis	8	6	8
10	Melaleuca genistifolia cv Golden Gem	6	6	8

Annexe 11-4 ROADSIDE PALMS

Generally, palms are planted to create special effect or to achieve certain intended landscaping theme. For palms with bigger and longer frond length like Bismarkia, Latania, Washingtonia, only roads with sufficiently wide sidetables (> 4 metres) should be chosen for such plantings.

SPECIES		APPROXIMATE HEIGHT WHEN MATURE (m)	RECOMMENDED SPACING (m)	
			ROADSIDE	OPEN SPACE
1	Archontophoenix alexandrae (Alexandra palm)	20	6	6
2	Areca catechu (Betel nut palm)	10	4	4
3	Bentinckia nicobarica	15	6	6
4	Bismarckia nobilis (Bismarck palm)	30	10	12
5	Carpentatia acuminata (Carpentaria palm)	20	4	4
6	Caryota rumphiana/no (Solitary fishtail palm)	25	6	6
7	Chrysalidocarpus lucubensis	8	4	4
8	Cyrtostachys lakka/renda (Red sealing wax palm)	10	6	6
9	Dictyosperma album (Princess palm)	15	6	6
10	Dypsis decaryi (Triangular palm)	10	3	3
11	Hyphorbe vershaffeltii (Spindle palm)	5	3	3
12	Hyphorbe lagenicaulis (Bottle palm)	5	3	3
13	Latania lontaroides (Red Latan)	18	8	10
14	Latania verschaffeltii (Yellow Latan)	16	8	10
15	Licuala grandis (Vanuatu fan palm)	5	4	4
16	Licuala spinosa (Mangrove fan palm)	5	4	4
17	Livistona chinensis (Chinese fan palm)	15	6	8
18	Livistona rotundifolia (Footstool palm)	15	6	6
19	Pritchardia pacifica (Fiji fan palm)	10	6	8
20	Ptychoraphis singaporensis	15	6	6
21	Rhopaloblaste ceramica	4	6	6
22	Roystonea oleracea (Cabbage palm)	30	6	8
23	Roystonea regia (Royal palm)	25	6	8
24	Veitchia merrillii (Manila/Christmas palm)	15	6	6
25	Washingtonia robusta (Mexican fan palm)	25	8	8
26	Wodyetia bifurcata (Foxtail palm)	12	6	6